PeopleSoft®

PeopleSoft EnterpriseOne Product Data Management 8.11 PeopleBook

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Contents

General Preface
About This PeopleBook Preface ix
PeopleSoft Application Prerequisites........ ix
PeopleSoft Application Fundamentals........ ix
Documentation Updates and Printed Documentation........ x
Obtaining Documentation Updates........ x
Ordering Printed Documentation........ x
Additional Resources........ xi
Typographical Conventions and Visual Cues........ xii
Typographical Conventions........ xii
Visual Cues........ xiii
Country, Region, and Industry Identifiers........ xiii
Currency Codes........ xiv
Comments and Suggestions........ xiv
Common Elements Used in PeopleBooks xiv

Preface
PeopleSoft EnterpriseOne Product Data Management Preface........ xvii
PeopleSoft Products........ xvii
Product Data Management Fundamentals........ xvii
Common Elements Used in This PeopleBook........ xviii

Chapter 1
Getting Started with PeopleSoft EnterpriseOne Product Data Management........ 1
Product Data Management Overview........ 1
Product Data Management Integrations........ 1
Product Data Management Implementation........ 3
Global Implementation Steps........ 3
Product Data Management Implementation Steps........ 4

Chapter 2
PeopleSoft EnterpriseOne Product Data Management........ 5
PeopleSoft EnterpriseOne Product Data Management Overview........ 5

PeopleSoft EnterpriseOne Product Data Management Features........8
PeopleSoft EnterpriseOne Product Data Management Tables........10

Chapter 3
Setting Up Product Data Management........13
Understanding Product Data Management Setup........13
Setting Up User Defined Codes........14
Setting Up Standard Procedures........15
- Understanding Standard Procedures........15
- Forms Used to Set Up Standard Procedures........15
- Setting Processing Options for Standard Procedures (P00191)........15
- Setting Up Standard Procedures........16

Setting Up Quantity Decimal Conversion........17
- Understanding Quantity Decimal Conversion........17
- Running Quantity Decimal Conversion........18
- Setting Processing Options for Quantity Decimal Conversion (R30QNTY)........18

Setting Up Manufacturing Constants........18
- Understanding Manufacturing Constants........18
- Forms Used to Set Up Manufacturing Constants........19
- Setting Up Manufacturing Constants........19

Defining Document Type Constants for Work Orders........21
- Understanding Document Type Constants........21
- Running the Document Type Master (F40039) Conversion program (R31P40039)........22
- Setting Processing Options for Document Type Master (F40039) Conversion (R31P40039)........22
- Running the Order Type Conversion (R31P802)........24
- Setting Processing Options for Order Type Conversion (R31P802)........24

Setting Up Repetitive Manufacturing Information........25
- Understanding Repetitive Manufacturing Setup........25
- Forms Used to Set Up Repetitive Manufacturing........29
- Setting Up Shifts in the Manufacturing Constants........29
- Setting Processing Options for Work Center Resource Units (P3007)........30
- Setting Up Resource Units........30

Setting Up Engineering Change Management........31
- Understanding Engineering Change Management Setup........31
- Prerequisites........32
- Forms Used to Set Up Engineering Change Management........32
- Setting Up User Defined Codes for Engineering Change Management........33
- Setting Processing Options for ECO Approval Routing Master (P4808)........33
- Setting Up an Approval Routing Master........34

Setting Up Order-Specific Approval Routings......34

Chapter 4
Setting Up Bills of Material......35
Understanding Bills of Material......35
Understanding Types of Bills of Material......36
Understanding Bill of Material Terminology......38
Common Elements Used in This Chapter......40
Entering a Bill of Material......43
Understanding Bill of Material Entry......43
Forms Used to Set Up a Bill of Material......44
Setting Processing Options for Bill of Material Revisions (P3002)......44
Entering a Bill of Material......47
Entering Substitute Items......50
Setting Processing Options for Component Locator Revisions (P3015)......51
Entering Component Locators......51
Validating Bills of Material......52
Understanding Bill of Material Validation......52
Forms Used to Validate Bills of Material......54
Verifying Bills of Material......54
Setting Processing Options for Bill of Material Inquiry (P30200)......54
Locating Bills of Material......59
Locating Bills of Material Graphically......60
Setting Processing Options for Bill of Material Where Used (P30201)......60
Locating Components on a Bill of Material......61
Setting Processing Options for Bill of Material Comparison (P30204)......61
Comparing Bills of Material......63
Updating Multiple Bills of Material......63
Understanding Bill of Material Update......64
Prerequisite......64
Running the Where Used Bill of Material Update......64
Setting Processing Options for Where Used Bill of Material Update (R30520)......64

Chapter 5
Entering Work Centers and Routing Instructions......67
Understanding Work Centers and Routing Instructions......67
Common Elements Used in This Chapter......69
Creating Work Centers......69

Understanding Work Center Creation........69
Prerequisites........70
Forms Used to Create Work Centers........70
Setting Processing Options for Work Center Revision (P3006)........70
Entering Work Centers........71
Entering Costing and Accounting Information for Work Centers........74
Reviewing Operations by Work Center........76
Creating Routing Instructions........76
Understanding Routing Instruction Creation........76
Forms Used to Create Routing Instructions........78
Setting Processing Options for Enter Change Routing (P3003)........78
Entering Routing Instructions........80
Entering Outside Operations........84
Updating Component Scrap........85
Setting Processing Options for Planned Yield Update (R3093)........85
Calculating Lead Times........85
Understanding Lead Time........85
Understanding Lead Time Calculations........91
Generating Lead Times........95
Setting Processing Options for Leadtime Rollup (R30822A)........95

Chapter 6
Working With Process Manufacturing........97
Understanding Process Manufacturing........97
Understanding Process Terminology........99
Common Elements Used in This Chapter........100
Entering Processes........101
Understanding Product Data Entry for Processes........102
Prerequisite........104
Forms Used to Enter Processes........104
Entering Processes and Process Operations........104
Entering Outside Operations........107
Entering Process Ingredients........107
Entering a Substitute Ingredient........110
Entering a Co- and By-Products List........111
Entering Intermediates........112
Changing Multiple Processes........112
Verifying Processes........113
Understanding Process Verification........113

Forms Used to Verify Processes.......114
Running Integrity Analysis.......114
Setting Processing Options for Where Produced Inquiry (P30210).......114
Reviewing Co- and By-Products.......114
Reviewing Resources.......114
Reviewing Process Instructions.......114

Chapter 7
Working With Engineering Change Orders.......117
Understanding Engineering Change Management.......117
Engineering Change Management Features.......118
Common Elements Used in This Chapter.......120
Creating Engineering Change Orders.......121
Understanding the Engineering Change Order Process.......121
Understanding Engineering Change Requests.......124
Forms Used to Enter Engineering Change Orders.......125
Setting Processing Options for ECO Workbench (P30225).......125
Locating Existing Engineering Change Orders.......126
Setting Processing Options for ECO Entry (P48020).......127
Entering Engineering Change Orders.......129
Defining Routing Instructions.......131
Setting Processing Options for ECO Parts List (P3013).......132
Defining Affected Items.......135
Defining Changes.......136
Loading Work Orders or Purchase Orders into Supplemental Data.......137
Notifying Reviewers of Engineering Change Orders.......137
Setting Processing Options for ECO Notification (R48181).......137
Validating Engineering Change Orders.......138
Understanding ECO Validation.......138
Understanding the Bill of Material Update.......139
Prerequisites.......139
Forms Used to Validate Engineering Change Orders.......140
Setting Processing Options for ECO Revisions Inquiry (P30135).......140
Reviewing Revision Information.......141
Setting Processing Options for ECO Approval/Audit Review.......141
Reviewing Approval Audit Information.......142
Setting Processing Options for ECO Open Task Review (P30220).......142
Reviewing Open Tasks.......143
Setting Processing Options for ECO Approval (P4818).......144

Approving Engineering Change Orders.......145
Updating the Bill of Material.......145
Setting Processing Options for Engineering Change Population (R30510).......145

Appendix A
PeopleSoft EnterpriseOne Product Data Management Planning Reports.......149
Product Data Management Reports.......149
PeopleSoft Product Data Management Reports A to Z.......149
PeopleSoft Product Data Management Reports: Selected Reports.......150
R30420 - Where Used Item Report.......150
Processing Options for Material Where Used (R30420).......150
R30460 - Multi Level Bill of Material Report and Single Level Bill of Material Report.......151
Processing Options for Bill of Material Print (R30460).......151
R48020P - ECO Work Order Print Report.......154
Processing Options for ECO Work Order Print (R48020P).......154
R48421 - ECO Summary Report.......154

Glossary of PeopleSoft Terms.......157

Index.......167

About This PeopleBook Preface

PeopleBooks provide you with the information that you need to implement and use PeopleSoft applications.

This preface discusses:

- PeopleSoft application prerequisites.
- PeopleSoft application fundamentals.
- Documentation updates and printed documentation.
- Additional resources.
- Typographical conventions and visual cues.
- Comments and suggestions.
- Common elements in PeopleBooks.

Note. PeopleBooks document only page elements, such as fields and check boxes, that require additional explanation. If a page element is not documented with the process or task in which it is used, then either it requires no additional explanation or it is documented with common elements for the section, chapter, PeopleBook, or product line. Elements that are common to all PeopleSoft applications are defined in this preface.

PeopleSoft Application Prerequisites

To benefit fully from the information that is covered in these books, you should have a basic understanding of how to use PeopleSoft applications.

You might also want to complete at least one PeopleSoft introductory training course, if applicable.

You should be familiar with navigating the system and adding, updating, and deleting information by using PeopleSoft menus, and pages, forms, or windows. You should also be comfortable using the World Wide Web and the Microsoft Windows or Windows NT graphical user interface.

These books do not review navigation and other basics. They present the information that you need to use the system and implement your PeopleSoft applications most effectively.

PeopleSoft Application Fundamentals

Each application PeopleBook provides implementation and processing information for your PeopleSoft applications. For some applications, additional, essential information describing the setup and design of your system appears in a companion volume of documentation called the application fundamentals PeopleBook. Most PeopleSoft product lines have a version of the application fundamentals PeopleBook. The preface of each PeopleBook identifies the application fundamentals PeopleBooks that are associated with that PeopleBook.

The application fundamentals PeopleBook consists of important topics that apply to many or all PeopleSoft applications across one or more product lines. Whether you are implementing a single application, some combination of applications within the product line, or the entire product line, you should be familiar with the contents of the appropriate application fundamentals PeopleBooks. They provide the starting points for fundamental implementation tasks.

Documentation Updates and Printed Documentation

This section discusses how to:

- Obtain documentation updates.
- Order printed documentation.

Obtaining Documentation Updates

You can find updates and additional documentation for this release, as well as previous releases, on the PeopleSoft Customer Connection website. Through the Documentation section of PeopleSoft Customer Connection, you can download files to add to your PeopleBook Library. You'll find a variety of useful and timely materials, including updates to the full PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM.

Important! Before you upgrade, you must check PeopleSoft Customer Connection for updates to the upgrade instructions. PeopleSoft continually posts updates as the upgrade process is refined.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Ordering Printed Documentation

You can order printed, bound volumes of the complete PeopleSoft documentation that is delivered on your PeopleBooks CD-ROM. PeopleSoft makes printed documentation available for each major release shortly after the software is shipped. Customers and partners can order printed PeopleSoft documentation by using any of these methods:

- Web
- Telephone
- Email

Web

From the Documentation section of the PeopleSoft Customer Connection website, access the PeopleBooks Press website under the Ordering PeopleBooks topic. The PeopleBooks Press website is a joint venture between PeopleSoft and MMA Partners, the book print vendor. Use a credit card, money order, cashier's check, or purchase order to place your order.

Telephone

Contact MMA Partners at 877 588 2525.

Email

Send email to MMA Partners at peoplesoftpress@mmapartner.com.

See Also

PeopleSoft Customer Connection, https://www.peoplesoft.com/corp/en/login.jsp

Additional Resources

The following resources are located on the PeopleSoft Customer Connection website:

Resource	Navigation
Application maintenance information	Updates + Fixes
Business process diagrams	Support, Documentation, Business Process Maps
Interactive Services Repository	Interactive Services Repository
Hardware and software requirements	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Hardware and Software Requirements
Installation guides	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation & Software, Installation Guides and Notes
Integration information	Implement, Optimize + Upgrade, Implementation Guide, Implementation Documentation and Software, Pre-built Integrations for PeopleSoft Enterprise and PeopleSoft EnterpriseOne Applications
Minimum technical requirements (MTRs) (EnterpriseOne only)	Implement, Optimize + Upgrade, Implementation Guide, Supported Platforms
PeopleBook documentation updates	Support, Documentation, Documentation Updates
PeopleSoft support policy	Support, Support Policy
Prerelease notes	Support, Documentation, Documentation Updates, Category, Prerelease Notes
Product release roadmap	Support, Roadmaps + Schedules
Release notes	Support, Documentation, Documentation Updates, Category, Release Notes
Release value proposition	Support, Documentation, Documentation Updates, Category, Release Value Proposition
Statement of direction	Support, Documentation, Documentation Updates, Category, Statement of Direction

Resource	Navigation
Troubleshooting information	Support, Troubleshooting
Upgrade documentation	Support, Documentation, Upgrade Documentation and Scripts

Typographical Conventions and Visual Cues

This section discusses:

- Typographical conventions.
- Visual cues.
- Country, region, and industry identifiers.
- Currency codes.

Typographical Conventions

This table contains the typographical conventions that are used in PeopleBooks:

Typographical Convention or Visual Cue	Description
Bold	Indicates PeopleCode function names, business function names, event names, system function names, method names, language constructs, and PeopleCode reserved words that must be included literally in the function call.
Italics	Indicates field values, emphasis, and PeopleSoft or other book-length publication titles. In PeopleCode syntax, italic items are placeholders for arguments that your program must supply. We also use italics when we refer to words as words or letters as letters, as in the following: Enter the letter *O*.
KEY+KEY	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For ALT+W, hold down the ALT key while you press the W key.
`Monospace font`	Indicates a PeopleCode program or other code example.
“ ” (quotation marks)	Indicate chapter titles in cross-references and words that are used differently from their intended meanings.

Typographical Convention or Visual Cue	Description
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.

Visual Cues

PeopleBooks contain the following visual cues.

Notes

Notes indicate information that you should pay particular attention to as you work with the PeopleSoft system.

Note. Example of a note.

If the note is preceded by *Important!,* the note is crucial and includes information that concerns what you must do for the system to function properly.

Important! Example of an important note.

Warnings

Warnings indicate crucial configuration considerations. Pay close attention to warning messages.

Warning! Example of a warning.

Cross-References

PeopleBooks provide cross-references either under the heading "See Also" or on a separate line preceded by the word *See.* Cross-references lead to other documentation that is pertinent to the immediately preceding documentation.

Country, Region, and Industry Identifiers

Information that applies only to a specific country, region, or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a country-specific heading: "(FRA) Hiring an Employee"

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Country Identifiers

Countries are identified with the International Organization for Standardization (ISO) country code.

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in PeopleBooks:

- Asia Pacific
- Europe
- Latin America
- North America

Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in PeopleBooks:

- USF (U.S. Federal)
- E&G (Education and Government)

Currency Codes

Monetary amounts are identified by the ISO currency code.

Comments and Suggestions

Your comments are important to us. We encourage you to tell us what you like, or what you would like to see changed about PeopleBooks and other PeopleSoft reference and training materials. Please send your suggestions to:

PeopleSoft Product Documentation Manager PeopleSoft, Inc. 4460 Hacienda Drive Pleasanton, CA 94588

Or send email comments to doc@peoplesoft.com.

While we cannot guarantee to answer every email message, we will pay careful attention to your comments and suggestions.

Common Elements Used in PeopleBooks

Address Book Number Enter a unique number that identifies the master record for the entity. An address book number can be the identifier for a customer, supplier, company, employee, applicant, participant, tenant, location, and so on. Depending on the application, the field on the form might refer to the address book number as the customer number, supplier number, or company number, employee or applicant id, participant number, and so on.

As If Currency Code Enter the three-character code to specify the currency that you want to use to view transaction amounts. This code allows you to view the transaction amounts as if they were entered in the specified currency rather than the foreign or domestic currency that was used when the transaction was originally entered.

Batch Number Displays a number that identifies a group of transactions to be processed by the system. On entry forms, you can assign the batch number or the system can assign it through the Next Numbers program (P0002).

Batch Date Enter the date in which a batch is created. If you leave this field blank, the system supplies the system date as the batch date.

Batch Status Displays a code from user-defined code (UDC) table 98/IC that indicates the posting status of a batch. Values are:

Blank: Batch is unposted and pending approval.

A: The batch is approved for posting, has no errors and is in balance, but it has not yet been posted.

D: The batch posted successfully.

E: The batch is in error. You must correct the batch before it can post.

P: The system is in the process of posting the batch. The batch is unavailable until the posting process is complete. If errors occur during the post, the batch status changes to E.

U: The batch is temporarily unavailable because someone is working with it, or the batch appears to be in use because a power failure occurred while the batch was open.

Branch/Plant Enter a code that identifies a separate entity as a warehouse location, job, project, work center, branch, or plant in which distribution and manufacturing activities occur. In some systems, this is called a business unit.

Business Unit Enter the alphanumeric code that identifies a separate entity within a business for which you want to track costs. In some systems, this is called a branch/plant.

Category Code Enter the code that represents a specific category code. Category codes are user-defined codes that you customize to handle the tracking and reporting requirements of your organization.

Company Enter a code that identifies a specific organization, fund, or other reporting entity. The company code must already exist in the F0010 table and must identify a reporting entity that has a complete balance sheet.

Currency Code Enter the three-character code that represents the currency of the transaction. PeopleSoft EnterpriseOne provides currency codes that are recognized by the International Organization for Standardization (ISO). The system stores currency codes in the F0013 table.

Document Company Enter the company number associated with the document. This number, used in conjunction with the document number, document type, and general ledger date, uniquely identifies an original document.

If you assign next numbers by company and fiscal year, the system uses the document company to retrieve the correct next number for that company.

If two or more original documents have the same document number and document type, you can use the document company to display the document that you want.

Document Number

Displays a number that identifies the original document, which can be a voucher, invoice, journal entry, or time sheet, and so on. On entry forms, you can assign the original document number or the system can assign it through the Next Numbers program.

Document Type

Enter the two-character UDC, from UDC table 00/DT, that identifies the origin and purpose of the transaction, such as a voucher, invoice, journal entry, or time sheet. PeopleSoft EnterpriseOne reserves these prefixes for the document types indicated:

P: Accounts payable documents.

R: Accounts receivable documents.

T: Time and pay documents.

I: Inventory documents.

O: Purchase order documents.

S: Sales order documents.

Effective Date

Enter the date on which an address, item, transaction, or record becomes active. The meaning of this field differs, depending on the program. For example, the effective date can represent any of these dates:

- The date on which a change of address becomes effective.
- The date on which a lease becomes effective.
- The date on which a price becomes effective.
- The date on which the currency exchange rate becomes effective.
- The date on which a tax rate becomes effective.

Fiscal Period and **Fiscal Year**

Enter a number that identifies the general ledger period and year. For many programs, you can leave these fields blank to use the current fiscal period and year defined in the Company Names & Number program (P0010).

G/L Date (general ledger date)

Enter the date that identifies the financial period to which a transaction will be posted. The system compares the date that you enter on the transaction to the fiscal date pattern assigned to the company to retrieve the appropriate fiscal period number and year, as well as to perform date validations.

PeopleSoft EnterpriseOne Product Data Management Preface

This preface discusses:

- PeopleSoft products
- Product Data Management fundamentals
- Common elements in this PeopleBook

PeopleSoft Products

This PeopleBook refers to these PeopleSoft EnterpriseOne products:

- PeopleSoft EnterpriseOne Inventory Management
- PeopleSoft EnterpriseOne Procurement
- PeopleSoft EnterpriseOne Manufacturing and Distribution Planning
- PeopleSoft EnterpriseOne Master Production Schedule
- PeopleSoft EnterpriseOne Product Costing and Manufacturing Accounting
- PeopleSoft EnterpriseOne Sales Order Management
- PeopleSoft EnterpriseOne Shop Floor Management
- PeopleSoft EnterpriseOne Resource Requirements Planning

Product Data Management Fundamentals

The *PeopleSoft EnterpriseOne Product Data Management PeopleBook* provides you with implementation and processing information for the Product Data Management solution. However, additional, essential information describing the setup and design of the system resides in companion documentation. The companion documentation consists of important topics that apply to many or all PeopleSoft EnterpriseOne product lines. You should be familiar with these PeopleBooks:

- *PeopleSoft EnterpriseOne Tools 8.94 Foundation PeopleBook*
- *PeopleSoft EnterpriseOne General Accounting PeopleBook*
- *PeopleSoft EnterpriseOne Address Book PeopleBook*

Common Elements Used in This PeopleBook

Effective From

Enter a date that indicates:

- When a component part goes into effect on a bill of material.
- When a routing step goes into effect as a sequence on the routing for an item.
- When a rate schedule is in effect.

The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.

Effective Thru (effective through)

Enter a date that indicates:

- When a component part is no longer in effect on a bill of material.
- When a routing step is no longer in effect as a sequence on the routing for an item.
- When a rate schedule is no longer active.

The default is December 31 of the default year defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.

Frm Grd (from grade)

Enter a UDC (40/LG) that indicates the minimum grade that is acceptable for an item.

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.

From Potency

Enter a number that indicates the minimum potency or percentage of active ingredients acceptable for an item.

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.

Group No. (group number)

Displays a number used to combine similar records.

Item Number

Enter an item number. It can be in short, long, or third item number format.

Job Type

Enter a UDC (07/G) that defines the jobs within the organization. You can associate pay and benefit information with a job type and apply that information to the employees who are linked to that job type.

Leadtime Offset

Enter the number of days that a part is needed before or after the start date of a manufacturing work order. The system adds the lead time 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 that a part is needed prior to the work order start date, enter the days as a negative number. To indicate how many days after the work order start date that the part is required, enter a positive number.

Line/Cell

Enter a number that defines a production line or cell. Detailed work center operations can be defined inside the line or cell.

Ln Ty (line type)

Displays 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 it is included in calculations. Codes include:

S: Stock item

J: Job cost

N: Nonstock item

F: Freight

T: Text information

M: Miscellaneous charges and credits

W: Work order

Move Hours

Enter the planned hours that are required to move the order from this operation to the next operation in the same work center.

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 backscheduling variable leadtime items.

Next Oper (next operation)

Enter the operation number with which the current operation can be simultaneously processed.

Oper Seq# (operation sequence number)

Displays a number used to indicate an order of succession.

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.

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.

In engineering change orders, a number that sequences the assembly steps for the engineering change.

For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced.

Skip To fields enable you to enter an operation sequence that you want to begin the display of information.

You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.

Percent Scrap

Enter the percentage of unusable component material that is created during the manufacture of a particular parent item. During DRP/MPS/MRP generation, the system increases gross requirements for the component item to compensate for the loss. Enter percentages as whole numbers, for example, 5 percent as 5.0.

Note. Inventory shrink and scrap are compounded to calculate the total loss in the manufacture of a particular item. Accurate shrink and scrap factors support more accurate planning calculations.

Quantity

Enter the number of units that the system applies to the transaction.

Queue Hours

Enter the total hours that an order is expected to be in queue at work centers and moving between work centers.

The system stores this value in the Item Branch table. 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 and populates the table with calculated values.

Record Type

Enter the default note type that will be printed. If left blank, note type A will be used.

Run Labor

Enter the standard hours of labor that you expect to incur in the normal production of this item.

The run labor hours in the Routing Master table 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.

Run Machine

Enter the standard machine hours that you expect to incur in the normal production of this item.

Setup Labor

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

Substitute Item

Enter the item number that the system uses as a substitute if the original item is not available. It can be in short, long, or third item number format.

Thr Grd (through grade)

Enter a UDC (40/LG) that indicates the maximum grade that is acceptable for an item.

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.

Use only grade or potency, not both.

Thru Potency (through potency)

Enter a number that indicates the maximum potency or percentage of active ingredients that is acceptable for an item.

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.

Time Basis

Specify a UDC (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 routing step. For example, 25 hours per 1,000 pieces or 15 hours per 10,000 pieces. You can maintain the time basis codes in Time Basis Codes.

The system uses the values in the Description-2 field on the User Defined Codes form for costing and scheduling calculations. The description is what the code represents, but is not used in calculations.

Work Center

Displays an alphanumeric code 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.

You can assign a business unit to a document, entity, or person for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business unit to track equipment by responsible department.

Business unit security might prevent you from viewing information about business units for which you have no authority.

Yield % (yield percent)

Enter the planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the routing and the operation scrap percent in the bill of material. Materials Requirements Planning uses the step scrap percent and the existing component scrap percent to plan component demand.

CHAPTER 1

Getting Started with PeopleSoft EnterpriseOne Product Data Management

This chapter provides an overview of Product Data Management and discusses:

- Product Data Management integrations
- Product Data Management implementation

Product Data Management Overview

To understand the critical role that product data management plays in the business, you must understand the ways in which product data affects businesses and how businesses can more efficiently define, track, manage, and maintain product data. Product Data Management enables you to define manufacturing specific item information, bills of materials, ingredients lists, work centers, routings, and processes.

With this application you can:

- Enter and review bills of material.
- Create work centers, and enter costing and accounting information, use routing instructions, and generate lead times.
- Set up shift information and kanbans for repetitive manufacturing.
- Enter and review processes, operations, ingredients, co-products, and by-products for process manufacturing.
- Set up, review, approve, and print engineering change orders.
- Send and receive data from external systems.
- Set up start dates, manage overlapping and concurrent operations, and calculate lead times.

Product Data Management Integrations

The Product Data Management system integrates with these PeopleSoft EnterpriseOne systems:

- Inventory Management
- Requirements Planning
- Master Production Schedule
- Procurement
- Product Costing and Manufacturing Accounting

- Sales Order Management
- Shop Floor Management
- Resource Requirements Planning

The Product Data Management system works with other PeopleSoft EnterpriseOne systems to ensure that all product and manufacturing costs are tracked and transacted. We discuss integration considerations in the implementation chapters in this PeopleBook. Supplemental information about third-party application integrations is located on the PeopleSoft Customer Connection website.

Inventory Management

Supplies the basic information about each component (or ingredient), such as part number, description, unit of measure, stocking type, issue type code, location, and lot control information.

Activates flash messaging to warn of a pending engineering change order (ECO).

Requirements Planning

Uses Product Data Management information to plan finished goods, the raw material, and purchased parts that are required to manufacture them.

Uses sales orders and forecasts to pass demand for items down through the bills of material to the components.

Uses the bills of material to determine component requirements for planned orders and work orders without a parts list.

Master Production Schedule

Uses the effective dates established by ECOs to plan and introduce products.

Procurement

Activates flash messaging to warn of a pending ECO.

Uses bills of material for kit processing.

Product Costing and Manufacturing Accounting

Uses bills of material (BOMs), routing instructions, and work center information to calculate total material, labor, machine, and overhead costs for each primary unit of the parent item.

Uses bills of material during a cost roll-up to determine the material cost for the parent.

Sales Order Management

Uses bills of material for kit processing.

Shop Floor Management

Uses bills of material and routing instructions to process work orders and schedule work activity within the plant.

Resource Requirements Planning

Retrieves a multilevel bill of material for a master-scheduled item and selects the routing instructions for the components.

Activates flash messaging to warn of a pending ECO.

Product Data Management Implementation

This section provides an overview of the steps that are required to implement the Product Data Management system.

In the planning phase of the implementation, take advantage of all PeopleSoft sources of information, including the installation guides and troubleshooting information. A complete list of these resources appears in the preface in *About These PeopleBooks* with information about where to find the most current version of each.

