



EnterpriseOne Xe Shop Floor Management PeopleBook

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Table of Contents

Overviews	1-1
Industry Overview	1-3
Industry Environment and Concepts for Shop Floor Management	1-3
Idea to Action: The Competitive Advantage	1-4
System Overview	1-7
System Integration	1-7
Features	1-10
Process Flow	1-14
Tables for Shop Floor Management	1-15
Types of Manufacturing	1-18
Discrete Manufacturing	1-19
Process Manufacturing	1-19
Repetitive Manufacturing	1-20
Menu Overview	1-23
Fast Path Commands	1-24

System Setup

System Setup	2-1
Understanding User Defined Codes for Work Orders	2-3
Setting Up Manufacturing Information	2-7
Before You Begin	2-7
Setting Up Standard Procedures	2-7
Processing Options for Standard Procedures	2-9
Setting Up Employee Labor Rates	2-10
Setting Up the Shop Floor Calendar	2-12
Processing Options for Shop Floor Calendar	2-14
Setting Up Manufacturing Constants	2-14
Setting Up Work Centers	2-26
Processing Options for Work Center Master Revisions	2-30
Setting Up Resource Units	2-30
Processing Options for Work Center Resource Units	2-34
Setting Up Item-to-Line Relationships	2-34

Work Orders and Rate Schedules

Work Orders and Rate Schedules	3-1
Understanding Work Orders and Rate Schedules	3-3
Creating Work Orders or Rate Schedules	3-3
Attaching a Parts List	3-9

Attaching Routing Instructions	3-13
Attaching Co-Products and By-Products	3-15
Attaching Intermediates	3-16
Calculating a Start Date	3-16
Fixed Leadtime	3-16
Variable Leadtime	3-17
Generating Shop Paperwork	3-17
Backscheduling a Work Order	3-18
Entering Work Order Headers	3-21
Processing Options for Manufacturing Work Order (P48013)	3-28
Entering Rate Schedules	3-37
Processing Options for Enter/Change Rate Schedule	3-41
Processing Work Orders and Rate Schedules	3-45
Running Order Processing	3-48
Processing Options for Work Order Generation (R31410)	3-49
Printing a Summary	3-60
Attaching Supplementary Information	3-61
Attaching a Parts List Interactively	3-62
Processing Options for Work Order Parts List	3-74
Attaching Routing Instructions Interactively	3-76
Processing Options for Work Order Routing (P3112)	3-82
Attaching Co-Products and By-Products	3-84
Attaching Intermediate Items	3-85
Assigning Serial Numbers	3-87

Grade and Potency and Lot Processing

Grade and Potency and Lot Processing	4-1
Understanding Grade and Potency	4-3
What is Grade?	4-4
What is Potency?	4-4
Grade and Potency Control	4-4
Lot and Serial Control Items	4-5
Understanding Lot Processing	4-7
Understanding Lot Creation	4-9
Understanding Lot Status	4-9

Commitments

Commitments	5-1
Defining the Commitment Rules	5-5
Defining the Commitment Method for the Item	5-6
Processing Options for Item Branch/Plant	5-8
Defining the Commitment Control and Type of Commitment	5-9
Defining Commitments at a Work Center Location	5-15
Defining the Work Center in the Item's Routing Instructions	5-15
Processing Options for Enter/Change Routing	5-17
Defining the Location at the Work Center	5-19

Processing Options for Enter/Change Work Center	5-20
Defining the Branch and Parent Item for the Bill of Material	5-21
Processing Options for Enter/Change Bill	5-22
Defining How the System Commits Inventory During Backflush ...	5-23
Managing Commitments for Grade and Potency	5-25
Converting Units of Measure for Potent Units	5-26
Managing Commitments for Controlled Items	5-28
Reposting Commitments	5-31
Processing Options for Repost Open Quantities	5-32

Availability and Shortages

Availability and Shortages	6-1
Managing Availability Information	6-3
Defining Availability Calculations for a Branch	6-3
Reviewing Part Availability	6-5
Processing Options for Part Availability	6-7
Reviewing Parts List Availability	6-10
Processing Options for Parts List Inquiry	6-11
Managing Shortage Information	6-13
Locating Shortages	6-13
Processing Options for Shortage Workbench	6-14
Changing Shortage Information	6-15
Processing Options for Shortage Maintenance	6-16
Printing Shortages	6-16
Printing Component Shortages	6-16
Processing Options for Component Shortages	6-17
Printing All Shortages	6-17
Processing Options for All Shortages	6-17

Issues, Kanbans, and Material Movement

Issues, Material Movement, and Kanbans	7-1
Issuing Material	7-9
Issuing Material by Preflushing	7-10
Issuing Material Manually	7-10
Processing Options for Inventory Issues (P31113)	7-13
Recording Component Scrap	7-19
Processing Options for Component Scrap	7-22
Working with Material Movement	7-23
Processing Kanban Consumption by Item	7-23
Processing Options for Kanban Consumption	7-25
Processing Kanban Supply by Item	7-26
Processing Options for Kanban Supply	7-27

Work Orders and Rate Schedules

Work Order Scheduling and Rate Schedules	8-1
Working with Work Order Scheduling	8-3
Reviewing Work Order Information	8-3
Processing Options for Shop Floor Workbench	8-5
Printing Scheduling Information for Work Centers	8-6
Working with Repetitive Schedules	8-7
Scheduling Items on a Production Line	8-7
Processing Options for Line Scheduling Workbench	8-11
Sequencing Rates by Classification Scheme	8-11
Processing Options for Line Sequencing Workbench	8-13

Hours and Quantities

Hours and Quantities	9-1
Entering Hours and Quantities	9-5
Processing Options for Hours and Quantities	9-9
Updating Hours and Quantities	9-11
Updating Hours and Quantities Manually	9-12
Updating Hours and Quantities by Batch	9-13
Processing Options for Hours and Quantities Update	9-14
Reviewing Statuses and Transactions	9-15
Reviewing the Status of Hours	9-15
Reviewing the Status of Quantities	9-17
Reviewing the Status of Operation Quantities	9-19
Processing Options for Operation Quantity Inquiry	9-21
Reviewing Hours and Quantities Transactions	9-21

Completions

Completions	10-1
Completing Discrete Work Orders	10-7
Completing Work Orders Without Backflushing	10-8
Processing Options for Work Order Completions (P31114)	10-10
Working with Backflush	10-18
Completing Work Orders through Backflush	10-19
Releasing Sales Backorders During Completions	10-20
Managing Completions that Use Receipts Routing	10-22
Processing Options for Routing/Analysis Revisions	10-24
Completing Partial Quantities on Work Orders	10-25
Processing Work Orders through Super Backflush	10-26
Processing Options for Super Backflush (P31123)	10-30
Processing Work Orders that Use Quantity at Operation	10-33
Completing Work Orders with Serialized Components	10-36
Completing Process Work Orders	10-39
Completing Work Orders Without Backflushing	10-40
Working with Backflush	10-42

Completing Work Orders Through Backflush	10-42
Releasing Sales Backorders During Completions	10-44
Managing Completions that Use Receipts Routing	10-45
Setting the Resource Percent for the Co-Products and By-Products	10-48
Completing Partial Quantities on Work Orders	10-50
Processing Work Orders through Super Backflush	10-52
Processing Work Orders that Use Quantity at Operation	10-55
Completing Work Orders with Serialized Components	10-57
Completing Rate Schedules	10-63
Processing Options for Completions Workbench	10-65

Work Order and Rate Schedule Information

Work Order and Rate Schedule Information	11-1
Deactivating Work Orders and Rate Schedules	11-3
Reviewing Work Order and Rate Schedule Status	11-4
Processing Options for Production Status	11-6
Changing the Status of Work Orders to Closed	11-6
Changing the Status of Rate Schedules to Closed	11-7
Processing Options for Batch Rate Close	11-8
Purging Work Orders	11-8
Processing Options for Purge Orders	11-9
Reviewing Work Order and Rate Schedule Information	11-11
Reviewing Part Useability	11-12
Processing Options for Part Useability	11-13
Reviewing Summary Availability	11-13
Processing Options for Summary Availability	11-14
Reviewing Item Ledger Information	11-15
Processing Options for Item Ledger (The CARDEX)	11-17
Reviewing Dispatch List Information	11-18
Processing Options for Operation Dispatch Inquiry	11-20
Reviewing Production History	11-21
Processing Options for Production History	11-22
Reviewing Production Line Quantities	11-22
Processing Options for Line Dispatch List	11-23
Reviewing Production Across Lines	11-24
Processing Options for Line Schedule Review	11-26
Reviewing Work Center Loads	11-26
Processing Options for Work Center Schedule Review	11-28
Reviewing Process Orders	11-28
Working with Supply and Demand Information	11-31
Reviewing Supply and Demand Information	11-31
Printing Supply and Demand Information	11-34
Processing Options for Supply/Demand Report	11-34
Working with Bills of Material	11-37
Comparing Bills of Material	11-37
Processing Options for Parts List Comparison	11-41
Printing Bill of Material Information	11-42

Printing a Single Level Bill of Material	11-43
Processing Options for Single Level Bill of Material	11-43
Printing a Multilevel Bill of Material	11-45
Processing Options for Multi level Bill of Material	11-45
Printing Where Used Information	11-48
Processing Options for Where Used Item	11-48

Interoperability

Interoperability	12-1
Converting Flat Files to the Interface Tables	12-3
Setting Up the Flat File Cross-Reference	12-3
Running the Conversion Program	12-4
Processing Options for Inbound Flat File Conversion	12-4
Receiving Transactions from External Systems	12-5
Processing Options for Inbound Hours and Quantity Processor	12-6
Processing Options for Inbound Inventory Issues Processor ...	12-6
Processing Options for Inbound Completion Processor	12-6
Processing Options for Inbound Super Backflush Processor ...	12-7
Reviewing and Revising Inbound Transactions	12-9
Processing Options for Inbound Work Order Inquiry	12-12
Processing Options for Inbound Hours and Quantity Inquiry ..	12-13
Processing Options for Inbound Inventory Issues Inquiry	12-13
Processing Options for Inbound Completion Inquiry	12-14
Processing Options for Inbound Super Backflush Inquiry	12-15
Sending Transactions to External Systems	12-17

Appendices

Appendix A: Leadtimes	A-1
Example: Leadtime Calculation Worksheet	A-4
Leadtime Concepts	A-4
Work Order Start Dates	A-6
Fixed Leadtime	A-6
Variable Leadtime	A-6
Operation Start and Due Dates	A-7
Fixed Leadtime	A-7
Variable Leadtime	A-8
Overlapping Operations	A-9
Overlapping and Concurrent Operations	A-10
Leadtime Calculations	A-11
Level Leadtime	A-11
Manufacturing Leadtime	A-13
Cumulative Leadtime	A-15
Per Unit Leadtime	A-17
Total Queue and Move Hours	A-18
Setup Hours	A-18

Index



Overviews

Shop Floor Management plays a key role in managing the flow of materials inside the plant. An effectively implemented shop floor management system serves as a mediator between production control and the shop floor. The J.D. Edwards Shop Floor Management system provides an effective way to maintain and communicate information that the system requires to complete production requests.

This section provides overview information about shop floor management in the manufacturing industry as well as information about how the J.D. Edwards Shop Floor Management system integrates with other J.D. Edwards systems.

Overviews consists of the following chapters:

- ☐ *Industry Overview*
- ☐ *System Overview*



Industry Overview

This chapter introduces you to the industry concepts associated with the shop floor environment. In addition, this chapter outlines examples of typical problems that are inherent in a shop floor environment, as well as J.D. Edwards solutions through Idea to Action.

The industry overview consists of:

- ☐ Industry environments and concepts for shop floor management
- ☐ Idea to Action: The Competitive Advantage

Industry Environment and Concepts for Shop Floor Management

Shop floor management encompasses the control of work flow. In a shop floor management system, decisions are made about the flow of material through a company's factory. A traditional shop floor uses dispatch lists, capacity requirements, finite scheduling, capacity planning, capacity simulation, and optimization. Some companies might also use bar coding, kanban, and just-in-time manufacturing processes on the shop floor.

Shop Floor Process

The process of scheduling production begins with managing the release of orders to the shop floor. Scheduling production involves setting realistic priorities and adjusting schedules based on required dates and actual dates.

The next step is to manage production by controlling work that is in progress on the shop floor. This means that you must track production on the shop floor to update the system. Updating your system entails tracking the status of jobs and obtaining the most up-to-date information on production activity. Once a company is set up to monitor the shop floor, the system reports information required by various departments.

Industry Challenges

Customers today want specialized products and shorter lead times from order to delivery of product. Manufacturers must respond faster to the changing needs of their customers. Currently, manufacturers struggle with manual paperwork, slow response times, and lack of system integration. Additionally, the need for higher product volume versus the complexity of the manufacturing steps requires a

systematic management. To solve these problems, manufacturers require flexibility and agility to provide specialized products at a faster rate and a competitive price.

First, manufacturers must control the shop floor. That is, they must create, maintain, and report on all activity that occurs on the shop floor. Manufacturers then need to communicate this information to the rest of the company. A company that has a well-run shop floor depends on a fast, accurate, and flexible system to produce a quality product.

Industry Improvements

Shop floor tracking includes monitoring machine status, absent employees, operations not finished on time, and parts rejected, all of which significantly impacts the shop floor schedule. When the system monitors and reports this information, it provides redirection and recovery to meet the customer's due date.

The shop floor reports provide both estimated and actual costs. A company can compare the amount of time, material, and labor placed into the production of the end item to what they planned. A company can use the information from the system to drive improvements on the shop floor.

The system eliminates waste from non-value added activities, decreases work-in-progress, and shortens product life cycles. These improvements all result in increased product quality, flexibility, and speed. The J.D. Edwards Shop Floor Management system meets the customer's expectations of total lowest cost and highest quality while providing manufacturing lead time that ensures on-time deliveries.

Idea to Action: The Competitive Advantage

The following table provides examples of typical problems in the manufacturing industry, the business activator that will resolve each problem, the return on investment, and the industries that are affected by each problem.

Multinational companies might have incompatible shop floor systems that force them to plan manually. This is both time consuming and inaccurate.

You can use multisite planning to define bills of material (BOMs) and routings for each facility for the same item. The system displays material, BOMs, and routings for all defined business units. Accurate planning consists of current work in process (WIP), inventory, BOMS, and routings.

Integration in multisite planning ensures accurate and efficient planning and reduces item numbers and WIP. This results in cost savings for materials, increased accuracy in inventory, and reduction in leadtimes.

A company might forget to account for actual inventory.	Through inventory management in the manufacturing industry, a company can accurately and consistently plan across an organization.
WIP does not always use up-to-date information.	The planning consists of WIP, inventory levels, BOMs and routings.
A company needs to know if it operates at a profit or a loss.	<p>Product costing and accounting functions provide costing and accounting visibility at each level in an organization. The system does the following:</p> <ul style="list-style-type: none"> • Compiles single ledgers for records regardless of where the system generates the cost record • Sorts and reports data by summary or detail
A company needs to know the source of its costs.	<p>The system integrates product costing (by item, hours and quantities) and manufacturing accounting. The system breaks down an item's cost into each element that influences the cost. The system does the following:</p> <ul style="list-style-type: none"> • Compiles single ledgers for records regardless of where the system generates the cost record • Sorts and reports data by summary or detail <p>With product costing, you can enter time that you spend working on orders. You can also compare this to standard costing through manufacturing accounting and identify any inconsistencies that can be corrected. Product costing provides your system with improved cost visibility and supports better management decisions. The system information can increase a company's accuracy in determining costs to customers.</p>
Many companies need to reduce leadtime.	<p>Using the Leadtime Rollup program, you can see the visibility of leadtimes for each item in each branch. You can identify potential production and delivery problems.</p> <p>A company produces manufactured items at a rate defined in the routing. Planners can evaluate if the shop floor is on schedule. If it isn't, planners can evaluate the causes and identify solutions early in the production stage.</p>
Inadequate resources force companies to rely on costly overtime to meet manufacturing schedules.	<p>Use the Shop Floor Workbench program to view work orders, work centers, and over-capacity situations in advance. You can also modify the schedule to ensure that production satisfies the demand.</p> <p>Customer demand is met through improved planning and scheduling in the Shop Floor Workbench program.</p>

Inaccurate conversions and inventory counts occur when a company purchases and issues items in different units of measure.

The system converts different units of measure to a standard UOM. This allows the company to purchase, consume, and produce items in the appropriate units of measure. Inventory is accurate because the system performs conversions. Each item can have as many as eight different units of measure.

Most companies cannot interface with other companies' operating systems.

OneWorld can operate interactively with third-party systems such as Manugistics, and SynQuest. OneWorld users can use the full J.D. Edwards Shop Floor Management system or a compatible third-party system.

Today, companies have more choices about how to run their business and which systems they use to support their business processes.

System Overview

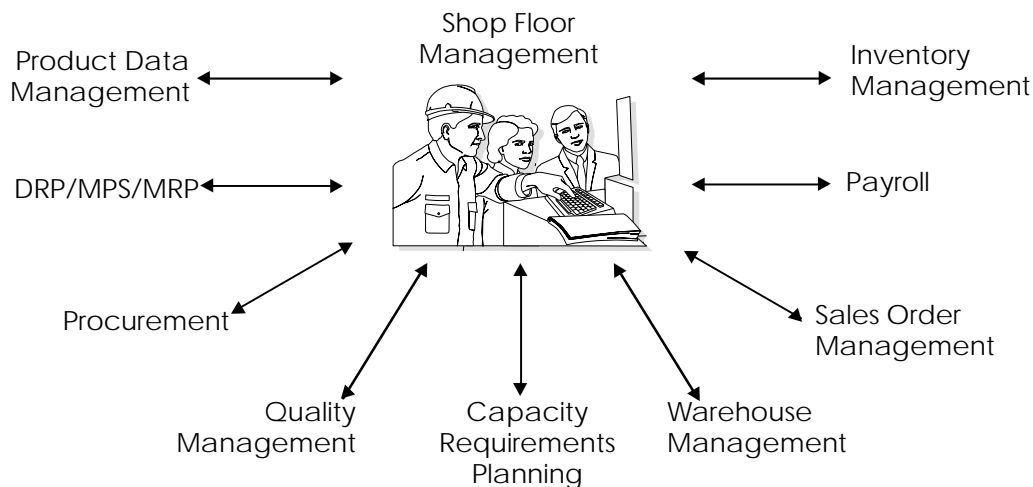
The J.D. Edwards Shop Floor Management system implements the material plan by managing the flow of materials inside the plant. An effectively implemented Shop Floor Management system serves as a mediator between production control and the shop floor. It allows you to manage and track manufacturing work orders. It utilizes data from the shop floor to maintain and communicate status information regarding materials, work centers, routing instructions, and end operations that are required to complete the production requests.

System Integration

Shop Floor Management is one of many systems that make up the Enterprise Requirements Planning and Execution (ERPx) system. The ERPx system enables you to coordinate your inventory, raw material, and labor resources to deliver products according to a managed schedule. ERPx is fully integrated and ensures that information is kept current and accurate across all of your business operations. It is a closed-loop manufacturing system that formalizes the activities of company and operations planning, as well as the execution of those plans.

The following graphic identifies the systems that make up the J.D. Edwards ERPx product group. Some systems share system numbers with other systems. For example, Distribution Requirements Planning, Master Production Schedule, and Material Requirements Planning all share the same system code (34).

The Shop Floor Management system integrates with other J.D. Edwards systems to take advantage of single entries, information sharing, and data consistency across systems. These system integrations are described following this graphic.



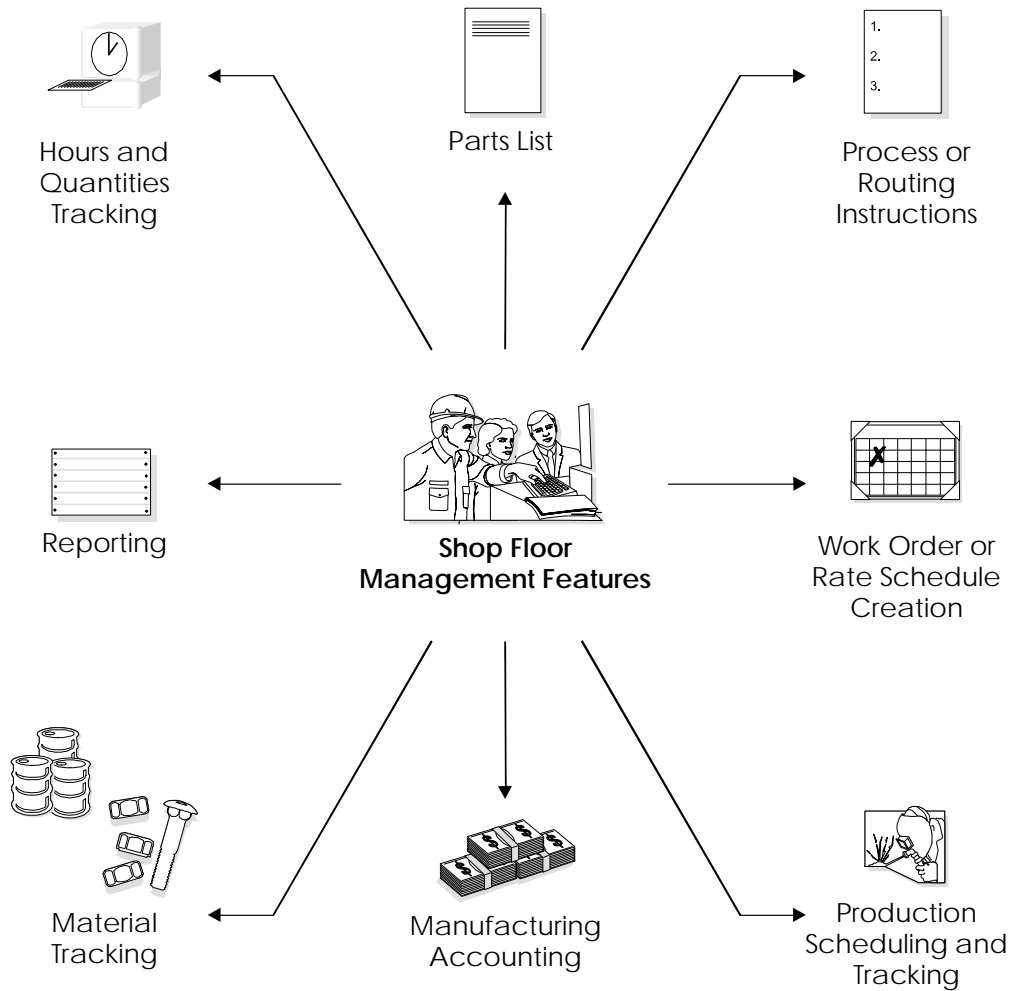
DRP = Distribution Requirements Planning
MPS = Master Production Schedule
MRP = Material Requirements Planning

- The Product Data Management system provides information about bills of material, work centers, and routing instructions.
- The Distribution Requirements Planning, Master Production Schedule, and Material Requirements Planning systems provide suggested purchase and manufacturing orders that are required to maintain a valid production schedule.
- The Procurement system allows you to automatically generate purchase orders for subcontracted operations on the routing instructions.
- The Quality Management system allows you to work with test results as you do the following:
 - Create, process, manage, and complete work orders and rate schedules
 - Record actual hours and quantities
 - Backflush labor and parts
- The Capacity Requirements Planning system reads the routing instructions for work orders and rate schedules and monitors the load on the work centers involved. This allows you to effectively manage the loads on your work centers to maximize production and meet scheduled demand.

- The Warehouse Management system allows you to originate picking requests through Manufacturing systems, which further enhances the automated method of tracking inventory movement within a warehouse.
- The Sales Order Management system allows you to generate work orders when you enter a sales order and it updates sales information from within the Shop Floor Management system.
- The Payroll system allows single entry of employees' hours. You can record hours and quantities per work request or per employee to accommodate both piece-rate and hourly-rate employees.
- The Inventory Management system allows you to track materials between inventory or storage locations and the shop floor. You can manage inventory issues and commitments, complete orders, and track order quantities throughout the production process.

Features

The following graphic illustrates the features available to you in the Shop Floor Management system. These features are described in detail following this graphic.



Hours and Quantities Tracking

You use the hours and quantities tracking features to do the following:

- Enter and track time and quantity completed and quantity scrapped by work order and by employee
- Allocate and track resource usage by work center per calendar month
- Review and analyze work order reports with detail when you use standard versus actual values for the following:
 - Setup, labor, and machine time
 - Quantity completed and quantity scrapped
- Charge actual hours and quantities to a work order as each manufacturing step is completed

Reporting

You use the reporting features to do the following:

- Generate reports that compare actual values with planned values and indicate the variance between the two
- Generate shortage reports by item or work order to identify potential manufacturing constraints due to a lack of required components
- Print shop floor paperwork, such as work orders, parts lists, and routing instructions for items
- Review daily work lists to monitor job status, identify queue problems at work centers, and flag other areas, such as engineering changes or lost material

Material Tracking

You use the material tracking features to do the following:

- Create a parts list automatically when you process a work order
- Access detailed information about supply and demand quantities
- Check the availability of the components required to manufacture a parent item and generate a shortage list
- Issue the parts to a work order using a manual, preflush, or backflush method
- Backflush quantities of components issued to a work order and the labor expended with pay point operations
- Signal material movement with kanban processing from inventory, work orders, or purchase orders

- Enter and track completions to inventory when parent items are completed
- Attach the parts list and routing instructions to the work order and print shop floor paperwork
- Track where lots are used, and split and trace where lots originate with advanced lot control
- Maintain and monitor work orders created from the Sales Configurator system for configured items
- Process work orders that produce co-products or by-products
- Enter issue transactions for inventory items associated with a work order
- Generate a picking request in the Warehouse Management system to select a location and move the inventory (this occurs after the Manufacturing system creates a parts list without a work center attached, and checks availability)

Manufacturing Accounting

You use the manufacturing accounting features to do the following:

- Plan and track costs for setup, labor, material, and overhead
- Compare planned costs against actual costs and calculate a variance amount
- Create journal entries in the general ledger to charge actual costs and variance costs to a work order or rate schedule
- Use feature cost percent for co-product and by-product costing

Production Scheduling and Tracking

You use the production scheduling and tracking features to do the following:

- Schedule work center production for work orders, rate schedules, or both
- Track and compare planned production schedules against actual schedules
- Use the online scheduling workbench to review, dispatch, and update production scheduling information in real time
- Calculate start and completion dates for each work order by operation
- Maintain the rate schedule after using rate-based MRP

Work Order and Rate Schedule Creation

You use the work order and rate schedule creation features to do the following:

- Enter work orders or rate schedules manually

- Create work orders and rate schedules automatically from MRP by answering action messages, or from sales order entry, in which you can select kits for assemble-to-order products
- Generate shop floor paperwork automatically, including standard parts lists and routing instructions
- Differentiate work orders and rate schedules by type, priority, and status
- Group work orders by a parent number, for example, for job numbers that contain many work order numbers
- Automatically generate purchase orders for subcontracted operations on the routing instructions for work orders and rate schedules

Process or Routing Instructions

You use the process or routing instructions features to do the following:

- Generate routing instructions automatically when a work order is processed
- Use master routings or nonstandard routing instructions for items and indicate when to use each item
- Change the work centers and procedures for each operation on the routing instructions
- Modify the sequence and status of each operation on the routing instructions
- Make real-time modifications to routings instructions
- Display quantity ordered, completed, and scrapped for each operation

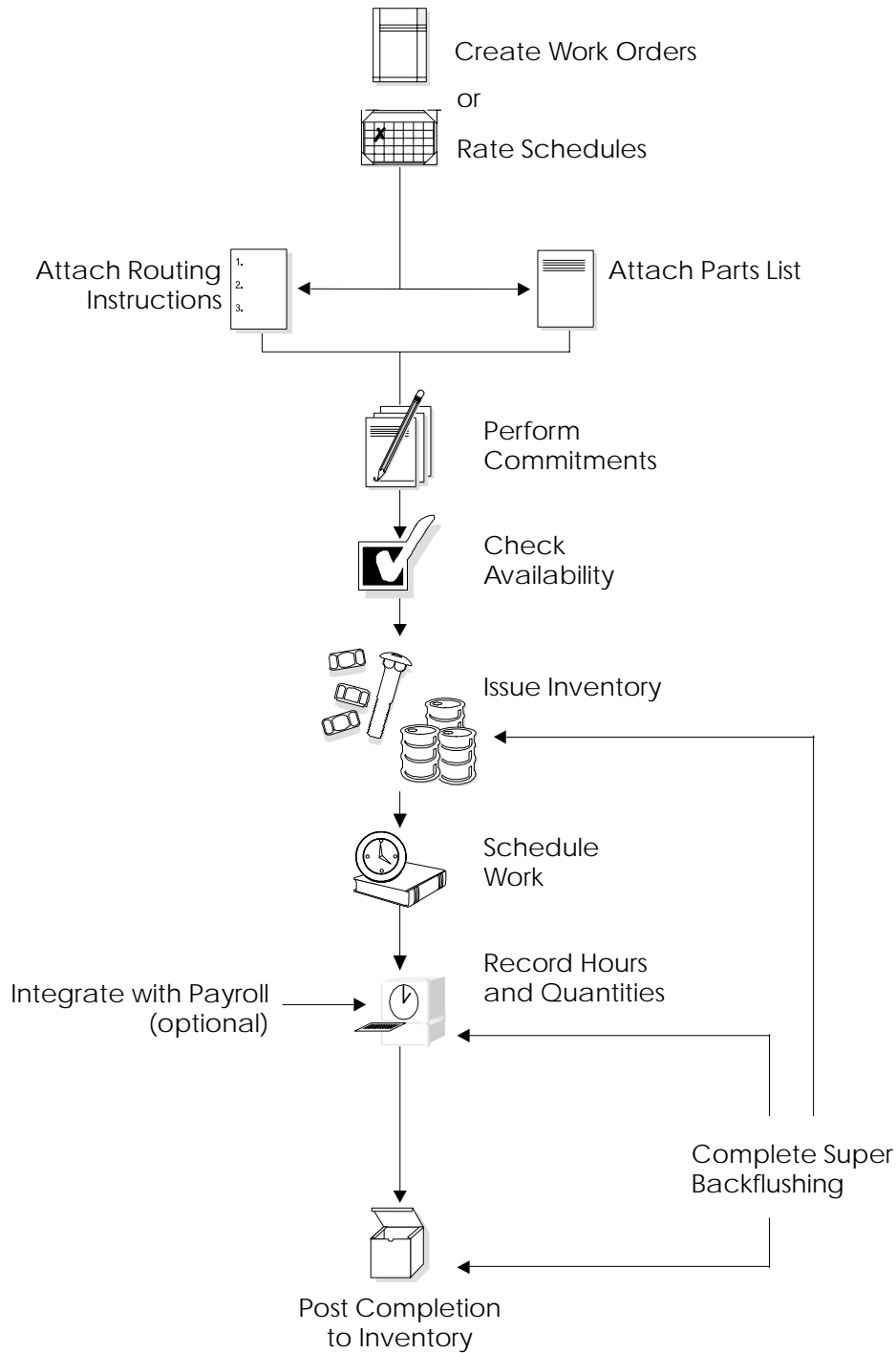
Parts List

You use the parts list features to do the following:

- Generate a parts list automatically when a work order is processed
- Copy an existing bill of material for the items required by a new work order and attach the parts list to the new work order
- Copy a parts list from an existing work order and attach it to a new work order
- Specify or change a substitute item or quantities from different locations
- Choose substitute items and their quantities on hand when a component shortage is encountered

Process Flow

The following graphic illustrates all of the processes involved in the Shop Floor Management system. The arrows show the flow from process to process, beginning with a work order or rate schedule and ending with an inventory completion.



Tables for Shop Floor Management

The following is a list of the tables used throughout the Shop Floor Management system:

Business Unit Master (F0006)	Identifies branch, plant, warehouse, and business unit information, such as company, description, and category codes assigned to that entity.
Generic Message/Rate (F00191)	Contains codes that correspond to a text message and the employee labor rate. In the Shop Floor Management system, this is used for the routing instructions text on a work order.
Account Master (F0901)	Maintains the account data for the general ledger.
Account Ledger (F0911)	Contains the transaction records for the general ledger.
Work Center Master (F30006)	Contains detailed data about all defined work centers.
Bill of Material Master (F3002)	Maintains warehouse information at the plant level about bills of materials, such as quantities of components, features, options, and levels of detail for each bill.
Item Cost Component Add-Ons (F30026)	Contains frozen standard costs for journal entry creation related to (or associated with) work orders.
Routing Master (F3003)	Contains routing instructions information, including operation sequences, work centers, and run, setup, and machine time.
Work Center Resource Units (F3007)	Contains the capacity information for work centers, such as business unit, month, shift, and efficiency.
Job Shop Manufacturing Constants (F3009)	Contains general branch/plant information, such as bill of material and routing instructions validation, commitment control, work hours per day, and costing.
Kanban Master (F3016)	Contains the set of kanban cards associated with an item. Each kanban defines the supplying location, consuming location, quantity, and unit of measure. The system uses next numbers to control the kanban identification number. If the system pulls the item from an external source, the supplier's number is included.

Kanban Card Detail (F30161)	Contains information related to the kanban, such as status, transaction quantity, and date updated.
Work Order Variance (F3102)	Contains the work order variance. Variance is the difference between actual costs and costs from when the standards were set at the beginning of the accounting period.
Work Order Lot Serial Numbers (F3105)	Contains the data that identifies work order assemblies with lot serial numbers.
Summarized Work Order Cross Reference (F3108)	Contains the cross reference information for work orders, such as batch number and date, user, program ID, and work station.
Item/Line Relationship Master (F3109)	Contains the relationships between items and production lines. The system uses one of the records as the default rate generation rule.
Schedule Quantity Detail (F31091)	Contains the daily quantities that make up a work order or a rate schedule. The system uses this table for scheduling and sequencing production lines and work centers.
Work Order Parts List (F3111)	Contains the components required by a work order.
Work Order Routing (F3112)	Contains the instructions specific for manufacturing work orders, such as the operations to be performed, their sequence, the various work centers involved, and the standards for setup and run.
Work Order Time Transactions (F31122)	Contains the labor transactions reported on work orders and rate schedules.
Shortage Maintenance Master (F3118)	Contains component shortages for work orders.
Manufacturing AAI's (F31950)	Contains the automatic accounting instructions for the Manufacturing systems.
Assembly Inclusion Rules (F3293)	Contains the inclusion parameters for item numbers and business units.
MPS/MRP/DRP Message (F3411)	Contains the supply and demand relationship among the branches.

Forecast (F3460)	Contains the forecast data that Resource Requirements Planning (RRP) validates. The data is then used as input to MPS/MRP/DRP.
Inventory Constants (F41001)	Contains the constants for the day-to-day transactions that occur within the Inventory Management system. Inventory constants direct the nature of certain integrated operations between Inventory Management and other systems, such as Sales Order Management, Procurement, and General Accounting.
Item Master (F4101)	Contains basic information about each item defined for inventory, such as description, search name, and units of measure.
Item Branch (F4102)	Maintains warehouse or plant-level information, such as costs, quantities, category codes, and physical locations.
Item Location (F41021)	Contains all inventory locations for an item.
Item Cross Reference (F4104)	Contains information that enables you to relate item numbers for a specific purpose.
Lot Master (F4108)	Contains the potency of a lot.
Item Ledger (F4111)	Contains transaction history for all items.
Item History (F4115)	Contains usage data for items that are optional in some transaction programs in the Shop Floor Management system.
Warehouse Requests (F4600)	Contains putaway, picking, and replenishment movement requests.
Location Detail Information (F4602)	Contains the information for locations, such as item, business unit, and lot.
Warehouse Suggestions (F4611)	Contains the warehouse requests after they have been processed by putaway, picking, or replenishment.

Work Order Master (F4801)	Contains the work order and rate schedule information, such as item numbers, quantities, dates, lots, locations, and shift codes.
Work Order Instructions (F4802)	Contains text and instructions for specific work orders that are identified by different record types.

Types of Manufacturing

Depending on the type of product being produced, you can define almost all manufacturing in one of three ways:

- Discrete
- Process
- Repetitive

Discrete, process, and repetitive manufacturing all use bills of material and routing instructions. The bills of material contain individual parts or components, such as a nut, bolt, wire, plastic, or metal part of a fixed or variable quantity. Products can be broken down into subassemblies that go into various larger assemblies. The routing instructions include the operations to be performed, their sequence, the various work centers involved, and the standards for setup and run.

All types of manufacturing use the term “item” for both the raw materials and finished goods. Not all items are planned, scheduled, or produced in their primary unit of measure. To accommodate this, full unit of measure capabilities are allowed throughout the Shop Floor Management system. Most entry programs have a Unit of Measure field next to the quantity fields. The unit of measure is stored in the database tables with the quantities. The system uses the following three fields in the Item Master table throughout Shop Floor Management as default values in entry forms:

- Component Unit of Measure
- Production Unit of Measure
- Primary Unit of Measure

The primary Unit of Measure value must be the smallest of the three units of measure.

If your company uses or manufactures bulk product, see *Defining Default Units of Measure for Bulk Items* in the *Bulk Stock Management Guide*.

Discrete Manufacturing

Discrete manufacturing is characterized by the following:

- Work orders produce a specific quantity of a single item for a specific completion date.
- Routing instructions are a series of independent operations.
- The total quantity of the work order is completed at each operation before the order moves to the next operation.
- Components are most often manually issued with the release of the work order, backflushed at the completion of the work order, or both.

Discrete manufacturing is most often used in the following manufacturing environments:

- Make-to-stock, using either a highly repetitive or process order based system
- Any of the “to-order” strategies, such as make-to-order, assemble-to-order, or engineer-to-order
- The one-off or job shop environment

Discrete manufacturing is used to produce items such as the following:

- Cars
- Furniture
- Electronics
- Airplanes

Process Manufacturing

Process manufacturing is characterized by the following:

- Work orders produce multiple items, both co-products and by-products, for a specific completion date.
- Routing instructions are a series of dependent operations that work together continuously.
- Products are often produced in batches or with a continuous process.
- Components or ingredients are often stated in terms of a recipe or formula.
- The quantities of components or ingredients can vary according to their grade or potency.
- Components or ingredients are most often issued by preflushing with the release of the work order or backflushed at the completion of the work order.

Process manufacturing is most often used to produce the following:

- Pharmaceuticals
- Foods and beverages
- Raw materials such as lumber, metals, and fluids

The different types of processing in process manufacturing consist of the following:

Batch processing

In batch processing, a product is usually made in a standard run or lot-size determined by vessel size, line rates, or a length of standard run. Items are typically scheduled in short production runs due to the life cycle of the product after its completion. Typical items might be pharmaceuticals, foods, inks, glues, oil or chemical products, and paints. A co-products and by-products list might be generated during batch processing.

Continuous processing

In continuous (or flow) processing, the production period is typically extended, using dedicated equipment that produces one product or product line with slight variations. This method of manufacturing is characterized by the difficulty of planning and controlling variances in quantity and quality yield. Typical items might be petroleum-based products or distilled seawater. Co-products and by-products are generally more prevalent in continuous processing than in batch processing.

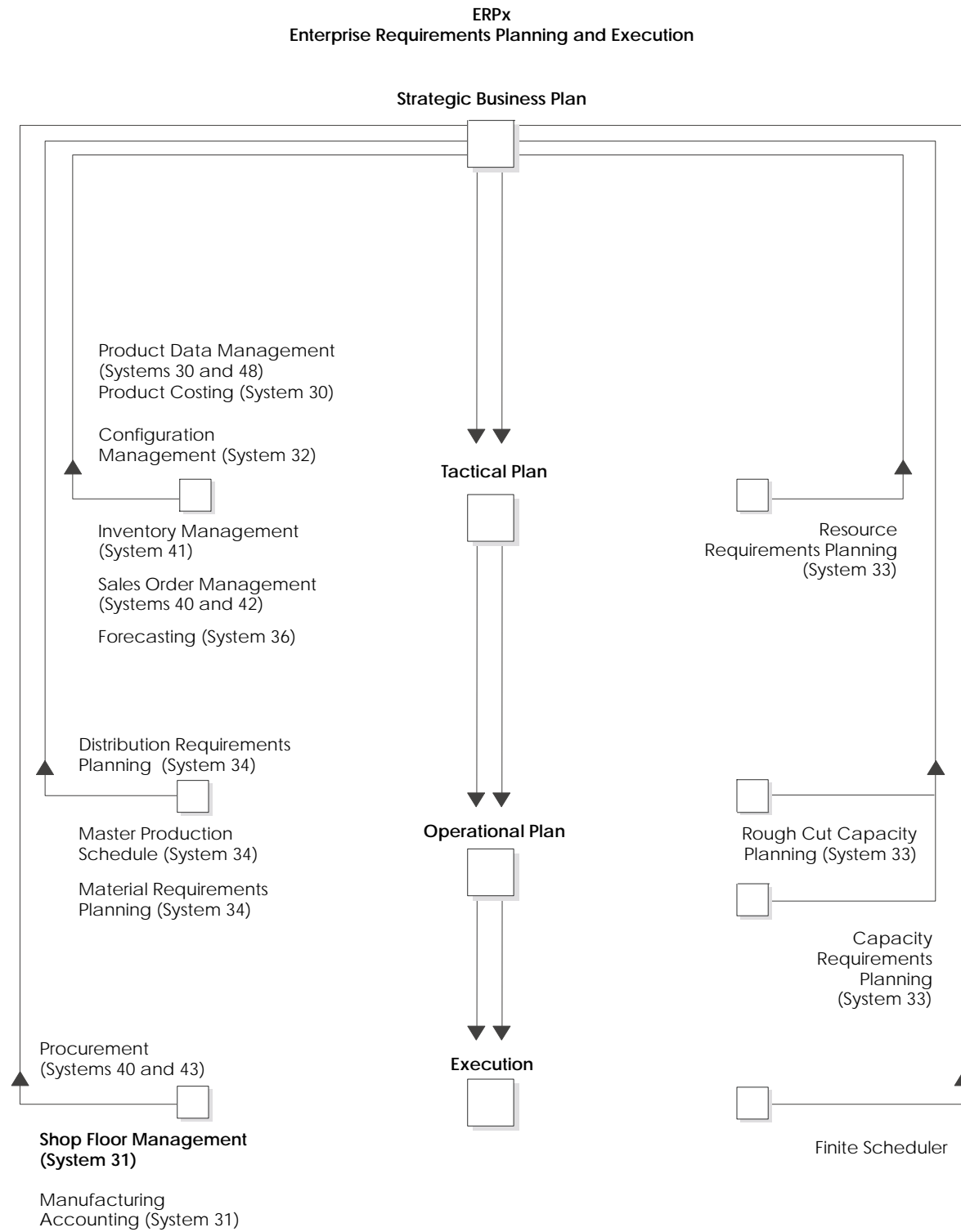
Strategies similar to discrete manufacturing, such as repetitive or any of the “to-orders,” (for example, make-to-order, assemble-to-order, or engineer-to-order) might be employed to drive the process. Usually, both batch and continuous processing methods require extensive record-keeping and recording of quality and tolerance values during the process, as well as strict adherence to lot tracing and tracking. Lot tracing is the display of items assigned to a lot. Lot tracking is the display of items removed from a lot.

Repetitive Manufacturing

Repetitive manufacturing is characterized by the following:

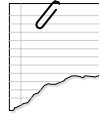
- Repetitive manufacturing dedicates entire production lines to a family of products.
- Product families share similar components and routing instructions.
- Products are often manufactured in a continuous process which requires less inventory movement to and from the production line.

- Work center setup and changeover times between related products are minimized.
- Repetitive manufacturing defines production in units per hour. The time spent at the operational level might or might not be important. Therefore, the ability to set up line capacity and define routing instructions in units per hour at the line level is necessary. The fundamental basis for backscheduling and capacity planning is hours. To view information in units, the system uses a conversion factor defined at the work center level.
- Visual cues, called kanbans, control material movement. Kanbans represent predetermined quantities of components at specified locations on the production line. They are designed to minimize work-in-process inventories.



Menu Overview

Shop Floor Management (G31)



Daily Processing (G3110)

- Daily Order Preparation – Discrete (G3111)
- Daily Order Reporting – Discrete (G3112)
- Daily Order Preparation – Process (G3113)
- Daily Order Reporting – Process (G3114)
- Daily Processing – Repetitive (G3115)
- Manufacturing Accounting (G3116)



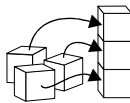
Periodic Processing (G3120)

- Periodic Functions – Discrete (G3121)
- Periodic Functions – Process (G3122)
- Manufacturing Accounting Periodic (G3123)



Shop Floor Management Advanced (G3131)

- Shop Floor Management Interoperability (G31311)



Shop Floor Management Setup (G3141)

- Supplemental Data (G3132)
- Inventory Advanced – Technical Ops (G4131)

Fast Path Commands

The following table lists the fast path commands that you can use to move among the Shop Floor Management menus. From any menu, enter the fast path command in the Fast Path box.

Fast Path	Menu	Title
SFC	G31	Shop Floor Management
DOPD	G3111	Daily Order Preparation – Discrete
DORD	G3112	Daily Order Reporting – Discrete
DOPP	G3113	Daily Order Preparation – Process
DORP	G3114	Daily Order Reporting – Process
DRB	G3115	Daily Processing – Repetitive
MA	G3116	Manufacturing Accounting
PSFD	G3121	Periodic Functions – Discrete
PSFP	G3122	Periodic Functions – Process
PMA	G3123	Manufacturing Accounting Periodic
ASF	G3131	Shop Floor Management Advanced
SSFC	G3141	Shop Floor Management Setup

You can use the Work With User Defined Codes form to locate fast path commands (system 00, code FP).

System Setup



System Setup

Shop Floor Management requires some setup prior to using the system. Setup for Shop Floor Management includes identifying the codes needed for work orders, such as priority, status, and category codes, and defining the information needed for discrete, process, and repetitive manufacturing, such as employee labor rates, shop floor calendars, and work centers.

Setting up your Shop Floor Management system consists of the following tasks:

- ☐ Understanding user defined codes for work orders
- ☐ Setting up manufacturing information

Before You Begin

- ☐ Set up the following records in the Inventory Management system:
 - Item Master
 - Branch/Plant

See Also

- *About System Setup* and *About Lot Processing* in the *Inventory Management Guide* for information about setting up the Item Master, Branch/Plant, and Lot Master records
- *Customizing User Defined Codes* in the *OneWorld Foundation Guide* for information about defining user defined codes



Understanding User Defined Codes for Work Orders

Many fields throughout Shop Floor Management accept only user defined codes for work orders. You need to define these user defined codes for your manufacturing work orders.

User defined codes are stored in tables by system and code type. For example, system 31, type OS represents Shop Floor Management and a user defined code called operation status. To set up operation status codes for your work orders, identify all the codes you want to use to identify the different operation statuses when you use the User Defined Codes form. If you enter an operation status code on another form that you did not identify as an operation status code on the User Defined Codes form, the system displays an error message. For example, you can only enter codes in the operation status code field that exist in the user defined code table for system 31 and type OS.

You can access all codes through a single user defined code form. After you choose a user defined code form from a menu, change the system code and user defined code type fields to access another user defined code table. The system stores user defined codes in the User Defined Codes table (F0005).

The following user defined codes are primary to the Shop Floor Management system:

- Type code (00/TY)
- Priority code (00/PR)
- Status code (00/SS)
- Phase code (00/W1)
- Category codes (00/W2 and 00/W3)
- Operation status code (31/OS)
- Document type code (00/DT)
- Unit of Measure (00/UM)
- Potent units code (00/UP)

See Also

- *Entering Work Order Headers*
- *Customizing User Defined Codes* in the *OneWorld Foundation Guide* for detailed information about user defined codes

Type Code (00/TY)

Work order type codes (00/TY) indicate the classification of a work order. For example, rework orders might be type R and design orders might be type D.

Priority Code (00/PR)

Work order priority codes (00/PR) indicate the priority of a work order in relation to other work orders. These codes are for reference only and do not affect the scheduling or planning of work. Do not use these codes as your formal priority system.

Status Code (00/SS)

Work order status codes (00/SS) describe the status of an order or the current step in the process of implementing a work order. You can prevent certain transactions from occurring based on the status of a work order. For instance, the system can hold work orders whose status indicates that they are pending approval or quality inspection, and release work orders that have a status code indicating that they have been approved or have passed quality inspection. You can also set the system to automatically update the work order status code when you enter issue and completion transactions.

Phase Code (00/W1)

Work order phase codes (00/W1) indicate the implementation phase of the work order. You can use phase codes to group families of orders for project management, cost accounting, and inquiry purposes. For example, if inspection on the internal parts of a product is not possible beyond a certain point in its production, you can divide the routing into phases. You can then use the phase code to indicate availability of the product for the next level of inspection.

Category Codes (00/W2 and 00/W3)

Work order category codes 02 and 03 can represent any category or description by which you want to group work orders for project management, cost accounting, or inquiries. For example, you can set up one category code to represent types of problems encountered in the work order implementation, such as improper startup or inadequate maintenance, and another code to represent locations where the work is taking place.

Operation Status Code (31/OS)

Work order operation status codes (31/OS) indicate the progress or status of an order during the steps followed in a particular operation. For example, you can set up codes to indicate if materials have been received or work has begun at a particular operation. This code allows management to monitor the progress of operations that have longer run times, or shop floor personnel to indicate when items are ready to move to the next operation.

Document Type Code (00/DT)

You can use the document type codes (00/DT) to categorize your work orders by document type. For example, you can define document type codes to indicate rework orders, prototype orders, or repair orders. If you do not specify a document type on a new work order, the system enters a document type of WO (Firm Work Order).

Document types are used to categorize information across your J.D. Edwards systems. You can specify up to 12 document types to use for work orders and rates in supply/demand calculations by entering them in the processing options for the Supply/Demand Inclusion Rules in the Manufacturing Planning system. The Manufacturing Accounting system uses the document type to match your orders to the document types defined in your automatic accounting instructions (AAIs) when you post journal entries to the general ledger.

Enter the two-character document type code for which you want the system to track lot quantities in the Codes field. For example, enter OP to allow the system to track lot quantities for all purchase orders.

Unit of Measure Code (00/UM)

Each item that you purchase, issue, manufacture, or sell must have valid unit of measure codes. Each item can have as many as eight units of measure, but one must be identified as the primary unit of measure. You must also set up the conversion tables after you have set up all unit of measure and potent unit of measure codes.

Potent Units Code (00/UP)

Some companies have items that must meet certain potency requirements. Potent units are the codes for units of measure for items with potency. The potent units always have a comparable 00/UM code. For example, if your company uses potency, and measures product in gallons, you set up a code such as GA for gallon and a potent unit code such as GP for the potent gallon. When you set up potent unit codes, you must enter P in the Special Handling code.

When the system creates commitments for an item that is set up with a potent unit of measure, it converts the quantity to the primary unit of measure. For example, if you issue product in GP (potent gallons), the system converts it to the primary unit of measure of GA (gallons).

Setting Up Manufacturing Information

You must set up information that is necessary for manufacturing, such as generic messages, shop floor calendars, manufacturing constants, work centers, resource units, and item-to-line relationships.

Setting up manufacturing information consists of the following tasks:

- ☐ Setting up standard procedures
- ☐ Setting up employee labor rates
- ☐ Setting up the shop floor calendar
- ☐ Setting up manufacturing constants
- ☐ Setting up work centers
- ☐ Setting up resource units
- ☐ Setting up item-to-line relationships

Before You Begin

- ☐ Verify that all of the items that you want controlled by kanbans have been set up and that the kanbans have been generated and printed. See *Setting Up Kanban Controlled Items* and *Generating Kanbans* in the Product Data Management Guide.

Setting Up Standard Procedures

You can set up generic messages (48/SN) that represent procedural or message text for your company. Use them to describe a standard procedure for each step in the routing instructions.

To set up standard procedures, you first define standard procedure codes that appear on shop floor documents and in online inquiries that access data from the Enter/Change Routing form. After you define standard procedure codes, you can enter them in the Standard Description field on the Enter/Change Routing form to indicate the procedure to use for each operation on the routing instructions.

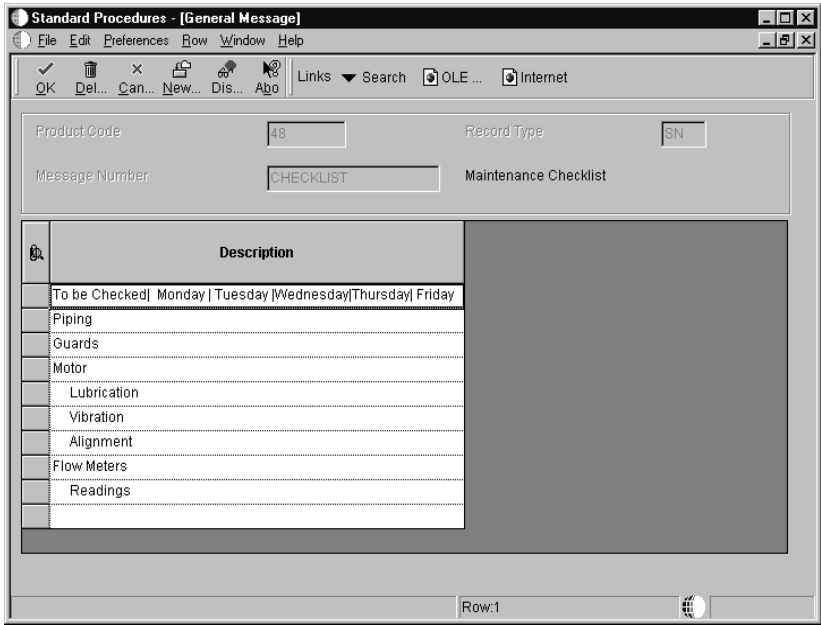
► To set up standard procedures

From the Shop Floor Management Setup menu (G3141), choose Standard Procedures.

1. On Work With Generic Message/Rate Types, choose Message/Rates from the Row menu.

Code	Description
CHECKLIST	Maintenance Checklist
LOCKOUT	Lockout / Tagout Procedure
VEHICLE	General Work On Vehicle
01-405	Overhaul Motor
1000	1000 hour maintenance steps
1001	General Assembly Procedure
1002	Quality Control General Proc
250	250 hour maintenance steps
500	500 hour maintenance steps

2. On Enter Generic Message/Rates, complete the following fields on the first blank row:
 - User Defined Codes
 - Description
3. Choose the row and then choose General Message from the Row menu.



4. On General Message, complete the following field with the description of the standard procedure:
 - Description
5. Click OK.
6. On Enter Generic Message/Rates, click OK.

Processing Options for Standard Procedures

Defaults

1. Enter the desired System Code.

System Code

Record Type

Display

1. Enter a '1' to display Rate Text or a '2' to display Message Text.

Text Type

2. Enter a '1' for 60 column display or a '2' for 80 column display.

Text Column Display

Setting Up Employee Labor Rates

You can set up codes that represent the hourly labor rates for your employees. Table 31/ER contains employee rates that the system uses to calculate actual labor costs. For each code, you can define the name or type of employee that the code represents and the hourly labor rate for the employee or job category.

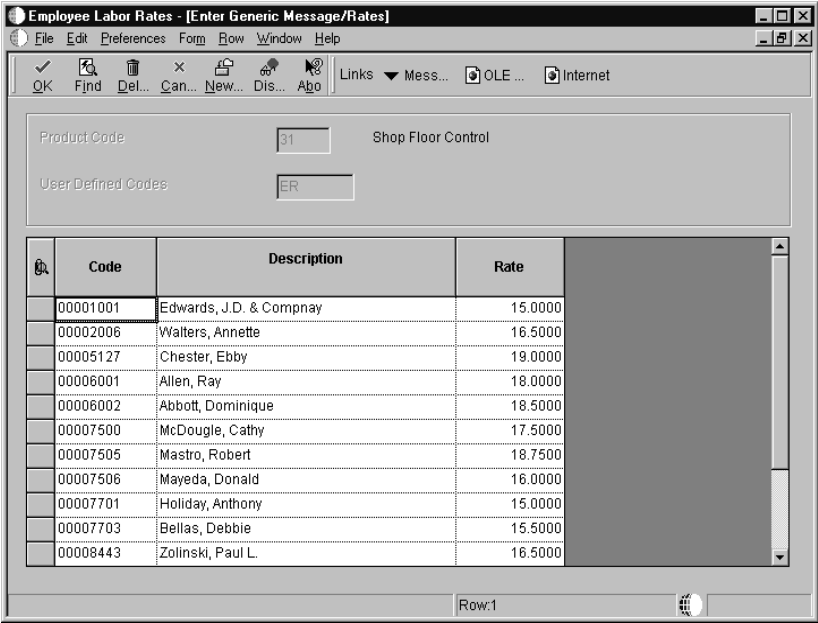
In actual costing, the rate that you define for each employee appears in the Employee Rate field on the Hours and Quantities Entry form when the employee enters time transactions. See *Setting Up Manufacturing Constants* in the *Product Costing and Manufacturing Accounting Guide* for information on the fields to use for actual costing.

► To set up employee labor rates

From the Shop Floor Management Setup menu (G3141), choose Employee Labor Rates.

Product Code	Us Cd	Description
31	ER	Employee Rates

1. On Work With Generic Message/Rate Types, choose Message/Rates from the Row menu.



2. On Enter Generic Message/Rates, complete the following fields and click OK:
- Code
 - Description
 - Rate

The code should represent an address book record of an employee who completes work on a work order.

Field	Explanation
Rate	A code used to define rate information in the General Rate/Message Records table (F00191).

Setting Up the Shop Floor Calendar

You can define the work days by month and year for each branch or all branches in your system in the Shop Floor Calendar. The system uses this calendar to determine manufacturing schedules.

You can also define calendars by shift. The system uses these calendars for line scheduling and sequencing by shift in repetitive manufacturing. Shift calendars are not used for DRP/MPS/MRP.

To increase plant capacity, manufacturers run production lines for more than one shift, as well as run different lines of production on different days of the week. You specify these shifts and lines on the Shop Floor Calendar.

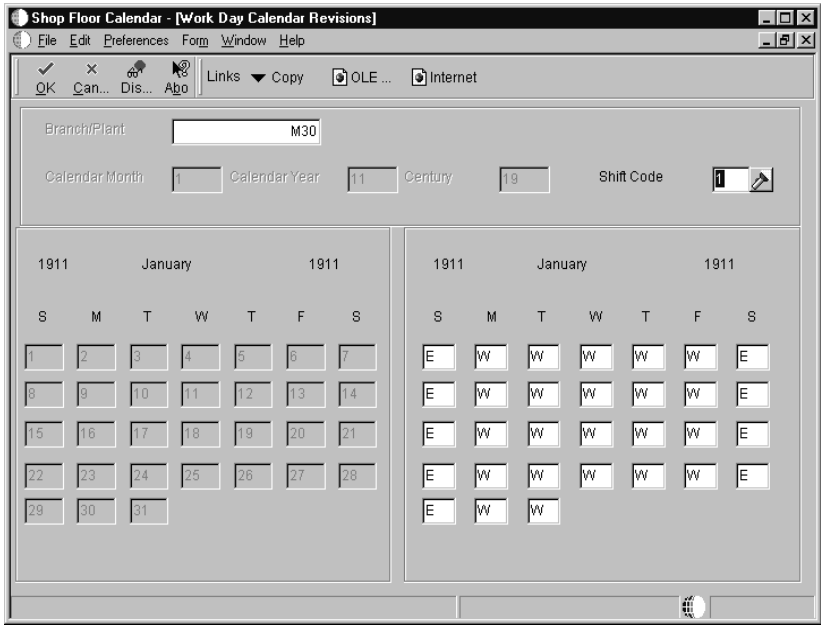
If the shop calendar for the branch, month, and year is not yet defined, the system preloads default work days (Monday through Friday) and weekends (Saturday and Sunday). Holidays are always user defined.

To set up the shop floor calendar

From the Shop Floor Management Setup menu (G3141), choose Shop Floor Calendar.

You set up a calendar month by first locating the month, year, and branch, and then entering any different day types.

1. On Work With Day Calendar, complete the following fields:
 - Branch/Plant
 - Calendar Month
 - Calendar Year
2. Complete the following optional field:
 - Shift Code
3. Click Find to create the calendar for the information that you entered.



4. On Work Day Calendar Revisions, for each day on the right side of the form, indicate the type of day (work day, weekend, and so on) and click OK.

Note: Manufacturing Planning and Scheduling programs use only days with a value of “W.” A day with any other value is treated as a nonworking day by the Manufacturing Planning and Scheduling programs.

The calendar on the left shows the actual calendar days for the month and year that you requested. The calendar on the right shows the work days and nonwork days that you defined.

Field	Explanation
Branch	<p>A code that represents a high-level business unit. Use this code to refer to a branch or plant that might have departments or jobs, which represent lower-level business units (data item MCU), subordinate to it. For example:</p> <ul style="list-style-type: none">• Branch/Plant (MMCU)• Dept A (MCU)• Dept B (MCU)• Job 123 (MCU) <p>Business unit security is based on the higher-level business unit.</p> <p>..... <i>Form-specific information</i></p> <p>This code identifies the branch or plant for which the calendar applies. It must be a valid business unit.</p>

Field	Explanation
Century	The calendar century associated with the year. This is the first two digits of the year. For example, 19 indicates any year beginning with 19 (1998, 1999); 20 indicates any year beginning with 20 (2000, 2001, and so on).

Processing Options for Shop Floor Calendar

Interop

1. Enter the transaction type for the interoperability transaction. If left blank, outbound interoperability processing will not be performed.

Type - Transaction _____

2. Enter a '1' to write before images for outbound change transactions. If left blank, only after images will be written.

Before Image Processing _____

Setting Up Manufacturing Constants

You set up manufacturing constants to maintain general branch or plant information that affects processing throughout the J.D. Edwards Manufacturing systems. The constants are listed on the Manufacturing Constants Revision form on the following tabs :

Manufacturing constants

These constants specify the following:

- Whether the system validates bills of material online as you enter them
- Whether an audit trail tracks all changes made to bills of material
- Whether the system uses the master routing for an item or the routing instructions defined for the parent item

Shifts

These constants specify number of work hours that the plant typically operates in a day.

Commitment control

These constants specify when inventory is committed and backflushed.

Costing options

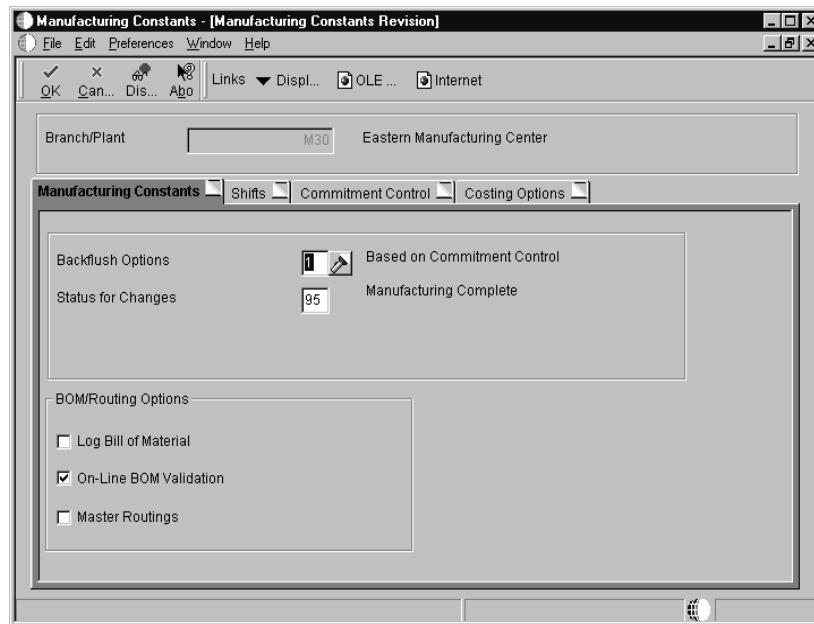
These constants specify which overhead costs calculations are used and whether work center efficiency is considered when calculating direct labor and overhead. Costing options also include the source for machine and labor rates.

Caution: Information that you define for manufacturing constants affects all areas of the J.D. Edwards Manufacturing systems, so you should make your choices carefully.

► To set up manufacturing constants

From the Shop Floor Management Setup menu (G3141), choose Manufacturing Constants.

1. On Work With Manufacturing Constants, complete the following field and click Find:
 - Skip to Branch/Plant
2. Choose the appropriate branch/plant and click Select.



3. Click the following required BOM/Routing option:
 - On-Line BOM Validation
4. On Manufacturing Constants Revision, click the Manufacturing Constants tab and complete the following optional fields:
 - Backflush Options
 - Status for Changes
5. Click any of the following BOM/Routing options:
 - Log Bill of Material
 - Master Routings
6. Click the Shifts tab and then complete the following fields:
 - Hours
 - Shift Code

You can enter hours for up to six different shifts. However, the Work Hours Per Day field is only the total entries of the first three shift hours.

7. Click the Commitment Control tab, and click one of the following Commitment Control options:
 - Primary Location
 - Split-Cross Branch boundaries
 - Commitment Control
8. Click one of the following Hard/Soft Commit options:
 - Hard at creation of Parts List
 - Soft, Hard when printing
 - Soft at creation of Parts List
9. Click the Costing Options tab, and then click any of the following costing options:
 - Modify cost by Work Center Efficiency
 - Include Work Center Eff. in Overhead
 - Include Var. Labor Overhead in Cost
 - Calculate Var. on Setup Labor
 - Calculate Var. on Direct Labor
 - Include Fixed Labor Overhead in Cost
 - Calculate Fixed on Setup Labor
 - Calculate Fixed on Direct Labor

- Include Var. Machine Overhead in Cost
 - Include Fixed Machine Overhead in Cost
10. To set up for actual costing and to identify the source for estimated routing costs, complete the following fields:
- Machine Rate Source
 - Labor Rate Source

See *Setting Up Manufacturing Constants* in the *Product Costing and Manufacturing Guide* for further information on costing options.

11. Click one of the following Overheads options, and then click OK:
- Percentages
 - Rates

Field	Explanation
Backflush Options	<p>A code that determines how the system performs commitment and release of inventory. Valid codes are:</p> <ol style="list-style-type: none"> 1 Create a standard parts list based on the value in the Commitment Control field in the Job Shop Manufacturing Constants table (F3009). 2 Create a parts list, committing to the location indicated in the Work Center Master table (F3006). The Operation Sequence field in the Bill of Material Master table (F3002) determines the work center that is used. <p>Note: You must create the work order routing before the parts list. If you are running the work order generation (R31410), you must set the Process Tab, Parts List and Routing Instructions processing option to 3 to generate the parts list and routing instructions at the same time.</p> <p>If you define a consuming location on the routing instructions, this location overrides the consuming location defined in the Work Center Master table.</p>
Status for Changes	<p>This field specifies the status beyond which work orders and rates can not be changed in the Line Scheduling and Line Sequencing Workbench programs.</p>

Field	Explanation
On-Line BOM Validation	<p>An option that determines whether the system performs an online component or parent validation and low-level code assignment when you revise a bill of material.</p> <p>J.D. Edwards recommends that you validate items online unless your bills of material are extremely large. If you choose not to validate items online, you must validate the items in batch. Run the Print Integrity Analysis program (P30601) after updates to the bill of material and before you run the Frozen Cost Update program (P30835) or perform a DRP/MPS/MRP generation (P3482).</p> <p>For World:</p> <p>Valid values are:</p> <ul style="list-style-type: none">Y Yes, validate items online.N No, do not validate items online. <p>For OneWorld:</p> <p>To specify that the system validates items online, click the On-Line BOM Validation option under the BOM/Routing Options heading. If you do not click the On-Line BOM Validation option, the system does not validate items online.</p>
Log Bill of Material	<p>A code that determines whether changes to the bill of material are recorded in the Bill of Material Change table (F3011). When you log bill of material changes, the system saves the old bill of material and the new changed bill of material.</p> <p>For World:</p> <p>Valid values are:</p> <ul style="list-style-type: none">Y Yes, log changes.N No, do not log changes.Blank The system assigns a default value of N. <p>For OneWorld:</p> <p>To record changes to the bill of material, click the Log Bill of Material option under the BOM/Routing Options heading. If you do not click Log Bill of Material, the program does not record changes.</p>

Field	Explanation				
Master Routings	<p>An option that determines whether the system uses the master routing for an item or a routing defined for the parent item. Both routings are retrieved from the Routing Master table (F3003).</p> <p>If you choose to check for master routings, the Shop Floor Management system checks the Item Cross Reference table (F4104), cross-reference type MR, for the parent item. If it finds a cross-reference, the program uses the master routing from the Routing Master Table (F3003). If it does not find a cross-reference, the system uses the routing defined for the parent item. If you do not choose to check for master routings, the program uses the parent item's routing from the Routing Master table.</p> <p>For World:</p> <p>Valid values are:</p> <table> <tr> <td>Y</td><td>Yes, use the master routing for an item, if one exists.</td></tr> <tr> <td>N</td><td>No, do not check for a master routing for the item.</td></tr> </table> <p>For OneWorld:</p> <p>To specify whether the system checks for cross-references and uses a master routing for the item, click the Master Routings option under the BOM/Routing Options heading.</p>	Y	Yes, use the master routing for an item, if one exists.	N	No, do not check for a master routing for the item.
Y	Yes, use the master routing for an item, if one exists.				
N	No, do not check for a master routing for the item.				
Work Hours Per Day	<p>The number of work hours that the manufacturing plant typically operates in a day. The system calculates this value based on hours defined in the shift hours 1, 2, and 3 fields on the Manufacturing Constants Revision form. This value is used in backscheduling and forward scheduling.</p>				
Shift Code	<p>A user defined code (00/SH) that identifies daily work shifts. In payroll systems, you can use a shift code to add a percentage or amount to the hourly rate on a timecard.</p> <p>For payroll and time entry:</p> <p>If an employee always works a shift for which a shift rate differential is applicable, enter that shift code on the employee's master record. When you enter the shift on the employee's master record, you do not need to enter the code on the timecard when you enter time.</p> <p>If an employee occasionally works a different shift, you enter the shift code on each applicable timecard to override the default value.</p>				

Commitment Control

An option that determines how the system commits inventory to a work order, and specifies the inventory location to which commitments are made. The system activates this field only when you create hard commitments. Three options are available as follows:

- **Primary Location.** Make commitments to the primary location in the branch/plant where the work order originates.
- **Split-Cross Branch Boundaries.** Split the parts list and commitments to fill any component shortages. The system can cross branch boundaries to fill requirements. In this case, the system uses the next alphabetical branch/plant listed in the table that occurs after the branch/plant on the work order header. For example:
CAL
CHI
CLE
HOU
If the system starts committing inventory at branch/plant CHI, it accesses CLE as the next branch/plant. If inventory is low in all locations, the system makes the remaining commitments to the primary location of the branch/plant on the work order header.
- **Split-Don't Cross Branch Boundaries.** This option is similar to Split-Cross Branch Boundaries, but the system cannot cross branch boundaries.

When you set the Commitment Method field in the Item Branch/Plant table to 2 or 3 (lot number or expiration date control), you must use the Split-Don't Cross Branch Boundaries option.

For World:

Valid values are:

- 1 Primary Location
- 2 Split-Cross Branch Boundaries
- 3 Split-Don't Cross Branch Boundaries

For OneWorld:

To specify how inventory is committed, click one of the following options under the Commitment Control heading:

- Primary Location
 - Split-Cross Branch Boundaries
 - Split-Don't Cross Branch Boundaries
-

Hard/Soft Commit

An option that determines how the Shop Floor Management system commits inventory. The options are as follows:

- Hard commitment at creation of parts list. The system performs a hard commitment at the creation of the parts list. The hard commitment remains in effect until inventory is relieved.
- Soft commitment, then changed to hard commitment when printing. The system performs a soft commitment at the creation of the parts list. The system then changes the commitment to a hard commitment during the pick list print process (P31410) for the work order. The hard commitment remains in effect until inventory is relieved.
- Soft commitment at creation of parts list. The system performs a soft commitment at creation of the parts list. The soft commitment remains in effect until inventory is relieved.

When you set the Commitment Method field in the Branch/Plant Constants form to 2 or 3, you must use either Hard commitment at creation of parts list or Soft commitment, then hard commitment when printing because a hard commitment must be performed.

If you want to identify substitute items when a shortage occurs, you must choose the hard commitment at creation of parts list option.

When you choose either Soft, Hard when printing or Soft at creation of Parts List, any line item in the parts list may be hard-committed prior to printing or relieving the inventory.

For World:

When the hard/soft commit option is set to 2 or 3, any line item in the parts list may be hard committed prior to printing or relieving the inventory. Valid codes are:

- 1 Hard commitment
- 2 Soft commitment, hard commitment when printing (P31410)
- 3 Soft commitment

For OneWorld:

To specify how the program commits inventory, click one of the following options under the Hard/Soft Commit heading:

- Hard at creation of parts list
 - Soft, Hard when printing (P31410)
 - Soft at creation of parts list
-

Modify cost by Work Center Efficiency	<p>An option that determines whether the cost rollup creates cost component B4 (for labor efficiency) based on the direct labor value (cost component B1) and the Work Center Efficiency percent from the Work Center Master table (F30006).</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Create cost component B4.</td></tr><tr><td>N</td><td>No. Do not create cost component B4.</td></tr></table> <p>For OneWorld:</p> <p>To create cost component B4, click the Modify cost by Work Center Efficiency option under the Costing Options heading.</p>	Y	Yes. Create cost component B4.	N	No. Do not create cost component B4.
Y	Yes. Create cost component B4.				
N	No. Do not create cost component B4.				
Include Work Center Eff. in Overhead	<p>An option that determines whether the cost rollup includes work center efficiency when calculating overhead values, if you specified that you want to modify costs by work center efficiency.</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Include work center efficiency.</td></tr><tr><td>N</td><td>No. Do not include work center efficiency.</td></tr></table> <p>For OneWorld:</p> <p>To include work center efficiency, click the Include Work Center Eff. in Overhead option under the Costing Options heading.</p>	Y	Yes. Include work center efficiency.	N	No. Do not include work center efficiency.
Y	Yes. Include work center efficiency.				
N	No. Do not include work center efficiency.				
Include Var. Labor Overhead in Cost	<p>An option that determines whether the cost rollup creates cost component C3 (for variable labor overhead) in the Item Cost Component Add-Ons table (F30026).</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Create cost component C3.</td></tr><tr><td>N</td><td>No. Do not create cost component C3.</td></tr></table> <p>For OneWorld:</p> <p>To create cost component C3, click the Include Variable Labor Overhead in cost option under the Costing Options heading.</p>	Y	Yes. Create cost component C3.	N	No. Do not create cost component C3.
Y	Yes. Create cost component C3.				
N	No. Do not create cost component C3.				

Calculate Var. on Direct Labor	<p>An option that determines whether the cost rollup includes direct labor expenses (cost component B1) in the total used to calculate variable labor overhead (cost component C3).</p> <p>For World:</p> <p>Valid values are:</p> <ul style="list-style-type: none"> Y Yes. Include direct labor expenses. N No. Do not include direct labor expenses. <p>For OneWorld:</p> <p>To include direct labor expenses, click the Calculate Var. on Direct Labor option under the Costing Options heading.</p>
Calculate Var. on Setup Labor	<p>An option that determines whether the cost rollup includes setup labor expenses (cost component B2) in the total used to calculate variable setup overhead (cost component C3).</p> <p>For World:</p> <p>Valid values are:</p> <ul style="list-style-type: none"> Y Yes. Include setup labor expenses. N No. Do not include setup labor expenses. <p>For OneWorld:</p> <p>To include setup labor expenses, click the Calculate Var. on Setup Labor option under the Costing Options heading.</p>
Include Fixed Labor Overhead in Cost	<p>An option that determines whether the cost rollup creates cost component C4 (for fixed labor overhead) in the Item Cost Component Add-Ons table (F30026).</p> <p>For World:</p> <p>Valid values are:</p> <ul style="list-style-type: none"> Y Yes. Create cost component C4. N No. Do not create cost component C4. <p>For OneWorld:</p> <p>To create cost component C4, click the Include Fixed Labor Overhead in cost option under the Costing Options heading.</p>

Calculate Fixed on Direct Labor	<p>An option that determines whether the cost rollup includes direct labor expenses (cost component B1) in the total used to calculate fixed labor overhead (cost component C4).</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Include direct labor expenses.</td></tr><tr><td>N</td><td>No. Do not include direct labor expenses.</td></tr></table> <p>For OneWorld:</p> <p>To include direct labor expenses, click the Calculate Fixed on Direct Labor option under the Costing Options heading.</p>	Y	Yes. Include direct labor expenses.	N	No. Do not include direct labor expenses.
Y	Yes. Include direct labor expenses.				
N	No. Do not include direct labor expenses.				
Calculate Fixed on Setup Labor	<p>An option that determines whether the cost rollup includes setup labor expenses (cost component B2) in the total used to calculate fixed setup overhead (cost component C4).</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Include setup labor expenses.</td></tr><tr><td>N</td><td>No. Do not include setup labor expenses.</td></tr></table> <p>For OneWorld:</p> <p>To include setup labor expenses, click the Calculate Fixed on Setup Labor option under the Costing Options heading.</p>	Y	Yes. Include setup labor expenses.	N	No. Do not include setup labor expenses.
Y	Yes. Include setup labor expenses.				
N	No. Do not include setup labor expenses.				
Include Var. Machine Overhead in Cost	<p>An option that determines whether the cost rollup creates cost component C1 (for variable machine overhead) in the Cost Components table (F30026).</p> <p>For World:</p> <p>Valid values are:</p> <table><tr><td>Y</td><td>Yes. Create cost component C1.</td></tr><tr><td>N</td><td>No. Do not create cost component C1.</td></tr></table> <p>For OneWorld:</p> <p>To create cost component C1, click the Include Var. Machine Overhead in Cost option under the Costing Options heading.</p>	Y	Yes. Create cost component C1.	N	No. Do not create cost component C1.
Y	Yes. Create cost component C1.				
N	No. Do not create cost component C1.				

Include Fixed Machine Overhead in Cost	<p>An option that determines whether the cost rollup creates cost component C2 (for fixed machine overhead) in the Item Cost Component Add-Ons table (F30026).</p> <p>For World:</p> <p>Valid values are:</p> <p>Y Yes. Create cost component C2.</p> <p>N No. Do not create cost component C2.</p> <p>For OneWorld:</p> <p>To create cost component C2, click the Include Fixed Machine Overhead in Cost option under the Costing Options heading.</p>
Machine Rate Source	<p>A code that specifies the source for machine rates when the system calculates routing costs for an estimate. Valid values are:</p> <ol style="list-style-type: none"> 1 Work Center Rates table (F30008). This table is the default. 2 Equipment Rates table (F1301)
Labor Rate Source	<p>A code that specifies the source for labor rates when the system calculates the routing costs for an estimate. Valid values are:</p> <ol style="list-style-type: none"> 1 Work Center Rates table (F30008). This table is the default. 2 Employee Labor Rates table (F00191) 3 Manually entered in the routing instructions for the work order
Overheads	<p>An option that determines whether values for overhead fields (cost components C1 through C4) in the Work Center Rates table (F30008) are expressed as percents or rates.</p> <p>For World:</p> <p>Valid values are:</p> <p>R Express overhead values as rates (currency values).</p> <p>P Express overhead values as percents.</p> <p>For OneWorld:</p> <p>To specify whether the system expresses the overhead fields as percents or rates, click either Percents or Rates under the Overheads heading.</p>

See Also

- *Setting Up Manufacturing Constants in the Product Data Management Guide*

Setting Up Work Centers

You can maintain general information about a work center, such as pay points, prime load codes, number of machines and workers, crew size, and backflush locations.

If you set the Modify Cost by Work Center Efficiency field to Y on Manufacturing Constants, the system multiplies the Efficiency field value by the direct labor cost to create a B4 cost type (labor efficiency) in the Item Cost Component Add-Ons table.

From Enter/Change Work Center, you can access Work Center Rate Revisions to maintain both simulated and frozen values for machine and labor hours. The simulated value is generated after a cost rollup. The frozen value is generated after a frozen update. You can update the simulated rates, but not the frozen values. The system updates frozen values when you run the Frozen Cost Update program. The following J.D. Edwards programs and reports use frozen values:

- Costed Routings
- Labor Rate Variance reports
- Direct Labor Efficiency reports
- Cost Rollup reports

From Enter/Change Work Center, you can access Business Unit Information to maintain business units and track costs.

Note: If you use Warehouse Management and do not set up valid work center locations, the system interfaces with Warehouse Management when you attach a parts list to a work order. If you do set up valid work center locations before you attach a parts list, but the work order quantity exceeds the quantity that you have in the work center, the system uses Warehouse Management to create a pick request for the remaining quantity to fill the work order request.

Before You Begin

- ☐ Set up your work centers and dispatch groups as valid business units on the Revise Single Business Unit form. See *Working with Business Units* in the *General Accounting Guide*.

To set up work centers

From the Shop Floor Management Setup menu (G3141), choose Enter/Change Work Centers.

1. On Work With Work Centers, click Add.

The screenshot shows a software window titled "Enter/Change Work Centers - [Work Center Master Revisions]". It features a menu bar with "File", "Edit", "Preferences", "Form", "Window", and "Help". Below the menu is a toolbar with icons for "OK", "Cancel", "Dis...", and "Help". The main area has a "Work Center" field with the value "200-101" and a "Weld" field. Below this, there are three tabs: "Work Center Master", "Capacity & Shifts", and "Hours & Efficiency". The "Work Center Master" tab is active, displaying several input fields: "Dispatch Group" (200-100), "Location - Issue", "Location Branch", "Work Center Type" (0), "Crew Size" (1.0), "Pay Point" (0), "Not a backflush work center", "Number of Machines" (2), "Prime Load" (B), "Run Labor plus Setup Labor", "Number of Employees" (3), "Critical W/C" (3), "Critical W/C in RRP & RCCP/CRP", and "Resource Offset".

2. On Work Center Master Revisions, complete the following field:
 - Work Center
3. On the Work Center Master tab, complete the following optional fields:
 - Dispatch Group
 - Crew Size
4. Click the Capacity & Shifts tab and complete the following optional fields:
 - Standard Capacity
 - Capacity UOM
 - Minimum Capacity
 - Maximum Capacity
 - Branch
 - Hours
 - Shift
5. Click the Hours & Efficiency tab, complete the following optional fields, and then click OK:
 - Queue Hours
 - Move Hours

See Also

- *Setting Up Simulated Rates for a Work Center* in the *Product Costing and Manufacturing Accounting Guide*

Field	Explanation
Work Center	<p>An alphanumeric field that identifies a separate entity within a business for which you want to track costs. For example, a business unit might be a warehouse location, job, project, work center, branch, or plant.</p> <p>You can assign a business unit to a voucher, invoice, fixed asset, employee, and so on, for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business units to track equipment by responsible department.</p> <p>Security for this field can prevent you from locating business units for which you have no authority.</p> <p>NOTE: The system uses the job number for journal entries if you do not enter a value in the AAI table.</p>
Dispatch Group	<p>A super category code to group work centers within an overall business unit. For example, you can use this code to group similar machines operating out of several work centers that report to one business unit.</p>
Crew Size	<p>The number of people who work in the specified work center or routing operation.</p> <p>The system multiplies the Run Labor value in the Routing Master table (F3003) by crew size during costing to generate total labor amounts.</p> <p>If the Prime Load Code is L or B, the system uses the total labor hours for back scheduling. If the Prime Load Code is C or M, the system uses the total machine hours for back scheduling without modification by crew size.</p> <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management:</p> <p>If you leave the Hours field on the Routing Revisions form blank, the system uses the value entered in this field for leadtime and scheduling calculations.</p>
Standard Capacity	<p>The standard capacity level at which a production line usually operates.</p> <p>Capacity is stated in units per hour.</p>
Capacity UOM	<p>A unit of measure used to express the capacity of a production line, for example, stampings, injections, and so on.</p>
Minimum Capacity	<p>The lower limit capacity beyond which the production line should not operate. This value is decided by management, based on factors such as efficiencies, costs, and so on.</p> <p>Capacity is stated in units per hour.</p>

Field	Explanation
Maximum Capacity	<p>The upper limit capacity beyond which a production line cannot produce.</p> <p>Capacity is stated in units per hour.</p>
Branch	A code that represents a business unit. This item is used to specify from which branch/plant to validate when overriding shift hours for a work center.
Queue Hours	<p>The total hours that an order is expected to be in queue at work centers and moving between work centers.</p> <p>The system stores this value in the Item Branch table (F4102). You can calculate this value using the Leadtime Rollup program or you can enter it manually. When you run the Leadtime Rollup program, the system overrides manual entries with calculated values.</p>
Move Hours	<p>The planned hours that are required to move the order from this operation to the next operation in the same work center.</p> <p>If the Routing Master values are blank, the system retrieves the default value from the work order routing. However, the system uses these values only for backcheduling variable leadtime items.</p> <p>..... <i>Form-specific information</i></p> <p>If you leave the Hours field on the Routing Revisions form blank, the system uses the value entered in this field for leadtime and scheduling calculations.</p>
Replen. Hrs	<p>The time required before a consuming location has a replacement kanban available from its supplying location.</p> <p>This value is used only for kanban card processing in Shop Floor Management.</p>

Processing Options for Work Center Master Revisions

Interop

1. Enter the transaction type for the interoperability transaction. If left blank, outbound interoperability processing will not be performed.

Type - Transaction _____

2. Enter a '1' to write before images for Outbound change transactions. If left blank, only after images will be written.

Before Image Processing _____

Versions

Manufacturing Constants (P3009) _____
Business Units (P0006) _____

Setting Up Resource Units

Resource unit information indicates the capacity of a work center on a given day. The system uses this information to backschedule work orders in Shop Floor Management and to calculate available hours for capacity planning.

You can manually change the values to account for scheduled or unscheduled downtime, additional shifts, or vacation time. However, each time you that run Refresh Resource Units, the system recalculates the form values based on information in the Work Center Revisions, Shop Floor Calendar, and Manufacturing Constants tables, and then overwrites the changes that you entered manually.

Refresh Resource Units recalculates the work center hours and updates them on the Enter/Change Resource Units program. The system recalculates the resource units for a work center based on information in the Enter/Change Work Center program, Shop Floor Calendar form, and Job Shop Manufacturing Constants table (F3009). You can create versions to recalculate the labor, setup, or machine hours, and set the processing options to update different dates and branches.

The system multiplies the number of machines or employees by the work hours per day from the Enter/Change Work Centers form. If the work hours per day are not available from the Enter/Change Work Centers form, then the system uses the work hours per day from the Manufacturing Constants table that the system defines for each work day on the Shop Floor Calendar.

Resource unit calculations for machine and labor related hours are:

- **Machine related hours** (prime load code = C or M)

Number of machines x work hours per day

- **Labor related hours** (prime load code = L or B)

Number of employees x work hours per day

Before You Begin

- ☐ Define workdays for the branch or plant in the shop floor calendar.

► To set up resource units

From the Shop Floor Management Setup menu (G3141), choose Enter/Change Resource Units.

The Work with Resource Units form shows the work hours that are available for each work day in the specified month for a work center.

Branch/Plant	Work Center	Year	Month	Shift	UM	Work Center Efficiency	W
M30	R-A1	0	1	1	WU	100.00	
M30	R-A1	0	1	1	WU	100.00	
M30	R-A1	0	1	2	WU	100.00	
M30	R-A1	0	2	1	WU	100.00	
M30	R-A1	0	2	2	WU	100.00	
M30	R-A1	0	3	1	WU	100.00	
M30	R-A1	0	3	2	WU	100.00	
M30	R-A1	0	4	1	WU	100.00	
M30	R-A1	0	4	2	WU	100.00	
M30	R-A1	0	4	3	WU	100.00	

1. On Work With Resource Units, complete the following fields:

- Branch/Plant
- Work Center

- Month
 - Year
2. To specify a specific shift, complete the following field and click Find:
 - Shift
 3. Choose an appropriate branch/plant and click Add.

Enter/Change Resource Units - [Work Center Resource Unit Revision]

File Edit Preferences Form Window Help

OK Cancel Dis... Abo Links Work... OLE... Internet

Work Center: R-A1 Frame Line 1 Branch/Plant: M30

Month/Year: 1/0 January 2000 Unit of Measure: WU Shift:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Efficiency: 100.00

Utilization: 100.00

0	144	144	144	144	144	0
0	144	144	144	144	144	0
0	144	144	144	144	144	0
0	144	144	144	144	144	0
0	144					

Total Resource Units: 3,024.00

4. On Work Center Resource Unit Revision, complete the following field for each day:
 - Total Resource Units
5. Complete the following optional fields and click OK:
 - Work Center Efficiency
 - Work Center Utilization
6. Review the following field:
 - Shift

You cannot manually change the values if the Shift value is blank. A blank Shift field represents the sum of all shifts for a work center for a specific period of time.

Field	Explanation
Total Resource Units	The total resource units for the month.
Work Center Efficiency	<p>A user defined value that indicates how efficiently a work center operates. This value usually refers to people efficiency. When you enter a value in this field, and the Modify Cost by Work Center Efficiency field in the Job Shop Manufacturing Constants table (F3009) is set to Y, the system creates a new cost component (B4) from the cost calculated from the direct labor cost (B1).</p> <p>Example: If the constant is set to Y, the value of this field is 80%, and the direct labor cost is 10, the system creates a B4 cost component for 2 in the Item Cost Component Add-Ons table (F30026).</p> <p>The Refresh Resource Units program also uses this value as a default when calculating rated capacity.</p> <p>Enter percents as whole numbers. For example, enter 80% as 80.00.</p> <p>Note: The system expects that the routing times entered for each operator are the actual times it takes to complete an operation. Efficiency does not affect total cost. Efficiency does reassign some of the costs into different cost components. Efficiency does not change the duration or back scheduling of a work order.</p>
Work Center Utilization	<p>A percentage that indicates how intensively a work center is being used. This value usually refers to machine use. It is the ratio of the direct time charged for production activities to the planned hours.</p> <p>The Refresh Resource Units program also uses this value as a default when calculating rated capacity.</p> <p>Enter percents as whole numbers. For example, enter 80% as 80.00.</p>

See Also

- *Setting Up the Shop Floor Calendar*
- *Generating Resource Units Automatically* in the *Manufacturing and Distribution Planning Guide* for information about refreshing resource units for work centers

Processing Options for Work Center Resource Units

Defaults

1. Enter the Default Unit of Measure for Work Center Resource Units. If left blank, HR will be used as the default Unit of Measure.

Unit of Measure as Input
Work Day Calendar (P00071)

Setting Up Item-to-Line Relationships

The item-to-line relationships define the lines on which an item is produced and the amount of resources consumed by an item on each line. The Line/Item Relationships program allows you to add, change, and delete data stored in the Line/Item Relationships table. You can define work center operations inside a production line. Item-to-line relationships are only required if you use repetitive manufacturing.



To set up item-to-line relationships

From the Shop Floor Management Setup menu (G3141), choose Line/Item Relationships.

1. On Work With Line/Item Relationships, complete the following fields and click Add:
 - Branch/Plant
 - Item Number

2. On Line/Item Relationships Revisions, complete the following fields and click OK:

- Line/Cell Identifier
- Capacity consumed
- Use As Default (0/1)
- Default Shift
- Default Period

Note: Planning uses the record that you identify as the default line when the system creates rates. The specifications for shift and period are only valid for the default line.

Field	Explanation
Line/Cell Identifier	A number that defines a production line or cell. Detailed work center operations can be defined inside the line or cell.
Capacity consumed	A number that indicates how many of the line's resource units are needed to produce one item.
Use As Default (0/1)	A field that determines which relationship the system chooses as a default value.

Field	Explanation
Default Shift	<p>A user defined code (00/SH) that identifies daily work shifts. In payroll systems, you can use a shift code to add a percentage or amount to the hourly rate on a timecard.</p> <p>For payroll and time entry:</p> <p>If an employee always works a shift for which a shift rate differential is applicable, enter that shift code on the employee's master record. When you enter the shift on the employee's master record, you do not need to enter the code on the timecard when you enter time.</p> <p>If an employee occasionally works a different shift, you enter the shift code on each applicable timecard to override the default.</p> <p>..... <i>Form-specific information</i></p> <p>The system uses this field as the default value when you enter rates.</p>
Default Period	<p>A code that determines the frequency of the schedule.</p> <p>Valid codes are:</p> <ul style="list-style-type: none"> 1 Monthly 2 Weekly 3 Daily 4 Per Shift (for future use) <p>..... <i>Form-specific information</i></p> <p>The system uses this field as the default value when you enter rates.</p>

Work Orders and Rate Schedules



Work Orders and Rate Schedules

Work orders and rate schedules are requests to complete a given quantity of a specific item. After you specify the required information for the work order or rate schedule, you attach additional data to it, either manually or through batch processing.

Work orders and rate schedules consists of the following tasks:

- ☐ Understanding work orders and rate schedules
- ☐ Entering work order headers
- ☐ Entering rate schedules
- ☐ Processing work orders and rate schedules
- ☐ Attaching supplementary information



Understanding Work Orders and Rate Schedules

A work order consists of a work order header, a parts list, and routing instructions. The work order header specifies the quantity of the item requested and the date that the quantity is required. The parts list and routing instructions specify the components, operations, and resources that are required to complete the work order.

For Process Manufacturing, the work order also includes a co-products and by-products list. This list identifies the products produced during the manufacturing process.

A rate schedule is a request to complete a given quantity of an item over a period of time on a specific production line. Rate schedules are used in repetitive manufacturing, in which you produce items in a continuous process on a dedicated production line. Like work orders, rate schedules consist of a header, parts list, and routing instructions. However, the rate header specifies not only the quantity of the item requested and the required date, but also specifies the production line.

Understanding work orders and rate schedules consists of the following topics:

- ☐ Creating work orders or rate schedules
- ☐ Attaching a parts list
- ☐ Attaching routing instructions
- ☐ Attaching co-products and by-products
- ☐ Attaching intermediates
- ☐ Calculating a start date
- ☐ Generating shop paperwork
- ☐ Backscheduling a work order

Creating Work Orders or Rate Schedules

At a minimum work orders and rate schedules consist of a header, a parts list, and routing instructions. You can create each in several different ways as follow;

depending on the way your company does business, you might need different attachments to the work order header.

- Using Material Requirements Planning (MRP)
- Manually
- Using information from a Sales Order

You then attach the parts list, routing instructions, and co-products and by-products list, either manually or by using the Order Processing program (R31410). This batch program allows you to process multiple work orders or rate schedules, and includes:

- Updating the status of each work order or rate schedule
- Supplying the date to use for effectivity checking
- Issuing inventory
- Printing shop paperwork
- Calculating standard costs for configured items
- Allowing substitute items to be used
- Creating a purchase order for an outside operation

Usually, you enter all of the work order or rate schedule headers and then attach the parts lists, routing instructions, and co-products and by-products (if applicable), to create the work order or rate schedule, using the Order Processing program. However, if you need to change a part on the parts list or specify substitutes, you must do so manually after you run the batch program.

When you manually attach routing instructions to your work order or rate schedule, you can identify the percent of run time that a sequence can overlap the previous operation.

Regardless of the method that you use to attach the parts list, routing instructions, and co-products and by-products (if applicable), you can define the unit of measure to use for backscheduling the work order or rate schedule. To do so, you use the processing options for both the Enter/Change Order and the Order Processing programs.

After you determine the resources that are required to produce the items requested, you can schedule the work order or rate schedule and begin the work. As you complete items on the work order or rate schedule, you report the following:

- Items completed
- Materials used
- Quantities scrapped
- Hours of machine and personnel time expended

You can report completions by operation to track work order or rate schedule activity as it is in process. Using the feature cost percent for configured items and the resource percent for process items, you can also calculate costs by operation and track inventory throughout the production process.

Note: If you use the Quality Management system, you can work with Quality Management test results following ways as you create a work order in the:

- Use Preference Profiles to maintain tests for the parent item
- Maintain generic text to indicate when to test materials, and the test with which to do so
- Enter test results for the tests defined for the parent item

The following graphics illustrate the structure of work orders for different types of manufacturing:

Discrete Manufacturing Structure

Create a work order header

Attach a parts list

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cu
2001	Cro-Moly Frame, Red	10		EA	S	
2006	Touring Fork	10		EA	S	
2007	Bottom Bracket	10		EA	S	
2008	Head Set	10		EA	S	

Attach routing instructions

Work Center	Operation Sequence	Operation Status	Operation Description	Machine Run Hours	Labor Run Hours
200-901	30.00		Assembly		10
200-911	50.00		Test / Inspect		2
200-920	60.00		Package		5
200-999	70.00		Outside Operation		

Process Manufacturing Structure

Create a work order header

Order No/Type: 451469 WO Branch/Plant: M30
 WO Desc: Lubricant Process
 Item No.: 5000 Lubricant Process

Attach a parts list

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cu
5001	Oil	50		GA	S	
5004	Thinner	1		GA	S	
5002	Rust Inhibitor	1		GA	S	
5003	Graphite	38		OZ	S	

Attach routing instructions

Work Center	Operation Sequence	Operation Status	Operation Description	Machine Run Hours	Labor Run Hours
200-201	10.00		Filter bulk oil	05	
200-202	20.00		Blend additives		
200-203	30.00		Refine		
200-202	40.00		Blend graphite		

Attach co-products and by-products

Ingredient Co/By Product	Co By	Description	Oper Seq#	Ln Ty	Qty Ordered/ Output Qty	UM
5010	B	Sludge	10.00	S	2	GA
5110	C	Household Lubricant Bulk	30.00	S	20	GA
5210	C	Graphite Lubricant Bulk	40.00	S	30	GA

Repetitive Manufacturing Structure

Create a rate schedule header

Quantity Ordered	UM	P	S	Line/Cell	Line/Cell Description	Item Number
100	EA	2		R-A1	Frame Line 1	2031

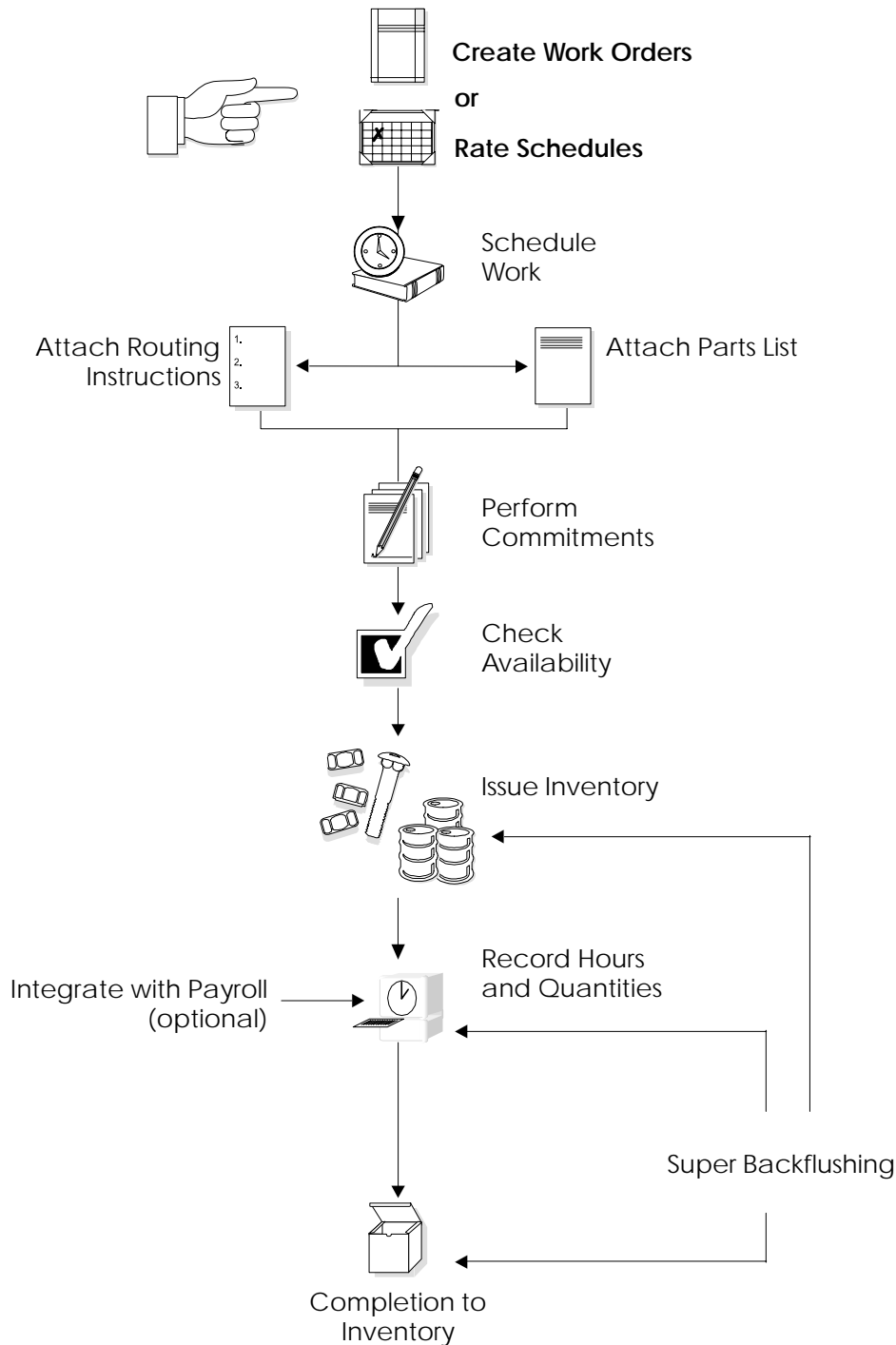
System processed parts list

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cut
9102	50 mm Aluminum Tubing	17640		CM	S	
2045	Rear Right Drop Out	100		EA	S	
2046	Rear Left Drop Out	100		EA	S	
9101	25 mm Aluminum Tubing	14000		CM	S	
9104	20 mm Aluminum Bar	1050		CM	S	
2048	Head Tube, Light	100		EA	S	
2047	Bottom Tube	100		EA	S	
9101	25 mm Aluminum Tubing	5110		CM	S	
2037	Front Fork, Touring	100		EA	S	

System processed routing instructions

Work Center	Operation Sequence	Operation Status	Operation Description	Machine Run Hours	Labor Run Hours
R-112	10.00		Cut to length	15.00	15
R-121	20.00		Mill ends	15.00	15
R-122	30.00		Drill mounting holes & pin	10.00	10
R-112	40.00		Cut to length	4.00	4
R-121	50.00		Mill ends	8.00	8
R-134	60.00		Form rear assembly	10.00	10
R-101	70.00		Weld frame		15
R-103	80.00		Inspect welds		1

The following graphic illustrates the entire process of creating the work order header, attaching the paperwork, and integrating the order with your inventory and other systems. The hand shows at which point in the process you enter work order or rate schedule headers.



See Also

- *About Work Orders in Accounting* in the *Product Costing and Manufacturing Accounting Guide*

Attaching a Parts List

You attach the parts list after you enter a work order or rate schedule header. A parts list is a table of the components and their quantities required to complete the work order. You can attach the parts list using any of the following methods:

- Manually, using Enter/Change Order
- Automatically, after the routing instructions are attached manually (Enter/Change Order), by setting a processing option in Work Order Routings
- Automatically, using Order Processing

You attach a parts list using the Order Processing program (batch) the same way as you would attach a parts list manually (interactive). For batch bills and batch routings, the system determines which parts list to use by matching the quantity for the bill type specified on the work order header. (Use a batch bill to accommodate physical constraints, such as ovens or vats, in industries where products are produced in fixed quantities. Use batch routings in industries such as pharmaceuticals, foods, or petroleum, where products are manufactured in fixed quantities or batches.) If the system does not find a batch size that matches, it uses the following search sequence to locate a match:

- Searches for the specified bill type with a zero batch quantity
- Searches for a type M bill with the specified quantity
- Searches for a type M bill with a zero batch quantity

If no match is found, the system does not attach a parts list, and you must attach the parts list manually.

Based on their effective dates, components are included in or excluded from the parts list for a work order. The system increases the quantity of each component by its scrap factor and operation scrap, if applicable.

The following table defines the terms that are used throughout the examples of the work orders that follow:

Shrink	The planned loss of a parent item caused by factors such as breakage, theft, deterioration, and evaporation.
Scrap	Unusable material that results from the production process. Scrap is material outside of specifications and of such characteristics that rework is impractical.
Yield	The ratio of usable output from a process to its input.

The following tables illustrate several scenarios pertaining to shrink, scrap, and operational yield for the following components of parent item A. Each example is based on a quantity of 10 for Parent Item A.

	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	(2)	(4)	(1)	(12)	(2)	(1)
Operation	10	10	10	10	25	30

Example 1: Work order with no shrink, scrap or yield

The following example illustrates a work order with no shrink, scrap or yield:

Example 1	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	20	40	10	120	20	10
Operation	10	10	10	10	25	30

Example 2: Work order with shrink

The following example illustrates a work order with 10% shrink on parent item A:

Example 2	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	22	44	11	132	22	11
Operation	10	10	10	10	25	30

Example 3: Work order with scrap

The following example illustrates a work order with 10% scrap on component G:

Example 3	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	20	40	10	120	20	11
Operation	10	10	10	10	25	30

Example 4: Work order with yield

The following example illustrates a work order with 95% yield at both operations 10 and 25:

Example 4	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	22	44	11	133	21	10
Operation	10	10	10	10	25	30

Example 5: Work order with shrink, scrap, and yield

The following example illustrates a work order with 10% shrink on parent item A, 10% scrap on component G, and 95% yield on both operations 10 and 25:

Example 5	Parent Item A					
Component	B	C	D	E	F	G
Quantity Per	24	49	12	146	23	12
Operation	10	10	10	10	25	30

Phantom Items

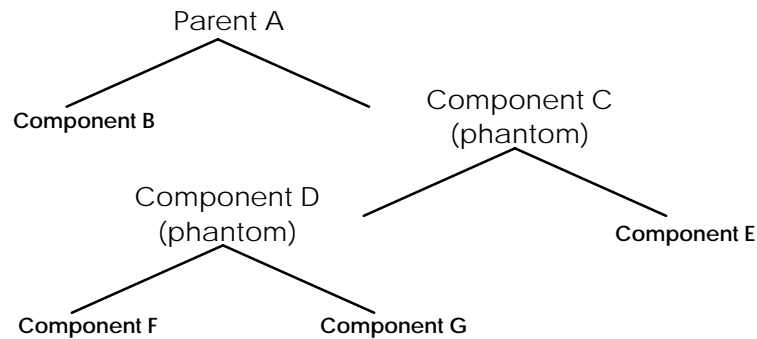
The Material Requirements Planning (MRP) system does not plan to produce phantom items, but will take their existence into account. The Shop Floor Management system includes lower-level components of phantom items when you attach a parts list. Phantom items are characterized by the following:

- They are not planned by MRP.
- They can be any lower-level component in the bill for a parent item.
- They can be used to define a subassembly within a parent item when the subassembly is not stocked in inventory or planned by MRP, but is consumed by the parent.

For Process Manufacturing, these items are intermediates, and can be any lower-level part or intermediate within the process for a co-product (parent item).

Requirements

In the following example, the parts list would include items B, E, F, and G.



The system calculates component quantities according to the order quantity on the work order if they are variable quantity items.

Note: If you activate the rounding feature in the Item Master table (F4101), the system rounds up the extended quantity value to a whole number if it has a decimal value greater than or equal to .01.

If sufficient inventory is not available to cover the parts list requirements for the work order, the system highlights the Quantity Ordered field on the parts list for the item that is in short supply.

The leadtime offset indicates the number of days that a part is needed before or after the start date of a manufacturing work order. The system adds the leadtime offset days for the part to the start date of the work order to determine the actual date that the part is required. To indicate how many days after the work order start date that the part is required, enter a positive number. To indicate that a part is needed prior to the work order start date, enter the days as a negative number. Examples of items that require negative leadtime offset days are items that need processing or inspection before they can be used in an assembly. If the requested date for a component falls beyond the order completion date, the system enters the order completion date for the item.

If you define a shrink factor on the Branch/Plant Manufacturing Data form for the item, the system increases the component requirements by the percentage to cover the loss and displays the increased order quantity in the Order with Shrink field. The system includes shrink adjustments, if applicable, when it calculates parts list quantities and routing instructions for the order.

See Also

- *Appendix A: Leadtimes*

Attaching Routing Instructions

You attach the routing instructions after you enter a work order header. Routing instructions provide details about the operations and resources that are required to complete the quantity of items requested from the shop floor. You can attach the routing instructions using any of the following methods:

- Manually, using Enter/Change Order
- Automatically, after the parts list is attached manually (Enter/Change Order), by setting a processing option in Work Order Parts List
- Automatically, using Order Processing

Regardless of whether you manually attach the routing instructions or use the batch program, you should attach the instructions at the same time that you attach the parts list. The system uses the routing instructions to verify information about each item on the parts list.

Outside Operations

You might have steps on the routing instructions that are completed by outside operations. In this case, you need to identify those steps and run order processing in batch mode to create purchase orders for the steps. When you record the receipt on the Work With Purchase Orders to Receive form (G43A11), the Routing Quantities and Status form automatically appears and allows you to update the routing quantities and status as necessary.

Enter Receipts by PO - [Work With Purchase Orders to Receive]

File Edit Preferences Form Row Window Help

Select Find Close Seg... New... Dis... Abo Links Batch ... OLE ... Internet

Order Number 4834 * * Branch/Plant *

Item Number *

Account Number *

Receipt Document Shipment Number *

Previous Batch ☐ Display Supplier Item

Order Number	Or Ty	Order Co	Ord Suf	Line Number	2nd Item Number	Supplier	Quantity Open	Trans UOM	Amount Open
4834	OP	00200	000	1.000	2001*OP10	4344	10	EA	5

Enter Receipts by PO - [Routing Quantities and Status]

File Edit Preferences Form Window Help

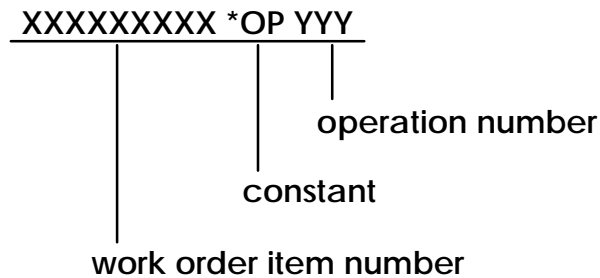
OK Can... Dis... Abo Links Produ... OLE ... Internet

Item 2001*OP10 Outside Operation - 2001

Order Number	Ty	Op Seq	Qtys Completed	Qtys Scrapped	UM	Op St
452701	WO	10.00	10		EA	

Current Values EA

You can also track costs for the outside operations. To do so, set up the outside operation as an item in the Item Master, by using the following item number structure as the item number before you process the order.



You can then assign a unit cost to the item in the Work With Item Cost form. The unit cost will be added to the item cost of the total parent when you run Cost Rollup.

If you do not set up the outside operation as an item in the Item Master, the system uses the structure above to generate an item number for the operation, and enters it on the purchase order. System-generated item numbers for outside operations do not have unit costs defined. Therefore, if you do not define outside operations as items, they will carry a zero unit cost when you perform a cost rollup for the parent item.

The new item's quantity on the purchase order and the supplier instructions are updated with the current information.

If the system cannot create a purchase order, it enters *NO PO in the Related Order field on the routing instructions. The system might not be able to create a purchase order for the following reasons:

- The system could not find an Item Master or Item Branch record for the parent item on the routing instructions that has an outside operation.
- The processing options in the purchasing order activity rules were not set up for line type, document type, and status.

Attaching Co-Products and By-Products

For Process Manufacturing, you attach co-products and by-products after you enter a work order header. Co-products and by-products identify the items that result from the process, whether they are planned or not.

You can use the following methods to attach co-products and by-products:

- Manually attach them
- Automatically attach them after the header is entered by setting a processing option in the Enter/Change Work Order program

- Automatically attach them from the MRP system by setting a processing option

Attaching Intermediates

Intermediates allow you to track the quantity of output of any operation in a work center at a specific time. You can define intermediates in different units of measure, by item, or by quantity. You can set up one intermediate per operation, but you cannot define an intermediate for the last operation. You can manually attach intermediates.

Fermented liquid is an example of an intermediate. The liquid ferments for an extended period of time before being distilled. The resulting liquid is not a finished product, but it proceeds to the next operation.

Calculating a Start Date

After you enter all required work order information on the Work Order Details form, the system calculates the start date for the work order. The system uses level leadtime or leadtime per unit for an item defined on the Manufacturing Data form to calculate the start date of a work order or rate schedule based on the order's due date. The system calculates the start date using either the item's fixed leadtime or its variable leadtime.

See Also

- *Appendix A: Leadtimes* for detailed information about leadtime

Fixed Leadtime

When an item on a work order or rate schedule has a fixed leadtime, the system determines the start date by using the level leadtime to backschedule.

For example, assume the following:

- Work order due date = 10/15/99
- Level leadtime = three days

The system has a start date of 10/12/99. The system then calculates the start date for the work order or rate schedule by subtracting the level leadtime or leadtime per unit, depending on the fixed or variable leadtime flag, from the required date. The system displays an error message if either of the following conditions occur:

- The start date differs from the date of the first operation sequence on the item's routing instructions.

- The operation sequence dates could not be calculated using backscheduling.

Note: The system schedules work orders and rate schedules to be completed by the end of the day, the day before the work order or rate schedule is due.

See Also

- *Backscheduling a Work Order*

Variable Leadtime

If an item on the work order or rate schedule has a variable leadtime, the system determines the start date by using the leadtime per unit to backschedule. The system uses the following calculation:

$$\frac{(\text{Leadtime per unit} \times \text{order quantity} / \text{TBC (item balance)}) + \text{setup} + \text{queue}}{\text{Work hours per day}}$$

For example, assume the following:

- Work order or rate schedule due date = 10/15/99
- Leadtime per unit = 32 hours
- Work order or rate schedule quantity = 1000
- Setup = 1 hour
- Queue = 9 hours
- Time Basis Code (TBC) = 4 (units/1000)

From the Item Branch table (F4102).

- Work hours per day = 8

The system calculates the start date by counting back two working days on the shop floor calendar from the due date. The work order start date is 10/13/99.

Generating Shop Paperwork

Shop paperwork consists of the following printouts:

- Work orders or rate schedules with or without the parts list or routing instructions information
- Shop packet summary

- Parts list shortages

Shop paperwork can be generated when you process the work order or rate schedule using the batch program, or by running the batch program in print-only mode.

Backscheduling a Work Order

To meet the MRP required date for an order or schedule, the Shop Floor Management system assigns a completion date for the routing instructions that is one day prior to the MRP required date. Then, the system assigns the start and requested dates to each operation in the routing instructions for the work order or rate schedule. Assigning the start and requested dates for each operation is called backscheduling.

Backscheduling ensures that the material is out of production and available on the required date. For example, a work order or completion date of February 15 for rate schedules and routing instructions ensures that the items produced will be out of production and available for shipping or sale on the MRP required date of February 16.

Work Center	Operation Sequence	Operation Status	Operation Description	Machine Run Hours	Labor Run Hours
200-901	10.00		Assembly		5
200-901	20.00		Assembly		2
200-901	30.00		Assembly		10
200-901	40.00		Assembly		10
200-911	50.00		Test/Inspect		2
200-920	60.00		Package		5

After you have defined your work order or rate schedule routing instructions, the system:

- Retrieves the resource units for the work center of the routing instructions operation. Resource units are factored (that is, increased or decreased) by the resource unit efficiency and utilization percentages.
- Consumes the hours (queue, run, then move hours), using the calculations for either fixed or variable leadtime.

- Scales the work center's remaining units proportionate to the previous operation's remaining units. For example, if 25% of the previous work center's units remain available, the current work center's units available to schedule for the same day will equal 25% of its daily total. This assumes that all work centers have consumed 50% of available units by the middle of the calendar work day.

Entering Work Order Headers

To enter a work order header, you identify the item, its branch/plant and quantity, and the requested date for the work order. You can also enter other optional information, such as the revision level for the bill of material, or associated sales information.

The system calculates the start date based on the requested date that you enter. If the requested date is before the current date or is not defined as a work day, an error message appears. The system cannot calculate the start date for the work order if the requested date is in error.

If a scheduling problem exists on your work order, the system displays an error message. This message indicates that there is a difference between the work order start date and one or both of the following:

- The start date of the first routing operation
- The calculated start date for the work order, which indicates difficulty in backscheduling

J.D. Edwards recommends that you use different document types to identify the different types of work orders, such as rework orders, repair order, or orders for prototypes.

Use Engineering Change Order (ECO) Revision to create a work order against a prior revision level by:

- Selecting a revision level to attach to the work order
- Manually entering a different revision level

You might want to check the availability of the parts that are needed to complete a work order before you create the work order.

While entering a work order header, you can access other programs or windows as listed below:

Order Address Information

Use this form if you need to locate the address of the customer on the sales order related to your work order. Blank fields appear when no sales order is associated with your work order.

Work Order Details	Use this form to add detail to the work order description.
Notes window	<p>Use this form to create a separate generic text entry for each work order. Notes provide more information and specific instructions for an order. Any modifications that you make to the text will not affect the text that was originally attached to the bill of material.</p> <p>You can also access the User Audit Information and Select Notes Template windows to view user and date updates, as well as templates that you can use to create notes.</p>

If you use other J.D. Edwards systems, the following integration features apply:

DRP/MPS/MRP integration	The Distribution Requirements Planning, Master Production Schedule, and Material Requirements Planning systems suggest purchase and manufacturing orders that are required to maintain a valid production schedule.
Sales Order Management integration	You can generate work orders when you enter a sales order. The integration allows you to update sales information from within the Shop Floor Management System.

Before You Begin

- ☐ Set the processing options for order entry to control how the system processes information on the order and to access associated information, such as the order's parts list and routing instructions.
- ☐ Enter the unit of measure in the processing options that you want the system to use for backcheduling the routing operations for the process.
- ☐ Set the processing options to initiate Warehouse Management system integration. See *About Warehouse Setup* in the *Advanced Warehouse Management Guide* for information about setting up Warehouse Management.
- ☐ Set up the shop floor calendar for the work days and months that the order activity will span, including leadtimes. See *Setting Up the Shop Floor Calendar*.
- ☐ Set up the document types that you use to identify different work order types in the User Defined Codes table (00/DT).

- ☐ Specify which work order types to use through the processing options of the Supply/Demand Inclusion Rules program, if the new document types are to be used in other J.D. Edwards Manufacturing systems.
- ☐ Set up valid work center locations. See *Setting Up Work Centers*.

► To enter work order headers

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, click Add.

2. On Work Order Details, complete the following fields:
 - Branch/Plant
 - Item No.
3. Click the Dates & Quantities tab, and then complete the following fields:
 - Requested
 - Order/UOM
4. Complete the following optional fields:
 - Start
 - Lot/Serial
5. Click the Status & Type tab, and then complete the following optional fields:

- Sts Comm.
 - Bill Type
 - Rtg. Type
 - Freeze Code
 - Reference
 - Type
 - Priority
 - Status
6. Click the Additional Details 1 tab, and then complete the following optional fields:
 - Charge to CC
 - Parent WO
 7. Click the Additional Details 2 tab, and then complete the following optional fields:
 - Related PO/SO/WO Number
 - Related PO/SO/WO Order Type
 - Company – Key (Related Order)
 8. To add specific notes to your work order, choose Attachments from the Form menu.
 9. On Media Objects, choose Add - Text from the File menu.
 10. Enter the information that you want to attach to the work order.
 11. From the File menu, choose Save & Exit.
 12. On Work Order Details, click OK to add the work order header.

Field	Explanation
Item No.	<p>A number that the system assigns to an item. It can be in short, long, or third item number format.</p> <p>For process work orders, the item number is the process.</p> <p>..... <i>Form-specific information</i></p> <p>For discrete work orders, the item number is the item being produced.</p>

Field	Explanation
Requested	<p>The date that an item is to arrive or that an action is to be complete.</p> <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management</p> <p>When you change the requested date:</p> <ul style="list-style-type: none"> • The system calculates a new start date based on the new requested date if you delete the date in the Start Date field before you enter the new requested date. If you do not delete the start date, the system does not recalculate or change it. • The system recalculates the operation start and complete dates according to the scheduling rules that you define.
Order/UOM	<p>The quantity of units affected by this transaction.</p> <p>..... <i>Form-specific information</i></p> <p>For discrete manufacturing:</p> <p>When you change the order quantity, the system recalculates the following:</p> <ul style="list-style-type: none"> • The component-required quantities and commitments • The operation start and complete dates, if the leadtimes are variable <p>For process manufacturing:</p> <p>The quantity of co-products and by-products produced by the process.</p>
WO Desc	A user defined name or remark.
Sts Comm.	A brief description to explain the status of the work order.
Type	<p>A user defined code (00/TY) that indicates the classification of a work order or engineering change order.</p> <p>You can use work order type as a selection criterion for work order approvals.</p>
Status	<p>A user defined code (00/SS) that describes the status of a work order, rate schedule, or engineering change order. Any status change from 90 through 99 triggers the system to automatically update the date completed.</p> <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management:</p> <p>A processing option for order entry lets you enter a default value for this field.</p>

Field	Explanation				
Priority	<p>A user defined code (00/PR) that indicates the relative priority of a work order or engineering change order in relation to other orders.</p> <p>A processing option for some forms lets you enter a default value for this field. The value then displays automatically in the appropriate fields on any work order you create on those forms and on the Project Setup form. You can either accept or override the default value.</p>				
Freeze Code	<p>A code that indicates if the order is frozen. MPS/MRP does not plan for frozen orders.</p> <p>Valid codes are:</p> <table> <tr> <td>Y</td><td>Yes, freeze the order.</td></tr> <tr> <td>N</td><td>No, do not freeze the order (default).</td></tr> </table>	Y	Yes, freeze the order.	N	No, do not freeze the order (default).
Y	Yes, freeze the order.				
N	No, do not freeze the order (default).				
Branch/Plant	<p>A code that represents a high-level business unit. Use this code to refer to a branch or plant that might have departments or jobs, which represent lower-level business units, subordinate to it. For example:</p> <ul style="list-style-type: none"> • Branch/Plant (MMCU) • Dept A (MCU) • Dept B (MCU) • Job 123 (MCU) <p>Business unit security is based on the higher-level business unit.</p> <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management and Manufacturing Accounting:</p> <p>This field identifies the branch/plant in which the item resides, and from which the system retrieves the parts list and routing.</p>				
Lot/Serial	<p>A number that identifies a lot or a serial number. A lot is a group of items with similar characteristics.</p>				

Field	Explanation
Charge to CC	<p>An alphanumeric field that identifies a separate entity within a business for which you want to track costs. For example, a business unit might be a warehouse location, job, project, work center, branch, or plant.</p> <p>You can assign a business unit to a voucher, invoice, fixed asset, employee, and so on, for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business units to track equipment by responsible department.</p> <p>Security for this field can prevent you from locating business units for which you have no authority.</p> <p>Note: The system uses the job number for journal entries if you do not enter a value in the AAI table.</p> <p>..... <i>Form-specific information</i></p> <p>The default business unit for journal entries for the work order. The business unit on the AAI tables must be blank.</p>
Subsidiary	<p>A subdivision of an object account. Subsidiary accounts include more detailed records of the accounting activity for an object account.</p> <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management and Manufacturing Accounting:</p> <p>If a value is not entered in the AAI table for subsidiary account, the system uses this value as a default in journal entries.</p>
Parent WO	<p>A number that identifies the parent work order. You can use this number to do the following:</p> <ul style="list-style-type: none"> • Enter default values for new work orders, such as Type, Priority, Status, and Manager • Group work orders for project setup and reporting <p>..... <i>Form-specific information</i></p> <p>For Shop Floor Management:</p> <p>You can manually enter this number to do the following:</p> <ul style="list-style-type: none"> • Identify multilevel configured items. • Provide the default for work orders for the lower configured item (if you enter it for the top-level configured item). • Group work orders for project setup and reporting.
SO Number	<p>A number that identifies a secondary purchase order, sales order, or work order associated with the original order. This is for information only.</p>

See Also

- *Reviewing Part Availability* to check the availability of a part

Processing Options for Manufacturing Work Order (P48013)

Defaults Tab

Use these processing options to specify the default values for the document type and unit of measure when back scheduling a work order.

1. Document Type

Use this processing option to specify the default document type associated with the work order. Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Define Codes form.

2. Back Scheduling Unit of Measure

Use this processing option to specify the default unit of measure to use for back scheduling the work order. Unit of measure is a user defined code (00/UM) that identifies the unit of measure to use in the document. Enter the unit of measure to use as the default value or choose it from the Select User Define Codes form.

3. Back Scheduling Queue Hours

Use this processing option to specify the method that the system uses to backschedule queue hours in the work order routing. Valid values are:

Blank The system backchedules queue hours as a percentage of the resource units per day.

- 1 The system backchedules queue hours as a percentage of the work hours per day.

Optional Defaults Tab

Use these processing options to specify the default values for the type, priority, beginning status, and the cross reference codes for the work order, and where the system retrieves the default value for the Charge to Business Unit.

1. Work Order Type

Use this processing option to specify the default work order type associated with the work order. Work order type is a user defined code (00/TY) that identifies the type of work order. Enter the work order type to use as the default value or choose it from the Select User Define Codes form.

2. Work Order Priority

Use this processing option to specify the default priority associated with the work order. Work order priority is a user defined code (00/PR) that identifies the priority of the document. Enter the work order priority to use as the default value or choose it from the Select User Define Codes form.

3. Beginning Status Code

Use this processing option to specify the default beginning status code on the work order header. The beginning status code is a user defined code (00/SS) that identifies the status of the work order to use when a work order is created. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

4. Charge to Business Unit

Use this processing option to specify whether the system uses the Project Number in the Business Unit Master table (F0006) or the branch/plant on the work order as the Charge to Business Unit. Valid values are:

- 1 The system uses the project number.
- Blank The system uses the branch/plant.

5. Cross Reference Code

Use this processing option to specify the default cross reference code. The cross reference code is a user defined code (41/DT) that determines how the system retrieves item replacements for obsolete items. Enter the code to use as the default value or choose it from the Select User Define Codes form.

When you enter an order containing an item that will be obsolete for your work order time frame, the system allows you to specify a replacement item if you set this processing option to R.

Sales Order Processing Tab

Use these processing options to specify the default values for the held, changed, canceled, and ending status codes for the work orders generated through sales orders.

The status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status codes to use as the default held, changed, canceled, and ending values or choose them from the Select User Define Codes form.

1. Held Status Code

Use this processing option to specify a default status code for a held work order. Status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

2. Changed Status Code

Use this processing option to specify a default status code for a changed work order. Status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

3. Canceled Status Code

Use this processing option to specify a default status code for a canceled work order. Status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

4. Cutoff Status Code

Use this processing option to specify a default status code for a completed work order for which sales order activity cannot be entered. Status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

Category Codes Tab

Use these processing options to specify the default category codes for the work order and the item/branch classification codes.

Work order category code is a user defined code (00/W1, W2, W3) that identifies the category for the work order. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

Item/branch category code is a user defined code (32/CC) that identifies the item/branch classification code on the work order header. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

1. Category Code 1

Use this processing option to specify the default category code for the work order. Work order category code is a user defined code (00/W1) that identifies the category for the work order. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

2. Category Code 2

Use this processing option to specify the default category code for the work order. Work order category code is a user defined code (00/W2) that identifies the category for the work order. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

3. Category Code 3

Use this processing option to specify the default category code for the work order. Work order category code is a user defined code (00/W3) that identifies the category for the work order. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

4. Category Code 1 on the work order header

Use this processing option to specify the default item/branch category code for the work order header. Item/branch category code is a user defined code (32/CC) that identifies the item/branch classification code on the work order header. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

5. Category Code 2 on the work order header

Use this processing option to specify the default item/branch category code for the work order header. Item/branch category code is a user defined code (32/CC) that identifies the item/branch classification code on the work order header. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

6. Category Code 3 on the work order header

Use this processing option to specify the default item/branch category code for the work order header. Item/branch category code is a user defined code (32/CC) that identifies the item/branch classification code on the work order header. Enter the category code to use as the default value or choose it from the Select User Define Codes form.

Validating Tab

Use these processing options to specify whether the system recalculates the parts list and routing instructions if quantities have changed, and whether to validate the parts list text against the item/branch record.

1. Quantities

Use this processing option to specify whether the system automatically recalculates the parts list and routing instructions if you changed the quantities on the work order. Valid values are:

- 1 The system recalculates the information.
- Blank The system does not recalculate the information.

2. Item/Branch Plant Validation

Use this processing option to specify whether the system validates an existing Item/Branch record when you add or update a work order. Valid values are:

- Blank The system does not validate an existing Item/Branch record when you add or update a work order.
- 1 The system validates an existing Item/Branch record when you add or update a work order.

Hold Codes Tab

Use these processing options to specify the related sales order and purchase order hold codes the system uses if the work order quantity or date changes.

Hold code is a user defined code (42/HC) that identifies whether the work order is being held. Enter the hold code to use as the default value or choose it from the Select User Define Codes form.

1. Sales Order

Use this processing option to specify the default sales order to use. Hold code is a user defined code (42/HC) that identifies whether the sales order is being held. Enter the hold code to use as the default value or choose it from the Select User Define Codes form.

2. Purchase Order

Use this processing option to specify the default purchase order to use. Hold code is a user defined code (42/HC) that identifies whether the purchase order is being held. Enter the hold code to use as the default value or choose it from the Select User Define Codes form.

Display Options Tab

Use these processing options to specify whether the system displays the Bill of Material Type and Routing Type fields if your work orders are not manufacturing work orders. Work orders are manufacturing work orders if M is the value in the bill of material type and routing type fields.

1. Bill of Material Field

Use this processing option to specify whether the system displays the Bill of Material Type field on the Work Order Details form. Valid values are:

- 1 The system displays the Bill of Material Type field.
- Blank The system does not display the Bill of Material Type field.

2. Routing Type Field

Use this processing option to specify whether the system displays the Routing Type field on the Work Order Details form. Valid values are:

- 1 The system displays the Routing Type field.
- Blank The system does not display the Routing Type field.

Versions Tab

Use these processing options to specify the versions of the following programs that the system uses in the work order creation process:

- Bill Availability
- ECO Work Order Entry
- Assign Serial Numbers
- Routings
- Parts List
- Material Issues

Versions control how the programs display information. Therefore, you might need to set the processing options to specific versions to meet your needs.

If you leave these fields blank, the system uses the ZJDE0001 versions of these programs.

1. Bill Availability (P30205)

Use this processing option to specify the version that the system uses when you choose the row exit to the Bill Availability program (P30205) from the Work With Manufacturing Work Orders form or the Work Order Details form. If you leave this processing option blank, the system uses the ZJDE0001 version of the Bill Availability program.

Versions control how the Bill Availability program displays information. Therefore, you might need to set the processing options to specific versions to meet your needs.

2. ECO Work Order Entry (P48020)

Use this processing option to specify the version that the system uses when you choose the row exit to the ECO Work Order Entry program (P48020) from the Work With Manufacturing Work Orders form or the Work Order Details form. If you leave this processing option blank, the system uses the ZJDE0001 version of the ECO Work Order Entry program.

Versions control how the ECO Work Order Entry program displays information. Therefore, you might need to set the processing options to specific versions to meet your needs.

3. Assign Serial Numbers (P3105)

Use this processing option to specify the version that the system uses when you choose the row exit to the Assign Serial Numbers program (P3105) from the Work With Manufacturing Work Orders form or the Work Order Details form. If you leave this processing option blank, the system uses the ZJDE0001 version of the Assign Serial Numbers program.

Versions control how the Assign Serial Numbers program displays information. Therefore, you might need to set the processing options to specific versions to meet your needs.

4. Routings (P3112)

Use this processing option to specify the version that the system uses when you choose the row exit to the Routings program (P3112) from the Work With Manufacturing Work Orders form or the Work Order Details form. If you leave this processing option blank, the system uses the ZJDE0001 version of the Routing program.

Versions control how the Routings program displays information. Therefore, you might need to set the processing options to specific versions to meet your needs.

5. Parts List (P3111)

Use this processing option to specify the version that the system uses when you choose the row exit to the Parts List program (P3111) from the Work With Manufacturing Work Orders form or the Work Order Details form. If you leave this processing option blank, the system uses the ZJDE0001 version of the Parts List program.

Versions control how the Parts List program displays information. Therefore, you might need to specify the processing options to specific versions to meet your needs.

6. Material Issues (31113)

Use this processing option to specify the version that the system uses when you take a row exit to the Work Order Inventory Issues (P31113) from the Work With Manufacturing Work Orders form. If you leave this processing option blank, the system uses the ZJDE0001 version of the Work Order Inventory Issues program.

Processing Manufacturing Tab

Use this processing option to specify whether the system automatically creates co-products and by-products.

1. Co-Products and By-Products

Use this processing option to specify whether the system automatically copies and attaches co-products and by-products from the Bill of Materials. Valid values are:

- 1 The system copies and attaches co-products and by-products from the Bill of Material.
- Blank The system does not copy and attach co-products and by-products from the Bill of Material.

Interoperability Tab

Use this processing option to specify the transaction type that the system uses for export processing.

1. Transaction Type

Use this processing option to specify the transaction type that the system uses for export processing. Transaction type is a user defined code (00/TT) that identifies the type of transaction for the work order. Enter the transaction type to use as the default value or choose it from the Select User Define Codes form. If you leave this field blank, the system does not use export processing.

Entering Rate Schedules

Repetitive manufacturing is designed for items that you produce in a continuous process on a dedicated production line. A rate schedule is a request to complete a given quantity of an item over a period of time on a specific production line.

Rate schedules consist of a header, a parts list, and routing instructions. The rate schedule header specifies the quantity of the item requested, the required date, and the production line. The parts list and routing instructions specify the parts, operations, and resources required to complete the rate.

Use the Work with Rate Schedule program to add a rate schedule. When you add a rate, the system verifies the following:

- Line against the Line/Item Relationship Master
- Dates against the appropriate shop floor calendar
- Effective date ranges against the defined period

To increase plant capacity, manufacturers run production lines for more than one shift, as well as run different lines or production on different days of the week. You specify these shifts and lines on the shop floor calendar.

You can identify up to six shifts for the production line using Manufacturing Constants. You can then identify all shifts for the production line by work center, if necessary. After you set up the shift, use the following shop floor calendars to schedule production accordingly:

- Line Scheduling Workbench
- Sequencing Workbench

Before you enter a rate, you can create a relationship between a line and an item when you use the Item/Line Relationship program (P31093).

Before You Begin

- ☐ Set up the processing options to automatically attach the parts list and routing instructions when you enter a rate schedule.

► To enter rate schedules

From the Rate Based Scheduling menu (G3115), choose Enter/Change Rate Schedule.

1. On Work With Rate Schedules, complete the following fields:
 - Branch/Plant
 - Item Number
 - Effective From Date
 - Thru Date
2. Click Add.

Quantity Ordered	UM	P	S	Line/Cell	Line/Cell Description	Item Number

3. On Rate Schedule Revisions, click the Rate Schedule tab and complete the following fields:
 - Quantity Ordered
 - Line/Cell
4. Complete the following optional fields and click OK:
 - P
 - S
 - Rate Status
 - Category 1
 - Category 2

- Category 3
- Bill Type
- Routing Type
- Freeze Code

Depending on how you set the Process processing option, the system can process the rate schedules to attach the parts list and routing instructions automatically as you exit the row, attach the parts list and routing instructions by submitting a batch process, or not attach the parts list and routing instructions. See *Processing Work Orders and Rate Schedules* for more information.