Global Implementation Steps

Before you can implement Product Data Management, you must complete several global implementation steps. Global implementation steps are completed by users of many different systems, and are not specific to Product Data Management. Depending on the features and functionality that the organization uses, you might find that it is not necessary to complete all of these steps. This table lists the suggested global implementation steps for all PeopleSoft EnterpriseOne manufacturing products:

Step	Reference
1. Set up global UDC tables.	PeopleSoft EnterpriseOne Tools 8.94 Foundation PeopleBook
2. Set up fiscal date patterns.	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up an Organization,” Setting Up Fiscal Date Patterns
3. Set up companies.	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up an Organization,” Setting Up Companies
4. Set up business units.	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up an Organization,” Setting Up Business Units
5. Set up next numbers.	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up System Next Numbers”
6. Set up accounts, and the chart of accounts. (Optional)	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up Accounts,” Creating the Chart of Accounts
7. Set up the General Accounting Constants.	*PeopleSoft EnterpriseOne General Accounting 8.11 PeopleBook*, “Setting Up the General Accounting System,” Setting Up Constants for General Accounting
8. Set up multicurrency processing, including currency codes and exchange rates.	*PeopleSoft EnterpriseOne Multicurrency Processing 8.11 PeopleBook*
9. Set up ledger type rules. (Optional)	*PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up Ledger Type Rules for General Accounting”
10. Set up address book records.	*PeopleSoft EnterpriseOne Address Book 8.11 PeopleBook*, “Entering Address Book Records”

Step	Reference
11. Set up default location and printers	PeopleSoft EnterpriseOne Tools 8.94 Foundation PeopleBook
12. Set up branch/plant constants.	*PeopleSoft EnterpriseOne Inventory Management 8.11 PeopleBook*, "Setting Up the Inventory Management System," Defining Branch/Plant Constants
13. Set up Manufacturing/Distribution AAIs.	*PeopleSoft EnterpriseOne Inventory Management 8.11 PeopleBook*, "Setting Up the Inventory Management System," Setting Up AAIs in Distribution Systems
14. Set up document types.	*PeopleSoft EnterpriseOne Inventory Management 8.11 PeopleBook*, "Setting Up the Inventory Management System," Setting Up Document Type Information
15. Set up shop floor calendars.	*PeopleSoft EnterpriseOne Shop Floor Management 8.11 PeopleBook*, "Setting Up Shop Floor Management," Setting Up a Shop Floor Calendar
16. Set up manufacturing constants.	Chapter 3, "Setting Up Product Data Management," Setting Up Manufacturing Constants, page 18

Product Data Management Implementation Steps

This table lists the implementation steps for the Product Data Management system.

Step	Reference
1. Set up UDCs	Chapter 3, "Setting Up Product Data Management," Setting Up User Defined Codes, page 14
2. Set up standard procedures	Chapter 3, "Setting Up Product Data Management," Setting Up Standard Procedures, page 15
3. Convert quantity decimal places	Chapter 3, "Setting Up Product Data Management," Setting Up Quantity Decimal Conversion, page 17

CHAPTER 2

PeopleSoft EnterpriseOne Product Data Management

This chapter provides an overview of PeopleSoft EnterpriseOne Product Data Management and discusses:

- PeopleSoft EnterpriseOne Product Data Management features
- PeopleSoft EnterpriseOne Product Data Management tables

PeopleSoft EnterpriseOne Product Data Management Overview

To understand the critical role that product data management plays in the business, you must understand the ways in which product data affects businesses and how businesses can more efficiently track, manage, and maintain product data.

Today’s customers want specialized products and short leadtimes from ordering to the delivery of a product. Manufacturers want to respond to the pressure and opportunities that are presented by their customers’ needs. The industry currently struggles with manual paperwork, slow response times, lack of systems integration, and product volume versus complexity. Manufacturers need agility to provide specialized products at competitive prices.

To be agile, manufacturers require a method of creating and maintaining critical product information. Manufacturers must then communicate this critical information to the rest of the organization. A company’s sales, manufacturing, and service organizations need a fast, accurate, and reliable system. With today’s integrated systems, product data management is crucial throughout the organization. Creating product data that meets the needs of various groups and insures accurate data within the organization is vitally important.

The Product Data Management system enables you to integrate all of the aspects of product data with the rest of the business operations. This system provides basic data for other manufacturing systems. You need to verify that the product data is accurate to ensure the efficiency of associated systems, such as PeopleSoft EnterpriseOne Shop Floor Management and PeopleSoft EnterpriseOne Master Production Schedule.

Accuracy of bills of material, routings, and work center information is essential to the system’s overall integrity. Accuracy can be increased and maintained by cross-functional teams if they review new products, product changes, and process changes, as well as bills of material, routings, work center information, and the engineering change management process.

The Product Data Management system lets you track the fundamental information that is required to manufacture components, subassemblies, and end-item products. It includes bills of material, routings, work centers, and engineering change management.

Product Data Throughout the Organization

Bills of material (BOMs), routings, work center information, and engineering change management are used throughout an organization. Although the manufacturing facility is the primary user of routings and work centers, and the bill of material was originally intended for engineering purposes, they are now critical inputs to other areas of an organization. Engineering change management is a tool that is used throughout the organization to communicate changes to product data.

Manufacturing engineers use bills of material to develop and communicate manufacturing requirements, and to indicate how and in what order the product should be built. Work centers are defined and manufacturing routings are then developed. To enhance planning and decrease leadtimes, components on a bill of material are attached to a routing operation step to identify where specific material should be issued and consumed in the manufacturing sequence of the product.

Accounting uses bills of material and routings to run a cost roll-up. From the cost roll-up, you can determine the cost of the product and then determine the product price.

If you sell configured items, you use the bills of material that are created for features and options to create an overall bill of material and routing for the final configured item. The engineering change order (ECO) notifies you of changes to product features and options. If significant changes are required, the customer can be notified about any changes to the features and options of the final product.

Material planners, who usually drive planning and inventory control within the company, use bills of material to determine what manufactured and purchased items are required. Routings and bills of material are used to determine when, where, and what quantities are required to produce parts, and what resources and work centers are required to complete the work orders.

When a work order is created, the engineering bill of material becomes the parts list on the work order. The stockroom uses this parts list to pull parts for the work order. Components are issued to the work order so that inventory is relieved.

After the work order and parts list are issued to the manufacturing floor, the product is manufactured or assembled. A bill of material might also be listed on the engineering drawing that is issued with the work order. Building the product while cross-referencing the bill of material on the drawing and the parts list attached to the work order accomplishes two things:

- It ensures that the part is manufactured to engineering specifications.
- It verifies the accuracy of the bill of material.

The service department uses the parent/component relationships in bills of material to determine what parts need to be stocked for warranty and replacement parts.

Types of Manufacturing

Discrete, process, and repetitive manufacturing all use bills of material and routing instructions. The bills of material contain individual parts or components, such as nuts, bolts, wire, plastic, or metal parts 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 setting up and running the operations.

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 fact, full unit of measure capabilities are enabled throughout the Shop Floor Management system. Most entry programs have a Unit of Measure (UOM) field next to the quantity fields. The unit of measure is stored in the database tables with the quantities. Throughout Shop Floor Management, the system uses the values in three fields in the Item Master table (F4101) as default values in entry forms:

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

The value in the Primary Unit of Measure field must be the smallest of the three units of measure.

Discrete Manufacturing

Discrete manufacturing is typically characterized by:

- Work orders produce a specific quantity of a single item for a specific completion date.
- Routing instructions are a series of independent operations.
- Components can be manually issued with the release of the work order, backflushed at completion of the work order, or both.

Discrete manufacturing is most often used in these 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:

- Cars
- Furniture
- Electronics
- Airplanes

Process Manufacturing

Process manufacturing is typically characterized by:

- 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 can be 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:

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

Process manufacturing uses one of these processes:

- Batch processing: a product is usually made in a standard run or lot-size that is 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: 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 that are similar to discrete manufacturing, including repetitive or any of the to-orders strategies (such as, make-to-order, assemble-to-order, or engineer-to-order) might be used to control the process. Usually, both batch and continuous processing methods require extensive record-keeping. You must track quality and tolerance values during the process, as well as strictly adhere to *lot tracing* and *lot tracking*. You use lot tracing to display the items that are assigned to a lot. You use lot tracking to display the items that are removed from a lot.

Repetitive Manufacturing

Repetitive manufacturing is typically characterized by:

- Entire production lines are dedicated to a family of products.
- Product families share similar components and routing instructions.
- Products are often manufactured in a continuous process that requires less inventory movement to and from the production line.
- Work center setup and changeover times between related products are minimized.
- Production is defined in units per hour. The time spent at the operational level might or might not be important. Therefore, you must be able to set up line capacity and define routing instructions in units per hour at the line level. 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.

PeopleSoft EnterpriseOne Product Data Management Features

The Product Data Management system includes:

Bills of material

The bill of material is the primary method for defining and communicating the structure of the product. Although there is no single correct way to structure the bill of material for a product, you can follow some general industry guidelines. These guidelines assist you in determining and developing the levels within the bill, creating part numbers, defining phantoms, and setting up other bill of material issues.

The bill of material was traditionally created, maintained, and used only by the engineering department. However, as bills of material take on new and increasingly important roles within a company, remember to create bills of material that support the needs of all departments. This action eliminates the need to create several different types of bills of material to support the various needs within the company. Use bills of material to:

- Enter multiple bills of material to maintain many arrangements for an item without creating additional part numbers.
- Access items online by using the item description as search criteria.
- Define quantities of intermediate products in any unit of measure as they progress through the manufacturing process.
- Enter similar items by copying bills of material, routing instructions, and processes; and changing only the information that is unique to each item.

Work centers

Work centers are the specific, physical locations on the shop floor where routing operations occur. A work center defines basic information such as the machines and number of people employed at the work center. Additional information can include work center rates for labor, machines, and setup, work center capacity, machine utilization, and labor efficiency. Use work centers to:

- Define work center number, description, and link to business unit.
- Define queue and move times.
- Define operator, machine, and capacity by hours per day.
- Define rates for setup, labor, machine, and overhead.
- Define information for Capacity Planning.
- Define where an item is produced.

Routing instructions

A routing lists the operations that are required to manufacture a product in sequential order. Each operation within the routing identifies specific information such as the work center and time standards for setup, machine run, and labor hours. Routing operations can also include additional information such as required tools and inspections. Each part in a bill of material can be linked to a routing operation to identify the specific routing operation where a part should be issued from inventory and consumed by the product. Use routing instructions to:

- Define each step of the manufacturing process with allowances for anticipated yield and scrap for each operation.
- Add alternate operations to routing instructions.

Engineering Change Management

Engineering change management is a general term for the engineering change request (ECR) and engineering change order (ECO) processes. Engineering change management is sometimes called engineering change notification (ECN).

The ECR process defines and tracks requested product changes. An ECR is created, reviewed, and approved. It then becomes an engineering change order. You use engineering change management to create, plan, review, approve, and implement product changes. New designs or products can be included in the ECO process or go through a similar process called engineering creation order. ECOs usually include changes or enhancements to existing products. ECOs can also include process specifications. For example, the engineering department might specify a product assembly method that must be followed. Changes are generally made to products to resolve quality and safety issues, or to improve product performance. Use engineering change orders to:

- Control item changes from a single source.
- Incorporate approved changes to bills of material automatically.

PeopleSoft EnterpriseOne Product Data Management Tables

PeopleSoft EnterpriseOne Product Data Management uses the following tables:

Table	Description
Business Unit Master table (F0006)	Stores branch, plant, warehouse, and business unit information, such as company, description, and category codes that are assigned to that entity.
Workday Calendar table (F0007)	Contains workday types for month, year, century, and shift of each branch/plant.
Address Book Master table (F0101)	Stores all address information pertaining to customers, vendors, employees, and prospects.
Work Center Master File table (F30006)	Contains labor, machine, and overhead rates for each work center.
Work Center Rates File table (F30008)	Stores work center rate information, such as simulated and frozen rates for setup, labor, and machines.
Bill of Material Master File table (F3002)	Stores information at the business unit level about bills of materials, such as component requirements, quantity per, issue type, revision level, features and options.
Routing Master File table (F3003)	Stores information about routings, including work centers, operation sequences, yield percentages, and run, setup, and machine time. The system uses this information to calculate labor, machine, and overhead costs.
Work Center Resource Units table (F3007)	Stores daily and monthly capacity information for work centers at each branch by shift.
Manufacturing Constants table (F3009)	Stores general branch/plant information, such as bill of material validation, commitment control, work hours per day and shift, and costing options.
Bill of Materials Change File table (F3011)	Stores all changes to any bill of material, including dates, ECO reasons, and effective dates.

Table	Description
ECO Parts List Detail table (F3013)	Lists the parts that are affected by the ECO.
Component Locator File table (F3015)	Stores the location of a component that you define within a subassembly.
Kanban Master table (F3016)	Stores the set of kanban cards that are 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 obtains the item from an external source, the supplier's number is included.
Kanban Card Detail table (F30161)	Stores information that is related to the kanban, such as status, transaction quantity, and date updated.
Work Order Routing table (F3112)	Contains the routing steps for work order or ECO implementation.
Item Master table (F4101)	Stores basic information about each defined inventory item, such as item number, description, category codes, and units of measure.
Line Type Control Constants File table (F40205)	Stores constants for maintaining line types, such as general ledger classification, order type, and record variance.
Item Manufacturing Data table (F4101M)	Stores manufacturing data for each item, such as leadtime, document type, and issue type code.
Item Branch File table (F4102)	Stores the warehouse or plant-level information for an item, such as costs, quantities, category codes, and physical locations.
Item Location File table (F41021)	Stores all inventory locations for an item.
Item Cross Reference File table (F4104)	Stores information that enables you to relate item numbers for a specific purpose.
Work Order Master File table (F4801)	Stores the work order and rate schedule information, such as item numbers, quantities, dates, and status.
Order Routing Approval Master table (F4808)	Contains the address book numbers for the people who are responsible for approving ECOs and the order in which those people should be notified.
WO Supplemental DB User Defined table (F48092)	Stores additional information about ECOs, such as implementation costs.
Order Approval Audit table (F4818)	Contains the approval history of an ECO.

CHAPTER 3

Setting Up Product Data Management

This chapter provides an overview of Product Data Management setup and discusses how to:

- Set up user defined codes.
- Set up standard procedures.
- Set up quantity decimal conversion.
- Set up manufacturing constants.
- Define document type constants for work orders.
- Set up repetitive manufacturing information.
- Set up Engineering Change Management.

Understanding Product Data Management Setup

Before you can use the Product Data Management you must set up:

- User defined codes and standard procedures for the bills of material.
- Manufacturing constants and decimal settings that are unique to the branch/plants.
- Company work days and shifts by month and year.

You need to set up manufacturing information that is necessary for the Product Data Management system. This information includes decimal placement for quantities, manufacturing constants, and calendars. If you want the system to display quantities with the decimal set to something other that zero, you must change the decimal setting. You can change the manufacturing constants to record bill of material changes, perform online component and parent validation, and retrieve information from the master routing when attaching the routing instructions. You define workdays and shifts for the branch/plants by month and year by using the shop floor calendar.

See Also

PeopleSoft EnterpriseOne Shop Floor Management 8.11 PeopleBook, "Setting Up Shop Floor Management," Setting Up a Shop Floor Calendar

Setting Up User Defined Codes

User-defined codes (UDCs) are stored in tables by system and code type. For example, system 30, type TB represents Product Data Management (system 30) and time basis code (TB). To set up UDCs, use the User Defined Codes program (P0004A) to identify the codes that you want to use. If you are working in a program and attempt to enter a UDC that was not defined on the User Defined Codes form for a particular UDC table, the system displays an error message.

These UDCs are primary to the Product Data Management system:

User Defined Code	Description
Bill Type (40/TB)	This code indicates the type of bill of material, such as manufacturing bill, rework bill, and spare parts bill. Regardless of the other bill of material types that you define, only the standard manufacturing bill (M) is planned and costed. A planned bill of material facilitates the master scheduling of material planning and forecasting. A costed bill of material extends the quantity per amount of every component by the cost of the components.
Time Basis Code (30/TB)	This code indicates the rate that is used for machine or labor hours as you enter a routing instruction. These programs and systems use the value of the time basis code to determine run time per unit: • Leadtime Rollup program (R30822A) • Product Costing • Capacity Requirements Planning • Shop Floor Management
Stocking Type Code (41/I)	This UDC table maintains stocking type codes that indicate whether an item is purchased or manufactured. For example, you can define types such as subassemblies and purchased raw materials. M (manufactured) and P (purchased) are hard-coded and appear as the first character in the Description 02 field on the User Defined Codes form. You can use any other letter to define additional make and buy values.
Routing Type (40/TR)	This code indicates the type of routing instruction, such as alternate routing instruction, standard manufacturing routing instruction, rush routing instruction, and rework routing instruction. Regardless of the other routing types that you define, only the standard manufacturing routing (M) is planned for capacity and costed.
Type of Day (00/TD)	This code specifies the type of day on the shop floor calendar. Day type W is hard-coded for workday. You set up codes to identify non-working days.

Setting Up Standard Procedures

This section provides an overview of standard procedures and discusses how to:

- Set processing options for Standard Procedures.
- Define standard procedures.

Understanding Standard Procedures

You can set up codes and text to describe standard procedures for the work orders. For example, you can:

- Designate a specific procedure for a work order or group of work orders.
- Provide a list of instructions to complete a work order.
- Include messages for work orders.

For example, you might set up a code called 1000 for a 1000-hour maintenance inspection. For the 1000 code, you can enter text to describe procedures, such as checking coolant levels and adjusting belt tension.

To avoid retyping similar procedures for every work order, you can also copy the appropriate message text from another procedure.

After you set up standard procedures, you can assign them to the appropriate work orders.

Forms Used to Set Up Standard Procedures

Form Name	Form ID	Navigation	Usage
Enter Generic Message/Rates	W00191D	Product Data Management Setup menu (G3041), Std. Procedure Descriptions	Define standard procedures with instructions for work orders.
General Message	W00191E	On Enter Generic Message/Rates, locate a code and select General Message	Define the specific instructions supporting the generic message.

Setting Processing Options for Standard Procedures (P00191)

Use these processing options to set default values, identify the text type displayed by the system, and define the display column width.

Defaults

These processing options supply default values for the Std. Procedure Descriptions (standard procedure descriptions) program.

1. System Code Specify a default system code. Enter a valid code from UDC 98/SY.

2. Record Type Specify a default record type.

Display

1. Text Type Specify the type of text displayed. Values are:

1: Display Rate Text

2: Display Message Text

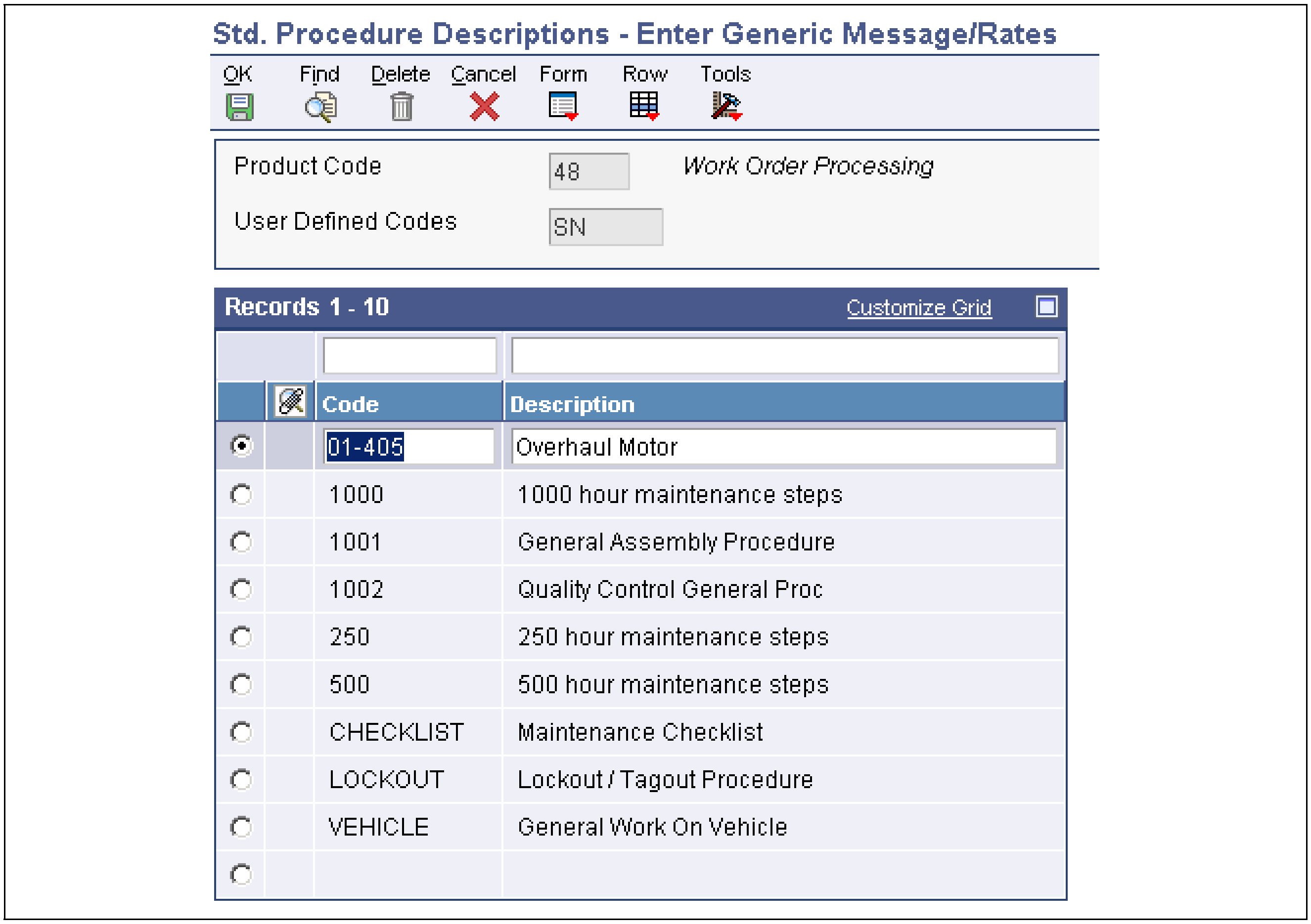
2. Text Column Display Specify the column width. Values are:

1: 60 Column Display

2: 80 Column Display

Setting Up Standard Procedures

Access the Enter Generic Message/Rates form.



Enter Generic Message/Rates form

Product Code Specify a UDC (98/SY) that identifies a system. Values include:

01: Address Book

03B: Accounts Receivable

04: Accounts Payable

09: General Accounting

11: Multicurrency

User Defined Codes Specify a code that identifies the table that contains UDCs. The table is also referred to as a UDC type.

Message Number Displays a list of valid codes for a specific UDC list.

Setting Up Quantity Decimal Conversion

This section provides an overview of quantity decimal conversion and discusses how to:

- Run Quantity Decimal Conversion.
- Set processing options for Quantity Decimal Conversion.

Understanding Quantity Decimal Conversion

Some tables in the Manufacturing system maintain the Quantity (QNTY) data item:

- Bill of Material Master File table (F3002).
- Bill of Materials Change File table (F3011).
- ECO Parts List Detail table (F3013).
- Work Order LSN table (F3105).
- Rules Table Detail table (F3283).
- Assembly Inclusions Rules table (F3293).

The PeopleSoft EnterpriseOne System ships the QNTY data item in the data dictionary with the display decimals set to zero. You can change the decimals on this data item to a value other than zero. If you change the display decimals, the system displays any data that has already been entered into the tables incorrectly on forms and reports. To insure that the display decimals are correct, run the QNTY Decimal Conversion program before anyone enters any new data using the new display decimals.

Use the QNTY Decimal Conversion program to convert the QNTY data items on all affected tables from a specified number of decimal places to a new number of decimal places. You use the processing options to identify these numbers. If you enter 0 as the Display Decimals From value and 2 as the Display Decimals To value, the system adds two decimal places to the existing QNTY value. For example, the system converts 1 to 100 and displays it as 1.00. If you convert from two decimals to zero decimals, the system removes two decimal places. For example, the system converts 100 (displayed as 1.00) to 1.

Note. The system first rounds the value before adding or removing decimal places. If you convert from two decimals to zero decimals, and the display quantity is 1.51, the system rounds the quantity to 2.00 and then converts 200 to 2.

You should run this program only if you have changed the Quantity field to display decimal places. You can run this program in proof mode and final mode. Proof mode displays the changes that you made to the decimal placement but does not update any tables. Final mode displays the changes and updates the tables.

The system performs special processing based on these conditions:

- Prints a warning message when rounding a co-product or by-product quantity on the Bill of Material Master File table or the Bills of Materials Change File table.
- Prints a warning message when rounding a percent bill quantity on the Bill of Material Master File table or the Bill of Materials Change File table.

- Prints an error message, and does not convert the quantity when you are increasing the number of decimals and the quantity value is too large, such as adding decimal positions that would cause an overflow on the nondecimal portion of the quantity.
- Converts only P and Q type records on the Rules Table Detail table and the Assembly Inclusions Rules table.

Important! You should understand the changes that this program makes to the system and the existing data before you run this program. Because of the way that the system stores numeric values in Microsoft Access databases, you should not run this program for any Access tables.

Running Quantity Decimal Conversion

From the Advanced Product Data Management menu (G3031), select QNTY Decimal Conversion.

Setting Processing Options for Quantity Decimal Conversion (R30QNTY)

Use these processing options to convert the QNTY data items on all affected tables to display a new number of decimal places.

Process

These processing options determine the display decimals converting from, the display decimal places converting to, and whether you run this program in proof or final mode.

1. Proof or Final Mode	Specify whether the program runs in proof mode and produces a report or final mode and updates the tables. Values are: Blank: Proof mode *1:* Final mode
2. Displays Decimals From	Specify the number of decimal places the system currently displays.
3. Display Decimals To	Specify the number of display decimal places you want the system to use during the conversion process.

Setting Up Manufacturing Constants

This section provides an overview of manufacturing constants and discusses how to set up manufacturing constants.

Understanding Manufacturing Constants

You set up manufacturing constants to define branch-specific information that affects processing throughout the PeopleSoft EnterpriseOne Manufacturing systems. You can use the Manufacturing Constants program (P3009) to specify the values for constants. The table discusses the information that appears on each tab of the Manufacturing Constants program:

Manufacturing Constants

These constants specify:

- 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 that are defined for the parent item.

Shifts

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

Note. Shifts can also be set up by work center. The work center shifts override the shifts set up at the constants level.

Commitment Control

These constants specify when inventory is committed and backflushed.

Costing Options

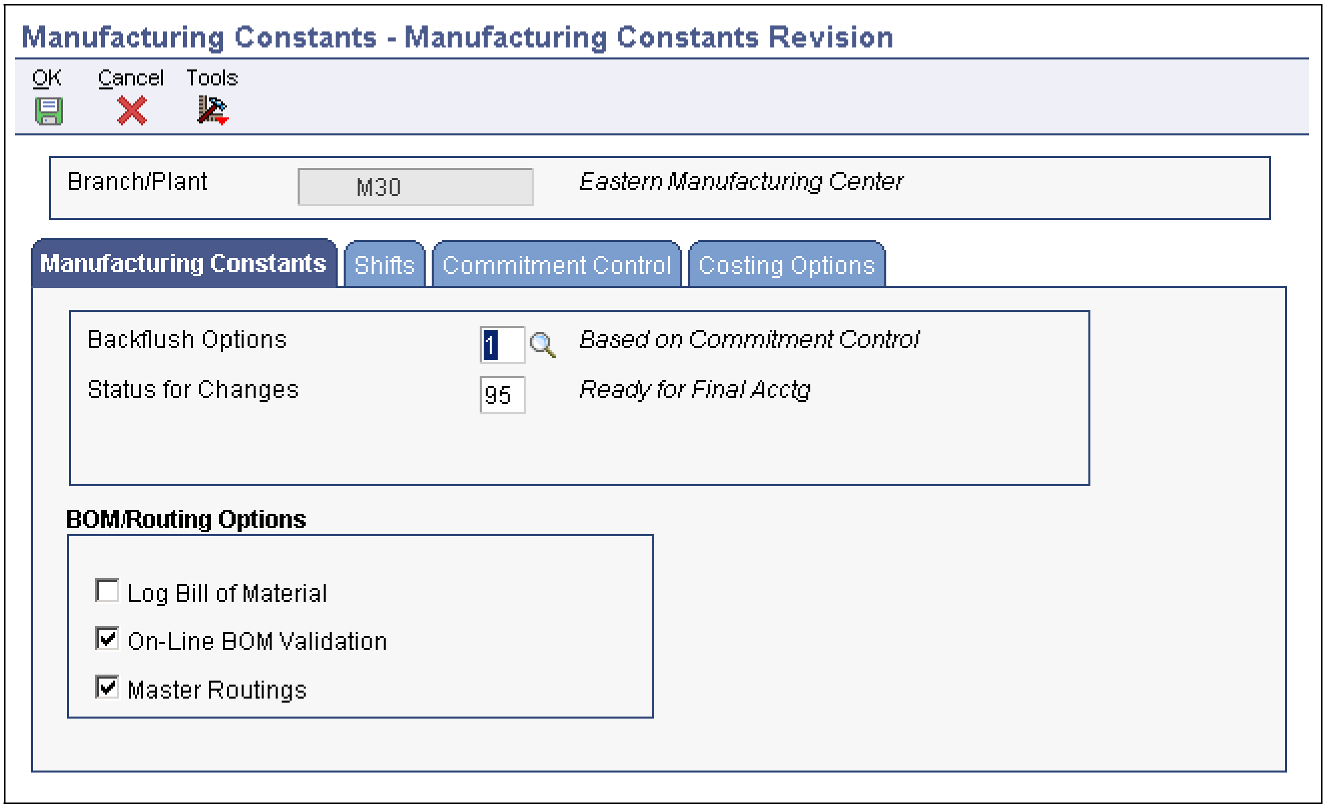
These constants specify which overhead cost calculations are used and whether the system considers work center efficiency when it calculates direct labor and overhead costs. You can specify whether costs are maintained by cost components and work center or by cost component only. Costing options also include the source for machine and labor rates.