Field	Explanation								
Line/Cell	A number that defines a production line or cell. Detailed work center operations can be defined inside the line or cell.								
Quantity Ordered	The quantity of units affected by this transaction.								
S	<p>A user defined code (00/SH) that identifies daily work shifts. In payroll systems, you can use a shift code to add a percentage or amount to the hourly rate on a timecard.</p> <p>For payroll and time entry:</p> <p>If an employee always works a shift for which a shift rate differential is applicable, enter that shift code on the employee's master record. When you enter the shift on the employee's master record, you do not need to enter the code on the timecard when you enter time.</p> <p>If an employee occasionally works a different shift, you enter the shift code on each applicable timecard to override the default value.</p> <p>..... <i>Form-specific information</i></p> <p>The shift for which the rate is originally scheduled.</p>								
P	<p>A code that determines the frequency of the schedule.</p> <p>Valid codes are:</p> <table> <tr> <td>1</td><td>Monthly</td></tr> <tr> <td>2</td><td>Weekly</td></tr> <tr> <td>3</td><td>Daily</td></tr> <tr> <td>4</td><td>Per Shift (for future use)</td></tr> </table>	1	Monthly	2	Weekly	3	Daily	4	Per Shift (for future use)
1	Monthly								
2	Weekly								
3	Daily								
4	Per Shift (for future use)								
Rate Status	<p>A user defined code (00/SS) that describes the status of a work order, rate schedule, or engineering change order.</p> <p>Any status change from 90 through 99 triggers the system to automatically update the date completed.</p>								

Field	Explanation
Freeze Code	<p>A code that indicates if the order is frozen. MPS/MRP does not plan for frozen orders.</p> <p>Valid codes are:</p> <p>Y Yes, freeze the order.</p> <p>N No, do not freeze the order (default).</p>
Category 1	<p>A user defined code (00/W1) that indicates the current stage or phase of development for a work order. You can assign a work order to only one phase code at a time.</p> <p>Note: Certain forms contain a processing option that allows you to enter a default value for this field. If you enter a default value on a form for which you have set this processing option, the system displays the value in the appropriate fields on any work orders that you create. The system also displays the value on the Project Setup form. You can either accept or override the default value.</p> <p>Note: A processing option for the SAR Entry lets you enter a default value for this field. The value then displays automatically in the System Code field on the SAR Entry form when you add a new SAR. You can either accept or override the default value.</p>
Category 2	<p>A user defined code (00/W2) that indicates the type or category of a work order.</p> <p>Note: A processing option for some forms lets you enter a default value for this field. The system enters the default value automatically in the appropriate fields on any work orders that you create on those forms and on the Project Setup form. You can either accept or override the default value.</p> <p>Note: A processing option for the SAR Entry lets you enter a default value for this field. The value then displays automatically in the Computer field on the SAR Entry form when you add a new SAR. You can either accept or override the default value.</p>
Category 3	<p>A user defined code (00/W3) that indicates the type or category of the work order.</p> <p>Note: A processing option for some forms allows you to enter a default value for this field. The system enters the default value automatically in the appropriate fields on any work orders that you create on those forms and on the Project Setup form. You can either accept or override the default value.</p> <p>Note: A processing option for the SAR Entry lets you enter a default value for this field. The value then displays automatically in the Release To Fix field on the SAR Entry form when you add a new SAR. You can either accept or override the default value.</p>

Field	Explanation
Routing Type	<p>A user defined code (40/TR) that indicates the type of routing. You can define different types of routing instructions for different uses.</p> <p>For example:</p> <p>M Standard Manufacturing Routing</p> <p>RWK Rework Routing</p> <p>RSH Rush Routing</p> <p>You define the routing type on the work order header. The system then uses the specific type of routing that you define in the work order routing.</p> <p>Product Costing and Capacity Planning systems use only M type routings.</p>

See Also

- *Attaching Supplementary Information* for information about interactively attaching the parts list and routing instructions
- *Setting Up the Shop Floor Calendar* for information about setting up production lines and shifts
- *Setting Up Item to Line Relationships* for information about creating relationships between lines and items

Processing Options for Enter/Change Rate Schedule

Defaults

1. Enter the Rate Type. (Default is 'SC')
2. Enter the Unit of Measure to use for Scheduling.
3. Enter the Number of days to add to today's date for the Thru Date. (Optional)

Opt Defaults

1. Enter the From Status.
2. Enter the Thru Status.
3. Enter the Beginning Status to use when creating a new rate. (NOTE: This status will not be used if parts list and routing are created in batch. In this case, the status in R31410 will be used)
4. Enter the status code beyond which the rate is considered closed. (Default is '99')

5. Enter a '1' to default the Charge to Business Unit from the job number in the Business Unit Master file (F0006). If left blank, the Branch/Plant will be used.

Display

1. Enter a '1' to only display open schedules.

Categories

Enter the Default for the following:

1. Category Code 1 (optional)
2. Category Code 2 (optional)
3. Category Code 3 (optional)

Or, enter the Item Branch Class Code fields from which to retrieve values:

4. Category Code 1 (optional)
5. Category Code 2 (optional)
6. Category Code 3 (optional)

Process

1. Enter a '1' to attach a Parts List and Routing interactively; Enter a '2' to submit to batch. If left blank, Parts List and Routing will not be attached.

Edits

1. Enter a '1' if this program should update the Parts List and Routing when the Rate quantities or dates are changed. If left blank, no recalculation will be performed.
2. Enter a '1' to validate for existing Branch/Item records.

Versions

Enter the version to be used for each program. If left blank, ZJDE0001 will be used.

1. Completions Workbench (P3119).
2. MPS/MRP/DRP Time Series (P3413).
3. Bill Availability (P30200).
4. Assign Serial Numbers (P3105).
5. Lot Master Revisions (P4108).
6. Bill of Materials Revisions (P3002).
7. Bill of Materials Inquiry (P30200).
8. Line Scheduling Workbench (P3153).

9. Supply/Demand Inquiry (P4021).
10. Order Processing (R31410). If left blank, XJDE0008 will be used.
11. Parts List (P3111).
12. Routing (P3112).

Hold Codes

1. Enter the Hold Code to be updated to the related purchase order if the rate quantity or date changes. If left blank, the purchase order will not be updated. (NOTE: The purchase order will be updated only if the rate routings are to be recalculated)

Interop

1. Enter the Transaction Type for the export transaction. If left blank, export processing will not be performed.
2. Enter a '1' to write the before image for a change transaction. If left blank, the before image will not be written.

Processing Work Orders and Rate Schedules

After you enter a work order header, you can use the Order Processing batch program to attach the parts list and routing instructions for each work order or rate schedule header. If you attach the parts list and routing instructions manually, you use the Order Processing batch program to generate and print the shop paperwork.

The Order Processing program's processing options allow you to perform a wide range of other functions. You can do the following:

- Generate a parts list, routing instructions, a co-products and by-products list (if applicable), or all three
- Indicate the date to use for effectivity checking
- Change the status code of the work orders or rate schedules that are being processed
- Print various information about the work order or rate schedule, such as the routing, parts list, sales order text, and so forth
- Print a shop packet summary that lists processed work orders and rate schedules
- Enter the unit of measure for backscheduling
- Issue inventory automatically
- Generate a shortage report for the work orders and rate schedules
- Indicate which versions of associated programs that you want to access
- Enter sales order information for kit processing and print the text lines of sales orders
- Create work orders against prior revision levels
- Record activities that use bar code capabilities when printing the pick list or the exception report

You can organize and separate these functions to accomplish different tasks by setting up several reporting versions, each with different data selections and processing option values. For example, you could set up one version to generate the parts lists and routings for work orders, another version to print shop paperwork, and another version to perform batch inventory issues.

Complete the following tasks:

- ☐ Run order processing
- ☐ Print a summary (optional)

If you use other J.D. Edwards systems, the following integration features apply:

Configured items integration

Use Order Processing to process assembly inclusion rules and generate a parts list and routing instructions, if the parts list and routing instructions do not already exist. Use rule type Q for components that the system will write only to the Work Order Parts List table (F3111). The system uses the Issue Type Code and Operations Sequence fields from the Assembly Inclusion Rules table (F3293) in this processing. Use rule type P to do the following:

- Print components as separate line items on the sales order
- Display different levels for configured components during Sales Order Entry

The system generates a parts list as follows:

- Using data from the Sales Order Detail table (F4211) generated from the parts list rules during Sales Order Entry to create records in the Work Order Parts List table (F3111)
- Processing rule type Q for components to write additional components to the parts list

The system generates a routing by processing the related routing rules.

Quality Management integration

When you process work orders, you can use processing options to set values for the status of the work order and operation lot if the components fail tests.

Sales Order Management integration

If you create a work order for a kit during sales order entry, the parent item can be built and stocked in inventory after you process and complete the work order. The system subtracts the components from the on-hand quantity in inventory when you create the work order. The system then adds the parent item into on-hand quantity in inventory after you complete the work order.

You must specify a T line type for all processing options in the Order Processing program. This line type must be set up as text to avoid writing journal entries for cost of goods sold and inventory for the components when you update the sales order. This line type also ensures that the system does not subtract components from on-hand quantity in inventory again during shipment confirmation or sales update.

Warehouse Management integration

If you use Warehouse Management, when you process a work order, the system does not search for inventory. Instead, the system generates a pick request. The pick request notifies you of the need for materials from the warehouse.

After the system creates the pick request, the Warehouse Management system processes instructions and creates suggestions for you to confirm. Then the system updates the parts list and increases the on-hand quantity for the To location and decreases the quantity on hand for the From location.

You can specify in the processing options if you want to print a consolidated pick list for multiple work orders, as well as individual pick lists for each work order.

Before You Begin

- ☐ Determine which processing options to use before running this program.
- ☐ Set up valid work center locations. See *Setting Up Work Centers*.
- ☐ Use the processing options to initiate Warehouse Management system integration. See *About Warehouse Setup* in the *Advanced Warehouse Management Guide* for information about setting up Warehouse Management.

See Also

- *Appendix A: Leadtimes* for an explanation of how the system calculates fixed and variable leadtimes

- *Working with Kits and Configured Items* in the *Sales Order Management Guide* for more information about system integration
- *About the Parts List and Routing* in the *Manufacturing Accounting Guide* for more information about work order costs

Running Order Processing

From the Daily Order Preparation – Discrete menu (G3111), choose Order Processing.

When you run Order Processing, the system creates the planned variance in the Work Order Variance table (F3102). The variance shows the difference in costs from when the standards were set at the beginning of the accounting period.

When you run Order Processing, the system deletes any previously generated or manually entered parts list that is attached to the work order or rate schedule. You can manually revise the system-generated parts list. If you add parts to the list, the system commits them from the primary location in the Item Location program.

You should not regenerate the parts list if any part on the list has been issued to the work order or rate schedule. If you regenerate the parts list after parts have been issued, you must manually adjust the list to prevent duplication of component quantities.

When you run Order Processing, the system deletes any previously generated or manually entered routing instructions. You should not regenerate the routing instructions for the work order or rate schedule if hours and quantities are recorded against any of its operations.

Use a processing option to update the routing instructions if you change the work order or rate schedule. The system recalculates the run labor and run machine hours based on the quantity ordered on the work order or rate schedule.

If the system finds an error in calculating the date for an operation sequence, it enters the work order or rate schedule start and requested dates for that operation.

To automatically issue material to a work order when you run Order Processing, set the processing option for Batch Inventory Issues to call a version of the Automatic Work Order Inventory Issues program R31420. You can set this program to either issue only items identified as preflush or preflush all items. You cannot access this program (R31420) from a menu.

Use a processing option to print a consolidated parts list that provides you with a means to pick inventory needed for the manufacturing process. You may process many work orders or rate schedule in a single run. The items are

consolidated based on item name, location, lot, unit of measure, and branch/plant. The system prints information for each branch/plant on a separate page and prints each occurrence of an item that is in a different location, lot, or unit of measure on a separate line.

When you run Order Processing the system generates an exception report for the following conditions:

- The system previously created pick requests but did not regenerate a parts list.
- The system did not create a pick request because “Warehouse Control” was not set to Y.

Processing Options for Work Order Generation (R31410)

Process Tab

Use these processing options to specify whether the system does the following:

- Generates a parts list and routing instructions
- Updates the parts list and routing instructions if quantities or dates have changed

Note the following information regarding the generation of the parts list and routing instructions:

- When you run a generation, the system deletes any previously generated or manually entered parts list or routing that is attached to the work order.
- You can manually enter changes to the system-generated parts list. If you add parts to the list, the system commits them from the primary location in the Item Location program. You should not regenerate the parts list if any part on the list has been issued to the work order. If you regenerate the parts list after material has been issued, you must manually adjust the parts list to prevent duplication of component quantities. However, if quantities or dates have changed and you want this program to update the parts list, use the Update Parts List and Routing Instructions processing option.
- You should not regenerate the routing instructions for the work order if hours and quantities are recorded against any of its operations. When you run this generation, the system recalculates the run labor and run machine hours based on the quantity ordered on the work order. If the system finds an error in calculating the date for an operation sequence, it enters the work order start and requested dates for that operation. However, if quantities or dates have changed and you want this program to update the routing instructions, use the Update Parts List and Routing Instructions processing option.

1. Generate Parts List and Routing Instructions

Use this processing option to specify whether the system generates a parts list, routing instructions, or both when you process a work order. Valid values are:

- 1 The system generates a parts list only.
 - 2 The system generates routing instructions only.
 - 3 The system generates both a parts list and routing instructions.
- Blank The system does not generate a parts list or routing instructions.

Please refer to the Work Orders tab help for detailed information about the parts list and routing instructions generation.

2. Update Parts List and Routing Instructions

Use this processing option to specify whether the system updates an existing parts list and routing instructions if the work order quantity or dates have changed. Valid values are:

- 1 The system updates the existing parts list and routing instructions.
- Blank The system does not update the existing parts list or routing.

Defaults Tab

Use this processing option to specify whether the system uses a specified date or the work order start date for effectivity checking and to specify the default header status code to use.

1. Work Order Date

Use this processing option to specify the default work order date for effectivity checking. If you leave this field blank, the system uses the work order start date.

2. Header Status Code

Use this processing option to specify the default status code for the work order header. Document type is a user defined code (00/SS) that identifies the status of the work order. Enter the document type to use as the default value or choose it from the Select User Define Codes form. If you leave this field blank, the system does not change the status on the work order header.

Parts List Tab

Use these processing options to specify whether the system does the following:

- Uses substitute items when there is a shortage
- Uses prior revision levels to build the parts list against

- Preflushes issues only or issues all items
- Uses commitment processing as specified on the Manufacturing Constants form

1. Substitutions

Use this processing option to specify whether the system uses bill of material substitutes when there is a shortages. Valid values are:

- 1 The system uses substitutions.
Blank The system does not use substitutions.

2. Prior Revision Level

Use this processing option to specify whether the system builds the parts list against a prior revision level. Valid values are:

- 1 The system uses prior revision levels.
Blank The system does not use prior revision levels.

3. Preflush Items

Use this processing option to specify whether the system issues all items on the work order. Valid values are:

- 1 The system issues all items.
Blank The system does not issue preflushed items.

If you choose to issue all items, the system only issues material if you specify the version of the Inventory Issues program (P31113) in the Inventory Issues processing option under the Versions tab.

4. Commitment Processing

Use this processing option to specify whether the system bypasses commitment processing when it creates the parts list. Valid values are:

- 1 The system does not use commitment processing.
Blank The system uses commitment control.

You specify commitment processing in the Commitment Control field in the Manufacturing Constants program (P3009).

Routing Tab

Use these processing options to specify the default values that the system uses for the unit of measure, document type, line type, and beginning status, and

whether to enter the work order number into the purchasing journal entries, if applicable.

1. Unit of Measure

Use this processing option to specify the default unit of measure to use for back scheduling on the routing instructions. Unit of measure is a user defined code (00/UM) that identifies the unit of measure to use in the document. Enter the unit of measure to use as the default value or choose it from the Select User Define Codes form.

2. Document Type

Use this processing option to specify the default document type associated with the purchase order for a subcontract routing. Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Define Codes form.

3. Line Type

Use this processing option to specify the default line type associated with the purchase order for a subcontract routing. Enter the line type to use as the default value or choose it from the Line Type Search form.

4. Beginning Status

Use this processing option to specify the default beginning status associated with the purchase order for a subcontract routing. Beginning status is a user defined code (40/AT) that identifies the beginning status of the document. Enter the beginning status to use as the default value or choose it from the Select User Define Codes form.

5. Subledger Field

Use this processing option to specify whether the system enters the work order number into the Subledger field of the purchase order. Valid values are:

- 1 The system enters the work order number.
- Blank The system does not enter the work order number.

Sales/Configurator Tab

Use these processing options to specify the default values that the system uses for the line type and next status for kit components on sales orders, and whether to calculate the cost in the variance table of the sales order.

1. Line Type

Use this processing option to specify the default line type associated with the sales order for kit components. Enter the line type to use as the default value or choose it from the Line Type Search form.

2. Next Status

Use this processing option to specify the default next status associated with the sales order. Next status is a user defined code (40/AT) that identifies the next status for the kit component lines on the sales order. Enter the next status to use as the default value or choose it from the Select User Define Codes form.

3. Standard Cost Calculation

Use this processing option to specify how the system calculates the cost from the configured routings in the variance table. Valid values are:

- 1 The system calculates the standard cost.
- 2 The system calculates the standard cost if it has not already been calculated.
- Blank The system does not calculate the cost.

Printing 1 Tab

Use these processing options to specify whether the system prints the work orders, and if so, what associated information is also printed.

If you turn on the Warehouse Management picking interface, the Work Order Print Parts List program prints "In Warehouse" in the location field for all parts with the proper material status code.

1. Work Orders

Use this processing option to specify whether the system prints the work orders. You cannot print associated information described in the remaining processing options on the Printing tab if you do not choose to print the work orders using this processing option. Valid values are:

- 1 The system prints the work orders.
- Blank The system does not print the work orders or any associated information.

You must choose to print work orders if you want to print information on parts lists and routing instructions, the shop packet summary, or sales order text lines.

2. Parts List

If you choose the Work Orders processing option to print work orders (above), use this processing option to specify whether the system prints the associated parts lists. Valid values are:

- 1 The system prints the parts lists.
- Blank The system does not print the parts lists.

3. Parts List Detail

If you choose the Work Orders processing option to print work orders (above) and the Parts List processing option to print the parts list (above), use this processing option to specify whether the system prints the second line of information on the parts lists. Valid values are:

- 1 The system prints the parts list detail.
- Blank The system does not print the parts list detail.

4. Parts List on Separate Pages

If you choose the Work Orders processing option to print work orders (above) and the Parts List processing option to print the parts list (above), use this processing option to specify whether the system prints each parts list on a new page. Valid values are:

- 1 The system prints each parts list on a new page.
- Blank The system does not print each parts list on a new page.

5. Consolidated Parts List (FUTURE)

If you choose the Work Orders processing option to print work orders (above) and the Parts List processing option to print the parts list (above), use this processing option to specify whether the system prints a consolidated parts list. The items are consolidated based on item name, location, lot, unit of measure, and branch/plant. The system prints each branch/plant encountered on a separate page and prints each occurrence of an item that is in a different location, lot, or unit of measure on a separate line. Valid values are:

- 1 The system consolidates the parts list.
- Blank The system does not consolidate the parts list.

6. Parts List Component Text

If you choose the Work Orders processing option to print work orders (above) and the Parts List processing option to print the parts list (above), use this processing option to specify whether the system prints the component text on the parts lists. Valid values are:

- 1 The system prints component text.
- Blank The system does not print component text.

Printing 2 Tab

Use these processing options to specify whether the system prints the work orders, and if so, what associated information is also printed.

If you turn on the Warehouse Management picking interface, the Work Order Print Parts List program prints “In Warehouse” in the location field for all parts with the proper material status code.

1. Routing Instructions

If you choose the Work Orders processing option to print work orders (above), use this processing option to specify whether the system prints the associated routing instructions. Valid values are:

- 1 The system prints the routing instructions.
- Blank The system does not print the routing instructions.

2. Routing Instructions on Separate Pages

If you choose the Work Orders processing option to print work orders (above) and the Routing Instructions processing option to print routing instructions (above), use this processing option to specify whether the system prints each routing instruction on a new page. Valid values are:

- 1 The system prints each routing instruction on a new page.
- Blank The system does not print each routing instruction on a new page.

3. Routing Instructions Text

If you choose the Work Orders processing option to print work orders (above) and the Routing Instructions processing option to print routing instructions (above), use this processing option to specify whether the system prints the text on the routing instructions. Valid values are:

- 1 The system prints the text.
- Blank The system does not print the text.

4. Shop Packet Summary

If you choose the Work Orders processing option to print work orders (above), use this processing option to specify whether the system prints the shop packet summary. Valid values are:

- 1 The system prints the summary.
- Blank The system does not print the summary.

5. Sales Order Text Lines

If you choose the Work Orders processing option to print work orders (above), use this processing option to specify whether the system prints the sales order text lines. Valid values are:

- 1 The system prints the text.
- Blank The system does not print the text.

Warehouse Management Tab

Use these processing options to specify how the system processes putaway requests for Warehouse Management integration, and to specify the default staging location and whether the system should check for availability.

1. Pick Requests

Use this processing option to specify the directed putaway mode for the system to use. Valid values are:

- 1 The system processes putaway requests only.
- 2 The system processes putaway requests by using the subsystem.
- Blank The system does not process putaway requests.

If you specify mode 2, enter the version of the subsystem for the system to use in the Location Driver Processing processing option (below).

2. Location Driver Processing (R46171)

If you choose directed putaway mode 2 for the Putaway Requests processing option (above), use this processing option to specify the version of the Location Driver Processing program (R46171) for the system to use when processing putaway requests. If you leave this field blank, the system uses the XJDE0007 version of the Location Driver Processing program.

Versions control how the Location Driver Processing program displays information. Therefore, you might need to set the processing options to specific versions to meet your needs.

3. Staging Location

Use this processing option to specify the default staging location for moving goods out of the warehouse. The parts picked from the warehouse are staged at this location prior to use within manufacturing. Enter the staging location to use as the default value or choose it from the Item/Branch Locations form.

4. Staging Location Availability

Use this processing option to specify whether the system checks the staging location for availability. If a part is not available at the staging location, the system does not generate a request. This option only applies to parts without work center locations. Valid values are:

- 1 The system checks the staging location for available parts.
- Blank The system does not check for availability.

Versions Tab

Use these processing options to specify the versions of the following reports and programs that the system uses when processing work orders:

- Work Order Print report
- Shortage report
- Bar Coding report
- Inventory Issues program
- Purchase Order Entry program
- Manufacturing Specifications program

Versions control how the programs display information. Therefore, you might need to set the processing options to specific versions to meet your needs.

1. Work Order Print (R31415)

Use this processing option to specify the version of the Work Order Print report (R31415) that the system uses. The default sequencing for the parts list is by component item number. The default sequencing for the routing instructions is by operation sequence number. If you leave this field blank, the program uses the ZJDE0001 version of the Work Order Print report.

Versions control how the Work Order Print report displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

2. Shortage Report (R31418)

Use this processing option to specify the version of the Shortage report (R31418) that the system uses. If you leave this field blank, the system does not generate this report.

Versions control how the Shortage report displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

3. Bar Coding Report (R31413)

Use this processing option to specify the version of the Bar Coding report (R31413) that the system uses. If you leave this field blank, the system uses the ZJDE0001 version of the Bar Coding report.

Versions control how the Bar Coding report displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

4. Inventory Issues (P31113)

Use this processing option to specify the version of the Inventory Issues program (P31113) that the system uses. If you leave this field blank, the system does not issue any material.

Versions control how the Inventory Issues program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

5. Purchase Order Entry (P4310)

Use this processing option to specify the version of the Purchase Order Entry program (P4310) that the system uses when generating purchase orders. The default tax area and automatic blanket order release options are controlled by the Purchase Order Entry version that you specify.

Versions control how the Purchase Order Entry program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

6. Manufacturing Specifications (P37470)

Use this processing option to specify the version of the Manufacturing Specifications program (P37470) that the system uses. If you leave this field blank, the system uses the ZJDE0001 version of the Manufacturing Specifications program.

Versions control how the Manufacturing Specifications program (P37470) displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

Interoperability Tab

Use these processing options to specify the default transaction type that the system uses for processing export transactions, and to specify whether the system writes the before images to the Work Order Master table (F4801) and Work Order Parts List table (F3111).

1. Work Order Transaction Type

Use this processing option to specify the default transaction type for the work order header that the system uses when processing export transactions. If you leave this field blank, the system does not perform export processing.

2. Parts List Transaction Type

Use this processing option to specify the default transaction type for the parts list that the system uses when processing export transactions. If you leave this field blank, the system does not perform export processing.

3. Routing Instructions Transaction Type

Use this processing option to specify the default transaction type for the routing instructions that the system uses when processing export transactions. If you leave this field blank, the system does not perform export processing.

4. Work Order Header Before Image (F4801)

Use this processing option to specify whether the system writes the before image for the work order header. Valid values are:

- 1 The system includes the image.
- Blank The system does not include the image.

5. Parts List Before Image (F3111)

Use this processing option to specify whether the system writes the before image for the parts list. Valid values are:

- 1 The system includes the image.
- Blank The system does not include the image.

6. Routing Instructions Before Image (F3112)

Use this processing option to specify whether the system writes the before image for the routing instructions. Valid values are:

- 1 The system includes the image.
- Blank The system does not include the image.

Printing a Summary

From the Periodic Functions – Discrete menu (G3121), choose Work Order Summary.

The Work Order Summary report retrieves the work orders that you specify from the Work Order Master table (F4801). You can use this report to review work orders in your system. The report shows the planner ID, item number, order quantity, completed quantity, and start and due dates.

See Also

- *R31400, Work Order Summary* in the *Reports Guide* for a report sample

Attaching Supplementary Information

After you enter a work order or rate schedule header, you can do any of the following:

- Process the work order or rate schedule using the Order Processing batch program.
- Attach supplementary information interactively. This information includes a parts list, routing instructions, a co-products and by-products list, intermediate items, and serial numbers.
- Attach supplementary information manually.

Attaching supplementary data consists of the following tasks:

- ☐ Attaching a parts list interactively
- ☐ Attaching routing instructions interactively
- ☐ Attaching co-products and by-products (process manufacturing only)
- ☐ Attaching intermediate items (process manufacturing only)
- ☐ Assigning serial numbers

Note: The Product Data Management system provides information to the Shop Floor Management system about bills of material, work centers, and routing instructions.

See Also

- *Entering Rate Schedules* to review the Process processing option for the Enter/Change Rate Schedule program. This program allows you to use order processing to automatically or interactively attach the parts list and routing instructions, or attach them when you run the Order Processing program.

Attaching a Parts List Interactively

After you enter a work order header, you attach a parts list to it. Use one of the following methods to attach a parts list to a work order:

- Enter a custom (manual) parts list
- Copy a parts list from a bill of material
- Copy a parts list from an existing work order

You use the manual method to create the parts list, components, quantities, and the bill of material. You use the copy method to copy existing information from a bill of material or work order instead of manually entering items to create a parts list. Additionally, you can use the Order Processing program and the appropriate option to attach the parts list to the work order header.

After you attach the parts list to a work order header, you can do the following:

- Specify or change a substitute item or quantities from different locations
- Add or delete components
- Change quantities or other information on the parts list or choose substitute items and their quantities on hand when a component shortage is encountered

Attaching the parts list interactively consists of the following tasks:

- Attaching the parts list
- Choosing substitute items (optional)
- Entering multiple locations (optional)
- Copying a parts list from an existing order
- Copying a parts list from a bill of material

To use substitute items or integrate with other J.D. Edwards systems, you should be familiar with the information in the following table:

Substitute items

To use substitute items you must use a processing option for Enter/Change Order (P48013) to specify the substitute processing that you want to use. You can select one of the following commitments:

- Commit using the commitment control set in Manufacturing Constants
- Commit using the commitment control set in Manufacturing Constants, but use substitutes for shortages
- Commit using the commitment control set in Manufacturing Constants, but use substitutes if the quantity available can cover the shortage

The Hard/Soft Commit option on the Manufacturing Constants Revisions form must indicate a Hard at Creation of Parts List setting for you to use substitutions.

Warehouse Management integration

If you use Warehouse Management and generate a parts list, the system searches for inventory in the staging or work center location. If you did not define a staging or work center location, or if you did not locate inventory, the system generates a pick request. The pick request notifies you of the need for materials from the warehouse.

After the system creates the pick request, the Warehouse Management system processes instructions and creates suggestions for you to confirm. Then the system updates the parts list and increases the on-hand quantity for the To location and decreases the quantity on hand for the From location.

When you re-create the parts list, and the items are in the warehouse, the following two actions can occur:

- The Work Order Print program (P31415) prints "In Warehouse" for all items with the correct material status code.
- The Order Processing program (P31410) prints a message indicating that a warehouse pick request already exists. The system does not generate a parts list.

See Also

- *Entering Work Order Headers* for more information about using Notes windows to create a separate generic text entry for each work order

► To attach the parts list

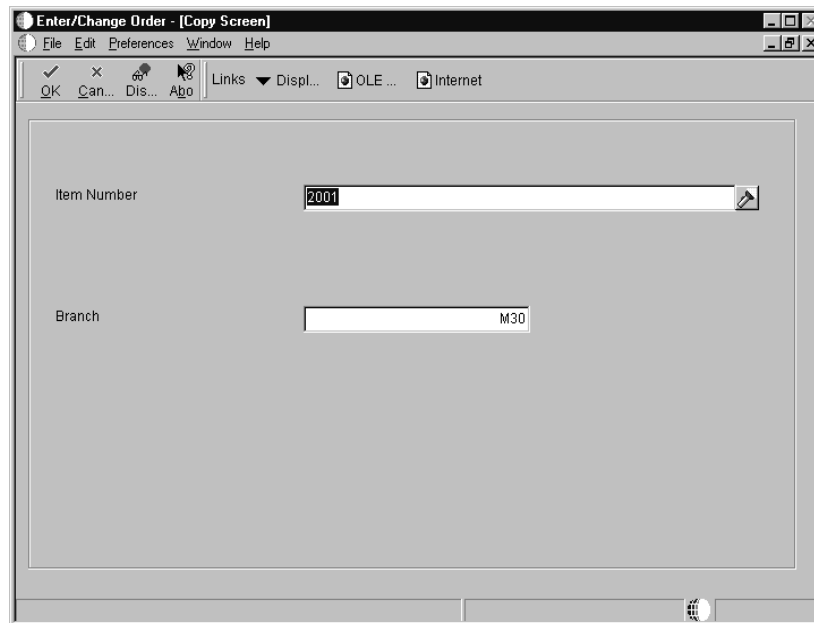
From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

Order No	Type	2nd Item Number	Item Description	Item UOM	Order Date
451012	WO	2001	Cro-Moly Frame, Red	EA	5/8/97
451021	WO	2004	Cro-Moly Frame	EA	5/8/97
451039	WO	2005	Chain Stay	EA	5/8/97
451080	WO	2600	Bike Trailer	EA	11/20/97
451098	WO	4201	Vitamin A	GM	11/24/97
451101	WO	2600	Bike Trailer	EA	11/25/97
451119	WO	2001	Cro-Moly Frame, Red	EA	12/3/97
451127	WO	4200	Multivitamin Tablets	PC	12/15/97
451135	WO	4200	Multivitamin Tablets	PC	12/15/97
451143	WM	REPLACE INTAKE FILTERS	PM to replace intake Filters	EA	4/15/98

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a specific work order:
 - Skip to Order Number
2. Choose the record, and then choose Parts List from the Row menu.

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cust
2001	Cro-Moly Frame, Red					

3. On Work Order Parts List, choose Copy BOM from the Form menu.



4. On Copy Screen, click OK to copy the bill of material for the displayed item and branch/plant to the parts list.
5. On Work Order Parts List, review the following fields to verify that you have attached the correct parts list:
 - Requested
 - Item Number
 - Component Item Number
 - Description
 - Order Quantity
 - UM
 - Ln Ty
 - Component Branch
 - Location
 - Lot Serial Number
 - Lot Grd
 - Lot Potency
 - Oper Seq#
 - From Potency
 - Thru Potency

- Frm Grd
 - Thr Grd
 - Oper Scrap
 - Is Cd
 - Mt St
 - Cmp Rev
 - F V
 - Component Item Number
 - Component 2nd Number
 - Component 3rd Number
6. To add the parts list to the work order header, click OK.
 7. On Work With Manufacturing Work Orders, choose Parts List from the Row menu to review the parts list.

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cur
2004	Cro-Moly Frame	10		EA	S	
9011	Paint, Red	2250		ML	S	
9031	Primer	2250		ML	S	
9026	Acid	3		LP	S	
2005	Chain Stay	20		EA	S	

Field

Explanation

Description

A description can be:

- Brief information about an item
- A remark
- An explanation

Field	Explanation
Ln Ty	<p>A code that controls how the system processes lines on a transaction. It controls the systems with which the transaction interfaces, such as General Ledger, Job Cost, Accounts Payable, Accounts Receivable, and Inventory Management. It also specifies the conditions under which a line prints on reports and is included in calculations. Codes include the following:</p> <ul style="list-style-type: none"> S Stock item J Job cost N Nonstock item F Freight T Text information M Miscellaneous charges and credits W Work order
Component Branch	<p>A secondary or lower-level business unit. The system uses the value that you enter to indicate that a branch or plant contains several subordinate departments or jobs. For example, assume that the component branch is named MMCU. The structure of MMCU might be as follows:</p> <ul style="list-style-type: none"> Branch/Plant – (MMCU) Dept A – (MCU) Dept B – (MCU) Job 123 – (MCU)
Lot Grd	<p>A code that indicates the grade of a lot. The grade is used to indicate the quality of the lot. Examples include the following:</p> <ul style="list-style-type: none"> A1 Premium grade A2 Secondary grade <p>The grade for a lot is stored in the Lot Master table (F4108).</p>
Lot Potency	<p>A code that indicates the potency of the lot, which is expressed as a percentage of active or useful material (for example, the percentage of alcohol in a solution). The actual potency of a lot is defined in the Lot Master table (F4108).</p>

Field	Explanation
Oper Seq#	<p>A number used to indicate an order of succession.</p> <p>In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation.</p> <p>In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process.</p> <p>In engineering change orders, a number that sequences the assembly steps for the engineering change.</p> <p>For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced.</p> <p>Skip To fields allow you to enter an operation sequence that you want to begin the display of information.</p> <p>You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.</p>
From Potency	<p>A number that indicates the minimum potency or percentage of active ingredients acceptable for an item.</p> <p>The system displays a warning message if you try to purchase or issue items that do not meet the minimum acceptable potency. The system does not allow you to sell items that do not meet the minimum acceptable potency.</p>
Thru Potency	<p>A number that indicates the maximum potency or percentage of active ingredients that is acceptable for an item.</p> <p>The system displays a warning message if you try to purchase or issue items that have a potency that exceeds the maximum potency acceptable. The system does not allow you to sell items that have a potency that exceeds the maximum potency acceptable.</p>

Field	Explanation
Frm Grd	<p>A user defined code (40/LG) that indicates the minimum grade that is acceptable for an item.</p> <p>The system displays a warning message if you try to purchase or issue items with grades that do not meet the minimum grade acceptable. The system does not allow you to sell items with grades that do not meet the minimum acceptable level.</p> <p>..... <i>Form-specific information</i></p> <p>The From Grade and the Through Grade fields define the allowable grades for an item. The From Grade should be less than the Through Grade. These values are also used to determine the grade requirements of a component in a bill of material or an item in a purchase or sales order.</p> <p>For example, the value of the From Grade equals A01, and the value of the Through Grade equals A05. In this case, inventory allocations for this item will be made for lots for which the grade is greater than or equal to A01, and less than or equal to A05.</p>
Thr Grd	<p>A user defined code (40/LG) that indicates the maximum grade that is acceptable for an item.</p> <p>The system displays a warning message if you try to purchase or issue items with grades that exceed the maximum grade acceptable. The system does not allow you to sell items with grades that exceed the maximum grade acceptable.</p> <p>..... <i>Form-specific information</i></p> <p>The From Grade and the Through Grade define the allowable grades for an item. The From Grade should be less than the Through Grade. These values are also used to determine the grade requirements of a component in a bill of material or an item in a purchase or sales order.</p> <p>For example, the value of the From Grade equals A01, and the value of the Through Grade equals A05. In this case, inventory allocations for this item will be made for lots for which the grade is greater than or equal to A01, and less than or equal to A05.</p>
Oper Scrap	<p>A value that the system uses to increase or decrease the amount of materials to account for loss within the operation. The system updates this value on Enter/Change Bill of Material when you run the Planned Yield Update program. The system calculates this value by compounding the yield percentages from the last operation to the first operation. Use a processing option in Enter/Change Routing to enable the system to calculate the component scrap percent.</p>

Field	Explanation
Is Cd	<p>A code that indicates how the system issues each component in the bill of material from stock. In Shop Floor Management, it indicates how the system issues a part to a work order. Valid values are:</p> <ul style="list-style-type: none"> I Manual issue F Floor stock (there is no issue) B Backflush (when the part is reported as complete) P Preflush (when the parts list is generated) U Super backflush (at the pay-point operation) S Sub-contract item (send to supplier) Blank Shippable end item <p>You can issue a component in more than one way within a specific branch/plant by using different codes on the bill of material and the work order parts list. The bill of material code overrides the branch/plant value.</p>
Mt St	A user defined code (31/MS) that identifies the current status of a particular component on the work order.
Cmp Rev	A code that indicates the current revision level of a component on the bill of material. It is usually used with an engineering change notice (ECN) or engineering change order (ECO).
F V	<p>A code that indicates if the quantity per assembly for an item on the bill of material varies according to the quantity of the parent item produced or is fixed regardless of the parent quantity. This value also determines if the component quantity is a percent of the parent quantity. Valid values are:</p> <ul style="list-style-type: none"> F Fixed Quantity V Variable Quantity (default) % Quantities are expressed as a percentage and must total 100% <p>For fixed-quantity components, the Work Order and Material Requirements Planning systems do not extend the component's quantity per assembly value by the order quantity.</p>

► **To choose substitute items**

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

When the system encounters a component shortage, you can choose the available substitutes and quantity. After you enter the information, the system adds the selected items and quantities to the parts list and deducts the equivalent quantity from the component. You cannot access this form unless at least one quantity is available.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:
 - Skip to Order Number
2. Choose the record, and then choose Parts List from the Row menu.
3. On Work Order Parts List, choose an item, and then choose Substitute Availability from the Row menu.
4. On Substitute Availability Revisions, review the following information:
 - Quantity Ordered
 - Component 2nd Number
 - Quantity Available
 - Quantity On Hand
5. Change the value in the following field as needed:
 - Quantity Ordered
6. To place the equivalent quantity for the component in the parts list, click OK.

The quantity is calculated using the values that you set up for substitute items (fixed or variable, partial, and so on).

► **To enter multiple locations**

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

You can specify more than one commitment location for the item. However, if you select a location that is not the primary location specified on the parts list, the system hard-commits the item.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:

- Skip to Order Number
2. Choose the record, and then choose Parts List from the Row menu.
 3. On Work Order Parts List, choose an item, and then choose Multi-Location from the Row menu.

Quantity	Location	Lot / Serial	Branch Plant	Available	UM	Expiration Date
167	. . .		M30	-167	EA	
				0		

4. On Select Multiple Locations, complete the following fields:
 - Quantity
 - Location
 - Lot / Serial
 - Branch/Plant

► To copy a parts list from an existing work order

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

You can copy a parts list from a previously entered work order and attach the parts list to a new work order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:
 - Skip to Order Number
2. Choose a record, and then choose Parts List from the Row menu.
3. On Work Order Parts List, click the Copy icon on the toolbar.

Note: The Copy icon in step three is not the same as the Copy function on the Form or Row exit.

4. On Copy Screen, complete the following fields to enter the work order from which you want to copy the parts list and click OK.
 - Branch/Plant
 - Item Number
5. Make any final corrections to the imported parts list and click OK.

To copy a parts list from a bill of material

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

You can also copy a parts list from a bill of material that you established in the work order header.

1. On Work With Manufacturing Work Orders, complete the following field and click Find:
 - Skip to Order Number
2. Choose a record, and then choose Parts List from the Row menu.
3. On Work Order Parts List, choose Copy BOM from the form menu.
4. On Copy Screen, complete the following fields and click OK:
 - Branch/Plant
 - Item Number

Field	Explanation
Location	The storage location from which goods will be moved.
Available	The available quantity may be on-hand balance minus commitments, reservations, and backorders. Availability is user defined and can be set up through the branch/plant constants.

See Also

- *Processing Work Orders and Rate Schedules* for more information about running the Order Processing batch program
- *About the Parts List and Routing* in the *Manufacturing Accounting Guide* for information about work order costs
- *Defining Commitment Rules* for information about commitment control and substituting items

Processing Options for Work Order Parts List

MFG Edits

1. Allow attaching Parts List at prior revision levels _____
2. Enter the Cross-Reference Code for retrieving item replacements for obsolete items _____
3. Enter a '1' to allow selection of components for inclusion on the parts list when performing a Copy. If left blank, all components will be included on the parts list. _____

Process MFG

1. Enter a '1' to create Routings when creating Parts List _____
2. Enter the substitute processing method. _____

'1' - Use substitutes for shortages. (Commitment processing will be used if '1' is selected.)
'2' - Display the Substitute Availability Window when substitute quantity can cover the shortage. If left blank, substitute processing will not be done.

3. Enter a '1' to bypass commitment processing. If left blank, commitments will be processed per Commitment Control in Manufacturing Constants (F3009). _____
4. Enter a '1' to copy the component's generic text to the work order parts list. _____

Warehousing

1. Enter the request processing mode:
' ' = No pick request
'1' = Generate request only
'2' = Generate request and process using subsystem _____
2. If processing pick requests through the subsystem, enter the version of Location Selection to use. If blank, XJDE0007 is used. (R46171) _____
3. Enter the default staging location for moving goods out of the warehouse. The parts picked from the warehouse are staged at this location prior to use within manufacturing. _____
4. Enter a '1' if the default staging location should be checked for availability. If the part is _____

available at the staging location
a request will NOT be generated.
This option only applies to parts
without work center locations.

Versions

Enter the version of the following
applications. If left blank, the
version in parenthesis will be
used.

1. Work Order Routings - P3112
(ZJDE0001)
2. Work Order Inventory Issues -
P31113 (ZJDE0001)

EM Edits

1. Enter a '1' to require the
entry of the Required Date. Leave
blank to allow a blank required
date.

Purchase Order Information

2. Enter a '1' to allow Purchase
Orders to be created.
3. Enter the Parts List Status
Code to signify that a Purchase
Order has been created.
4. Enter a '1' to consolidate all
messages onto one Purchase Order
by vendor.

EM Versions

Enter the version of the following
applications. If left blank, the
version in parenthesis will be
used.

1. Supplier Master - P01054
(ZJDE0001)
2. Open Order Inquiry - P430301
(ZJDE0006)
3. Supply and Demand Inquiry -
P4021 (ZJDE0003)
4. Item Availability by Time -
P3413 (ZJDE0002)
5. Purchase Order Entry - P4310
(ZJDE0001)

Export

1. Enter the Transaction Type for
the export transaction. If left
blank, export processing will not
be performed.
2. Enter a '1' to write the before
image for a change transaction.
If left blank, the before image
will not be written .

Note: You can access the processing options from the Interactive Versions form on menu GH9011. Enter P3111 in the Interactive Application field, click Find, choose the program version, and then choose Processing Options from the Row menu.

Attaching Routing Instructions Interactively

After you enter a work order header, you attach the routing instructions to it. Use one of the following methods to attach routing instructions to a work order:

- Copy a work order routing from a routing
- Copy a work order routing from a bill of material
- Copy routing instructions from an existing work order

Additionally, you can enter a custom, or manual, set of routing instructions.

You use the manual method to change a step in the operation that the Order Processing program assigns, or you can change the step after the interactive or batch attachment process. You use the copy method to copy existing information from a routing or an existing work order instead of manually creating the routing instructions. Use the Order Processing program and the appropriate processing option to attach the routing instructions to the work order header.

When you locate the routing instructions, the system displays the operations that are effective at the start date of the work order and those that are standard instructions or text lines. If routing instructions are not attached to the work order, no values appear in the associated fields.

You must create a purchase order for any step in the routing instructions that involves a subcontractor. Do this using the Enter/Change Routing program (P3003). After you enter purchase order information, supplier, type of operation, purchase order, and cost type, you must run the Order Processing batch program to create the purchase order.

Caution: If you change the status of a routing instruction operation, the system can create duplicate purchase orders for that operation. Also, if you delete an outside operation with an associated purchase order, the system deletes the purchase order if the original status of the operation remains unchanged. When the system deletes the purchase order, it updates the quantity of the value of the purchase order for the primary location and the open amount in the supplier instructions.

Note: If you set up the work center as a valid location, the system checks the work center for availability before you use Warehouse Management.

Before You Begin

- ☐ Verify that a record for the parent item exists in the Item Master and Item Branch tables.
- ☐ Enter the document type, line type, and status code for the purchase order in the processing options for Order Processing.

► To copy a work order routing from a routing

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:
 - Skip to Order Number
2. Choose a record, and then choose Routing from the Row menu.

3. On Work Order Routing, choose Copy by Item from the Form menu.

Enter/Change Order - [Copy by Item]

File Edit Preferences Window Help

OK Cancel Dismiss Abort Links Display OLE Internet

Item Number: 220

Branch/Plant: M30

4. On Copy by Item, click OK to copy the routing instructions for the displayed item and branch/plant to the work order.

Enter/Change Order - [Work Order Routing]

File Edit Preferences Form Row Window Help

OK Copy Delete Cancel New Dismiss Abort Links Display OLE Internet

Order Number: 451194 Branch/Plant: M30

Touring Bike, Red Requested: 8/30/98

Item Number: 220 Touring Bike, Red

Work Center	Operation Sequence	Operation Status	Operation Description	Machine Run Hours	Labor Run Hours
200-901	10.00		Assembly		5
200-901	20.00		Assembly		2
200-901	30.00		Assembly		11
200-901	40.00		Assembly		11
200-911	50.00		Test / Inspect		2
200-920	60.00		Package		5

Row:6

5. On Work Order Routing, review the following fields:

- Work Center
- Operation Sequence
- Operation Description
- Machine Run Hours

- Labor Run Hours
- Cons Prod
- Instruction Number
- Start Date
- Equipment Number
- Request Date
- Operation Type
- Pay Point
- Crew Size
- Setup Hours
- Move Hours
- Queue Hours

See *Setting Up Manufacturing Constants* in the *Product Costing and Manufacturing Guide* for information on costing options and actual costing.

- To add the routing instructions to the work order header, click OK.
- On Work With Manufacturing Work Orders, choose the record and then choose Routing from the Row menu to review information on the routing instructions.
- To change routing instruction information for a specific operation sequence, choose the appropriate sequence, and then choose Details from the Row menu.

The screenshot shows a software window titled "Enter/Change Order - [Routing Details]". It has a menu bar with "File", "Edit", "Preferences", "Form", "Window", and "Help". Below the menu bar is a toolbar with icons for "OK", "Cancel", "Dis...", and "Ab...", along with "Links", "Displ...", "OLE ...", and "Internet". The main area contains several groups of input fields:

- Order Information:** Order Number (451194), WO, Branch/Plant (M30), Parent Item (220), Touring Bike, Red, Requested.
- Work Center:** Work Center (200-920), Op Seq No (60.00), Oper Desc (Package).
- Hours:** Labor (5.50), Move, Machine, Queue, Setup.
- Production Data:** Crew Size (2.0), Req Date, Opr Yld % (100.00), Start Date, Cum Yld % (100.00), Equip No, Overlap %, Instr No.
- Other Data:** Pay Point (B), Backflush material and labor, Oper Type, Normal Manufacturing, Time Basis (U), Unit Rate, Rel PO No.

9. On Routing Details, make the appropriate changes and click OK.

Field	Explanation
Order Number	A number identifying the original document. This can be an invoice number, work order number, sales order number, journal entry number, and so on.
Machine Run Hours	The standard machine hours that you expect to incur in the normal production of this item.
Labor Run Hours	<p>The standard hours of labor that you expect to incur in the normal production of this item.</p> <p>The run labor hours in the Routing Master table (F3003) are the total hours that it takes the specified crew size to complete the operation. The hours are multiplied by the crew size during shop floor release and product costing.</p>
Start Date	This field identifies the start date of either the work order or the routing instructions.
Operation Type	<p>A user defined code (30/OT) that indicates the type of operation. Examples include the following:</p> <ul style="list-style-type: none"> A Alternate routing TT Travel time IT Idle time T Text (Enter text at Description)
Pay Point	<p>A code that indicates whether a work center has labor, material, or both, backflushed through it when quantities are reported against operations occurring in the work center. If you do not override the routing record, the system uses the work center value as the default. Valid codes are:</p> <ul style="list-style-type: none"> 0 Not a backflush work center B Backflush material and labor M Backflush material only L Backflush labor only P Preflush material only <p>..... <i>Form-specific information</i></p> <p>If you leave this field blank, the system retrieves the value from the Work Order Routing table (F3112).</p>
Crew Size	<p>The number of people who work in the specified work center or routing operation.</p> <p>The system multiplies the Run Labor value in the Routing Master table (F3003) by crew size during costing to generate total labor amounts.</p> <p>If the Prime Load Code is L or B, the system uses the total labor hours for backscheduling. If the Prime Load Code is C or M, the system uses the total machine hours for backscheduling without modification by crew size.</p>

Field	Explanation
Setup Hours	The standard setup hours that you expect to incur in the normal completion of this item. This value is not affected by crew size.

See Also

- *Entering Work Order Headers* for more information about using the Notes window to create a separate generic text entry for each work order
- *Processing Work Orders and Rate Schedules* for instructions on running the Order Processing batch program
- *About the Parts List and Routing* in the *Product Costing and Manufacturing Accounting Guide* for information about the work order costs

► To copy a work order routing from a bill of material

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:
 - Skip to Order Number
2. Choose a record, and then choose Routing from the Row menu.
3. On Work Order Routing, choose Copy by Item from the Form menu.
4. On Copy Screen, complete the following fields and click OK:
 - Branch/Plant
 - Item Number

Note: You establish the bill of material on the work order header.

► To copy routing instructions from an existing work order

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate a work order:
 - Skip to Order Number
2. Choose the record and then choose Routing from the Row menu.

3. On Work Order Routing, click the Copy icon on the toolbar.

Note: The Copy icon in step three is not the same as the Copy function on the Form or Row exit.

4. On Copy by Order Number, complete the following field to enter the work order from which you want to copy the routing and click OK:
 - Work Order Number
5. Make any final corrections to the routing instructions and click OK.

Processing Options for Work Order Routing (P3112)

Process Tab

These processing options allow you specify whether the system creates a parts list and copies generic text during the processing.

1. Create Parts List

Use this processing option to specify whether the system creates a parts list when it creates routings for a work order. The system adds the parts list information to the Work Order Parts List table (F3111). Valid values are:

Blank The system does not create a parts list when it creates routings for a work order.

- 1 The system creates a parts list when it creates routings for a work order.

2. Operation's Generic Text

Use this processing option to copy the operation's generic text to a work order routing. Valid values are:

Blank The system does not copy the operation's generic text to a work order routing.

- 1 The system copies the operation's generic text to a work order routing.

3. Queue and Move Hours

Use this processing option to specify whether the queue and move hours in the Work Order Routing program (P3112) enter the work center when the system leaves the values blank in the Standard Routing program (P3003). Valid values are:

Blank The system does not enter the queue and move hours from the work center in the Work Order Routings program when the system leaves the values blank in the Standard Routing program.

- 1 The system enters the queue and move hours from the work center in the Work Order Routings program only when the system leaves the values blank in the Standard Routings program.
- 2 The system enters the queue and move hours from the work center in the Work Order Routings program only when you manually add a routing step or instruction in the detail area for work order routings.

Export Tab

These processing option allow you to specify the transaction type that the system uses for export processing and for the Supply Chain Planning and Scheduling integration.

1. Transaction Type

Use this processing option to specify a transaction type that the system uses for export processing or for the Supply Chain Scheduling and Planning. Transaction type is a user defined code (00/TT) that identifies the type of transaction for the work order.

Enter the transaction type to use as the default value. Blank is a valid value if you do not want to use export processing.

Versions Tab

This processing option allows you to specify which version of the Capacity Load program (P3313) to use.

1. Capacity Load Program (P3313)

Use this processing option to specify the version of the Capacity Load program (P3313). The system uses this program to identify the capacity load in a work center for a specific operation in the work order routing. If you leave this option blank, the system uses the default version ZJDE0003.

Note: You can access the processing options from the Interactive Versions form on menu GH9011. Enter P3112 in the Interactive Application field, click Find, choose the program version, and then choose Processing Options from the Row menu.

Attaching Co-Products and By-Products

For Process Manufacturing, after you enter a work order header, you attach a co-products and by-products list to the work order.

► To attach co-products and by-products

From the Daily Order Preparation - Process menu (G3113), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find:
 - Skip to Order Number
2. Choose a record, and then choose Co/By Products from the Row menu.

Ingredient Co/By Product	Co By	Description	Oper Seq#	Ln Ty	Qty Ordered/ Output Qty	UM
5010	B	Sludge	10.00	S	2	GA
5110	C	Household Lubricant Bulk	30.00	S	20	GA
5210	C	Graphite Lubricant Bulk	40.00	S	30	GA

3. On Work Order Process Resource Revisions, review the following fields and click OK:
 - Item Number
 - Co By
 - Description
 - Qty Ordered/ Output Qty
 - UM

Field	Explanation
Co By	A code that distinguishes standard components or ingredients from co-products, by-products, and intermediates. Co-products are (concurrent) end items as the result of a process. By-products are items that can be produced at any step of a process, but were not planned. Intermediate products are items defined as a result of a step but are automatically consumed in the following step. Generally, intermediates are nonstock items and are only defined steps with a pay-point for reporting purposes. Standard components (Discrete Manufacturing) or ingredients (Process Manufacturing) are consumed during the production process. Valid values are: C Co-products B By-products I Intermediate products Blank Standard components or ingredients
Qty Ordered/ Output Qty	The quantity of units affected by this transaction.

Attaching Intermediate Items

For Process Manufacturing, use intermediates to track the quantity of output of any operation in a work center at a specific time. You can define intermediates in different units of measure and quantities. You set up one intermediate per operation. However, you cannot define an intermediate for the last operation.

An example of an intermediate is fermented liquid. The liquid ferments for an extended period of time before being distilled. The resulting liquid is not a finished product, but one that proceeds to the next operation.

To attach intermediates

From the Daily Order Preparation - Process menu (G3113), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find:
 - Skip to Order Number
2. Choose a record, and then choose Routing from the Row menu.
3. On Work Order Routing, choose an item and choose Intermediates from the Row menu.

Enter/Change Order - [Intermediate Product Revisions]

File Edit Preferences Form Rows Window Help

OK Del... Can... New... Dis... [Mouse Icon] Links ▼ Delet... OLE ... Internet

Order Number/Type: 451469 WO

Item Number: 5000 Lubricant Process

Item Number	Description	Quantity Ordered	UM	Oper Seq#	Remark
50011	Refined Oil	48	OZ	10.00	

Row:1

4. On Intermediate Product Revisions, complete the following fields and click OK:
 - Item Number
 - UM
 - Quantity Ordered

Field	Explanation
Quantity Ordered	The quantity of units affected by this transaction.
UM	A user defined code (00/UM) that identifies the unit of measurement for an amount or quantity. For example, it can represent a barrel, box, cubic meter, liter, hour, and so on.

Assigning Serial Numbers

You assign serial numbers to work orders to track serialized items within lots. You can assign serial numbers to work orders at any time. When you enter serial numbers, the system creates Serial Number Master records, as well as Work Order Lot/Serial Numbers (LSNs). The system does not validate any serial number that you enter until you complete the work order. If you do not assign a serial number to a serialized assembly, the system requires a number before you can complete the work order. After you complete a work order, you cannot modify any serial numbers that are assigned to the assemblies.

You can assign serial numbers to specific assemblies at any time prior to completing the work order by using Assign Work Order LSN. You can also assign serial numbers to specific assemblies at the time of work order completions by using Associate Issued Item LSNs. You can associate serialized components to a specific assembly either at inventory issues or at work order completions. You must issue serialized components in their respective primary unit of measure to associate them to a specific assembly.

The Assembly Serial Numbers program (P3105) assumes a quantity of one in the unit of measure on the work order. For serialized assemblies, this will be the primary unit of measure. You cannot enter more serial numbers than the quantity on the work order.

Note: You can only delete serial numbers if the system detects no activity for the number.

Before You Begin

- ☐ Set the Lot Process Type and Serial Number Required fields on the Item Master Information form for serial number processing. See *Entering Item Master Information* in the *Inventory Management Guide* for details about the Item Master Information form.



To assign serial numbers

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

Alternatively, you can choose Assembly Serial Numbers from the Daily Order Preparation – Discrete menu (G3111). However, if you access Assembly Serial Numbers from the menu, you can use it only to locate existing serial numbers.

You cannot update or add serial numbers when you access this program directly from the menu.

1. On Work With Manufacturing Work Orders, complete the following field and click Find to locate the work order to which you want to assign serial numbers:
 - Skip to Order Number
2. Choose the work order, and then choose Serial Numbers from the Row menu.

Lot/SN	Memo Lot 1	Memo Lot 2	Date Complete
20592	1-1		11/24/97
20593	1-1		11/24/97
20594	1-1		11/24/97
20595	1-1		11/24/97
20596	1-1		11/24/97

3. On Work With Work Order Serial Numbers, choose Revisions from the Form menu.
4. On Serial Number Revisions, choose Lot/SN Generation from the Form menu to assign serial numbers.

Enter/Change Order - [Serial Number Revisions]

File Edit Preferences Form Row Window Help

QK Del... Can... New... Dis... Abo Links Lot/S... OLE ... Internet

Order Number 451080 WO Branch/Plant M30

Item Number 2600 Bike Trailer

Qty Ordered 5 EA Requested 8/10/05

Qty Completed 5 Qty Scrapped

Lot / SN	Memo Lot 1	Memo Lot 2	Date Complete
20592	1-1		11/24/97
20593	1-1		11/24/97
20594	1-1		11/24/97
20595	1-1		11/24/97
20596	1-1		11/24/97

Row:1

5. Review the following fields and click OK:

- Lot / SN
- Memo Lot 1
- Memo Lot 2

Grade and Potency and Lot Processing



Grade and Potency and Lot Processing

Grade identifies an item's particular specification makeup. Potency identifies the percentage of active ingredient within a solution. Lot processing allows you to manage and maintain information about groups of items.

Working with grade and potency and lot processing consists of the following tasks:

- ☐ Understanding grade and potency
- ☐ Understanding lot processing



Understanding Grade and Potency

Manufacturers in the process industry need full control over the quality of products that they make or buy. Examples of process industries include the food, chemical, and pharmaceutical industries. Grade and potency qualifications allow you to categorize your products more specifically and trace their movement through the manufacturing and distribution processes.

In J.D. Edwards systems, grade and potency are mutually exclusive. You can only use one or the other to categorize an item. All items that are grade or potency controlled must also be tracked by lot number. Grades and potencies divide items by their specific makeup or characteristics without changing item numbers. Lots identify a specific group of items with the same item number. The grade or potency for each lot is used by programs that calculate on hand and available quantities.

Understanding grade and potency consists of the following topics:

- ☐ What is grade?
- ☐ What is potency?
- ☐ Grade and potency control
- ☐ Lot and serial control items

For grade and potency controlled items, you can enter a standard (preferred) value for each item. You can also enter a range of acceptable values that allow you to continue operations with grades or potencies that are outside the standard value, but still acceptable for your use. This helps to establish and maintain quality levels in your products, but is flexible enough to keep your operations running when the standard level of product is not available.

Only items that meet the grade or potency range requirements stated in the bill of material are issued to the shop floor for production. Components outside the range will not show as available or on-hand in material inquiries for Shop Floor Management.

The system records grade or potency and lot transfer transactions in the item ledger and the general ledger, so that accounting is incorporated into the tracking.

You can order only a certain grade or potency of an item. Sales order and purchase order systems accommodate grade and potency standards and ranges.

What is Grade?

Grade identifies an item's particular specification makeup and allows the system to separate one lot from other production lots without changing the item number. Examples of items that have grades are diamonds, lumber, and raw turquoise.

You can use grades to classify items by their characteristics, such as quality, strength, or integrity. If you activate grade control, certain system functions verify grades and will not perform transactions if the items involved do not meet the grade parameters.

What is Potency?

Potency refers to the percentage of active ingredient within a solution, such as a 40% solution of hydrochloric acid, 3.2 beer versus standard percentages of alcohol, and coffee with varying amounts of caffeine.

Grade and Potency Control

You set up the following grade- or potency- control fields on the Grade/Potency Revisions form. The system uses these control field values when you create a branch/plant record for the item.

Grade/Potency Pricing	Determines how to price grade or potency controlled items in Sales Order Management.
Potency Control	Identifies whether the item is potency controlled.
Grade Control	Identifies whether the item is grade controlled.
Standard Potency	Identifies the standard percentage of active ingredients normally found in an item. The value entered here provides the default for several forms in J.D. Edwards Manufacturing systems. In certain cases, the potency standard is used for the potent unit of measure conversion.
Standard Grade	Identifies the standard grade of the item, such as premium or average. The value entered here provides the default for several forms in J.D. Edwards Manufacturing systems.
From and Through Potency	Defines the allowable potency ranges for an item.

From and Through Grade

Defines the allowable grade ranges for an item.

You define the values for grade, potent units of measure, and potent units of measure conversions in user defined code tables as follows:

- Define the user defined codes for the grades that you will use in the user defined code list 40/LG.
- Define the user defined codes for the potent units of measure in the user defined code list 00/UM. For each potent unit of measure that you define, you must type P in the second space of the Special Handling Code field, located on the User Defined Codes form.
- Define a conversion for each potent unit of measure to a physical unit of measure on the Unit of Measure Conversions form. For example, 100 gallons of a solution at 80% potency = 80 potent gallons, 80 potent gallons of a solution at 80% = 100 gallons.

See Also

Entering Item Grade and Potency Information in the *Inventory Management Guide* for more information about grade and potency

Lot and Serial Control Items

Use the Item Branch Revisions form to identify the item as a lot- or serial-controlled item. Grade- and potency- controlled items must be lot controlled. When you identify the item as a lot- or serial-controlled item, enter one of the following values in the Lot Process Type field:

Blank

Lot assignment is optional. Numbers must be manually assigned. Quantity can be greater than one.

1

Lot assignment is used. Numbers are assigned by the system using the system date in YYMMDD format. Quantity can be greater than one.

2

Lot assignment is used. Numbers are assigned in ascending sequence using next numbers. Quantity can be greater than one.

3

Lot assignment is required. Numbers must be manually assigned. Quantity can be greater than one.

- | | |
|----------|--|
| 4 | Serial number assignment is optional except during shipment confirmation. Quantity must not exceed 1. |
| 5 | Serial number assignment is required. The system assigns numbers using the system date in YYMMDD format. Quantity must not exceed 1. |
| 6 | Serial number assignment is required. The system assigns numbers in ascending order using next numbers. Quantity must not exceed 1. |
| 7 | Serial number assignment is required. You must manually assign numbers. Quantity must not exceed 1. |

When you attach a parts list to a work order header, the system creates commitments for the components. How these commitments are created depends on the parameters of Commitment Method, Commitment Control, and Hard or Soft Commit. After you set up these parameters, commitments can be created in the same manner using both the Enter/Change Order and Order Processing programs.

When an item is defined as lot controlled, the system moves the grade or potency range to the parts list and allows only those lots within the range eligible for commitments. Any remaining quantities are committed to the primary location.

Understanding Lot Processing

Lot processing allows you to manage information about groups of items. For example, for groups of perishable items, you can have the system assign lot numbers based on receipt dates to identify the items that you must sell first. You can view current information about each lot, such as the quantity of available items and the transactions that have affected the lot.

Understanding lot processing consists of the following topics:

- ☐ Understanding lot creation
- ☐ Understanding lot status

Lot control is beneficial for identifying groups of items that are components of a final product. For example, if you assign lot numbers to both bicycle tires and bicycles assembled from the tires, you can do the following:

- Identify the lot number for the tires that were used in the manufacture of a specific bicycle
- Identify all bicycles that used tires from a specific lot

If you later find that a particular lot of tires is defective, you can immediately identify and recall all bicycles that drew from the lot of defective tires.

A lot usually contains one type of item, but you can set up system constants to allow different types of items in the same lot. If a lot contains different items, the system maintains lot information for each lot number and item. You can also set up system constants to restrict a lot to one type of item and still allow that lot to exist in multiple warehouses.

In manufacturing, you can complete items to multiple lots in inventory from a single work order. When you report multiple lot completions, the system links materials issued to the work order to the completed items by lot number, work order number, or both. If you do not enter the lot number of the end item at the time of issue, the system uses only the work order number to link the component to the end item.

Expiration planning considers the expiration dates of lots while calculating the on-hand quantity and consumes the lot quantities in the order of expiration dates. That is, lots with the most current expiration dates are consumed first. This is the first-in, first-out (FIFO) method.

Expiration planning is important because whoever in the chain has possession of the product when it expires, incurs the loss. Accurate planning, forecasting, and adherence to schedules are important to expiration planning because products must make it through the entire chain from the supplier and finally to the customer before the expiration date. If any party in the chain does not adhere to the schedule, at least one party incurs a loss.

When you set the appropriate processing options, J.D. Edwards manufacturing planning systems:

- Deduct expired quantities of items from the on-hand values
- Send a warning message that is recorded in the MPS/MRP/DRP Message table (F3411)
- Adjust the time series to reflect the expired product's effect

You can use several methods to assign lot numbers to items. For example, you can:

- Have the system assign lot numbers
- Assign your own lot numbers
- Assign supplier lot numbers

Each time that you create a lot, the system adds a record to the Lot Master table (F4108).

See Also

- *Defining System Constants* in the *Inventory Management Guide* for information about allowing different types of items in the same lot

Understanding Lot Creation

You can create lots automatically or manually. You can create lots automatically when you do any of the following:

- Create purchase order receipts
- Complete work orders
- Adjust inventory

You can create lots manually, either from the Lot Master Revision form or during work order entry.

The actual grade and potency of a lot is defined in the Lot Master table (F4108). You also use the Lot Master Revisions program to specify a reason code for a grade or potency change. In addition, you can use processing options to protect a grade or potency from being updated.

Lot master information also includes the lot's status and expiration date. You can assign up to ten category codes to the lot for reporting purposes. The system stores all information about lots in the Lot Master table (F4108).

See Also

- *Entering Lot Information* in the *Inventory Management Guide* for the steps to enter lot information for items and to enter information for lots

Understanding Lot Status

A lot's status determines whether it is available for the system to process. When a lot is on hold for any reason, the system does not process it unless you activate a processing option that allows processing of held lots.

You set up lot status codes to identify reasons that a lot can be put on hold. After you set up the codes, you can assign them to items and lots through item master information, branch/plant information, purchase order receipts, and lot master revisions.

You can assign different status codes to a single lot based on the different locations in which the lot resides. Working with status codes involves the following:

- Setting up lot status codes
- Assigning status codes to different lot locations

You set up lot status codes in the Lot Status Code Revisions program. You assign status codes to different lot locations in the Lot Master Revisions program.

You can run Lot Status Update to place expired lots on hold. You can run the program in proof or final mode. If you run the program in proof mode, you can produce a report showing all lots that will be put on hold. If you run the program in final mode, you can produce a report showing all lots that have been put on hold. Set up lot status codes in the user defined code list 41/L.

You assign lot statuses when you do the following:

- Enter a new lot using the Lot Master Revisions form. If you do not enter a status at this time, the system uses the lot status from the item's branch information in the Item Branch table (F4102).
- Set up a new location for an item using the Item Branch/Plant Information form.

You assign lot statuses using the following:

- The lot status code from that lot's record in the Lot Master table (F4108)
- The default status from the Item Branch table (F4102) if no lot status exists

You can assign lot statuses to different lot locations using the Location Lot Status Change form from the Lot Master Revisions program. When you create a lot through transfer from another location, the system assigns statuses, using the status code of the From location. You can assign status codes to locations without using lots. Whether the system processes items out of locations on hold depends on how you set the processing options.

Use the following tables to determine a lot's status for newly created Lot Master records and Item Location records.

Lot Master (F4108)

If you enter a lot status on the Lot Master Revisions form, the system uses that lot status.

If you do not enter a lot status, the system uses the default lot status from the Item Branch table (F4102).

Item Location (F41021)

If you enter a lot status on the Lot Master Revisions form, the system uses that lot status.

If you are moving a lot from another location, the system uses the following sequence to assign a lot status:

- The system uses the default lot status from the From location.
- If a lot number exists, the system uses the lot status from the Lot Master record.
- If no lot number exists, the system uses the default lot status from the Item Branch table (F4102).

See Also

- *Working with Lot Availability* in the *Inventory Management Guide* for the steps to view lot quantities, activity dates, and statuses
- *Viewing Lot Transactions* in the *Inventory Management Guide* for the steps to set up, review, and print lot trace and track information
- *Reclassifying Lots* in the *Inventory Management Guide* for the steps to reclassify lots
- *Working with Lot Statuses* in the *Inventory Management Guide* for the steps to set up lot status codes and assign them to different lot locations

Commitments



Commitments

A commitment is a reservation for the parts that are needed on a work order. You can define commitments by branch or work center. You can change commitments manually or through a batch program.

Working with commitments consists of the following tasks:

- ☐ Defining the commitment rules
- ☐ Defining commitments at a work center location
- ☐ Managing commitments for grade and potency
- ☐ Reposting commitments

When you attach a parts list to a work order header, the system creates commitments for the required quantity of each component. The commitment reserves the material for a particular work order. The type of commitment that the program creates (hard or soft) depends on which commitment option that you specified in the Manufacturing Constants form.

- A hard commitment physically designates inventory in a specific location to a particular work order.
- A soft commitment allows you to tentatively commit the inventory to a work order. The inventory is not physically set aside and might be used for another work order. Soft commitments also enable you to compare material that is needed for current work orders to available inventory.

The J.D. Edwards system allows you to use hard commitments or soft commitments in a work order, or you can let the system change the commitment from soft to hard when you process the work order. You can also set up the system to place a soft commitment at the creation of the work order, and change it to a hard commitment as the start date of the work order approaches.

If, at any time, the location specified on the parts list is not the primary location, the system hard commits that line item.

Inventory remains committed until the system records the issues. Then, the system reduces the on-hand quantity and the committed quantities.



The Inventory Issues program (P31113) relieves commitments. Because of commitments that are line levels, when you issue or reverse inventory from a secondary location, the commitment is hard. Also, when you partially issue or reverse inventory to a different location, the system relieves the commitment from the old location and commits the remaining material to the new location.

If you use lot processing, the system creates commitments based on the lot expiration dates, and grade or potency ranges for the lot numbers.

The parts list for the work order might specify a range of grade or potency values that can be used on the order. The system commits the lot of the grade or potency within the range that you defined for the item. The system can also search inventory that you need for the order in a certain sequence. For example, you might want to specify a specific lot number, grade, or potency.

Use the following table to identify the processing options available for both the Enter/Change Order and Order Processing programs.

Enter/Change Order	
---------------------------	--

	Using the Enter/Change Order program, you can automatically generate the following:
--	---

- | | |
|--|---|
| | <ul style="list-style-type: none">• Routing instructions, when you create the parts list online• Parts list, when you create the routing instructions online |
|--|---|

Order Processing	
-------------------------	--

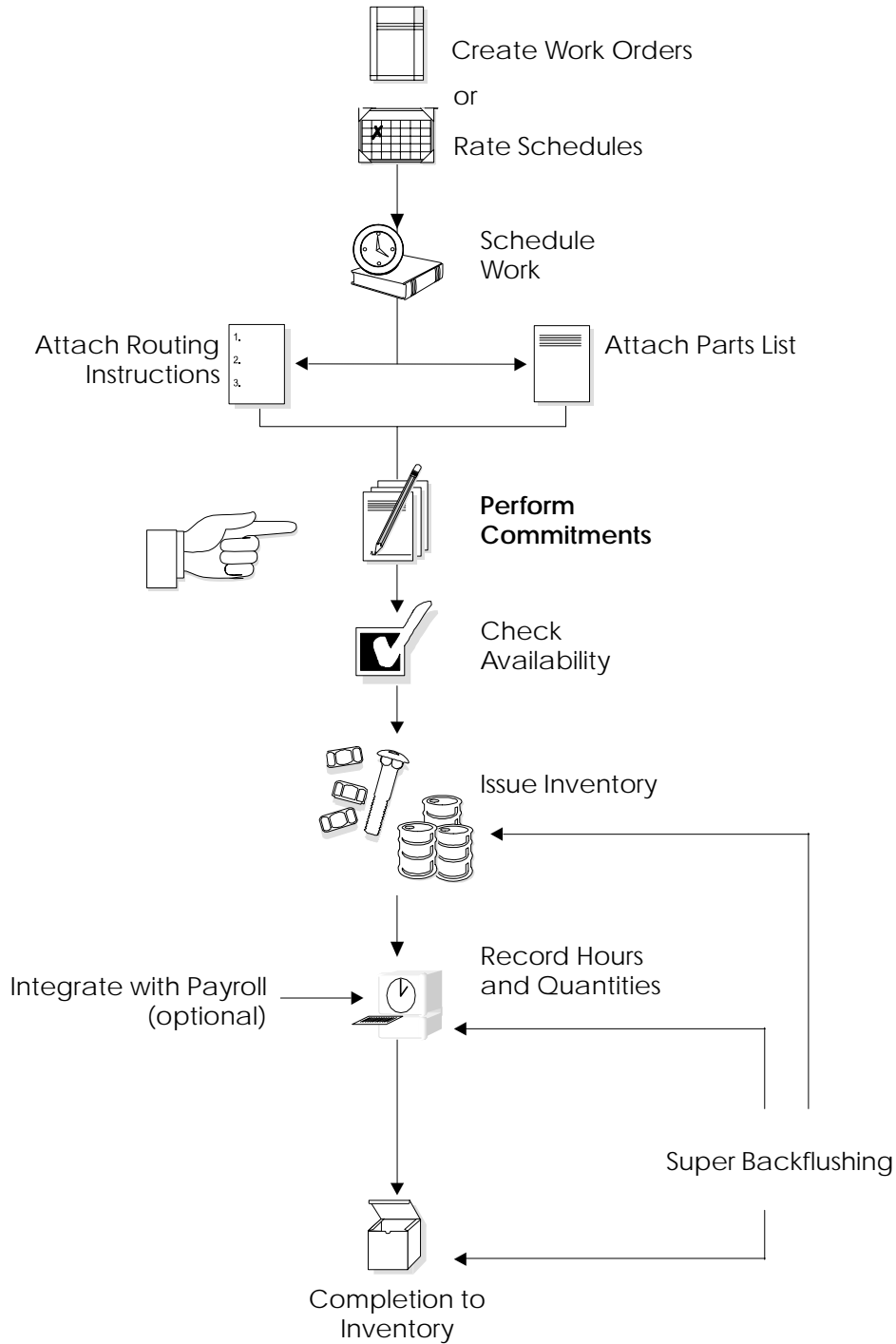
	Using the Order Processing program, you can specify either the work order effective date or start date for effectivity checking. You can automatically:
--	---

- | | |
|--|---|
| | <ul style="list-style-type: none">• Use substitutes for items out of stock and blanket order release processing• Generate the parts list, or routing instructions, or both |
|--|---|

See Also

- *Lot Processing*
- *Grade and Potency*

The following graphic illustrates the entire process of creating the work order header, attaching the paperwork, and integrating with your inventory and other systems. The hand shows at which point in the process the system commits inventory.



Defining the Commitment Rules

When a parts list is attached to a work order header, either manually or by using the batch program, the system automatically creates commitments for the components.

When you define commitments, you set up the parameters that determine how the commitment is created. If you are using lot control, you can also manage commitments by grade or potency. You repost commitments when you need to clear commitments and reassign quantities to other work orders.

When commitments are created, either manually or by using the batch program, you can activate a processing option to verify if substitutes exist for an item. When you create commitments manually, the item number is highlighted during the attachment process. You must use a hard commitment at the creation of a work order or at pick time to use substitutes.

When you create a commitment either manually or by using the batch program, you must define commitment rules for the work order by completing the following tasks:

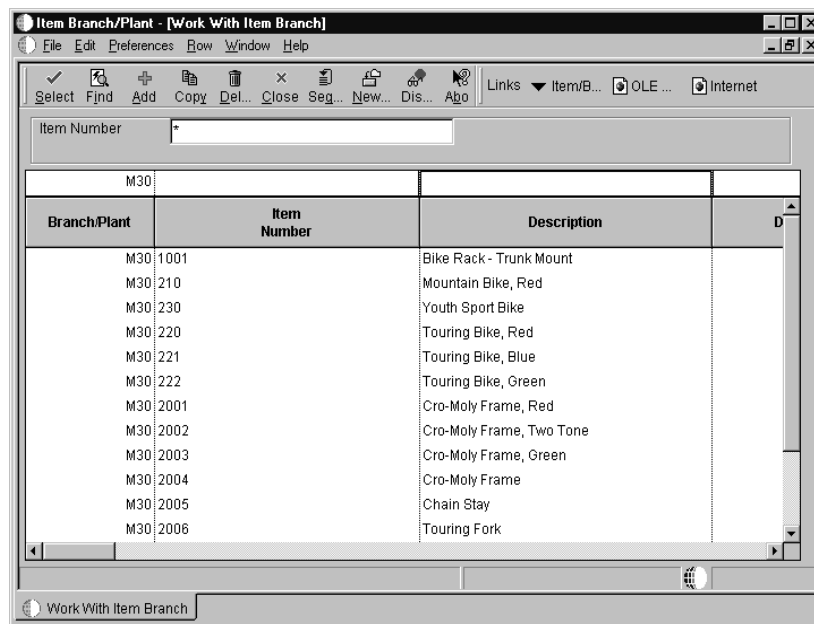
- ☐ Defining the commitment method for the item
- ☐ Defining the commitment control and type of commitment

Defining the Commitment Method for the Item

You define the method that the system uses when creating a commitment. Methods are defined by location, lot number, or lot expiration date.

► To define the commitment method for the item

From the Inventory Master/Transactions menu (G4111), choose Item Branch/Plant.



1. On Work With Item Branch, complete the following field and click Find:
 - Item Number
2. Choose a record and click Select.

3. On Item/Branch Plant Info., complete the following field and click OK:

- Commitment Method

Depending on how the processing options are set, other forms might appear, such as the following:

- Work with Item Unit of Measure Conversions
- Work with Preference Base Price
- Cost Revisions

4. Regardless of the form that appears, click OK.

After you complete these steps, define the commitment control and type of commitment for your work order.

Field	Explanation
Commitment Method	<p>A code that indicates the method that the system uses to commit lot items from inventory. Valid codes are:</p> <ol style="list-style-type: none"> 1 The normal commitment method for inventory. The system commits inventory from the primary location and then from secondary locations. The system commits inventory from the locations with the most inventory before committing inventory from locations with the least. The system commits backorders to the primary location. 2 The inventory commitment method by lot number. The system commits inventory by lot number, starting with the lowest lot number and committing orders to available lots. 3 The inventory commitment method by lot expiration date. The system commits inventory from the locations with the earliest expiration date first. The system considers only locations with expiration dates greater than or equal to the sales order or parts list requested date.

Processing Options for Item Branch/Plant

Process

1. Category Codes

Blank = Do not display screen

1 = Display screen

2. Quantities

Blank = Do not display screen

1 = Display screen

3. Additional System Information

Blank = Do not display screen

1 = Display screen

4. Item Profile Revisions

Blank = Do not display screen

1 = Display screen

5. Cost Revisions

Blank = Do not display screen

1 = Display screen

6. Price Revisions

Blank = Do not display screen

1 = Display screen

7. Unit of

Blank = Do not display screen

1 = Display Unit of Measure screens

Workflow

1. Workflow (FUTURE)

Blank = Do not activate Workflow

1 = Adds

2 = Changes

3 = Adds and Changes

2. Allow Changes (Restart Workflow) (FUTURE)

Blank = Do not allow additional changes

1 = Allow changes to the record and restart Workflow

3. Logged as History Record (FUTURE)

Blank = Do not log item as a history record

1 = Log all additions and changes as history records

Versions

1. Summary Availability (P41202)

Blank = ZJDE0001

2. Item/Location Information (P41024)

Blank = ZJDE0001

Interop

1. Transaction Type

Blank = No outbound interoperability processing

2. Before/After Image Processing

Blank = Write only the after image

1 = Write the before image

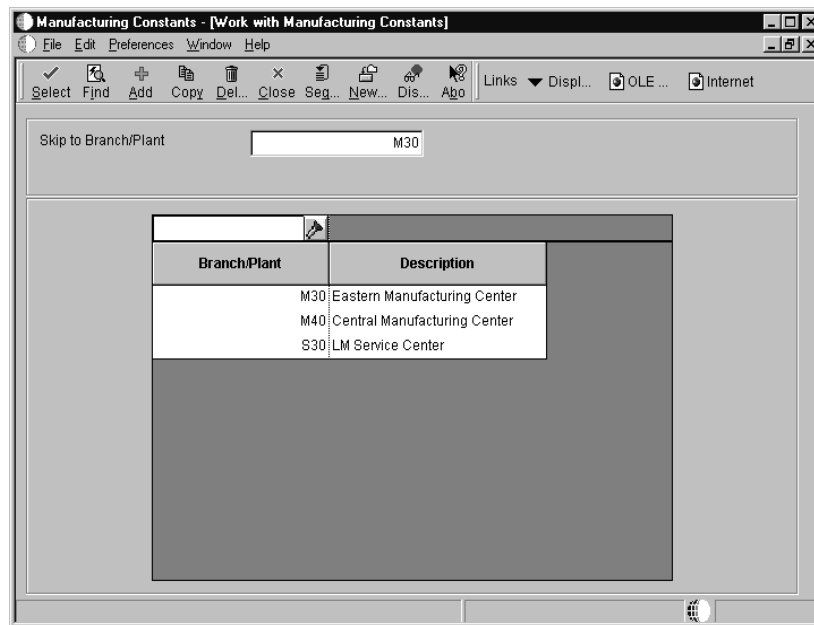
Defining the Commitment Control and Type of Commitment

You can define the commitment control method and type of commitment for the work order. The control determines how the system commits inventory to a work order, and limits the inventory location to which commitments are made. The type specifies whether the commitment is soft, hard, or starts out soft and later becomes hard.

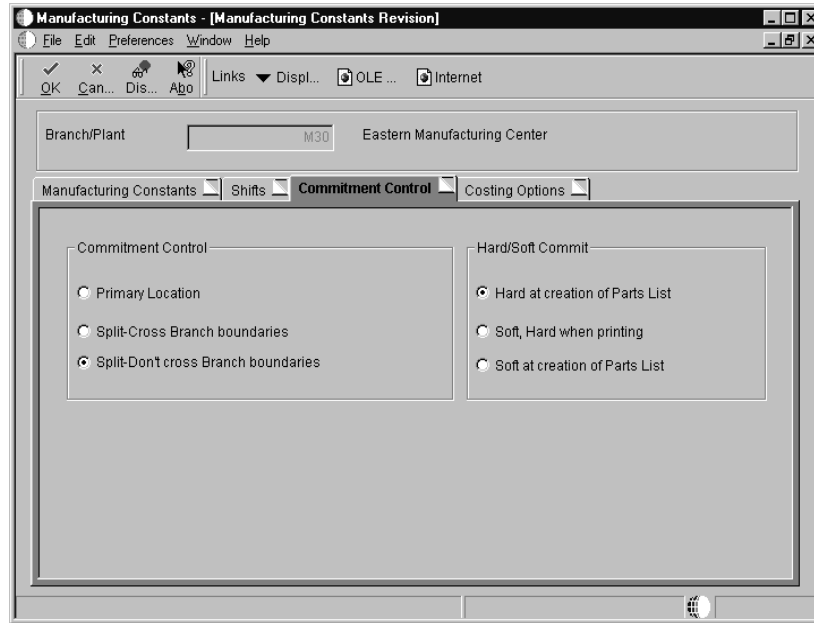
► To define the commitment control and type of commitment

From the Shop Floor Management Setup menu (G3141), choose Manufacturing Constants.

After you define the commitment method for the item, define the commitment control and type of commitment for the work order.



1. On Work With Manufacturing Constants, complete the following field and click Find:
 - Skip to Branch/Plant
2. Choose a record and click Select.



3. On Manufacturing Constants Revision, click the Commitment Control tab and then choose one of the following options under Commitment Control:
 - Primary Location
 - Split-Cross Branch boundaries
 - Split-Don't cross Branch boundaries

If you choose primary location, the program will not select lots.

If you want to split locations, you have two options. You can either specify commitments across different locations within one branch/plant, or specify commitments across different locations from different branch/plants.

4. Choose one of the following options under Hard/Soft Commit and click OK:
 - Soft, Hard when printing
 - Soft at creation of Parts List
 - Hard at creation of Parts List

If you use substitutes, you must specify a hard commitment.

Field	Explanation
Commitment Control	<p>An option that determines how the system commits inventory to a work order, and specifies the inventory location to which commitments are made. The system activates this field only when you create hard commitments. Three options are available as follows:</p> <ul style="list-style-type: none"> • Primary Location. Make commitments to the primary location in the branch/plant where the work order originates. • Split-Cross Branch Boundaries. Split the parts list and commitments to fill any component shortages. The system can cross branch boundaries to fill requirements. In this case, the system uses the next alphabetical branch/plant listed in the table that occurs after the branch/plant on the work order header. For example: CAL CHI CLE HOU If the system starts committing inventory at branch/plant CHI, it accesses CLE as the next branch/plant. If inventory is low in all locations, the system makes the remaining commitments to the primary location of the branch/plant on the work order header. • Split-Don't Cross Branch Boundaries. This option is similar to Split-Cross Branch Boundaries, but the system cannot cross branch boundaries. <p>When you set the Commitment Method field in the Item Branch/Plant table to 2 or 3 (lot number or expiration date control), you must use the Split-Don't Cross Branch Boundaries option.</p> <p>For World:</p> <p>Valid values are:</p> <ol style="list-style-type: none"> 1 Primary Location 2 Split-Cross Branch Boundaries 3 Split-Don't Cross Branch Boundaries <p>For OneWorld:</p> <p>To specify how inventory is committed, click one of the following options under the Commitment Control heading:</p> <ul style="list-style-type: none"> • Primary Location • Split-Cross Branch Boundaries • Split-Don't Cross Branch Boundaries

Field	Explanation
Hard/Soft Commit	<p>An option that determines how the Shop Floor Management system commits inventory. The options are as follows:</p> <ul style="list-style-type: none"> • Hard commitment at creation of parts list. The system performs a hard commitment at the creation of the parts list. The hard commitment remains in effect until inventory is relieved. • Soft commitment, then changed to hard commitment when printing. The system performs a soft commitment at the creation of the parts list. The system then changes the commitment to a hard commitment during the pick list print process (P31410) for the work order. The hard commitment remains in effect until inventory is relieved. • Soft commitment at creation of parts list. The system performs a soft commitment at creation of the parts list. The soft commitment remains in effect until inventory is relieved. <p>When you set the Commitment Method field in the Branch/Plant Constants form to 2 or 3, you must use either Hard commitment at creation of parts list or Soft commitment, then hard commitment when printing because a hard commitment must be performed.</p> <p>If you want to identify substitute items when a shortage occurs, you must choose the hard commitment at creation of parts list option.</p> <p>When you choose either Soft, Hard when printing or Soft at creation of Parts List, any line item in the parts list may be hard-committed prior to printing or relieving the inventory.</p> <p>For World:</p> <p>When the hard/soft commit option is set to 2 or 3, any line item in the parts list may be hard committed prior to printing or relieving the inventory. Valid codes are:</p> <ol style="list-style-type: none"> 1 Hard commitment 2 Soft commitment, hard commitment when printing (P31410) 3 Soft commitment <p>For OneWorld:</p> <p>To specify how the program commits inventory, click one of the following options under the Hard/Soft Commit heading:</p> <ul style="list-style-type: none"> • Hard at creation of parts list • Soft, Hard when printing (P31410) • Soft at creation of parts list

Defining Commitments at a Work Center Location

When you define the commitments at a work center location you set up the following values for the work order:

- The work center for the work order routing instructions
- The dispatch group and location for the work center
- The operation sequence numbers for the components of the parent item
- The backflush option for the branch/plant

Defining commitments at a work center locating consists of the following tasks:

- ☐ Defining the work center in the item's routing instructions
- ☐ Defining the location at the work center
- ☐ Defining the branch and parent item for the bill of material (Discrete Manufacturing only)
- ☐ Defining how the system commits inventory during backflush

Defining the Work Center in the Item's Routing Instructions

Use the Enter Routing Information form to define the work center to use for each operation in the routing instructions for a specific item.

► To define the work center in the item's routing instructions

From the Daily PDM Discrete menu (G3011), choose Enter/Change Routing.

Work Center	Oper Seq#	Description	Run Labor	Run Machine	Setup Labor	Effective From
200-901	10.00	Assembly	.50			4/4/9
200-901	20.00	Assembly	.25			4/4/9
200-901	30.00	Assembly	1.00			4/4/9
200-901	40.00	Assembly	1.00			4/4/9
200-911	50.00	Test / Inspect	.25			4/4/9
200-920	60.00	Package	.25			4/4/9

- On Work With Routing Operations, complete the following fields and click Find:
 - Item Number
 - Branch/Plant
- Choose a record and click Select.

Work Center	Oper Seq#	Description	Run Labor	Run Machine	Setup Labor	Cons Prod	Que Hou
200-901	10.00	Assembly	.50	0.00	0.00	Cons	
200-901	20.00	Assembly	.25	0.00	0.00	Cons	
200-901	30.00	Assembly	1.00	0.00	0.00	Cons	
200-901	40.00	Assembly	1.00	0.00	0.00	Cons	
200-911	50.00	Test/Inspect	.25	0.00	0.00	Cons	
200-920	60.00	Package	.25	0.00	0.00	Cons	
	0.00		0.00	0.00	0.00		

3. On Enter Routing Information, complete the following field and click OK:

- Work Center

Processing Options for Enter/Change Routing

Display

- Enter a '1' next to the following fields to activate the field on the form.

Line/Cell
Routing Type
Batch Quantity

Defaults

- Enter the values to preload to the screen at initial inquiry.

Type of Routing

Process

- Select the screen mode ('0' = Inquiry, '1' = Revise).

Mode - Processing

2. Enter a '1' to update the component operation scrap percent in the Bill of Material for the components on the operation and the Cumulative Yield Percent on the Routing, when updating the operation yield percent.

Update

Interop

1. Enter the transaction type for the interoperability transaction. If left blank, outbound interoperability processing will not be performed.

Transaction Type

2. Enter the version of "Process Outbound Routings" (R3003Z10). If left blank, ZJDE0001 will be used.

Outbound Processing Version

3. Enter a '1' to write the before image for a change transaction. If left blank, no before images will be written.

Before Image Processing

Versions

Enter the version for each program. If left blank, version ZJDE0001 will be used.

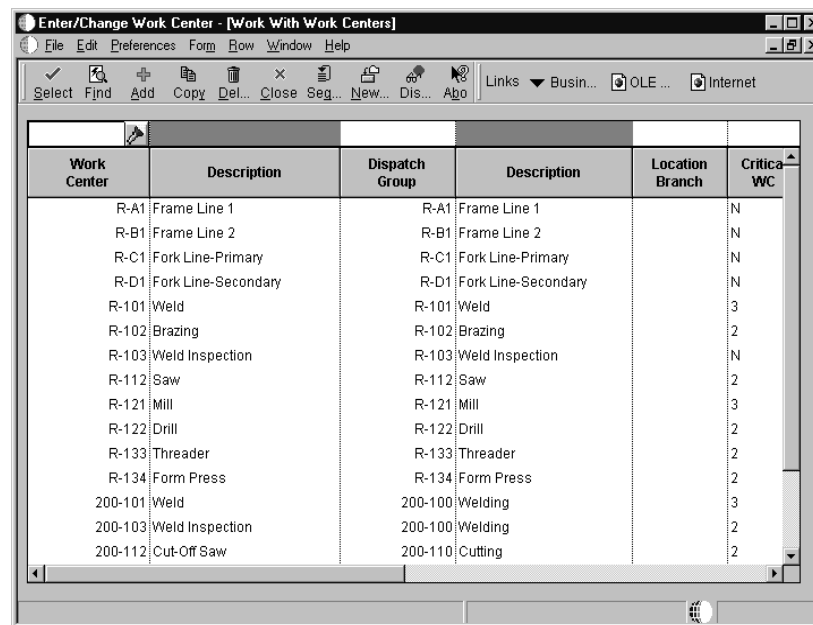
1. Bill of Material Revision (P3002)
2. Work With Assets (P1204)
3. Work With Item Master (P4101)

Defining the Location at the Work Center

Use the Work Center Master Revisions form to define the location for a specified work center.

► To define the location at the work center

From the Daily PDM Discrete menu (G3011), choose Enter/Change Work Center.



1. On Work With Work Centers, click Find to locate all work centers or use the Query by Example row to narrow your search to specific work centers.
2. Choose a record and click Select.

3. On Work Center Master Revisions, complete the following fields and click OK:
 - Location – Issue
 - Location Branch

Processing Options for Enter/Change Work Center

Interop

1. Enter the transaction type for the interoperability transaction. If left blank, outbound interoperability processing will not be performed.

Type - Transaction _____

2. Enter a '1' to write before images for Outbound change transactions. If left blank, only after images will be written.

Before Image Processing _____

Versions

Manufacturing Constants (P3009) _____
 Business Units (P0006) _____

Defining the Branch and Parent Item for the Bill of Material

For Discrete Manufacturing only, use the bill of material forms to identify the bill's parent item and corresponding branch/plant.

► To define the branch and parent item for the bill of material

From the Daily PDM Discrete menu (G3011), choose Enter/Change Bill.

1. On Work with Bill of Material, complete the following fields and click Find:
 - Branch
 - Item Number
2. Choose a record and click Select.

Item Number	Description	Quantity	UM	F V	Is Cd	Stkg Typ	Ln Ty
2001	Cro-Moly Frame, Red	1	EA	V	U	M	S
2006	Touring Fork	1	EA	V	U	P	S
2007	Bottom Bracket	1	EA	V	U	P	S
2008	Head Set	1	EA	V	U	P	S
2009	Crank	2	EA	V	U	P	S
2010	Chain Rings	1	EA	V	U	P	S
2011	Chain, Std	1	EA	V	U	P	S
2013	Shift Kit	1	EA	V	U	P	S

3. On Enter Bill of Material Information, complete the following field and click OK:
 - Oper Seq#

Processing Options for Enter/Change Bill

Defaults

1. Component Branch

Blank = The system uses component branch when copy BOM.
1 = The system uses parent branch when copy BOM.

2. Bill of Material Type

Blank = The system uses M for manufacturing bill of material.

3. As of Date

Blank = The system uses all dates.
1 = The system uses the current date.

4. Display Sequence

Blank = The system sequences by component line number.
1 = The system sequences by component line Number.
2 = The system sequences by operation sequence number.

Display

1. Bill Type

Blank = The system does not display the Bill Type field.
1 = The system displays the Bill Type field.

2. Batch Quantity

Blank = The system does not display the Batch Quantity field.
1 = The system displays the Batch Quantity field.

Versions

Enter the version for each program. If left blank, version ZJDE0001 will be used.

1. Single Level BOM Print (R30460)
2. Multi Level BOM Print (R30460)
3. ECO Workbench (P30225)
4. Component Maintenance (P3015)
5. ECO Header [P30BREV]
6. Bill of Material Where Used (P30201)
7. Item Master (P4101B)

8. Co/By- Products Inquiry
(P30211)
9. Bill of Material Inquiry
(P30200)

Edit

1. Item Branch Validation

Blank = The system does not check to see if the item branch is valid.
1 = The system checks for a valid item branch record.

Interop

1. Transaction Type

Blank = The system does not perform outbound interoperability processing.
JDEBOM = The system performs outbound interoperability processing.

2. Write Image for a Change Transaction

Blank = The system stores the after image from F3002 to F3002Z1
1 = The system stores the before image from F3002 to F3002Z1

3. Interoperability Outbound
(R00460)

Blank = The system uses the ZJDE0001 version of R00460.

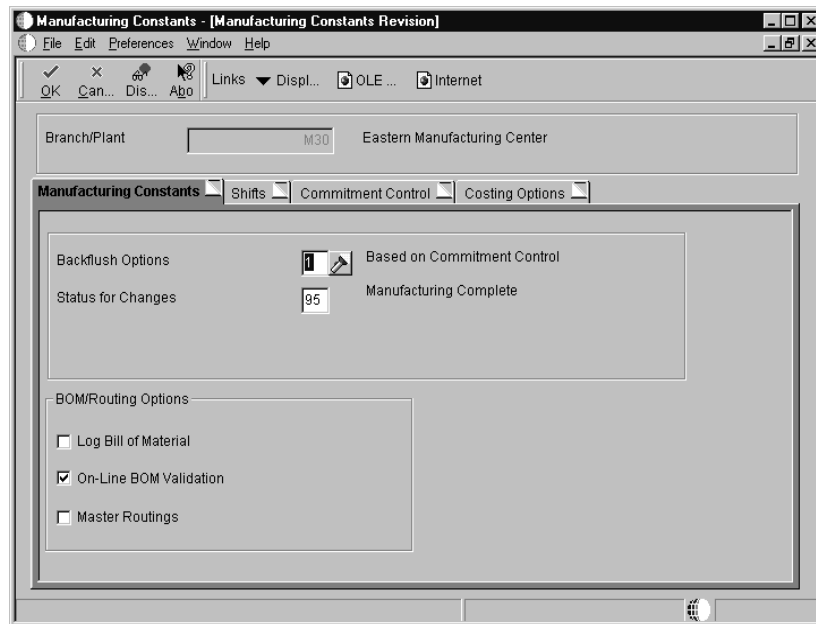
Defining How the System Commits Inventory During Backflush

Use the Manufacturing Constants Revision form to specify the way that you want the system to commit and release inventory during the backflush process.

To define how the system commits inventory during backflush

From the Shop Floor Management Setup menu (G3141), choose Manufacturing Constants.

1. On Work with Manufacturing Constants, complete the following field and click Find:
 - Skip to Branch/Plant
2. Choose a record and click Select.



3. On Manufacturing Constants Revision, complete the following field and click OK:
 - Backflush Options

Field	Explanation
Backflush Options	<p>A code that determines how the system performs commitment and release of inventory. Valid codes are:</p> <ol style="list-style-type: none"> 1 Create a standard parts list based on the value in the Commitment Control field in the Job Shop Manufacturing Constants table (F3009). 2 Create a parts list, committing to the location indicated in the Work Center Master table (F30006). The Operation Sequence field in the Bill of Material Master table (F3002) determines the work center that is used. <p>Note: You must create the work order routing before the parts list. If you are running the work order generation (R31410), you must set the Process Tab, Parts List and Routing Instructions processing option to 3 to generate the parts list and routing instructions at the same time.</p> <p>If you define a consuming location on the routing instructions, this location overrides the consuming location defined in the Work Center Master table.</p>

Managing Commitments for Grade and Potency

Grade- and potency- controlled items must be lot controlled. When the system creates commitments for grade- and potency- controlled items, it moves the grade and potency range to the parts list. Only those lots within the range are eligible for commitments. The system creates the commitments in date sequence.

In the following example, the work order quantity required is 800, and the grade range is A01 - A03:

	<u>Location</u>	<u>Exp. Date</u>	<u>Grade</u>	<u>On Hand</u>	<u>Commit</u>
Primary					50
Secondary	9406220000	08/31	A01	50	50
Secondary	9406230000	08/15	A02	300	300
Secondary	9406240000	12/12	A03	400	400
Secondary	9406250000	09/01	A04	5	
Secondary	9406260000	09/01	A05	5000	

The system commits the quantities using the primary unit of measure. If all of the commitments cannot be made against specified lots in the range, the system commits the remainder to the primary location at standard grade or potency.

Managing commitments for grade and potency consists of the following tasks:

- ☐ Converting units of measure for potent units
- ☐ Managing commitments for controlled items

See Also

- *Understanding Grade and Potency*

Converting Units of Measure for Potent Units

When you define a unit of measure as a potent unit of measure, and the system creates commitments, the system converts the quantity to the primary unit of measure. For example, assume that the primary unit of measure is GA (gallons), the component unit of measure is GP (potent gallons), and the standard potency is 70%. Also assume that the parts list requires 500 GP.

In the following example, only the equivalent of 470 potent gallons are available. The demand for the remaining 30 potent gallons is committed back to the primary location ($30 \text{ GP} / .7 = 43 \text{ GA}$).

	<u>Location</u>	<u>Potency</u>	<u>On Hand</u>	<u>Potent Units</u>	<u>Commit at standard & 70%</u>
Primary					43
Secondary	9406220000	80%	50	40	50
Secondary	9406230000	90%	300	270	300
Secondary	9406240000	40%	400	160	400

Using the example above, if the primary unit of measure is GP, then the potency associated with it in the Lot Master table (F4108) is only for conversion purposes. Potent units of measure are assumed to be 100% potent.

Also, a lot that consists of 100 potent units with a potency of 75% means that it is the equivalent of 133.3333... physical gallons ($100 / .75$). Companies that store in potent units must know the physical size of the inventory.

Caution: The system displays a warning message when it changes the standard value for grade or potency on the branch/plant record. Commitments can be brought out of balance if the primary unit of measure for an item is nonpotent and commitments in a potent unit of measure exist from a sales order or work order. Conversion errors work in both directions. That is, commitments can be out of balance by either the potent or not primary unit of measure. You can correct this by running a repost for the sales order and work order. J.D. Edwards recommends that you run sales order reports, and repost the sales order, after you repost the work order.

To create commitments for potent units you must set up the correct unit of measure conversions.

Before You Begin

- ☐ Set up the Potent Unit UDC (00/OP). See *Understanding User Defined Codes for Work Orders*.

► To convert units of measure for potent units

From the Inventory Setup menu (G4141), choose Standard Units of Measure.

You set up a unit of measure conversion for potent units so that the system can do the following:

- Convert potent units of measure to physical units of measure
 - Convert physical units of measure to potent units of measure
1. On the Work With Standard Units of Measure form, click Add.

2. On Standard Units of Measure Revisions, complete the following fields and click OK:
 - To Unit of Measure
 - Conversion Factor
 - From Unit of Measure

The conversion for potent units is always 1 potent unit = 1 physical unit. For example, 1 LP = 1 LT and 1 GP = 1 GA.

Managing Commitments for Controlled Items

Use the Work Order Parts List form to specify the location and grade or potency for each applicable component on a work order.

► To manage commitments for controlled items

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

Enter/Change Order - [Work With Manufacturing Work Orders]

File Edit Preferences Row Window Help

Select Find Add Copy Del... Close Seg... New... Dis... Abo Links WO D... OLE ... Internet

Branch/Plant

Skip to Order Number 451012

Order No	Type	2nd Item Number	Item Description	Item UOM	Order Date
451012	WO	2001	Cro-Moly Frame, Red	EA	5/8/97
451021	WO	2004	Cro-Moly Frame	EA	5/8/97
451039	WO	2005	Chain Stay	EA	5/8/97
451080	WO	2600	Bike Trailer	EA	11/20/97
451098	WO	4201	Vitamin A	GM	11/24/97
451101	WO	2600	Bike Trailer	EA	11/25/97
451119	WO	2001	Cro-Moly Frame, Red	EA	12/3/97
451127	WO	4200	Multivitamin Tablets	PC	12/15/97
451135	WO	4200	Multivitamin Tablets	PC	12/15/97
451143	WM	REPLACE INTAKE FILTERS	PM to replace intake Filters	EA	4/15/98

Work With Manufacturing Work Orders

- On Work With Manufacturing Work Orders, complete the following field and click Find:
 - Skip to Order Number
- Choose a record, and then choose Parts List from the Row menu.

Enter/Change Order - [Work Order Parts List]

File Edit Preferences Form Row Window Help

OK Copy Del... Can... New... Dis... Abo Links Copy ... OLE ... Internet

Order Number: 451012 Branch/Plant: M30

Cro-Moly Frame, Red Requested: 8/23/05

Item Number: 2001 Cro-Moly Frame, Red

Component Item Number	Description	Order Quantity	Issued Quantity	UM	Ln Ty	Cus

Row:1

3. On Work Order Parts List, complete the following fields and click OK:

- Location
- Lot Grd
- Lot Potency

After you complete these steps, set up a unit of measure conversion for the potent units.

See Also

- *Entering Work Order Headers* to review the processing options for Manufacturing Work Orders

Reposting Commitments

From the Shop Floor Management Advanced menu (G3131), choose Repost Open Quantities.

After you set up commitments, run the Repost Open Quantities batch program to do the following:

- Clear (set to zero) all values for the quantity and quantity committed in the Item Location table (F41021).
- Repost the quantity value in the Item Branch table for the parent item. The system uses the information from the Work Order Master table (F4801) and the following calculation:

quantity ordered - (quantity completed + quantity scrapped)

- Repost the quantity committed value for components in the Item Branch table for the location specified on the work order parts list for the item. The system uses the information from the Work Order Parts List table (F3111) and the following calculation:

quantity required - quantity issued

Processing options allow you to repost only those work orders that are below a certain status.

The system does not repost bulk items and lines that do not have an inventory interface.

Before You Begin

- ☐ Verify that the Item Location table (F41021) is not in use.
- ☐ Indicate whether you want inventory hard or soft committed at each branch. See *Defining the Commitment Rules*.

Processing Options for Repost Open Quantities

Process

1. Enter the work order status for update. Any order with a status less than the status input will be reposted. If left blank, the status will default to '99'.

Work Order Status Code

Availability and Shortages



Availability and Shortages

To ensure that jobs are completed in the most cost-effective manner, Shop floor Management coordinates material handling, material availability, setup and tooling availability, and operator skills. You can use availability and shortage tracking programs to determine what inventory you have and what inventory you need.

You should check the availability of the parts that are needed to complete a work order either before you create the work order, or when the work order has been processed and is ready for release to the shop floor. You can check availability against a work order after the work order has been created. You can also check availability against a bill of material for a rate schedule, or before creating a work order for an item. You can choose to print shortages for specified components or print all shortages.

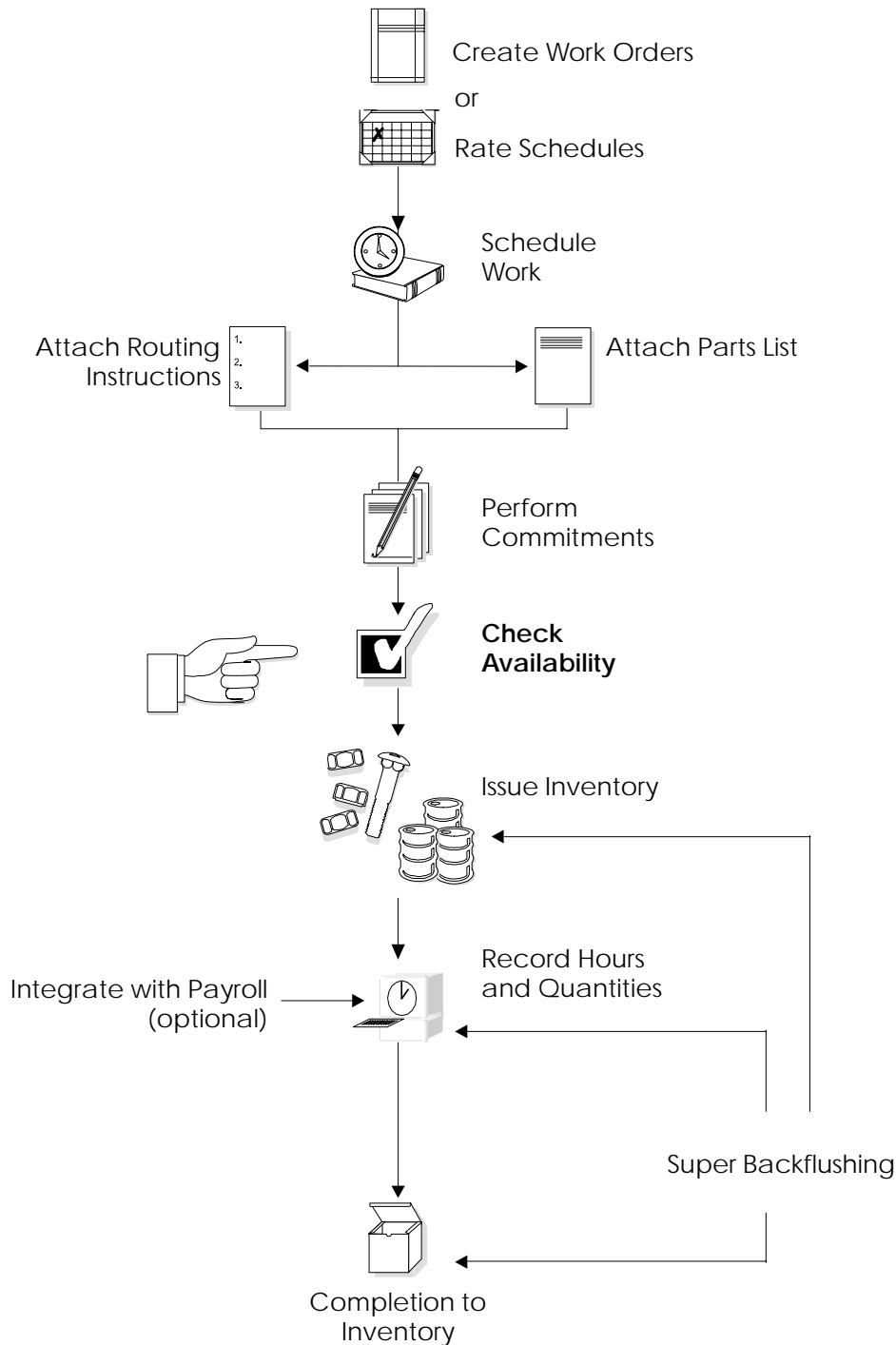
Working with availability and shortages consists of the following optional tasks:

- ☐ Managing availability information
- ☐ Managing shortage information

Note: If you use the J.D. Edwards Procurement system, you can automatically generate purchase orders for subcontracted operations on the routing instructions.



The following graphic illustrates the entire process of creating the work order header, attaching the paperwork, and integrating with your inventory and other systems. The hand shows at which point in the process the system checks for availability.



Managing Availability Information

You should check the availability of the parts needed to complete a work order before you create the work order, or when the work order has been processed and is ready for release to the shop floor. You can also check availability against a bill of material for a rate schedule:

- After the work order has been created
- Before creating a work order for an item

Managing availability information consists of the following tasks:

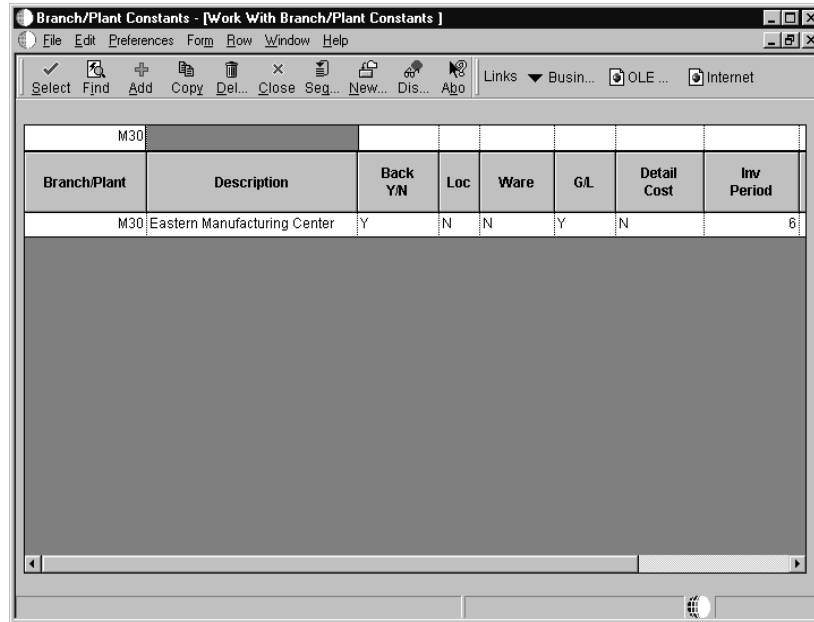
- ☐ Defining availability calculations for a branch
- ☐ Reviewing part availability
- ☐ Reviewing parts list availability

Defining Availability Calculations for a Branch

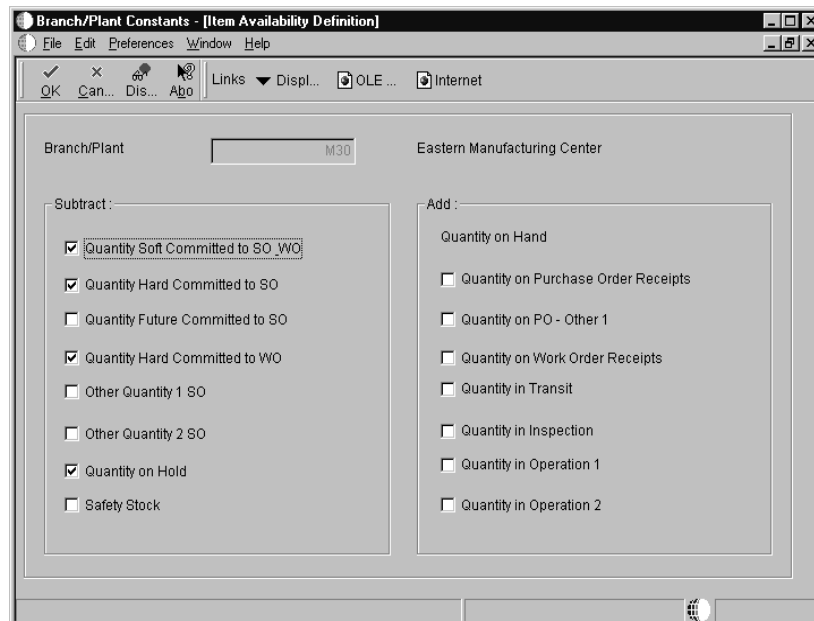
The system uses the quantities defined for each branch to calculate availability. Therefore, you indicate the quantities that you want the system to add or subtract from the on-hand balance when the system calculates availability at your branch. If you leave any field blank, the system excludes that quantity from the calculation.

► To define availability calculations for a branch

From the Inventory Setup menu (G4141), choose Branch/Plant Constants.



1. On Work With Branch/Plant Constants, complete the following field in the Query by Example row and click Find:
 - Branch/Plant
2. Choose the branch, and then choose Availability from the Row menu.



3. On Item Availability Definition, click any of the following options to subtract the appropriate quantities:
 - Quantity Soft Committed to SO & WO
 - Quantity Hard Committed to SO
 - Quantity Future Committed to SO
 - Quantity Hard Committed to WO
 - Other Quantity 1 SO
 - Other Quantity 2 SO
 - Quantity on Hold
 - Safety Stock
4. To add a quantity, click any of the following options and then click OK:
 - Quantity on Purchase Order Receipts
 - Quantity on PO – Other 1
 - Quantity on Work Order Receipts
 - Quantity in Transit
 - Quantity in Inspection
 - Quantity in Operation 1
 - Quantity in Operation 2

Reviewing Part Availability

You should check the availability of the parts required to make a certain quantity of a parent item before you create a work order or rate schedule. Use the Part Availability program (P30200) to check the availability of the parts.

► **To review part availability**

From the Daily Order Preparation – Discrete menu (G3111), choose Part Availability.

Level	2nd Item Number	Description	Quantity	Quantity On Hand	Quantity Available
1	2001	Cro-Moly Frame, Red	1	2925	2
2	2004	Cro-Moly Frame	1	3600	-3
.3	9001	25 mm Cro-Moly Tubing	152	3500	1
.3	9002	50 mm Cro-Moly Tubing	112	3000	1
.3	9004	50 mm Cro-Moly Bar	10	200	
2	9011	Paint, Red	225	745000	-32
2	9031	Primer	225	745000	-78

- On Parts Availability – Multi Level Indented, complete the following fields and click Find:
 - Parent Item
 - Branch
- Review the following fields and click Close:
 - 2nd Item Number
 - Quantity Available

Field	Explanation
Requested Quantity	The number of parent items that you want to process. The system calculates lower level values in quantity per the number of parent items requested. For instance, if it takes 3 components per a parent item, then with a requested quantity of 10, the system would plan and cost for 30 components.
Quantity w/Shrink	The amount of the order after an allowance for shrinkage has been added. The shrinkage quantity is calculated using the Shrink Factor (SRNK) and the Shrink Factor Method (SRKF) values from Branch/Plant Manufacturing Data.

Field	Explanation
Quantity Available	The available quantity may be on-hand balance minus commitments, reservations, and backorders. Availability is user defined and can be set up through the branch/plant constants.

Processing Options for Part Availability

Defaults

1. Processing Mode

Blank = The system displays the bill of material in the simple inquiry mode.
 1 = The system displays the bill of material in the simple inquiry mode.
 2 = The system displays the bill of material in the parts availability mode.
 3 = The system displays the bill of material in the leadtime inquiry mode.

2. Inquiry Mode

Blank = The system displays the multilevel indented mode.
 1 = The system displays the single level mode.
 2 = The system displays the multilevel mode.
 3 = The system displays the multilevel indented mode.

3. Bill of Material Type

Blank = The system uses M for manufacturing bill of material.

4. Display Sequence

Blank = The system sequences by component line number.
 1 = The system sequences by component line number.
 2 = The system sequences by operation sequence number.

Versions

1. Bill Of Material Print (R30460)
2. ECO Workbench (P30225)
3. ECO Header (P48020)
4. Bill of Material Revisions (P3002)
5. Item Master (P4101B)
6. Process Inquiry (P30240)
7. Work With Routing Master (P3003)
8. Item Availability (P41202)
9. Item Cross Reference (P4104)
10. Item Search (P41200)

Select

1. Safety Stock

Blank = The system does not subtract safety stock from the quantity on hand.

1 = The system subtracts safety stock from the quantity on hand.

2. Negative Quantities

Blank = The system does not display negative amounts.

1 = The system displays negative amounts.

3. Leadtime Values

Blank = The system displays the actual values from item branch table (F4102).

1 = The system displays the calculated leadtime values.

Process

1. Phantom Items

Blank = The system excludes phantom items from the inquiry.

1 = The system includes phantom items in the inquiry.

2. Process Items

Blank = The system excludes process items from the inquiry.

1 = The system includes process items in the inquiry.

3. Text Lines

Blank = The system excludes text lines from the inquiry.
 1 = The system includes text lines in the inquiry.

4. Consolidate Component Items

Blank = The system shows individual occurrences of duplicate components in the inquiry.
 1 = The system consolidates duplicate components in the inquiry.

5. Subassemblies

Blank = The system excludes subassemblies from the inquiry.
 1 = The system includes subassemblies in the inquiry.

6. Shrink

Blank = The system excludes shrink from the calculation of requested quantity.
 1 = The system includes shrink in the calculation of requested quantity.

7. Scrap

Blank = The system excludes scrap from the calculation of extended quantity.
 1 = The system includes scrap in the calculation of extended quantity.

8. Yield

Blank = The system excludes yield from the calculation of extended quantity.
 1 = The system includes yield in the calculation of extended quantity.

9. Purchased Items

Blank = The system explodes to the next level of purchased items.
 1 = The system does not explode to the next level of purchased items.

Reviewing Parts List Availability

You should check the availability of the parts on the parts list required to make a certain quantity of a parent item before you create a work order or rate schedule. Use the Work With Work Order Parts List form to check the availability of a parts list.

If you specified a soft commitment for the part, the quantities displayed indicate the item's availability at all locations. If you specified a hard commitment for the part, only quantities from the hard-committed locations appear. You can also display the quantities of each part that have hard and soft commitments to work orders and sales orders.

► To review parts list availability

From the Daily Order Preparation – Discrete menu (G3111), choose Parts List Inquiry.

Item Number	Description	Quantity Required	Quantity On Hand	Quantity Available
2001	Cro-Moly Frame, Red	11	2925	
2006	Touring Fork	9	100	
2007	Bottom Bracket	8	100	
2008	Head Set	12	100	
2009	Crank	24	200	
2010	Chain Rings	12	100	
2011	Chain, Std	2	2	

1. On Work With Work Order Parts List, complete the following field and click Find:
 - WO Number
2. Choose the appropriate item and click Select.

3. On Parts List Detail Inquiry, review the following fields:

- Item Number
- Qty on Hand

Field	Explanation
Qty Required	The quantity available can be the on-hand balance minus commitments, reservations, and backorders. Availability is user defined and can be set up in branch/plant constants.
WO Hard Commit	The number of units hard committed to work orders in the primary unit of measure.
SO Hard Commit	The number of units committed to a specific location and lot.
WO/SO Soft Commit	The number of units that are soft-committed to sales orders or work orders in the primary units of measure.
Qty on Order	The number of units specified on the purchase order, in primary units of measure.

Processing Options for Parts List Inquiry

Versions

If blank, version 'ZJDE0001' will be used.

1. Purchase Order Inquiry Version
2. Supply/Demand Version

Managing Shortage Information

Shortages occur when you do not have enough of the required materials to complete the quantity of the parent item requested on a work order. When you check the availability of items against a bill of material or a work order, the system indicates items that are short by displaying a negative available quantity.

You track shortage information for parts with the following characteristics:

- Purchased parts that you obtain from a single source
- Purchased parts that are difficult to obtain
- Parts that have a long leadtime
- Parts, the absence of which stops the production line
- Parts that are expensive to purchase or manufacture
- Parts that must be closely monitored

Managing shortage information includes the following tasks:

- ☐ Locating shortages
- ☐ Changing shortage information
- ☐ Printing shortages

Locating Shortages

You can locate shortage information for an item that is associated with one or more work orders by using the shortage workbench. Use the workbench to determine the amount of a shortage and how the shortage will be filled. You can locate item shortages by using the following criteria:

- Branch/plant and item number
- Branch/plant, item number, order number, and order type
- Order number and order type
- Order type

To locate shortages

From the Daily Order Preparation – Discrete menu (G3111), choose Shortage Workbench.

1. On Work With Shortage Workbench, complete the following fields and click Find:
 - Branch
 - Order Number
2. Choose a record and click Select.
3. On Shortage Maintenance Revisions, review the following field:
 - Short Quantity

Processing Options for Shortage Workbench

Versions

Enter the reporting feature version. If left blank, default version ZJDE0001 will be used.

1. For Order Inventory Issues : _____
2. For Open Work Orders: _____
3. For Open Purchase Orders: _____

Defaults

1. Enter the default work order type. If left blank, 'WO' will be used. _____

Changing Shortage Information

You can change component shortage information by item, work order, branch/plant, and work order type, or any combination of these. You can also review and revise information that indicates how the system fills shortages.

The system has several forms that you can use to manage shortage information. You use processing options to specify which versions of the shortage programs that the system uses and the default order type that the system displays.

► To change shortage information

From the Daily Order Preparation – Discrete menu (G3111), choose Shortage Maintenance.

1. On Work With Shortage Workbench, complete the following fields and click Find.
 - Branch/Plant
 - Order Number
2. Choose a record and click Select.
3. On Shortage Maintenance Revisions, revise the following information if necessary:
 - Due Date
 - Short Quantity
 - Deliver To W/C
 - Rel Ord Type
 - Requested Date

Field	Explanation
Requested Date	<p>The requested date for a Purchase Order created through Direct Ship or Transfer Order entry. If you leave this field blank, the system uses the system date. You can override this date at any time.</p> <p>..... <i>Form-specific information</i></p> <p>The date that the component is needed. If you leave this field blank, the system uses the date from the work order parts list.</p>

Processing Options for Shortage Maintenance

Versions

Enter the reporting feature version. If left blank, default version ZJDE0001 will be used.

1. For Order Inventory Issues : _____
2. For Open Work Orders: _____
3. For Open Purchase Orders: _____

Defaults

1. Enter the default work order type. If left blank, 'WO' will be used. _____

Printing Shortages

You can print a report that lists all shortages or only the component shortages for a specific work order. The system retrieves the shortage information for these reports from the Shortage Maintenance Master table (F3118).

Printing shortages consists of the following tasks:

- ☐ Printing component shortages
- ☐ Printing all shortages

Printing Component Shortages

From the Periodic Functions – Discrete menu (G3121), choose Component Shortages.

The Component Shortages report lists the component parts required to complete a work order and indicates their current availability. It includes the following information:

- Quantities available
- Quantities on order
- Quantities required
- Quantities short

Use the processing option to specify whether the system prints only parts with shortages. A part with a shortage is included on more than one order only when the sum of the on-hand quantity and the on-order quantity, minus the required quantity, is negative. You can also generate this report as part of the shop paperwork when you run Order Processing.

Note: If you use Warehouse Management, the Component Shortages report does not include parts that have a status of In Warehouse.

See Also

- *Processing Work Orders and Rate Schedules*
- *Generating Shop Paperwork*
- *R31418, Component Shortages* in the *Reports Guide* for a report sample

Processing Options for Component Shortages

Print

1. Enter a '1' to print only parts with a shortage.

Print shortages only. _____

Printing All Shortages

From the Periodic Functions – Discrete menu (G3121), choose All Shortages.

The All Shortages report lists shortage details for items in the Shortage Maintenance Master table (F3118). You can set the processing option to print either one or two lines of detail information about each short item.

Processing Options for All Shortages

Print

1. Enter a '1' to print one line of detail or a '2' for a second line of detail.

Enter your selection _____

Issues, Kanbans, and Material Movement



Issues, Material Movement, and Kanbans

Regardless of whether you use work orders or rate schedules for an item that you produce, you must send the required materials to the shop floor for production. You must also deduct the quantities that are issued to the shop floor from inventory through an issue transaction. Along with issue transactions, you can use a visual system called kanban processing to alleviate paperwork.

Issues and material movement consists of the following tasks:

- ☐ Issuing material
- ☐ Working with material movement

The Shop Floor Management and Manufacturing Accounting systems use issue transactions to determine the actual quantities of materials that are used in the production process according to the parts list for the work order or rate schedule.

The following table identifies integration features with other J.D. Edwards systems:

Inventory Management integration	The Inventory Management system allows you to track materials between inventory or storage locations and the shop floor. You can manage inventory issues and commitments, complete orders, and track order quantities throughout the production process.
Warehouse Management integration	The Warehouse Management system allows you to originate picking requests through Manufacturing systems, which further enhances the automated method of tracking inventory movement within a warehouse.



When Do You Issue Inventory?

You do not have to generate an issue transactions at the same time inventory is physically moved. The Shop Floor Management system allows you to choose at what point in the production process you want to generate issue transactions. In other words, you can choose when you want your inventory records to reflect the issue of materials to the work order or rate schedule.

For example, for a short production cycle, you might want to simultaneously deduct the issued inventory and receive the completed product into inventory when you report full completions against the work order or rate schedule. For longer production cycles, you might need to generate issue transactions at various operations within the routing instructions to minimize the discrepancies between materials that are actually on the shop floor and materials that the inventory system lists as being on the shop floor.

How Do You Issue Inventory?

You can choose any of the following methods to issue inventory:

Manual issues

The system deducts materials from inventory when you enter the issue transactions on the Issues form.

See Issuing Material Manually.

Preflushing

The system automatically deducts materials from inventory when you process a work order using the Order Processing program.

See Issuing Material by Preflushing.

Backflushing

The system deducts materials from inventory when you report items on the work order or rate schedule as complete. This can occur when you report partial completions throughout the production process or when you report full completions at the last operation of the routing instructions.

See Completing Work Orders Through Backflush.

Super Backflushing

The system automatically deducts materials from inventory at operations defined as pay points throughout the routing instructions. Super backflushing allows you to simultaneously backflush materials and labor hours and to report items as complete.

See Processing Work Orders through Super Backflush.

Some issue methods allow you to issue materials without having to display the Issues form. Other methods display the issue transaction for your review before the system records it.

You can perform partial issues by setting up the work order or rate schedule and issuing a backflush daily. For example, if your rate for the week is 10,000, and your daily backflush is 2,000, you can perform a partial issue of 2,000 for five days. On the fifth day, your rate schedule is completed.

The transaction date for issue transactions is the current system date. You can enter a different date. If you issue too much of one item, the system displays a warning message. You can either adjust the issue quantity or accept the issue.

Processing options control whether the Operation Sequence and Date Requested fields allow you to enter an issue type code to restrict the items listed for issue.

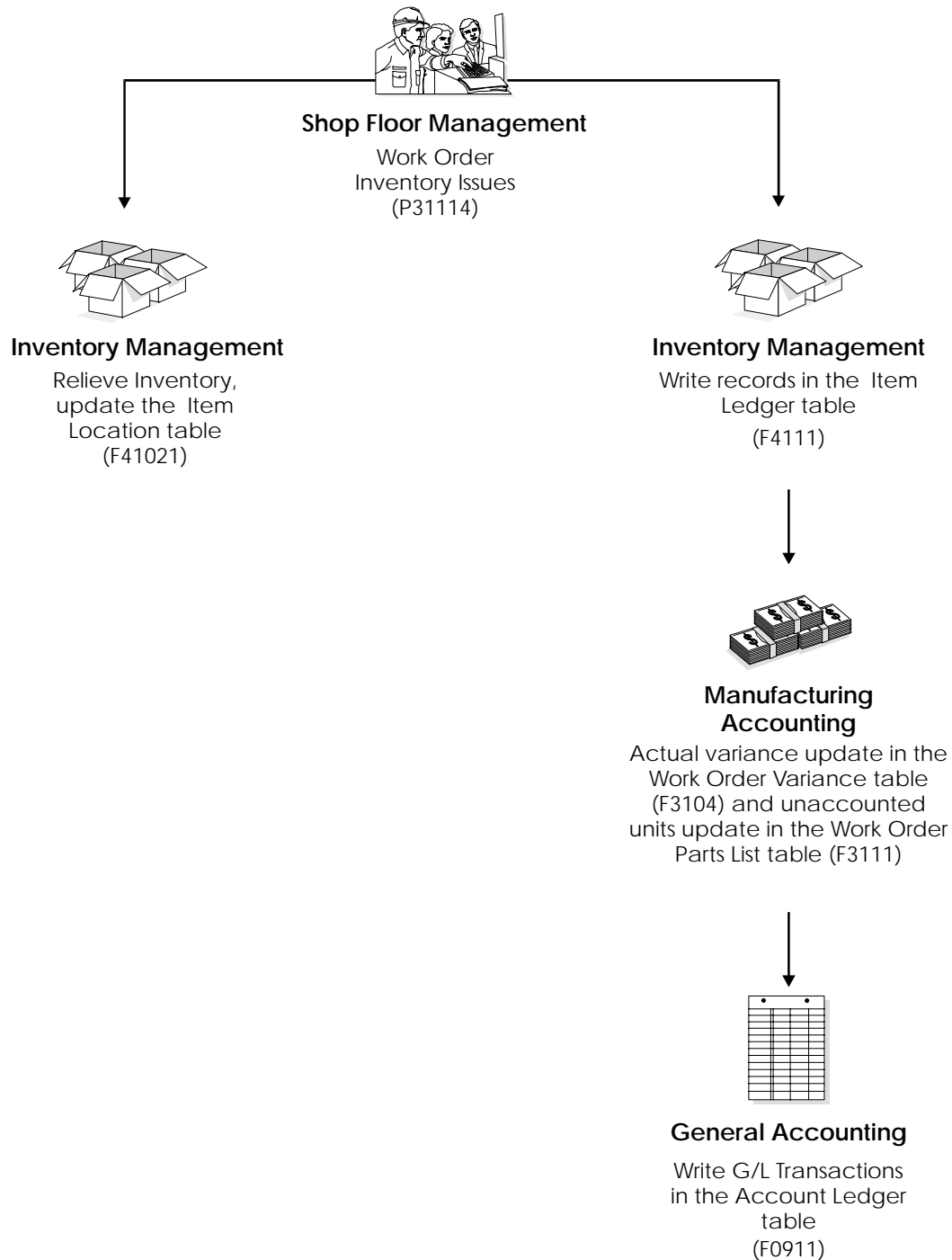
From Where Is Inventory Issued?

Inventory is issued from the location at which it is committed. You can change the commitment location for an item,

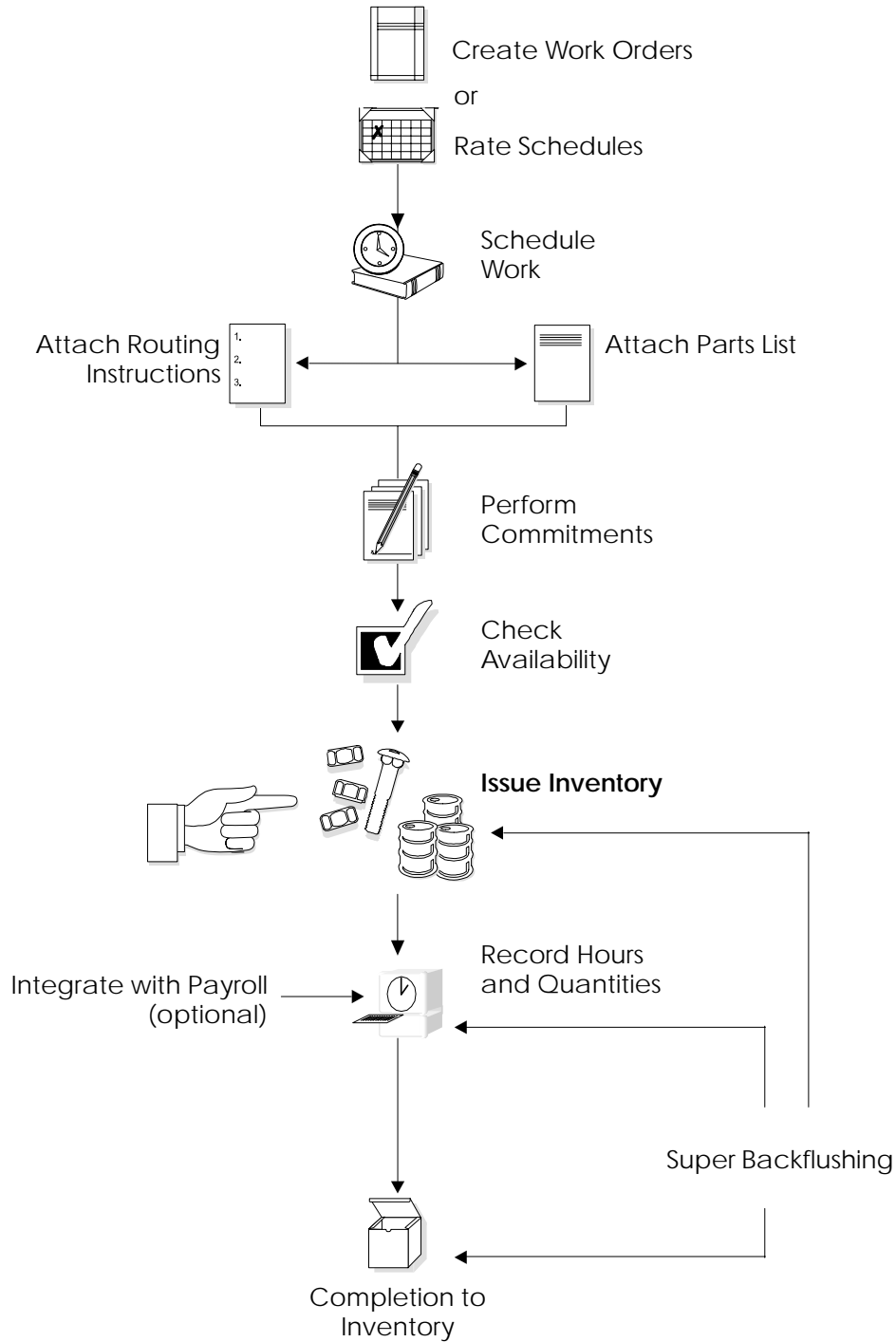
Inventory Issues correctly relieves these commitments. Because of commitment at the line level, when you issue or reverse inventory from a secondary location, the commitment is hard. Also, when you partially issue or reverse inventory to a different location, the system relieves the commitment from the old location and commits the remaining material to the new location.

If you are issuing a grade- or potency-controlled item from a lot, and the lot grade or potency rating isn't within the desired range, the system displays a warning message.

The following graphic shows the tables that the system updates when you issue inventory.



The following graphic illustrates the entire process of creating the work order header, attaching the paperwork, and the integrating your inventory and other systems. The hand shows at which point in the process the system issues inventory.



Kanbans

While the requirements for material are driven by demand, the movement can be controlled by visual cues called kanbans. Kanbans are predetermined quantities of components at specified locations on the production line. They are designed to minimize work-in-process inventories. Although you do not have to use kanbans with repetitive manufacturing, you can use them as a means to issue material.

A single program manages the electronically-implemented kanbans using two modes. One mode processes kanban consumption by item, while the other mode processes kanban supply by item. Use the consumption mode to access kanbans at a consuming location, and the supply mode to access kanbans at a supplying location, by specifying one or a combination of the following criteria:

- Item
- Location
- Supplier
- Kanban identification

You process kanbans in one of two phases:

- One-Phase
- Two-Phase

One-Phase

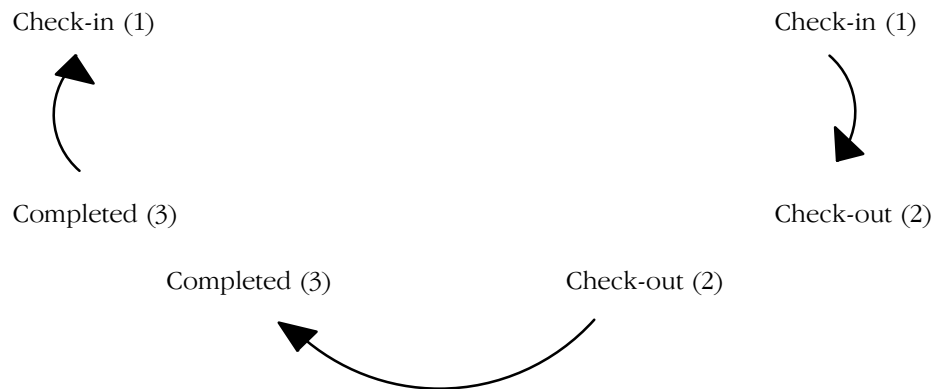
One-phase assumes that the completion and transfer to the consuming location are performed in one step, in which you complete the quantity directly to the consuming location and change the kanban status to checked-in (1).