Forms Used to Set Up Manufacturing Constants

Form Name	Form ID	Navigation	Usage
Manufacturing Constants Revision	W3009B	Product Data Management Setup menu (G3041), Manufacturing Constants On Work with Manufacturing Constants, locate and select a branch/plant.	Set up manufacturing constants.

Setting Up Manufacturing Constants

Access the Manufacturing Constants Revision form.



Manufacturing Constants Revision form

Skip to Branch/Plant

Enter 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:

- Branch/Plant (MMCU)
- Dept A (MCU)
- Dept B (MCU)
- Job 123 (MCU)

Business unit security is based on the higher-level business unit.

Log Bill of Material

Specify whether changes to the bill of material are recorded in the Bill of Material Change File table. When you log bill of material changes, the system saves the old bill of material and the new, changed bill of material. To record changes to the bill of material, click the Log Bill of Material option under the BOM/Routing Options heading.

On-Line BOM Validation

Specify whether the system performs an online component or parent validation and low-level code assignment when you revise a bill of material.

It is recommended that you validate items online unless the bills of material are extremely large. If you select not to validate items online, you must validate the items in batch. Run the Integrity Analysis program (P30601) after updates to the bill of material and before you run the Item Cost Component - Frozen Update program (R30835) or perform a DRP/MPS/MRP generation (R3482).

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.

Master Routings

Specify 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.

If you 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. If it does not find a cross-reference, the system uses the routing defined for the parent item. If you do not check for master routings, the program uses the parent item's routing from the Routing Master table.

For PeopleSoft World:

Values are:

Y: Yes, use the master routing for an item, if one exists.

N: No, do not check for a master routing for the item.

For PeopleSoft EnterpriseOne:

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.

Defining Document Type Constants for Work Orders

This section provides an overview of document type constants and discusses how to:

- Run the conversion program for existing document types.
- Set processing options for the Document Type Master (F40039) Conversion program (R31P40039).
- Convert order types.
- Set processing options for Order Type Conversion (R31P802).

Understanding Document Type Constants

Document types are used in the software to specify particular types of transactions. You define the characteristics of document types in the Document Type Maintenance program (P40040). The document type constants defined in this program affect all software transactions. The order type for each of the document types must be defined so that the system knows how to process the activity for it. For example, the document type for a manufacturing work order can be set to WO for the correct transactions that relate to the processing of a manufacturing work order.

To differentiate the various work order document types from each other, you assign a specific order type to each work order document type. For example, a manufacturing work order is associated with order type 02.

The order type values for work order processing are stored in the UDC table 48/OT (Order Type) and are hard-coded:

Document Type	Order Type
Manufacturing Work Order	02
Manufacturing Rework Work Order	03
Equipment Work Order	04
Service Order	05
Warranty Claim Order	06
Supplier Recovery Order	07
Engineering Change Order	08
Engineering Change Request Order	09
Real Estate Management	10
ETO Summary Order	11
Rate Schedule	12

Each type of work order is designated by a specific work order type. If you have existing records in the Document Type Master table, these records now require a specific value in the Work Order Type field. You run the Convert F40039 to ERP 9.0 program (R31P40039) only once to enter the desired values in this field. You determine the values entered in the processing options. Depending on which systems you use, you complete the fields on the appropriate tabs. For example, you complete the fields on the Manufacturing tab for manufacturing work orders. You can run this program in either proof mode or final mode.

Different work orders have to be designated by different document types. For example, if manufacturing work orders have document type WO, equipment orders have to be assigned a different document type. To ensure that the different types of work orders have unique document types, you run the Order Type Conversion program. You use the data selection to define which orders in the Work Order Master File table (F4801) need to be converted. The program assigns new document types to work orders based on the definition in the processing options.

Running the Document Type Master (F40039) Conversion program (R31P40039)

From the Upgrade Conversions menu (GH9619A), select Convert F40039 to ERP 9.0.

Setting Processing Options for Document Type Master (F40039) Conversion (R31P40039)

Use these processing options to set the order type values.

Process

This processing option controls whether you run the conversion program in proof or final mode.

Mode Specify whether the system runs the report in proof or final mode. Values are:

Blank: Proof mode

1: Final mode

Manufacturing

These processing options specify which order types are assigned to manufacturing orders during conversion.

Order Type values 01 through 05 for Manufacturing Orders

Specify the order types for manufacturing work orders.

Manufacturing Rework

These processing options specify which order types are assigned to manufacturing rework orders during conversion.

Order Type values 01 through 05 for Manufacturing Rework Orders

Specify the order types for manufacturing rework work orders.

Equipment

These processing options specify which order types are assigned to equipment orders during conversion.

Order Type values 01 through 05 for Equipment Orders

Specify the order type for service work orders.

S/WM

These processing options specify which order types are assigned to service during conversion.

Order Type values 01 through 05 for Service Orders

Specify the order types for service work orders.

Warranty Claim

These processing options specify which order types are assigned to warranty claim orders during conversion.

Order Type values 01 through 05 for Warranty Claim Orders

Specify the order types for warranty claim orders.

Supplier Recovery

These processing options specify which order types are assigned to supplier recovery orders during conversion.

Order Type values 01 through 05 for Supplier Recovery Orders

Specify the order types for supplier recovery orders.

ECO

These processing options specify which order types are assigned to engineering change orders during conversion.

Order Type values 01 through 05 for Engineering Change Orders

Specify the order types for engineering change orders.

ECO Request

These processing options specify which order types are assigned to engineering change request orders during conversion.

Order Type values 01 through 05 for Engineering Change Request Orders

Specify the order types for engineering change request orders.

Real Estate Management

These processing options specify which order types are assigned to Real Estate Management orders during conversion.

Order Type values 01 through 05 for Real Estate Management Orders

Specify the order types for property management orders.

Rate Schedule

These processing options specify which order types are assigned to rate schedules during conversion.

Order Type values 01 through 05 for Rate Schedule Orders

Specify the order types for rate schedules.

ETO Summary Order

These processing options specify which order types are assigned to ETO summary orders during conversion.

Order Type values 01 through 05 for ETO Summary Orders

Specify the order types for engineer to order summary orders.

Running the Order Type Conversion (R31P802)

In the PeopleSoft EnterpriseOne Windows environment, select Batch Versions from the System Administration Tools menu (GH9011).

Setting Processing Options for Order Type Conversion (R31P802)

Use these processing options to convert an existing order type to a new order type.

Default

This processing option defines the new order type to which the selected work orders should be converted.

1. Order Type (to be converted to)	Specify the new order type to which orders are converted. The order type that you specify here will be the default order type for the selected records.

Process

This processing option controls whether the conversion program runs in proof or final mode.

1. Mode	Specify whether the program runs in proof mode or final mode. When you run the program in proof mode, the system generates a report but does not update data. When you run the program in final mode, the system updates the order type in the Work Order Master File table. Values are: Blank: Proof mode *1:* Final mode

Setting Up Repetitive Manufacturing Information

This section provides an overview of repetitive manufacturing setup and discusses how to:

- Set up shifts in manufacturing constants.
- Set up processing options for Work Center Resource Units.
- Set up resource units.

See Also

PeopleSoft EnterpriseOne Kanban Management 8.11 PeopleBook, "Setting Up Kanban Management"

PeopleSoft EnterpriseOne Shop Floor Management 8.11 PeopleBook, "Setting Up Shop Floor Management," Setting Up a Shop Floor Calendar

PeopleSoft EnterpriseOne Shop Floor Management 8.11 PeopleBook, "Setting Up Shop Floor Management," Setting Up Item-to-Line Relationships

PeopleSoft EnterpriseOne Requirements Planning 8.11 PeopleBook, "Setting Up Capacity Planning," Determining Available Capacity

Understanding Repetitive Manufacturing Setup

Repetitive or rate-based manufacturing of discrete products uses manufacturing techniques that are associated with achieving just-in-time or flow line production. Repetitive manufacturing aims to achieve the continuous production of a mix of similar items on a specialized flow line rather than the traditional work order with its fixed quantity and due date of a single item. It is usually the preferred method with families of products that have minor variations among products with a constant, high-volume demand, such as cameras and electronics.

Repetitive manufacturing dedicates entire production lines to a family of products. These product families share similar components and routing instructions. Generally, these products are manufactured in a continuous process, which requires less inventory movement to and from the production line. Work center setup and changeover times among related products are minimized.

Equipment and work centers are designed to manufacture a family of products and enable quick setup changes. Repetitive environments define production in terms of units per hour. The capacity for the line is determined by one constraining operation. You define the constraining operation as the slowest cell in the line. Scheduling this line requires the tools to schedule, sequence, and balance production. Balancing the line so that the workload is distributed evenly along the production line is very important and you can produce a mix of products with different constraining operations. This product mix, when properly sequenced, enables the production line to operate consistently and efficiently.

The product mix is typically not a large batch of one item. Instead, the mix is the integration of different variances within the product family members through the production line in an order that optimizes the production line. For example, when manufacturing cameras, the cast body remains the same while certain components vary, such as top and bottom covers. The production line can be mixed by ordering the production of cameras as follows: 3 black, 2 silver, 1 black with silver trim, 3 black, 2 silver, 1 black with silver trim, and so on. This product mix meets production demand.

To supply the product line, inventory can be pulled from stock or another work center and delivered as needed to the consuming operation or delivered directly to the line by external suppliers. While requirements for material are driven by demand, movement is controlled by visual cues called kanbans. The kanban authorization to produce is generated by actual demand.

Repetitive manufacturing:

- Decreases work-in-process inventory.
- Increases responsiveness to the customer’s requirements.
- Reduces leadtime.
- Ties inventory consumption to production completion.
- Ties frequent supplier deliveries to actual production demand.
- Minimizes non-value-added activities.

Important! All items that are produced in a repetitive manufacturing environment must have an Order Policy Code value of 5, defined in the Item Master program (P4101) or Item Branch program (P41026). This value defines the item as a rate scheduled item.

Example: Manufacturing Bicycle Frames

The table illustrates a production line that is operating in a repetitive manufacturing environment. This production line manufactures three aluminum bicycle frames for three different bicycles.

Consuming Location	Material	Operation Number	Work Center	Description
LA.10	50mm aluminum tubing	10	R-112	Cut to length.
		20	R-121	Mill ends.
		30	R-122	Drill mounting holes and pin.
LA.10	Rear assembly, touring	40	R-112	Cut to length.
		50	R-121	Mill ends.

Consuming Location	Material	Operation Number	Work Center	Description
		60	R-134	Form rear assembly.
LA.70	Head tube light Bottom tube	70	R-101	Weld frame.
LA.80	Front fork, touring	80	R-103	Inspect welds.

Repetitive Terminology

You should be familiar with the industry terminology before working with repetitive manufacturing:

Term	Description
Production line	A production line is a sequence of operations that are arranged to produce a family of products. The production line is defined as a work center. The operations that make up the production line might or might not be work centers. You defined these in the routing instruction. The capacity of the production line is determined by the constraining operation within the production line.
Bill of Material	For items produced in a repetitive manufacturing environment, the operation sequence number on the bill of material is crucial to ensure that the components are delivered to the production line at the operations for which they are needed. Because the line is setup to run in a continuous fashion, components typically are setup to be consumed through backflushing, at a specific paypoint, or upon completion.
Routing Instruction	The relationship between the production line and the operations or work centers that the line contains are defined in the routing instructions for the parent item. Each operation is tied to its production line by the line or cell number in the Line/Cell field on the routing instruction. The consuming location is the inventory location from which the production line pulls components that are necessary to produce the parent at a particular operation. The consuming location must be identified in the routing instruction to ensure that inventory is always available to the line. When the system backflushes and relieves inventory from the consuming location, it triggers the kanban, a visual cue, to replenish inventory as materials are consumed.

Term	Description
Kanban	Kanban is a method of just-in-time production that uses standard containers or lot sizes. It is a pull system in which work centers or locations signal that they need to withdraw parts from feeding work centers, inventory locations, or suppliers. This signal alerts manufacturing to build, or suppliers to furnish, the required part in the standard lot size that is defined by the Kanban Master table (F3016).
Item to Line Relationship	Item-to-line defines the relationship between an item produced in a repetitive manufacturing environment and the production line or lines on which the item is produced. Each relationship defines the number of resource units that are required by the line to produce one end product.

Shifts

You need to identify specific shift information for repetitive manufacturing in three places:

- Manufacturing constants
- Work centers
- Shop floor calendars

You set up information in the manufacturing constants to identify the usual number of work hours by shift that the plant operates in one day. Use the Manufacturing Constants program to establish shifts that are unique to the branch/plants. You can identify up to six shifts for a 24-hour period. However, the work hours per day are calculated only from the first three shifts that are listed.

You must define shop floor calendars by shift so that the system can use the calendars to schedule and sequence lines by shift. To increase plant capacity, you can run production lines for more than one shift, as well as run different lines of production on different days of the week. The system uses these calendars for line sequencing by shift in repetitive manufacturing. Shift calendars are not used for Distribution Requirements Planning, Master Production Schedule, and Material Requirements Planning.

You can further define a shop floor calendar by using name-specific calendars within a shift. Named calendars are tied to work centers or production lines based on specified shifts. When setting up named calendars you must have a first shift and then you can add additional shifts. The named calendar is used as a basis for generating resource units and calculating line capacity to support the operation of a particular production line.

If you locate a month and year that does not exist, it appears with default values for workdays (Monday through Friday) and weekends (Saturday and Sunday). Holidays are always user defined.

Enter production line information that corresponds to the facilities on the shop floor. Any work hours per shift that you enter in the Work Center Revision program (P3006) override all of the hours per shift information in the Manufacturing Constants table.

You also set up resource unit information that indicates the capacity of a work center on a given day for a specified shift. Use the Work Center Resource Units program (P3007) to identify additional shifts for the work centers.

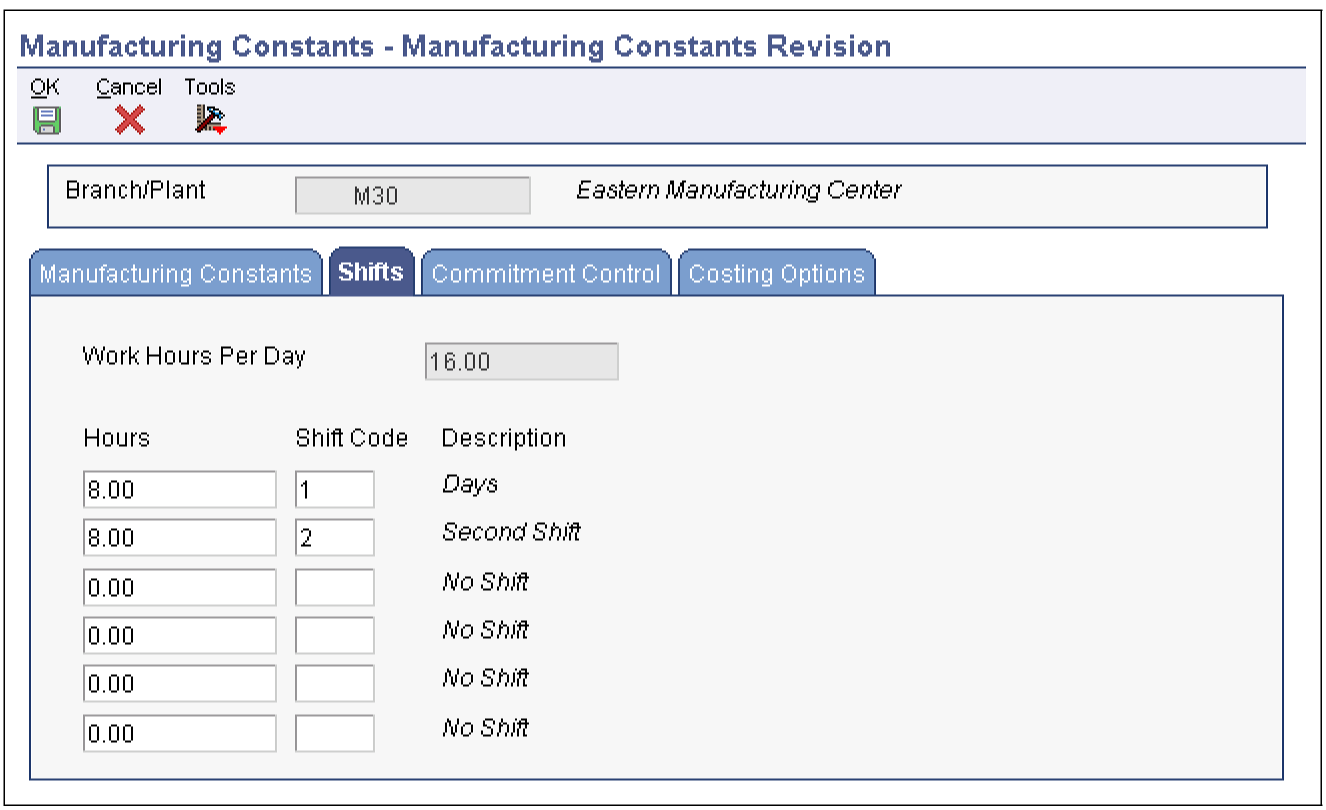
Note. When you add resource units for a shift, the system also adds a blank shift that represents the total of all shifts.

Forms Used to Set Up Repetitive Manufacturing

Form Name	Form ID	Navigation	Usage
Manufacturing Constants Revision	W3009B	Product Data Management Setup (G3041), Manufacturing Constants On Work with Manufacturing Constants, locate and select a record.	Set up shift information on the Shifts tab.
Work Center Resource Unit Revision	W3007B	Shop Floor Management Setup (G3141), Enter/Change Resource Units On Work with Resource Units, locate and select a record.	Enter shift information for resource units. You cannot manually change the values if the value in the Shift field is blank. A blank value in the Shift field represents the sum of all shifts for a work center for a specific period of time.

Setting Up Shifts in the Manufacturing Constants

Access the Manufacturing Constants Revision form.



Manufacturing Constants Revision form, Shifts tab

Work Hours	Enter the number of work hours that the manufacturing plant operates per day.
Shift Code	Specify a UDC (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.

For payroll and time entry: 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. If an employee occasionally works a different shift, you enter the shift code on each applicable timecard to override the default value.

Setting Processing Options for Work Center Resource Units (P3007)

Use these processing options to set default values for the Work Center Resource Units program.

Defaults

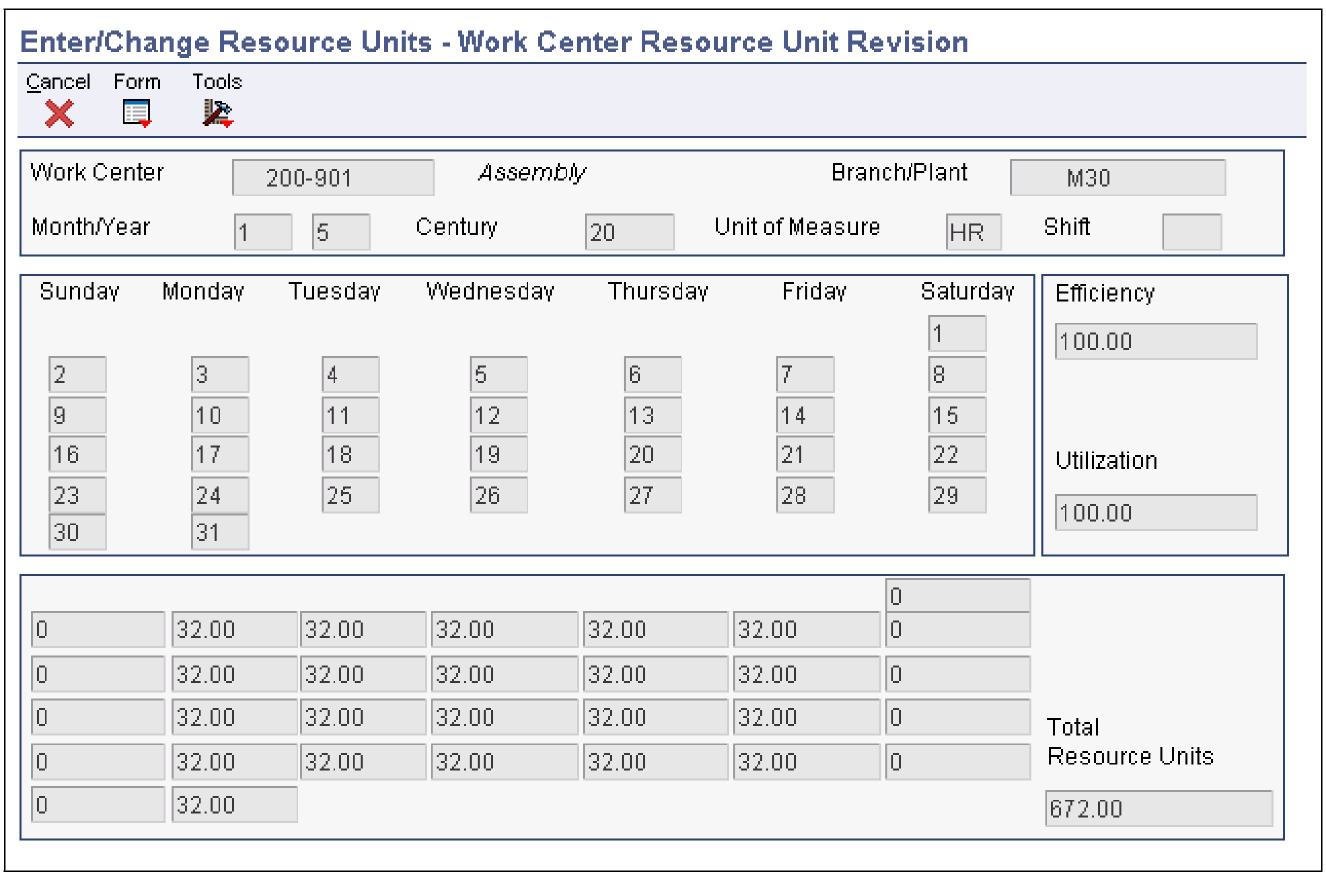
These processing options specify the unit of measure and shop floor calendar version.

Unit of Measure as Input Specify the default unit of measure. The default unit of measure is HR.

Work Day Calendar Identify the shop floor calendar version. The default version is ZJDE0001.

Setting Up Resource Units

Access the Work Center Resource Unit Revision form.



Work Center Resource Unit Revision form

Total Resource Units

Identifies the total resource units for the month.

Efficiency

Displays a user defined value that indicates how efficiently a work center operates.

This value usually refers to staff efficiency. When you enter a value in this field, and the Modify Cost by Work Center Efficiency field in the Manufacturing Constants table is set to Y, the system creates a new cost component (B4) from the cost calculated from the direct labor cost (B1).

For example, if the constant is set to Y, the value of this field is 80 percent, 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).

The Refresh Resource Units program also uses this value as a default when calculating rated capacity.

Enter percents as whole numbers. For example, enter 80 percent as 80.00.

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 backscheduling of a work order.

Utilization

Displays 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.

The Refresh Resource Units program also uses this value as a default when calculating rated capacity.

Enter percents as whole numbers. For example, enter 80 percent as 80.00.

Setting Up Engineering Change Management

This section provides an overview of Engineering Change Management setup and discusses how to:

- Set up UDCs for engineering change management.
- Set up processing options for ECO Approval Routing Master.
- Set up an approval routing master.
- Set up order-specific approval routings.

Understanding Engineering Change Management Setup

Before you use the Engineering Change Management system, you need to set up codes, next numbers, and the approval routing master for engineering change orders (ECOs). The codes that you must set up are user defined and specify the type, priority, and status of the ECO. The UDCs also indicate how the system handles existing items that are affected by the ECO and the reasons for the ECO. You must also set up next numbers to automatically number ECOs according to the specifications. You can set up the system to route the ECO information to specified reviewers for their approval before it is processed. To do so, you must identify an ECO approval routing.

Approval Routings

Use an approval routing to maintain a list of reviewers who should receive an electronic mail notification of pending ECOs.

You can set up two types of approval routing:

- Approval routing master.

  The approval routing master applies to a specific branch/plant and order type combination.
- Order-specific approval routing.

  An order-specific approval routing applies to a specific ECO.

After you set up an approval routing master for the branch/plant, you can customize the routing for a specific ECO.

The system notifies all of the reviewers in a group at the same time. The system notifies the groups in the order that is defined within the UDC. The codes do not have to be numeric. The system waits to send notification to a group until all of the members in the prior group have approved the ECO.

Prerequisites

Before you complete the tasks in this section:

- Define the work centers.
- Define the items in the Inventory Management system.
- Ensure that the document type for engineering change orders is set up in Document Type Maintenance program (P40040).

  See Chapter 3, "Setting Up Product Data Management," Defining Document Type Constants for Work Orders, page 21.
- Set up system next numbers.

  See *PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, "Setting Up System Next Numbers".

Forms Used to Set Up Engineering Change Management

Form Name	Form ID	Navigation	Usage
ECO Approval Routing Revisions	W4808B	Engineering Change Management (G3013), ECO Approval Routing Master On Work With ECO Approval Routing Master, click Add.	Set up approval routings for engineering changes.
Order Specific Routing Approval Revisions	W48182C	Engineering Change Management (G3013), ECO Order Specific Routing Approval	Define an order-specific approval routing.

Setting Up User Defined Codes for Engineering Change Management

You set up UDCs to use in conjunction with the Engineering Change Management system:

User Defined Code	Description
Work Order/ECO Type table (00/TY)	This code indicates the type of engineering change order, such as G for government change and R for rework.
Order Type table (48/OT)	This code enables you to distinguish each work order record in the Work Order Master File table (F4801) from other records with different work order types. For example, you do not use the same document type and work order type to represent both an equipment work order and a manufacturing work order. The relationship between the document and its related work order type is defined in the Document Type Maintenance program (P40400).
Work Order Priority table (00/PR)	This code indicates the priority of the engineering change order, such as H for high priority and 3 for normal priority.
Work Order Status table (00/SS)	This code indicates the status of the engineering change order, such as EM for emergency and A for approved.
Phase In table (40/PH)	This code specifies how to phase in engineering change orders, such as IMD for immediate and AVL for as available.
Existing Disposition table (40/ED)	This code specifies what to do with existing items that are affected by the engineering change order, such as CNL for cancel, RWK for rework, UAI for use as is, and SCP for scrap.
Engineering Change Reason table (40/CR)	This code indicates the reasons for defined engineering change orders, such as CC for customer change and RF for federal requirements.
ECO Next Revision Levels table (30/NR)	This code indicates the sequence of revision levels that are assigned to engineering change order transactions.