Two-Phase

Two-phase assumes that the completion and transfer to the consuming location are reported separately. You complete the quantity to the supplying location and change the kanban status to completed (3). After the quantity has been physically received at the consuming location, a transfer from the supplying location to the consuming location occurs, and the kanban status is changed to checked-in (1).

If you check in a kanban quantity from the supplier, the system can initiate a receipt transaction if the kanban master flag is on.



You can process kanbans for the following items:

- Inventoried items
- Manufactured items (subassemblies or phantoms)
- Externally supplied items

Inventoried Items Processing

When you check out a kanban that is inventoried, the kanban status is changed. The supplying location replenishes the kanban quantity. You then complete and check in the kanban, which results in a transaction for inventory transfer.

Manufactured Processing

When you check out a kanban that is manufactured, the program either creates a work order or looks for an existing rate. It bases its action on the item's order policy code. (If the system does not find a rate, it creates one.) When the system creates a rate, it automatically attaches the parts list and routing instructions. When you check in the kanban, you complete the work order or rate, issue parts, enter hours and quantities, and transfer the parent item to the consuming location.

When you check out a kanban supplied by a work center or production line, and the item is a phantom, no transactions other than inventory transfers occur. When you have no work orders or rates to process; the item is simply replenished by the producing line and the kanban is completed and checked in. This results in a transaction for inventory transfer, from the supplying location to the consuming location.

Externally Supplied Items Processing

An externally supplied kanban requires an open purchase order for the item. This purchase order can be an existing one, or optionally, one created by the check out process. In addition, when you check out the kanban, the system might also initiate an electronic data interchange (EDI) transaction. When you check in kanbans from an external supplier, the system optionally performs a receipt against the purchase order.

See Also

- *Setting Up Default Location Information* in the *Inventory Management Guide* for more information about specifying locations for a commitment
- *Completing Rate Schedules* for information about recording completions for rate schedules
- *Understanding Lot Processing* for information about issuing material that is lot-controlled
- *Understanding Grade and Potency* for information about issuing material that is grade- or potency-controlled
- *Sending Kanban Shipping Schedules* in the *Data Interface for Electronic Data Interchange Guide* for more information about EDI transactions

Issuing Material

You can issue materials without recording a completion to a work order. You can also record component quantities that are scrapped and the reason for the scrap.

Note: If you have repeated items in the bill of material, make sure that the operation sequence numbers for those lines are unique for the bill of material.

Issuing material consists of the following tasks:

- ☐ Issuing material by preflushing
- ☐ Issuing material manually (optional)
- ☐ Recording component scrap (optional)

Note: If you are using Warehouse Management and issuing materials to a work order, the system does not issue any part with a status of In Warehouse. You need to update the status to Out of Warehouse by pick confirmation through a pick list before the system issues the part. A pick list is a document that specifies to warehouse personnel what inventory to pick up per work order and where the inventory is located. The system generates the pick list when you run Order Processing.

See Also

- *Entering Item Manufacturing Information* in the *Inventory Management Guide* if you use repetitive manufacturing and need information about simultaneous issue and receipt and replenishment hours
- *Understanding Grade and Potency* for information about issuing material that is grade- or potency-controlled
- *What Happens When You Issue Material?* in the *Product Costing and Manufacturing Accounting Guide* for information about the impact on costs when issuing material
- *Confirming Pick Suggestions* in the *Advanced Warehouse Management Guide* for information about how to confirm a pick request

Issuing Material by Preflushing

From the Daily Order Preparation - Discrete menu (G3111), choose Order Processing.

Preflushing is the act of recording issue transactions for all material required for a work order when you process the work order using the Order Processing batch program. Materials include those that are not required until the last operation in the routing instructions, which could occur weeks or months in the future. These items are issued at the start date of the work order when you use the Order Processing program.

Caution: J.D. Edwards recommends that you do not use the preflushing method unless your manufacturing cycle time is short enough to ensure that materials are physically moved to the shop floor within the same day that the issue transaction is recorded. If your cycle time is longer than a day, a discrepancy appears in your inventory records because the materials have been deducted from inventory records, but not physically removed from inventory stock.

You can set a processing option in the Automatic Work Order Inventory Issues program (P31420) to issue only preflush items. If you leave this processing option blank, the system preflushes all items associated with the work order.

Before You Begin

- ☐ Set the issue type code on the parts list. See *Attaching the Parts List Interactively* for details about setting the issue type code.

See Also

- *Processing Work Orders and Rate Schedules* for the processing options for Order Processing

Issuing Material Manually

You can use the Inventory Issues program to manually issue material associated with a work order. You can also use the Inventory Issues program to change the commitments that the system recorded. When you change commitments, the system displays an error message if the quantities do not add up to the total quantity required. It also adjusts the available balance for any location in which you changed the quantity committed.

If you did not assign serial numbers to any of the assemblies on your work order at order entry, you can assign them during inventory issues.

Issuing material manually consists of the following tasks:

- Issuing material from a single location
- Issuing material from multiple locations

You issue material from multiple locations when you need to issue material from locations that are different from what is listed on the Inventory Issues form.

► To issue material from a single location

From the Daily Order Preparation - Discrete menu (G3111), choose Inventory Issues.

1. On Work With Work Order Inventory Issue, complete the following field and click Find:
 - Skip to Order Number
2. Choose an item and click Select.

Item Number	Description	Oper Seq#	Issues	Request Date	Mt St	Quantity Ordered
5001	Oil	10.00	50	5/31/05		50
5002	Rust Inhibitor	20.00		5/31/05		1
5004	Thinner	20.00		5/31/05		1
5003	Graphite	40.00		5/31/05		38

3. On Inventory Issue Revisions, review the following fields:

- Mt St
- Quantity Ordered
- UM
- Lot/Serial
- Location

Use the Issue Material For field to issue materials for a parent quantity, which indicates how many sets of parts are needed. The Quantity Ordered field indicates the quantity of each component that the system deducts from inventory.

4. To complete the issue process, click OK.

To reverse an issue transaction, change the item quantity that you want to reverse to a negative number. The system decreases the amount in the Quantity Ordered field for the item by the amount of the reversal.

To close out items that you no longer need, change the item and then choose “Close Line” from the Row menu. The system closes out the item and changes the information in the Description field to “Line Item is Closed”.

You can associate components with a specific serialized assembly during inventory issues. If you do not know the assembly number, choose Retrieve Work Order Lot Serial Numbers to view numbers previously assigned to work order assemblies.

To issue material from multiple locations

From the Daily Order Preparation - Discrete menu (G3111), choose Inventory Issues.

This task is only necessary when you need to issue material from locations that differ from what is listed on the Inventory Issues form.

1. On Work With Work Order Inventory Issue, complete the following field and click Find:
 - Skip to Order Number
2. Choose an item and click Select.
3. On Inventory Issue Revisions, complete the following field:
 - Issues
4. Choose an item, and then choose Multi-location from the Row menu.

5. On Select Multiple Locations, review the default information in the following fields:

- Quantity
- Location
- Lot / Serial
- Branch/Plant

Field	Explanation
UM	A user defined code (00/UM) that identifies the unit of measurement for an amount or quantity. For example, it can represent a barrel, box, cubic meter, liter, hour, and so on.

Processing Options for Inventory Issues (P31113)

Edits Tab

Use these processing options to specify the following edits that the system performs when issuing inventory:

- The default document types, routing types, and status codes
- The status beyond which the system cannot issue inventory
- Whether to display an error message if a negative on-hand quantity occurs
- Whether to update the Item Sales History table (F4115)

- From which lot hold codes the system can issue inventory
- Whether to allow unplanned issues

1. Document Type

Use this processing option to specify the default document type that the system enters when issuing inventory. Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Defined Codes form.

2. Work Order Status Code

Use this processing option to specify the default status code for the issued material on the work order header. Work order status code is a user defined code (00/SS) that identifies the status of the work order that the system uses when a material issue has been performed. Enter the status code to use as the default value or choose it from the Select User Defined Codes form. If you leave this field blank, the system does not update the work order header status code.

3. Material Status Code (Manufacturing Only)

Use this processing option to specify the default material status code that the system uses on the work order header. Material status code is a user defined code (31/MS) that identifies the status of the material to use when the system issues material. Enter the status code to use as the default value or choose it from the Select User Defined Codes form. If you leave this field blank, the system does not enter a material status code.

4. Work Order Status Code Limit (Manufacturing Only)

Use this processing option to specify the default work order status code that the system uses on the work order header. Work order status code limit is a user defined code (00/SS) that identifies the status of the work order beyond which the system cannot issue material. Enter the status code to use as the default value or choose it from the Select User Defined Codes form.

5. Negative Quantity on Hand

Use this processing option to specify whether the system displays an error message when the material issued sets the on-hand quantity to a negative amount. Valid values are:

- 1 The system displays an error message for negative on-hand quantities.
Blank The system does not display an error message for negative on-hand quantities.

6. Item Sales History

Use this processing option to specify whether the system updates the Item Sales History table (F4115) when you issue material. Valid values are:

- 1 The system updates the Sales Item History table.
- Blank The system does not update the Sales Item History table.

7. Lot Hold Codes (Manufacturing Only)

Use this processing option to specify one of five lot hold codes to which the system issues inventory. Enter a hold code, an asterisk, or leave this field blank. If you enter an asterisk in this field, the system issues inventory to all held lots. If you leave this field blank, the system does not issue inventory to held lots.

8. Unplanned Issues

Use this processing option to specify whether the system processes unplanned issues. Valid values are:

- 1 The system processes unplanned issues.
- Blank The system does not process unplanned issues.

9. Purchase Order Document Type

Use this processing option to specify the default document type of the purchase order associated with the simultaneous issue and receipt of material. Purchase order document type is a user defined code (00/DT) that identifies the document type that the system uses when searching for an open purchase order. Enter the document type to use as default value or choose it from the Select User Define Codes form. If you leave this field blank, the system uses OP as the document type.

10. Receipt Routing Route Type (Future)

Use this processing option to specify the default route type associated to the simultaneous issue and receipt of material into inventory. Receipt routing route type is a user defined code (43/RX) that identifies the route type that the system uses when receiving an item into inventory with a receipt routing. Enter a route type to use as the default value or choose it from the Select User Defined Codes form.

11. Route Type (Future)

Use this processing option to specify the default route type associated to the simultaneous issue and receipt of material into inventory. Route type is a user defined code (43/RC) that identifies the route type that the system uses when

receiving an item into inventory without a receipt routing. Enter a route type to use as the default value or choose it from the Select User Defined Codes form.

Display Tab

Use these processing options to specify whether the system displays only the components with valid issue type codes, displays only specified operations, disables the lot number field, and enters the quantity issued.

1. Issue Type Code

Use this processing option to specify whether the system displays all components or only components with a valid issue type code. Valid values are:

- 1 The system displays only components with valid issue type codes.
- Blank The system displays components of all issue type codes.

2. Operation Sequence (Manufacturing Only)

Use this processing option to specify whether the system displays only operation sequences that equal the specified operation sequence. Valid values are:

- Blank The system begins the display with the specified operation sequence.
- 1 The system displays only operation sequences that equal the specified sequence.

3. Requested Date (Manufacturing Only)

Use this processing option to specify whether the system displays only operation sequences that equal the specified requested date. Valid values are:

- Blank The system begins the display with the operation sequence with the equivalent requested date.
- 1 The system displays only operation sequences that equal the specified requested date.

4. Lot Number

Use this processing option to specify whether the system protects the Lot Number field from entry. Valid values are:

- 1 The system does not allow you to enter a value in the Lot Number field.
- Blank The system allows you to enter a value in the Lot Number field.

5. Issue Material For

Use this processing option to specify whether the system enters the recommended issued quantity for all components with a valid issue type code.

The system uses the value from the Issue Material For field on the Work With Work Order Inventory Issue form. The system issues only items with an issue quantity. Valid values are:

- 1 The system automatically enters the quantity.
- Blank The system does not enter the quantity.

6. Apply Shrink

A code that controls whether the system applies a parent item's shrink factor to the recommended issue quantity of a component item. Valid values are:

- 1 The system applies the shrink factor to the issue quantity.
- Blank The system does not apply the shrink factor to the issue quantity.

7. Apply Yield

A code that specifies whether the system applies operation scrap percentage to the recommended issue quantity of a component item. Valid values are:

- 1 The system applies the operation scrap percent to the issue quantity.
- Blank The system does not apply the operation scrap percent to the issue quantity.

Versions Tab

Use these processing options to specify the versions of the following programs that the system uses when issuing inventory:

- Shortage Maintenance (P3118)
- Open Purchase Orders (P4310)
- Purchase Order Receipts (P4312)
- Receipt Routing Movement and Disposition (P43250)

Versions control how the programs display information. Therefore, you might need to set the processing options to specific versions to meet your needs.

1. Shortage Maintenance (P3118)

Use this processing option to specify the version that the system uses when you choose the row exit to the Shortage Maintenance program (P3118) from the Inventory Issue Revisions form. If you leave this field blank, the system uses the ZJDE0001 version of the Shortage Maintenance program.

Versions control how the Shortage Maintenance program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

2. Open Purchase Orders (P3160W)

Use this processing option to specify the version that the system uses when you choose the row exit to the Purchase Order Inquiry program (P4310) from the Inventory Issue Revisions form. If you leave this field blank, the system uses the ZJDE0001 version of the Purchase Order Inquiry program.

Versions control how the Purchase Order Inquiry program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

3. Purchase Order Receipts (P4312)

Use this processing option to specify the version that the system uses when you choose the row exit to the Purchase Order Receipts program (P4312) from the Inventory Issue Revisions form. If you leave this field blank, the program uses the ZJDE0008 version of the Purchase Order Receipts program.

Versions control how the Purchase Order Receipts program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

4. Movement and Disposition (P43250)

Use this processing option to specify the version that the system uses when you choose the row exit to the Receipt Routing Movement and Disposition program (P43250) from the Inventory Issue Revisions form. If you leave this field blank, the program uses the ZJDE0002 version of the Receipt Routing Movement and Disposition program.

Versions control how the Receipt Routing Movement and Disposition program displays information. Therefore, you might need to set the processing option to a specific version to meet your needs.

Equipment Management Tab

Use these processing options to specify how the system issues inventory when using Equipment/Plant Management work orders only.

1. Equipment/Plant Management

Use this processing option to specify whether the system processes a maintenance work order. Valid values are:

Blank The system processes material for a manufacturing work order.

1 The system processes material for a maintenance work order.

If you use this processing option, specify whether the system enters the work order number in the subledger field of the journal entry in the Work Order

Number processing option. The system creates the journal entry when it processes the Work Order Number processing option.

2. Work Order Number

Use this processing option if you choose to process maintenance work orders in the Run Equipment/Plant Management processing option. Also, use this processing option to specify whether the system enters the work order number in the subledger field of the journal entry when the system processes the maintenance work order. Valid values are:

1 The system automatically enters the work order number in the subledger field.

Blank The system does not enter the work order number in the subledger field.

Interoperability Tab

Use this processing option to specify the default transaction type that the system uses for processing export transactions.

1. Transaction Type

Use this processing option to specify the transaction type that the system uses for export processing. Transaction type is a user defined code (00/TT) that identifies the type of transaction for the work order. Enter the transaction type to use as the default value or choose it from the Select User Define Code form. If you leave this field blank, the system does not use export processing.

Recording Component Scrap

You can use the Component Scrap program to record scrapped quantities of component items in the Item Ledger table (F4111) and the Work Order Parts List table (F3111). The Item Ledger provides an audit trail of the quantity scrapped and the reason for the scrap transaction.

When you use the Component Scrap program, note the following important information:

- You cannot scrap components unless they have been issued to a work order.
- The total quantity that is scrapped for a component cannot exceed the total quantity that is issued to the work order.
- Negative transactions are allowed unless the transaction quantity would cause a negative issue.
- You can enter scrap transactions in any unit of measure. The scrapped quantity is converted to the unit of measure of the parts list and rounded

to one whole unit of measure when the system updates the Work Order Parts List table (F3111).

The system uses the order number information from the Work Order Master table (F4801) and the component information from the Work Order Parts List table (F3111).

► To record component scrap

From the Daily Order Preparation - Discrete menu (G3111), choose Component Scrap.

Order Number	Component 2nd Number	Item Description	Quantity Issued	Quantity Scrapped	UM	Quantity Ordered
451021	9002	50 mm Cro-Moly Tubing			CM	11.1

1. On Work With Component Scrap, complete the following field and click Find:
 - Item Number
2. Choose the appropriate order and click Select.

3. On Component Scrap Revisions, complete the following optional fields and click OK:
- Scrapped
 - Reason Code
 - Explanation
 - Date

Field	Explanation
Reason Code	A user defined code (31/RC) that indicates the reason for the quantity that was scrapped at this operation.
Explanation	Text that identifies the reason that a transaction occurred.

See Also

- *What Happens When You Record Component Scrap?* in the *Product Costing and Manufacturing Accounting Guide*

Processing Options for Component Scrap

Process

1. Enter a '1' for Item Number entry.
Blanks will default to Work Order
Number entry.

Processing Mode

2. Enter the Status Code beyond
which Component Scrap cannot be
made. Blank means no restriction
for Component Scrap.

Defaults

2. Item Ledger Transaction Date. (Blanks
will default to the current date).

Transaction Date

3. Default Reason Code.

Reason Code

4. Enter the document type associated
with the Component Scrap
Transaction.

Document Type

SN Processing

1. Enter the Document Type used for
Serial Number Issues. If left blank
'IM' will default.

Document Type

Working with Material Movement

For Repetitive Manufacturing, while the requirements for material are driven by demand, the movement is controlled by visual cues called kanbans. Kanbans are predetermined quantities of components at specified locations on the production line. They are designed to minimize work-in-process inventories. Two menu options manage the electronically implemented kanbans: Kanban Consumption and Kanban Supply.

You can process outside assemblies using the Working With Kanban Masters form. Kanbans that have an outside assembly have a source type of 4 (outside assembly). When you check out a kanban with an outside assembly, the system creates a purchase order for the end item and a sales order for the components. When you check in the kanban, the system confirms the shipment, purchases receipts, and completes the inventory transfer.

Processing kanbans consists of the following tasks:

- ☐ Processing kanban consumption by item
- ☐ Processing kanban supply by item

Processing Kanban Consumption by Item

Kanban Consumption allows you to access all kanbans at a specified consuming location. After you locate items, depending on the status of each item, you can make one of the following status changes at a consuming location:

- Checked-in (1)
- Checked-out (2)

► To process kanban consumption by item

From the Rate Based Scheduling menu (G3115), choose Kanban Consumption.

Kanban ID	Card Number	Kanban Status	2nd Item Number	Transaction Quantity	UM	Cont. Si
588	1	1	2037	60	EA	
600	1	1	2037	60	EA	

- On Work With Kanban Masters, complete the following fields and click Find:
 - Consuming Branch
 - Item Number
 - Consuming Location
- To check in a kanban that was supplied by the production line (and for which a rate or work order was created), complete the following fields and click OK:
 - Shift
 - Employee Number

The system displays a Confirmation form that permits you to confirm or cancel your kanban transaction.

- Choose the appropriate Kanban ID row and then choose Check In from the Row menu.
- To check out a kanban, choose the appropriate Kanban ID row and then choose Check out from the Row menu.

Processing Options for Kanban Consumption

Mode

1. Enter a '1' to set mode to Kanban Supply. If left blank, Kanban Consumption mode is assumed.
2. Enter a '1' to prompt the confirmation of a transaction.
3. Enter Kanban Status to display, if left blank all statuses are displayed.

Defaults

1. Item Number(Optional).
2. Location(Optional).
3. Enter number of hours equivalent to one day. Default is 8.
4. Enter the Closed Status for a rate schedule or work order. (Default is '99').
5. Bill of Material Type. If left blank, 'M' is used.
6. Employee Number (Optional).

Process

1. Enter a '1' to automatically call Work Order Processing (R31410) when a work order is created.
2. Enter a '1' to perform a blind execution of Hours & Quantities.
3. Enter a '1' to perform a blind execution of Material Issues.
4. Enter a '1' to perform a blind execution of Work Order Completions.
5. Enter a '1' to perform a blind execution of Shipment Confirmation.
6. Enter a '1' to perform a blind execution of Inventory Transfers.

Purchasing

1. Enter a '1' to create a Purchase Order
2. Enter a '1' to trigger an EDI 862 Transaction

Versions

Enter the version for the following programs. If left blank ZJDE0001 is used unless specified otherwise.

1. Rate Header Maintenance (P3109)
2. Part Availability (P30205)
3. Work Order Entry (P48013))

4. Work Order Processing (R31410)	_____
5. Open Orders Inquiry (P3160W)	_____
6. Purchase Orders Entry (P4310)	_____
7. Purchase Order Print (R43500).	_____
Used to generate an EDI 862 transaction. If left blank, XJDE0011 is used.	
8. Purchase Order Receipts (P4312). To be called in blind mode. If left blank, ZJDE0008 is used.	_____
9. Super Backflush (P31123)	_____
10. Hours & Quantities (P311221)	_____
11. Material Issues (P31113)	_____
12. Work Order Completions (P31114)	_____
13. Inventory Transfers (P4113)	_____
14. Sales Order Entry (P4210)	_____
15. Shipment Confirmation(P4205)	_____

Processing Kanban Supply by Item

Kanban Supply allows you to access all kanbans that need replenishment for items stored or produced at a specified supplying location. After you locate items, depending on the status of each item, you can make one of the following status changes at a supplying location:

- Checked-in (1)
- Completed (3)

Inventory and statuses are affected as follows:

- One-phase – inventory is immediately received and available at the consuming location, and the status is changed to checked-in (1).
- Two-phase – the completion and transfer are reported separately as follows:
 - The quantity is completed to the supplying location and the kanban status is changed to complete (3).
 - After the quantity has been physically received at the consuming location, a transfer is performed from the supply location to the consuming location and the kanban status is changed to checked-in (1).

► To process kanban supply by item

From the Rate Based Scheduling menu (G3115), choose Kanban Supply.

1. On Work With Kanban Masters, complete the following fields and click Find:
 - Supplying Branch
 - Item Number
 - Supplying Location
2. Complete the following fields to check in a kanban that was supplied by the production line (and for which a rate schedule or work order was created) and click OK:
 - Shift
 - Employee Number
3. Choose the appropriate Kanban row and choose Check In from the Row menu.
4. Click Ok.

Processing Options for Kanban Supply

Mode

1. Enter a '1' to set mode to Kanban Supply. If left blank, Kanban Consumption mode is assumed.
2. Enter a '1' to prompt the confirmation of a transaction.
3. Enter Kanban Status to display, if left blank all statuses are displayed.

Defaults

1. Item Number(Optional).
2. Location(Optional).
3. Enter number of hours equivalent to one day. Default is 8.
4. Enter the Closed Status for a rate schedule or work order. (Default is '99').
5. Bill of Material Type. If left blank, 'M' is used.
6. Employee Number (Optional).

Process

1. Enter a '1' to automatically call Work Order Processing (R31410) when a work order is created.
2. Enter a '1' to perform a blind execution of Hours & Quantities.
3. Enter a '1' to perform a blind execution of Material Issues.
4. Enter a '1' to perform a blind execution of Work Order Completions.
5. Enter a '1' to perform a blind execution of Shipment Confirmation.
6. Enter a '1' to perform a blind execution of Inventory Transfers.

Purchasing

1. Enter a '1' to create a Purchase Order
2. Enter a '1' to trigger an EDI 862 Transaction

Versions

Enter the version for the following programs. If left blank ZJDE0001 is used unless specified otherwise.

1. Rate Header Maintenance (P3109)
2. Part Availability (P30205)
3. Work Order Entry (P48013)
4. Work Order Processing (R31410)
5. Open Orders Inquiry (P3160W)
6. Purchase Orders Entry (P4310)
7. Purchase Order Print (R43500). Used to generate an EDI 862 transaction. If left blank, XJDE0011 is used.
8. Purchase Order Receipts (P4312). To be called in blind mode. If left blank, ZJDE0008 is used.
9. Super Backflush (P31123)
10. Hours & Quantities (P311221)
11. Material Issues (P31113)
12. Work Order Completions (P31114)
13. Inventory Transfers (P4113)
14. Sales Order Entry (P4210)
15. Shipment Confirmation (P4205)

Work Orders and Rate Schedules



Work Order Scheduling and Rate Schedules

As part of your scheduling activities, you can monitor work order progress, manage work order releases, and update the status of any order to ensure the validity of your material planning schedule. When you work with schedules, you can display manufacturing work orders by item, planner, customer, parent work order, status, type, and priority, or a combination of these. You can also display work orders by start date or requested date. You can set these defaults for the form in the processing options.

Processing options also determine the default values for various fields and control which versions of associated programs are used when you access them. You can also access related information, such as associated work orders, sales orders, purchase orders, parts lists, and routing instructions.

After a work order is on the shop floor, you must review the order and check capacity at each work center through which the order is scheduled. You might need to change a schedule to ensure the validity of the Material Requirements Planning and Master Production Scheduling schedules .

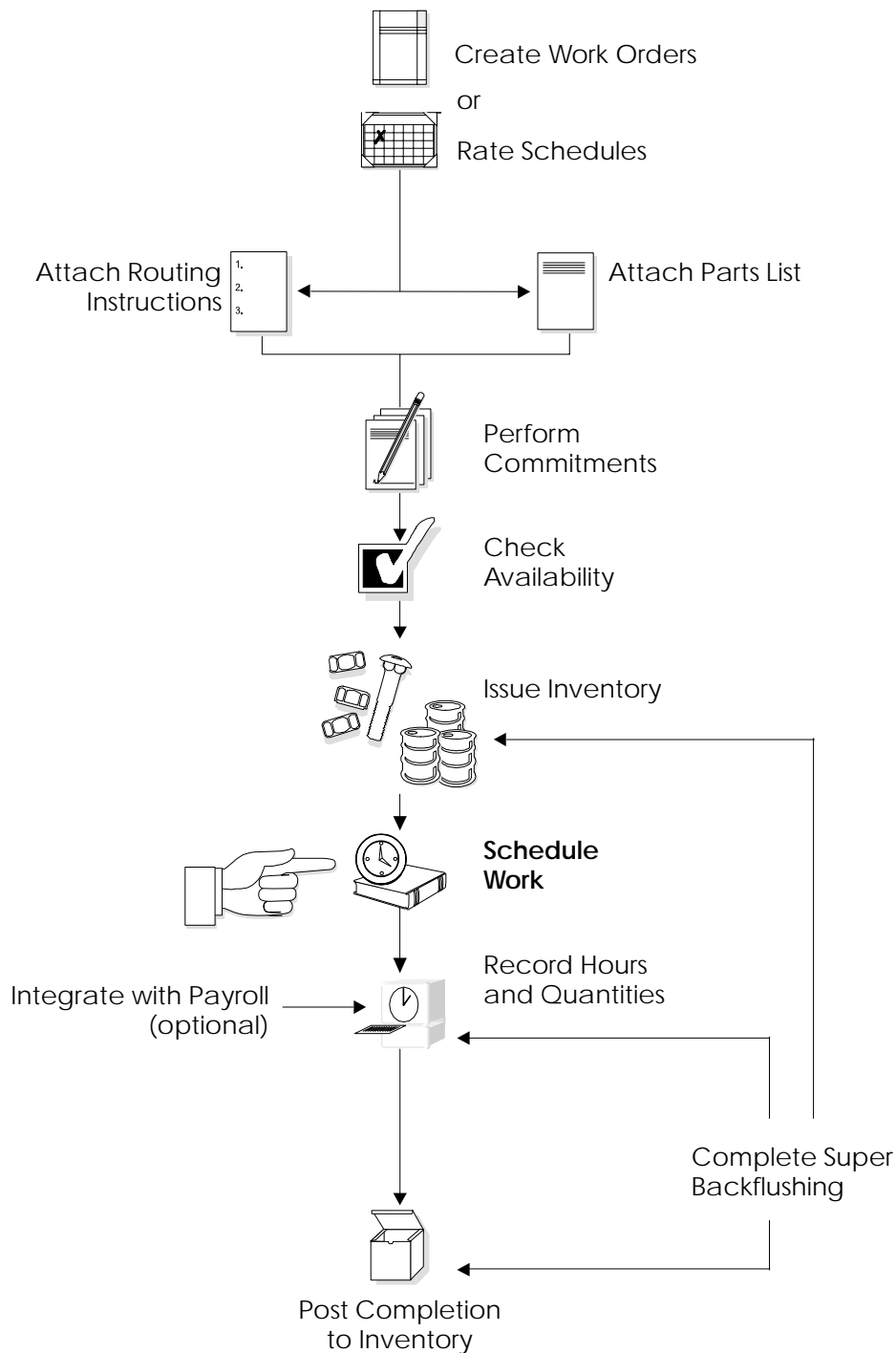
Scheduling work orders and rate schedules consists of the following tasks:

- ☐ Working with work order scheduling
- ☐ Working with repetitive schedules

Note: If you use the Capacity Requirements Planning system, it reads the routing instructions for work orders and rate schedules and monitors the load on the work centers involved. This allows you to manage the loads on your work centers to maximize production and meet scheduled demand.



The following graphic illustrates the entire shop floor from the creation of work order or rate headers to completion. The hand in the graphic indicates the point in the process where you schedule work orders and rates



Working with Work Order Scheduling

You review work orders to check capacity at each work center through which that the order is scheduled. You then print scheduling information and run the production in a work center.

Working with work order scheduling consists of the following tasks:

- ☐ Reviewing work order information
- ☐ Printing scheduling information for work centers

Reviewing Work Order Information

After a work order is on the shop floor, you must review the order and check capacity at each work center through which the order is scheduled. When you review a work order, you can change the status, type, priority rating, freeze code designation, and type of flash message.

► To review work order information

From the Daily Order Preparation - Discrete menu (G3111), choose Shop Floor Workbench.

WO Number	Or Ty	Description	Item Number	Branch/Plant	Quantity Open
451004	WO	W.O. Scheduling	220	M30	20
451194	WO	W.O. Scheduling	220	M30	
451418	WO	Touring Bike, Red	220	M30	
451426	WO	Touring Bike, Red	220	M30	

1. On Work With Order Scheduling, complete the following field and click Find:
 - Branch/Plant
2. Choose a work order number and click Select.

Or/No/Ty/Co	Item No.	Ordered/U/M	Quantity Open	Completed	Scrapped	Branch/Plant	Lot/Serial	Search Cross-Ref.	Requested Date	Start Date
451004	220	2000	2000			M30			6/28/05	6/24/05

Status Updates	
Status	45
Type	S
Priority	1
Flash Msg	1
Freeze Y/N	N
Sequence	

3. On Work Order Status Update, complete the following optional fields and click OK:
- Status
 - Type
 - Priority
 - Flash Msg
 - Freeze Y/N
 - Sequence

Field	Explanation
Status Updates	<p>A user defined code (00/SS) that indicates the status code that you want the system to use as a beginning point for selecting work order information.</p> <p>You can enter the status code information in any of the following ways:</p> <ul style="list-style-type: none"> • Enter a range of statuses by entering codes in both the From and Thru fields. • Enter only a From code to view work orders beginning with a particular status. For example, From Status 10 displays all work orders with a status of 10 or more. • Enter only a Thru code to view work orders ending with a particular status. For example, Thru 40 displays all work orders with a status of 40 or less.
Flash Msg	<p>A user defined code (00/WM) that indicates a change in the status of a work order. The system indicates a changed work order with an asterisk in the appropriate report or inquiry form field. The system highlights the flash message in the Description field of the work order.</p>

Processing Options for Shop Floor Workbench

Status/Item

1. Select Status Range or Item

From WO Status _____
 Thru WO Status _____
 Item Number _____
 Item Cross Reference _____

Addresses

1. Select Planner and/or Customer

Address Number-Planner _____
 Address Number-Customer _____

Categories

1. Select WO Categories

WO Type	_____
WO Priority	_____
Phase (Category 1)	_____
Category 2	_____
Category 3	_____

Document

1. Select WO Document Type

WO Document Type	_____
------------------	-------

Versions

1. Note: Versions will default to ZJDE0001

Sales Order Inquiry Version	_____
Purchase Order Inquiry Version	_____
Work Order Completions Version	_____
Super Backflush Version	_____
Inventory Issues Version	_____
Work Order Entry Version	_____
Sales Order Entry Version	_____
Purchase Order Entry Version	_____
Work Order Parts List Version	_____
Work Order Routing Version	_____

See Also

- *Appendix A: Leadtimes* for information about how the system calculates leadtime for a work order

Printing Scheduling Information for Work Centers

From the Periodic Functions - Discrete menu (G3121), choose Dispatch List.

Use Dispatch List to plan and run the production in a work center. The Dispatch List report includes scheduling information for a work center that appears on Dispatch List Inquiry.

The system retrieves the scheduling information for the work centers from the Work Order Master table (F4801) and the Work Order Routing table (F3112).

Working with Repetitive Schedules

The driving force for repetitive manufacturing is demand. Scheduling a production line requires tools to schedule, sequence, and balance production, based on the capacity for each production line.

Working with repetitive schedules consists of the following tasks:

- ☐ Scheduling items on a production line
- ☐ Sequencing rates by classification scheme

Note: Users of the J.D. Edwards Quality Management system can access Test Results Entry from the Workbench Completions form. This is helpful when you manage repetitive information and complete quantities to inventory for items that require testing. See *Entering Test Results* in the *Quality Management Guide*

Scheduling Items on a Production Line

Use the Line Scheduling Workbench to schedule rates and work orders for the family of items produced on a production line. This workbench shows information in daily buckets about both firmed and planned rates and work orders. After you manually revise the scheduled quantities, you can firm the schedule. Use start and through dates to show the work days for the production line within the date range. When you create a rate or work order, or the system creates a rate through planning, the system spreads the quantities evenly over the work days within the specified date range. From the workbench you can access the following forms:

- Alternate Line Selection
- Split Lines
- Production Status
- Item Availability
- Master Schedule

Use Split Lines to move scheduled quantities from one line to another. You can use any of the following methods:

- Splitting production among two lines, which might create a schedule on the new line
- Consolidating production from two lines to one line
- Transferring production from one line to another

Use Alternate Line Selection to view all lines for which line or item relationships exist for the item.

Note: The system highlights over-capacity values.

► To schedule items on a production line

From the Rate Based Scheduling menu (G3115), choose Line Scheduling Workbench.

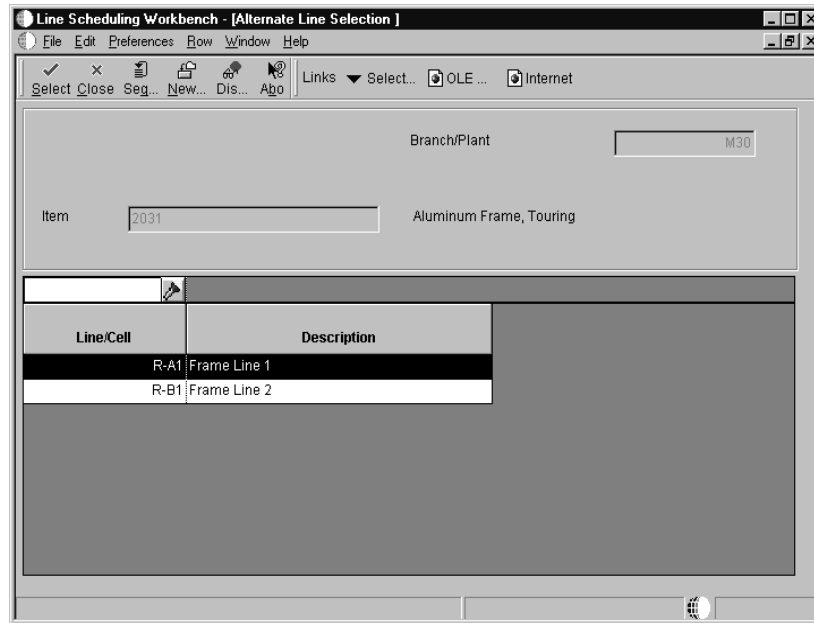
2nd Item Number	S h	06/13/05 Scheduled	06/14/05 Scheduled	06/15/05 Scheduled	Scheduled	Sched
2031	1	32	32	32		
2032	1	80	80	80		
2033	2	66	66	66		

1. On Line Scheduling Workbench, complete the following fields:
 - Branch/Plant
 - Line/Cell
2. Complete the following optional fields and click Find:
 - From Date
 - Thru Date

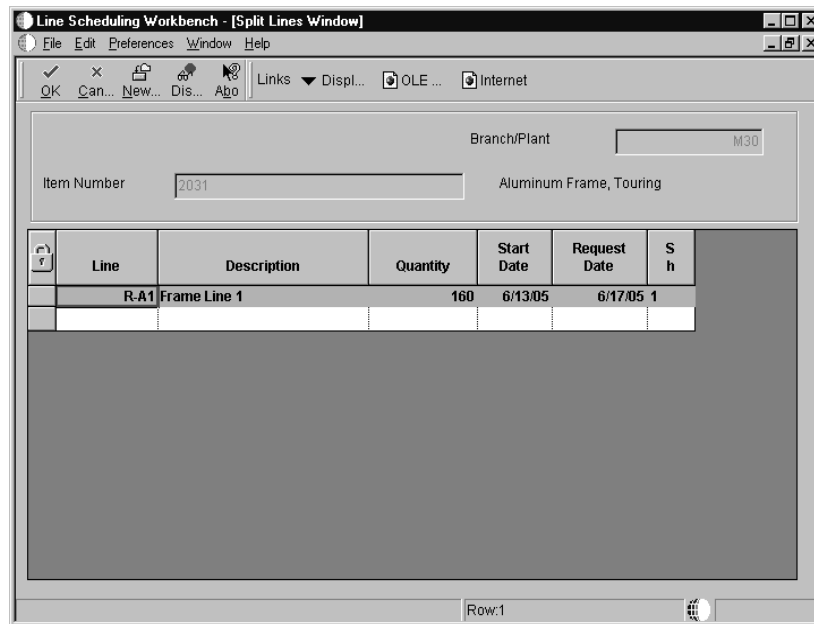
3. Change any scheduled quantity as needed.

If you change the total quantity and update the schedule, the system displays a warning before it spreads the new quantity evenly across the date range. You must update the schedule before the system changes the record.

4. To specify an alternate line, choose a record, and then choose Alternate Line from the Row menu.



5. On Alternate Line Selection, choose the alternate line that you want to select and click OK:
6. On Line Scheduling Workbench, choose a record, and then choose Split Lines from the Row menu to move quantities.



7. On Split Lines Window, complete the following fields to move scheduled quantities from one line to another:
 - Line/Cell
 - Quantity Ordered
8. To specify shift and date information, complete the following fields:
 - Request Date
 - Start Date
 - S h
9. To complete the split, click OK.

Field	Explanation
S h	<p>A user defined code (00/SH) that identifies daily work shifts. In payroll systems, you can use a shift code to add a percentage or amount to the hourly rate on a timecard.</p> <p>For payroll and time entry:</p> <p>If an employee always works a shift for which a shift rate differential is applicable, enter that shift code on the employee's master record. When you enter the shift on the employee's master record, you do not need to enter the code on the timecard when you enter time.</p> <p>If an employee occasionally works a different shift, you enter the shift code on each applicable timecard to override the default value.</p>

Processing Options for Line Scheduling Workbench

Defaults

1. Enter the Status Code to use when Firming rates and/or work orders. _____
2. Enter the Order Type to use for data selection. (Optional) _____
3. Enter the Shift Code to use for data selection. (Optional) _____
4. Enter the number of days to add to today's date when defaulting the Thru Date. (Optional) _____

Display

1. Status Code used to exclude closed rates from the workbench. (Default '99') _____
2. Enter a '1' to display PLANNED rates and work orders. _____

Versions

Enter the version to be used for each program. If left blank, ZJDE0001 will be used.

1. Production Status (P31226) _____
2. Line Sequencing Workbench (P3156) _____
3. Split Lines Window (P3156W) _____
4. Enter/Change Rate Schedule (P3109) _____
5. Supply/Demand Inquiry (P4021) _____
6. Message File Revisions (P3411) _____
7. Sales Order Entry (P4210) _____
8. Rates/Manufacturing Work Orders (P48013) _____

Enter the version to be used. If left blank, ZJDE0004 will be used.

9. Part Availability (P30200) _____

Sequencing Rates by Classification Scheme

Use the Line Sequencing Workbench to sequence the rates after you schedule production. This workbench only shows information about actual rates, in daily buckets. Set the processing options if you want the system to sequence quantities across shifts, or across both shifts and days. You must update the schedule before the system changes the record. You can use the following criteria to sequence the rates:

- Category code
- Sequence number

The category code values are determined by the processing options for the Enter/Change Rate Schedule. Beginning with the first shift and day, the program forward schedules the quantities, which consumes the available capacity. You use the processing options to control whether these quantities are pulled forward or pushed back in time across shifts only, or both shifts and days. This process places the scheduled quantities that exceed the capacity available, within the date range selected, in the last shift of the last day.

For sequence number, beginning with the first shift and day, the program forward schedules the quantities, which consumes the available capacity. When created, a new rate has an initial sequence number of 999999, which causes the rate to be sequenced last for the shift, placing it after any previously sequenced rates. You can manually override the default sequence. You do this by changing the sequence number value of either the new rate, an existing rate, or both. Keep in mind that the status of the new rate cannot be greater than the rate status value on the Manufacturing Constants form. After revising the sequence, you can update the schedule as is, or forward schedule it again.

To schedule rates by classification scheme

From the Rate Based Scheduling menu (G3115), choose Line Sequencing Workbench.

1. On Sequencing Workbench, complete the following fields:
 - Branch/Plant
 - Line/Cell
2. Complete the following optional fields and click Find:
 - Effective From
 - Thru
3. To change the sequence of the rate, complete the following fields as needed and click OK:
 - S h
 - Seq#

Processing Options for Line Sequencing Workbench

Process

1. Enter a '1' to allow scheduling across shifts.
2. Enter a '1' to allow scheduling across days. If left blank and scheduling across shifts is allowed, remaining hours for a day will be applied to the last shift of the day.

NOTE: In order to schedule across days, scheduling across shifts must be allowed.

Defaults

1. Enter the number of days to add to today's date for the Effective Thru Date. (Optional)
2. Enter the Status Code used to exclude closed rates from the Workbench. (Default is '99').

Hours and Quantities



Hours and Quantities

As you produce the items on a work request, you need to record the hours spent on production and the number of items (or co-products and by-products for Process Manufacturing) that are completed in that time. This allows you to monitor progress and actual costs and compare them against the standard hours and quantities that you estimated for the job.

If your estimates are reasonably accurate, you can have the system automatically enter the standard values for you at various points in the routing instructions by using the Super Backflush program (P31123). Or, you can have all employees individually enter their time and quantities completed.

The Shop Floor Management system interfaces with the J.D. Edwards Payroll system so that you only have to enter an employee's hours and quantities produced once. The single entry saves time, reduces the risk of data entry error, and ensures that data across your enterprise is consistent.

The system records hours and quantities in the Payroll system and also in a work order in the Manufacturing system. The hours and quantities can be applied to a specific work order so that you can maintain accurate manufacturing accounting and costing data. You can record hours and quantities per work order or per employee, to accommodate both piecework and hourly-rate employees.

The Shop Floor Management system manages hour and quantity information in the same manner whether you enter it on the Hours and Quantities form or the Payroll Time Entry form. If you use the Payroll system in conjunction with the Shop Floor Management system, you should use the Payroll Time Entry form to enter hours and quantities information.

After you enter hours and quantities (either on the Hours and Quantities form or on the Payroll Time Entry form) you can review and revise them before you post them to the Manufacturing system for further tracking and cost accounting. You can review the hours and quantities either online or by printing a report.

Note: When you change the status of an operation that is a routing instruction, the change does not take effect until you run the Hours and Quantities Update to update the Work Order Routing table (F3112).

The system stores header information on the Work With Work Order Time Entry form in the Work Order Master table (F4801). The system stores detail information in the Work Order Time Transactions table (F31122).



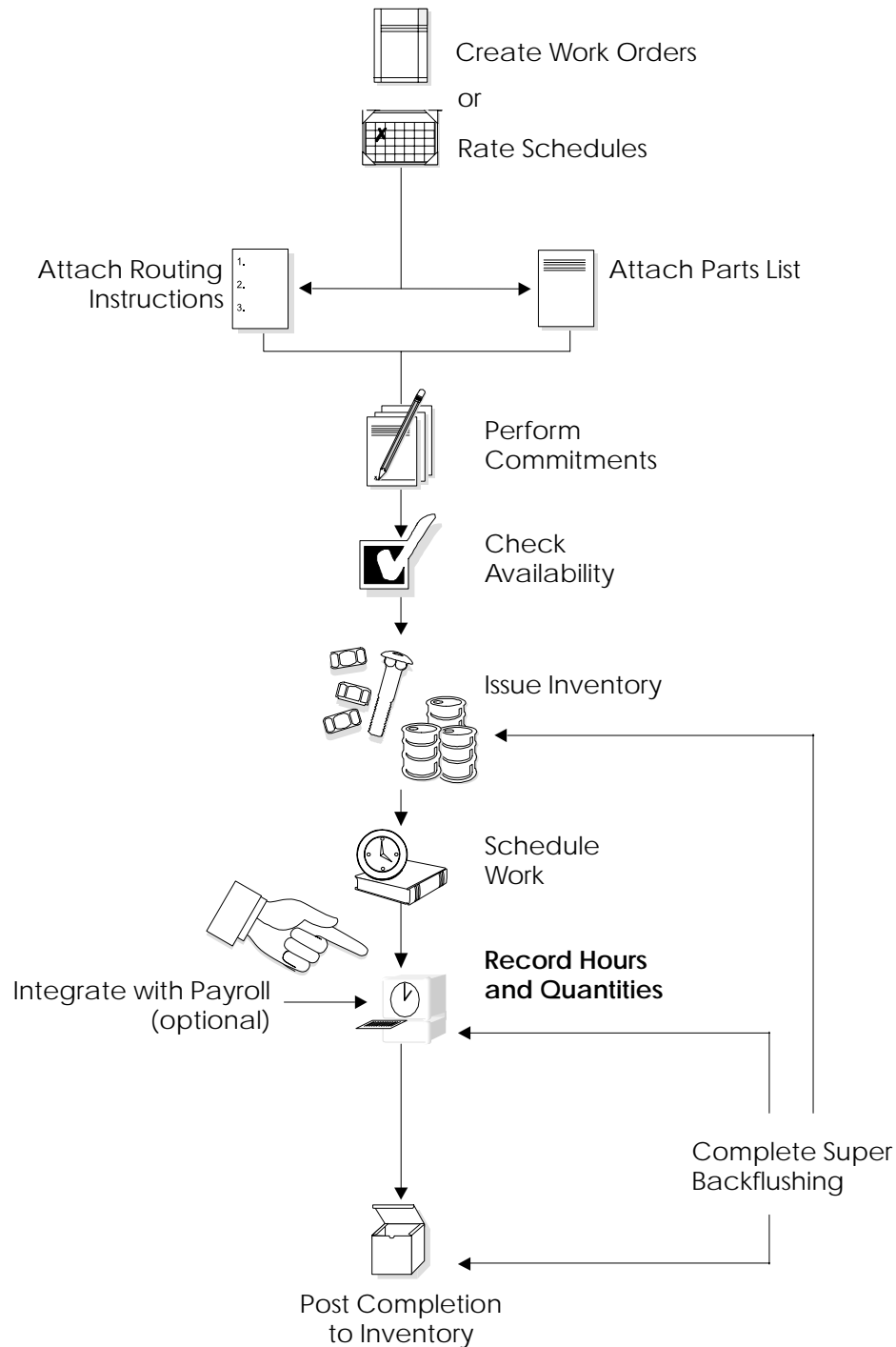
Hours and quantities consists of the following tasks:

- ☐ Entering hours and quantities
- ☐ Updating hours and quantities
- ☐ Reviewing statuses and transactions

Note: If you use the Quality Management System, as you record actual hours and quantities to a work order, you can do the following:

- Access Test Results Entry for completed items that require testing
- Access generic text for the parent item
- Set processing options for default lot, work order, and operation statuses

The following graphic outlines the entire process from the creation of a work order or rate schedule header through completion. The hand indicates to the point in the process when you enter hours and quantities.



See Also

- *What Happens When You Record Hours and Quantities?* in the *Product Costing and Manufacturing Accounting Guide*
- *Working with Test Results* in the *Quality Management Guide*

Entering Hours and Quantities

Use the Hours and Quantities program to charge actual hours and quantities to a work order. You can use the processing options to display the information in either of the following formats:

Order number format	This format records time and quantities for employees by routing instruction step.
Employee number format	This format records time and quantities for the routing instruction steps by employees.

Note the following important information about entering hours and quantities:

- Enter the quantity completed only once per operation sequence number. Entering it for each type of hours will cause a variance amount.
- Enter hours using beginning and ending times for each entry or the actual hours, up to two decimal places.
- To reverse completed or scrapped quantities that you have entered, enter the quantity as a negative quantity.

Note: When you set the Manufacturing Time Entry processing option on the Manufacturing tab for the Payroll Time Entry program, the processing option simultaneously updates your entries in the payroll system and the Hours and Quantities program (P311221).

► To enter hours and quantities

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities.

Hours and Quantities - [Work With Work Order Time Entry]

File Edit Preferences Form Row Window Help

Select Find Add Close Seg... New... Dis... Abo Links Update OLE ... Internet

Work Date Batch Number 188

Order Number 451004 W/O Touring Bike, Red

Item Number 220 Touring Bike, Red

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours	Quantity
--------------	-----------------	------------------	--------	--------	------------	------------	----------	-------	----------

1. On the Work With Work Order Time Entry, complete the following fields and click Find:
 - Work Date
 - Order Number
2. To enter hours and quantities, click Add.

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours
451004								

3. On Time Entry Revisions, complete the following mandatory fields and click OK:
 - Employee Number
 - Shift Code
 - Hours
 - Quantity
4. Complete the following fields:
 - Equipment Number
 - Oper #
 - Ty Hrs
 - UM
 - St
 - Employee Rate
 - Equipment Rate
 - Reason Code

Field	Explanation
Work Date	<p>A date that identifies the financial period to which the transaction is to be posted. The general accounting constants specify the date range for each financial period. You can have up to 14 periods. Generally, period 14 is used for audit adjustments.</p> <p>The system edits this field for PBCO (posted before cutoff), PYEB (prior year ending balance), and so on.</p>
Oper #	<p>A number used to indicate an order of succession.</p> <p>In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation.</p> <p>In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process.</p> <p>In engineering change orders, a number that sequences the assembly steps for the engineering change.</p> <p>For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced.</p> <p>Skip To fields allow you to enter an operation sequence that you want to begin the display of information.</p> <p>You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.</p> <p>..... <i>Form-specific information</i></p> <p>The sequence number of the routing step on the work order. You must enter this number.</p>
Ty Hrs	<p>A code that indicates the type of time entered. Valid codes are:</p> <ul style="list-style-type: none"> 1 Run Labor Hours 2 Setup Labor Hours 3 Machine Hours 4 Quantities Completed 5 Quantities Scrapped 9 Miscellaneous (such as piece rate bonus)
Hours	The number of hours associated with each transaction.
Misc. Dollars	<p>An adjustment amount or extension of hours multiplied by the rate that the user actually enters on the time entry screen. This amount is maintained separately from the extended amount computed by the system when the user enters only the hours (or hours and rate).</p> <p>See also GPAY.</p>

Field	Explanation
Equipment Rate	<p>A code that represents the amount that you want to charge the job. Each piece of equipment can have numerous billing rates based on the rate code. The equipment billing rate can be composed of up to ten different rates. For example:</p> <p>Billing Rate = 200</p> <p>100 Rate 1 (Ownership Component) 25 Rate 2 (Operating Component) 50 Rate 3 (Maintenance Component) 25 Rate 4 (Other Costs Component)</p> <p>When you post time entries to the general ledger, the system recognizes credits in revenue accounts for each of the rate components. This allows you to separate portions of the equipment billing by type of cost.</p> <p>Note: You are not required to use rate components.</p>

Processing Options for Hours and Quantities

Display

1. Enter a '1', for the screen to be displayed in Order Number format. If left blank, the screen will be displayed in Employee format.

Defaults

1. Enter the Document Type associated with Shop Floor Activity.

Edits

1. Enter the Status Code beyond which Shop Floor Activity cannot be entered.
2. Enter a '1' to verify that, for a given operation, the total of the quantity completed plus scrapped does not exceed the 'Quantity At Operation'. If left blank, the verification is not performed.
3. Enter a '1' to block employee rate being written to screen. Leave blank to show employee rates.

Versions

Enter the version for each application.
If left blank, ZJDE0001 will be
used.

1. Test Results Revisions (P3711)
2. Manufacturing Scheduling
Workbench (P31225)
3. Production Status (P31226)
4. Hours and Quantities Update
(R31422) (Default - XJDE0001)

Updating Hours and Quantities

To process the hours and quantities into the Manufacturing system, you must run the Hours and Quantities Update batch program. This program updates the Work Order Routing table (F3112) and supplies the manufacturing accounting programs with the current data. Before the data is updated, you can locate and change it as necessary. After you run this program, you cannot locate the data on the Hours and Quantities form.

You can post hours and quantities transactions by either of the following methods:

- Running the Hours and Quantities Update batch program from the menu
- Selecting the online update from the Hours and Quantities form

The method of posting that you use depends on how you enter the transaction data, as follows:

- If you use the Super Backflush program to enter hours and quantities, the quantities transactions are posted in real time. However, you must run the Hours and Quantities Update program to post the hours. Super Backflush enters the transactions for you at the point in the routing that you specify instructions.
- If you use the Super Backflush program, you must either run the update program, or locate the data on the Hours and Quantities form and then use the online update selection from the Form menu.
- If you enter the transaction data on the Hours and Quantities form, you can use the Form menu selection or the online update selection to run the update.

Updating hours and quantities consists of the following tasks:

- ☐ Updating hours and quantities manually
- ☐ Updating hours and quantities by batch

Updating Hours and Quantities Manually

The system posts only the records that are in the current entry session. Therefore, if you exit the Super Backflush form after you enter the transaction data, you must locate the data on the Hours and Quantities form and change the records to make them current with the system.

The system updates the hours and quantities that are recorded against work order operations to their matching fields in the Work Order Routing table (F3112). After the update, the form clears, and the records that were processed no longer appear. The system enters a P in the Processed Code field for each entry that it updates so that the record cannot be updated again.

To update hours and quantities manually

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities.

1. On Work With Work Order Time Entry, complete the following fields and click Find:
 - Work Date
 - Order Number
2. Choose the row with the appropriate operation and employee number and click Select.

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours
451004								

- On Time Entry Revisions, choose the rows (or records) to update and then choose Update from the Form menu.

See Also

- Entering Hours and Quantities* to review the processing options for Hours and Quantities

Updating Hours and Quantities by Batch

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities Update.

You should update only those records that have not yet been posted. Records that have not been posted have a blank Processed Code field. Run the update program to post the transactions. Use data selection to update those records that have not yet been posted. The system retrieves the hours and quantities information from the Work Order Time Transactions table (F31122).

Processing Options for Hours and Quantities Update

Interop

1. Transaction Type _____

A specific transaction type
Blank = No outbound
transaction processing

2. Outbound Subsystem UBE _____

1 = The UBE will be called
Blank = The UBE will not be
called

CSMS

1. CSMS Journal Entries _____

1 = Create CSMS journal
entries
Blank = Do not create CSMS
journal entries

2. Flex Accounting _____

1= Use flex accounting
Blank = Do not use flex
accounting

3. General Ledger Date _____

A specific date
Blank = Use today's date

4. Subledger _____

1 = Default order number
Blank = Do not default order
number

5. Document Type _____

A specific document type
Blank = Default 'IH'

Reviewing Statuses and Transactions

After you enter hours and quantities you can review the information either online or by printing a report.

Reviewing statuses and transactions consists of the following tasks:

- ☐ Reviewing the status of hours
- ☐ Reviewing the status of quantities
- ☐ Reviewing the status of operation quantities
- ☐ Reviewing hours and quantities transactions

Reviewing the Status of Hours

You can review work order information before you enter hours in the system. You can display the actual hours for machine, labor, and setup hours entered for each operation associated with a work order. You can also access the Hours Revision form, where you can review the actual, standard, and variance values for the hours. You can update these values for the operation.

Before You Begin

- ☐ Before the system displays entries on the status form, you must do one of the following:
 - Enter the hours on the Hours and Quantities form and run the Hours and Quantities Update.
 - Use the online update function to post the entries.

► To review the status of hours

From the Daily Order Reporting – Discrete menu (G3112), choose Order Hours Status.

Oper Seq#	Description	Actual Machine Hours	Actual Labor Hours	Actual Setup Hours	Op St
10.00	Assembly				
20.00	Assembly				
30.00	Assembly				
40.00	Assembly				
50.00	Test / Inspect				
60.00	Package				

1. On Work With Work Order Status – Hours, complete the following field and click Find:
 - Order Number
2. Choose an operation sequence number and click Select.

	Machine	Labor	Setup
Actual			
Standard		5.00	
Variance		5.0000	
Variance %		100.00	

3. On Work Order Status – Hours Revisions, review the following fields under the Machine, Labor, and Setup headings, and click OK:
 - Actual
 - Standard
 - Variance
 - Variance %

Field	Explanation
Actual	This is the actual machine time in hours recorded against the work order.
Standard	The standard machine hours that you expect to incur in the normal production of this item.
Variance	The variance amount, hours or quantity associated with an operation.
Variance %	The variance amount divided by the standard amount.

Reviewing the Status of Quantities

You can display the quantities entered against the operations scheduled for a work order, including the actual quantity ordered, completed, and scrapped for each operation. You can also access the Quantities Revision form, where you can review the actual, standard, and variance values for the hours. You can update these values for the operation.

Before You Begin

- ☐ Before the system displays entries on the status form, you must do one of the following:
 - Enter the hours on the Hours and Quantities form and run the Hours and Quantities Update.
 - Use the online update function to post the entries.
 - See *Updating Hours and Quantities*.

► To review the status of quantities

From the Daily Order Reporting – Discrete menu (G3112), choose Order Quantities Status.

Oper Seq#	Description	Quantity Completed	Quantity Scrapped	UM	Op St	Percent Yield
10.00	Assembly			EA		
20.00	Assembly			EA		
30.00	Assembly			EA		
40.00	Assembly			EA		
50.00	Test / Inspect			EA		
60.00	Package			EA		

1. On Work with Work Order Status – Quantities, complete the following field and click Find:
 - Order Number
2. Choose an operation sequence number and click Select.

Completed		Scrapped	
Standard	10		
Variance	10.0000	Variance Scrap	
At Operation	10		

3. On Work Order Status – Quantities Revisions, review the following fields and click OK:

- Completed
- Standard
- Variance
- At Operation
- Scrapped
- Variance Scrap

Field	Explanation
Completed	<p>The number of units committed for shipment in Sales Order Entry, using either the entered or the primary unit of measure defined for this item.</p> <p>In the Manufacturing system and Work Order Time Entry, this field can indicate completed or scrapped quantities. The quantity type is determined by the type code entered.</p>
Standard	The quantity of units affected by this transaction.
At Operation	The quantity that is physically at the step at the work center.
Percent Yield	The percentage to be allocated to the various payroll elements. Based upon the program being called, this may represent various types of percentages such as Percentage of Tip Wages versus Total Wages.

Reviewing the Status of Operation Quantities

You can display the routing instructions, operation quantity, quantity completed, and quantity scrapped for a work order, including the projected quantity complete and projected yield, for each operation and for the entire order. Processing options allow you to define the default from and through statuses.

► To review the status of operation quantities

From the Daily Order Reporting – Discrete menu (G3112), choose Operation Quantity Inquiry.

Order Number	Or Ty	Oper Seq#	Op St	Description	Quantity at Operation	Quantity Completed	Quantity Scrapped
451004	WO	10.00		Assembly	10		
451004	WO	20.00		Assembly	10		
451004	WO	30.00		Assembly	10		
451004	WO	40.00		Assembly	10		
451004	WO	50.00		Test / Inspect	10		
451004	WO	60.00		Package	10		

1. On Work With Operation Quantities, complete the following fields and click Find:
 - Branch/Plant
 - Order Number
2. Choose an order number and click Select.

3. On Operation Quantities Inquiry, review the following fields and click Cancel:
 - Completed Date
 - Projected Comp.
 - Yield

Processing Options for Operation Quantity Inquiry

Defaults

Status Info

1. From Status
2. Thru Status

Reviewing Hours and Quantities Transactions

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities Proof.

The Hours and Quantities Proof report lists all labor hours and completed quantities that are recorded against a work order. You can print the hours and quantities transactions that have been entered and review them before you post them to the general ledger system. Before they are posted, the transactions can be changed and updated. After you post them, they cannot be changed. The system retrieves the hours and quantities information from the Work Order Time Transactions table (F31122).

Completions



Completions

When you finish producing items on the shop floor, you need to record the completions to inventory. The completion transactions that you enter in the Shop Floor Management system update the item quantity records in the Inventory Management system.

You use the Super Backflush and Completion programs to record completions to work orders, and the Completions Workbench program to record completions to rate schedules.

Completions consists of the following tasks:

- ☐ Completing discrete work orders
- ☐ Completing process work orders
- ☐ Completing rate schedules

If you use other J.D. Edwards systems, the following integration features apply:

Inventory Management integration

The Inventory Management system allows you to track materials between inventory or storage locations and the shop floor. You can manage inventory issues and commitments, complete orders, and track order quantities throughout the production process.



Warehouse Management integration

If you process transactions for a branch/plant that uses warehouse control, the Location Detail form appears when you enter backflush transactions, and the system creates a second record with the location detail information. In this case, you select Location Detail Information records for processing. To ensure that the quantities in the Location Detail Information table (F4602) are consistent, you should make a selection from the form. The original quantity being processed through this transaction program, using the Location Detail form, appears in the top of the Super Backflush form.

If the item being processed has a unit of measure structure or storage containers, the system enters them in the detail area of the Location Detail form. Although you can override these values, the system performs the following edits:

- The primary unit of measure in the structure and the last level specified are valid based upon unit of measure conversions in the Item Master.
- The units of measure display from largest to smallest.
- The structure must result in whole number conversions between units of measure.

The system allows unit of measure values in the following conditions:

- Each unit of measure can contain only one partial quantity for that unit of measure.
- You can only overfill pallet-type units of measure as defined in the Unit of Measure Definition by Item or by Item Group form.

The system always displays the Location Detail form when adding inventory to the branch/plant, except when inventory is removed and only one location detail record is in the location. In this case, the quantity is automatically removed from the single location detail.

Quality Management integration

With the Quality Management system, you can work with test results as you do the following:

- Create, process, manage, and complete work orders and rate schedules
- Record actual hours and quantities
- Backflush labor and parts

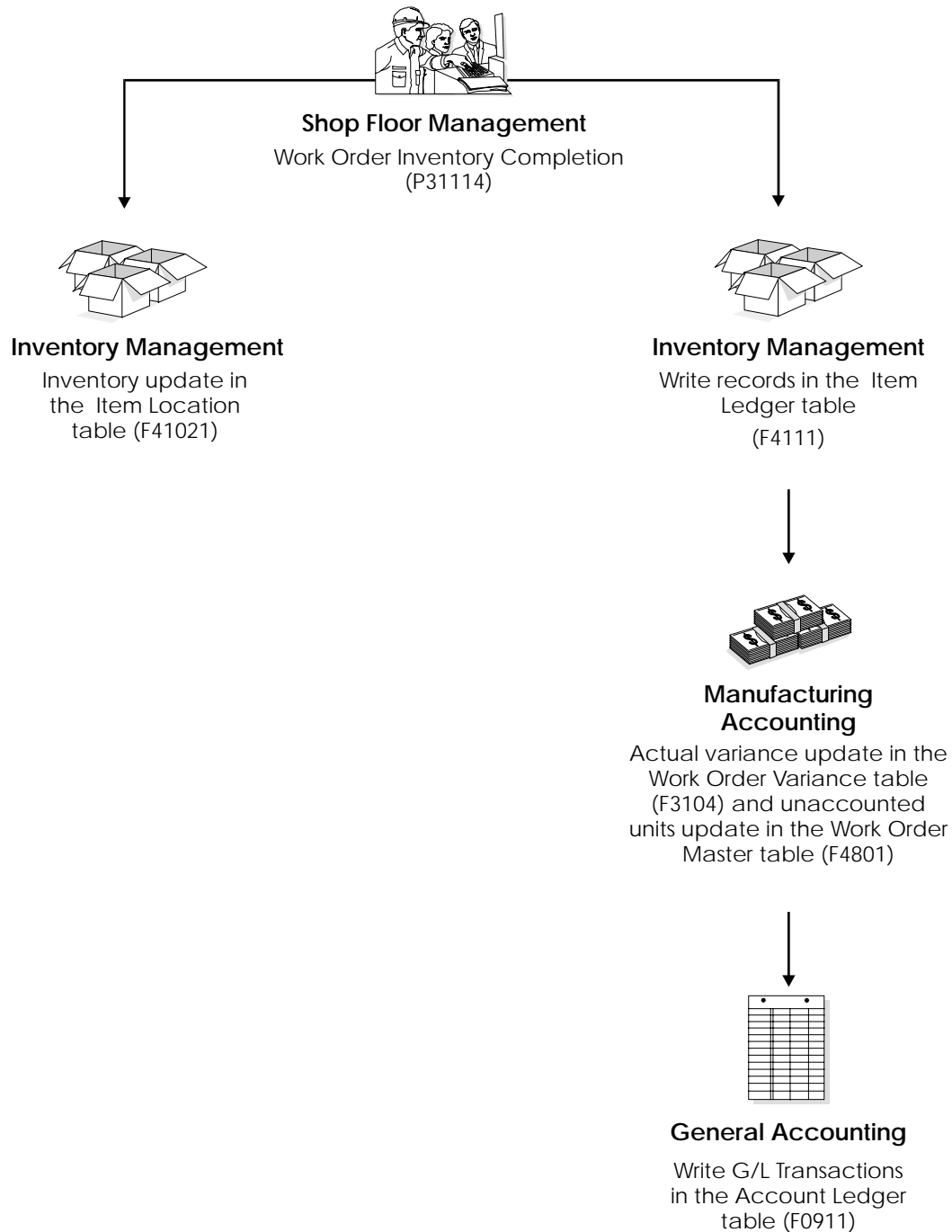
As you enter work order completions, including quantity completed and quantity scrapped, you can do the following:

- Access Test Results Entry for any items requiring testing upon completion
- Review generic text for the work order
- Set processing options for default lot, work order, and operation statuses

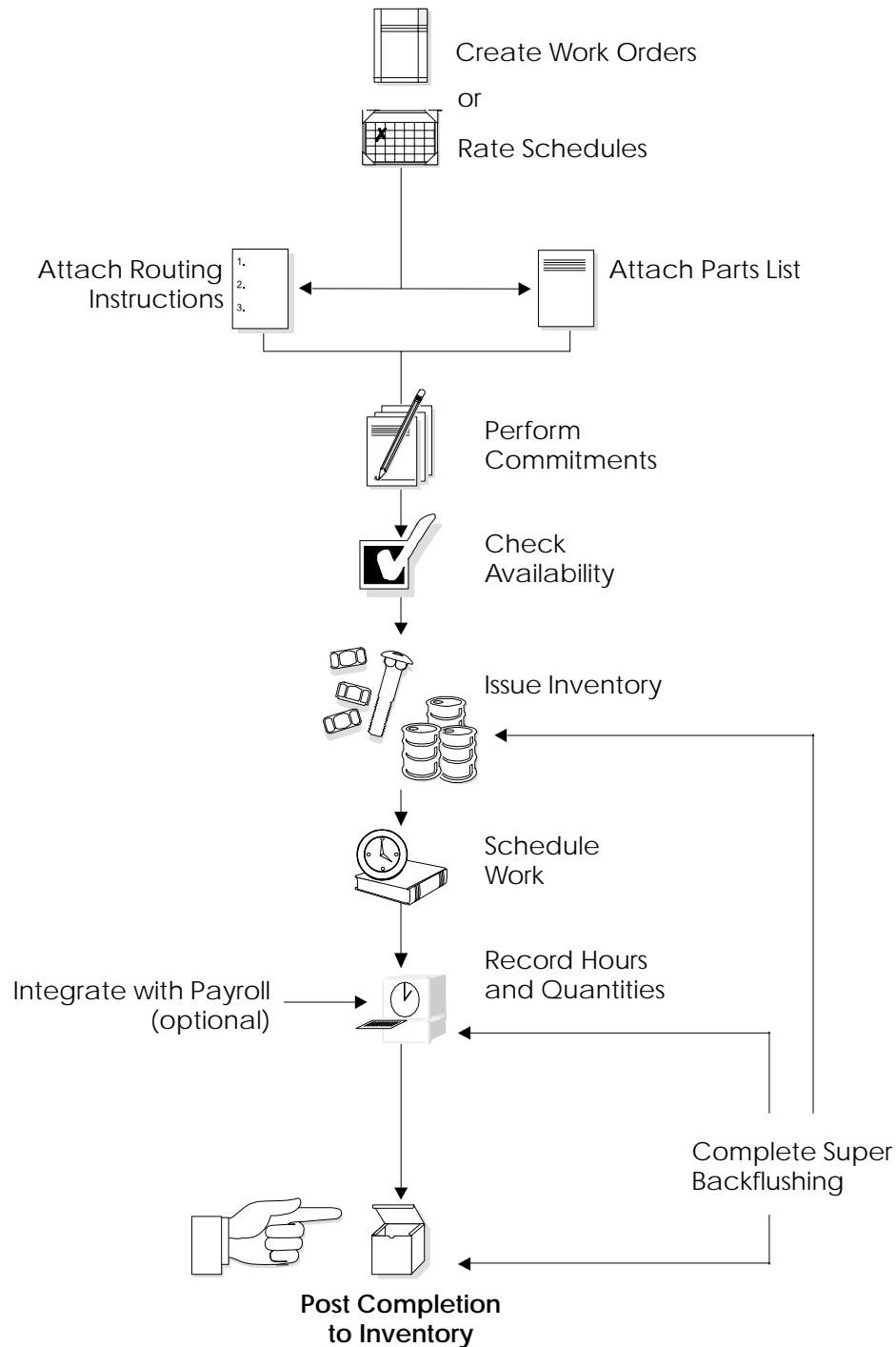
As you backflush labor and material for a work order, you can do the following:

- Access Test Results Entry for any items that require testing
- Review generic text for the parent item and its operation

The system updates several tables after work orders or rate schedules are completed. The following graphic identifies these tables.



The following graphic illustrates the process from work order or rate schedule header through completion. The hand identifies the point in the process where you perform the completion.



See Also

- *Understanding Lot Processing* for more information about lot control
- *What Happens When You Record Completions?* in the *Product Costing and Manufacturing Accounting Guide*

Completing Discrete Work Orders

When you finish producing items on the shop floor, you need to record the completions to inventory. The completion transactions that you enter in the Shop Floor Management system update the item quantity records in the Inventory Management system.

You use the Super Backflush and Completion programs to record completions. Use these programs to perform one of two functions:

- Report all items as complete when the entire work order is finished
- Report partial completions as they occur throughout the production process

The point at which you choose to report completions depends on factors related to your production cycle time. Depending on the nature of the manufactured item, you can report partial completions or report total completions in one transaction. When you report partial completions, you can also indicate the stage or progress that is being made on an order in production and identify any delays in the production process.

When you use the Completions program to complete more than the quantity ordered, the system highlights the Completed Quantity field and warns you that completing the quantity that you designated will generate an over completion.

If a previous completion exists for a work order, the system displays information in the lot, grade or potency, and status fields. Also, if you enter a quantity, the system adds inventory to the lot at the grade or potency and the current status.

You complete discrete work orders by completing one or more of the following applicable tasks:

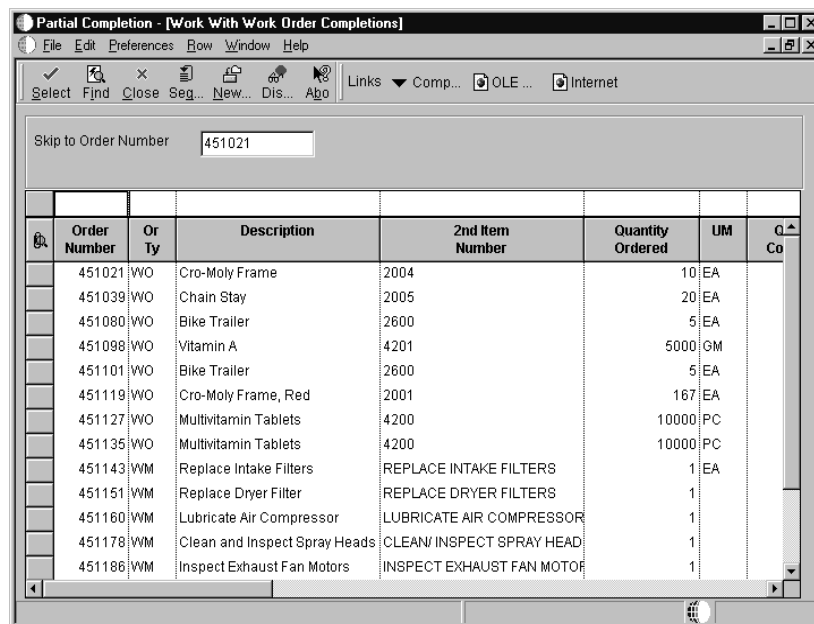
- ☐ Completing work orders without backflushing
- ☐ Working with backflush
- ☐ Completing partial quantities on work orders
- ☐ Processing work orders through super backflush
- ☐ Processing work orders that use quantity at operation
- ☐ Completing work orders with serialized components

Completing Work Orders Without Backflushing

Use the Partial Completion or Full Completion program to record completions without backflushing the materials.

► To complete work orders without backflushing

From the Daily Order Reporting – Discrete menu (G3112), choose Partial Completion.



Order Number	Or Ty	Description	2nd Item Number	Quantity Ordered	UM	Co
451021	WO	Cro-Moly Frame	2004	10	EA	
451039	WO	Chain Stay	2005	20	EA	
451080	WO	Bike Trailer	2600	5	EA	
451098	WO	Vitamin A	4201	5000	GM	
451101	WO	Bike Trailer	2600	5	EA	
451119	WO	Cro-Moly Frame, Red	2001	167	EA	
451127	WO	Multivitamin Tablets	4200	10000	PC	
451135	WO	Multivitamin Tablets	4200	10000	PC	
451143	WM	Replace Intake Filters	REPLACE INTAKE FILTERS	1	EA	
451151	WM	Replace Dryer Filter	REPLACE DRYER FILTERS	1		
451160	WM	Lubricate Air Compressor	LUBRICATE AIR COMPRESSOR	1		
451178	WM	Clean and Inspect Spray Heads	CLEAN/ INSPECT SPRAY HEAD	1		
451186	WM	Inspect Exhaust Fan Motors	INSPECT EXHAUST FAN MOTOR	1		

- On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
- Choose an order number and click Select.

3. On Work Order Completion Detail, complete the following field:
 - Completed Items to Stock
4. Complete the following optional fields:
 - Scrapped
 - Date Cmpl.
 - WO Sts
5. To complete a work order at a location other than the primary location, complete the following fields and click OK:
 - Location
 - Lot/Serial

If using actual costing, you can complete a work order to only one location and lot.

Field	Explanation
U/M	A user defined code (00/UM) that indicates the quantity in which to express an inventory item, for example, CS (case) or BX (box).

Processing Options for Work Order Completions (P31114)

Defaults Tab

Use these processing options to specify the default document types and status codes that the system uses when you complete inventory.

1. Document Type

Use this processing option to specify the default document type that is associated with an inventory completion. Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Defined Codes form.

2. Document Type (Manufacturing only)

Use this processing option to specify the default document type that is associated with an inventory scrap transaction. The system creates the scrap transaction from the Work Order Completions program (P31114). Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Define Codes form.

3. Status Code (Optional)

Use this processing option to specify the default status code for the work order header. Status code is a user defined code (00/SS) that identifies the status of the work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

Lot Hold Codes Tab

Use these processing options to specify the lot hold codes to which the system processes a completion. You can enter up to five lot hold codes.

If you enter an asterisk in any of these fields, the system processes completions to all held lots. Additionally, if you leave these fields blank, the system does not process completions to any held lots.

1. Lot Hold Code #1

Use this processing option to specify one of five lot hold codes to which the system processes completions. Enter a hold code, an asterisk, or leave this field blank. If you enter a hold code, the system processes completions to that hold code. If you enter an asterisk, the system processes completions to all held lots.

If you leave this field blank, the system does not process completions to any held lots.

2. Lot Hold Code #2

Use this processing option to specify one of five lot hold codes to which the system processes completions. Enter a hold code, an asterisk, or leave this field blank. If you enter a hold code, the system processes completions to that hold code. If you enter an asterisk, the system processes completions to all held lots. If you leave this field blank, the system does not process completions to any held lots.

3. Lot Hold Code #3

Use this processing option to specify one of five lot hold codes to which the system processes completions. Enter a hold code, an asterisk, or leave this field blank. If you enter a hold code, the system processes completions to that hold code. If you enter an asterisk, the system processes completions to all held lots. If you leave this field blank, the system does not process completions to any held lots.

4. Lot Hold Code #4

Use this processing option to specify one of five lot hold codes to which the system processes completions. Enter a hold code, an asterisk, or leave this field blank. If you enter a hold code, the system processes completions to that hold code. If you enter an asterisk, the system processes completions to all held lots. If you leave this field blank, the system does not process completions to any held lots.

5. Lot Hold Code #5

Use this processing option to specify one of five lot hold codes to which the system processes completions. Enter a hold code, an asterisk, or leave this field blank. If you enter a hold code, the system processes completions to that hold code. If you enter an asterisk, the system processes completions to all held lots. If you leave this field blank, the system does not process completions to any held lots.

Sales Orders Tab

Use these processing options to specify the information that the system needs to process completions associated with sales orders.

1. Completion Lot and Location Numbers

Use this processing option to specify which number that the system uses for the completion lot number and the completion location. Valid values are:

- 1 The system uses the sales order number as the completion lot number.
- 2 The system uses the sales order number as the completion location and the sales order line number as the completion lot number.
- 3 The system uses the work order number as the completion lot number.

2. Lot Number and Location Fields

Use this processing option to specify whether the system updates the Lot Number and Location fields on the related sales order detail line with the work order's lot and location. Valid values are:

- Blank The system does not update the sales order.
- 1 The system updates the sales order.

3. Next Status Code Default

Use this processing option to specify the default of the next status code for the sales order. This processing option is only used if the Update Sales Order processing option is set to update.

Next status code is a user defined code (40/AT) that identifies the activity or status of the document. Enter the status code to use as the default value or choose it from the Select User Define Codes form. If you leave this field blank, the system uses the sales order next status from the order activity rules.

4. Next Status Code Update

Use this processing option to specify whether the system updates the next status code on a related sales order. Valid values are:

- Blank The system does not update the next status for a sales order.
- 1 The system updates the next status for a sales order.

5. Display Back Order Release Form

Use this processing option to specify whether the system displays the Back Order Release form for completed backordered items. If the system displays the form, you can view the items that are on backorder and then ship them

immediately. You can also view what backorders exist and decide how to prioritize them. Valid values are:

Blank The system does not display the Back Order Release form.

1 The system displays the Back Order Release form.

If you choose this processing option, enter the version of the Back Order Release program (P42117) in the Back Order Release processing option, Sales order tab.

6. Back Order Release (P42117)

Use this processing option to specify the version that the system uses to complete inventory with backordered items. The system specifies the version when the processing option is set to display the Back Order Release program (P42117).

If you leave this field blank, the system uses the ZJDE0001 version of the Back Order Release program. This version controls how the Back Order Release program displays information.

Process Manufacturing Tab

Use these processing options to specify whether the system allows unplanned co-products and by-products and whether the system issues them separately or together.

1. Allow Unplanned Co-Products and By-Products

Use this processing option to specify whether the system processes completions of unplanned co-products and by-products. Valid values are:

Blank The system does not process completions of unplanned co-products and by-products.

1 The system processes completions of unplanned co-products and by-products.

2. Issue Co-Products and By-Products

Use this processing option to determine if the issued ingredients are linked with the process item or with each co-product or by-product that the system completes. Valid values are:

Blank The system issues ingredients to the process item.

1 The system issues ingredients to co-products and by-products.

Choose 1 when you issue ingredients to co-products and by-products. This enables you to track lots to the final end product.

Warehouse Management Tab

Use these processing options to specify how the system processes putaway requests for Warehouse Management integration.

1. Putaway Requests

Use this processing option to specify the directed putaway mode that the system processes. Valid values are:

Blank The system does not process putaway requests.

- 1 The system processes putaway requests only.
- 2 The system processes putaway requests when it accesses the subsystem.

If you specify mode 2, enter the version of the subsystem program that the system uses in the Subsystem Putaway Requests processing option, Warehouse Management tab, in the Work Order Inventory Completion program (P31114).

2. Subsystem Putaway Requests (P46171)

Use this processing option to specify the version of the Location Selection Driver program (P46171), if you choose mode 2 (directed putaway) for the Putaway Requests processing option, Warehouse Management tab. The system uses this version when processing putaway requests.

If you leave this field blank, the system uses the ZJDE0001 version of the Location Selection Driver program. This version controls how the Location Selection Driver program displays information.

3. Cross-Docking of Backorders

Use this processing option to specify whether the system cross-docks backordered items. Valid values are:

Blank The system does not cross-dock backordered items.

- 1 The system cross-docks backordered items.

If you choose 1, then set Display Back Order Release Form to blank (P31114), Sales Order tab.

Completions Tab

Use these processing options to specify the processes that the system enables as you complete inventory using the Inventory Completion program (P31114).

1. Backflush

Use this processing option to specify whether the system displays the Work Order Issues form (P31113) to issue material that is based on the quantity completed after the system runs a successful inventory completion. Valid values are:

Blank The system does not display Work Order Issues.

1 The system displays Work Order Issues.

2 The system performs a blind execution of Work Order Issues.

If you use this processing option, specify the version of the Work Order Issues program (P31113) in the Work Order Issues processing option, Completions tab.

2. Work Order Issues (P31113)

Use this processing option to specify the version of the Work Order Issues program that the system uses. The system only requires this processing option when Work Order Issues is set to execute.

If you leave this field blank, the system uses the ZJDE0001 version of the program. This version controls how the Work Order Issues program displays information.

3. Status Code (Manufacturing only)

Use this processing option to choose the work order status code at or beyond which completions the system cannot process. If you leave this field blank, the system processes work orders at any status. For example, if inventory completions is set at 95 and the work order is at 95 or greater, then the system displays an error.

4. Receipt Routing (Manufacturing only)

Use this processing option to specify whether the system initiate the process for receipt routing. Use this processing option for inspection purposes, which allows you to go through the process before you process inventory completions. Valid values are:

Blank The system does not initiate the process for receipt routing.

1 The system initiates the process for receipt routing.

5. Lot Number

Use this processing option to specify whether the system allows you to override the lot number. Valid values are:

Blank The system does not allow you to override the lot number.

1 The system allows you to override the lot number.

If this processing option is set to blank, the lot number field is unprotected and allows user input the first time you complete a work order. However, if the system completes a partial completion of that work order, the system protects the lot number field. The system uses the lot number for the first completion of that work order and for all other partial completions.

If you have this processing option set to 1, you can override the lot number even if you have already done a partial completion of the work order. The system does not protect the lot number field.

6. Negative Quantity on Hand

Use this processing option to specify whether the system displays an error message when the material completed sets the on-hand quantity to a negative amount. Valid values are:

1 The system displays an error message for negative on-hand quantities.

Blank The system does not display an error message for negative on-hand quantities.

Versions Tab

Use these processing options to specify which versions of the following programs that the system uses in the completion process:

- Shortage Workbench
- Work Order Entry
- Test Results Revisions

1. Shortage Workbench (P3118)

Use this processing option to specify the version that the system uses when you choose the row exit to the Shortage Workbench program (P3118) from the Work Order Completion Detail form.

If you leave this field blank, the system uses the ZJDE0001 version of the Shortage Workbench program. This version controls how the Shortage Workbench program displays information.

2. Work Order Entry (P48013)

Use this processing option to specify the version that the system uses when you choose the row exit to the Test Results Revisions program (P3711) from the Work Order Completion Detail form.

If you leave this option blank, the system uses the ZJDE0002 version of the Test Results Revisions program. This version controls how the Test Results Revisions program displays information.

3. Test Results Revisions (P3711)

Use this processing option to specify the version that the system uses when you choose the row exit to the Test Results Revisions program (P3711) from the Work Order Completion Detail form.

If you leave this option blank, the system uses the ZJDE0002 version of the Test Results Revisions program. This version controls how the Test Results Revisions program displays information.

Serial Number Processing Tab

Use these processing options to specify how the system processes inventory completions when you have serial numbers attached to the work orders.

1. Lot Serial Number

Use this processing option to specify whether the system duplicates a lot serial number that exists in the system. Valid values are:

Blank The system does not duplicate lot serial numbers.
1 The system duplicates lot serial numbers.

2. Document Type

Use this processing option to specify the default document type that the system uses for serial number issues. Document type is a user defined code (00/DT) that identifies the origin and purpose of the document. Enter the document type to use as the default value or choose it from the Select User Defined Codes form. If you leave this field blank, the system uses the IM value. The IM value system charges material to the a work order.

Interoperability Tab

Use these processing options to specify the default transaction type the system uses to process export transactions and to identify the outbound subsystem.

1. Transaction Type

Use this processing option to specify the transaction type that the system uses for outbound interoperability processing. Transaction type is a user defined code (00/TT) that the system assigns to a transaction when it completes a work order. Enter the transaction type to use as the default value or choose it from the Select User Define Code form. If you leave this field blank, the system does not perform outbound interoperability processing.

2. Outbound Subsystem

Use this processing option to specify whether the system activates the subsystem after the Work Order Completions program (P31114) has successfully processed an outbound transaction. Valid values are:

Blank The system does not activate the subsystem.

1 The system activates the subsystem.

Working with Backflush

Use the Completion with Backflush program to record full or partial completions while backflushing the materials. Running this program completes the quantity to stock.

Working with backflush consists of the following tasks:

- ☐ Completing work orders through backflush
- ☐ Releasing sales backorders during completions (optional)
- ☐ Managing completions using receipts routing (optional)

Before You Begin

- ☐ Set the appropriate processing options to access the Inventory Issues program and to identify the version of the program to use.

Completing Work Orders through Backflush

You record completions while backflushing material on either the Full or Partial Completion form.



To complete work orders through backflush

From the Daily Order Reporting – Discrete menu (G3112), choose Completion with Backflush.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order and click Select.
3. On Work Order Completion Detail, complete the following field:
 - Completed Items to Stock
4. Complete the following optional fields:
 - Scrapped
 - Date Cmpl.
 - WO Sts
5. To complete a work order at a location other than the primary location, complete the following fields and click OK:
 - Location
 - Lot/Serial

If using actual costing, you can complete a work order to only one location and lot.

Item Number	Description	Oper Seq#	Issues	Request Date	Mt St	Quantity Ordered
2001	Cro-Moly Frame, Red	10.00		6/24/05	20	12
2021	Handle Bar	10.00		6/24/05	20	12
2006	Touring Fork	20.00		6/24/05	20	12
2007	Bottom Bracket	30.00		6/24/05	20	12

- On Inventory Issue Revisions, choose the items to issue and then choose Process Issues from the Row menu.

See Also

- Completing Work Orders Without Backflushing* to review the processing options for Work Order Inventory Completions

Releasing Sales Backorders During Completions

The Sales Order Management system uniquely identifies items that are being manufactured as backordered items. When you complete the items in the Shop Floor Management system using the Full Completion program, you can release the sales backorders.

Before You Begin

- ☐ Before you release sales backorders during completion, set processing options to enable backordered sales orders to appear and to identify the version of the Backorder Release program to use.

► **To release sales backorders during completions**

From the Daily Order Reporting – Discrete menu (G3112), choose Full Completion.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.
3. On Work Order Completion Detail, complete the following field:
 - Completed Items to Stock
4. Complete the following optional fields and click OK:
 - Scrapped
 - Date Cmpl.
 - WO Sts
5. On Work With Backorders, review the following default information:
 - Order Number
 - Or Ty
 - Item Number
 - Quantity on Backorder
 - Ship To

If the available quantity plus the amount being received is enough to fill any or all of the backorders, the system enters the amount for that order in the Quantity to Ship field on Back Order Release.

Field	Explanation
Quantity on Backorder	The number of units backordered in Sales Order Management or in Work Order Processing, using either the entered or the primary unit of measure defined for this item.

See Also

- *Completing Work Orders Without Backflushing* to review the processing options for Work Order Inventory Completions

Managing Completions that Use Receipts Routing

You set up a receipt routing in the Procurement system by specifying a unique code name for routing receipts in the UDC 43/RC and an operation name in UDC 43/OC. You enter a Y in any of the update fields on Receipt Routing Definition to cause the system to update the appropriate field in the Item Location table when an item arrives at the specified operation.

The system considers items to be on-hand only at the end of a receipt routing. You must enter a Y (Yes) in the On-Hand column for the system to assign the last operation to a routing. The system assigns a Y in the Pay field on the operation to which a Y is assigned in the On-Hand column.

To specify whether the system directs items through a receipt routing, you must assign a routing to each item. You assign receipt routings to items based on item or supplier relationships or both.

For manufactured items, the supplier must be -99999999. However, the system generates the supplier when you set the processing options for Work Order Completions in the Supplier/Item Information program (P43090). The processing options automatically sets the manufactured items to supplier -99999999 and prevents the system from displaying a supplier field in the program.

Before You Begin

- ☐ Before you can manage completions using Receipts Routing, set the processing option to initiate the receipt routing process.

► To manage completions using receipts routing

From the Receipt Routing menu (G43A14), choose Routing/Analysis Revisions.

Supplier	2nd Item Number	Description	Cert. Status	Normal Route	Alt Route
4343	2455	Orange Safety Flag			
4343	2601	Frame			
4343	2602	Canopy			
4343	2603	Seat			
4343	2604	Wheel Set			
4343	4105	Bottle, 2 liter	FL		RAND
4343	4201	Vitamin A			
4343	4202	Vitamin B1			
4343	4203	Vitamin B2			
4343	4204	Vitamin B6			
4343	4205	Vitamin B12			
4343	4206	Vitamin C			
4343	4207	Minerals, Complex			

- On Work With Supplier/Item Relationships, complete the following field and click Find:
 - Branch/Plant
- Choose a record and click Select.

Supplier	Item Number	Description	Certification Status	Effective Date	Expiration Date
4343	2455	Orange Safety Flag		11/20/97	11/20/98

3. On Supplier/Item Relationships, complete the following fields and click OK:
 - Effective Date
 - Expiration Date
 - Normal Route Code

If you need to issue material from locations that are not listed on the parts list, after you complete the work order by accepting the records shown on Completion with Backflush, you access the Multiple Locations form, move the commitments, and then issue the material.

To locate the status of the receipts routing, use the Status Inquiry form. To view the details of a step, access the Operation Movement Detail form.

Field	Explanation
Normal Route Code	A user defined code (43/RC) that identifies a receipt route. Each receipt route consists of a series of operations through which the system directs items upon receipt.

See Also

- *Reviewing Manufacturing AAls in the Product Costing and Manufacturing Accounting Guide* for more information about automatic accounting instructions for manufacturing
- *Entering Receipts in the Procurement Guide* for detailed information about entering receipts
- *Completing Work Orders Without Backflushing* to review the processing options for Work Order Inventory Completions

Processing Options for Routing/Analysis Revisions

Process

Cross Ref. Type for Supplier Item
(Default VN) _____

Enter a '1' to automatically display the applications listed below when adding a new item.

Standard Item Master _____
Non-Stock Item Master _____
Supplier Prices _____
Enter a '1' for Work Order _____
Completion Mode _____

Versions

Enter the version for each program that is called. If left blank, ZJDE0001 will be used.

Item Master Maintenance (P4101)

Completing Partial Quantities on Work Orders

You can use the Completion program to record completed quantities for a work order in one of two ways:

- Full completion, which allows you to complete all quantities for all materials on a work order.
- Partial completion, which allows you to complete parts of the quantity ordered for a work order.

The Work With Work Order Completions form displays completed and scrapped quantities and percent complete information for a work order.



To complete partial quantities on work orders

From the Daily Order Reporting – Discrete menu (G3112), choose Partial Completion.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.
3. On Work Order Completion Detail, complete the following field:
 - Completed Items to Stock
4. Complete the following optional fields:
 - Scrapped
 - Date Cmpl.
5. If you did not set the status in the processing options, complete the following field:
 - WO Sts
6. If you are not completing at the primary location, complete the following fields and click OK:
 - Location
 - Lot/Serial

See Also

- *Completing Work Orders Without Backflushing* to review the processing options for Work Order Inventory Completions

Processing Work Orders through Super Backflush

The Super Backflush program creates backflush transactions against a work order at pay points defined in the routing instructions. Super backflushing allows you to relieve inventory at strategic points throughout the manufacturing process.

For example, assume that not all parts are required at the first operation in your production process. As component material is brought into the production process, it is relieved from inventory at points within this process. In this example, the cycle time might be three days.

Rather than relieving all parts for the work order at the start date, you can define more logical points within the production process to relieve the inventory as you use it. You can define operations in the parent item's routing instruction at which various components are needed and at which operation you want the system to record the inventory transaction.

You can enter completed and scrapped quantities by operation and employee. The system automatically completes the work order, or you can review and revise the transactions. The backflush procedure can perform the following transactions by operation:

- Issue parts to the work order
- Record hours and quantities against the work order at standard values
- Record inventory completions

The system records the transactions from the pay point that you indicate in the routing instructions back to the first operation or the previous pay point, if one has been defined.

Note: If using actual costing, you must consume all raw materials up to the last pay point and update the hours online before you proceed to the next completions form. See *Understanding Work Orders in Manufacturing Accounting* in the *Product Costing and Manufacturing Accounting Guide*.

You can set processing options for the Super Backflush program to do the following:

- Indicate the versions of associated programs to access
- Choose document types to be used when creating transactions
- Choose update status codes for operations and the work order header

- Indicate a status code beyond which entries to work orders cannot be made
- Store hours and quantities in related tables for later processing by manufacturing accounting
- Either access a specified version of the following programs or automatically run the process without calling them:
 - Hours and Quantity
 - Material Issues
 - Work Order Completions

The information in the detail area of the is from the Work Order Routing Instructions table (F3112). The information in the header area is stored in the Work Order Master table (F4801).

► To process work orders through super backflush

From the Daily Order Reporting – Discrete menu (G3112), choose Super Backflush.

Order Number	Or Ty	Description	Branch	2nd Item Number	Quantity Ordered
451004	WO	Touring Bike, Red	M30	220	2
451012	WO	Cro-Moly Frame, Red	M30	2001	
451021	WO	Cro-Moly Frame	M30	2004	
451039	WO	Chain Stay	M30	2005	
451080	WO	Bike Trailer	M30	2600	
451098	WO	Vitamin A	M30	4201	5
451101	WO	Bike Trailer	M30	2600	
451119	WO	Cro-Moly Frame, Red	M30	2001	
451127	WO	Multivitamin Tablets	M30	4200	10
451135	WO	Multivitamin Tablets	M30	4200	10
451194	WO	Touring Bike, Red	M30	220	

1. On Work With Order Numbers, complete the following field and click Find:
 - Skip to Order Number
2. Choose the order number that you want to process and click Select.

The system displays Super Backflush. Operation numbers defined as pay points appear in reverse image.

Work Center	Oper Seq#	Employee Number	Equipment Number	Quantity Completed	Quantity Canceled	U/M	Op St	Pay Point Status
200-901	10.00					EA		
200-901	20.00					EA		
200-901	30.00					EA		
200-901	40.00					EA		
200-911	50.00					EA		
200-920	60.00					EA		

3. On Super Backflush, complete the following fields:
 - Transaction Date
 - Employee Number
 - Quantity Completed
 - Op St
4. Complete the following optional field and click OK:
 - Pay Point Status
5. On the last pay point, Work Order Completion Detail appears. Review the following fields and click OK:
 - Completed
 - Scrapped
 - Date Cmpl.
 - WO Sts
 - Location
 - Lot/Serial
6. On Inventory Issue Revisions, choose all item numbers, choose Process Items from the Row menu, and then click OK.

The system processes the information according to the issue type code and pay point type that is assigned to each operation.

If an operation is defined as a pay point, and the pay point is set up to issue material and report labor, then, when the operation is recorded as complete, the system issues the ingredients and backflushes labor from the last defined pay point up to the previous pay point.

7. On Time Entry Revisions, review, and complete as necessary, any of the following fields and click OK:
 - Employee Number
 - Oper #
 - Ty Hrs
 - Begin Time
 - End Time
 - Hours
 - Quantity
 - UM
 - St

Field	Explanation
Pay Point Status	A code that indicates whether the operation should be taken to a status of complete or partially complete. Valid codes are: Blank Not reported P Partially complete C Completed
UM	A user defined code (00/UM) that indicates the quantity in which to express an inventory item, for example, CS (case) or BX (box).

See Also

- *Reviewing the Status of Hours* for information about the status of hours for work orders
- *Reviewing the Status of Quantities* for information about the status of quantities for work orders

Processing Options for Super Backflush (P31123)

Defaults Tab

These processing options allow you to identify operation statuses for partial and full completions.

1. Operation Status for Partial Completions

Use this processing option to indicate the status of an operation of a work order or an engineering change order as the operation steps in the routing are partially completed. Enter the Operation Status code (31/OS) or select it from the User Defined Codes form.

2. Operation Status for Full Completions

Use this processing option to indicate the status of an operation of a work order or an engineering change order as the steps in the routing are fully completed. Enter the Operation Status code (31/OS) or select it from the User Defined Codes form.

3. Status Code for Update to Work Order Header

Use this processing option to specify the default status code for the work order header. Status code is a user defined code (00/SS) that identifies the status of a work order. Enter the status code to use as the default value or choose it from the Select User Define Codes form.

Versions Tab

These processing options allow you to specify which program version the system uses when it accesses other programs from Super Backflush. If you leave the fields blank in any of these options, then the system uses the ZJDE0001 version.

1. Hours and Quantities (P311221)

Use this processing option to specify the version of the Hours and Quantities program (P311221) that the system uses to track labor, machine, and setup hours during the manufacturing of a work order. If you leave this option blank, the system uses the ZJDE0001 version.

2. Work Order Issues (P31113)

Use this processing option to specify the version of the Work Order Issues program (P31113) that the system uses to move components that were in

inventory to a work order. If you leave this option blank, the system uses the ZJDE0001 version.

3. Work Order Completions (P31114)

Use this processing option to specify the version of the Work Order Completions program (P31114) that the system uses to indicate how many items the system has manufactured or scrapped from a work order. When the system performs a completion, the system moves the item to inventory. If you leave this option blank, the system uses the ZJDE0001.

4. Test Results Revisions (P3711)

Use this processing option to specify the version of the Test Results Revision program (P3711) that the system uses when you choose Test Results and take a row exit from the main Super Backflush form. If you leave this field blank, the system uses the ZJDE0001 version.

5. Manufacturing Scheduling Workbench (P31225)

Use this processing option to specify the version of Manufacturing Scheduling Workbench (P31225) that the system will use when the Scheduling Workbench form exit is selected from the Work With Order Numbers form in Super Backflush. If you leave this field blank, the system will use the ZJDE0001 version.

6. Work Order Entry (P48013)

Use this processing option to specify the version of Work Order Entry (P48013) that the system will use when the WO Entry row exit is selected from the Work With Order Numbers form in Super Backflush. If you leave this field blank, the system will use the ZJDE0001 version.

Process Tab

These processing options allow you to specify the status limit at or beyond which the system cannot run Super Backflush. In addition, they allow you to specify whether the system displays the Work Order Completions form, Work Order Issues form, or the Hours and Quantities form.

1. Work Order Status Limit

Use this processing option to choose the work order status code (00/SS) at or beyond which the system cannot run the Super Backflush program. For example, if this processing option is set at 95 and a work order has reached status 95, then the system generates an error message if you attempt to run Super Backflush on that work order. Enter the Work Order Status code or select it from the Select User Defined Codes form.

2. Display Work Order Completions Form

Use this processing option to specify if the system displays the Work Order Completions form (P31114) when the system fully or partially completes the final operation listed on the Super Backflush form. Valid values are:

Blank The system displays the Work Order Completions form.

1 The system does not display the Work Order Completions form.

If the system does not display this form, then it completes the work order for the quantity that is specified on the Super Backflush form. If you complete quantities to different locations, lot numbers, or serial numbers, then display the Work Order Completions Detail form.

3. Display Work Order Issues Form

Use this processing option to specify whether the the system displays the Work Order Issues form (P31113) when you record activity at a pay point operation. Valid values are:

Blank The system displays the Work Order Issues form.

1 The system does not display the Work Order Issues form.

4. Display Hours and Quantities Form

Use this processing option to specify whether the system displays the Hours and Quantities form (P311221) when the system records activity against a pay point operation. Valid values are:

Blank The system displays the Hours and Quantities form.

1 The system does not display the Hours and Quantities form.

5. Apply Yield

Use this option to specify whether the system applies operation yield percentage to the quantity that the user completes at an operation. The yield percentage determines the scrap quantity. Valid values are:

Blank The system does not apply the operation yield percent to the quantity completed.

1 The system applies the operation yield percent to the quantity completed.

Edits Tab

This processing option allows you to specify whether you want to validate the quantity completed and scrapped.

1. Validate Quantity at Operation

Use this processing option to validate that the quantity completed plus the quantity scrapped does not exceed the quantity at operation. Valid values are:

Blank The system does not validate quantities at operation.

1 The system validates quantities at operation.

Processing Work Orders that Use Quantity at Operation

You report quantities against work order operations using either Hours and Quantities or Super Backflush. For example, if you have a quantity of 20 completed for operation sequence numbers 10 and 20, and a quantity of 40 completed for operation sequence number 30, you report these quantities using either the Hours and Quantities program or the Super Backflush program. These programs differ in the following ways:

- Hours and Quantities allows entry of different types of hours worked, in addition to quantities; Super Backflush allows entry of quantities only.
- Hours and Quantities runs in batch mode. After you enter hours and quantities, you can review and revise these hours and quantities until you update the work order routing instructions; you update Super Backflush quantities online.

You can enter completed and scrapped quantities by operation and employee. The system completes the work order if the last operation is defined as a pay point, or you can review and revise the transactions. However, quantities completed at a given operation cannot exceed the quantity completed at the preceding operation. Super Backflush totals the entries for quantity completed and scrapped for the operation and compares that to the quantity at operation. If the total exceeds the quantity at operation, the system highlights the fields and displays an error message.

When you use Hours and Quantities, the system verifies the quantity at operation before the update process as though the transactions were updated in the Work Order Routing table. The system uses the previously entered data to verify the quantity at operation. This only occurs for data entered on or previous to the current day.

You can set a processing option for the Super Backflush program to indicate whether the system verifies, for a specific operation, that the total quantity completed plus the quantity scrapped does not exceed the quantity at operation.

Super Backflush allows entry only for pay points. To handle nonpay points, Super Backflush considers the quantity at operation for a given operation to be the total of the quantity at that operation plus the quantity at operation for all previous nonpay points since the last pay point.

Before You Begin

- ☐ Set the appropriate processing option to verify that the total of the quantity completed plus the quantity scrapped does not exceed the quantity at operation for a given operation.

► To process work orders that use quantity at operation

From the Daily Order Reporting – Discrete menu (G3112), choose Hours and Quantities.

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours	Quz
451004	1		50.00	1	1			.25	
451004	1		50.00	4	1				
451004	1		60.00	1	1			.50	
451004	1		60.00	4	1				

1. On Work With Work Order Time Entry, complete the following fields and click Find:
 - Work Date
 - Order Number
2. Choose the appropriate row and click Select.

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours
451004	1		50.00	1	1			.25
451004	1		50.00	4	1			
451004	1		60.00	1	1			.50
451004	1		60.00	4	1			
451004								

3. On Time Entry Revisions, verify that the following fields contain accurate information:
 - Employee Number
 - Equipment Number
 - Oper #
 - Ty Hrs
4. Complete the following fields:
 - Hours
 - Quantity
5. Review the following fields and click OK:
 - Misc. Dollars
 - Employee Rate
 - Reason Code

See Also

- *Entering Hours and Quantities* to review the processing options for Hours and Quantities

Completing Work Orders with Serialized Components

When you record a completion for serialized components, the system accesses the Associate Issued Item Lot Serial Numbers (LSN) program. Another form, Serial Number Associations, is only accessible if you are associating serial number-controlled components to serial number assemblies. The system displays the preassigned serial numbers and any memo lot information on the Serial Number Associations form.

After you generate serial numbers for a work order, you associate the serialized components with a serialized assembly. To associate a serialized component with a serialized assembly, you enter the associating quantity.

In addition, the completion program allows you to enter a memo lot number to use when both lot and serial numbers are required for tracking assemblies. The system verifies the memo lot number and serial number if you set the Serial Number Required field on the Item Branch/Plant Information form to do so.

If you complete work orders with components that are not serialized, you cannot assign serial numbers to the assemblies at completion.

If you set the appropriate processing options in the completion program, the system allows you to complete multiple items using the same serial number. If using actual costing, you can only complete to one lot, location, and serial number.



To complete work orders with serialized components

From the Daily Order Reporting – Discrete menu (G3112), choose Partial Completion.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.
3. On Work Order Completion Detail, complete the following fields:
 - Completed Items to Stock

Note: For serialized items, you can complete only one item at a time.

4. If you know the serial number, complete the following field:
 - Lot/Serial
5. If you don't know the serial number, choose Serial Numbers from the Form menu.

6. On Work With Order Serial Number, choose a number, click Select, and then go to step 10.

If a list of serial numbers does not appear, you must generate them by choosing Revisions from the Form menu.

7. On Serial Number Revisions, choose Lot/SN Generation from the Form menu.

The system generates enough serial numbers for all the items on the work order.

8. Click OK to return the list to Work With Order Serial Numbers.
9. On Work With Order Serial Numbers, choose the serial number that you want and click Select.
10. On Work Order Completion Detail, complete the following optional fields:
 - Scrapped
 - Date Cmpl.
 - WO Sts
11. To complete a work order at a known location other than the primary location, complete the following field and click OK:
 - Location
12. To choose a component to which you want to issue to a work order, choose Lot/SN Association from the Form menu.
13. On Serial Number Associations, choose Issued Items from the Form menu.
14. On Work With Serialized Issued Items, choose the components that you want to associate to the serialized assembly and click Select.
15. On Serial Number Associations, click OK.
16. On Work With Work Order Completion Detail, click OK.

Completing Process Work Orders

When you finish producing a processed item on the shop floor, you need to record the completions to inventory. The completion transactions that you enter in the Shop Floor Management system update the ingredient quantity records in the Inventory Management system.

You use the Super Backflush or Completion programs to record completions. Use these programs to perform one of two functions:

- Report all co-products and by-products as complete after the entire work order is complete
- Report partial completions as they occur throughout the production process

The point at which you choose to report completions depends on the process, the co-products and by-products it produces, and your production cycle time. Depending on the nature of the manufactured item, you can report partial completions or report total completions in one transaction. When you report partial completions, you can also indicate the stage or progress that is being made on an order in production and identify any delays in the production process.

When you use the Completions program to complete more than the quantity ordered, the system highlights the Completed Quantity field and warns you that completing the quantity that you designated will generate an overcompletion.

If a previous completion exists for a work order, the system displays information in the lot, grade or potency, and status fields. Also, if you enter a quantity, the system adds inventory to the lot at the grade or potency and the current status.

You complete process work orders by completing one or more of the following applicable tasks:

- ☐ Completing work orders without backflushing
- ☐ Working with backflush
- ☐ Completing partial quantities on work orders
- ☐ Processing work orders through super backflush

- ☐ Processing work orders that use quantity at operation
- ☐ Completing work orders with serialized components

See Also

- *Completing Discrete Work Orders* to review the processing options for Work Order Inventory Completions

Completing Work Orders Without Backflushing

You can use the Completion program to record completed quantities for a work order, without backflushing the ingredients, in one of two ways:

- Full completion, which allows you to complete all quantities for all ingredients on a work order
- Partial completion, which allows you to complete parts of the quantity ordered for a work order

The Work With Work Order Completions form displays completed and scrapped quantities and percent complete information for a work order.

► To complete work orders without backflushing

From the Daily Order Reporting – Process menu (G3114), choose Partial Completion.

Order Number	Or Ty	Description	2nd Item Number	Quantity Ordered	UM	Co
451469	WO	Lubricant Process	5000	1		
451522	WO	ACD Maintenance Model WO	7250			
451531	WO	VM Maintenance	7201			
451549	VM	Preventive Maintenance Order	7201	1	EA	
451557	VM	Preventive Maintenance Order	7250	1	EA	
451565	WO	Cro-Moly Frame, Red	2001	250	EA	
451573	WO	Cro-Moly Frame, Red	2001	250	EA	
451581	WO	Cro-Moly Frame, Two Tone	2002	250	EA	
451590	WO	Cro-Moly Frame, Two Tone	2002	250	EA	
451602	WO	Cro-Moly Frame, Two Tone	2002	11	EA	
451611	WO	Cro-Moly Frame, Two Tone	2002	11	EA	
451629	WO	Cro-Moly Frame, Two Tone	2002	10	EA	
451645	WO	Refurbish VM14 Vertical Mill	E300	1		

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose a record and click Select.

Partial Completion - [Work Order Completion Detail]

File Edit Preferences Form Window Help

OK Cancel Dis... Auto Links Item S... OLE... Internet

Order Number: 451469 WO Lubricant Process

Item Number: 5000 ☐ Enter Test Results after Completion

Qty's:	Ordered	Completed	Scrapped	Date Cmpl.	% of Order
To Date					0.00

Amount of Process Completed	Ordered	Completed	Date Cmpl.
			8/2/00

Bm/Pit: M30

Reason:

WO Sts: 20 Sales Order WO Processed

U/M:

3. On Work Order Completion Detail, complete the following fields:
 - Completed
 - Scrapped
 - Date Cmpl.
 - WO Sts
4. To complete a work order to a location other than the primary location, complete the following fields and click OK:
 - Location
 - Lot/Serial
5. On Co/By Product Completions, complete the following fields:
 - Completed
 - Scrapped

Field	Explanation
U/M	A user defined code (00/UM) that indicates the quantity in which to express an inventory item, for example, CS (case) or BX (box).

Working with Backflush

Use the Completion with Backflush program to record full or partial completions while backflushing the ingredients. Running this program completes the quantity to stock.

You use backflushing to report the issue transactions for ingredients that you use in a process after the co-products and by-products of the process are produced. Therefore, backflush issue transactions occur when you report partial or full completions of co-products and by-products on a work order.

Working with backflush consists of the following tasks:

- Completing work orders through backflush
- Releasing sales backorders during completions (optional)
- Managing completions using receipts routing (optional)
- Setting the resource parent for the co-products and by-products (optional)

Before You Begin

- ☐ Set the appropriate processing options to access the Inventory Issues program and to identify the version of the program to use.
- ☐ Set the appropriate processing options to issue ingredients for each co-product and by-product separately, and to allow completion of unplanned co-products and by-products.

Completing Work Orders Through Backflush

You record completions while backflushing material on either the Full or Partial Completion form.

To complete work orders through backflush

From the Daily Order Reporting – Process menu (G3114), choose Completion with Backflush.

Order Number	Or Ty	Description	2nd Item Number	Quantity Ordered	UM	Co
451004	WO	Touring Bike, Red	220	2000	EA	
451012	WO	Cro-Moly Frame, Red	2001	10	EA	
451021	WO	Cro-Moly Frame	2004	10	EA	
451039	WO	Chain Stay	2005	20	EA	
451080	WO	Bike Trailer	2600	5	EA	
451098	WO	Vitamin A	4201	5000	GM	
451101	WO	Bike Trailer	2600	5	EA	
451119	WO	Cro-Moly Frame, Red	2001	167	EA	
451127	WO	Multivitamin Tablets	4200	10000	PC	
451135	WO	Multivitamin Tablets	4200	10000	PC	
451143	WM	Replace Intake Filters	REPLACE INTAKE FILTERS	1	EA	
451151	WM	Replace Dryer Filter	REPLACE DRYER FILTERS	1		
451160	WM	Lubricate Air Compressor	LUBRICATE AIR COMPRESSOR	1		

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an record and click Select.

Order Number: 451012 WO Cro-Moly Frame, Red

Item Number: 2001 ☐ Enter Test Results after Completion

Qty: Ordered: 10 Completed: 0 Scrapped: 0 Date Cmpl.: 7/31/00 % of Order: 0.00

Completed Items to Stock: 7/31/00

Brn/Plt: M30 Lot/Serial:

Reason: Lot/Serial Status: Approved

WO Sts: 95 Manufacturing Complete Lot Expiration Date:

UM: EA Each Memo Lot 1:

Location: Memo Lot 2:

3. On Work Order Completion Detail, complete the following fields:
 - Completed
 - Scrapped

- Date Cmpl.
 - WO Sts
4. If you are completing at a location other than the primary location, complete the following fields and then click OK:
 - Location
 - Lot/Serial
 5. On Work Order Inventory Issues, review the issue quantities.
 6. To issue the material, click OK.
 7. On Co/By-Product Completions, make any necessary changes in the following fields and click OK:
 - Completed
 - Scrapped

After you click OK, the system updates the on-hand inventory for the co-products and by-products. The Inventory Issues form appears for each co-product and by-product, allowing you to issue the ingredients separately for each co-product and by-product.

Releasing Sales Backorders During Completions

The Sales Order Management system uniquely identifies items that are being manufactured as backordered items, as opposed to items that are not backordered. When you complete the items in the Shop Floor Management system using the Completion with Backflush program, you can release the sales backorders.

Before You Begin

- ☐ Before you release sales backorders during completion, set processing options to enable the backordered sales orders to appear and to identify the version of the Backorder Release program to use.



To release sales backorders during completions

From the Daily Order Reporting – Process menu (G3114), choose Completion with Backflush.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.

3. On Work Order Completion Detail, complete the following field:
 - Completed
4. Complete the following optional fields and click OK:
 - Scrapped
 - Date Cmpl.
 - WO Sts
5. On Work With Backorders, review the following default information:
 - Quantity on Backorder
 - Order Number
 - Or Ty
 - Item Number
 - Ship To

If the available quantity plus the amount being received is enough to fill any or all of the backorders, the system enters the amount for that order in the Quantity to Ship field on Work with Backorders.

Field	Explanation
Quantity on Backorder	The number of units backordered in Sales Order Management or in Work Order Processing, using either the entered or the primary unit of measure defined for this item.

Managing Completions that Use Receipts Routing

You set up a receipt routing in the Procurement system by specifying a unique code name for routing receipts in the UDC 43/RC and an operation name in UDC 43/OC. You enter a Y in any of the update fields on the Receipt Routing Definition form to cause the system to update the appropriate field in the Item Location table when an item arrives at the specified operation.

The system considers items to be on-hand only at the end of a receipt routing. You must enter a Y (Yes) in the On-Hand column for the system to assign the last operation to a routing instruction. The system assigns a Y in the Pay field on the operation to which a Y is assigned in the On-Hand column.

To specify whether the system directs items through a receipt routing, you must assign a routing instruction to each item. You assign receipt routings to items based on item or supplier relationships or both, using the Supplier/Item Information program.

For manufactured items, the supplier must be -99999999.

An unplanned completion might be necessary due to a condition, such as temperature or humidity, that causes the process to produce another item when it normally would not. Set the appropriate processing option in the Completion program to allow the system to complete these types of co-products and by-products.

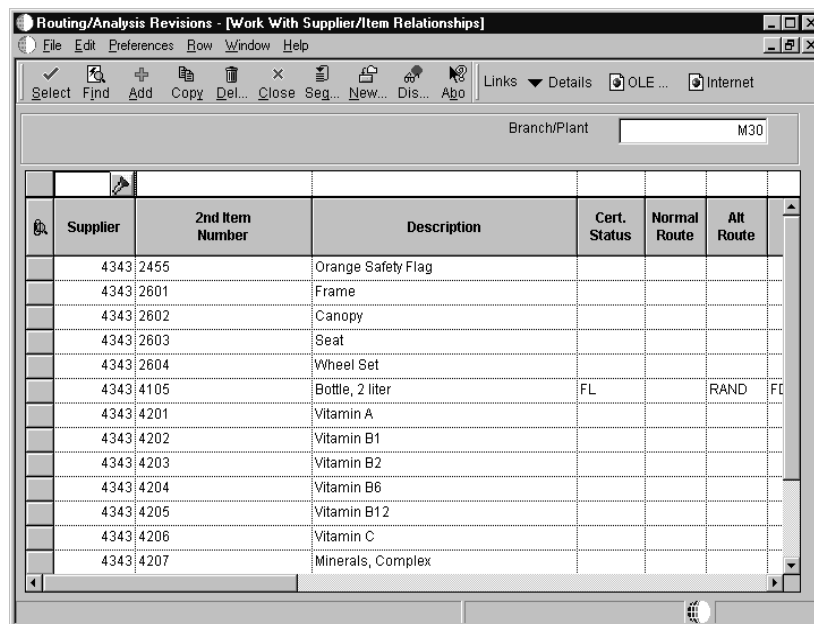
To enter an unplanned completion, you enter the part number, branch, and sequence number on the Co-/By-Product Completions window.

Before You Begin

- ☐ Before you can manage completions when you use the Receipts Routing program, set the processing option to initiate the routing process.

► To manage completions using receipts routing

From the Receipt Routing menu (G43A14), choose Routing/Analysis Revisions.



The screenshot shows a software window titled "Routing/Analysis Revisions - [Work With Supplier/Item Relationships]". It has a menu bar (File, Edit, Preferences, Row, Window, Help) and a toolbar with icons for Select, Find, Add, Copy, Del..., Close, Seg..., New..., Dis..., and Abo. Below the toolbar is a "Branch/Plant" field with the value "M30". The main area contains a table with the following data:

	Supplier	2nd Item Number	Description	Cert. Status	Normal Route	Alt Route
	4343	2455	Orange Safety Flag			
	4343	2601	Frame			
	4343	2602	Canopy			
	4343	2603	Seat			
	4343	2604	Wheel Set			
	4343	4105	Bottle, 2 liter	FL		RAND
	4343	4201	Vitamin A			
	4343	4202	Vitamin B1			
	4343	4203	Vitamin B2			
	4343	4204	Vitamin B6			
	4343	4205	Vitamin B12			
	4343	4206	Vitamin C			
	4343	4207	Minerals, Complex			

1. On Work With Supplier/Item Relationships, complete the following field and click Find:
 - Branch/Plant
2. Choose a record and click Select.

3. On Supplier/Item Relationships, complete the following fields and click OK:

- Effective Date
- Expiration Date
- Normal Route Code

If you need to issue material from locations that are not listed on the parts list, after you complete the work order by accepting the records shown on Completion with Backflush, access the Multiple Locations form. Then move the commitments and issue the ingredients.

For co-products and by-products, you can change a location by accessing Multiple Locations from Co-/By-Products Completions.

Field	Explanation
Normal Route Code	A user defined code (43/RC) that identifies a receipt route. Each receipt route consists of a series of operations through which the system directs items upon receipt.

See Also

- *Managing Completions Using Receipts Routings* to review the processing options for Routing/Analysis Revisions

Setting the Resource Percent for the Co-Products and By-Products

Use the Co/By Product Revision form to indicate what percent of the ingredients should be issued separately to co-products and by-products.

► To set the resource percent for the co-products and by-products

From the Daily PDM Process menu (G3012), choose Enter/Change Process.

1. On Work With Process, complete the following fields and click Find:
 - Item Number
 - Branch/Plant
2. Choose an operation and click Select.
3. On Enter Process Information, choose Co/By Revision from the Form menu.

Co By	Co/By Product	Description	Output Quantity	UM	Stocking Type	Co/By Branch
B	5010	Sludge	2	GA	M	M3
C	5110	Household Lubricant Bulk	20	GA	M	M3
C	5210	Graphite Lubricant Bulk	30	GA	M	M3

4. On Co/By Product Revision, complete the following optional field and click OK:
 - Resource Percent

Field	Explanation
Co By	<p>A code that distinguishes standard components or ingredients from co-products, by-products, and intermediates. Co-products are (concurrent) end items as the result of a process. By-products are items that can be produced at any step of a process, but were not planned. Intermediate products are items defined as a result of a step but are automatically consumed in the following step. Generally, intermediates are nonstock items and are only defined steps with a pay-point for reporting purposes. Standard components (Discrete Manufacturing) or ingredients (Process Manufacturing) are consumed during the production process. Valid values are:</p> <p>C Co-products B By-products I Intermediate products Blank Standard components or ingredients</p>
Output Quantity	<p>The quantity of finished units that you expect this bill of material or routing to produce. This field allows you to specify varying quantities of components based on the amount of finished goods produced. For example, 1 ounce of solvent is required per unit up to 100 units of finished product. However, if 200 units of finished product is produced, 2 ounces of solvent are required per finished unit. In this example, you would set up batch quantities for 100 and 200 units of finished product specifying the proper amount of solvent per unit.</p>
Feat Cost%	<p>A percentage that the Simulate Cost Rollup program uses to calculate the cost of a feature or option item as a percentage of the total cost of the parent.</p> <p>Enter the percentage as a whole number, for example, enter 5% as 5.0.</p> <p>..... <i>Form-specific information</i></p> <p>This value is used in Cost Rollup to calculate what percentage of the cost, up to and including the operation, that the co-product and by-product comes out of, is apportioned to the co-products and by-products at that step.</p> <p>The total of all percentages at an operation cannot exceed 100%. All percentages at the last operation must total 100%.</p>

Field	Explanation
Resource %	<p>A number that indicates what percent of the ingredients should be issued separately to co-products and by-products.</p> <p>..... <i>Form-specific information</i></p> <p>This is used to issue ingredients separately to co-products and by-products at work order completion, rather than a total issue for each ingredient.</p> <p>For co-products and by-products at the final operation, their resource percent must total 100% to issue all ingredients.</p>

Completing Partial Quantities on Work Orders

You can use the Partial Completion program to record complete parts of the quantity ordered for a work order as well as partial quantities. The Work With Work Order Completions form displays completed and scrapped quantities and percent complete information for a work order.

Completing partial quantities on work orders consists of the following tasks:

- Completing partial quantities
- Completing a work order for multiple locations

Note: Use the Full Completion menu selection to complete all quantities for all ingredients on a work order.

To complete partial quantities on work orders

From the Daily Order Reporting – Process menu (G3114), choose Partial Completion.

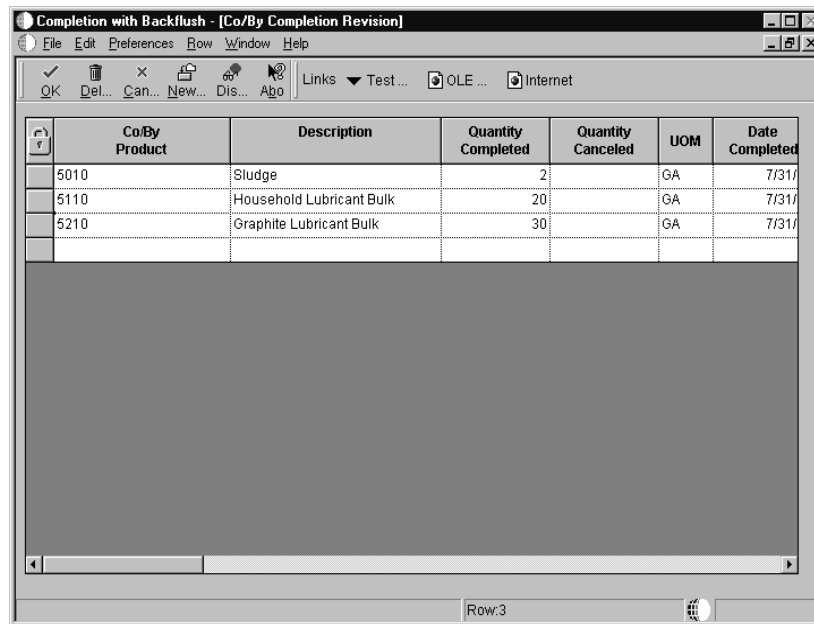
1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.
3. On Work Order Completion Detail, complete the following field:
 - Completed
4. Complete the following optional fields:
 - Scrapped
 - Date Cmpl.

5. If you did not set the status in the processing options, complete the following field:
 - WO Sts
6. If you are not completing to the primary location, complete the following fields and click OK:
 - Location
 - Lot/Serial

► **To complete a work order for multiple locations**

From the Daily Order Reporting – Process menu (G3114), choose Partial Completion.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.
3. On Work Order Completion Detail, complete the following field:
 - Completed
4. Complete the following optional fields:
 - Scrapped
 - Date Cmpl.
5. If you did not set the status in the processing options, complete the following field and click OK:
 - WO Sts



Co/By Product	Description	Quantity Completed	Quantity Canceled	UOM	Date Completed
5010	Sludge	2		GA	7/31/
5110	Household Lubricant Bulk	20		GA	7/31/
5210	Graphite Lubricant Bulk	30		GA	7/31/

6. On Co/By Completion Revision, complete the following fields:

- Quantity Completed
- Location

Processing Work Orders through Super Backflush

The Super Backflush program creates backflush transactions against a work order at pay points defined in the routing instructions. Super backflushing allows you to relieve inventory at strategic points throughout the manufacturing process.

You can enter completed and scrapped quantities by operation and employee. The system completes the work order, or you can review and revise the transactions. The backflush procedure can perform the following transactions by operation:

- Issue ingredients to the work order
- Record hours and quantities against the work order at standard values
- Record inventory completions

The system records the transactions from the pay point that you indicate in the routing instructions back to the first operation or the previous pay point, if one has been defined.

You can set the processing options for the Super Backflush program to:

- Indicate the versions of associated programs to access

- Choose document types to be used when creating transactions
- Choose update status codes for operations and the work order header
- Indicate a status code beyond which entries to work orders cannot be made
- Store hours and quantities in related tables for later processing by manufacturing accounting
- Either access a specified version of the following programs or automatically run the process without calling them:
 - Hours and Quantities
 - Ingredient Issues
 - Work Order Completions

The information in the detail area of the Work With Order Numbers is stored in Work Order Routing Instructions table (F3112). The information in the header area is stored in the Work Order Master table (F4801).

Operation numbers defined as pay points appear in reverse image on the form.

If the system has an intermediate for the operation, all form quantities are displayed in the unit of measure defined for the intermediate. When the system completes the quantity, it deducts the quantity from the operation and adds to the next operation.

To process work orders through super backflush

From the Daily Order Reporting – Process menu (G3114), choose Super Backflush.

1. On Work With Order Numbers, complete the following field and click Find:
 - Skip to Order Number
2. Choose a record and click Select.
3. On Super Backflush, complete the following fields:
 - Transaction Date
 - Employee Number
 - Quantity Completed
 - Op St
4. Complete the following optional field and click OK:
 - Pay Point Status
5. On Co/By-Product Completions, click OK.

6. On the last pay point, Work Order Completion Detail appears. Review the following fields and click OK:
 - Completed
 - Scrapped
 - Date Cmpl.
 - WO Sts
 - Location
 - Lot/Serial
7. On Inventory Issues Revisions, choose all item numbers, choose Process Items from the Row menu, and click OK.

The system processes the information according to the issue type code and pay point type that is assigned to each operation.

If an operation is defined as a pay point, and the pay point is set up to issue ingredients and report labor, then, when the operation is recorded as complete, the system issues the ingredients and backflushes labor from the last defined pay point up to the previous pay point.

8. On Time Entry Revisions, revise any of the following fields as necessary and click OK:
 - Employee Number
 - Oper #
 - Equipment Number
 - Ty Hrs
 - Begin Time
 - End Time
 - Hours
 - Quantity
 - UM
 - St

Field	Explanation
Pay Point Status	A code that indicates whether the operation should be taken to a status of complete or partially complete. Valid codes are: Blank Not reported P Partially complete C Completed

See Also

- *Reviewing the Status of Hours* for information about the status of hours for work orders
- *Reviewing the Status of Quantities* for information about the status of quantities for work orders
- *Processing Work Orders Through Super Backflush* to review the processing options for Super Backflush

Processing Work Orders that Use Quantity at Operation

You report quantities against work order operations using either Hours and Quantities or Super Backflush. For example, if you have a quantity of 20 completed for operation sequence numbers 10 and 20, and a quantity of 40 completed for operation sequence number 30, you report these quantities using either the Hours and Quantities programs or the Super Backflush program. These programs differ in the following ways:

- Hours and Quantities allows entry of different types of hours worked, in addition to quantities; Super Backflush allows entry of quantities only.
- Hours and Quantities runs in batch mode. After you enter hours and quantities, you can review and revise these hours and quantities until you update the work order routing instructions; you update Super Backflush quantities online.

You can enter completed and scrapped quantities by operation and employee. The system completes the work order if the last operation is defined as a pay point, or you can review and revise the transactions. However, quantities completed at a given operation cannot exceed the quantity completed at the preceding operation. Super Backflush totals the entries for quantity completed and scrapped for the operation and compares that to the quantity at operation. If the total exceeds the quantity at operation, the system highlights the fields and displays an error message.

When you use Hours and Quantities, before the update process, the system verifies the quantity at operation as though the transactions were updated in the Work Order Routing table. The system uses the previously entered data to verify the quantity at operation. This only occurs for data entered on or previous to the current day.

You can set a processing option for the Super Backflush program to indicate whether the system verifies, for a specific operation, that the total quantity completed plus the quantity scrapped does not exceed the quantity at operation.

Super Backflush allows entry only for pay points. To handle nonpay points, Super Backflush considers the quantity at operation for a given operation to be

the total of the quantity at that operation plus the quantity at operation for all previous nonpay points since the last pay point.

Before You Begin

- ☐ Set the appropriate processing option to verify that the total of the quantity completed plus the quantity scrapped does not exceed the quantity at operation for a given operation.

► To process work orders that use quantity at operation

From the Daily Order Reporting – Process menu (G3114), choose Hours and Quantities Entry.

Order Number	Employee Number	Equipment Number	Oper #	Ty Hrs	Shift Code	Begin Time	End Time	Hours
451004	1		50.00	1	1			.25
451004	1		50.00	4	1			
451004	1		60.00	1	1			.50
451004	1		60.00	4	1			
451012	8446		20.00	1	1			8.00
451012	8446		20.00	4	1			
451012	8446		30.00	1	1			1.00
451012	8446	0	30.00	3	1			5.00
451012	8446		30.00	4	1			

1. On Work With Work Order Time Entry, complete the following fields and click Find:
 - Work Date
 - Order Number
2. Choose the work order number and click Select.
3. On Time Entry Revisions, verify the accuracy of the information in the following fields:
 - Employee Number
 - Equipment Number
 - Oper #

- Ty Hrs
- 4. Complete the following fields:
 - Hours
 - Quantity
- 5. Review the following fields and click OK:
 - Misc. Dollars
 - Employee Rate
 - Reason Code

See Also

- *Entering Hours and Quantities* to review the processing options for Hours and Quantities

Completing Work Orders with Serialized Components

When you record a completion for serialized components, the system accesses the Associate Issued Item Lot Serial Numbers (LSN) program. Another form, Serial Number Associations, is only accessible if you are associating serial number-controlled components to serial number assemblies. The system displays the preassigned serial numbers on any memo lot information on the Serial Number Associations form.

After you generate serial numbers for a work order, you associate the serialized components with a serialized assembly. To associate a serialized component with a serialized assembly, you enter the associating quantity.

In addition, the completion program allows you to enter a memo lot number, is used when both lot and serial numbers are required for tracking assemblies. The system verifies the memo lot number and serial number if you set the Serial Number Required field on the Item Branch/Plant Information form to do so.

If you complete work orders with components that are not serialized, you cannot assign serial numbers to the assemblies at completion.

If you set the appropriate processing options in the completion program, the system allows you to complete multiple items using the same serial number.



To complete work orders with serialized components

From the Daily Order Reporting – Process menu (G3114), choose Partial Completion.

1. On Work With Work Order Completions, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.

Partial Completion - [Work Order Completion Detail]

File Edit Preferences Form Window Help

OK Cancel Dis... Auto Links Item S... OLE... Internet

Order Number: 451080 WO Bike Trailer

Item Number: 2600 ☐ Enter Test Results after Completion

Qty's:	Ordered	Completed	Scrapped	Date Cmpl.	% of Order
To Date	5	5		8/10/05	100.00

Completed Items to Stock: 8/1/00

Brn/Pit: M30 Lot/Serial:

Reason: Lot/Serial Status: ☐ Approved

WO Sts: 45 Material Issued Lot Expiration Date:

U/M: EA Each Memo Lot 1:

Location: Memo Lot 2:

3. On Work Order Completion Detail, type 1 in the following field:
 - Quantity Shipped

Note: For serialized items, you can complete only one item at a time.
4. If you know the serial number, complete the following field:
 - Lot/Serial
5. If you do not know the serial number, choose Serial Numbers from the Form menu.

Partial Completion - [Work With Work Order Serial Numbers]

File Edit Preferences Form Row Window Help

Select Find Close Seg... New... Dis... Abo Links Revisi... OLE ... Internet

Order Number 451080 WVO Branch Plant M30

Item Number 2600 Bike Trailer

Qty Ordered 5 EA Requested 6/10/05

Qty Completed 5 Qty Scrapped

Lot/SN	Memo Lot 1	Memo Lot 2	Date Complete
20592	1-1		11/24/97
20593	1-1		11/24/97
20594	1-1		11/24/97
20595	1-1		11/24/97
20596	1-1		11/24/97

- On Work With Order Serial Numbers, choose a number, click Select, and continue with step 10.

If a list of serial numbers does not appear, you must generate them by choosing Revisions from the Form menu.

- On Serial Number Revisions, choose Lot/SN Generation from the Form menu.

Partial Completion - [Serial Number Revisions]

File Edit Preferences Form Row Window Help

OK Del... Can... New... Dis... Abo Links Lot/S... OLE ... Internet

Order Number 451080 WVO Branch/Plant M30

Item Number 2600 Bike Trailer

Qty Ordered 5 EA Requested 6/10/05

Qty Completed 5 Qty Scrapped

Lot / SN	Memo Lot 1	Memo Lot 2	Date Complete
20592	1-1		11/24/97
20593	1-1		11/24/97
20594	1-1		11/24/97
20595	1-1		11/24/97
20596	1-1		11/24/97

Row:1

The system generates enough serial numbers for all of the items on the work order.

8. Click OK to return the list to Work With Order Serial Numbers.
9. On Work With Order Serial Numbers, choose the serial number that you want and click Select.

Partial Completion - [Work Order Completion Detail]

File Edit Preferences Form Window Help

OK Cancel Dis... Abort Links Item S... OLE... Internet

Order Number: 451080 W/O Bike Trailer

Item Number: 2600 ☐ Enter Test Results after Completion

Qty:	Ordered	Completed	Scrapped	Date Cmpl.	% of Order
To Date	5	5		6/10/05	100.00

Completed Items to Stock: 8/1/00

Brn/Pit: M30 Lot/Serial:

Reason: Lot/Serial Status: ☒ Approved

WO Sts: 45 Material Issued Lot Expiration Date:

U/M: EA Each Memo Lot 1:

Location: Memo Lot 2:

10. On Work Order Completion Detail, complete the following optional fields:
 - Scrapped
 - Date Cmpl.
 - WO Sts
11. To complete a work order at a location other than the primary location and if you know the location, complete the following field:
 - Location
12. To choose a location at which you want to complete a work order, choose Multi-Location from the Form menu

Component Number	Component Lot/SN	Memo Lot 1	Memo Lot 2
2601	20559		

13. On Serial Number Associations, choose Issued Items from the Form menu.
14. On Work With Serialized Issued Items, choose the components that you want to associate to the serialized assembly and click Select.
15. On Serial Number Associations, click OK.
16. On Work With Work Order Completion Detail, click OK.

Completing Rate Schedules

Use Completions Workbench to record rate schedule completions, issue parts, and record hours and quantities for the rate. Depending on how you set the processing options, the Inventory Issues and Hours and Quantities forms appear as you complete rate schedules.

When you perform a completion, the system records the inventory as received and updates all of the required tables for the Inventory Management system. The system adds the quantity that is completed to the quantity on hand for the location that you indicate.

Note: If you use the Quality Management system when you manage rate-based information and complete quantities to inventory, you can access Test Results Entry for items that require testing.

Before You Begin

- ☐ Set the processing options to access the Inventory Issues and Hours and Quantities programs.

► To complete rate schedules

From the Rate Based Scheduling menu (G3115), choose Completions Workbench.