Setting Processing Options for ECO Approval Routing Master (P4808)

Use these processing options to set the default order type and the versions accessed from the Approval Routing Master program.

Defaults

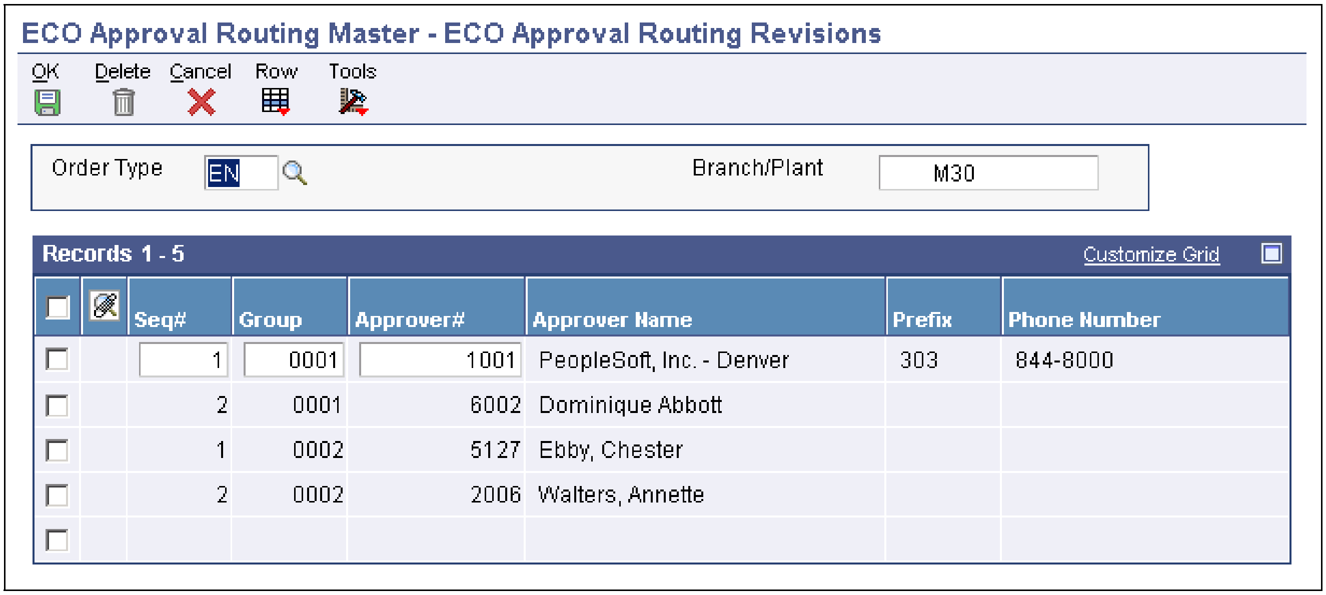
These processing options specify the order type

Order Type Specify a default order type. If you leave this processing option blank, the system will use EN.

Versions Specify the Address Book version.

Setting Up an Approval Routing Master

Access the ECO Approval Routing Revisions form.



ECO Approval Routing Revisions form

Seq# (sequence number)

For PeopleSoft EnterpriseOne, enter the sequence set up for the order in which valid environments are displayed.

For PeopleSoft World, enter a sequence or sort number that the system uses to process records in a user defined order.

Group

Enter a number used to combine similar records.

Approver# (approver number)

Enter a number that identifies an entry in the Address Book system, such as employee, applicant, participant, customer, supplier, tenant, or location.

Setting Up Order-Specific Approval Routings

Access the Order Specific Routing Approval Revisions form.

CHAPTER 4

Setting Up Bills of Material

This chapter provides an overview of bills of material and discusses how to:

- Enter a bill of material.
- Validate bills of material.
- Update multiple bills of material.

Understanding Bills of Material

A bill of material identifies the manufacture of finished products (end items), subassemblies, and components. Before you create a bill of material, you must first understand the types of bills of material and how they are used. Then you can create a bill of material; define its components, enter reference, grade, or potency information, and substitute item information as necessary. After you have entered bills of material, you can review them to plan and research engineering change orders; view the results of a pending product change; determine the effect of an item shortage; or evaluate capacity, manpower, equipment needs, and other resources.

Use a bill of material to accomplish specific actions:

- Detail specific items and quantities that are used to assemble the parent item.
- Define items as parents or components in the assembly.
- Provide the foundation for Product Costing and Master Production Schedule programs.

A properly structured bill of material:

- Enables efficient storage and maintenance of bill of material information.
- Reflects material flow and how the product is built.
- Permits easy order entry.
- Enables the system to display the master schedule in the fewest end items possible.
- Enables forecasting of optional product features.

An inaccurate bill of material might result in problems:

- Poor material planning
- Material shortages
- Inaccurate product costing
- Increased production costs
- Delayed shipments
- Lost sales

- Excess and obsolete inventory
- Poor specification control
- Increased product liability

The features and functionality that are associated with bills of material enable you to complete these tasks:

- Replace all occurrences of one component with another.
- Plan for component scrap in PeopleSoft EnterpriseOne Product Costing and Shop Floor Management.
- Substitute one component for another.
- View the producible quantity of an end item for the amount of the component that you enter.
- Print complete bill of material information.
- Copy an existing bill of material and make changes for a new item.
- Offset the required date of a component in a work order from the order start date.
- Locate all bills of material that use a specified part.
- Create multiple versions of the bills of material to present information in formats that are tailored to the needs of different departments.
- Track the status of all bill of material changes.
- Define where a component is located within a specific assembly.
- Check an item's low-level codes.
- Inquire on a bill of material by using a single-level or multilevel format.

Using bills of material in a multiple-plant environment enables you to define different manufacturing data, such as order policy or lot size, for an item that is used in different branches.

You can specify the effective dates for component parts on a bill of material and nonstock, bulk, and expense items. You can also add notes describing tool requirements.

The system uses a bill of material as a master list when generating the parts lists for work orders, cost roll-ups, leadtime roll-ups, MPS/MRP/DRP generation, and kit processing for sales orders.

Understanding Types of Bills of Material

Depending on the business requirements, Product Data Management provides several types of bills of material, including:

- Planning bill of material
- Batch bill of material
- Percent bill of material
- Manufacturing bill of material

Planning Bill of Material

Use a planning bill of material to facilitate master scheduling and material planning by categorizing product features or options. This bill includes the ratio of each item as determined from sales history. The planning bill of material is also known as:

- Super bill of material
- Modular bill of material
- Transient bill of material
- Aggregate bill of material

Batch Bill of Material

Use a batch bill of material to accommodate physical constraints, such as ovens or vats, in industries where products are produced in fixed quantities.

PeopleSoft EnterpriseOne Material Requirements Planning (MRP) plans orders to fill net requirements by using one or multiple batch quantities. If the system does not find a batch quantity for the net requirement, it uses the next larger batch size. If larger batch size does not exist, MRP uses multiples of the closest smaller batch size until the requested amount is supplied.

MRP functions differently when you have defined more than one batch bill of material. When only one batch bill exists, the MRP system uses the batch quantity as a:

- Multiple if the net requirements are greater than the batch quantity.
- Minimum if the net requirements are less than the batch quantity.

The table displays the resulting MRP planned order for one batch bill of material:

Batch Quantity	MRP Requirements	Resulting MRP Planned Order
1,000	1,500	1,000
		1,000
1,000	967	1,000

If multiple batch bills of material exist and the net requirement is greater than all of the batch quantities, then the system uses the largest batch quantity in combination with any of the others to satisfy the requirement.

The table displays the resulting MRP planned order for multiple batch bills of material:

Batch Quantity	MRP Requirement	Resulting MRP Planned Order
400	1,500	1,000
600		600
800		
1,000		
400	3,000	1,000
600		1,000
800		1,000
1,000		

If multiple batch bills exist and the net requirement does not match, but is less than the largest batch quantity, then the system uses the smallest batch bill that satisfies the requirements.

The table displays the resulting MRP planned order for multiple batch bills of material with requirements that are less than the largest batch quantity:

Batch Quantity	MRP Requirement	Resulting MRP Planned Order
400	780	800
600		
800		
1,000		

Percent Bill of Material

A percent bill of material enables you to express component quantities as a percent of the parent item or process batch quantity. The system converts the batch quantity to the primary unit of measure for the parent item or process.

The system stores quantities for components as follows:

- Calculates a percentage for the component in relation to the batch size.
- Converts the batch unit of measure to the component unit of measure and stores the quantity for the component.

Note. Percent bills of material are not supported in Demand Flow® Manufacturing (DFM).

Manufacturing Bill of Material

Use a manufacturing bill of material to document and track components. This type of bill is also known as:

- As-built bill of material.
- Customer order configured bill of material.
- Frozen bill of material.
- Standard bill of material.

Understanding Bill of Material Terminology

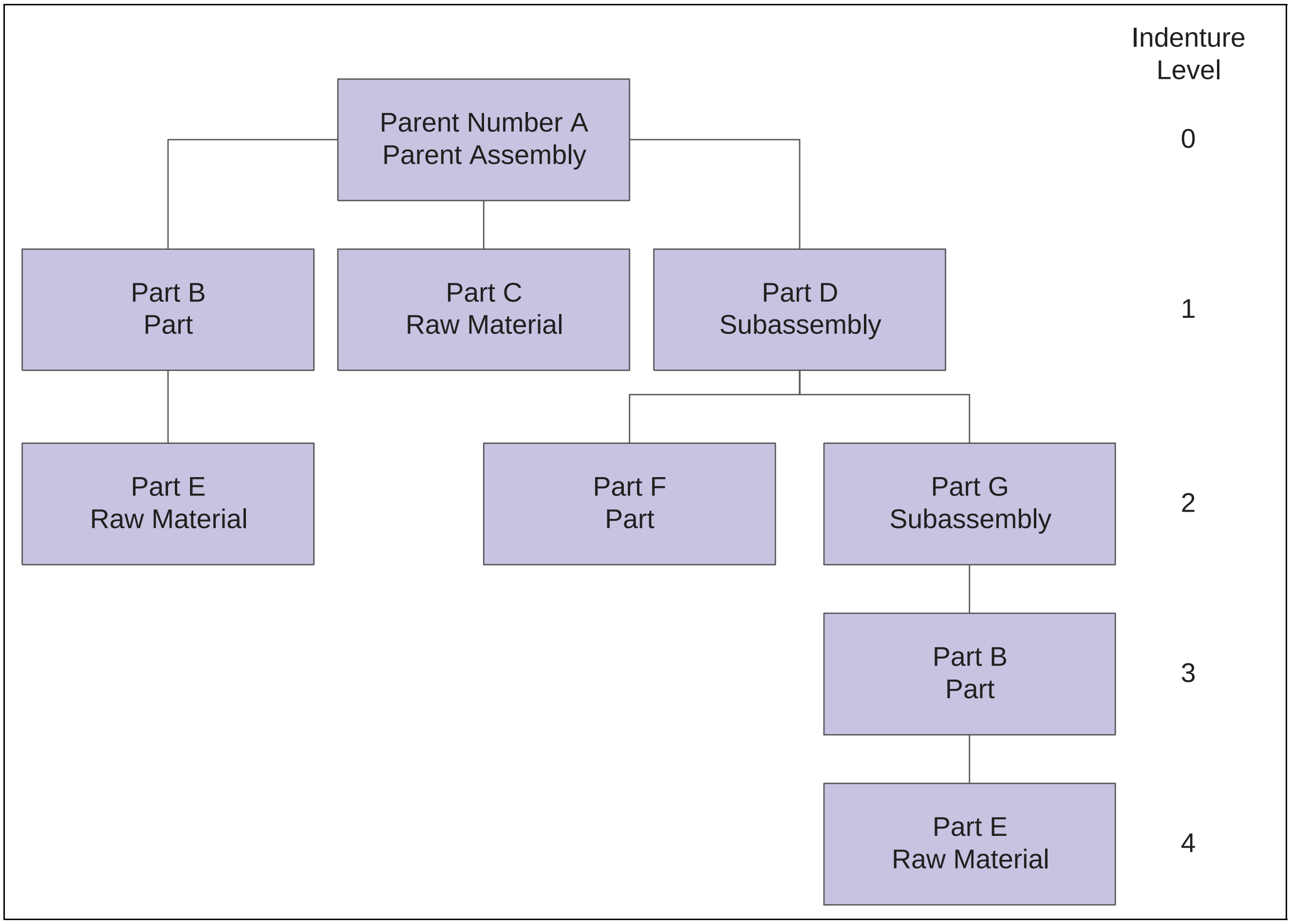
To work with bills of material, you should be familiar with industry terminology:

Parent and Component Relationship

A parent and component relationship defines the association between a parent item and the components that you use to produce it. Parent and component relationships are used in engineering change orders to define the proposed item change.

A single-level bill of material consists of a parent item made up of one level of components that include parts, raw materials, and subassemblies.

The graphic illustrates a more complex relationship of a parent item to its components. Part B is both an independent part and part of the subassembly that makes up Part G.



Parent and component relationship

Phantom Item

A phantom is an individual item that can exist anywhere in the bill of material. Phantom items are also known by other terms— for example, transient items, nonstock assemblies, and blow-through or self-consumed items.

An example of a phantom item occurs during the production of a spray pump nozzle. The spray pump nozzle consists of a button, tubing, and an insert. The first operation specifies placing the button and inserting items in an automated assembly machine. The machine combines them into a phantom part called a button unit. This unit goes directly to the next operation. After the next operation attaches the tubing, the spray pump nozzle is complete. The button unit, as with all phantom items, is never stocked.

Substitute Item

You can define a substitute item for components within the parent item. You might need to do this for several reasons:

- Quality concerns
- Inventory shortages
- Supplier delivery problems

Component Locator

A component locator indicates the specific location of a component within a subassembly. Component locators are common features in the electronics industry. For example, the printed key pads that cover the keys on the computer keyboard must be placed in a specific sequence. Use a component locator to indicate the location of each key pad cover to ensure that each is correctly placed during production.

Nonstock Item

You can add a nonstock item to the bill of material. Nonstock items include drawings, tools, bulk items, or reference materials. The system does not plan for nonstock items, but they appear on the bill of material and parts list for shop floor personnel. You can enter drawing numbers on the bills of material as nonstock items so that they are printed on the shop paperwork. If the drawing numbers differ for each branch/plant, enter the drawing number as a component.

Tools

If a tool is needed to create the parent item and is located on the shop floor and reused as needed, you can indicate that it is a necessary component item which is required for the parent item. Enter reusable tools as text lines or nonstock items in the bill of material. You enter expendable tools (that is, tools used one time) on the bill of material like any other component item. The manufacturing process commits and consumes expendable tools in the same way as other components. Paint roller pads are an example of an expendable tool.

Bulk Item

You use bulk items on the shop floor. Bulk items are not closely tracked, but are ordered in large quantities as they are needed. Examples include tape, rubber bands, lubricants, cleaning fluid, rivets, and nails. You must enter bulk items in the Item/Branch Plant Information form.

Part Replacement

You might need to replace one part with another in the bill of material. You can either scrap the old part or deplete the inventory. Use these guidelines to specify a replacement part:

- Leadtime must be set to 0 (zero).
- Order policy code in the branch/plant record must be set to lot-for-lot.
- Bill of material must be entered so that the new part is a component of the old part.
- Stocking type must be set appropriately.

As Material Requirements Planning uses up the quantity of the old part, the quantity reaches zero. Since requirements still exist, the system generates a planned order release. This planned order becomes the requirement for the new item in the same period (because the leadtime of the old part is zero). MRP then plans the new part, which alerts the material planner to change the bill of material by removing the old part.

Common Elements Used in This Chapter

Is Cd (issue code)

Specify a code that indicates how the system issues each component in the bill of material from stock. In PeopleSoft EnterpriseOne Shop Floor Management, the code indicates how the system issues a part to a work order. Values are:

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.

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.

Quantity

Enter the number of units that the system applies to the transaction.

A number that indicates how many components you use to manufacture the parent item. A quantity of zero is valid. The default value is *1*.

UM (unit of measure)

Select a UDC (system 00/type UM) that identifies the unit of measure for an item. For example, it can be eaches, cases, boxes, and so on.

F V (fixed variable)

Enter 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. Values are:

F: Fixed Quantity.

V: Variable Quantity (default).

%: Quantities are expressed as a percentage and must total 100 percent.

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.

Effective From

Enter a date that indicates:

- When a component part goes into effect on a bill of material.
- When a routing step goes into effect as a sequence on the routing for an item.
- When a rate schedule is in effect.

The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in PeopleSoft EnterpriseOne Product Costing, Shop Floor Management, and Capacity Requirements Planning. Material Requirements Planning determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates that you enter.

Effective Thru (effective through)

Enter a date that indicates:

- When a component part is no longer in effect on a bill of material.
- When a routing step is no longer in effect as a sequence on the routing for an item.
- When a rate schedule is no longer active.

The default is December 31 of the default year that is defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. Material Requirements Planning determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates that you enter.

Percent Scrap

Enter the percentage of unusable component material that is created during the manufacture of a particular parent item. During DRP/MPS/MRP generation, the system increases gross requirements for the component item to compensate for the loss. Enter percentages as whole numbers, for example, five percent as 5.0.

Note. Inventory shrink and scrap are compounded to calculate the total loss in the manufacture of a particular item. Accurate shrink and scrap factors support more accurate planning calculations.

Shop Floor Management and Material Requirements Planning inflate component requirements by this percentage. This scrap percentage is unique to the relationship of one parent and one component.

Frm Grd (from grade)

Enter a UDC (40/LG) that indicates the minimum grade that is acceptable for an item.

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.

Thr Grd (through grade)

Enter a UDC (40/LG) that indicates the maximum grade that is acceptable for an item.

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.

From Potency

Enter a number that indicates the minimum potency or percentage of active ingredients acceptable for an item.

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.

Thru Potency (through potency)

Enter a number that indicates the maximum potency or percentage of active ingredients that is acceptable for an item.

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.

Entering a Bill of Material

This section provides an overview of bill of material entry and discusses how to:

- Set processing options for Bill of Material Revisions.
- Enter a bill of material.
- Enter substitute items.
- Set processing options for Component Locator Revisions.
- Enter component locators.

Note. If you are using batch bills of material, define a bill of material for batch bills, define routing instructions that correspond to the batch sizes, and set the processing options for the Enter/Change Bill (P3002) and Work With Routing Master (P3003) programs to activate the Batch Quantity field.

Understanding Bill of Material Entry

A bill of material defines an item as a parent or component in the assembly. It details the specific components and quantities that are used to assemble the parent item and provides the foundation for costing and planning activities.

As you define a bill of material, you combine information from F3009, F4101, and F4102 tables. The resulting bill of material is stored in the F3002 table. Changes are stored in the F3011 table.

When you delete a parent item's bill of material, the bills of material for the item's lower level components and subassemblies are not affected.

A parent item is the end result of a bill of material. After you enter a parent item, you can define the specific components and quantities that are used to assemble the parent item. If you are working in a batch manufacturing environment, you can also define the batch quantity. The bill of material displays component information that you defined in the Item Master (P4101) and Item Branch (P41026) programs— for example, issue type code and lead time. In addition, use the Enter Bill of Material Information form to enter grade and potency information for a specific item. You can define either grade or potency information, but not both. You can enter grade or potency information only for items that are defined as lot-controlled.

To enter bills of material for the same parent item but multiple branch/plants, you can copy the original bill of material. Locate the existing bill, select Copy, and enter the new branch/plant.

Use the Enter/Change Bill program (P3002) to enter substitute items for components within the parent item, if necessary. You can use substitute items if you encounter quality issues, inventory shortages, or supplier delivery problems with the original component. To locate substitute items for any of the components, use item cross-references set up in the Item Cross Reference program (P4104).

Substitutes can also be entered by selecting a component line on the bill of material and selecting the row exit to the Bill of Material Component Substitutes program (P3002S). This substitute item will be used for the specific BOM, while the cross reference substitute is used for the item across the system.

Use production information to identify how the system issues each component from stock and how many days the component is needed before or after the start date of the work order. For each component, enter an issue code and the number of days for the leadtime offset. Shop Floor Management uses this production information when processing work orders.

Planning Bills and Kits

Use planning bills and kits to produce items in which components are features and might not be listed as separate inventory items. When you enter these components as parts of kits, the system places them in the planning and manufacturing processes.

Component Locators

Use component locators to indicate the specific location of a component within a subassembly. You can define locations with any combination of characters, but the number of locations must equal the quantity per assembly. To add locators, you call the Component Locator Revisions form from the Enter Bill of Material Information form by selecting Location from the Row menu. The value in the Quantity field on the bill of material indicates the maximum number of locators that you can enter. After you have created a locator for a component, you can access the Component Locator Rev (Revisions) program (P3015) directly from the menu and make changes to the locator information.

Forms Used to Set Up a Bill of Material

Form Name	Form ID	Navigation	Usage
Enter Bill of Material Information	W3002A	Daily PDM Discrete (G3011), Enter/Change Bill On Work with Bill of Material, complete the Branch/Plant, Item Number, and As of Date fields and click Add.	Create a bill of material and add components. Define component characteristics.
Enter Component Substitutes	W3002SB	On Enter Bill of Material Information, select a component then select Substitutes from the Row menu.	Enter items that can be substituted if the original component is not available.
Component Locator Revisions	W3015D	Daily PDM Discrete (G3011), Component Locator On Work With Component Locators, complete the Branch/Plant and Parent Item fields and click Find. Select a record and select Revisions from the Row menu.	Define location of component within a subassembly. If the number of the locators that you entered does not match the quantity on the bill of material, the system issues a warning. To accept the entry, click OK again.

Setting Processing Options for Bill of Material Revisions (P3002)

Use these processing options to set default values, control the system display, and specify versions when entering a bill of material.

Defaults

These processing options control the default values for the parent branch, the bill of material type, and the current date. The system uses the default values when processing a bill of material. You can also sort the information by component line number or by operation sequence number.

1. Component Branch

Specify whether the system uses the parent branch as the default value in the bill of material records when you copy the bill of material to add a new bill of material. Values are:

Blank: The system uses the component branch when you copy the bill of material.

1: The system uses the parent branch when you copy the bill of material.

2. Bill of Material Type

Specify the type of bill of material for the system to use as the default value in the Type of Bill fields. Bill of material type is a UDC (40/TB) that designates the type of bill of material. Enter the bill of material type to use or select it from the User Defined Code form. If you leave this processing option blank, the system uses M.

3. As of Date

Specify whether the system uses the current date as the default value in the As Of Date field in the header area of the Work with Bill of Material form. Enter the date to use or select it from the Calendar. Additional values are:

Blank: The system uses * as the default value, which enables the system to select all dates.

1: The system uses the current date as the default value.

4. Display Sequence

Specify how the system sorts the information on the Enter Bill of Material Information form. You can select whether to sequence the data by component line number or by operation sequence number.

The component line number indicates the sequence of the components on a bill of material. The operation sequence number indicates the sequence of the fabrication or assembly steps in the manufacture of an item. Values are:

Blank: Sort by component line number.

1: Sort by component line number.

2: Sort by operation sequence number.

Display

These processing options control whether the system displays the Bill Type and Batch Quantity fields. The Bill Type field appears in the header area on the Work With Bill of Material and the Enter Bill of Material Information forms. The Batch Quantity field only appears in the header area on the Enter Bill of Material Information form. If you leave these processing options blank, the system does not display the fields.

1. Bill Type

Activate the Bill Type field in the header area of both the Work With Bill of Material and Enter Bill of Material Information forms. Bill of material type is a UDC (40/TB) that designates the type of bill of material. Values are:

Blank: Do not display the Bill Type field.

1: Display the Bill Type field.

2. Batch Quantity

Specify whether the system activates the Batch Quantity field in the header area of the Enter Bill of Material Information form. Batch quantity is the quantity of finished units that you expect a specific bill of material to produce. Values are:

Blank: Do not display the Batch Quantity field.

1: Display the Batch Quantity field.

Versions

These processing options control which version of the programs the system uses when processing a bill of material.

1. Single Level BOM Print (R30460) (single level bill of material print)

Specify the version of the Single Level Bill of Material Print program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Single Level Bill of Material program displays information. Therefore, you might need to set the processing option to a specific version.

2. Multi Level BOM Print (R30460) (multilevel bill of material print)

Specify the version of the Multi Level Bill of Material Print program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Multi Level Bill of Material program displays information. Therefore, you might need to set the processing option to a specific version.

3. ECO Workbench (P30225) (engineering change order workbench)

Specify the version that the system uses when you select the Row exit to the ECO Workbench form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the ECO Workbench program displays information. Therefore, you might need to set the processing option to a specific version.

4. Component Maintenance (P3015)

Specify the version that the system uses when you select the Row exit to the Component Maintenance form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Component Maintenance program displays information. Therefore, you might need to set the processing option to a specific version.

5. ECO Header [P30BREV] (engineering change order header)

Specify the version that the system uses when you select the Row exit to the ECO Header form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the ECO Header program displays information. Therefore, you might need to set the processing option to a specific version.

6. Bill of Material Where Used (P30201)

Specify the version of the Bill of Material Where Used program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Bill of Material Where Used program displays information. Therefore, you might need to set the processing option to a specific version.

7. Item Master (P4101)

Specify the version that the system uses when you select the Row exit to the Item Master program. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Master program displays information. Therefore, you might need to set the processing option to a specific version.

8. Co/By- Products Inquiry (P30211)

Specify the version that the system uses when you select the Row exit to the Co/By-Products Inquiry program. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Co/By-Products Inquiry program displays information. Therefore, you might need to set the processing option to a specific version.

9. Bill of Material Inquiry (P30200)

Specify the version that the system uses when you select the Row exit to the Bill of Material Inquiry program. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Bill of Material Inquiry program displays information. Therefore, you might need to set the processing option to a specific version.

Edit

This processing option controls whether the system verifies that an item branch record exists in the F4102 table.

1. Item Branch Validation

Specify whether the system checks for a component's existing item branch record in the F4102 table. Values are:

Blank: Do not check to see if the item branch is valid.

1: Check for a valid item branch record.

Interoperability

These processing options control the transaction type that the system uses for export processing, the version of the Interoperability Generic Outbound Subsystem UBE report (R00460), and whether you want the system to write the before or after image for a changed transaction.

1. Transaction Type

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

2. Write Image for a Change Transaction

Specify whether the system writes the before or after image for a change transaction. The images are written to the F3002Z1 table from the Bill of Material Master table. Values are:

Blank: Store the after image.

1: Store the before image.

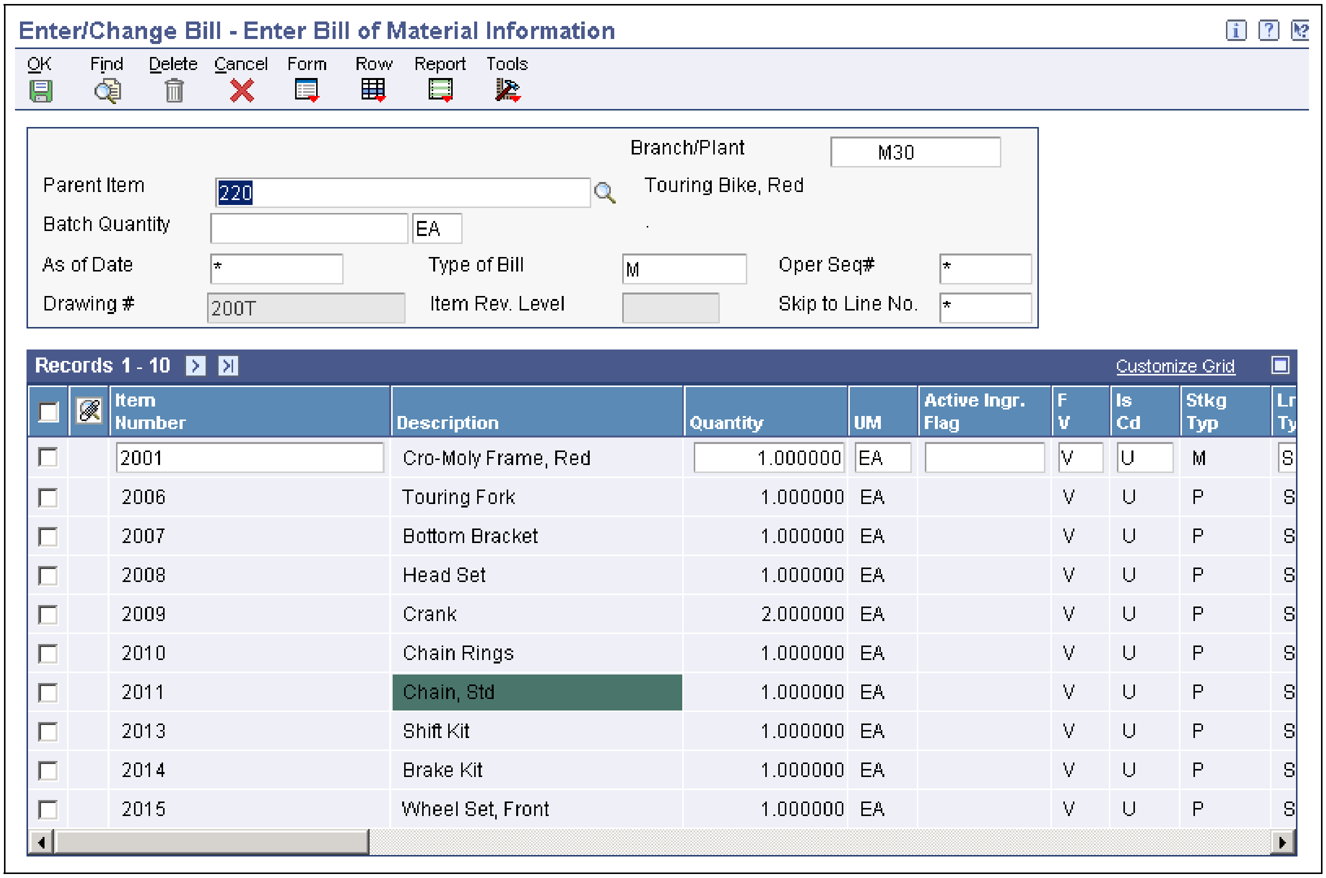
3. Interoperability Outbound (R00460)

Specify the version of the Interoperability Outbound Subsystem program that the system uses for export processing. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Interoperability Outbound Subsystem program displays information. Therefore, you might need to set the processing option to a specific version.

Entering a Bill of Material

Access the Enter Bill of Material Information form.



Enter/Change Bill - Enter Bill of Material Information

OK Find Delete Cancel Form Row Report Tools

Branch/Plant M30

Parent Item 220 Touring Bike, Red

Batch Quantity EA

As of Date * Type of Bill M Oper Seq# *

Drawing # 200T Item Rev. Level Skip to Line No. *

Records 1 - 10 Customize Grid

Item Number	Description	Quantity	UM	Active Ingr. Flag	F V	Is Cd	Stkg Typ	Ln Ty
2001	Cro-Moly Frame, Red	1.000000	EA		V	U	M	S
2006	Touring Fork	1.000000	EA		V	U	P	S
2007	Bottom Bracket	1.000000	EA		V	U	P	S
2008	Head Set	1.000000	EA		V	U	P	S
2009	Crank	2.000000	EA		V	U	P	S
2010	Chain Rings	1.000000	EA		V	U	P	S
2011	Chain, Std	1.000000	EA		V	U	P	S
2013	Shift Kit	1.000000	EA		V	U	P	S
2014	Brake Kit	1.000000	EA		V	U	P	S
2015	Wheel Set, Front	1.000000	EA		V	U	P	S

Enter Bill of Material Information form

Item Number

Enter an item number. It can be in short, long, or third item number format.

Bubble Seq No (sequence bubble number)

Enter a secondary bill of material sequence number that indicates the drawing bubble number.

Ln Ty (line type)

Displays a code that controls how the system processes lines on a transaction. It controls the PeopleSoft EnterpriseOne 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 it is included in calculations. Codes include:

S: Stock item

J: Job cost

N: Nonstock item

F: Freight

T: Text information

M: Miscellaneous charges and credits

W: Work order

Remarks

Enter a remark about an item.

Stkg Typ (stocking type)

Enter a UDC (41/I) that indicates how you stock an item, for example, as finished goods or as raw materials. The stocking types are hard-coded and you should not change them:

0: Phantom item

B: Bulk floor stock

C: Configured item

E: Emergency/corrective maintenance

F: Feature

K: Kit parent item

N: Nonstock

The first character of Description 2 in the UDC table indicates if the item is purchased (P) or manufactured (M).

Drawing Number

Enter an engineering drawing number. It might be the same as the part or item number.

Feat Plan % (feature plan percentage)

Enter the percentage of demand for a specified feature based on projected production. For example, a company might produce 65 percent of their lubricant with high viscosity, and 35 percent with low viscosity, based on customer demand.

Material Requirements Planning uses this percentage to accurately plan for a process's co-products and by-products. Enter percentages as whole numbers, for example, enter five percent as 5.0. The default value is 0 (zero) percent.

Feat Cost % (feature cost percentage)

Enter 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.

Enter the percentage as a whole number, for example, enter five percent as 5.0.

Unit Price

Enter a base or default price that is used with multipliers from the pricing rules to develop discounted prices. If no formula applies to an item or no discounts apply to a customer, the system uses this price without adjustments.

Unit Cost

Enter the amount per unit, derived by dividing the total cost by the unit quantity.

Opt (S/O/F) (option (standard/option/feature))

Enter a code that indicates whether a component is standard or optional within a bill of material or for kit processing. Valid codes are:

S: Standard. The item is always included in any transaction involving the bill of material.

O: Optional. In order entry, you can specify whether the item will be included in a particular sale.

F: Feature. The item has features that you must specify at order entry.

The default value is S.

R (required)

Enter a code that specifies whether a component is required. Valid codes are:

Y: The component is required.

N: The component is not a required selection during order processing.

The default value is N.

D C (default component)

Enter an option that specifies a default component. Use this field if you are creating sales orders using the Recurring Orders Edited Creation program

(P40211Z). To do so, enter *Y* in this field. When you specify a kit master item, the Recurring Orders Edited Creation program automatically selects all related standard and default components.

Leadtime Offset

Enter 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 that a part is needed prior to the work order start date, enter the days as a negative number. To indicate how many days after the work order start date that the part is required, enter a positive number.

Lean Superflush Flag

Enter a value to indicate whether the item is included in the Lean Superflush. Values are:

Blank: Indicates the component is included in the Lean Superflush. This is the default.

1: Indicates that the item is excluded from the Lean Superflush.

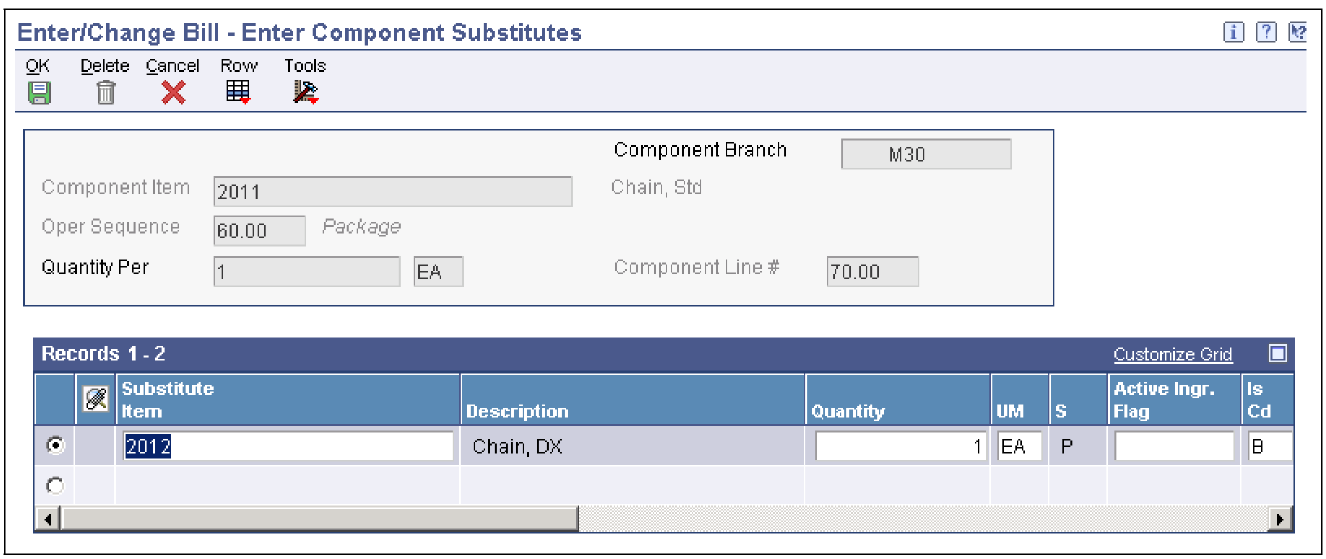
This field is used only in the Item Completions program (PF31012). Since Item Completions back flushes all components used, this flag enables you to determine at what level in the multi-level bill of material you require the back flush to stop. This field is generally used by components made on another line using either a work order or another plan to complete the inventory issues.

Prep Code (preparation code)

Enter the prep code that is associated with a component in the bill of material. When a component goes through a preparation location it is given a prep code. The prep code is identified in the bill of material.

Entering Substitute Items

Access the Enter Component Substitutes form.



Enter Component Substitutes form

Substitute Item

Displays a number that the system assigns to an item. It can be in short, long, or third item number format.

Quantity

Displays the number of units that the system applies to the transaction.

Sub Item Sequence (substitute item sequence)

Indicates the sequence number for the substitute items for a component.

The system looks for substitute items by this sequence number.

Setting Processing Options for Component Locator Revisions (P3015)

Use these processing options to set default values and specify versions when entering a component locator information.

Defaults

These processing options specify the default values for the effective from date and system designator when adding component locators.

1. Effective From Date

Enter the date to use as the Effective From date. If you leave this processing option blank, the system uses the current date.

2. Designator

Enter the sales or purchasing category code to use as the designator (for example, S1 = Sales Category Code 1, P1 = Purchasing Category Code 1, and so forth.)

Versions

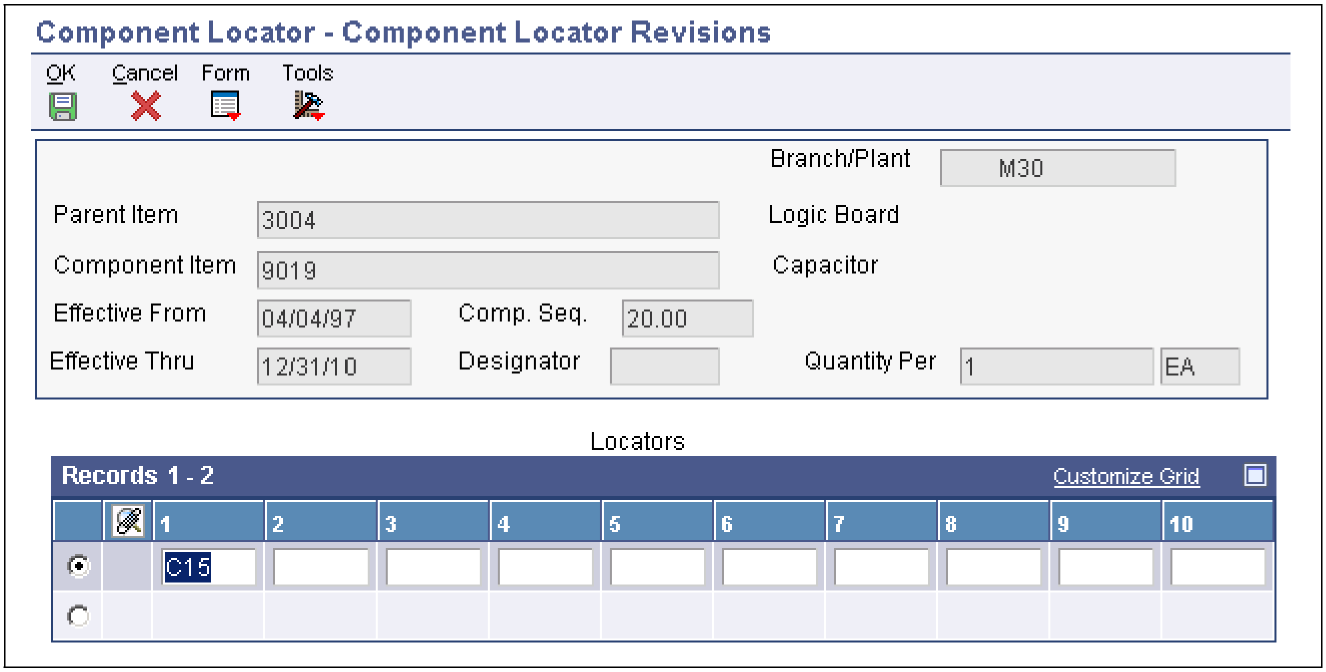
This processing option controls which version of the Bill of Material program that the system uses.

1. Bill of Materials (P3002)

Specify the version that the system uses when you select the Row exit to the Bill of Material form. If you leave this processing option blank, the system uses version ZJDE0001.

Entering Component Locators

Access the Component Locator Revisions form.



Component Locator Revisions form

Validating Bills of Material

This section provides an overview of bill of material validation and discusses how to:

- Verify bills of material.
- Set processing options for Bill of Material Inquiry.
- Locate bills of material.
- Locate bills of material graphically.
- Set processing options for Bill of Material Where Used.
- Locate components on a bill of material.
- Set processing options for Bill of Material Comparison.
- Compare bills of material.

Understanding Bill of Material Validation

You can review bills of material to:

- Plan and research engineering change orders.
- View the results of a pending product change.
- Determine the effect of an item shortage.
- Evaluate capacity, manpower, equipment needs, and other resources.

Use the Integrity Analysis program (R30601) to check the bills of material for low-level codes and product structure errors, such as parent items that are listed as their own components.

This program generates a report that identifies any bills of material that you need to correct. If the report indicates errors, you should correct the bills of material and run the Integrity Analysis program again. When the program does not find errors in the bills of material, it updates the low-level codes in both the Item Master and the Item Branch File tables.

You should run the Integrity Analysis program immediately after a data conversion, such as system startup, and then periodically, such as two or four times a year. You should also run the Integrity Analysis program before running the Cost Simulation - Build Temp (R30812) or MRP/MPS Requirements Planning (R3482) programs to prevent the system from updating tables with incorrect product structures.

Note. As an alternative to running Integrity Analysis, you can activate online validation in the Manufacturing Constants program, whereby the system validates the items as you enter them. When you select the Online BOM Validation option, the system issues an error message when you attempt to enter recursive components.

You can use the Bill of Material Inquiry program (P30200) to find and display the components of a bill of material, as well as parts availability and lead time information. Several forms display bill of material information. Depending on the information that you want to see, you can review a parent item and its components, the subassemblies of components, a graphical tree structure of a bill of material, or review where a component is used.

You can view the bill of material with a single level of components, with multiple component levels, and in a tree structure format. You can use processing options to determine what elements are included in the bill of material view:

- Phantom items or only components of the phantom items.
- Subassemblies or only components of the subassemblies.
- Processes or discrete bills of material.

You can consolidate entries with the same component branch, component item, and fixed and variable information into one component record. You can also consolidate across a single level or multiple levels.

In addition, you can display an adjusted quantity of parent or component items based on shrink information from the Item Branch File table, and scrap and yield information from the bill of material.

Use the Graphical Bill Inquiry form to review each parent item and its components organized in a tree structure. You can change the inquiry type and display sequence, based on the options you select. For example, you can view a single-level, multilevel, or indented bill of material; and you can view the bill sequenced by line number, operation sequence number, or item number.

You might want to determine where a component is used on a bill of material. Components can appear on different levels in the bill of material and can be part of different subassemblies. You can use the Bill of Material Where Used program to review where a component is used in a bill of material. You can conduct this review on single-level and on a multilevel bill of material. When you enter a component number, the system displays all of its parent items.

Use Bill of Material Comparison to compare bills of material. Based on the view mode that you select, the system displays all of the components of both bills or only those components of the two that are different. You can also use this program to compare a bill of material with a parts list or to compare two parts lists with each other. You can define the comparison in the processing options or by selecting the appropriate tab on the Work With Comparisons form.

Forms Used to Validate Bills of Material

Form Name	Form ID	Navigation	Usage
Bill of Material Inquiry - Single Level/ Multi Level/ Multi Level Indented	W30200C	Daily PDM Discrete (G3011), Single Level Bill Inquiry/Multi Level Bill Inquiry	Review the components on the bill of material. To change to the view, use the appropriate option on the View menu.
Work With Bill of Material - Tree View	W30200E	Daily PDM Discrete (G3011), Graphical Bill Inquiry	Review a graphical representation of the bill of material.
Work With Bill of Material Where Used	W30201B	PDM Discrete (G3011), Single Level Where Used/ Multi Level Where Used	Locate components where they are used on the bill of material.
Display Comparison	W30204D	PDM Discrete (G3011), Bill of Material Comparison Select a View Mode.	Compare bills of material. View all the information or just the differences.

Verifying Bills of Material

From the Advanced Product Data Management menu (G3031), select Integrity Analysis.

Setting Processing Options for Bill of Material Inquiry (P30200)

Use these processing options to set default display modes, control how the system uses safety stock, define the type of information displayed, and specify versions when entering a bill of material.

Defaults

These processing options control the default mode of processing, mode of inquiry, type of bill of material, and how the system sequences detail information. You select one of three modes of processing:

- Simple inquiry
- Parts availability
- Leadtime inquiry

You select one of three modes of inquiry:

- Single level
- Multilevel
- Multilevel indented

You define the bill of material type by specifying the appropriate UDC. In addition, you select whether to display the detail information by component line number or by operation sequence number. The system uses these default values when processing the bill of material inquiry.

1. Processing Mode

Specify how the system displays the information on which you inquire. Select from the processing modes: simple inquiry, parts availability, or leadtime inquiry.

The simple inquiry mode displays the components of a bill of material.

The parts availability mode displays the components of a bill of material and the available quantities for those components. If you use this mode, specify whether you want to subtract safety stock from the quantity on hand and whether to display negative quantities using the Safety Stock and Negative Items processing options under the Select tab.

The leadtime inquiry mode displays actual and calculated leadtimes for an item. Actual leadtimes are derived from the leadtimes as updated in the Item Branch table by the Leadtime Rollup program. Calculated leadtimes are the number of days that you must start to manufacture a part prior to the date that the parent needs it. You can use this mode of processing to define leadtimes for an item at each routing instruction step or to compare the actual and calculated leadtimes. If you use this mode, specify whether to display the actual or calculated leadtimes in the Leadtime Values processing option under the Select tab.

Values are:

1: Display the simple inquiry mode.

2: Display the parts availability mode.

3: Display the leadtime inquiry mode.

If you leave this processing option blank, the system displays the simple inquiry mode.

2. Inquiry Mode

Specify the level of detail that you want to display. The single level mode displays the parent item and its components. The multilevel mode displays the parent item, its components, and the subassemblies of the components. The multilevel indented mode displays the parent item, its components, and the subassemblies of the components. In addition, it indents the subassemblies. Values are:

1: Display the single level mode.

2: Display the multilevel mode.

3: Display the multilevel indented mode.

If you leave this processing option blank, the system displays the multilevel indented mode.

3. Bill of Material Type

Specify the type of bill of material that the system uses as the default value in the Type of Bill field on the Work With Bill of Material form. Bill of material type is a UDC (40/TB) that designates the type of bill of material. Enter the bill of material type to use or select it from the User Define Code form. If you leave this processing option blank, the system uses M for manufacturing bill of material.

4. Display Sequence

Specify how to sort information on the Work With Bill of Material form. You can sequence the data by component line number or by operation sequence number. The component line number indicates the sequence of the components on a bill of material. The operation sequence number indicates the sequence of the fabrication or assembly steps in the manufacture of an item. Values are:

1: Sort by component line number.

2: Sort by operation sequence number.

If you leave this processing option blank, the system sorts the data by component line number.

Versions

These processing options control which versions of the programs the system uses to process a bill of material.

1. Bill Of Material Print (R30460)

Specify the version of the Bill of Material Print report that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Bill of Material Print report displays information. Therefore, you might need to set the processing option to a specific version.

2. ECO Workbench (P30225) (engineering change order workbench)

Specify the version that the system uses when you select the Row exit to the ECO Workbench program from the Work With Bill of Material form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the ECO Workbench program displays information. Therefore, you might need to set the processing option to a specific version.

3. ECO Header (P48020) (engineering change order header)

Specify the version of the ECO Header program that the system uses when you select the Form exit to the Bill of Material Revisions program from the Work With Bill of Material. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the ECO Header program displays information. Therefore, you might need to set the processing option to a specific version.

4. Bill of Material Revisions (P3002)

Specify the version that the system uses when you select the Form exit to the Bill of Material Revisions program from the Work With Bill of Material form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Bill of Material Revisions program displays information. Therefore, you might need to set the processing option to a specific version.

5. Item Master (P4101B)

Specify the version that the system uses when you select the Form exit to the Item Master program from the Work With Bill of material form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Master program displays information. Therefore, you might need to set the processing option to a specific version.

6. Process Inquiry (P30240)

Specify the version that the system uses when you select the Form exit to the Process Inquiry program from the Work With Bill of Material form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Process Inquiry program displays information. Therefore, you might need to set the processing option to a specific version.

7. Work With Routing Master (P3003)

Specify the version of the Work With Routing Master program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Work With Routing Master program displays information. Therefore, you might need to set the processing option to a specific version.

8. Item Availability (P41202)

Specify the version of the Item Availability program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Availability program displays information. Therefore, you might need to set the processing option to a specific version.

9. Item Cross Reference (P4104)

Specify the version of the Item Cross Reference program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Cross Reference program displays information. Therefore, you might need to set the processing option to a specific version.

10. Item Search (P41200)

Specify the version of the Item Search program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Search program displays information. Therefore, you might need to set the processing option to a specific version.

Select

These processing options control whether the system subtracts the safety stock from the quantity on hand, displays only negative availability of items, and displays the calculated or the actual leadtimes.

1. Safety Stock

Specify whether the system subtracts the safety stock from the quantity on hand. Use this processing option in conjunction with the Parts Availability mode in the Processing Mode processing option under the Defaults tab. Values are:

Blank: Do not subtract safety stock from the quantity on hand.

1: Subtracts safety stock from the quantity on hand.

2. Negative Quantities

Specify whether the system displays negative amounts for the component quantities. Use this processing option in conjunction with the Parts Availability mode in the Processing Mode processing option under the Defaults tab. Values are:

Blank: Display all amounts.

1: Display only negative amounts.

3. Leadtime Values

Specify whether the system displays the actual or calculated leadtime values. Use this processing option in conjunction with the Leadtime Inquiry mode in the Processing Mode processing option under the Defaults tab. Values are:

Blank: Display the actual leadtime values from the Item Branch table (F4102).

1: Display the calculated leadtime values.

Process

These processing options control whether the system displays phantom items, process items, text lines, consolidated component rows, subassemblies, and purchased items. If you leave any of these processing options blank, the system excludes them from the inquiry. In addition, these processing options specify how the system adjusts the requested quantity for shrinkage and whether the system adjusts the extended quantity for scrap and for yield.

1. Phantom Items

Specify whether the system explodes the phantoms to the next level and omits the display of the phantom. A phantom is normally defined for engineering or manufacturing purposes. Phantoms enable common parts, that might or might not be assembled, to be grouped in a bill of material structure. When viewing the bill of material, you might want to display only the subassemblies and raw material. Values are:

Blank: Omit the phantom items from the inquiry and display only the subassemblies and raw material.

1: Include phantom items in the inquiry.

2. Process Items

Specify whether the system displays the process items. Process items include the process, co-products, by-products, and ingredients. A discrete bill might contain a component that is produced from a process. You use this processing option when you combine discrete and process manufacturing to display a complete structure of the requirements. Values are:

Blank : Exclude process items from the inquiry.

1: Include process items in the inquiry.

3. Text Lines

Specify whether the system displays the text lines. Values are:

Blank: Exclude text lines from the inquiry.

1: Include text lines in the inquiry.

4. Consolidate Component Items

Specify whether the system consolidates duplicate components. The same component might be listed in the bill of material several times, either on different subassemblies or on the same subassembly at different operations. When you use this processing option with the Subassemblies processing option, the system consolidates components at the subassembly level or for all levels of the bill of material. When viewing the consolidated components, the quantity required is accumulated for duplicate components. Values are:

Blank: Display individual occurrences of duplicate components in the inquiry.

1: Consolidate duplicate components in the inquiry.

5. Subassemblies

Specify whether the system displays the subassemblies. A subassembly is an assembly that is used at a higher level to make up another assembly. Values are:

Blank: Exclude subassemblies from the inquiry.

1: Include subassemblies in the inquiry.

6. Shrink

Specify whether the system adjusts the requested quantity for shrinkage. Shrinkage is the planned loss of a parent item caused by factors such as breakage, theft, deterioration, and evaporation. Values are:

Blank: Do not adjust the requested quantity.

1: Adjust the requested quantity for shrinkage.

7. Scrap

Specify whether the system adjusts the extended quantity for scrap. Scrap is unusable material that results from the production process. It is material outside of specifications and of such characteristics that rework is impractical. Values are:

Blank: Do not adjust the extended quantity.

1: Adjust the extended quantity for scrap.

8. Yield

Specify whether the system adjusts the extended quantity for yield. Yield is the ratio of usable output from a process to its input. Values are:

Blank: Do not adjust the extended quantity.

1: Adjust the extended quantity for yield.

9. Purchased Items

Specify whether the system explodes to the next level of purchased items in the bill of material report. Values are:

Blank: Exclude lower-level purchased items from the report.

1: Include lower-level purchased items in the report.

10. Phantom Operation Sequence Number

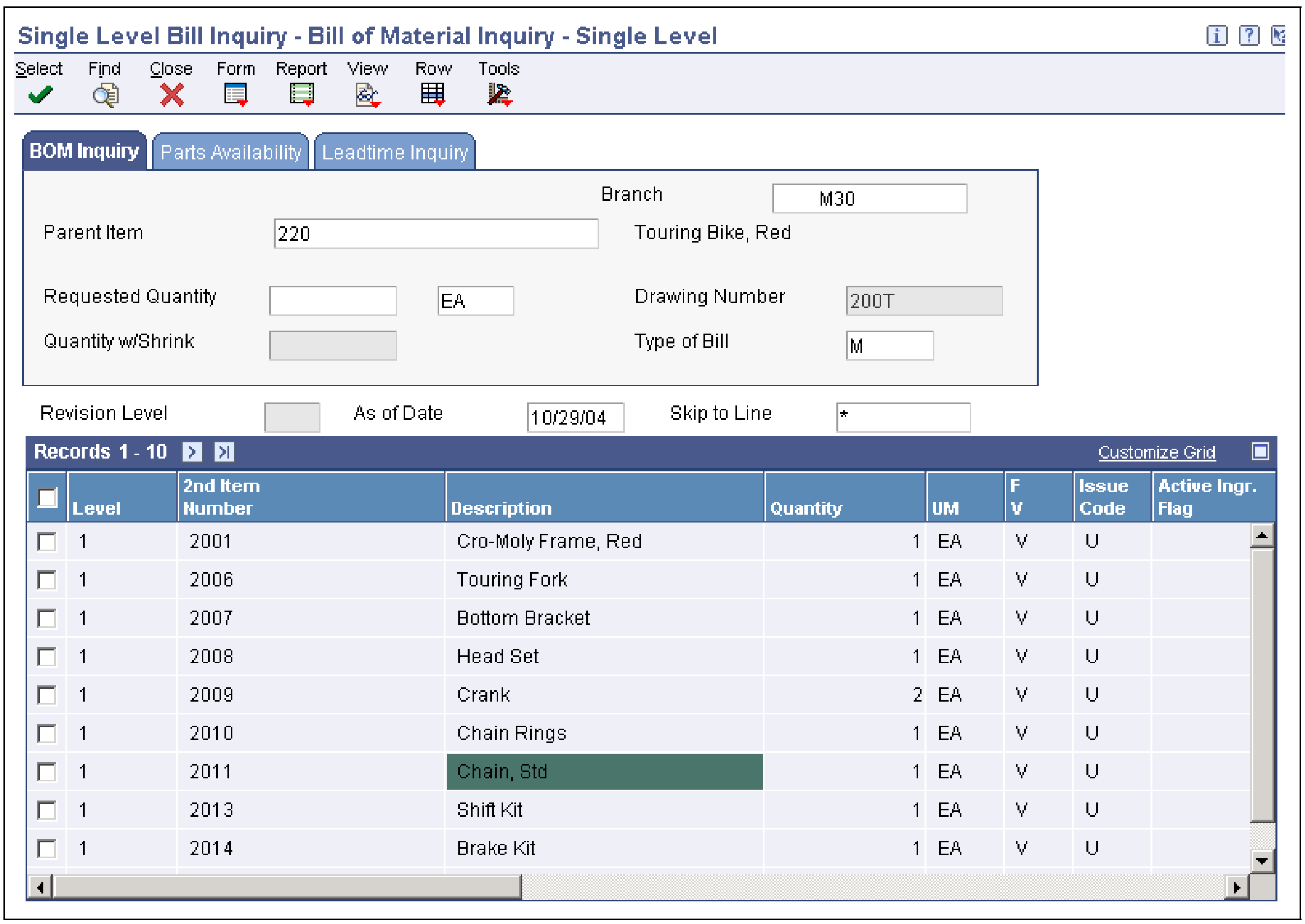
Specify how the system displays operation sequence numbers for components of a phantom item. Values are:

Blank: Display the operation sequence number of the component.