Item Number	Item Number Description	Quantity Completed	Quantity Scrapped	Unit Of Measure	Date Complete	Shift	C

1. On Completions Workbench, complete the following fields and click Find:
 - Branch/Plant
 - Order Type
 - Item Number
 - Effective From
 - Thru
2. Complete the following fields:
 - Total Scrapped
 - Date Complete
3. Complete the following optional fields and click OK:
 - Quantity Scrapped
 - Location
 - Lot/Serial Number
 - Employee
 - Effective From Date
 - Shift

- 4. On Super Backflush, click OK.
- 5. On Inventory Issues, click OK.
- 6. On Time Entry Revisions, complete the following fields:
 - Employee Number
 - Quantity
 - St

See Also

- *Entering Hours and Quantities* to review the processing options for Hours and Quantities
- *Processing Work Orders Through Super Backflush* to review the processing options for Super Backflush

Processing Options for Completions Workbench

Defaults

- 1. Enter the Schedule Type. _____
Default value is 'SC'
- 2. Enter the Employee Number _____
(Optional)
- 3. Enter the Production Line _____
(Optional)
- 4. Enter the Number of Days to Add _____
to the From Date for the Thru Date
(Optional)
- 5. Enter the Status From _____
(Optional)

6. Enter the Status Thru
(Optional)
7. Enter the status code to use
when
closing rates. Default value
is '99'

Versions

Enter the version for each program. If
left blank, 'ZJDE0001' will be
used.

1. Super Backflush (P31123)
2. Hours and Quantities (P311221)
3. Material Issues (P31113)
4. Enter/Change Rate Schedule
(P3109)
5. Item Ledger Inquiry (P4111)
6. Line Schedule Review (P3152)
7. Schedule History Inquiry
(P31226)
8. Work Order Completions
(P31114)
9. Lot Master Revisions (P4108)
10. Hours and Quantities Update
(R31422)
11. Name Search (P0101)
12. Test Results Revisions
(P3711)

Process

1. Enter a '1' to automatically
process hours and quantities
using the version for R31422. If
left blank, R31422 should be
submitted manually.

Work Order and Rate Schedule Information



Work Order and Rate Schedule Information

After you have processed work orders or rate schedules, you can purge work orders and rate schedules from the system, review component information, such as useability, availability, and supply and demand, and print reports that you need to effectively manage work order or rate schedule information. You can also compare bills of material or parts lists by using the Bill Comparison form.

Work order and rate schedule information consists of the following tasks:

- ☐ Deactivating work orders and rate schedules
- ☐ Reviewing work order and rate schedule information
- ☐ Working with supply and demand information
- ☐ Working with bills of material



Deactivating Work Orders and Rate Schedules

You might want to deactivate any work orders or rate schedules that are no longer active or that have been completed. To maintain records of the work order or rate schedule and its progress, you should close the order or schedule before you deactivate it. This ensures that quantity information in the Inventory Management system and manufacturing accounting information is traceable after you deactivate the work order or rate schedule.

You can deactivate work orders or rate schedules that you no longer use in one of the following ways:

Change the status to closed

When you change the status of a work order or rate schedule to closed, the system identifies the order or schedule as inactive, but does not delete it. This is the recommended way to deactivate a work order or rate schedule. This method enables you to keep complete historical records of the work order or rate schedule and its associated costing and accounting transactions.

Delete

When you delete a work order or rate schedule, it is removed from the system entirely. You should complete the work order or rate schedule before deleting it to ensure that manufacturing accounting and inventory information is updated. If you delete a work order or rate schedule before completing it, these records might not be in place. If the quantity completed on the work order or rate schedule is less than the quantity ordered, the system removes the remaining quantity from the Quantity on Work Order field in the Item Location table (F41021) when you delete the order or schedule.

Before you delete or purge an order or rate from the system, you must first complete the order, and then delete the parts list and routing instructions attached to the order.

Delete (continued)

Additionally, you cannot delete a work order or rate schedule if any of the following is true:

- The order number is used as a subledger number in the Account Ledger table (F0911)
- The work order is a parent order to other work orders
- Parts have been issued to the work order or rate schedule
- Labor has been recorded against the work order or rate schedule

If an order is in process, J.D. Edwards recommends that you report completed and scrapped quantities against it before you delete it.

Purge

When you purge work orders and rate schedules, the system deletes them based on their status code. You can save the purged records in a separate purge table. If they contain information that you want to retain after you purge them and before you delete them. You can also delete a master record from a Lot Serial Number when a work order or rate schedule for a serialized parent is purged.

Reviewing the status of work orders and rate schedules consists of the following tasks:

- ☐ Deactivating work orders and rate schedules
- ☐ Changing the status of work orders to closed
- ☐ Changing the status of rate schedules to closed
- ☐ Purging work orders

Reviewing Work Order and Rate Schedule Status

Use Production Status to view the status of all rates and work orders by work center or line, work order, rate schedule number, or item number as qualified by the status and date ranges. The program shows historical information as well as open rates and work orders.

From Production Status, you can access Production History, where you can view the transactions for each entry of completions and scrap at an operation. The history program shows all transactions that made up the scrapped quantities and the details of these transactions.

You might want to review all of your work orders or rate schedules that are at a particular status or for a particular date range to determine which ones you want to deactivate.

► **To review work order and rate schedule status**

From the Rate Based Scheduling menu (G3115), choose Production Status.

Item Number	Description	Order Number	Type	Op St	Start Date	Request Date
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05
2031	Aluminum Frame, Touring	452277	SC		6/13/05	6/17/05

- On Production Status, complete the following field:
 - Branch/Plant
- Complete one, or a combination of any two, of the following fields:
 - Work Center/Line
 - Item Number
 - Order Number
- To narrow your search to orders or schedules by date, complete the following fields:
 - Effective From
 - Thru
- To limit your search to orders or schedules at a specific status, such as complete, complete the following fields and click Find:
 - Operation Status
 - Thru

Processing Options for Production Status

Defaults

1. Enter the From Status.
(Optional) _____
2. Enter the Thru Status.
(Optional) _____
3. Enter the number of days to add
to today's date to calculate the
default Thru Date. (Optional) _____

Process

1. Enter '1' to subtract Quantity
Cancelled/Scrapped from the
Remaining Quantity. If left
blank, the remaining quantity
value will include
cancelled/scrapped quantity. _____

Changing the Status of Work Orders to Closed

When you change the status of a work order to closed, the system identifies the order as inactive, but does not delete it. This is the recommended way to deactivate a work order. This method enables you to keep complete historical records of the work order and its associated costing and accounting transactions.

To change the status of work orders to closed

From the Daily Order Preparation – Discrete menu (G3111), choose Enter/Change Order.

1. On Work With Manufacturing Work Orders, complete the following field and click Find:
 - Skip to Order Number
2. Choose an order number and click Select.

3. On Work Order Details, click the Status & Type tab, type 99 in the following field, and then click OK:
 - Status

See Also

- *Entering Work Order Headers* to review the processing options for Manufacturing Work Orders

Changing the Status of Rate Schedules to Closed

From the Shop Floor Management Advanced menu (G3131), choose Batch Rate Close.

For Repetitive Manufacturing, use the Close Rates program to close rate schedules if either of the following are true:

- Status is less than or equal to the value specified in the processing options
- Effective through date is less than or equal to the date specified in the processing options

When you close rates, the system does the following:

- Purges the rate schedule data from the Quantity Schedule Detail table (F3109)
- Releases the commitment of any quantities for the applicable rates

See Also

- *Purging Work Orders* for information about purging data

Processing Options for Batch Rate Close

Process

Enter in the following:

1. Enter the date to compare to the Rate Effective Thru Date. All rates for which the Thru Date is less than this date will be closed. If left blank, no rates will be closed.
2. Enter the status for closed rates. If left blank, '99' will be used.

Note: When you set the status to 3 on the Process tab, the system no longer allows you to process Manufacturing Accounting for that rate.

Purging Work Orders

From the Shop Floor Management Advanced menu (G3131), choose Purge Orders.

The Work Order Purge program deletes selected work orders or rate schedules from your system. The system purges the selected work orders and rate schedules and their associated information from the following tables:

- Work Order Master (F4801)
- Work Order Instructions (F4802)
- Work Order Parts List (F3111)
- Work Order Routing (F3112)
- Work Order Time Transactions (F31122)

When you purge work orders or rate schedules, the system deletes them based on their status code. You can save the purged records in a separate table, if they contain information that you might want to retain. You can also delete a master record from a Lot Serial Number when you purge a work order or rate schedule for a serialized parent.

To save the records that you purge in a special purge library, you must set the processing option. The system names this library JDE, followed by the current system date (without separators). For example, if you purge the records on January 1, 2001, the purge library is named JDE010101. The system creates a physical table with the same name within that library. If you purge the same

table multiple times on the same day, the system adds the purged records to the records already in the purge table for that day.

Before You Begin

- ☐ Complete the accounting for the work orders or rate schedules before you purge them from the system. See *About Work Orders in Accounting* in the *Product Costing and Manufacturing Accounting Guide* for information about how to complete the accounting.

Processing Options for Purge Orders

Process

Enter a '1' to Save the Purged records
to a special purge library. (Default
of blanks will not save any purged
records).

Save Flag

Reviewing Work Order and Rate Schedule Information

Throughout the manufacturing process many different positions and business areas need access to product and manufacturing information. You might need information to solve problems, make decisions, or answer questions. You can review information for components, such as useability, availability, or supply and demand. You can review all item transactions in the system. Additionally, you can review all work orders that make up the load at a particular work center.

Reviewing work order and rate schedule information consists of the following tasks:

- ☐ Reviewing part useability
- ☐ Reviewing summary availability
- ☐ Reviewing item ledger information
- ☐ Reviewing dispatch list information
- ☐ Reviewing production history
- ☐ Reviewing production line quantities
- ☐ Reviewing production across lines
- ☐ Reviewing work center loads
- ☐ Reviewing process orders

See Also

- *Reviewing Part Availability*
- *Reviewing Parts List Availability*
- *Managing Shortage Information*
- *Reviewing the Status of Hours*
- *Reviewing the Status of Quantities*
- *Reviewing the Status of Operation Quantities*

Reviewing Part Useability

Use the Part Useability program to display the quantity of a parent item that can be produced based on the component quantity. The system adjusts the production quantity in relation to the component quantity. This is useful in determining what can be produced, based on component material on hand. You can limit the data that appears to a specific lot, grade, or potency of the item.

► To review part useability

From the Daily Order Preparation – Discrete menu (G3111), choose Part Useability.

1. On Work With Useability, complete the following fields and click Find:
 - Component
 - Quantity
2. Review the following fields and click Close:
 - Item Number
 - Prod. QTY
 - Batch Quantity
 - Short Item No
 - Type Bill

Field	Explanation
Short Item No	<p>An inventory item number. The system provides three separate item numbers plus an extensive cross-reference capability to other item numbers (see data item XRT) to accommodate substitute item numbers, replacements, bar codes, customer numbers, supplier numbers, and so forth. The item numbers are as follows:</p> <ul style="list-style-type: none">• Item Number (short) – An eight-digit, computer-assigned item number• 2nd Item Number – The 25-digit, free-form, user defined alphanumeric item number• 3rd Item Number – Another 25-digit, free-form, user defined alphanumeric item number

Processing Options for Part Useability

Default

Enter default Type of Bill

Type Bill of Material

Versions

Enter the version to be used for each program. If left blank, version 'ZJDE0001' is used.

Item Search (P41200)
Work Order Entry (P48013)
Item Availability (P30205)
Item Master (P4101B)
BOM Inquiry (P30200)
Item Availability (P41202)

Reviewing Summary Availability

Use the Summary Availability program to check the availability of an item in your branches or plants. You can display the data in detail or summary mode, and for one branch or all of your branches.

► To review summary availability

From the Daily Order Preparation – Discrete menu (G3111), choose Summary Availability.

P	S	Location	Branch/Plant	On Hand	Committed	Available
P	.		M30	2	393	3
S	1 A .2		M30	134		
	TOTAL		M30	136	303	2

1. On Work With Item Availability, complete the following fields and click Find:
 - Item Number
 - Branch/Plant
2. Review the following fields and click Close:
 - P S
 - Location
 - On Hand
 - Committed
 - Available
 - On Receipt

Field	Explanation
P S	<p>A code that indicates whether this is the primary or secondary location for this item within this stocking location. Valid values are:</p> <p style="margin-left: 40px;">P Primary storage location</p> <p style="margin-left: 40px;">S Secondary storage location</p> <p>Note: You can only have one storage area marked as primary within each branch or warehouse. In some cases, the system uses the primary storage area as the default.</p>
Committed	<p>The total quantity that is committed to a specific location. The total quantity is the sum of all quantities that have been sold or committed from the following:</p> <ul style="list-style-type: none"> • Soft Committed to Sales Orders • Hard Committed to Sales Orders • Soft Committed to Work Orders • Hard Committed to Work Orders
On Receipt	<p>The total number of items that are on receipt for a specific location. The total is the sum of all quantities of an item that are on order and in route for a location.</p>

Processing Options for Summary Availability

Versions

Enter the version for each program. If left blank, ZJDE0001 will be used.

- | | |
|-----------------------------|--|
| 1. Item Master | |
| 2. Item Notes | |
| 3. Item Search | |
| 4. Purchase Order Inquiry | |
| 5. Customer Service Inquiry | |
| 6. Open Work Orders | |

- 7. Supply and Demand
- 8. Bill of Material
- 9. Lot Availability
- 10. Item Ledger
- 11. Branch/Plant Item Information
- 12. Location Master
- 13. Item Location Information

Display

- 1. Grade Information

Blank = No information is displayed

- 1 = Display grade information
- 2. Potency Information

Blank = No information is displayed

- 1 = Display potency information
- 3. Quality Management

Blank = No information is displayed

- 1 = Use Quality Management.
- 4. Quantity - Primary Units of Measure

Blank = No information is displayed

- 1 = Also display primary units
- 5. Truncate/Round

Blank = Default to round up

- 1 = Truncate information in the grid
- 2 = Round up

- 6. Customer Self-Service

Blank = Bypass Customer Self-Service functionality

- 1 = Activate Shopping Cart mode

Reviewing Item Ledger Information

Use the Item Ledger program to display a detailed history of the transactions that have occurred for an item. The transactions include the following information:

- Inventory issues, adjustments, and transfers
- Sales posted after sales update
- Purchase receipts
- Manufacturing completions and issues
- Physical inventory updates

► To review item ledger information

From the Periodic Functions – Discrete menu (G3121), choose Item Ledger (The CARDEX).

Document Number	Doc Type	Doc Co	Transaction Date	Branch/Plant	Quantity	Trans UoM	Quantity Primary UoM
3600	IB	00200	6/1/05	M30			
3600	IA	00200	6/1/05	M30	134	EA	1
451004	IC	00200	7/31/00	M30	1	EA	
451418	IC	00200	10/26/98	M30	1	EA	
4108	CG		10/26/98	M30		EA	
30835	IB	00200	5/6/97	M30		EA	
41021	IB		3/28/97	M30		EA	

1. On Work With Item Ledger, complete the following fields and click Find:
 - Item Number
 - Branch/Plant
2. Choose a document number and click Select.

- On Item Ledger Detail, review the information that appears and click Cancel.

Processing Options for Item Ledger (The CARDEX)

Default

Enter a Document Type. If left blank, '*' will be the default value and all document types will be shown.

- Document Type _____

Versions

Enter the version to be used for each program. If left blank, ZJDE0001 will be used.

- Load and Delivery Ledger Inquiry (FUTURE) _____

Display

- Enter a '1' to display Quantity in Primary Units of Measure along with Quantity in Transaction Units of Measure. _____

Reviewing Dispatch List Information

A dispatch list is a sequence listing of manufacturing work orders or rate schedules that contains detailed information about location, quantity, and capacity requirements. You should generate dispatch lists daily by work center or line.

Use the Dispatch List program to list the work orders that have remaining operations for a given work center. The work order might not be physically present at the work center. You can display sequenced orders by start date or requested date. You can also schedule and release work orders to the work center. Additionally, you can access associated information, such as routing instructions, parts lists, and status hours and quantities information for work orders.

Processing options allow you to define default from and through status and date values, as well as to indicate which version of the Work Order Parts List Inquiry program the system uses when you access it.

The system calculates the remaining machine, labor, and setup run hours and the remaining quantities of the item to be produced, as follows:

Remaining run machine hours	Standard run machine hours x (quantity remaining / standard quantity)
Remaining run labor hours	Standard run labor hours x (quantity remaining / standard quantity)
Remaining setup time	Standard setup time – hours recorded
Remaining quantity	Total quantity ordered – completed quantity

Before You Begin

- ☐ To display the actual quantities, do one of the following:
 - Enter actual quantities on the Hours and Quantities form and run the Hours and Quantities Update. See *Entering Hours and Quantities* and *Updating Hours and Quantities Manually* for the steps to complete these tasks.
 - Use the online update function to post the entries. See *Updating Hours and Quantities by Batch* for the steps to complete this task.

► To review dispatch list information

From the Daily Order Preparation – Discrete menu (G3111), choose Dispatch List.

Order Number	Type	Oper Seq	Oper Status	Start Date	Req'd Date	Remaining Machine Hours	Remaining Labor Hours	Remaining Setup Hours	Remain Quant
452306	WO	10.00		4/20/05	4/27/05		.25		
452322	WO	10.00		4/26/05	4/29/05		3.00		
452306	WO	20.00		4/28/05	5/5/05		3.50		
452314	WO	10.00		4/26/05	5/9/05		3.00		
452306	WO	30.00		5/6/05	5/13/05		5.00		

1. On Work With Operation Dispatch, complete the following field and click Find:
 - Work Center
2. Choose an order number and click Select.

3. On Operation Dispatch Detail Revisions, review the information that appears and click Cancel.

Processing Options for Operation Dispatch Inquiry

Defaults

1. Enter the Default OPERATION Status Information to preload to the screen at initial inquiry. If left blank, no value will be preloaded:

From Status _____
Thru Status _____

2. Enter the Default Number of Days:

Prior to todays date for the From Date _____
After todays date for the Thru Date _____

Versions

Enter the version of Work Order Parts Inquiry to execute. If left blank, 'ZJDE0001' will be used:

Work Order Parts Inquiry Version _____

Process

1. Enter '1' to subtract Quantity Cancelled/Scrapped from the Remaining Quantity. If left blank, the remaining quantity value will include cancelled/scrapped quantity.

Reviewing Production History

To solve problems, make decisions, and answer questions, you might need to review the historical information on your work orders or rate schedules. When you review the production history you can see such information as date updated and the quantity ordered, shipped, and cancelled.

Caution: For Repetitive Manufacturing, to have correct data appear on the Production History form, you must not simultaneously process records with the same hour type and operation sequence number.

► To review production history

From the Daily Processing – Repetitive menu (G3115), choose Production History.

Oper Seq#	Date Updated	S h	Order Number	Do Ty	Quantity Ordered	UM	Quantity Shipped	Quantity Canceled	Accumulat Labo
-----------	--------------	-----	--------------	-------	------------------	----	------------------	-------------------	----------------

1. On Work With Production History, complete one, or a combination of any two, of the following fields:
 - Work Center/Line
 - Item Number
 - Order Number
2. Complete the following field and click Find:
 - Branch/Plant
3. Review the information.

Processing Options for Production History

Defaults

Enter values:

- | | |
|---|----------------|
| 1. Sequence Number - Operations | _____ |
| 2. Enter the default # of days to
be added to today's date to arrive
at Thru date | _____
_____ |
| 3. Shift Code | _____ |

Reviewing Production Line Quantities

For Repetitive Manufacturing, use Line Dispatch List to view the planned and remaining quantities for all items scheduled for a particular production line.

► To review production line quantities

From the Daily Processing – Repetitive menu (G3115), choose Line Dispatch List.

Branch Plant	Line	Date	S h	Seq	Item Number	Description
M30	R-A1	6/13/05	1	999.99	2031	Aluminum Frame, Touring
M30	R-A1	6/13/05	1	999.99	2032	Aluminum Frame, Mountain
M30	R-A1	6/13/05	2	999.99	2033	Aluminum Frame, Sport
M30	R-A1	6/14/05	1	999.99	2031	Aluminum Frame, Touring
M30	R-A1	6/14/05	1	999.99	2032	Aluminum Frame, Mountain
M30	R-A1	6/14/05	2	999.99	2033	Aluminum Frame, Sport

- On Work With Line Dispatch List, complete the following fields and click Find:
 - Branch/Plant
 - Line/Cell
- Review the information.

Processing Options for Line Dispatch List

Defaults

- Enter the number of days to add to today's date for the Thru date.
- Enter the Shift Code.
(Optional)
- Enter the From Status.
(Optional)
- Enter the Thru Status.
(Optional)

Process

- Enter '1' to subtract Quantity Cancelled/Scrapped from the Remaining Quantity. If left blank, the remaining quantity value will include cancelled/scrapped quantity.

Reviewing Production Across Lines

Use Work With Line Schedule Review to view the schedule of the production lines for the family of items produced. If items are produced on multiple production lines, use this workbench to view production across lines while staying within each line's capacity.

You can also view the information graphically.

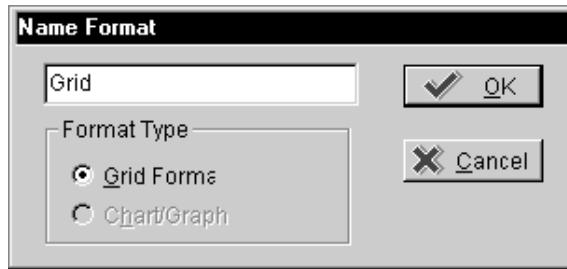
► To review production across lines

From the Daily Processing – Repetitive menu (G3115), choose Line Schedule Review.

The screenshot shows the 'Line Schedule Review' window. The top section contains input fields for 'Branch/Plant' (M30), 'Line/Cell' (R-A1), 'Frame Line 1', 'Type' (SC), 'Date From' (6/13/05), 'Thru' (6/15/05), 'Shift', and 'Item Number'. Below these fields is a data table with the following columns: 2nd Item Number, Date, Load%, Capacity%, Avail%, S h, Oper Seq#, and Capacity. The table contains data for items 2031, 2032, and 2033 across dates 6/13/05, 6/14/05, and 6/15/05.

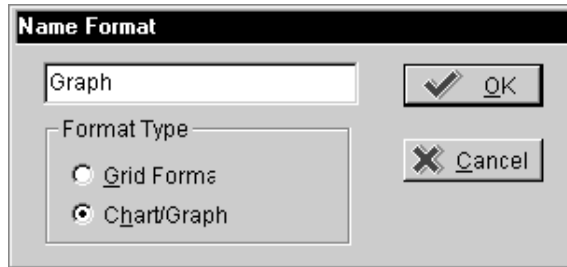
2nd Item Number	Date	Load%	Capacity%	Avail%	S h	Oper Seq#	Capacity
2031	6/13/05	44	44	56	1	999.99	144 V
2032	6/13/05	167	211		1	999.99	144 V
2033	6/13/05			100	2	999.99	0 V
2031	6/14/05	44	44	56	1	999.99	144 V
2032	6/14/05	167	211		1	999.99	144 V
2033	6/14/05			100	2	999.99	0 V

- On Line Schedule Review, complete the following fields and click Find:
 - Line/Cell
 - Branch
 - Date From
 - Date Through
- Review the information.
- To view information graphically, you must create two grid tabs: one tab for the data as it is already displayed and one tab for the data to be displayed graphically. To create the first tab, place your cursor anywhere in the detail area, right-mouse click, choose Format, and then choose New Format.



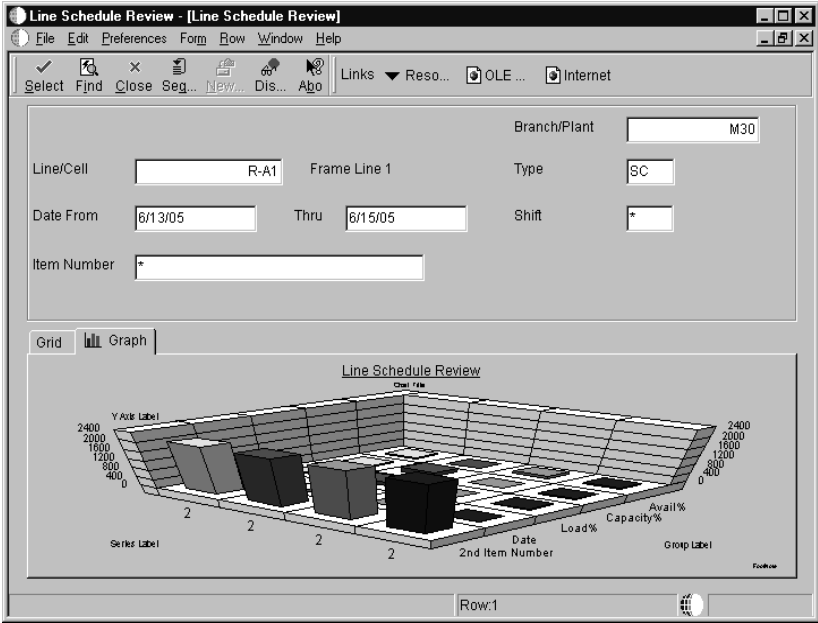
The 'Name Format' dialog box has a title bar with the text 'Name Format'. Below the title bar is a text input field containing the word 'Grid'. To the right of the text field are two buttons: 'OK' (with a checkmark icon) and 'Cancel' (with an 'X' icon). Below the text field is a section labeled 'Format Type' containing two radio button options: 'Grid Forms' (which is selected) and 'Chart/Graph'.

4. On Name Format, complete the field to the left of the OK button.
5. Click the following option and click OK:
 - Grid Forms
6. To create the second tab for the graphical display, place your cursor anywhere in the detail area, right-mouse click, choose Format, and then choose New Format.



The 'Name Format' dialog box has a title bar with the text 'Name Format'. Below the title bar is a text input field containing the word 'Graph'. To the right of the text field are two buttons: 'OK' (with a checkmark icon) and 'Cancel' (with an 'X' icon). Below the text field is a section labeled 'Format Type' containing two radio button options: 'Grid Forms' and 'Chart/Graph' (which is selected).

7. On Name Format, complete the field next to the left of the OK button:
8. Choose the following option and click OK:
 - Chart/Graph
9. The Chart Assistant window appears. Choose a range of data from the detail area that you want to view graphically, such as capacity percent, and then click Continue.



Processing Options for Line Schedule Review

Defaults

- 1. Document Type (Default is 'SC') _____
- 2. Shift (Optional) _____

Versions

Enter the version for each program. If left blank, 'ZJDE0001' will be used.

- 1. Rate Revisions (P3109) _____

Reviewing Work Center Loads

Use Schedule Review to review the rate schedule load and the work order load for a work center. You can review a day, week, or month of a work center load. You can also select a specific date range to view the load for the work center. If you need to adjust the scheduled load at the work center, you can access several different forms to make adjustments. Use a processing option to specify the inclusion of loads generated by work order before or after loads generated by rate schedule.

► To review work center loads

From the Daily Processing – Repetitive menu (G3115), choose Work Center Schedule Review.

1. On Work Center Schedule Review, complete the following fields and click Find:
 - Branch/Plant
 - Work Center
 - Order Type
 - Effective From
 - Thru
2. Review the information.
3. To view the information graphically, click the Graphic tab.
4. To view the information in grid format, click the Grid tab.

The screenshot shows the 'Work Center Schedule Review' window. The search criteria are as follows:

Field	Value
Branch/Plant	M30
Work Center	200-901
Assembly	
Order Type	*
Effective From	6/9/05
Thru	6/28/05

The 'Grid' tab is selected, displaying the following data:

2nd Item Number	Date	Order Number	Type	Request Date	Planned Quantity	UM	Line/Cell	Op St
2600	6/9/05	451080	WO	6/10/05	5	EA		
220	6/24/05	451004	WO	6/28/05	10	EA		
220	6/24/05	451004	WO	6/28/05	10	EA		
220	6/24/05	451004	WO	6/28/05	10	EA		
220	6/24/05	451004	WO	6/28/05	10	EA		

Processing Options for Work Center Schedule Review

Defaults

1. Document Type _____

A specific document type
Blank = No default

Disp Options

1. Subfile Dates _____

1 = Monthly
2 = Weekly
3 = Daily

WO Processing

1. Include Work Order Generated Loads _____

1 = Before Rate loads
2 = After Rate loads
Blank = No Work Order loads

2. From Operation Status _____

Include as an active operation
Blank = No specific status to include

3. To Operation Status _____

Include as an active operation
Blank = No specific status to include

Versions

Exit Versions

A specific version
Blank = ZJDE0001

1. Rate Revisions (P3109) _____

Reviewing Process Orders

For Process Manufacturing, use the Process Order Inquiry program to display:

- Each operation of the process
- The ingredients, or parts lists
- A list of the co-products and by-products
- The existing intermediates of a work order, per operation

From this program, you can do the following:

- Access the Item Availability Summary program
- Access and update the Enter/Change Order program
- Display the intermediate for a specific operation, using the unit of measure defined for the intermediate instead of the primary unit of measure
- Display intermediates for all operations
- Access the Enter/Change Bill program to make updates

► To review process orders

From the Daily Order Preparation – Process menu (G3113), choose Process Order Inquiry.

Work Unit	Oper Seq#	Description	Op St	Run Machine	Run Labor	Setup Labor
200-201	10.00	Filter bulk oil		.05		.25
200-202	20.00	Blend additives				
200-203	30.00	Refine				
200-202	40.00	Blend graphite				

1. On Work with Process Orders, complete the following field and click Find:
 - Order Number/Type
2. Choose a record and then choose Ingredient/Co/By-Product from the Row menu.

Process Order Inquiry - [Work with Ingredients and Co/By-Products]

File Edit Preferences Form Row Window Help

Select Find Close Seg... New... Dis... Ago Links Order ... OLE ... Internet

Order Number/Type: 451469 WVO Branch/Plant: M30

Item Number: 5000 Lubricant Process

Quantity Ordered: 1 EA

Quantity Completed:

Quantity Scrapped:

Operations Sequence Number: 10.00

2nd Item Number	Description	Qty Ordered/ Output	Qty Issued/ Completed	UM	Stock Type
	Ingredients				
5001	Oil	50		GA	P
	Co/By Products				
5010	Sludge	2		GA	

3. On Work with Ingredients and Co/By-Products, review the following fields:
 - Qty Ordered/ Output
 - Qty Issued/ Completed
 - Co By

Working with Supply and Demand Information

Supply and demand information indicates the demand, supply, and available quantities for an item in your inventory. From the Supply/Demand Inquiry program you can access other forms to confirm detail information on work orders, parts lists, purchase orders, and sales orders. The information is interactively displayed from the Procurement, Shop Floor Management, and Sales Order Management systems.

Working with supply and demand information includes the following tasks:

- ☐ Reviewing supply and demand information
- ☐ Printing supply and demand information

Reviewing Supply and Demand Information

Use the Supply/Demand Inquiry form to review demand, supply, and available quantities for a specific item. You can also access the following forms to confirm detail information:

- Work With Order Scheduling
- Parts Availability
- Work With Detail Messages
- Work With Time Series
- Work With Pegging Inquiry
- Work With Item Availability
- Customer Service Inquiry
- Plant Manufacturing Data

The demand quantities are shown by date and can include safety stock, quantities on sales orders, work order parts lists, planned order demand for lower levels, and interplant and forecasted demand.

The supply quantities are shown by date and can include on-hand inventory and quantities on purchase orders, manufacturing work orders, planned orders, and rate schedules. Supply quantities shown without a date or order information represent current availability by branch/plant storage location.

You can use the processing options in this program to do the following:

- Include both supply and demand planned orders from the MPS/MRP/DRP Message table (F3411).
- Include forecast demand from the Forecast table (F3460).
- Display an Available to Promise line that calculates the units available for sale or distribution before the arrival of future supplies.
- Display a Cumulative Available to Promise line that calculates the running total of Available to Promise.
- Specify which versions of associated programs are used when you access them. You should use the same program version for each Distribution Requirements Planning generation that you run to ensure that your data is consistent between systems.
- Specify which version of inclusion rules to use. You can set up different versions of inclusion rules to include the document type, line type, and status of each purchase order, sales order, or work order. The processing option for the Supply/Demand Inclusion Rules must contain a valid version of inclusion rules from the MPS/MRP Resource Rules table (F34004). You should set this option to use the same version that you use in your Distribution Requirements Planning generation to facilitate tracking among the systems.

Processing options for the Supply and Demand report allow you to omit item records that have a zero quantity available and control which versions of associated programs are used when you access them. In addition, you can use the processing options and certain fields to display availability by grade or potency ranges.

► **To review supply and demand information**

From the Daily Order Preparation – Discrete menu (G3111), choose Supply/Demand Inquiry.

Promise Date	Demand	Supply	Quantity Available	Order No	Type	Branch/Plant	Customer/Supplier Name
7/31/00		2	2			M30	On Hand Balance
7/31/00		134	136			M30	On Hand Balance
7/31/00						M30	Available to Promise
6/30/98		11	136	451194	WO	M30	
10/30/98		1	136	451426	WO	M30	
7/31/02	10		126		FR	M30	Capital System
7/31/02	25		101		FR	M30	Cloud Nine Inc.
7/31/02	199		98		FR	M30	

1. On Work With Supply and Demand, complete the following fields and click Find:
 - Branch/Plant
 - Item Number
2. Review the information that appears and click Close.

See Also

- *Processing Options for Supply/Demand Inquiry (P4021)* in the *Manufacturing and Distribution Planning Guide* for more information on supply and demand

Printing Supply and Demand Information

From the Periodic Functions - Discrete menu (G3121), choose Supply/Demand.

The Supply and Demand report shows the supply, demand, and available quantities for an item. This report can include quantities of materials in the following categories:

- On-hand inventory
- Safety stock
- Sales orders
- Purchase orders
- Work orders
- MPS/MRP planned orders
- Forecasts
- Rate schedules

You can set the processing options to customize your report in various ways such as the following:

- Omitting item records that have a zero quantity available
- Controlling which versions of the associated programs that you use to compile the report
- Displaying availability by grade or potency ranges

Processing Options for Supply/Demand Report

Process 1

1. Enter a '1' to deduct Safety Stock from Availability.

Safety Stock Flag

- 2 . Enter a '1' by the following Routing Quantities to be considered on hand. Any quantity not included will be displayed on the appropriate date.

Quantity in Transit
Quantity in Inspection
User Defined Quantity 1
User Defined Quantity 2

Process 2

3. Enter a '1' to summarize all In Receipt Routing Steps into one line.

Receipt Routing Summary Flag

4. Enter a '1' to summarize the Item Balance Quantity records.

Item Balance Quantity Summary Flag

5. Enter the thru date for the period of transactions to appear on the report. If left blank, all transactions will be printed.

Effective Thru Date

6. Enter the version of Supply/Demand Inclusion Rules to be used for processing.

Supply/Demand Inclusion Rules

Print

1. Enter one of the following: ' ' = No ATP Line, '1' = ATP Line, '2' = Cumulative ATP Line

ATP Line Flag

Display 1

1. Enter a '1' to print Planned Orders from the MRP/MPS/DRP generations. If left blank, Planned Orders will not print.

Planned Order Flag

2. Enter the Forecast Type(s) to be included (Up to 5 types). If left blank, the program will not include any Types. Example: for types 01, 02, & BF, enter '0102BF' etc.

Forecast Types (5 types maximum)

3. Enter the number of days (+/-) from today's date that you wish to begin including Forecast records. A blank will use today's date to begin including Forecast records.

Forecast Lead Days

4. Enter a '1' to omit 'Bulk Stocking Type records from report. Blank is the default and 'Bulk' record types will be printed.

Bulk Stocking Type Flag _____

Display 2

5. Enter the Unit of Measure you would like to appear on the report. If left blank, Primary units will be used.

Unit of Measure _____

6. Enter '1' to display all quantities at Standard Potency.

Standard Potency Flag _____

7. Enter '1' to reduce quantity available due to lot expiration. (Note: This option will not work with ATP. If this option has to work, Option 1 in Print Options must be set to blank or 2).

Lot Expiration Flag _____

Process Mfg

1. Enter the Rate Base Schedule Type to be included on the Supply/Demand report. If left blank, Rate Based Items will not appear. (FUTURE)

Rate Base Sched Type (FUTURE) _____

Working with Bills of Material

After you process work orders or rate schedules, you can compare bills of material or parts lists either online by using the Bill Comparison form, or by reviewing any of three reports. Use the comparisons to determine if you have any differences between the parts lists or bill of material for two different items.

Working with bills of material consists of completing the following tasks:

- ☐ Comparing bills of material
- ☐ Printing bill of material information

Comparing Bills of Material

Use Bill Comparison to compare bills of material or parts lists. The system displays all the components of both items or only those components that are different between the two, depending your processing option selections.

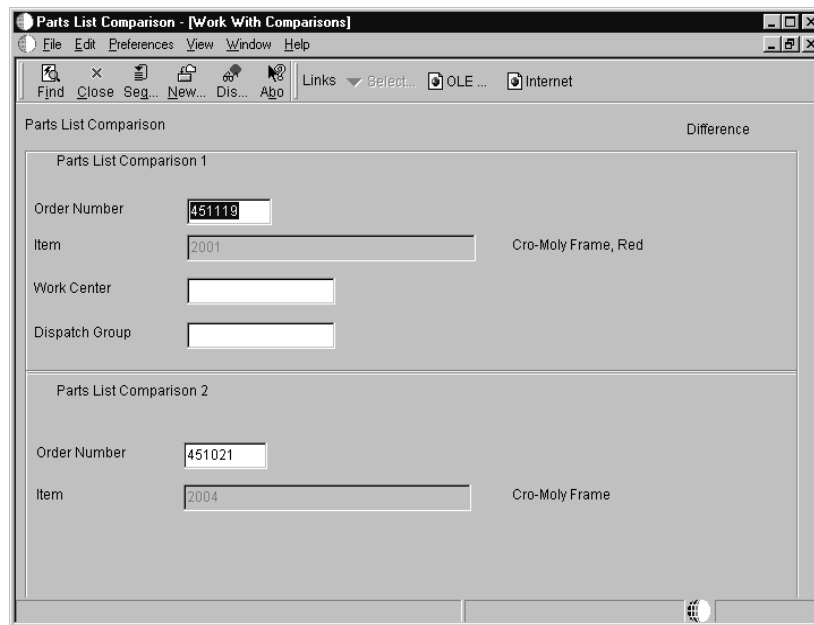
Comparing bills of material consists of the following tasks:

- Comparing two parts lists
- Comparing a bill of material and a parts list

► To compare two parts lists

From the Daily Order Preparation – Discrete menu (G3111), choose Parts List Comparison.

From the View menu, you can choose to compare by bill of material instead of parts list.



1. On Work With Comparisons, choose Mode from the View menu to display either all the parts or only those that are different.
2. Complete the following fields for the first parts list
 - Order Number
3. Complete the following optional fields under the Parts List Comparison 1 heading:
 - Work Center
 - Dispatch Group
4. Complete the following field under the Parts List Comparison 2 heading and click Find:
 - Order Number

Parts List Comparison

Work Center	2nd Item Number	Quantity Item 1	UOM Item1	Quantity Item 2	UOM Item2	Description
200-112	9001	0		153	CM	25 mm Cro-Moly
200-112	9002	0		113	CM	50 mm Cro-Moly
200-112	9004	0		10	CM	50 mm Cro-Moly
200-141	9011	225	ML	0		Paint, Red
200-141	9031	225	ML	0		Primer
200-999	2004	1	EA	0		Cro-Moly Frame
200-999	2005	2	EA	0		Chain Stay

- On Display Comparisons, review the information and click Close.

► To compare a bill of material and a parts list

From the Daily Order Preparation – Discrete menu (G3111), choose Parts List BOM Comparison.

From the View menu you can choose to compare two bills of material or two parts lists instead of a bill of material and a parts list.

Parts List BOM Comparison - [Work With Comparisons]

File Edit Preferences View Window Help

Find Close Seg... New... Dis... Abo Links Mode OLE... Internet

Parts to BOM Comparison Difference

Parts List Comparison 1

Order Number 451004

Item 220 Touring Bike, Red

Work Center

Dispatch Group Requested Quantity 2000 EA

BOM Comparison 2

Item 2001 Branch/Plant M30

Cro-Moly Frame, Red

Batch Quantity 0

As Of Date 6/24/05

Bill Type M

1. On Work With Comparisons, complete the following field under the Parts List Comparison 1 heading:
 - Order Number
2. Complete the following fields under the BOM Comparison 2 heading and click Find:
 - Item
 - Branch
 - As Of Date
 - Bill Type

Work Center	2nd Item Number	Quantity Item 1	UOM Item1	Quantity Item 2	UOM Item2	Short Item N
200-141	9011	0		450000	ML	
200-141	9031	0		450000	ML	
200-143	9026	0		3	LP	
200-901	2001	12	EA	0		
200-901	2006	12	EA	0		
200-901	2007	12	EA	0		
200-901	2008	12	EA	0		
200-901	2013	12	EA	0		
200-901	2014	12	EA	0		
200-901	2021	12	EA	0		
200-911	2009	24	EA	0		
200-920	2010	12	EA	0		
200-920	2011	2	EA	0		
200-920	2012	10	EA	0		

3. On Display Comparisons, review the information and click Close.

Processing Options for Parts List Comparison

Defaults

1. Bill of Material Type

Blank = The system uses M for manufacturing bill of material.

Display

1. Single Level or Multilevel Comparison

Blank = The system displays a single level comparison.

1 = The system displays a single level comparison.

2 = The system displays a multilevel comparison.

2. View Mode

Blank = The system uses the bill of material mode.

1 = The system uses the bill of material mode.

2 = The system uses the parts list mode.

3 = The system uses the parts list to bill of material mode.

Process

1. Include Different Records

Blank = The system displays the components that are different between the two bills of material or parts lists.

D = The system displays the components that are different between the two bills of material or parts lists.

A = The system displays all the components of the two bills of material or parts lists.

2. Work Center or Item Summary

Blank = The system sorts the information by item number.

1 = The system sorts the information by work center.

2 = The system sorts the information by item number.

3. Subassemblies

Blank = The system includes subassemblies in the comparison.

0 = The system excludes subassemblies from the comparison.

1 = The system includes subassemblies in the comparison.

4. Phantom Items

Blank = The system includes phantom items in the comparison.

0 = The system excludes phantom items from the comparison.

1 = The system includes phantom items in the comparison.

Printing Bill of Material Information

You can generate several reports to review bill of material information, as follows:

- Single level bill
- Multilevel bill
- Where used information

Caution: J.D. Edwards recommends that you do not change the first two data sequences from the settings in the DEMO version of these reports. If you change the data selection, you might obtain unexpected or inaccurate results.

Printing a Single Level Bill of Material

From the Periodic PDM Discrete menu (G3021), choose Single Level Bill of Material report.

Print the Single Level Bill of Material report to review an item's first-level components.

See Also

- *R30460, Single Level Bill of Material* in the *Reports Guide* for a report sample

Processing Options for Single Level Bill of Material

Display

1. Inquiry Mode ---

Blank = The system displays the information in multilevel indented format.
1 = The system displays the information in single level format.
2 = The system displays the information in multilevel format.
3 = The system displays the information in multilevel indented format.

2. As of Date ---

Blank = The system uses the current date.

3. Type Bill of Material ---

Blank = The system uses type 'M'.

4. Display Sequence ---

Blank = The system sequences the information by component line number.
1 = The system sequences the information by component line number.
2 = The system sequences the information by operation sequence number.

Print

1. Detail Line

Blank = The system prints only one line of detail.
1 = The system prints a second line of detail for items appearing on the report.

2. Component Locators

Blank = The system does not print component locations.
1 = The system prints component locations.

3. Parent Item Detail Line

Blank = The system does not print a line of detail for the parent item.
1 = The system prints a line of detail for the parent item.

Process

1. Phantom Items

Blank = The system excludes phantom items from the report.
1 = The system includes phantom items in the report.

2. Process Items

Blank = The system excludes process items from the report.
1 = The system includes process items in the report.

3. Subassemblies

Blank = The system excludes subassemblies from the report.
1 = The system includes subassemblies in the report.

4. Text Lines

Blank = The system excludes text lines from the report.
1 = The system includes text lines in the report.

5. Consolidate Component Items

Blank = The system shows individual occurrences of duplicate components in the report.
1 = The system consolidates duplicate components in the report.

6. Purchased Item

Blank = The system explodes to the next level of purchased item.
1 = The system does not explode to the next level of purchased item.

7. Shrinkage

Blank = The system excludes shrink from the calculation of requested quantity.
1 = The system includes shrink in the calculation of requested quantity.

8. Scrap

Blank = The system excludes scrap from the calculation of extended quantity.
1 = The system includes scrap in the calculation of extended quantity.

9. Yield

Blank = The system excludes yield from the calculation of extended quantity.
1 = The system includes yield in the calculation of extended quantity.

- 10. Requested Quantity
 - 11. Unit of Measure as Input
-
-

Printing a Multilevel Bill of Material

From the Periodic PDM Discrete menu (G3021), choose Multi Level Bill of Material report.

Print the Multi level Bill of Material report to review all the levels of components for an item.

Processing Options for Multi level Bill of Material

Display

1. Inquiry Mode

Blank = The system displays the information in multilevel indented format.
1 = The system displays the information in single level format.
2 = The system displays the information in multilevel format.
3 = The system displays the information in multilevel indented format.

2. As of Date

Blank = The system uses the current date.

3. Type Bill of Material

Blank = The system uses type 'M'.

4. Display Sequence

Blank = The system sequences the information by component line number.

1 = The system sequences the information by component line number.

2 = The system sequences the information by operation sequence number.

Print

1. Detail Line

Blank = The system prints only one line of detail.

1 = The system prints a second line of detail for items appearing on the report.

2. Component Locators

Blank = The system does not print component locations.

1 = The system prints component locations.

3. Parent Item Detail Line

Blank = The system does not print a line of detail for the parent item.

1 = The system prints a line of detail for the parent item.

Process

1. Phantom Items

Blank = The system excludes phantom items from the report.

1 = The system includes phantom items in the report.

2. Process Items

Blank = The system excludes process items from the report.

1 = The system includes process items in the report.

3. Subassemblies

Blank = The system excludes subassemblies from the report.
1 = The system includes subassemblies in the report.

4. Text Lines

Blank = The system excludes text lines from the report.
1 = The system includes text lines in the report.

5. Consolidate Component Items

Blank = The system shows individual occurrences of duplicate components in the report.
1 = The system consolidates duplicate components in the report.

6. Purchased Item

Blank = The system explodes to the next level of purchased item.
1 = The system does not explode to the next level of purchased item.

7. Shrinkage

Blank = The system excludes shrink from the calculation of requested quantity.
1 = The system includes shrink in the calculation of requested quantity.

8. Scrap

Blank = The system excludes scrap from the calculation of extended quantity.
1 = The system includes scrap in the calculation of extended quantity.

9. Yield

Blank = The system excludes yield from the calculation of extended quantity.
1 = The system includes yield in the calculation of extended quantity.

10. Requested Quantity

11. Unit of Measure as Input

Printing Where Used Information

From the Periodic PDM Discrete menu (G3021), choose Where Used Item report.

Print the Where Used Item report to review the parent assemblies that contain a specific component.

Processing Options for Where Used Item

Format Option

1. Select the Mode or Style of report to be created: 1 = Single Level; 2 = Multi- Level; 3=Multi-Level Indented

Mode of Report

2. Enter a '1' to print a second line of detail on the report. If left blank, only one line of detail will be printed.

Print Line of Detail

Interoperability



Interoperability

To fully cover the information requirements of an enterprise, companies sometimes use products from different software and hardware providers. Interoperability between different products is key to successfully implementing the enterprise solution. Full interoperability between different systems results in a flow of data between the different products that is seamless to the user. The OneWorld Interoperability function provides an interface that facilitates exchanging transactions, both inbound and outbound, with external systems.

External systems send data to the interface tables, either using an external program or using flat files and the Inbound Flat File Conversion program. The sending party is responsible for conforming to format and other requirements for the interface tables. You run a transaction process (a batch program) that validates the data, updates valid data to the J.D. Edwards application tables, and sends action messages to the Employee Work Center about any invalid data.

You use an inquiry function to interactively review the invalid data for correctness, and then run the transaction process again. You repeat this process as often as necessary.

You set a processing option to specify the transaction type for the outbound transaction. The system uses the master business function for the type of transaction, creates a copy of the transaction, and places it in the interface table from which external systems can access it.

You use the purge function to remove obsolete and unnecessary data from interface tables. Your system is more efficient when you keep these tables as small as possible.

Interoperability consists of the following tasks:

- ☐ Converting flat files to the interface tables
- ☐ Receiving transactions from external systems
- ☐ Reviewing and revising inbound transactions
- ☐ Sending transactions to external systems



Interoperability Programs

The interoperability programs for the Shop Floor Management system are as follows:

Inbound Conversion Programs (R47002C)

- Inbound Backflush Flat File Conversion
- Inbound Completion Flat File Conversion
- Inbound Issues Flat File Conversion
- Inbound Work Order Flat File Conversion

Inbound Transaction Programs

- Inbound Hours and Quantity Processor (R31122Z1I)
- Inbound Inventory Issues Processor (R31113Z1I)
- Inbound Completion Processor (R31114Z1I)
- Inbound Super Backflush Processor (R31123Z1I)
- Inbound Work Order Processor (R4801Z1I)

Inbound Inquiry Programs

- Inbound Hours and Quantity Inquiry (P31122Z1)
- Inbound Inventory Issues Inquiry (P3111Z1)
- Inbound Completion Inquiry (P4801Z1)
- Inbound Super Backflush Inquiry (P3112Z1)
- Inbound Work Order Inquiry (P4801Z1)

Purge Programs

- Inbound Hours and Quantity Purge (R31122Z1)
- Inbound Inventory Issues Purge (R3111Z1P)
- Inbound Completion Purge (R4801Z1)
- Inbound Super Backflush Purge (R3112Z1P)
- Interoperability Work Order Purge (R4801Z1P)

Outbound Extraction Programs

- Outbound Work Order Extraction (R48011X)
- Outbound Operation Status Extraction (R4801Z2X)
- Item Balance Extraction (R31SYN02)

Converting Flat Files to the Interface Tables

External systems can use a variety of methods to send data to the interoperability interface tables. One method is to enter the data in a flat file. If you use this method, the system converts the flat file to the interface table.

You can set a processing option to start the transaction process when the conversion completes successfully.

Converting flat files to the interface tables consists of the following tasks:

- ☐ Setting up the flat file cross-reference
- ☐ Running the conversion program

Before You Begin

- ☐ Ensure that the flat file is a comma-delimited ASCII text file stored on the hard drive of your personal computer.
- ☐ Ensure that the data conforms to the specified format. See *Converting Data from Flat Files into EDI Interface Tables* in the *Data Interface for Electronic Data Interchange Guide* for information about conformance requirements.

Setting Up the Flat File Cross-Reference

From the Shop Floor Management Interoperability menu (G31311), choose Flat File Cross-Reference.

Before you can convert a flat file, you must provide a cross-reference from the flat file fields to the interface table fields.

See Also

- *Converting Data from Flat Files into EDI Interface Tables* in the *Data Interface for Electronic Data Interchange Guide* for information about this process, which works the same in interoperability

Running the Conversion Program

From the Shop Floor Management Interoperability menu (G31311), choose the applicable Inbound XX Flat File Conversion, where XX is the process that the conversion completes, such as Inbound Completion Flat File Conversion.

The Inbound Flat File Conversion program converts the flat file to the interface table. If you set the related processing option, the system starts the transaction process following a successful conversion.

Processing Options for Inbound Flat File Conversion

Transaction

1. Enter the transaction to process.

Separators

1. Enter the field delimiter.
2. Enter the text qualifier.

Process

1. Enter the inbound processor to run after successful completion of the conversion.
2. Enter the version for the inbound processor. If left blank, XJDE0001 will be used.

See Also

- *Receiving Transactions from External Systems* for information about the transaction process programs

Receiving Transactions from External Systems

From the Shop Floor Management Interoperability menu (G31311), choose one of the following:

- Inbound Work Order Processor
- Inbound Hours and Quantity Processor
- Inbound Inventory Issues Processor
- Inbound Completion Processor
- Inbound Super Backflush Processor

When an external system sends inbound transactions, the system stores the data in interface tables. These tables contain unedited transactions. You must then run the appropriate transaction process to edit the transactions and update the application tables. For example, if you receive transactions in the F31122Z1 interface table, you run the Inbound Hours and Quantity Processor (P31122Z1I) to update the Work Order Time Transactions table (F31122).

Note: When you run the Inbound Flat File Conversion program and it completes successfully, the system automatically starts the transaction process, if so specified in the processing option for the conversion.

To be received in the interface tables, data from an external system must conform to the minimum field requirements specified for the interface table.

The transaction process performs the following:

- Validates the data in the interface table (for example, F31122Z1) to ensure that the data is correct and conforms to the format defined for the Shop Floor Management system
- Updates the associated application table (for example, F31122) with validated data
- Produces a report that lists invalid transactions and sends an action message for each invalid transaction to the Employee Work Center
- Marks in the interface tables those transactions that are successfully updated to the application tables

If the report indicates errors, access the Employee Work Center program from the Workflow Management menu (G02) and review the messages in the message center. Then use the associated inquiry function to review and revise the transactions, and rerun the transaction process.

Before you run any of the inbound transaction programs, specify the appropriate values for processing in the processing options.

See Also

- *Reviewing and Revising Inbound Transactions* for more information about using the Inquiry function

Processing Options for Inbound Hours and Quantity Processor

Versions

1. Enter the version for P311221
Hours and Quantities to be called.
If left blank ZJDE0001 will be
used

Printing

1. Enter '1' to print
unsuccessfully processed records
only. If left blank, all records
will be printed.

Processing Options for Inbound Inventory Issues Processor

Versions

1. Enter the Version of Work
Order Inventory Issues (P31113) to
be called. If left blank
'ZJDE0001' will be used.

Processing Options for Inbound Completion Processor

Versions

1. Enter the version of Inventory
Completions (P31114). If left
blank ZJDE0001 will be used.

Process

1. Enter '1' to print only the
records with errors

Processing Options for Inbound Super Backflush Processor

Data Edits

Enter the Version of Work Order
Super Backflush (P31123). If left
blank ZJDE0001 will be used.

Printing

1. Enter '1' to print
unsuccessfully processed records
only. If left blank, all records
will be printed.

Reviewing and Revising Inbound Transactions

Running one of the transaction processes, such as the Inbound Work Order Inquiry, often identifies one or more inbound transactions that contain invalid transactions. For example, a work order might have an invalid item number. In that case, the program cannot add that work order to the Work Order Master table (F4801). Instead, the program sends an error message to the Employee Work Center, indicating the transaction number for the transaction in error.

Use the inquiry menu selections to review and revise inbound transactions. Use the inquiry menu selections to add, change, or delete transactions that contain errors. Then run the transaction process again. Continue to make corrections and rerun the transaction process until the program runs without errors.

The selections for the Shop Floor Management inquiry menu are as follows:

- Inbound Work Order Inquiry
- Inbound Hours and Quantity Inquiry
- Inbound Inventory Issues Inquiry
- Inbound Completion Inquiry
- Inbound Super Backflush Inquiry

The steps that follow are only an example of typical processes that you might perform to review or revise inbound transactions.

► To review and revise inbound transactions

From the Shop Floor Management Interoperability menu (G31311), choose Inbound Hours and Quantity Inquiry.

1. On Work With Inbound Transaction Records for F31122Z1, complete the following fields and click Find:
 - User ID
 - Batch Number
 - Transaction Number
2. Choose the transaction to review and revise the record and click Select.
3. On Transaction Record Revisions for F31122Z1, review and revise as needed, and then click OK.
4. After you correct the errors identified by the Inbound Work Order Processor, run the transaction process again.

See Receiving Transactions from External Systems.

5. If the system identifies other errors, follow step 1 – 4 until no more transaction errors appear.

Field	Explanation
User ID	For World, the IBM-defined user profile. For OneWorld, the identification code for a user profile.

Field	Explanation
Batch Number	The number that the transmitter assigns to the batch. During batch processing, the system assigns a new batch number to the J.D. Edwards transactions for each control (user) batch number it finds.
Transaction Number	The number that an Electronic Data Interchange (EDI) transmitter assigns to a transaction. In a non-EDI environment, you can assign any number that is meaningful to you to identify a transaction within a batch. It can be the same as a J.D. Edwards document number.

See Also

- *Understanding EDI Document Inquiry and Revision* in the *Data Interface for Electronic Data Interchange Guide* for information about reviewing and revising data transactions for inbound product activity
- *Working with Messages* in the *OneWorld Foundation Guide* for more information about the Employee Work Center

Processing Options for Inbound Work Order Inquiry

Display

1. Default View Mode. If left blank, default is '1'.

'1' - View Unprocessed Records
'2' - View Records Processed Successfully
'3' - View Records Processed Unsuccessfully

2. Enter the Direction Indicator value. ('1' for Inbound Records, '2' for Outbound Records). If left blank '2' will be used.
3. Enter the value for the screen to be displayed. ('1' for Work Order Revisions, '2' for Completion Revisions). If left blank, '1' will be used.

Defaults

1. Enter the Transaction Type for new Work Order Header Transactions. If left blank, "JDEWO" will be used.
2. Enter the Transaction Type for new Work Order Parts List Transactions. If left blank, "JDEPL" will be used
3. Enter the Transaction Type for new Work Order Routings Transactions. If left blank, "JDERTG" will be used

Process 1

1. Name of Inbound Subsystem UBE to process Inbound transactions.

If left blank, default is 'R31114Z1I'.

2. Version of Inbound UBE. Default is 'XJDE0002'.

Processing Options for Inbound Hours and Quantity Inquiry

Display

1. Default View Mode. If left blank, default is '1'.
- '1' - View Unprocessed Records. '2' - View Records Processed Successfully. '3' - View Records Processed Unsuccessfully.
2. Enter the Direction Indicator value. ('1' for Inbound Records, '2' for Outbound Records). If left blank, '1' will be used.

Defaults

1. Enter the Transaction Type for new Work Order Header Transactions. If left blank, "JDEHQ" will be used.

Process

1. Name of Inbound Subsystem UBE to call to process Inbound transactions.
- If left blank, default is 'R31122Z1I'
2. Version of Inbound UBE to call. Default is 'XJDE0002'.

Processing Options for Inbound Inventory Issues Inquiry

Display

1. Default View Mode. If left blank, default is '1'.
- '1' - View Unprocessed Records. '2' - View Records Processed Successfully. '3' - View Records Processed Unsuccessfully
2. Enter the Direction Indicator value. ('1' for Inbound Records, '2' for Outbound Records). If left blank, '1' will be used.

Defaults

1. Enter the Transaction Type for new Work Order Header Transactions. If left blank, "JDEII" will be used.

Process

1. Name of Inbound Subsystem UBE to call to process Inbound transactions. If left blank, default is 'R31113Z1I'.
2. Version of Inbound UBE to call. Default is 'XJDE0002'.

Processing Options for Inbound Completion Inquiry

Display

1. Default View Mode. If left blank, default is '1'.
- '1' - View Unprocessed Records
'2' - View Records Processed Successfully
'3' - View Records Processed Unsuccessfully
2. Enter the Direction Indicator value. ('1' for Inbound Records, '2' for Outbound Records). If left blank '2' will be used.
 3. Enter the value for the screen to be displayed. ('1' for Work Order Revisions, '2' for Completion Revisions). If left blank, '1' will be used.

Defaults

1. Enter the Transaction Type for new Work Order Header Transactions. If left blank, "JDEWO" will be used.
2. Enter the Transaction Type for new Work Order Parts List Transactions. If left blank, "JDEPL" will be used
3. Enter the Transaction Type for new Work Order Routings Transactions. If left blank, "JDERTG" will be used

Process 1

1. Name of Inbound Subsystem UBE to process Inbound transactions.

If left blank, default is 'R31114Z1I'.

2. Version of Inbound UBE. Default is 'XJDE0002'.

Processing Options for Inbound Super Backflush Inquiry

Display

1. Default View Mode. If left blank, default is '1'. _____
- '1' - View Unprocessed Record. '2' - View Records Processed Successfully.
'3' - View Records Processed Unsuccessfully.
- Enter the Direction Indicator value. ('1' for Inbound Records, '2' for Outbound Records). If left blank '1' will be used. _____

Defaults

1. Enter the Transaction Type for new Work Order Header Transactions. If left blank, "JDESBF" will be used. _____

Process

1. Name of Inbound Subsystem UBE to call to process Inbound transactions. If left blank, default is 'R31123Z11'. _____
2. Version of Inbound UBE to call. Default is 'ZJDE0001'. _____

Sending Transactions to External Systems

You might need to send to another system transactions that you create or change in the Shop Floor Management system. For example, if your organization uses hand-held scanning devices, you can use interoperability transactions to update the database used by the scanning devices.

The default outbound transaction is a copy of a data transaction after you created or changed it (an *after image*). With interoperability, you can also send a copy of each transaction as it was before you changed it (a *before image*). Creating and sending before images requires additional processing time. To control the type of image, you set a processing option in the application programs that create transactions.

You can send transactions to an external system from the following programs in the Shop Floor Management system:

- Enter/Change Order
- Enter/Change Rate Schedule
- Order Processing
- Inventory Issues
- Hours and Quantities Update
- Completions

To create outbound transactions, specify the appropriate transaction type in the related processing option. The system places a copy of the transaction in the interface table for that type of transaction. For example, when you run Enter/Change Order with the interoperability processing option turned on, the system places a copy of updated work order data in the F4801Z1 interface table. The data is then available for an external system to use.

The system creates the outbound transaction in EDI format. External systems can process the transactions using standard EDI processing, including extraction.

Before You Begin

- ☐ Define the data export controls for the type of outbound transaction. The system uses data export controls to determine the batch programs or business processes that third parties supply for use in processing transactions.

See Also

- *Enter Work Order Headers* for information about entering an order
- *Entering Rate Schedules* for information about entering a rate schedule
- *Processing Work Orders and Rate Schedules* for information about order processing
- *Issuing Material* for information about inventory issues
- *Updating Hours and Quantities* for information about processing hours and quantities
- *Working with Completions* for information about completing a work order or rate schedule

Appendices

Appendix A: Leadtimes

Determining leadtime is an essential part of any manufacturing or scheduling process. For any product that you purchase or manufacture, you encounter a time lag between when you order or start it and when you receive or finish it. To account for the lag, you must estimate and allow for the extra time (leadtime) in your planning.

Leadtimes consists of the following topics:

- ☐ Leadtime concepts
- ☐ Work order start dates
- ☐ Operation start and due dates
- ☐ Overlapping operations
- ☐ Overlapping and concurrent operations
- ☐ Leadtime calculations

Cumulative leadtime is the total amount of time that is required to produce a product. The Shop Floor Management system uses the requested date of the order and, based on the methods used to define the level leadtime (leadtime per unit) for the product, calculates the appropriate order start date.

Many factors can influence your company's leadtime policy, including the following:

- Manufacturing environment (assemble-to-order, make-to-order)
- Fixed or variable quantities
- Serial or overlap operations
- Fixed or variable leadtime
- Number of shifts and operators
- Factoring by efficiency
- Protection

Whether your company uses fixed or variable leadtime depends on whether you have consistent work order quantities for a manufactured item. If your work order quantities vary significantly, you should use variable leadtime. A significant

variation would be any amount that requires more or less leadtime. Items with short leadtimes could have larger fluctuations than items with long leadtimes. You specify whether to use fixed or variable leadtime on the Plant Manufacturing Data form for Item Branch.

For any manufactured product, the system calculates four types of leadtime as follows:

Level leadtime

Level leadtime is the number of workdays required to complete the product after all items are available.

See *Level Leadtime* for more information and the associated calculation.

Manufacturing leadtime

Manufacturing leadtime is the total number of workdays required to complete a product, from its lowest-level components to the final item, assuming that all purchased items are in house.

See *Manufacturing Leadtime* for more information and the associated calculation.

Cumulative leadtime

Cumulative leadtime is the number of workdays required to acquire items and complete a product, from its lowest-level components to the final item. In other words, it is the level leadtime for a product, plus the longest cumulative leadtime of any of its components.

See *Cumulative Leadtime* for more information and the associated calculation.

Per unit leadtime

Per unit leadtime is the sum of the run times, as defined by the prime load codes for the work centers, factored by the routing time basis and converted to the leadtime per unit.

See *Per Unit Leadtime* for more information and the associated calculation.

The Shop Floor Management system uses the following factors in its calculation of leadtimes:

- Serial or overlap operations
- Fixed or variable leadtime indicator
- Routing labor, setup, queue, move, and machine run hours
- Prime load code for a work center

-
- Number of employees or machines per work center
 - Hours per work day

To calculate leadtimes, the system does the following:

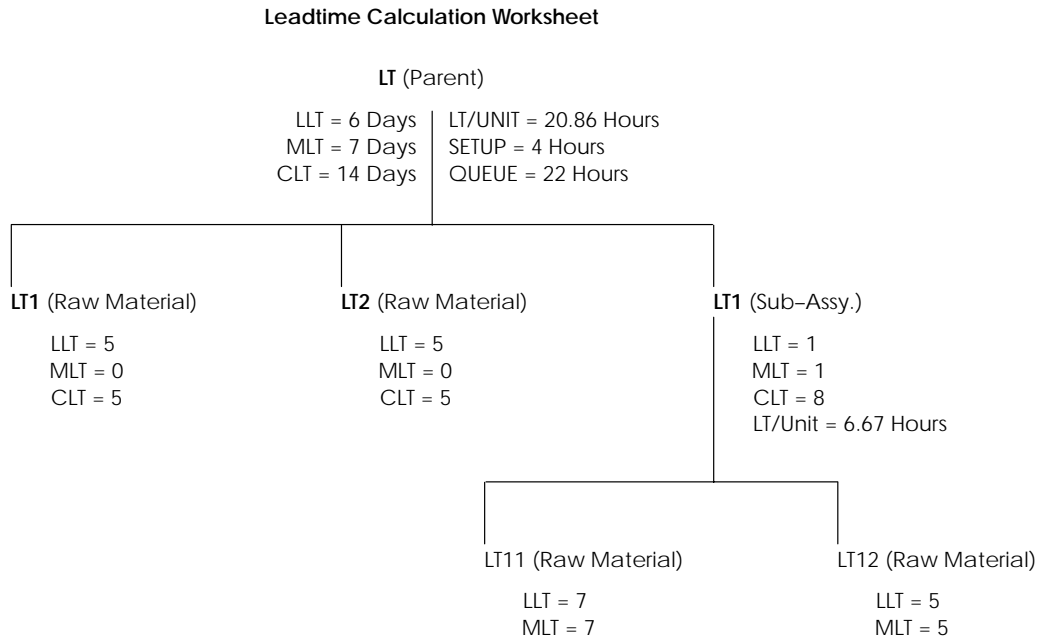
- Uses the information that you set up for each item on Plant Manufacturing Data in the Inventory Management system
- Coordinates the information with routing instructions and work center information that you enter in the Product Data Management system
- Determines leadtimes for all parent and component items

At any point in your planning and scheduling process, you can change leadtime values manually through Manufacturing Data.

You can use fixed or variable leadtimes for ingredients. The system subtracts fixed leadtimes directly from the requested date on the work request to calculate the start date of production. Fixed leadtime remains the same regardless of the quantity produced. However, variable leadtime adjusts according to the quantity produced.

Example: Leadtime Calculation Worksheet

The following graphic illustrates the different types of leadtimes that you can factor into different item levels, including raw material and finished product.



LLT = Level Leadtime
MLT = Manufactured Leadtime
CLT = Cumulative Leadtime

Leadtime Concepts

The following table explains important leadtime terms and concepts:

Machine hours	The number of machine hours required to produce the amount from the time basis code.
Labor hours	The number of labor hours required to produce the amount from the time basis code.
Setup hours	The number of hours required to prepare machinery to produce a specific item, regardless of quantity.

Move hours	The number of hours that a manufacturing work order is in transit from the completion of one operation to the beginning of the next.
Queue hours	The number of hours that a job waits at a work center before setup or work is performed on the job.
Total queue and move hours	The total queue and move hours is the sum of the move hours and the queue hours.
Time basis code	A user defined code (30/TB) that indicates how machine or labor hours are expressed for a product. Time basis codes identify the time basis or rate to be used for machine or labor hours entered for every step in the routing instructions, for example, 25 hours per 1,000 pieces. You maintain the time basis codes in Time Basis Codes.
Resource units	Shows the available amount of capacity in a work center for the months in the calendar. For leadtime purposes, as the system calculates the operation start and due dates, it uses the available hours to calculate the operation start dates. You maintain the resource units in Work Center Resource Units.
Prime load code	<p>Determines whether a work center is labor-intensive or machine-intensive. The prime load code also determines whether the system uses the number of employees or the number of machines to determine the daily resource units in the Resource Units table. You maintain the prime load codes in Work Center Revisions. For calculating leadtimes, the following values for a prime load code are valid:</p> <ul style="list-style-type: none"> • L = run labor hours • M = machine labor hours • B = run and setup hours • C = machine and setup hours
Purchased parts	A part purchased from a supplier. For any purchased part you specify the level leadtime, which is equal to the cumulative leadtime. By default, the manufacturing leadtime, leadtime per unit, total queue and move hours, and setup times for purchased parts are zero.
Cumulative yield %	Shows the loss at an operation. The system knows when to add materials and labor resources to complete a job.
Utilization	Factors machine usage percent.