1: Display the operation sequence number of the phantom item.

Locating Bills of Material

Access the Bill of Material Inquiry form.


Single Level Bill Inquiry - Bill of Material Inquiry - Single Level

Select Find Close Form Report View Row Tools

BOM Inquiry | Parts Availability | Leadtime Inquiry

Branch M30

Parent Item 220 Touring Bike, Red

Requested Quantity EA Drawing Number 200T

Quantity w/Shrink Type of Bill M

Revision Level As of Date 10/29/04 Skip to Line *

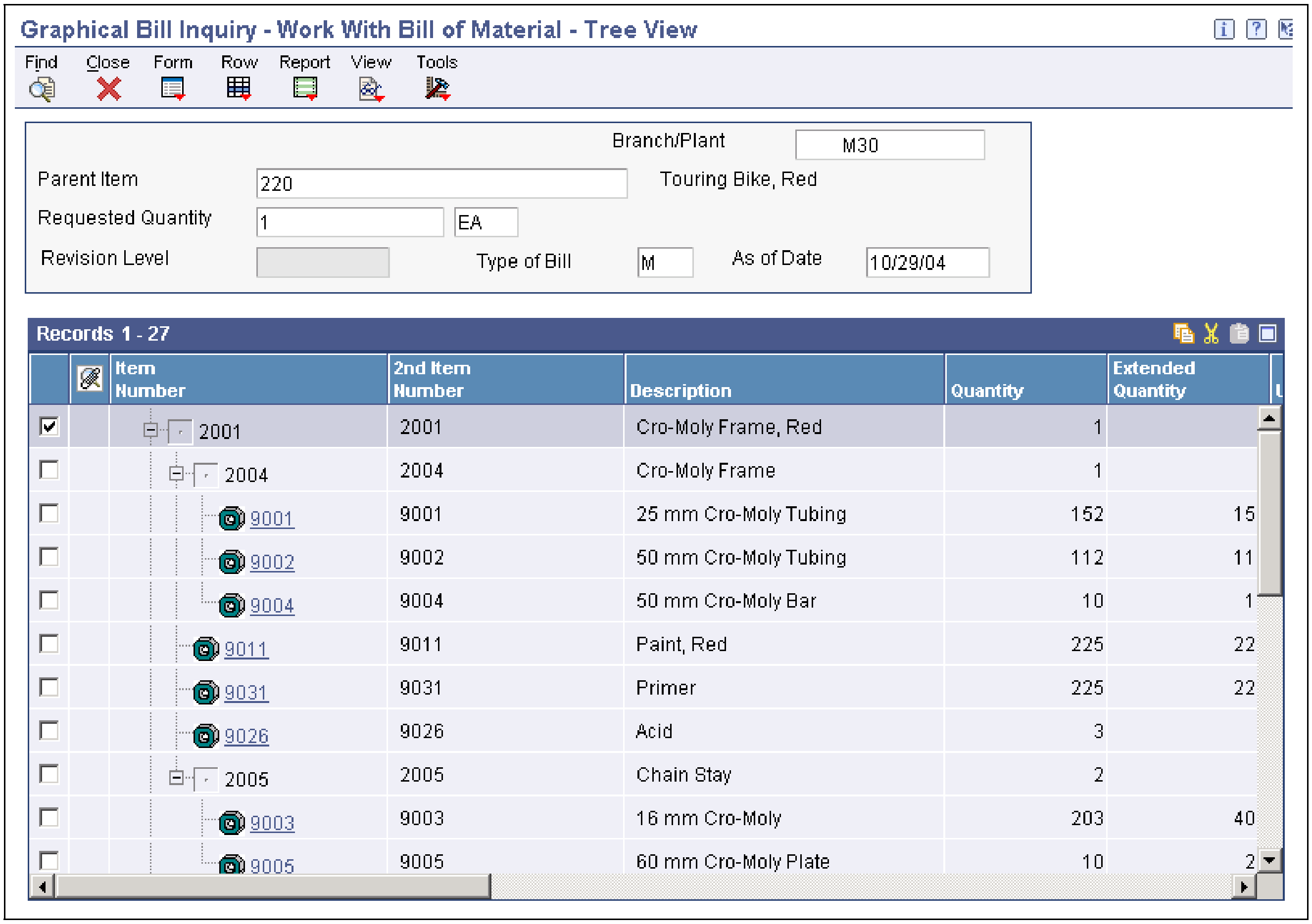
Records 1 - 10 Customize Grid

	Level	2nd Item Number	Description	Quantity	UM	F V	Issue Code	Active Ingr. Flag
	1	2001	Cro-Moly Frame, Red	1	EA	V	U	
	1	2006	Touring Fork	1	EA	V	U	
	1	2007	Bottom Bracket	1	EA	V	U	
	1	2008	Head Set	1	EA	V	U	
	1	2009	Crank	2	EA	V	U	
	1	2010	Chain Rings	1	EA	V	U	
	1	2011	Chain, Std	1	EA	V	U	
	1	2013	Shift Kit	1	EA	V	U	
	1	2014	Brake Kit	1	EA	V	U	

Bill of Material Inquiry - Single Level form

Locating Bills of Material Graphically

Access the Work With Bill of Material - Tree View form.



Item Number	2nd Item Number	Description	Quantity	Extended Quantity
2001	2001	Cro-Moly Frame, Red	1	
2004	2004	Cro-Moly Frame	1	
9001	9001	25 mm Cro-Moly Tubing	152	15
9002	9002	50 mm Cro-Moly Tubing	112	11
9004	9004	50 mm Cro-Moly Bar	10	1
9011	9011	Paint, Red	225	22
9031	9031	Primer	225	22
9026	9026	Acid	3	
2005	2005	Chain Stay	2	
9003	9003	16 mm Cro-Moly	203	40
9005	9005	60 mm Cro-Moly Plate	10	2

Work With Bill of Material - Tree View form

Setting Processing Options for Bill of Material Where Used (P30201)

Use these processing options to set default values and specify versions when inquiring on a bill of material.

Defaults

These processing options supply default values when viewing a bill of material.

1. Mode - Processing

Specify the level of detail that you want the system to display. The single level mode displays the component item and its parent items. The multilevel mode displays the component item, its parents, and all parents up to the end item. The multilevel indented mode is like the multilevel mode but the display is indented for each level. Values are:

1: Display the single level mode.

2: Display the multilevel mode.

3: Display the multilevel indented mode.

If you leave this processing option blank, the system displays the single level mode.

2. Default Type Bill of Material
Specify the type of bill of material that the system uses as the default value in the Type of Bill field on the Work With Bill of Material form. Bill of material type is a UDC (40/TB) that designates the type of bill of material. Enter the bill of material type to use or select it from the User Define Code form. If you leave this processing option blank, the system uses M for manufacturing bill of material.

Versions

These processing options control which version of the programs the system uses to process a bill of material.

Item Search (P41200)
Specify the version of the Item Search program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Material Where Used Print (R30420)
Specify the version of the Material Where Used Print report that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Item Master (P4101B)
Specify the version of the Item Master program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Where Used Inquiry (P13226)
Specify the version of the Where Used Inquiry program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Manufacturing Work Order Processing (P48013)
Specify the version of the Manufacturing Work Order Processing program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Bill of Material Inquiry (P30200)
Specify the version of the Bill of Material Inquiry program that the system uses. If you leave this processing option blank, the system uses the ZJDE0001 version.

Locating Components on a Bill of Material

You might want to determine where a component is used on a bill of material. Components can appear on different levels in the bill of material and can be part of different subassemblies. You can use the Bill of Material Where Used program to review where a component is used in a bill of material. You can conduct this review on single-level and on a multi-level bill of material. When you enter a component number, the system displays all of its parent items.

Setting Processing Options for Bill of Material Comparison (P30204)

Use these processing options to set default values, set the display mode, control how the system compares data, and specify the types of information included in the comparison.

Defaults

This processing option controls the default value for the Bill Type fields.

1. Bill of Material Type
Specify the type of bill of material that the system uses as the default value in the Bill Type fields. Bill of material type is a UDC (40/TB) that designates the

type of bill of material. Enter the bill of material type to use or select it from the User Define Code form. If you leave this processing option blank, the system uses M (manufacturing bill of material).

Display

These processing options control the comparison level and the view mode for the review.

1. Single Level or Multilevel Comparison

Specify whether the system displays the information in a single level or multilevel comparison. The single level comparison displays the item's first-level components; the multilevel comparison displays the subassemblies and components for an item. Values are:

1: Display a single level comparison.

2: Display a multilevel comparison.

If you leave this processing option blank, the system displays a single level comparison.

2. View Mode

Specify the mode in which the system displays the information. The bill of material mode compares two bills of material, the parts list mode compares two parts lists, and the parts list to bill of material mode compares a parts list to a bill of material. Values are:

1: Use the bill of material mode.

2: Use the parts list mode.

3: Use the parts list to bill of material mode.

If you leave this processing option blank, the system uses the bill of material mode.

Process

These processing options control the information that is included in the comparison.

1. Include Different Records

Specify whether the system displays all components or only those components that are different between the two bills of material or parts lists. Values are:

D: Displays the component that are different between the two bills of material or parts lists.

A: Displays all the components of the two bills of material or parts lists.

If you leave this processing option blank, the system displays the components that are different between the two bills of material or parts lists.

2. Work Center or Item Summary

Specify whether the system sorts the information by work center or by item number. Values are:

Blank: Sort the information by item number.

1: Sort the information by work center.

2: Sort the information by item number.

3. Subassemblies

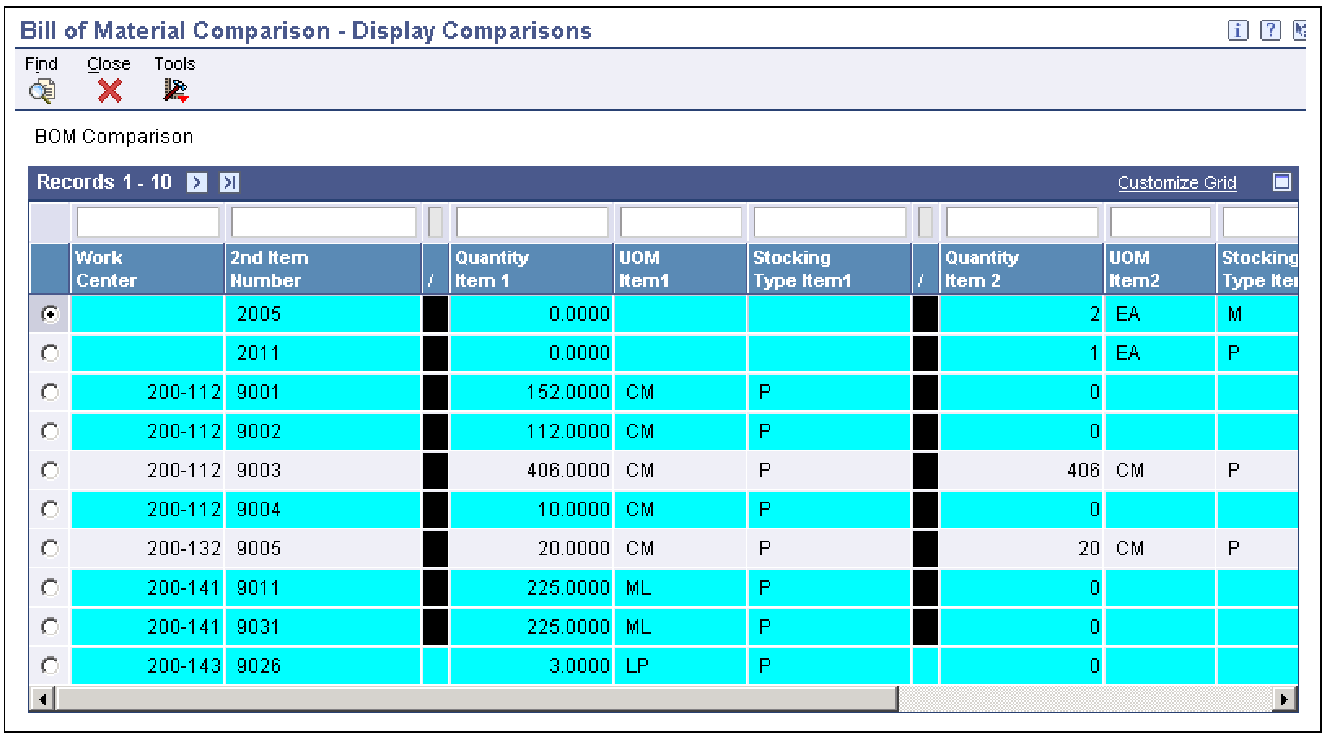
Specify whether the system displays the subassemblies. A subassembly is an assembly that is used at a higher level to make up another assembly. Values are:

Blank: Exclude subassemblies in the inquiry.

	0: Exclude subassemblies from the inquiry. *1:* Include subassemblies in the inquiry.
4. Phantom Items	Specify whether the system explodes the phantom to the next level and omits the display of the phantom. A phantom is normally defined for engineering or manufacturing purposes. Phantoms enable common parts, that may or may not be assembled, to be grouped in a bill of material structure. When viewing the bill of material, you may want to display only the subassemblies and raw material. Values are: Blank: Exclude phantom items in the inquiry. *0:* Omit the phantom items from the inquiry and display only the subassemblies and raw material. *1:* Include phantom items in the inquiry.

Comparing Bills of Material

Access the Display Comparisons form.



Bill of Material Comparison - Display Comparisons

Find Close Tools

BOM Comparison

Records 1 - 10 Customize Grid

	Work Center	2nd Item Number	/	Quantity Item 1	UOM Item1	Stocking Type Item1	/	Quantity Item 2	UOM Item2	Stocking Type Ite
		2005		0.0000				2	EA	M
		2011		0.0000				1	EA	P
	200-112	9001		152.0000	CM	P		0		
	200-112	9002		112.0000	CM	P		0		
	200-112	9003		406.0000	CM	P		406	CM	P
	200-112	9004		10.0000	CM	P		0		
	200-132	9005		20.0000	CM	P		20	CM	P
	200-141	9011		225.0000	ML	P		0		
	200-141	9031		225.0000	ML	P		0		
	200-143	9026		3.0000	LP	P		0		

Display Comparisons form

Updating Multiple Bills of Material

This section provides an overview of bill of material update and discusses how to:

- Run the Where Used Bill of Material Update.
- Set processing options for Where Used Bill of Material Update.

Understanding Bill of Material Update

You change multiple bills of material by running the Where Used Bill of Material Update program (R30520). You can use this program to perform mass updates to information such as:

- Replacing one component item with another.
- Deleting an item.
- Changing effective dates for an item.
- Changing the quantity per assembly for an item.
- Changing the issue type code.
- Changing the unit of measure.

You use data selection to specify the items that you want to change. You then use processing options to define the change. The system locates all occurrences of the item (as a component) and updates the bills of material. You can also update a component with past or future effective dates.

If you want to make changes to a bill of material and remove the old records, run the program twice. First run the program to create the new records, and then run it again to delete the old ones.

The system stores changes in the Bill of Material Master File table. The system does not automatically update existing parts lists, MRP calculations, and costing information.

In addition, the program updates fields in other tables:

- Low Level Code (in the Item Master table).
- Net Change Flag (in the Item Branch File table).

You can run this program in either proof or final mode. In proof mode, the system generates a report of the proposed changes for the review but does not update the data. In final mode, the system updates the data and generates a report identifying the changes.

Important! When you run this program, you can potentially change many bills of material in the system. It is recommended that you run this program in proof mode first to verify the choices before running it in final mode to change the data. You might want to restrict access to this program.

Prerequisite

Review the bills of material to verify that the item that you are updating is active within the effective dates and appears in at least one bill of material.

Running the Where Used Bill of Material Update

From the Advanced Product Data Management menu (G3031), select Where Used Update.

Setting Processing Options for Where Used Bill of Material Update (R30520)

Use these processing options to define the changes you want to make, verify the component is valid in the branch plant, and if you want the program to run in proof or final mode.

Defaults 1

These processing options specify the details required to make changes to the bill of material.

1. Branch/Plant	Enter the Branch/Plant location to select for bill of material changes. This is a required field; if you leave this processing option blank, no processing is performed.
2. New Component Item Number	Enter the new component item number. If you leave this processing option blank, no change is made to the component item number.
3. New Quantity Per	Enter the new quantity per amount. If you leave this processing option blank, no change is made to the Quantity Per amount.
4. New Unit of Measure	Enter the new Quantity Per Unit of Measure. If you leave this processing option blank, no change is made to the Quantity Per Unit of Measure.

Defaults 2

These processing options specify the effective dates and issue type code to change on the bill of material.

1. New Effective From	Enter the new Effective From Date. If you leave this processing option blank, the system uses the current date.
2. New Effective Thru (new effective through)	Enter the new Effective Thru Date. If you leave this processing option blank, no change is made to the Effective Thru Date.
3. New Issue Type Code	Enter the new Issue Type Code. If you leave this processing option blank, no change is made to the Issue Type code.

Process

These processing options specify the program mode and whether the system deletes records.

1. Final Mode	Specify whether the program will run in proof or final mode. Values are: Blank: Run in proof mode. *1:* Run in final mode.
2. Delete Mode	Specify whether existing records will be deleted from the BOM file. No updating is performed when delete is selected. Values are: Blank: Do not delete records. *1:* Delete existing records from the Bill of Material file.

Edits

This processing options specifies whether the system validates the new component against the Item Branch file. V

1. Item Branch Validation	Specify whether the system validates the new component against the Item Branch file. Values are: Blank: Do not validate the new item. *1:* Validate the new item.

Chapter 5

Entering Work Centers and Routing Instructions

This chapter provides an overview of work centers and routing instructions and discusses how to:

- Create work centers
- Create routing instructions
- Calculate lead times

Understanding Work Centers and Routing Instructions

After you have defined an item's components using a bill of material, you must specify where each operation occurs and the sequence of operations that is necessary to manufacture the item. Work centers consist of people and machines where routing operations occur. Routing instructions define the operations that are required to produce an item and the lead time for an item at each routing instruction step.

Work Centers

A work center consists of people and machines. A work center is a specific production facility on the shop floor where the routing operations occur. For each work center, you define:

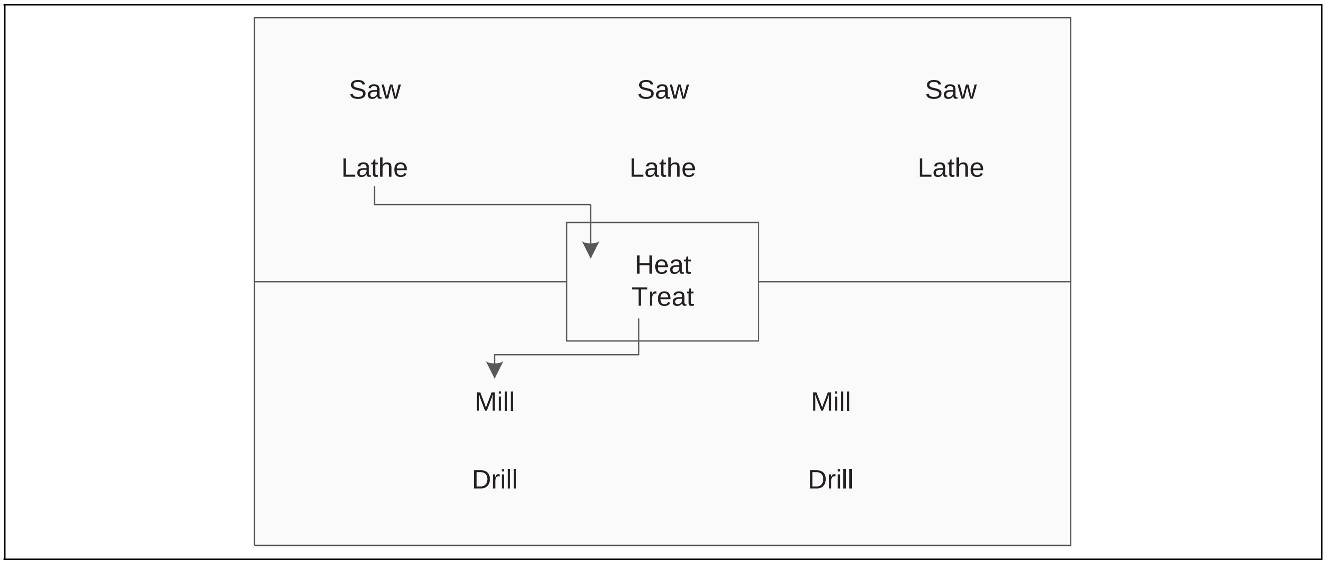
- Number, description, and associated business unit.
- Queue and move times.
- Operator, machine, and hours-per-day capacity.
- Rates for setup, labor, machine, and overhead.

A work center enables you to:

- Set up a dispatch group for departments that perform similar operations.
- Specify if an operation is a reporting point for material, or labor, or both.
- Define crew size per work center.
- Specify the work center efficiency for Product Costing.
- Define work center labor, machine, and setup rates.

You should arrange the work centers so that work in process moves efficiently from one area to the next.

This graphic shows equipment grouped by operation. This structured flow layout provides a direct path and ensures efficient workflow.



Work center arrangement by operation

After you have defined the item's bill of material and where each operation occurs on the factory floor (work center), you must define the sequence of operations that is necessary to manufacture the item (routing instructions).

Routing instructions are critical for shop floor control, capacity requirements planning, product costing, and measuring production efficiency. For each item, you define routing instructions that include:

- Production process.
- Equipment.
- Operator skill level.
- Inspection criteria.
- Operations.
- Sequence.
- Applicable work centers.
- Standard values for setup, machine, and labor times.

You can define an alternate routing instruction operation to be performed, for example, using drill B if drill A is not operational. An alternate routing instruction operation is information for shop floor personnel. The system ignores it during product costing and backscheduling.

For activities that occur outside the plant, you define outside operations. Outside operations are characterized by their own line types and stocking types. They require a supplier and a purchase order.

For multiplant environments, set up identical or different routing instructions for an item by plant. Use the effective from and thru dates to enter and date routing instruction changes as they occur.

You have the option of setting up a master routing to create one routing instruction for parts that use the same manufacturing steps. You must define an Item Cross Reference for the Item to be used as a master routing. Create a record in the Item Cross Reference application (P4104) with a cross reference type "MR." By creating a master routing, you can eliminate duplicate routing instructions. For example, during the manufacture of furniture, the frame and fabric might change, but the routing instructions are the same. To set up a master routing, you must activate the Master Routing option in the Manufacturing Constants program (P3009) for the branch/plant where the item will be manufactured.

Use batch routing instructions for products that are commonly made in batch quantities. Batch routing instructions are useful in industries, such as pharmaceuticals, foods, or petroleum, where products are manufactured in fixed quantities or batches. You can create different batch routing instructions for the same item by branch, type, batch quantity produced, or a combination of these items.

Common Elements Used in This Chapter

Work Center

Enter the work center where the operation sequence is being performed.

Business unit security might prevent you from viewing information about business units for which you have no authority.

For Equipment users, this is the craft/resource responsible for completing the maintenance activity.

Crew Size

Enter the number of people who work in the specified work center or routing operation.

The system multiplies the Run Labor value in the Routing Master table (F3003) by crew size during costing to generate total labor amounts.

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.

For Shop Floor Management:

If you leave the Hours field on the Routing Revisions form blank, the system uses the value entered in this field for lead time and scheduling calculations.

Creating Work Centers

This section provides an overview of work center creation and discusses how to:

- Set processing options for Work Center Revision.
- Enter work centers.
- Enter costing and accounting information for work centers.
- Review operations by work center.

Understanding Work Center Creation

You use work centers to define each production facility on the shop floor where routing instruction operations occur. Once you set up the work centers, you can enter costing and accounting information so that you can generate reports and journal entries. As you set up work centers, you associate them with particular branch/plants. This association enables you to use the same work center in different branch/plants. The system stores work center information in the Work Center Master table (F30006).

Enter work center information that corresponds to the facilities on the shop floor, such as dispatch group; pay point; crew size; and queue, move, and replenishment hours. You can also enter a shop floor calendar for the work center, even though the system does not validate this information.

If you are using Capital Asset Management, you enter work center information that corresponds to the maintenance labor groups.

Work Center Rates

After you enter a work center, you can enter simulated rates for machine and labor hours. Product Costing and Manufacturing Accounting use these values to generate reports, roll up costs, and create journal entries. The Cost Rollup program uses all of these values to calculate the simulated cost.

You can update the simulated rates but not the frozen values. The system updates frozen values when you run Frozen Update.

Prerequisites

Set up the work centers and dispatch groups as valid business units in the Revise Single Business Unit program (P0006).

See *PeopleSoft EnterpriseOne Financial Management Solutions Application Fundamentals 8.11 PeopleBook*, “Setting Up System Next Numbers”.

See Also

PeopleSoft EnterpriseOne Product Costing and Manufacturing Accounting 8.11 PeopleBook, “Using Product Costing,” Updating Frozen Costs

Forms Used to Create Work Centers

Form Name	Form ID	Navigation	Usage
Work Center Master Revisions	W3006A	Daily PDM Discrete (G3011), Enter/Change Work Center Shop Floor Management Setup (G3141), Enter/Change Work Center Planning Setup (G1346), Work Center Revision On Work With Work Centers, click Add.	Enter new work center information.
Work Center Rate Revisions	W3006C	On Work With Work Centers, select a work center and click Rates from the Row menu. On Work with Work Center Rates, select Rates Revision from the Row menu.	Enter the rates for various types of costs for a work center.
Work With Work Center Where Used	W30202B	PDM Discrete (G3011), Operations by Work Center	Review operations scheduled at a work center.

Setting Processing Options for Work Center Revision (P3006)

Use these processing options to specify transaction types for interoperability and to specify versions.

Interop

These processing options specify the interoperability transaction type and image tracking.

Type — Transaction
Specify the transaction type for the interoperability transaction. If left blank, outbound interoperability processing isn't performed. Enter a value from UDC 00/TT.

Before Image Processing
Specify whether the system writes before images before outbound change transactions. Values are:

Blank: Write only after images.

1: Write before and after images.

Versions

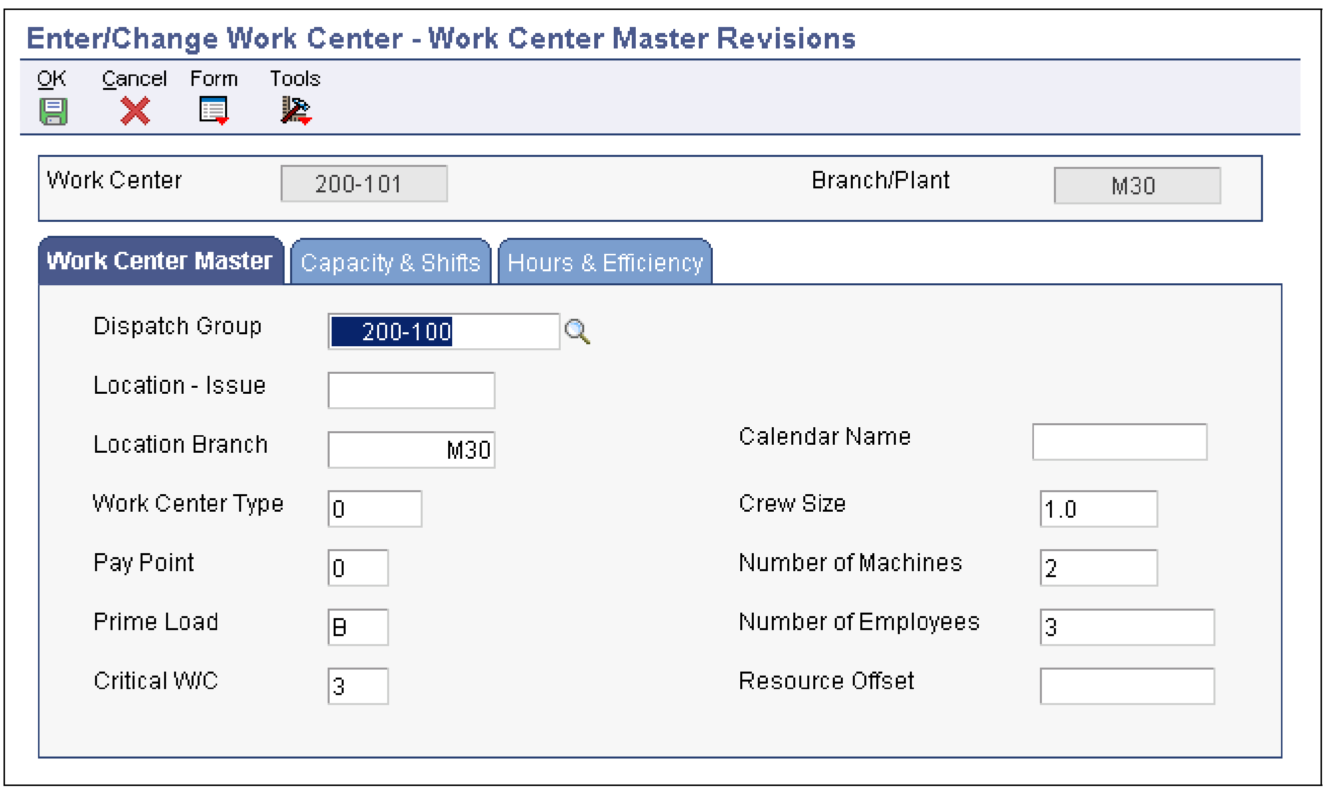
These processing options control which version of the programs the system uses.

Manufacturing Constants (P3009)
Specify the version of the Manufacturing Constants program (P3009) that the system uses.

Business Units (P0006)
Specify the version that the system uses when you select the form exit to the Business Units program (P0006) from the Work With Work Centers form.

Entering Work Centers

Access the Work Center Master Revisions form.



Work Center Master Revisions form

Branch/Plant
Represents a branch/plant or work center, usually defined as a business unit.

	The default value comes from the Default Location and Printers table.
Prime Load	Specify a code that determines if a work center is machine or labor intensive. The system also uses prime load codes in Resource Requirements Planning and Capacity Requirements Planning calculations to develop load profiles. Valid codes are: *L:* Run labor hours only. *M:* Machine hours only. *B:* Run labor plus setup labor hours. *C:* Machine plus setup hours. *O:* Other (will not generate resource units).
Number of Employees	Enter the normal number of employees in this work center. When you run the Work Center Resource Units Refresh program, the system multiplies this number by the Number of Work Hours Per Day from the Manufacturing Constants table to generate the total gross labor hours available in the work center each day.
Dispatch Group	Enter a category code used 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.
Location - Issue	Enter the storage location from which goods will be moved.
Location Branch	Enter the branch plant of the location associated with the work center.
Work Center Type	Enter a code that defines the type of work center. Values are: *0:* Stand alone work center. *1:* Production line in a repetitive environment. *2:* Production line in a Demand Flow® Manufacturing (DFM) environment.
Pay Point	Enter 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. Values are: *0:* Not a backflush work center. *B:* Backflush material and labor. *M:* Backflush material only. *L:* Backflush labor only. *P:* Preflush material only.
Critical W/C (critical work center)	Enter a code that indicates whether the work center is critical or not critical when the system calculates capacity. Values are: *N:* Not a critical work center. *1:* A critical work center in calculating RRP only. *2:* A critical work center in calculating RCCP and CRP.

3: A critical work center in calculating RRP, RCCP, and CRP. The system also displays Type 3 work centers when you select Type 1 or Type 2 in this field.

4: Not a capacity work center. The system does not include this work center in capacity planning.

Note. The data selection is a system feature that processes certain groups of information with the RRP, RCCP, and CRP programs.

Number of Machines

Enter the normal number of machines in this work center. When you run the Work Center Resource Units Refresh program, this number is multiplied by the number of work hours per day from the Manufacturing Constants table to generate the total gross machine hours available in the work center each day.

Standard Capacity

Enter the standard capacity level at which a production line usually operates. Capacity is stated in units per hour. This level is used for repetitive processing only.

Capacity UOM (capacity unit of measure)

Enter a unit of measure that you use to express the capacity of a production line. Examples of units of measure include hours, number of stampings, coats of paint, and so on. This item is used for repetitive processing only.

Maximum Capacity

Enter the upper limit of the capacity, beyond which a production line cannot produce. Capacity is stated in units per hour. This limit is used for repetitive processing only.

Minimum Capacity

Enter the lower limit of the capacity, beyond which the production line should not operate. Management sets this limit, based on factors, such as efficiencies, costs, and so on. Capacity is stated in units per hour. This limit is used for repetitive processing only.

Queue Hours

Enter the total hours that an order is expected to be in queue at work centers and moving between work centers.

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 and populates the table with calculated values.

Move Hours

Enter the planned hours that are required to move the order from this operation to the next operation in the same work center.

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 backscheduling variable lead time items.

If you leave the Hours field on the Routing Revisions form blank, the system uses the value in this field for lead time and scheduling calculations.

Replen. Hrs. (replenishment hours)

Enter the time required before a consuming location has a replacement kanban available from its supplying location. This value is used only for kanban card processing in Shop Floor Management.

Efficiency

Specify a user-defined value that indicates how efficiently a work center operates.

This value usually refers to staff efficiency. When you enter a value in this field, and the Modify Cost by Work Center Efficiency field in the

Manufacturing Constants table is set to *Y,* the system creates a new cost component (B4) from the cost calculated from the direct labor cost (B1).

For example, if the constant is set to *Y,* the value of this field is 80 percent, 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).

The Refresh Resource Units program also uses this value as a default when calculating rated capacity.

Enter percents as whole numbers. For example, enter 80 percent as *80.00.*

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 backscheduling of a work order.

Utilization

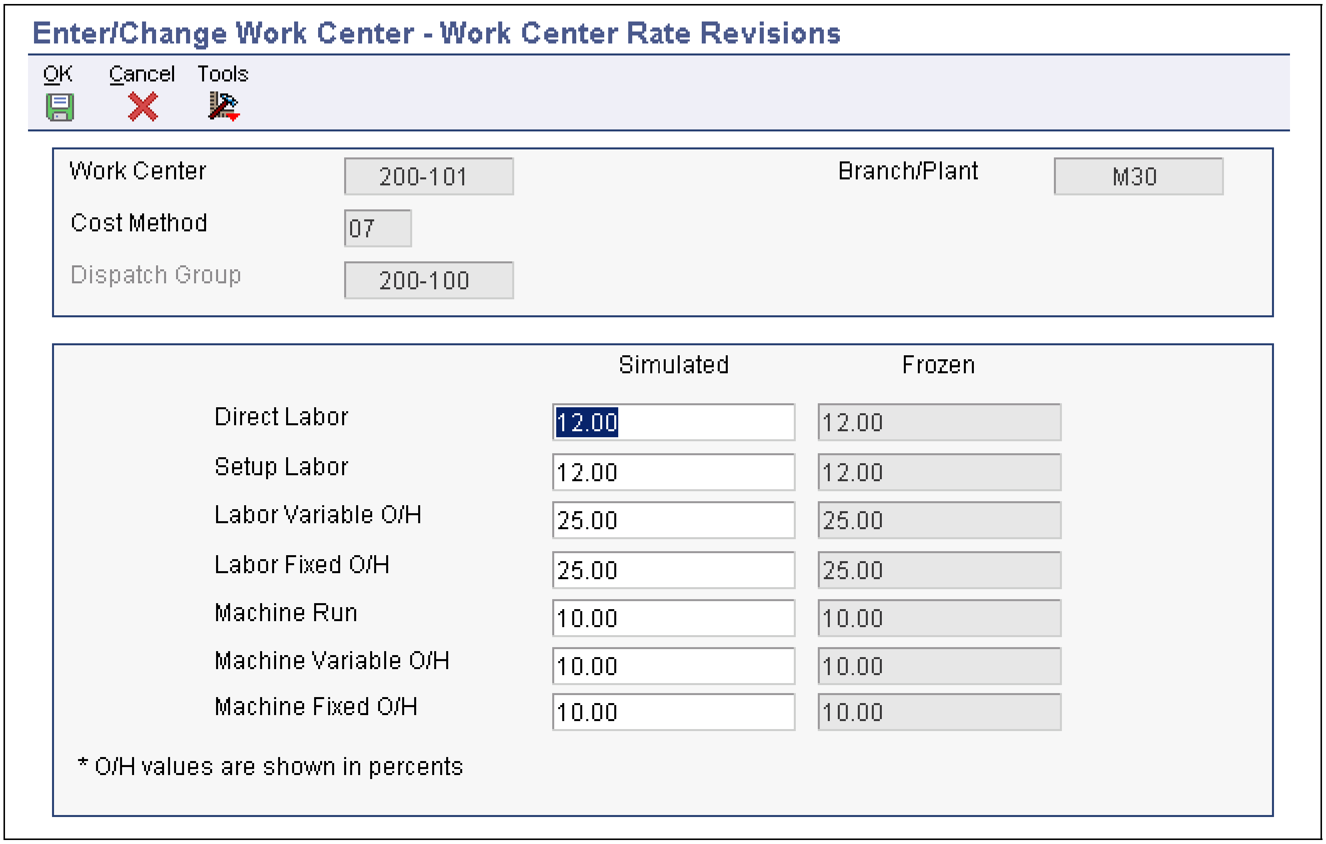
Enter a percentage that indicates how intensively a work center is being used. This value usually refers to machine use. It is the ratio of the direct time charged for production activities to the planned hours.

The Refresh Resource Units program also uses this value as a default when calculating rated capacity.

Enter percents as whole numbers. For example, enter 80 percent as *80.00.*

Entering Costing and Accounting Information for Work Centers

Access the Work Center Rate Revisions form.



Work Center Rate Revisions form

Cost Method

Enter a UDC (40/CM) that specifies the basis for calculating item costs. Cost methods 01 through 19 are reserved for use by the PeopleSoft system.

Direct Labor

Enter a rate, in cost per person per hour, that the system uses with the run labor hours of the associated routing to calculate the standard run labor cost.

Setup Labor

Enter a rate that the system uses with the setup labor hours of the associated routing to calculate the standard setup labor cost.

Labor Variable O/H (labor variable overhead)

Enter a rate or percent, as determined on Manufacturing Constants, used to calculate the standard variable labor overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of direct labor.

Enter percents as whole numbers. For example, enter five percent as *5.00.*

Labor Fixed O/H (labor fixed overhead)

Enter a rate or percent, as determined on Manufacturing Constants, used to calculate the standard fixed labor overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of direct labor.

Enter percents as whole numbers. For example, enter five percent as *5.00.*

Machine Run

Enter a rate that the system uses with the Run Machine hours of the associated routing to calculate the standard machine labor cost.

Machine Variable O/H (machine variable overhead)

Enter a rate or percent, as determined on Manufacturing Constants, used to calculate the future standard machine overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of machine run.

Enter percents as whole numbers. For example, enter five percent as *5.00.*

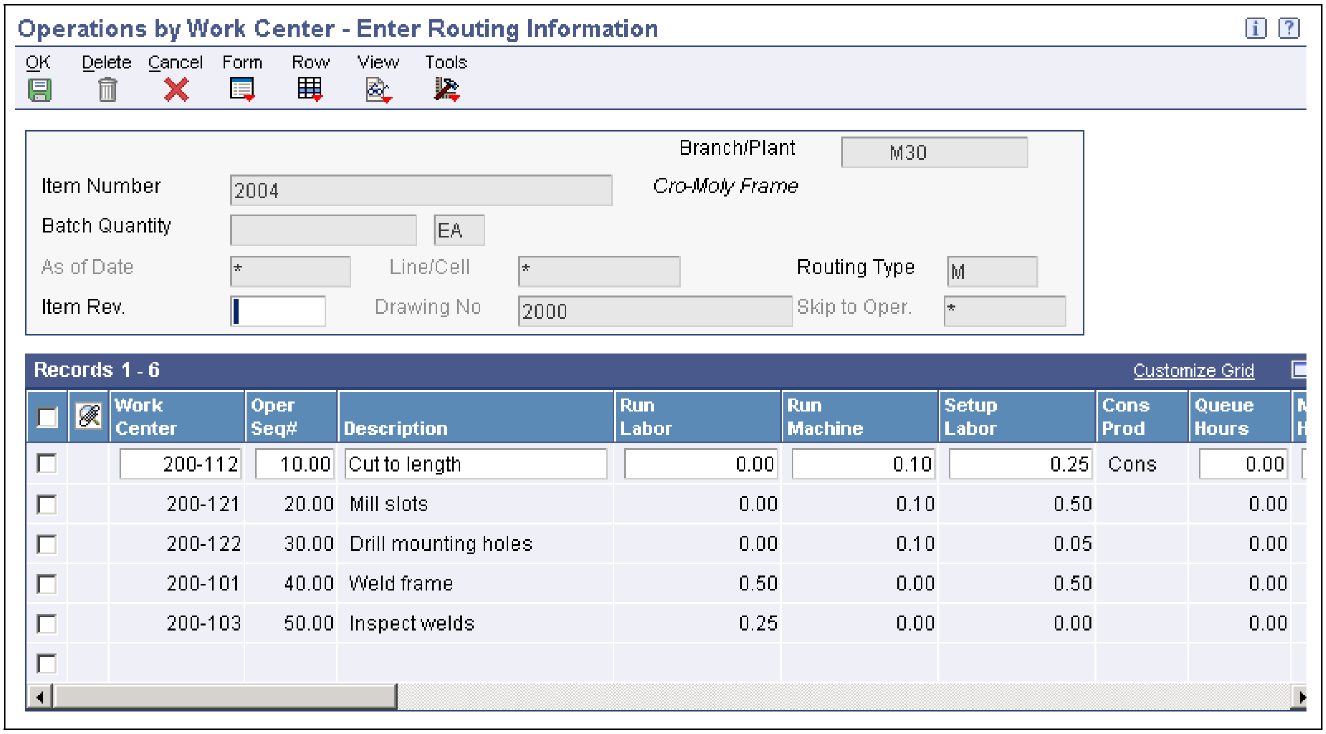
Machine Fixed O/H (machine fixed overhead)

Enter a rate or percent, as determined on Manufacturing Constants, used to calculate the standard fixed machine overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of machine run.

Enter percents as whole numbers. For example, enter five percent as *5.00.*

Reviewing Operations by Work Center

Access the Work With Work Center Where Used form.



Operations by Work Center - Enter Routing Information

OK Delete Cancel Form Row View Tools

Branch/Plant M30

Item Number 2004 *Cro-Moly Frame*

Batch Quantity EA

As of Date * Line/Cell * Routing Type M

Item Rev. Drawing No 2000 Skip to Oper. *

Records 1 - 6 Customize Grid

Work Center	Oper Seq#	Description	Run Labor	Run Machine	Setup Labor	Cons Prod	Queue Hours
200-112	10.00	Cut to length	0.00	0.10	0.25	Cons	0.00
200-121	20.00	Mill slots	0.00	0.10	0.50		0.00
200-122	30.00	Drill mounting holes	0.00	0.10	0.05		0.00
200-101	40.00	Weld frame	0.50	0.00	0.50		0.00
200-103	50.00	Inspect welds	0.25	0.00	0.00		0.00

Work With Work Center Where Used form

Creating Routing Instructions

This section provides an overview of routing instruction creation and discusses how to:

- Set processing options for Enter/Change Routing.
- Enter routing instructions.
- Enter outside operations.
- Update component scrap.
- Set processing options for Planned Yield Update.

Understanding Routing Instruction Creation

After you enter a bill of material, you must define the routing instruction information for each item and for each branch/plant. Use routing instructions to define the sequence of operations necessary to manufacture an item. Routing instruction information is stored in the Routing Master table.

If you want to include an alternate routing step for any routing instructions, you must complete the Operation Type field on the grid. If you manually link the routing instruction to a work order, the system includes alternate routing steps with the work order routing instructions. If you use the Order Processing program (R31410) to link the routing instruction to the work order, the system does not include alternate routing steps.

For an operation that is to be performed on an item by an external supplier, you can define an outside routing operation. For an outside operation, a purchase order is required. You can generate the purchase order when you run the Order Processing program. You can also enter a purchase order interactively after you have attached the routing to the work order.

If you are using activity-based costing, you can enter an activity code for each operation sequence to indicate how you want the system to account for the operation. To activate the Activity Code field, you must select activity-based costing in the Advanced Cost Accounting Constants program (P1609).

You can print all routing instruction operations for an item by generating the Standard Routing Information report (R30430).

To support PeopleSoft EnterpriseOne Demand Flow® Manufacturing (DFM), a process map is imported to an PeopleSoft EnterpriseOne routing. A single-level routing may be imported from DFM that reflects process map times and processes for each end product. The routing imported from DFM is stored in the F3003 table with the relationship between processes maintained for the operation steps.

Note. There is a current limitation of adding up to 999 operation steps in the F3003 table. If the Sequence Of Events (SOE) in DFM are modeled as routing operation steps, this would limit the complete import of SOEs from DFM to base manufacturing. Although multilevel routings are supported in base manufacturing, multilevel routings are not supported with the import from DFM. If you import SOEs into base manufacturing, the routing is in one level.

Component Scrap

During manufacturing, material loss often occurs at operations. Examples of loss include evaporation or items damaged during move time. You can update the amount of materials and labor hours to account for operation loss by running Planned Yield Update.

For the operations that you select, this program uses the operational planned yield percent to update the cumulative percent for the routing instruction and to update the operation scrap percent for the bill of material.

You enter the operational planned yield percent value on the routing instruction. This value represents the planned output yield percent for a step. The system uses this value to adjust the operation scrap percent for the components at that step. Then Material Requirements Planning uses the step scrap percent along with the existing component scrap percent to plan component demand.

The system updates the cumulative planned yield percent on the routing instruction. This value represents the item quantity that an operation is expected to produce. It is the ratio of usable output to input quantity. This value can be less than 100 percent, due to loss at one or more operations. The system calculates the cumulative yield in reverse of the operations' sequence. The system uses this value to increase the labor hours to make up for loss within the operation or to decrease labor hours if the cumulative planned yield percent is higher than 100 percent.

The system updates the operation scrap percent value on the bill of material. The operation scrap percent represents the expected amount of scrap material that is created at each operation. The system calculates this value by compounding the yield percentages from the last operation to the first operation. The system uses this value to increase or decrease the amount of materials to account for loss within the operation.

From the Advanced Product Data Management (G3031) menu, select Planned Yield Update.

Example: Component Scrap

This table illustrates the calculations for cumulative planned yield and operation scrap.

Step	Operational Planned Yield Percent	Cumulative Planned Yield Percent	Operation Scrap Percent
40	80	80 percent	(100/0.8) - 100 = 25 percent
30	90	.80 x .90 x 100 = 72 percent	(100/0.72) - 100 = 39 percent
20	100	.72 x 100 = 72 percent	(100/0.72) - 100 = 39 percent
10	95	.72 x .95 x 100 = 68 percent	(100/0.68) - 100 = 47 percent

Forms Used to Create Routing Instructions

Form Name	Form ID	Navigation	Usage
Enter Routing Information	W3003B	Daily PDM Discrete (G3011), Enter/Change Routing On Work With Routing Operations, complete the Branch/Plant, Item Number, Routing Type, and Item Rev fields and click Add.	Enter routing instructions. Enter outside operations.

Setting Processing Options for Enter Change Routing (P3003)

Use these processing options to control the system display, set default values, control processing, set requirements for interoperability, and specify versions.

Display

These processing options control whether these fields appear in the routing header.

1. Line/Cell

Specify whether the system displays the Line/Cell field in the routing header. The Line/Cell number defines a production line or cell in repetitive manufacturing. Values are:

Blank: Do not display the Line/Cell field.

1: Display the Line/Cell field.

2. Routing Type

Specify whether the system displays the routing type (40/TR) in the routing header. You can define routing types to meet the needs of the organization. Values are:

Blank: Do not display the Routing Type field.

1: Display the Routing Type field.

3. Batch Quantity

Specify whether the system displays the Batch Quantity field in the routing header. The batch quantity is the number of finished units that you expect this bill of material or routing to produce. You can specify varying quantities of components based on the amount of finished goods expected. Values are:

Blank: Do not display the Batch Quantity field.

1: Display the Batch Quantity field.

Defaults

This processing option controls what routing type is used as a default value.

1. Type of Routing

Specify the routing type that the system displays. Routing types are defined in UDC 40/TR. You can define routing types that correspond to routing instructions. Examples include:

M: Standard Manufacturing Routing.

RWK: Rework Routing.

RSH: Rush Routing.

If you include the routing type in the routing header, the related routing instructions apply.

Note. Product Costing and Capacity Planning use only M routing types.

Process

These processing options control whether the program is called in inquiry or revision mode, as well as whether the operation scrap percent value in the bill material and the cumulative yield value on the routing are updated.

1. Mode - Processing

Specify whether the system uses inquiry mode or revision mode for the Work With Routing Master program. If you specify inquiry mode, you can add routings but you cannot revise existing routings. If you specify revision mode, you can add routings and change existing routings. Values are:

0: Inquiry mode (default).

1: Revision mode.

2. Update Component Operation Scrap Percent and Cumulative Yield

Specify whether the system updates the fields for the components in the operation when you update the operation yield percent:

- Operation Scrap Percent in the Bill of Material Revisions program (P3002).
- Cumulative Yield Percent in the Work With Routing Master program (P3003)..

Values are:

Blank: Do not update the Operation Scrap Percent and Cumulative Yield Percent.

1: Update the Operation Scrap Percent and Cumulative Yield Percent.

Interop

These processing options control processing for outbound transactions.

1. Transaction Type Specify the transaction type that the system uses for export processing or that the system uses for the supply chain scheduling and planning. Transaction Type is a UDC (00/TT) that specifies the type of transaction for the rate schedule.

Note. Blank is a value if you do not use export processing.

2. Outbound Processing Version Specify the version that the system uses when you access the Outbound Processing program from the Work With Routing Master program. If you leave this processing option blank, the system uses version ZJDE0001.

3. Before Image Processing Specify whether the system writes the before image for an outbound change transaction. Values are:

Blank: Do not write the before image for a change transaction.

1: Write the before image for a change transaction.

Versions

These processing options control which version that the system uses when you call the programs from the Enter/Change Routing program.

1. Bill of Material Revision (P3002) Specify the version that the system uses when you access the Bill of Material Revisions program from the Enter/Change Routings form. If you leave this processing option blank, the system uses version ZJDE0001.

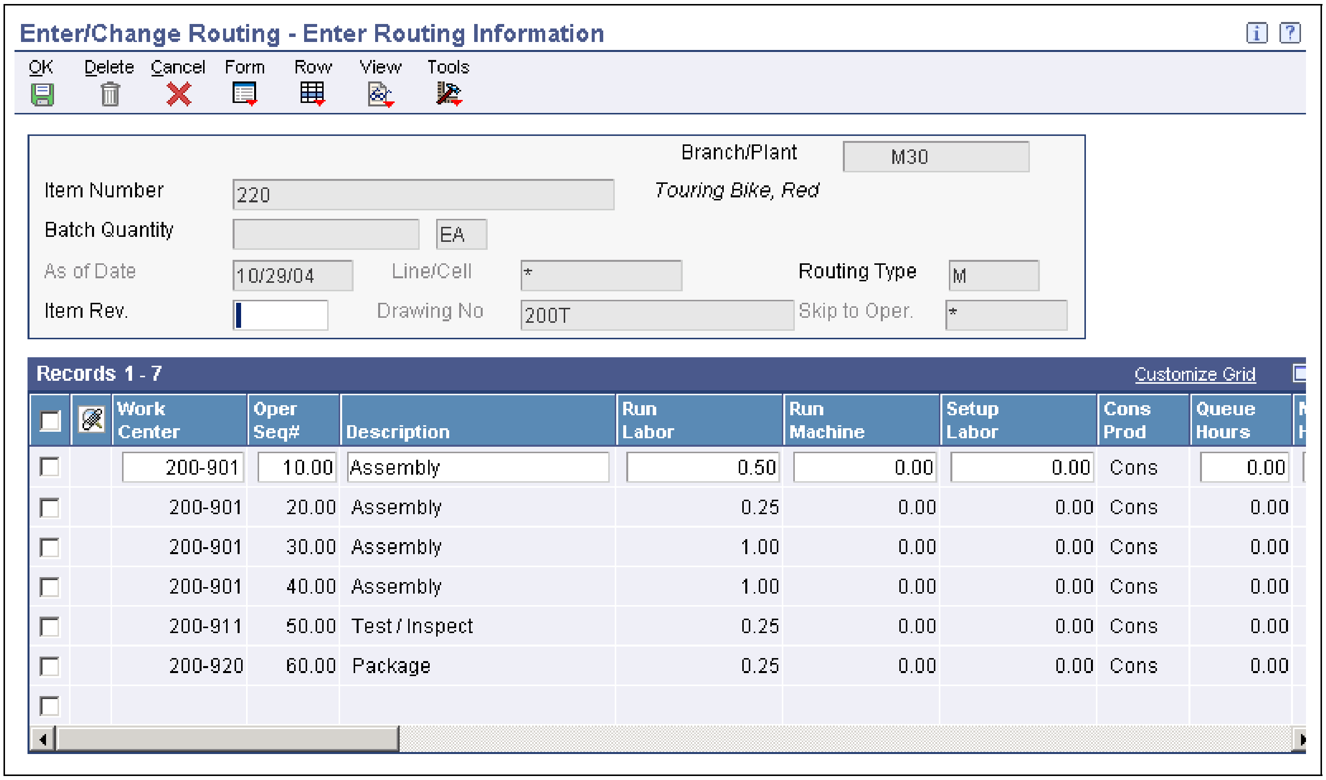
2. Work With Assets (P1204) Specify the version that the system uses when you access the Work With Assets program (P1204) from the Enter/Change Routings form. If you leave this processing option blank, the system uses version ZJDE0001.

3. Work With Item Master (P4101) Specify the version that the system uses when you access the Item Master program (P4101) from the Enter/Change Routings form. If you leave this processing option blank, the system uses version ZJDE0001.

4. Work With Activity Based Costing Workbench (P1640) Specify the version that the system uses when you access the Activity Based Costing Workbench program (P1640) from the Enter/Change Routing form. If you leave this processing option blank, the system uses version ZJDE0001.

Entering Routing Instructions

Access the Enter Routing Information form.



Enter Routing Information form

Item Rev. (item revision)

Enter a number that indicates the revision level of a routing. This number is usually used in conjunction with an engineering change notice or engineering change order. The revision level of the routing should match the revision level of its associated bill of material, although the system does not check this.

This value is user defined and not maintained by the system.

Run Labor

Enter the standard hours of labor that you expect to incur in the normal production of this item.

The run labor hours in the Routing Master table 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.

For Equipment/Plant:

This is the estimated number of hours needed to complete a maintenance activity.