Efficiency

Factors labor portion. Efficiency adds time to the standard routing and leadtime when efficiency is less than 100%. That is, 95% labor is 95% efficient.

Work Order Start Dates

The system uses the level leadtime or leadtime per unit for an item defined on the Manufacturing Data form to calculate the start date of a work order based on the order's due date.

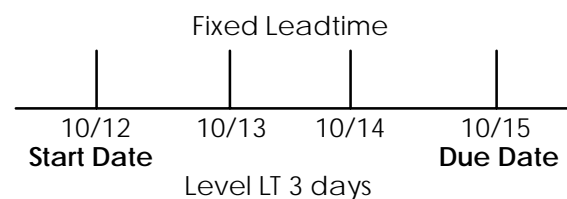
Start dates for work orders are calculated using one of the following:

- Fixed leadtime
- Variable leadtime

Fixed Leadtime

When an item has a fixed leadtime, the system uses the item's level leadtime value in backscheduling to calculate the work order start date.

For example, the system generates a planned order for product 101 with a requested due date of 10/15/00. The level leadtime is 3 days for this product, so the system calculates the start date by counting back 3 working days on the shop floor calendar from (but not including) the requested date. The system assigns the order a start date of 10/12/00.



Variable Leadtime

When an item has a variable leadtime, the system uses the following calculation to determine the leadtime days:

$$\frac{(\text{Leadtime per unit} \times \text{order quantity} / \text{TBC}^*) + \text{setup} + \text{total queue/move}}{\text{Work hours per day}}$$

* The system reads the Time Basis Code (TBC) from the Item Branch table (F4102).

For example, to determine the start date, the system counts back the leadtime days from the due date of planned orders. The system backschedules the due date, 10/15, 2 days to determine the start date of 10/13.

$$\begin{aligned} & (32 \times 1000 / 10,000) + 1 + 9 / 8 \\ & (3.2 + 10) / 8 = 2 \text{ days} \end{aligned}$$

The following table shows the values that are used in this example:

Due date	10/15
Leadtime per unit	32 hours
Order quantity	1000
Setup	1 hour
Total queue/move	9 hours
Work hours per day	8 hours

Note: Leadtime per unit does not use crew size in the calculation of leadtime for an item at a labor-based work center. However, leadtime per unit does use the number of employees in the work center when calculating leadtime.

Operation Start and Due Dates

The system calculates the operation start and due dates with the average number of hours per operation.

Operation start and due dates are calculated using one of the following:

- Fixed leadtime
- Variable leadtime

Fixed Leadtime

The system calculates the operation hours for a fixed leadtime using the following information:

- Level leadtime
- Hours per work day
- Number of employees per machine
- Number of operations

You must schedule the hours per operation according to the resource units within the entire level leadtime. This ensures that the start date of the first operation is the same as the start date of the work order. When the job moves to a different work center in the same day, the system decreases the resource units

available by the percentage of the work day remaining. The system does not use resource units on the due date of the work order. Instead, it assumes that the order was completed at the end of the previous day.

For each operation, the system then schedules this average time into the appropriate work center, based on the available hours from the Work Center Resource Units table (F3007). The system schedules the due date of the last operation on the day before the work order due date.

Calculation

The system uses the following formula to calculate average time per operation:

$$\frac{\text{leadtime level days} \times \text{work hours per day}^* \times \text{employees or machine}}{\text{number of operation sequences (blank operation sequence codes only)}} = \text{average time per operation}$$

* Work hours per day are retrieved from the Job Shop Manufacturing Constants table (F3009).

The following table shows the values that are used in this calculation:

Work order due date	05/01/98
Average time per operation	25 hours
Operations in the routing instructions	OP40 WC 200-204 due 4/30 start 4/27
	OP30 WC 200-101 due 4/27 start 4/24
	OP20 WC 200-204 due 4/24 start 4/21
	OP10 WC 200-101 due 4/21 start 4/17
WC Resource Units 200-204	8
WC Resource Units 200-101	8

Variable Leadtime

To determine variable leadtimes, the system schedules the actual hours from the work order routing instructions according to the same resource units rules for fixed leadtime.

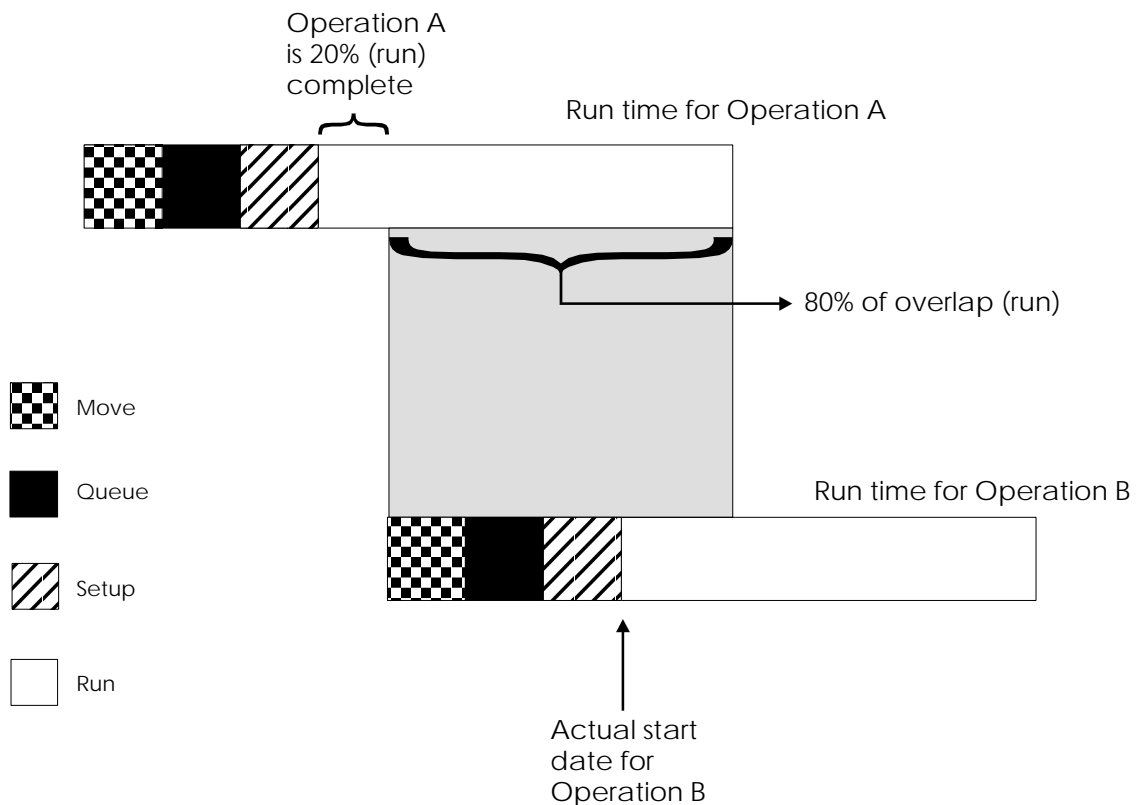
The system uses the prime load code to determine the hours to use. The hours are then applied to the resource units table, similar to fixed leadtime. The system applies queue time from the work order routing instructions at the beginning of an operation, and applies move time at the end of an operation.

The system also factors cumulative yield percent, utilization, and efficiency in the calculation.

Overlapping Operations

One method used to compress leadtimes is to overlap operations. Overlapping operations are two or more operations in a routing instruction that run at the same time. The percent of overlap is the amount of time that these operations can run concurrently. You can define at what point the second operation can begin before the first operation is complete. Because of setup, move, and queue times, the actual overlap in run time might be less than the percent of overlap that you have defined.

In the following example, Operation B has a percent of overlap of 80%. This means that Operation B can begin when 80% of Operation A remains to be finished, or when Operation A is 20% complete. Operations A and B are both active as they overlap.



If the percent of overlap causes an operation to end later than the last operation in the routing instructions, the system issues an error message and enters the work order start and requested dates into each operation.

Overlapping and Concurrent Operations

If a percentage of overlap is specified in the routing instructions, the routing instruction for the work order includes specified operations that overlap. For example, an overlap percentage of 80% for an operation means that the next operation can start when 20% of the previous operation is complete. The following tables illustrate operations with and without overlapping percentages.

Work order complete date	05/01/98
Last operation 20	24 hours
First operation 10	24 hours
Resource hours per day, per work center	8 hours
Operation overlap on 20	75%

	Without Overlap	With Overlap
Operation 10		
Start	04/27/98	04/27/98
Complete	04/29/98	04/29/98
Operation 20		
Start	04/30/98	04/27/98
Complete	05/02/98	04/30/98

Using the data from the tables above, the system advances the complete date of the previous operation by 75% of 24 hours or 18 hours. The system then recalculates the start date using the normal back scheduling rules. As a result, operations 10 and 20 overlap and will take 24 hours to complete. The following diagram illustrates this concept:

Date	4/27	4/28	4/29	4/30	5/1	5/2
Resource hours	8	8	8	8	8	8
OP 10 (24 hrs) (without overlap)	<-----	-----	----->			
OP 20 (24 hrs) (without overlap)				<-----	-----	----->
OP 10 (with overlap)	<-----	-----	----->			
OP 20 (with overlap)	<-	-----	-----	-->		

Leadtime Calculations

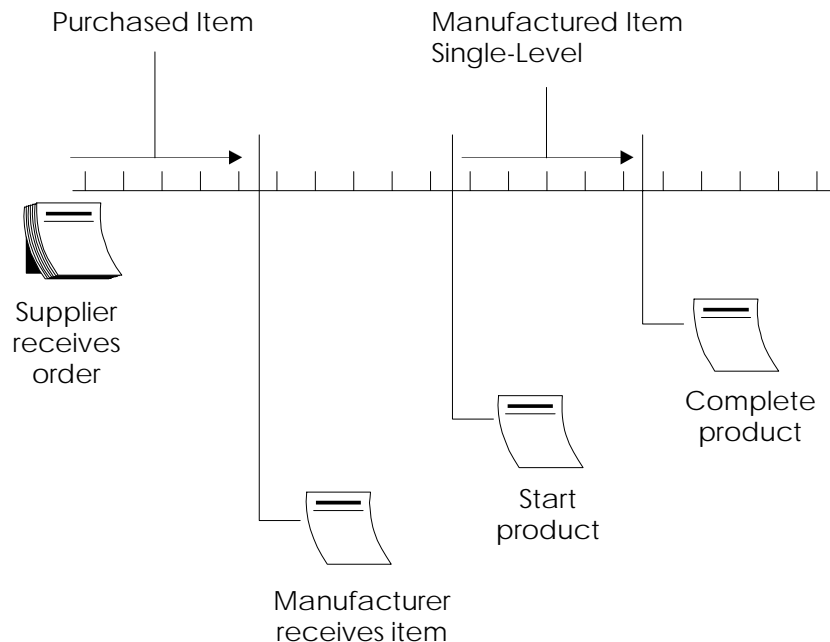
The calculation from the Leadtime Rollup program updates the following values within the Plant Manufacturing Data program:

- Level leadtime (if you use manufacturing leadtime quantity)
- Manufacturing leadtime
- Cumulative leadtime
- Per unit leadtime
- Total queue and move hours
- Setup hours

Each of these values is described in detail in the following topics.

Level Leadtime

For a manufactured product, level leadtime is the number of workdays required to complete the product after all items are available. Level leadtime for a purchased item is the number of calendar days required for you to receive the item after the supplier receives your purchase order. The following graphic shows you where in the process the level leadtimes for a manufactured item and a purchased item appear:



Calculation

The system uses the following formula to calculate level leadtime:

$$\frac{\sum \frac{((M \text{ or } L) / (E \text{ or } M)) \times MLQ}{TBC^*} + \text{setup} + \text{total queue/move hours}}{\text{Work hours per day from Constants table}}$$

* The system reads the Time Basis Code from the Routing Master file (F3003).

The following table shows the values that are used in the formula:

M or L	Machine or labor hours based on the prime load code
L or B	Labor hours
M or C	Machine hours
SUM	Sum of all operations
TBC	Time basis code
MLQ	Manufacturing leadtime quantity
E	Number of employees in the work center
M	Number of machines in the work center

For example:

$$\frac{\{(8)/(1)\} \times 2,000}{10,000} + \frac{\{(12)/(1)\} \times 2,000}{10,000} + \frac{\{(12)/(1)\} \times 2,000}{10,000} + 1 + 9 = 16.4$$

$$(1.6 + 2.4 + 2.4 + 1 + 9) / 8 = 16.4 / 8 =$$

3 days level leadtime

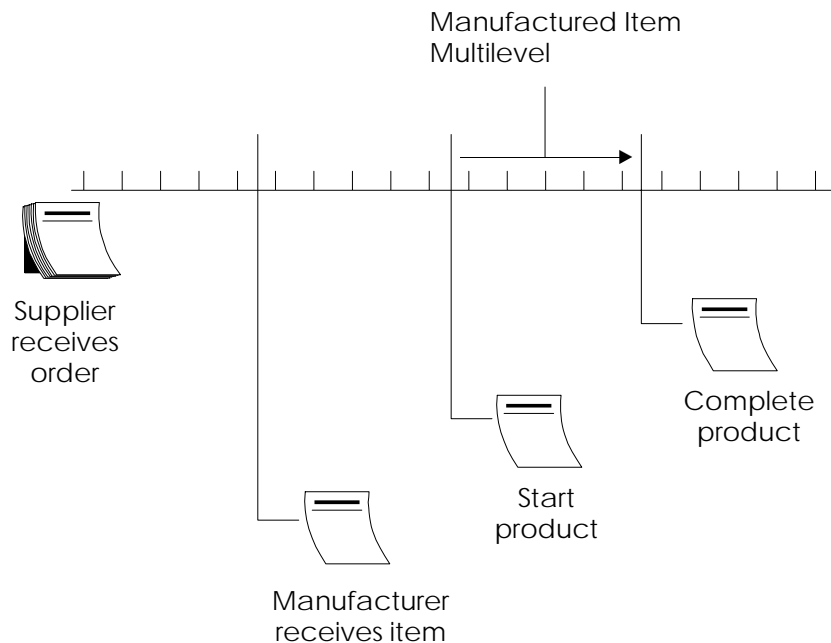
Manufacturing Leadtime

Manufacturing leadtime is the total number of workdays required to complete a product, from its lowest-level items to the final item, assuming that all purchased items are in house. Manufacturing leadtime includes the following:

- Order preparation time
- Queue time
- Setup time
- Run time
- Move time
- Inspection time
- Putaway time

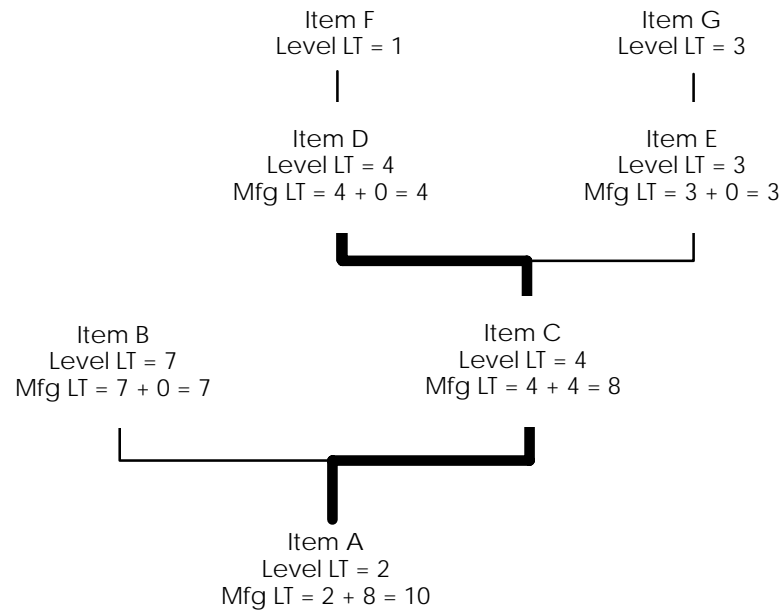
In addition, manufacturing leadtime is the total of the level leadtime for an item plus the longest manufacturing leadtime of any of its components.

Leadtimes for purchased items are not included in manufacturing leadtime calculations. The following graphic shows you where in the process is the manufacturing leadtime for a manufactured item appears:



Calculation

The following flow diagram depicts a calculation of manufacturing leadtime:



Bold line = Longest manufacturing leadtime of any of the product's items.

Items A, B, C, D, and E are manufactured items.

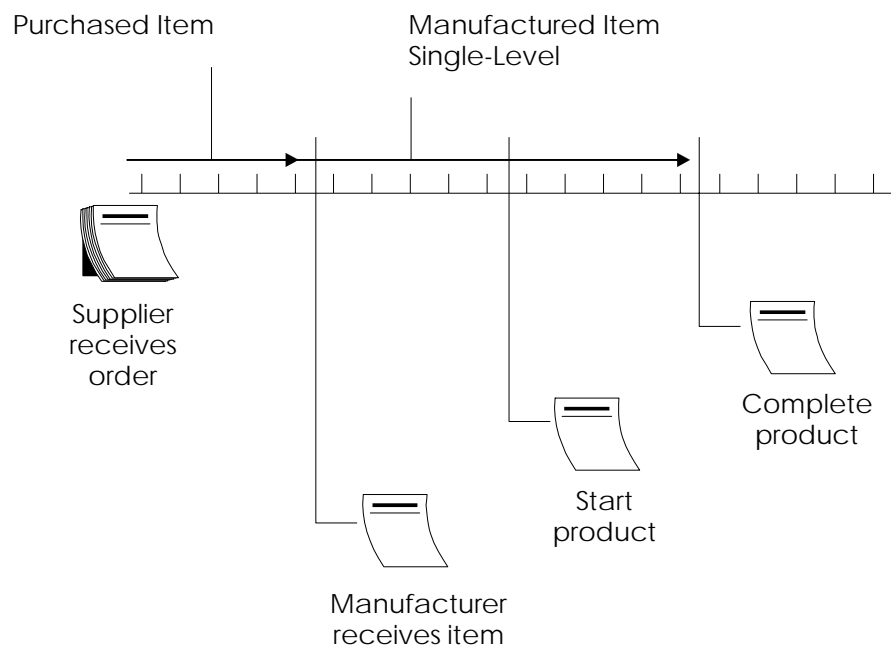
Items F and G are purchased items.

Cumulative Leadtime

Cumulative leadtime is the number of workdays that are required to acquire items and complete a product, from its lowest-level components to the final item, which is the level leadtime for a product plus the longest cumulative leadtime of any of its components.

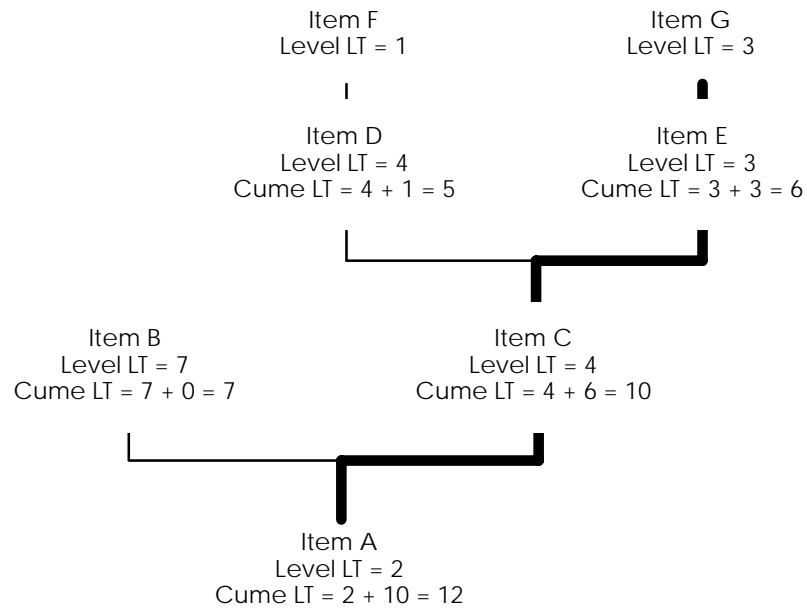
Unlike manufacturing leadtime, cumulative leadtime includes the leadtimes for purchased items. It includes both the time to acquire purchased items and the time to complete the product.

The cumulative leadtime for a purchased item is its level leadtime. The following graphic shows you where in the process the cumulative leadtimes for a manufactured item and a purchased item appear:



Calculation

The following flow diagram depicts a calculation of cumulative leadtime:



Bold line = Longest manufacturing leadtime of any of the product's items.
Items A, B, C, D, and E are manufactured items.
Items F and G are purchased items.

Per Unit Leadtime

Per unit leadtime is the sum of the run times, as defined by the prime load codes for the work centers, factored by the routing time basis and converted to the leadtime per unit. The per unit leadtime sets valid start dates for orders planned in situations other than the normal planned order quantity. When you run the leadtime rollup program, the system measures the per unit leadtime in hours.

Calculation

The system uses the following formula to calculate per unit leadtime:

$$\sum \left(\frac{\{(M \text{ or } L) / (E \text{ or } M)\} \times TBC^1}{TBC^2} \right)$$

For example:

$$\frac{(8 / 1) \times 10,000}{10,000} + \frac{(12 / 1) \times 10,000}{10,000} + \frac{(12 / 1) \times 10,000}{10,000} =$$

$$8 + 12 + 12 =$$

32 hours per unit leadtime

¹ The system reads the Time Basis Code from the Item Branch table (F4102).

² The system reads the Time Basis Code from the Routing Master table (F3003).

Note: The example above does not include the following variables:

- Cumulative Yield
- Percentage of Overlap
- Batch Quantity Conversion
- Work Center Efficiency and Utilization

The following table defines the values used in the formula:

M or L	Machine or labor hours based on the prime load code
L or B	Labor hours
M or C	Machine hours
SUM	Sum of all operations
TBC	Time basis code

E	Number of employees in the work center
M	Number of machines in work center

Total Queue and Move Hours

Queue hours indicate the time that a manufacturing work order is idle at a work center before setup or work begins. Move hours indicate the time that a manufacturing work order is moving from the completion of one operation to the start of the next operation. To calculate the total queue and move hours, add the move hours per routing and the queue hours per routing.

In the following example, 9 is the total queue and move hours:

$$\begin{array}{ccc} \text{OP 30} & \text{OP 60} & \text{OP 80} \\ (1 + 2) & (2 + 4) & (0 + 0) \end{array} = 9$$

Setup Hours

Setup hours indicate the time that is required to prepare the machinery to run a specific item. To calculate the setup hours, divide the setup by the number of employees or machines for each routing, and then add the values together. This ensures consistency during the backscheduling routing because the resource units for the work center are created based on those numbers.

In the following example, the setup hours equal 1:

$$\begin{array}{ccc} \frac{\text{Setup}}{\text{Employees or machines}} & \frac{1}{1} & \frac{2}{1} & \frac{6}{2} & = 6 \text{ setup hours} \\ \text{OP 30} & \text{OP 60} & \text{OP 80} & & \end{array}$$

Index

Index

A

- Accounting, features, 1–12
- Actual costing, employee labor rates, 2–10
- All Shortages, processing options, 6–17
- Assembly inclusion rules, processing, 3–46
- Assigning serial numbers, 3–87
- Attaching
 - co-/by-products list, 3–84
 - intermediate items, 3–85
 - parts list
 - by Order Processing program, 3–62
 - copying, 3–62
 - interactively, 3–62
 - manually, 3–62
 - routing instructions
 - by order processing, 3–76
 - interactively, 3–76, 3–77
 - manually, 3–76
- Attaching a co-products and by-products list, 3–84
- Attaching a parts list, 3–9
- Attaching a parts list interactively, 3–62
- Attaching co-products and by-products, 3–15
- Attaching intermediate items, 3–85
- Attaching intermediates, 3–16
- Attaching routing instructions, 3–13
- Attaching routing instructions interactively, 3–76
- Attaching supplementary data, 3–61
- Availability
 - integration, procurement, 6–1
 - reviewing, 6–1, 6–5

B

- Backflushing
 - completing, work orders, 10–18, 10–40, 10–42
 - issuing, 7–2

- Backorders, releasing, completing, 10–21, 10–44
- Backscheduling, overview, 3–18
- Backscheduling a work order, 3–18
- Batch Rate Close, processing options, 11–8
- Bill of material
 - comparing, 11–37, 11–40
 - with parts list, 11–40
 - multi-level bill of material report, 11–45
 - printing, 11–42
 - single level bill report, 11–43

C

- Calculating, leadtime, A–11
- Calculating a start date, 3–16
- Calendar, setting up, 2–12
- Capacity Requirements Planning, integration, 1–8
- Category codes, setting up, 2–4
- Changing
 - shortage information, 6–15
 - work orders, status, 11–6
- Changing shortage information, 6–15
- Changing the status of rate schedules to closed, 11–7
- Changing the status of work orders to closed, 11–6
- Closing
 - rates, 11–7
 - work orders, 11–3
- Co-/by-products
 - attaching, 3–15
 - completing, unplanned, 10–46
- Commitments
 - creating, potent units, 5–26
 - defining, 5–5
 - branch and parent item, 5–21
 - control and type, 5–9
 - during backflush, 5–23
 - item's routing, 5–15
 - location, 5–19

- method, 5–6
- rules, 5–5
- where they are made, 5–15
- work center, 5–15
- hard, 5–1
- managing
 - controlled items, 5–28
 - grade and potency, 5–25
- overview, 5–1
- reposting, 5–31
 - interfaces, 5–31
 - inventory interfaces, 5–31
 - open and on-order quantities, 5–31
- soft, 5–1
- Comparing
 - bill of material and parts list, 11–40
 - bills of material, 11–37
 - parts lists, 11–38
- Completing
 - integration
 - inventory management, 10–1
 - quality management, 10–3
 - warehouse management, 10–2
 - issues from other locations, 10–24, 10–47
 - partial quantities, 10–25, 10–50
 - rates, 10–63
 - releasing, sales backorders, 10–21, 10–44
 - unplanned co-/by-products, 10–46
 - updated tables, 10–4
 - using, receipts routing, 10–23, 10–46
 - work orders
 - backflushing, 10–18, 10–42
 - discrete, 10–7
 - partial quantities, 10–25, 10–50
 - process, 10–39
 - quantity at operation, 10–33, 10–55
 - release backorders, 10–21, 10–44
 - serialized components, 10–36, 10–57
 - super backflushing, 10–26, 10–52
 - without backflushing, 10–8, 10–40
- Completing discrete work orders, 10–7
- Completing partial quantities on work orders, 10–25, 10–50
- Completing process work orders, 10–39
- Completing rate schedules, 10–63
- Completing rates, integration, quality management, 10–63
- Completing work orders through backflush, 10–19, 10–42

- Completing work orders with serialized components, 10–36, 10–57
- Completing work orders without backflushing, 10–8, 10–40
- Completions. *See* Completing
- Completions Workbench, processing options, 10–65
- Component, integration, warehouse management, 6–17
- Component Scrap, processing options, 7–22
- Component Shortages, processing options, 6–17
- Constants, setting up, 2–14
- Conversion, interoperability, 12–4
- Converting, flat files, 12–3
- Converting flat files to the interface tables, 12–3
- Cost information, reviewing, 11–15
- Creating
 - commitments, potent units, 5–26
 - lots, 4–9
- Creating commitments for potent units, 5–26
- Creating lots, 4–9
- Cumulative leadtime, calculating, A–15

D

- Dates
 - operation due, A–7
 - operation start, A–7
 - start, A–6
- Defining
 - availability calculation, 6–3
 - commitments, 5–5
 - branch and parent item, 5–21
 - control and type, 5–9
 - during backflush, 5–23
 - item's routing, 5–15
 - location, 5–19
 - method, 5–6
 - rules, 5–5
 - work center location, 5–15
 - lot control items, 4–5
 - serial control items, 4–5
- Defining availability calculations for a branch, 6–3

- Defining commitments at a work center location, 5-15
- Defining how the system commits inventory during backflush, 5-23
- Defining the branch and parent item for the bill of material, 5-21
- Defining the commitment control and type of commitment, 5-9
- Defining the commitment method for the item, 5-6
- Defining the commitment rules, 5-5
- Defining the location at the work center, 5-19
- Defining the work center in the item's routing, 5-15
- Deleting
 - serial numbers, 3-87
 - work orders, 11-4
 - prerequisites, 11-4
- Demand, overview, 11-31
- Discrete manufacturing, 1-19
 - features, 1-10
 - overview, 1-19
- Dispatch List
 - overview, 11-18
 - system calculations, 11-18
- Distribution Requirements Planning, integration, 1-8
- Document type codes, setting up, 2-5
- Due dates, operation, A-7

E

- Employee labor rates
 - actual costing, 2-10
 - setting up, 2-10
- Enter/Change Bill, processing options, 5-22
- Enter/Change Rate Schedule, processing options, 3-41
- Enter/Change Routing, processing options, 5-17
- Enter/Change Work Center, processing options, 5-20
- Entering
 - hours and quantities, manually, 9-5
 - work order headers, 3-21
- Entering hours and quantities, 9-5
- Entering rate schedules, 3-38

- Entering rates, overview, 3-37
- Entering work order headers, 3-21
- Enterprise Requirements Planning and Execution, system, 1-7

F

- Fast path commands, 1-24
- Features
 - hours and quantities tracking, 1-11
 - manufacturing accounting, 1-12
 - material tracking, 1-11
 - parts list, 1-13
 - production scheduling and tracking, 1-12
 - rate schedule creation, 1-12
 - reporting, 1-11
 - routing instructions, 1-13
 - work order creation, 1-12
- Fixed leadtime, example, A-6
- Flat Files, converting, 12-3
- Forms
 - Co/By Completion Revision, 10-52
 - Co/By Product Revision, 10-48
 - Completions Workbench, 10-64
 - Component Scrap Revisions, 7-21
 - Copy by Item, 3-77
 - Copy Screen, 3-65
 - Display Comparisons, 11-39, 11-41
 - Enter Bill of Material Information, 5-21
 - Enter Generic Message/Rates, 2-8, 2-11
 - Enter Routing Information, 5-16
 - Enter/Change Rate Schedule, 3-38
 - General Message, 2-8
 - Intermediate Product Revisions, 3-86
 - Inventory Issue Revisions, 7-11, 10-20
 - Item Availability Definition, 6-4
 - Item Ledger Detail, 11-17
 - Item/Branch Information, 5-6
 - Line Scheduling Workbench, 8-8
 - Line/Item Relationships Revisions, 2-35
 - Manufacturing Constants Revision, 2-16, 5-10, 5-24
 - Operation Dispatch Detail Revisions, 11-20
 - Operation Quantities Inquiry, 9-21
 - Parts Availability - Multi Level Indented, 6-6
 - Parts List Detail Inquiry, 6-11

Production Status, 11–5
Rate Schedule Revisions, 3–38
Routing Details, 3–80
Routing Quantities and Status, 3–13
Select Multiple Locations, 3–72, 7–12
Sequencing Workbench, 8–12
Serial Number Associations, 10–60
Serial Number Revisions, 3–88
Shortage Maintenance Revisions, 6–14, 6–15
Split Lines Window, 8–9
Standard Units of Measure Revisions, 5–27
Substitute Availability Revisions, 3–71
Super Backflush, 10–28, 10–53
Supplier/Item Relationships, 10–23, 10–46
Time Entry Revisions, 9–6, 9–13, 10–35, 10–56
Transaction Record Revisions for P31122Z1, 12–10
Work Center Master Revisions, 2–27, 5–20
Work Center Resource Unit Revision, 2–32
Work Day Calendar Revisions, 2–13
Work Order Completion Detail, 10–9, 10–41, 10–43
Work Order Details, 3–23, 11–7
Work Order Parts List, 3–64, 3–66, 5–29
Work Order Process Resource Revisions, 3–84
Work Order Routing, 3–18, 3–77
Work Order Status – Hours Revisions, 9–17
Work Order Status – Quantities Revisions, 9–18
Work Order Status Update, 8–4
Work with Bill of Material, 5–21
Work With Branch/Plant Constants, 6–4
Work With Comparisons, 11–38, 11–40
Work With Component Scrap, 7–20
Work With Generic Message/Rate Types, 2–8, 2–10
Work With Inbound Transaction Records for P31122Z1, 12–10
Work with Ingredients and Co/By-Products, 11–29
Work With Item Availability, 11–13
Work With Item Branch, 5–6
Work With Item Ledger, 11–16
Work With Kanban Masters, 7–24, 7–27
Work With Line Dispatch List, 11–23
Work with Line/Item Relationships, 2–34
Work with Manufacturing Constants, 2–15, 5–10, 5–23
Work With Manufacturing Work Orders, 3–23, 3–64, 5–28, 11–6
Work With Operation Dispatch, 11–19
Work With Operation Quantities, 9–20
Work With Order Numbers, 10–27, 10–53
Work With Order Scheduling, 8–4
Work with Process Orders, 11–29
Work With Production History, 11–22
Work With Purchase Orders to Receive, 3–13
Work With Resource Units, 2–31
Work with Routing Operations, 5–16
Work With Serialized Issued Items, 10–37, 10–61
Work With Shortage Workbench, 6–14, 6–15
Work With Standard Units of Measure, 5–27
Work With Supplier/Item Relationships, 10–23, 10–46
Work With Supply and Demand, 11–33
Work With Useability, 11–12
Work With Work Center Schedule Review, 11–27
Work With Work Centers, 5–19
Work With Work Day Calendar, 2–12
Work With Work Order Completions, 10–8, 10–19, 10–41, 10–43
Work With Work Order Inventory Issues, 7–11
Work With Work Order Parts List, 6–10
Work With Work Order Serial Numbers, 3–88
Work With Work Order Status – Hours, 9–16
Work with Work Order Status – Quantities, 9–18
Work With Work Order Time Entry, 9–6, 9–12, 10–34, 10–56

G

Generating, work centers, resource units, 2–30
 Generating shop paperwork, 3–17
 Generic text, using, 3–22
 Grade, overview, 4–4
 Grade and potency control, 4–4
 Grade control, setting up, 4–4

H

Hard commitments, inventory, 5–1
 Hours
 entering, manually, 9–5
 leadtime concepts
 labor, A–4
 machine, A–4
 move, A–5
 queue, A–5
 setup, A–4
 total queue and move, A–5
 overview, 9–1
 reviewing
 status, 9–15
 transactions, 9–21
 time basis code, leadtime concepts, A–5
 tracking, features, 1–11
 updating, 9–11
 Hours and Quantities, processing options, 9–9
 Hours and quantities
 integration
 payroll, 9–1
 quality management, 9–2
 updating, manually, 9–12
 Hours and Quantities Update, processing options, 9–14

I

Inbound Completion Inquiry, processing options, 12–14
 Inbound Completion Processor, processing options, 12–6

Inbound Flat File Conversion, processing options, 12–4
 Inbound Hours and Quantity Inquiry, processing options, 12–13
 Inbound Hours and Quantity Processor, processing options, 12–6
 Inbound Inventory Issues Inquiry, processing options, 12–13
 Inbound Inventory Issues Processor, processing options, 12–6
 Inbound Super Backflush Inquiry, processing options, 12–15
 Inbound Super Backflush Processor, processing options, 12–7
 Inbound transactions, reviewing, 12–9, 12–10
 Inbound Work Order Inquiry, processing options, 12–12
 Ingredients list, consolidating, 3–49
 Integration
 capacity requirements planning, scheduling, 8–1
 DRP/MPS/MRP, entering work orders, 3–22
 inventory management
 completing, 10–1
 issuing, 7–1
 payroll, hours and quantities, 9–1
 procurement, availability and shortages, 6–1
 product data management, attaching supplementary data, 3–61
 quality management
 completing, 10–3
 completing rates, 10–63
 entering work orders, 3–5
 hours and quantities, 9–2
 processing work orders, 3–46
 rate schedules, 8–7
 sales order management, processing work orders, 3–47
 warehouse management
 attaching parts list, 3–63
 attaching routing, 3–76
 completing, 10–2
 issuing, 7–1, 7–9
 processing work orders, 3–47
 shortages, 6–17
 with Enterprise Requirements Planning and Execution, 1–7

Intermediates

- attaching, 3–16
- using, quantity at operation, 10–53

Interoperability, 12–1

- converting, flat files, 12–3
- receiving, transactions, 12–5
- reviewing, inbound transactions, 12–9
- running, conversion, 12–4
- sending, transactions, 12–17
- setting up, flat file cross-reference, 12–3
- transactions
 - inbound, 12–1
 - outbound, 12–1
 - programs, 12–2

Interoperability programs, 12–2

Inventory Issues, processing options, 7–13

Inventory Management, integration, 1–9

Issue transactions, 7–1

Issuing

- integration
 - inventory management, 7–1
 - warehouse management, 7–1, 7–9
- material, 7–9
- materials
 - automatically, 3–48
 - manually, 7–10
 - preflushing, 7–10

Issuing inventory

- assigning, serial numbers, 7–10
- associating components, 7–12
- backflushing, 7–2
- closing out materials, 7–12
- for a parent quantity, 7–12
- location, 7–3
- manually, 7–2, 7–10
- overview, 7–1
- preflushing, 7–2, 7–10
- reversing a transaction, 7–12
- super backflushing, 7–2

Issuing material, 7–9

Issuing material by preflushing, 7–10

Issuing material manually, 7–10

Item

- defining, availability calculation, 6–3
- managing, shortage information, 6–13
- recording, component scrap, 7–19
- reviewing, availability and shortages, 6–1

Item Branch/Plant, processing options, 5–8

Item Ledger, overview, 11–15

Item Ledger (The CARDEX), processing options, 11–17

K

Kanban Consumption, processing options, 7–25

Kanban Supply, processing options, 7–27

Kanbans, 7–6

- overview, 7–6
- processing, 7–23

L

Leadtime

- calculating, A–11
 - cumulative, A–15
 - data, A–2
 - level, A–11
 - manufacturing, A–13
 - per unit, A–17
 - setup hours, A–18
 - total queue and move hours, A–18
- concepts, A–4
- cumulative, A–2
- dates
 - operation due, A–7
 - operation start, A–7
- factors, A–1
- fixed, A–6, A–7
 - example, A–6
- hours
 - labor, A–4
 - machine, A–4
 - move, A–5
 - queue, A–5
 - setup, A–4
 - total queue and move, A–5
- level, A–2
- manufacturing, A–2
- overlapping and concurrent operations, A–10
- overlapping operations, A–9
- overview, A–1
- per unit, A–2
- prime load code, A–5
- purchase parts, A–5

- resource units, A-5
- system, A-3
- time basis code, A-5
- types, A-2
- variable, A-6, A-8
- work order, start dates, A-6
- Level leadtime, calculating, A-11
- Line and item relationships, setting up, 2-34
- Line Dispatch List, processing options, 11-23
- Line Schedule Review, processing options, 11-26
- Line Scheduling Workbench, processing options, 8-11
- Line Sequencing Workbench, processing options, 8-13
- Locating shortages, 6-13
- Lot and serial control items, 4-5
- Lot control
 - defining, items, 4-5
 - grade and potency, overview, 4-3
- Lot processing, overview, 4-7
- Lot status, 4-9
- Lots
 - See also* Lot processing
 - creating, 4-9
 - status, 4-9
 - tables, 4-10

M

- Managing
 - commitments
 - controlled items, 5-28
 - grade and potency, 5-25
 - receipts routing, completing, 10-23, 10-46
 - shortage information, 6-13
- Managing availability information, 6-3
- Managing commitments for controlled items, 5-28
- Managing commitments for grade and potency, 5-25
- Managing completions using receipts routing, 10-45

- Managing components using receipts routing, 10-22
- Managing shortage information, 6-13
- Manually, issuing, 7-2, 7-10
- Manufacturing, setting up, information, 2-7
- Manufacturing accounting, features, 1-12
- Manufacturing constants, setting up, 2-14
- Manufacturing leadtime, calculating, A-13
- Manufacturing Work Order, processing options, 3-28
- Master Production Scheduling, integration, 1-8
- Material
 - issuing, 7-9
 - automatically, 3-48
 - manually, 7-10
 - preflushing, 7-10
 - tracking, features, 1-11
- Material Requirements Planning, integration, 1-8
- Menu, Shop Floor Management Discrete Manufacturing, 1-23
- Move hours, calculating, A-18
- Multi-Level Bill of Material, processing options, 11-45

O

- Operation Dispatch Inquiry, processing options, 11-20
- Operation numbers, work orders, super backflush, 10-27, 10-53
- Operation Quantity Inquiry, processing options, 9-21
- Operation start and due dates
 - fixed leadtime, A-7
 - variable leadtime, A-8
- Operation status codes, setting up, 2-5
- Operations
 - overlapping, A-9
 - overlapping and concurrent, A-10
- Outside operations, using, 3-13

P

- Part Availability, processing options, 6-7

Part Useability, processing options, 11-13

Parts list

- attaching, 3-9

- copying, 3-62

- interactively, 3-62

- manually, 3-62

- using Order Processing program, 3-62

- comparing, 11-38, 11-40

- features, 1-13

- regenerating, 3-48

- reviewing, information, 11-11

- using, phantom items, 3-11

Parts List Comparison, processing options, 11-41

Parts List Inquiry, processing options, 6-11

Payroll, integration, 1-9

Per unit leadtime, calculating, A-17

Phantom items, using, 3-11

Phase codes, setting up, 2-4

Potency, overview, 4-4

Potency control, setting up, 4-4

Potent units codes, setting up, 2-5

Preflushing, issuing, 7-2, 7-10

Prime load code, leadtime concepts, A-5

Printing

- all shortages, 6-17

- bill of material, 11-42

- component shortages, 6-16

- multi-level bill of material, 11-45

- scheduling information, work centers, 8-6

- shortages, 6-17

- single level bill, 11-43

- summary of orders, 3-60

- where used information, 11-48

- work center, scheduling information, 8-6

- work orders, summary, 3-60

Printing supply and demand information, 11-34

Priority codes, setting up, 2-4

Process manufacturing, 1-19

- overview, 1-19

Processing

- rate schedules, 3-45

- work orders, 3-45

- quantity at operation, 10-33, 10-55

- super backflushing, 10-26, 10-52

Processing assembly inclusion rules for configured items only, 3-46

Processing kanban consumption by item, 7-23

- overview, 7-23

Processing kanban supply by item, 7-26

Processing kanbans

- consumption by item, 7-23

- one-phase mode, 7-6

- overview, 7-6, 7-23

- supply by item, 7-26

- two-phase mode, 7-7

Processing options

- All Shortages, 6-17

- Batch Rate Close, 11-8

- Completions Workbench, 10-65

- Component Scrap, 7-22

- Component Shortages, 6-17

- Enter/Change Bill, 5-22

- Enter/Change Rate Schedule, 3-41

- Enter/Change Routing, 5-17

- Enter/Change Work Center, 5-20

- Hours and Quantities, 9-9

- Hours and Quantities Update, 9-14

- Inbound Completion Inquiry, 12-14

- Inbound Completion Processor, 12-6

- Inbound Flat File Conversion, 12-4

- Inbound Hours and Quantity Inquiry, 12-13

- Inbound Hours and Quantity Processor, 12-6

- Inbound Inventory Issues Inquiry, 12-13

- Inbound Inventory Issues Processor, 12-6

- Inbound Super Backflush Inquiry, 12-15

- Inbound Super Backflush Processor, 12-7

- Inbound Work Order Inquiry, 12-12

- Inventory Issues, 7-13

- Item Branch/Plant, 5-8

- Item Ledger (The CARDEX), 11-17

- Kanban Consumption, 7-25

- Kanban Supply, 7-27

- Line Dispatch List, 11-23

- Line Schedule Review, 11-26

- Line Scheduling Workbench, 8-11

- Line Sequencing Workbench, 8-13

- Manufacturing Work Order, 3-28

- Multi-Level Bill of Material, 11-45

- Operation Dispatch Inquiry, 11-20

- Operation Quantity Inquiry, 9-21

- Part Availability, 6-7

- Part Useability, 11-13

- Parts List Comparison, 11–41
- Parts List Inquiry, 6–11
- Production History, 11–22
- Production Status, 11–6
- Purge Orders, 11–9
- Repost Open Quantities, 5–32
- Routing/Analysis Revisions, 10–24
- Shop Floor Calendar, 2–14
- Shop Floor Workbench, 8–5
- Shortage Maintenance, 6–16
- Shortage Workbench, 6–14
- Single Level Bill of Material, 11–43
- Standard Procedures, 2–9
- Summary Availability, 11–14
- Super Backflush, 10–30
- Supply/Demand report, 11–34
- Where Used Item, 11–48
- Work Center Master Revisions, 2–30
- Work Center Resource Units, 2–34
- Work Center Schedule Review, 11–28
- Work Order Completions, 10–10
- Work Order Generation, 3–49
- Work Order Parts List, 3–74
- Work Order Routing, 3–82
- Processing work order using quantity at operation, 10–55
- Processing work orders, integration
 - quality management, 3–46
 - sales order management, 3–47
 - warehouse management, 3–47
- Processing work orders and rate schedules, 3–45
- Processing work orders through super backflush, 10–26, 10–52
- Processing work orders using quantity at operation, 10–33
- Procurement, integration, 1–8
- Product Data Management, integration, 1–8
- Production History, processing options, 11–22
- Production scheduling, features, 1–12
- Production Status, processing options, 11–6
- Production tracking, features, 1–12
- Programs and IDs
 - P00071 (Shop Floor Calendar)
 - Work Day Calendar Revisions, 2–13
 - Work With Work Day Calendar, 2–12
 - P00191 (Standard Procedures)
 - Enter Generic Message/Rates, 2–8, 2–11
 - General Message, 2–8
 - Work With Generic Message/Rate Types, 2–8, 2–10
 - P3002 (Enter/Change Bill)
 - Enter Bill of Material Information, 5–21
 - Work with Bill of Material, 5–21
 - P3002P (Enter/Change Bill), Co/By
 - Product Revision, 10–48
 - P3003 (Enter/Change Routing)
 - Enter Routing Information, 5–16
 - Work with Routing Operations, 5–16
 - P3006 (Enter/Change Work Centers)
 - Work Center Master Revisions, 2–27, 5–20
 - Work With Work Centers, 5–19
 - P3007 (Enter/Change Resource Units)
 - Work Center Resource Unit Revision, 2–32
 - Work With Resource Units, 2–31
 - P3009 (Manufacturing Constants)
 - Manufacturing Constants Revision, 2–16, 5–10, 5–24
 - Work with Manufacturing Constants, 2–15, 5–10, 5–23
 - P30200 (Part Availability), Parts Availability - Multi Level Indented, 6–6
 - P30204 (Parts List Comparison)
 - Display Comparisons, 11–39, 11–41
 - Work With Comparisons, 11–38, 11–40
 - P30212 (Part Useability), Work With Useability, 11–12
 - P3105 (Assembly Serial Numbers)
 - Serial Number Revisions, 3–88
 - Work With Work Order Serial Numbers, 3–88
 - P3107 (Assembly Serial Numbers)
 - Serial Number Associations, 10–60
 - Work With Serialized Issued Items, 10–37, 10–61
 - P3109 (Enter/Change Rate Schedule)
 - Rate Schedule Revisions, 3–38
 - Work With Rate Schedules, 3–38
 - P31093 (Line/Item Relationships)
 - Line/Item Relationships Revisions, 2–35
 - Work with Line/Item Relationships, 2–34
 - P3111 (Enter/Change Order)
 - Copy Screen, 3–65

- Work Order Parts List, 3–64, 3–66, 5–29
- P31113 (Inventory Issues)
 - Inventory Issue Revisions, 7–11, 10–20
 - Work With Work Order Inventory Issue, 7–11
- P31114 (Work Order Completions)
 - Work Order Completion Detail, 10–9, 10–41, 10–43
 - Work With Work Order Completions, 10–8, 10–19, 10–41, 10–43
- P31115 (Co/By Completions), Co/By Completion Revision, 10–52
- P31116 (Component Scrap)
 - Component Scrap Revisions, 7–21
 - Work With Component Scrap, 7–20
- P3111I (Enter/Change Order), Intermediate Product Revisions, 3–86
- P3111P (Enter/Change Order), Work Order Process Resource Revisions, 3–84
- P3112 (Enter/Change Order)
 - Copy by Item, 3–77
 - Routing Details, 3–80
 - Work Order Routing, 3–18, 3–77
- P31121 (Order Hours Status)
 - Work Order Status – Hours Revisions, 9–17
 - Work With Work Order Status – Hours, 9–16
- P31122 (Order Quantities Status)
 - Work Order Status – Quantities Revisions, 9–18
 - Work with Work Order Status – Quantities, 9–18
- P31122I (Hours and Quantities)
 - Time Entry Revisions, 9–6, 9–13, 10–35, 10–56
 - Work With Work Order Time Entry, 9–6, 9–12, 10–34, 10–56
- P31123 (Super Backflush)
 - Super Backflush, 10–28, 10–53
 - Work With Order Numbers, 10–27, 10–53
- P31124 (Operation Quantity Inquiry)
 - Operation Quantities Inquiry, 9–21
 - Work With Operation Quantities, 9–20
- P3118 (Shortage Maintenance)
 - Shortage Maintenance Revisions, 6–15
 - Work With Shortage Workbench, 6–15
- P3118 (Shortage Workbench)
 - Shortage Maintenance Revisions, 6–14
 - Work With Shortage Workbench, 6–14
- P3119 (Completions Workbench), Completions Workbench, 10–64
- P3121 (Parts List Inquiry)
 - Parts List Detail Inquiry, 6–11
 - Work With Work Order Parts List, 6–10
- P31220 (Dispatch List)
 - Operation Dispatch Detail Revisions, 11–20
 - Work With Operation Dispatch, 11–19
- P31224 (work with work center schedule review), 11–27
- P31225 (Shop Floor Workbench)
 - Work Order Status Update, 8–4
 - Work With Order Scheduling, 8–4
- P31226 (Production Status), Production Status, 11–5
- P31227 (Production History), Work With Production History, 11–22
- P31240 (Process Order Inquiry)
 - Work with Ingredients and Co/By-Products, 11–29
 - Work with Process Orders, 11–29
- P3153 (Line Scheduling Workbench), Line Scheduling Workbench, 8–8
- P3154W (Line Scheduling Workbench), Split Lines Window, 8–9
- P3156 (Line Sequencing Workbench), Sequencing Workbench, 8–12
- P3157 (Kanban Master), Work With Kanban Masters, 7–24, 7–27
- P3159 (Line Dispatch List), Work With Line Dispatch List, 11–23
- P4021 (Supply/Demand Inquiry), Work With Supply and Demand, 11–33
- P41001 (Branch/Plant Constants)
 - Item Availability Definition, 6–4
 - Work With Branch/Plant Constants, 6–4
- P41003 (Standard Units of Measure)
 - Standard Units of Measure Revisions, 5–27
 - Work With Standard Units of Measure, 5–27
- P41026 (Item Branch/Plant)
 - Item/Branch Information, 5–6
 - Work With Item Branch, 5–6

P4111 (Item Ledger)
 Item Ledger Detail, 11-17
 Work With Item Ledger, 11-16
 P41202 (Summary Availability), Work
 With Item Availability, 11-13
 P42053 (Enter/Change Order), Select
 Multiple Locations, 3-72
 P42053 (Inventory Issues), Select
 Multiple Locations, 7-12
 P43090 (Supplier/Item Information)
 Supplier/Item Relationships, 10-23,
 10-46
 Work With Supplier/Item
 Relationships, 10-23, 10-46
 P4312 (Enter Receipts by PO)
 Routing Quantities and Status, 3-13
 Work With Purchase Orders to
 Receive, 3-13
 P48013 (Enter/Change Order)
 Substitute Availability Revisions, 3-71
 Work Order Details, 3-23, 11-7
 Work With Manufacturing Work
 Orders, 3-23, 3-64, 5-28, 11-6
 P4801Z1 (Inbound Work Order Inquiry)
 Transactions Record Revisions for
 P31122Z1, 12-10
 Work With Inbound Transactions
 Records for P31122Z1, 12-10
 Purchased parts, leadtime concepts, A-5
 Purge Orders, processing options, 11-9
 Purging
 records, naming, 11-9
 work orders, 11-4, 11-8
 Purging work orders, 11-8

Q

Quality Management, integration, 1-8
 Quantities
 completing, partial, 10-25, 10-50
 entering, manually, 9-5
 non-pay-points, 10-34, 10-56
 overview, 9-1
 reviewing
 operation status, 9-19
 status, 9-17
 transactions, 9-21
 tracking, features, 1-11

 updating, 9-11
 Quantity at operation
 completing, work orders, 10-55
 processing, work orders, 10-33
 Queue and move hours, calculating, A-18

R

Rate schedules
 completing, 10-63
 creation, features, 1-12
 entering, 3-37
 integration, quality management, 8-7
 processing, 3-45
 scheduling, 8-7
 sequencing, 8-11
 Receipts routing, completing, 10-23, 10-46
 Receiving, transactions, 12-5
 Receiving transactions from external
 systems, 12-5
 Recording, component scrap, 7-19
 resources, 7-20
 Recording component scrap, 7-19
 Refreshing, work center information, 2-30
 Releasing
 backorders, during completions, 10-44
 sales backorders, 10-21
 Releasing sales backorders during
 completions, 10-20, 10-44
 Repetitive manufacturing, 1-20
 overview, 1-20
 Reporting, features, 1-11
 Reports
 All Shortages, 6-17
 Component Shortages, 6-16
 Dispatch List, 8-6
 Hours and Quantities Proof, 9-21
 Hours and Quantities Update, 9-13
 Multi-Level Bill, 11-45
 Order Processing, 3-48
 Purge Orders, 11-8
 Repost Open Quantities, 5-31
 Single Level Bill, 11-43
 supply and demand information, 11-34
 Where Used Information, 11-48
 Repost Open Quantities, processing
 options, 5-32
 Reposting, commitments, work orders, 5-31

- Reposting commitments, 5-31
- Resource units
 - generating, 2-30
 - leadtime concepts, A-5
 - refreshing, 2-30
 - setting up, 2-30
- Reviewing
 - availability, 6-1, 6-5
 - dispatch list, 11-18
 - hours and quantities, transactions, 9-21
 - inbound transactions, 12-9, 12-10
 - information, 11-11
 - item ledger, 11-15
 - operation quantities, status, 9-19
 - quantities status, 9-17
 - shortages, 6-1
 - status
 - hours, 9-15
 - operation quantities, 9-19
 - quantities, 9-17
 - supply and demand, 11-33
 - work center loads, 11-26
 - work orders, 8-3, 11-28
 - information, 8-3
- Reviewing and revising inbound transactions, 12-9
- Reviewing dispatch list information, 11-18
- Reviewing hours and quantities transactions, 9-21
- Reviewing information, 11-11
- Reviewing item ledger information, 11-15
- Reviewing line dispatch list, 11-22
 - overview, 11-22
- Reviewing part availability, 6-5
- Reviewing process orders, 11-28
- Reviewing production across lines
 - overview, 11-24
 - Work With Line Schedule Review form, 11-24
- Reviewing production history, 11-21
- Reviewing production status, overview, 11-4
- Reviewing rate information
 - line dispatch list, 11-22
 - production status, 11-4
- Reviewing statuses and transactions, 9-15
- Reviewing summary availability, 11-13
- Reviewing supply and demand information, 11-31
- Reviewing the status of hours, 9-15

- Reviewing the status of operation quantities, 9-19
- Reviewing the status of quantities, 9-17
- Reviewing the status of work orders and rate schedules, 11-3
- Reviewing work center loads, 11-26
 - Work With Center Schedule Review form, 11-27
- Reviewing work order and rate schedule status, 11-4
- Reviewing work order information, 8-3
- Revising, work order, status, 11-3
- Routing instructions
 - attaching, 3-13
 - interactively, 3-76, 3-77
 - manually, 3-76
 - using order processing, 3-76
 - changing
 - status, 3-76
 - status of operation, 3-76
 - creating, purchase order, 3-76
 - deleting, outside operations, 3-76
 - features, 1-13
 - locating, 3-76
 - regenerating, 3-48
 - using, outside operations, 3-13
- Routing/Analysis. *See* Receipts routing
- Routing/Analysis Revisions, processing options, 10-24
- Running order processing, 3-48
- Running the conversion program, 12-4

S

- Sales Order Management
 - integration, 1-9
 - work orders, 3-47
- Scheduling
 - integration, capacity requirements
 - planning, 8-1
 - work orders, 8-1
- Scheduling items on a production line, 8-7
 - overview, 8-7
- Scheduling rates
 - overview, 8-7
 - reviewing production across lines, 11-24
 - scheduling items on a production line, 8-7

- sequencing rates by classification scheme or manually, 8–11
- Scheduling work orders and rate schedules, 8–1
- Sending, transactions, 12–17
- Sending transactions to external systems, 12–17
- Sequencing rates by classification scheme, 8–11
- Sequencing rates by classification scheme or manually, overview, 8–11
- Serial control, defining, items, 4–5
- Serial numbers
 - assigning, 3–87
 - completing, work orders, 10–36, 10–57
 - deleting, 3–87
- Setting the resource percent for the co- and by-products, 10–48
- Setting up
 - category codes 02 and 03, 2–4
 - constants, engineering, 2–15
 - document type codes, 2–5
 - employee labor rates, 2–10
 - grade and potency control, 4–4
 - information, 2–7
 - line and item relationships, 2–34
 - manufacturing constants, 2–14
 - operation status codes, 2–5
 - phase codes, 2–4
 - potent units codes, 2–5
 - priority codes, 2–4
 - resource units, 2–30
 - shop floor calendar, 2–12
 - standard procedures, 2–7
 - status codes, 2–4
 - type codes, 2–4
 - work centers, 2–26
- Setting up employee labor rates, 2–10
- Setting up line and item relationships, 2–34
- Setting up manufacturing constants, 2–14
- Setting up manufacturing information, 2–7
- Setting up resource units, 2–30
- Setting up standard procedures, 2–7
- Setting up the flat file cross-reference, 12–3
- Setting up the shop floor calendar, 2–12
- Setting up work centers, 2–26
- Setup, overview, 2–1
- Setup hours, calculating, A–18
- Shop Floor Calendar, processing options, 2–14
- Shop floor calendar, setting up, 2–12
- Shop Floor Management
 - discrete manufacturing, 1–19
 - fast path commands, 1–24
 - features, 1–10
 - process flow, 1–14
 - process manufacturing, 1–19
 - repetitive manufacturing, 1–20
 - system integration, 1–8
 - system setup, overview, 2–1
 - system tables, 1–15
 - types of manufacturing, 1–18
 - using, units of measure, 1–18
- Shop Floor Management Discrete Manufacturing, menu overview, 1–23
- Shop Floor Workbench, processing options, 8–5
- Shop paperwork, overview, 3–17
- Shortage Maintenance, processing options, 6–16
- Shortage Workbench, processing options, 6–14
- Shortages
 - changing, 6–15
 - integration, procurement, 6–1
 - locating, 6–13
 - managing, information, 6–13
 - printing, 6–17
 - components, 6–16
 - reviewing, 6–1
- Single Level Bill of Material, processing options, 11–43
- Soft commitments, inventory, 5–1
- Standard Procedures, processing options, 2–9
- Standard procedures, setting up, 2–7
- Start dates
 - calculating, 3–16
 - operation, A–7
 - work order, A–6
 - fixed leadtime, A–6
 - variable leadtime, A–6
- Status, revising, work orders, 11–3
- Status codes, setting up, 2–4
- Substitute items, choosing, 3–71
- Summary Availability
 - overview, 11–13
 - processing options, 11–14
- Super Backflush, operation numbers, 10–27

- Super backflush
 - completing, work orders, 10–52
 - issuing, 7–2
- Super Backflush, processing options, 10–30
- Supply and demand
 - overview, 11–31
 - quantities
 - demand, 11–31
 - supply, 11–31
- Supply and demand information, printing, 11–34
- Supply/Demand report, processing options, 11–34
- System integration, 1–7
- System overview, tables, 1–15
- System setup, 2–1
 - category codes, 2–4
 - document type codes, 2–5
 - employee labor rates, 2–10
 - line and item relationships, 2–34
 - manufacturing constants, 2–14
 - operation status codes, 2–5
 - phase codes, 2–4
 - potent units codes, 2–5
 - priority codes, 2–4
 - resource units, 2–30
 - shop floor calendar, 2–12
 - standard procedures, 2–7
 - status codes, 2–4
 - type codes, 2–4
 - work centers, 2–26

T

Tables

- Account Ledger (F0911), 1–15
- Account Master (F0901), 1–15
- Assembly Inclusion Rules (F3293), 1–16
- Bill of Material Master (F3002), 1–15
- Business Unit Master (F0006), 1–15
- Forecast (F3460), 1–17
- Generic Message/Rate (F00191), 1–15
- Inbound Backflush Flat File Conversion (R47002C), 12–2
- Inbound Completion Flat File Conversion (R47002C), 12–2
- Inbound Completion Inquiry (P4801Z1), 12–2
- Inbound Completion Processor (R31114Z1I), 12–2
- Inbound Completion Purge (R4801Z1), 12–2
- Inbound Hours and Quantity Inquiry (P31122Z1), 12–2
- Inbound Hours and Quantity Processor (R31122Z1I), 12–2
- Inbound Hours and Quantity Purge (R31122Z1), 12–2
- Inbound Inventory Issues Inquiry (P3111Z1), 12–2
- Inbound Inventory Issues Processor (R31113Z1I), 12–2
- Inbound Inventory Issues Purge (R3111Z1P), 12–2
- Inbound Issues Flat File Conversion (R47002C), 12–2
- Inbound Super Backflush Inquiry (P3112Z1), 12–2
- Inbound Super Backflush Processor (R31123Z1I), 12–2
- Inbound Super Backflush Purge (R3112Z1P), 12–2
- Inbound Work Order Flat File Conversion (R47002C), 12–2
- Inbound Work Order Inquiry (P4801Z1), 12–2
- Inbound Work Order Processor (R4801Z1I), 12–2
- Interoperability Work Order Purge (R4801Z1P), 12–2
- Inventory Constants (F41001), 1–17
- Item Balance Extraction (R31SYN02), 12–2
- Item Branch (F4102), 1–17
- Item Cost Component Add-Ons (F30026), 1–15
- Item Cross Reference (F4104), 1–17
- Item History (F4115), 1–17
- Item Ledger (F4111), 1–17
- Item Location (F41021), 1–17
- Item Master (F4101), 1–17
- Item/Line Relationship Master (F3109), 1–16
- Job Shop Manufacturing Constants (F3009), 1–15

Kanban Card Detail (F30161), 1–16
 Kanban Master (F3016), 1–15
 Location Detail Information (F4602), 1–17
 Lot Master (F4108), 1–17
 Manufacturing AAls (F31950), 1–16
 MPS/MRP/DRP Message (F3411), 1–16
 Outbound Operation Status Extraction (R4801Z2X), 12–2
 Outbound Work Order Extraction (R48011X), 12–2
 Routing Master (F3003), 1–15
 Schedule Quantity Detail (F31091), 1–16
 Shortage Maintenance Master (F3118), 1–16
 Summarized Work Order Cross Reference (F3108), 1–16
 Warehouse Requests (F4600), 1–17
 Warehouse Suggestions (F4611), 1–17
 Work Center Master (F30006), 1–15
 Work Center Resource Units (F3007), 1–15
 Work Order Instruction (F4802), 1–18
 Work Order Master (F4801), 1–18
 Work Order Parts List (F3111), 1–16
 Work Order Routing (F3112), 1–16
 Work Order Serial Numbers (F3105), 1–16
 Work Order Time Transactions (F31122), 1–16
 Work Order Variance (F3102), 1–16
 Time basis code, leadtime concepts, A–5
 Transactions
 receiving, 12–5
 sending, 12–17
 Type codes, setting up, 2–4
 Types of manufacturing, 1–18

U

Understanding grade and potency, 4–3
 Understanding lot processing, 4–7
 Understanding user defined codes, 2–3
 Understanding work orders and rate schedules, 3–3
 Units of measure, using, 1–18
 Updating, hours and quantities, 9–11
 by batch, 9–13

Updating hours and quantities, 9–11
 Updating hours and quantities by batch, 9–13
 Updating hours and quantities manually, 9–12
 Using, units of measure, 1–18

W

Warehouse Management, integration, 1–9
 What is grade, 4–4
 What is potency, 4–4
 Where used information, printing, 11–48
 Where Used Item, processing options, 11–48
 Work Center Master Revisions, processing options, 2–30
 Work Center Resource Units, processing options, 2–34
 Work Center Schedule Review, processing options, 11–28
 Work centers
 interfacing, Warehouse Management, 2–26
 printing, scheduling information, 8–6
 setting up, 2–26
 Work Order Completions, processing options, 10–10
 Work Order Generation, processing options, 3–49
 Work Order Parts List, processing options, 3–74
 Work order processing, report, 3–48
 Work Order Routing, processing options, 3–82
 Work order summary, report, 3–60
 Work orders
 assigning
 serial numbers, 3–87
 serial numbers during issues, 7–10
 associating, components during issues, 7–12
 attaching
 co-/by-products, 3–15
 co-/by-products list, 3–84
 intermediate items, 3–85
 intermediates, 3–16
 parts list, 3–9

- parts list interactively, 3-62
- routing instructions, 3-13
- routing instructions interactively, 3-76
- supplementary data, 3-61
- backscheduling, 3-18
- calculating, start date, 3-16
- changing, status, 11-6
- choosing, substitute items, 3-71
- closing, 11-3
- committing
 - hard, 5-1
 - inventory, 5-1
 - soft, 5-1
- completing
 - backflushing, 10-18, 10-42
 - discrete, 10-7
 - partial quantities, 10-25, 10-50
 - process, 10-39
 - quantity at operation, 10-33, 10-55
 - serialized components, 10-57
 - super backflush, 10-52
 - super backflushing, 10-26
 - with serialized components, 10-36
 - without backflushing, 10-8, 10-40
- consolidating, ingredients list, 3-49
- creation, features, 1-12
- dates
 - operation due, A-7
 - operation start, A-7
 - start, A-6
- defining
 - commitment control and type, 5-9
 - commitment method for items, 5-6
 - commitment rules, 5-5
- deleting, 11-4
- entering, 3-21
 - headers, 3-21
 - purchase orders for outside operations, 3-76
- full completion, 10-50
- generating
 - parts list, 5-2
 - routing instructions, 5-2
- integration
 - DRP/MPS/MRP, 3-22
 - product data management, 3-61
 - quality management, 3-5
 - warehouse management, 3-63, 3-76
- issuing, material automatically, 3-48
- locating, routing instructions, 3-76
- naming, saved purged records, 11-9
- overlapping operations, A-9
- printing, summary, 3-60
- processing, 3-45, 3-48
 - assembly inclusion rules, 3-46
 - commitments, 5-2
 - quantity at operation, 10-33, 10-55
 - sales orders, 3-47
- purging, 11-8
- quantities
 - demand, 11-31
 - supply, 11-31
- regenerating
 - parts list, 3-48
 - routing instructions, 3-48
- reporting, quantities, 11-4
- reviewing, 11-28
 - information, 8-3
- revising, status, 11-3
- scheduling, 8-1
- setting, resource percent, 3-84
- shop paperwork, 3-17
- start dates
 - fixed leadtime, A-6
 - variable leadtime, A-6
- super backflush, non-pay points, 10-34, 10-56
- understanding, 3-3
- using
 - generic text, 3-22
 - quantity at operation, 10-33, 10-53
- Work With Line Schedule Review form, reviewing production across lines, 11-24
- Work With Work Center Schedule Review form, reviewing work center loads, 11-27
- Working with availability and shortages, 6-1
- Working with backflush, 10-18, 10-42
- Working with bills of material, 11-37
- Working with commitments, 5-1
- Working with completions, 10-1
- Working with grade and potency and lot processing, 4-1
- Working with hours and quantities, 9-1
- Working with interoperability, 12-1
- Working with issues and material movement, 7-1
- Working with material movement, 7-23
- Working with rate schedules, 8-7
- Working with supply and demand information, 11-31

Working with work order and rate schedule
information, 11-1
Working with work order scheduling, 8-3
Working with work orders and rate
schedules, 3-1