Run Machine

Enter the standard machine hours that you expect to incur in the normal production of this item.

Setup Labor

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

Cons Prod (consumed produced)

Displays a code that indicates whether consumed resources, produced resources, or both are defined for the operation. Values are:

Blank: No consumed or produced resources are defined for the operation.

Cons: Consumed resources (components, ingredients) are defined going into the operation.

Prod: Produced resources (co-products, by-products) are defined coming out of the operation.

Both: Both consumed resources (components, ingredients) and produced resources (co-products, by-products) are defined for the operation.

Note. If this field is highlighted, then an intermediate exists for the operation.

Line/Cell Enter a number that defines a production line or cell. Detailed work center operations can be defined inside the line or cell.

Type Oper (type operation) Specify a UDC (30/OT) that indicates the type of operation. Values include:

A: Alternate routing

TT: Travel time

IT: Idle time

T: Text

For Product Costing:

Only operations with a blank type operation code are costed.

DFM Operation on Critical Path Set a flag to indicate if an operation exists on the critical path for a particular item. If this field is set to a *1,* then it is the main line. This field is used during the lead time calculations.

This flag is set in DFM and cannot be changed manually. If you do not have DFM and enter a routing in base manufacturing, the value in the Critical Path field is set to a *1* for each operation. Never change this field manually.

Equipment Number Specify an identification code that represents an asset. You enter the identification code in one of these formats:

1. Asset number (a computer-assigned, 8-digit, numeric control number).
2. Unit number (a 12-character alphanumeric field).
3. Serial number (a 25-character alphanumeric field).

Every asset has an asset number. You can use unit number and serial number to further identify assets. If this is a data entry field, the first character that you enter indicates whether you are entering the primary (default) format that is defined for the system or one of the other two formats. A special character (such as / or *) in the first position of this field indicates which asset number format that you are using. You assign special characters to asset number formats on the fixed assets system constants form.

Standard Desc. (standard description) Enter a message code (48/SN) that is assigned to a standard note, message, or general narrative explanation. You can use this code to add instructional information to a work order. You set up codes for this field on the Generic Message/Rate Types table (F00191).

Job Type Specify a UDC (07/G) that defines the jobs within the organization. You can associate pay and benefit information with a job type and apply that information to the employees who are linked to that job type.

Next Oper (next operation) Enter the operation number with which the current operation can be simultaneously processed.

Yield % (yield percent)
Enter the planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the routing and the operation scrap percent in the bill of material. Materials Requirements Planning uses the step scrap percent and the existing component scrap percent to plan component demand.

Cum Yield % (cumulative yield percent)
Displays the cumulative planned output yield percent for a step. The system uses this value to adjust the operation step scrap percent for the components at that operation step. This enables MRP to use the operation step scrap percent, along with the existing component scrap percent, to plan component demand.

Percent of Overlap
Enter a number that indicates the percentage that successive operations can overlap.

The actual overlap percentage entered for the operation sequence is the percent by which that operation overlaps the prior operation. For example, if you enter 80 percent, this indicates that work can begin on the overlapped operation when 20 percent of the prior operation is completed.

Notes:

1. Overlapping has no effect on move and queue calculations.

2. The percent entered must be less than or equal to 100 percent.

Enter percents as whole numbers: 5 percent as *5.00.*

Time Basis
Specify a UDC (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 routing step. For example, 25 hours per 1,000 pieces or 15 hours per 10,000 pieces. You can maintain the time basis codes in Time Basis Codes.

The system uses the values in the Description-2 field on the User Defined Codes form for costing and scheduling calculations. The description is what the code represents, but is not used in calculations.

Consuming Location
Enter the storage location from which goods will be moved.

Resource Units
Enter a number that indicates how many of the line’s resource units are needed to produce one item.

Capacity UOM (capacity unit of measure)
Specify a unit of measure that you use to express the capacity of a production line. Examples of units of measure include hours, number of stampings, coats of paint, and so on.

This item is used for repetitive processing only.

Employee Number
Enter a number that identifies an entry in the Address Book, such as employee, applicant, participant, customer, supplier, tenant, or location.

Competency Type
Specify a code that identifies a competency table or category for which you can track employee competencies. Values are:

001: Training.

002: Skill.

003: Accomplishment.

004: Certification.

005: Degree.

006: Language.

It is a UDC (05/CY), but the values are hard-coded and cannot be changed. Therefore, each of the competencies that you track must pertain to one of these competency types. Adding additional values to this list requires system customizations.

Competency Code Enter a code that specifies a competency within a competency type. For example, a competency for the competency type Skill might be C programming or driving a forklift.

Level From Enter the lowest value to be included in the rule criteria range for a competency level range selection.

Level To Enter the highest value to be included in the rule criteria range for a competency level range selection.

Match Rule Enter a value to indicate whether the resource must satisfy the requirements that define the rule criteria. Values are:

1: The resource must meet the rule criteria.

0: The rule criteria are optional.

Entering Outside Operations

Access the Enter Routing Information form.

Supplier Enter the address book number of the preferred provider of this item.

Cost Type Enter a code that designates each element of cost for an item. Examples of the cost object types are:

A1: Purchased raw material.

B1: Direct labor routing roll up.

B2: Setup labor routing roll up.

C1: Variable burden routing roll up.

C2: Fixed burden routing roll up.

Dx: Outside operation routing roll up.

Xx: Extra add-ons, such as electricity and water.

The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure enables you to use an unlimited number of cost components to calculate alternative cost roll-ups. The system then associates these cost components with one of six user-defined summary cost buckets.

Dx is the only relevant code for outside operations. For outside operations, the value that you enter indicates the cost component with which to associate costs. You should not enter the same cost component for more than one operation. If you do, the cost component includes the total cost of all operations. When the material is received from one operation, the system calculates the cost of the operation using the total cost of all operations.

PO (Y/N) (purchase order [yes/no])	Enter a code to determine if the Work Order Generation program (P31410) creates a purchase order for a subcontracted operation within a routing. Values are: *Y:* Yes, create a purchase order. *N:* No, do not create a purchase order.

Updating Component Scrap

From the Advanced Product Data Management (G3031) menu, select Planned Yield Update.

Setting Processing Options for Planned Yield Update (R3093)

Use these processing options to set the defaults for Planned Yield Update.

Defaults

This processing option specifies the date used by the program.

Date 01	Specify the as of date for the Planned Yield Update. If left blank, the current date is used.

Calculating Lead Times

This section provides an overview of lead time and lead time calculations and discusses how to:

- Generate lead times
- Set processing options for Leadtime Rollup

Understanding Lead Time

Determining lead time 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 the extra time (lead time) and account for it in planning.

For Demand Flow® Manufacturing, the system calculates lead time based on the operations flagged as critical in the Critical Path field. If you do not use DFM and enter a routing in base manufacturing, a value of *1* is set in the Critical Path field for each operation.

Important! The Critical Path flag is set in DFM and cannot be changed manually upon import to base manufacturing. The value in the Critical Path field is set to *1* for routings entered in base manufacturing and should never be changed manually.

Cumulative lead time is the total amount of time that is required to produce a product. Shop Floor Management uses the requested date of the order and calculates the appropriate order start date, based on the methods used to define the level lead time or lead time per unit for the product. Many factors can influence the company's lead time policy, including:

- Manufacturing environment (assemble-to-order, make-to-order).
- Fixed or variable quantities.

- Serial or overlap operations.
- Fixed or variable time.
- Number of shifts and operators.
- Factoring by efficiency.
- Protection.

Whether the company uses fixed or variable lead time depends on whether you have consistent work order quantities for a manufactured item. If the work order quantities vary significantly, you use variable lead time. A significant variation is any amount that requires more or less lead time. Items with short lead times can have larger fluctuations than items with long lead times. You specify fixed or variable lead time on the Additional System Information forms in the Item Master program (P4101) and the Item Branch/Plant program (P41026). The system calculates lead times for parent and component items based on this information combined with the work center information and routing instructions that are set up in Product Data Management. At any point in the planning and scheduling process, you can change lead time values manually.

The system subtracts fixed lead times directly from the requested date on the work request to calculate the start date of production. Fixed lead time remains the same, regardless of the quantity produced. However, variable lead time adjusts according to the quantity produced.

For any manufactured product, the system calculates four types of lead time:

Lead Time Type	Description
Level lead time	The number of workdays required to complete the product after all items are available.
Manufacturing lead time	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.
Cumulative lead time	The number of workdays required to acquire items and complete a product, from its lowest-level components to the final item. Cumulative lead time is the level lead time for a product plus the longest cumulative lead time of any of its components.
Per unit lead time	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 lead time per unit. You use this lead time calculation when the Fixed/Variable option in the Item Master and the Item Branch/Plant programs is set to variable lead time.

The Shop Floor Management system uses specific information to calculate lead times:

- Serial or overlap operations.
- Fixed or variable lead time indicator.
- Routing labor, setup, queue, move, and machine run hours.
- Work center prime load code.
- Number of employees or machines per work center.
- Hours per work day.

Lead Time Concepts

The table explains important lead time terms and concepts that you must understand:

Type of Hours	Description
Machine hours	The number of machine hours that are required to produce the amount from the time basis code.
Labor hours	The number of labor hours that are required to produce the amount from the time basis code.
Setup hours	The number of hours that are 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 it.
Total queue and move hours	The sum of the move hours and the queue hours.
Time basis code	A UDC (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, such as 25 hours per 1,000 pieces.
Resource units	The available amount of capacity in a work center for the months in the calendar. 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 the Enter/Change Resource Units program (P3007).

Type of Hours	Description
Prime load code	A code that indicates whether a work center is labor-intensive or machine-intensive. The prime load code also indicates whether the system uses the number of employees or the number of machines to determine the daily resource units in the Work Center Resource Units table (F3007). You maintain the prime load codes in the Enter/Change Work Centers program (P3006). For calculating lead times, these prime load code values are valid: • L = run labor hours. • M = machine labor hours. • B = run and setup hours. • C = machine and setup hours. • O = Other.
Purchased parts	A part bought from a supplier. For any purchased part, you specify the level lead time, which is equal to the cumulative lead time. By default, the manufacturing lead time, lead time per unit, total queue and move hours, and setup times for purchased parts are zero.

Work Order Start Dates

When an item has a fixed lead time, the system uses the item's level lead time value to backschedule the work order start date. For backscheduling, the start of a work order is based on the due date of the order.

For example, suppose that the system generates a planned order with a requested due date of October 15. The level lead time is three days for this product, so the system calculates the start date by counting back three working days on the shop floor calendar from (but not including) the requested date. The system assigns the order a start date of October 12.

When an item has a variable lead time, the system uses this calculation to determine the lead time days:

(Lead time per unit x order quantity / TIMB*) + setup + total queue/move = Variable lead time

The system reads the time basis code (TIMB) from the Item Branch File table (F4102).

The calculation uses these values:

- Due date: October 15.
- Lead time per unit: 32 hours.
- Order quantity: 1,000.
- Setup: 1 hour.
- Total queue/move: 9 hours.
- Work hours per day: 8 hours.

  ((32 x 1000 / 10,000) + 1 + 9) / 8 = 2 days

To determine the start date, the system counts back the lead time days from the due date of planned orders. The system back schedules the due date, October 15, two days to determine the start date of October 13.

Note. Lead time per unit does not use crew size to calculate lead time for an item with a labor-based work center. However, lead time per unit does use the number of employees in the work center to calculate lead time.

Operation Start Dates

The system calculates the operation start dates with the average number of hours per operation.

For a fixed lead time, the system calculates the operation hours using:

- Level lead time.
- Hours per work day.
- Number of employees per operation.
- Number of operations.

You must schedule the hours per operation according to the resource units within the entire level lead time to ensure 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 last operation due date on the day before the work order due date.

The system uses this formula to calculate average time per operation:

Level lead time x work hours per day x employees or machine number of operation sequences (blank operation sequence codes only) = average time per operation.

The work hours per day are retrieved from the Manufacturing Constants table (F3009).

The calculation uses these values:

- Work order due date: May 1
- Average time per operation: 25 hours
- Operations in the routing instructions:
- OP40 WC 200-204 due April 30 start April 27
- OP30 WC 200-101 due April 27 start April 24
- OP20 WC 200-204 due April 24 start April 21
- OP10 WC 200-101 due April 21 start April 17
- WC Resource Units 200-204: 8
- WC Resource Units 200-101: 8

To determine variable lead times, the system schedules the actual hours from the work order routing instructions according to the same resource unit rules used for fixed lead time.

The system uses the prime load code to determine the hours to use. The hours are then applied to the Work Center Resource Units table, similar to fixed lead time. The system applies the queue time from the work order routing instructions at the beginning of an operation and the move time at the end of an operation.

Overlapping and Concurrent Operations

If a percent of overlap is specified in the routing instructions, the work order routing instruction includes specified operations that overlap. For example, an overlap percentage of 80 percent for an operation means that the next operation can start when 20 percent of the previous operation is complete.

Consider this example:

- Work order complete date: May 1
- Last operation 20: 24 hours
- First operation 10: 24 hours
- Resource hours per day, per work center: 8 hours
- Operation overlap on 20: 75 percent

This graphic illustrates overlapping operations.

Operation	Without Overlap	With Overlap
Operation 10		
Start date	April 27	April 27
Complete date	April 29	April 29
Operation 20		
Start date	April 30	April 27
Complete date	May 2	April 30

Operation start and complete dates

Using data from the previous tables, the system advances the complete date of the previous operation by 75 percent of 24 hours, or 18 hours. The system then recalculates the start date using normal back scheduling rules. As a result, operations 10 and 20 overlap and takes 24 hours to complete. This graphic illustrates this concept:

Date	April 27	April 28	April 29	April 30	May 1	May 2
Resource hours	8	8	8	8	8	8
OP 10 (24 hrs) (w/o overlap)	←	—	→			
OP 20 (24 hrs) (w/o overlap)				←	—	→
OP 10 (w/overlap)	←	—	→			
OP 20 (w/overlap)	←	—	—	→		

Operation schedule with and without overlap

Understanding Lead Time Calculations

You must generate lead times for Material Requirements Planning and Capacity Requirements Planning. The Leadtime Rollup program (R30822A) calculates planned level lead times for manufactured items and updates them in the Item Branch File table (F4102). This program calculates:

- Level lead time (if using manufacturing lead time quantity).
- Manufacturing lead time.
- Cumulative lead time.
- Lead time per unit.
- Total queue and move hours.
- Setup hours.

When calculating the lead time per unit, you can set a processing option so that the number of employees or machines in the work center that you use to divide the run time in the routing by is set to 1. This value overrides the actual number of employees or machines in the work center.

Important! You cannot run this program in proof mode. It updates the records according to the processing options that you select. Changes to lead times affect the Materials Requirements Planning and Capacity Requirements Planning systems. Run this program without any data selection and with no changes to data sequencing.

Level Lead Time

For a manufactured product, level lead time is the number of workdays that is required to complete the product after all of the items are available. Level lead time for a purchased item is the number of calendar days that are required for you to receive the item after the supplier receives the purchase order. Level lead time is not calculated if the Manufacturing Lead Time in F4102 is zero. This example illustrates where the level lead times occur for a manufactured item and a purchased item:

The system uses the formula to calculate level lead time:

∑{[[{(M or L)/(E or M)} / {(EF or UT)*(CUM Yield)}] *MLQ] / TIMB} + Setup + Total Queue & Move = Work Hours per Day

The work hours per day are retrieved from Manufacturing Constants table (F3009). The system reads the time basis code from the Routing Master File table (F3003).

This table defines the values used in the formula:

Value	Description
M or L	Machine or labor hours based on the prime load code
SUM	Sum of all operations
TIMB	Time basis code
MLQ	Manufacturing lead time quantity
E or M	Number of employees or machines in the work center
Setup	Information from the routing

Value	Description
Queue	Queue plus move time from the routing or work center
EF or UT	Efficiency or utilization from the work center
CUM Yield %	Yield from the routing

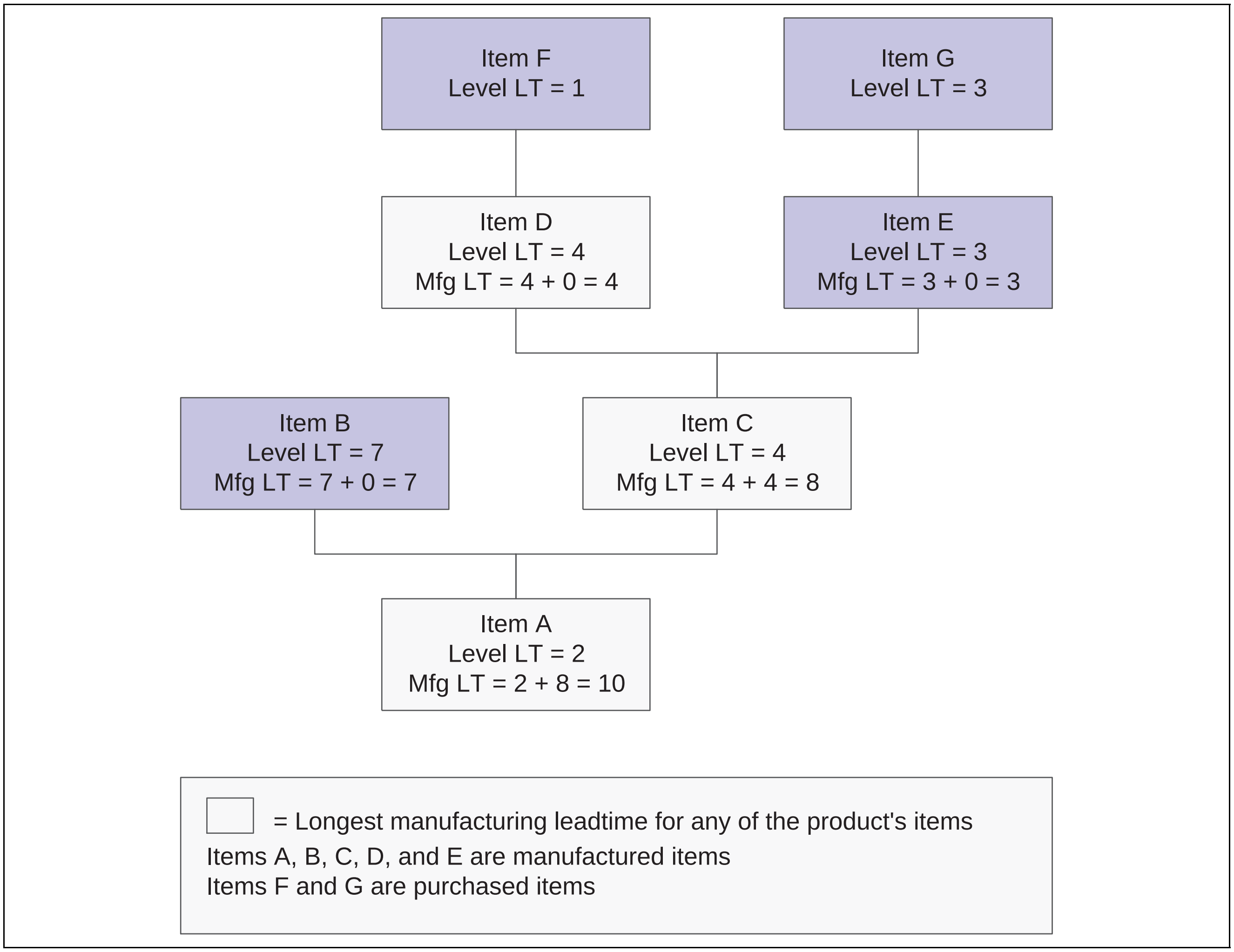
Manufacturing Lead Time

Manufacturing lead time 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. Manufacturing lead time includes:

- Order preparation time
- Queue time
- Setup time
- Run time
- Move time
- Inspection time
- Putaway time

Manufacturing lead time is the total of the level lead time for an item plus the longest manufacturing lead time for any of its components. Lead time for purchased items is not included in manufacturing lead time calculations.

The graphic, which depicts the calculation for manufacturing lead time, illustrates where the manufacturing lead time occurs in the process for a manufactured item:



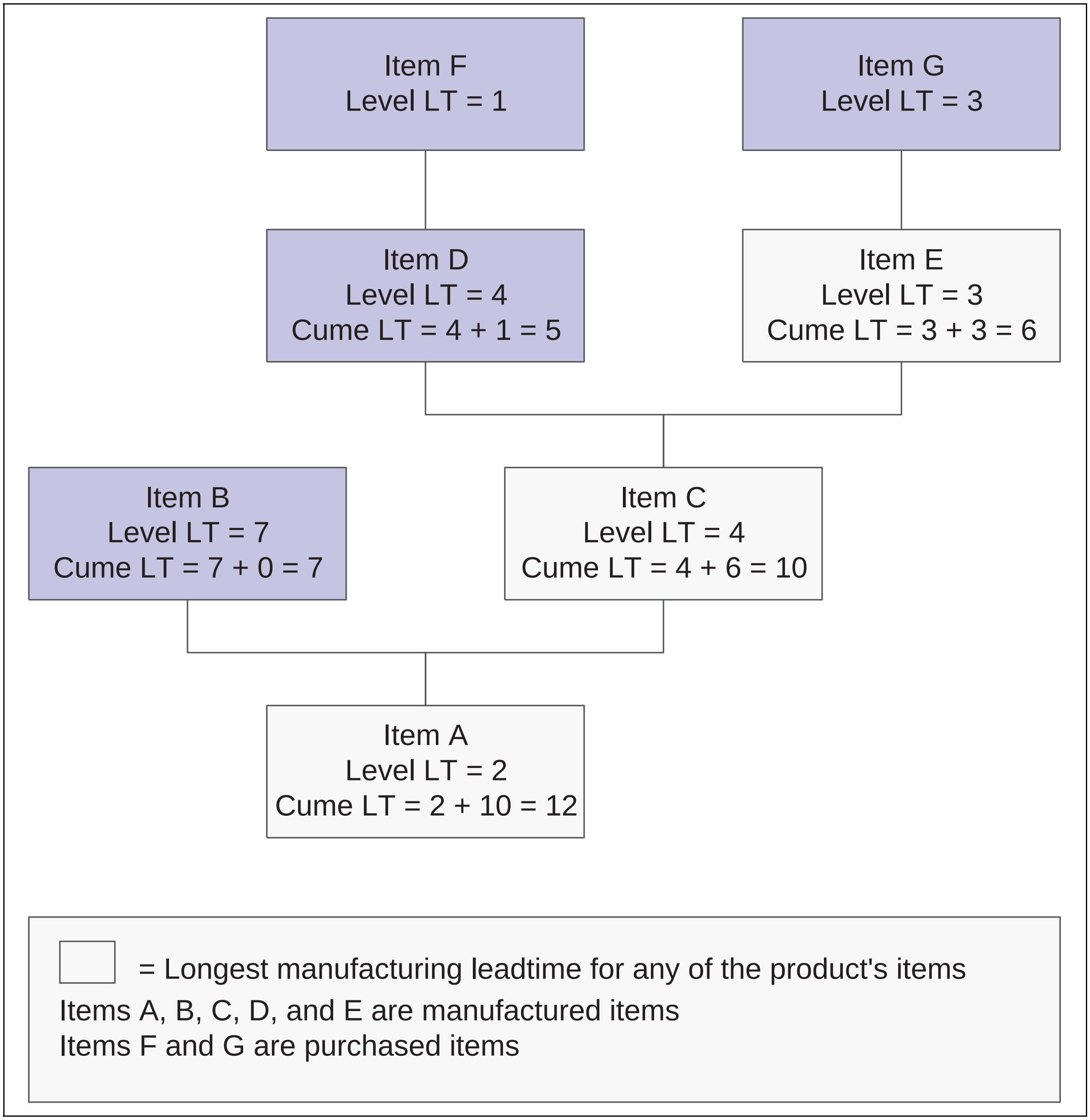
Manufacturing lead time calculation

Cumulative Lead Time

Cumulative lead time, unlike manufacturing lead time, includes the lead times for purchased items. It includes both the time to acquire purchased items and the time to complete the product.

Cumulative lead time is the number of workdays that are required to acquire items and complete a product, from its lowest-level components to the final item. Cumulative lead time is the level lead time for a product plus the longest cumulative lead time of any of its components. The cumulative lead time for a purchased item is its level lead time.

This graphic illustrates the calculation for cumulative lead time:



Cumulative lead time calculation

Lead Time Per Unit

The lead time per unit 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 lead time per unit. The lead time per unit sets valid start dates for orders planned in other-than-normal planned order quantity. When you run the Leadtime Rollup program, the system measures the lead time per unit in hours.

The system uses this formula to calculate the lead time per unit:

∑ { ((M or L)/(E or M)) / ((EF or UT)*(CUM Yield)) } / TIMB1 TIMB2

The system reads the time basis code 1 (TIMB1) from the Item Branch File table (F4102) and the time basis code 2 (TIMB2) from the Routing Master File table (F3003).

If the processing option to override the number of employees or machines in the work center is set to one, the system uses this formula:

∑ { ((M or L)/(1)) / ((EF or UT)*(CUM Yield)) } / TIMB1 TIMB2

This table defines the values used in the formulas:

Value	Description
M or L	Machine or labor hours based on the prime load code
SUM	Sum of all operations
TIMB1	Time basis code from the Item Branch File table
TIMB2	Time basis code from the routing
E or M	Number of employees or machines in the work center
EF or UT	Efficiency or utilization from the work center
CUM Yield %	Yield from the routing

Setup Hours

Setup hours indicate the time that is required to prepare the machinery to run a specific item. To calculate setup hours, divide the setup by the number of employees or machines for each routing, and then add the values together. This formula ensures consistency during the backscheduling routing because the resource units for the work center are created based on those numbers.

In this example, the setup hours equal six hours:

$$\frac{\text{Setup}}{\text{Employees or machines}} = \underset{\text{OP 30}}{\frac{1}{1}} + \underset{\text{OP 60}}{\frac{2}{1}} + \underset{\text{OP 80}}{\frac{6}{2}} = 6 \text{ setup hours}$$

Setup hours calculation

Generating Lead Times

From the Advanced PDM menu (G3031), select Leadtime Rollup.

Setting Processing Options for Leadtime Rollup (R30822A)

Use these processing options to set default values for the Leadtime Rollup program.

Defaults

These processing option specify the branch/plant and routing effectivity dates to use when calculating lead times.

Branch

Specify the branch/plant to be processed or leave this field blank for all branches.

As of Date

Enter the routing effectivity date that the system should use to calculate the lead times. If you leave this field blank, today's date is used.

Calculate Leadtime for Queue/Move Time

Specify how the system uses queue and move hours to calculate Level Leadtime. Values are:

Blank: Use queue and move hours as a percentage of the work center shift hours per day.

1: Use queue and move hours as a percentage of the work hours per day from Manufacturing Constants.

Zero Move/Queue Hours From Routings

Specify what to do with a zero value in the standard routing for the move and queue hours when calculating the item lead time. Values are:

Blank: Use zero move and queue hours from the standard routing to calculate item lead time.

1: Use move and queue hours from the Work Center Master file for any zero hours in the standard routing.

Override Number of Employees/Machines

Specify a value to override the number of employees or machines in the work center. Values are:

Blank: Use the existing number of employees or machines in the work center.

1: Override the number of employees or machines to 1 for all work centers in the routing.

CHAPTER 6

Working With Process Manufacturing

This chapter provides an overview of process manufacturing and process terminology and discusses how to:

- Enter processes.
- Verify processes.

Understanding Process Manufacturing

Process manufacturing produces products such as liquids, fibers, powders, or gases. Pharmaceuticals, foodstuffs, and beverages are typical examples of process products and represent a significant share of the manufacturing market. These types of products are usually manufactured by a two-step process:

- Mixing or blending
- Filling or packaging

Intermediate steps, such as curing, baking, or additional preparation, can also occur. Intermediates enable 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 in a routing instruction.

Process manufacturing uses recipes or formulas, and resources or ingredients. Resources can either be consumed or produced during the manufacturing process. Products that the process produces are called co-products and by-products. In a process recipe or formula, the quantity of a component can vary according to its grade or potency.

The different types of processing in process manufacturing are as follows:

- Batch processing

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

- Continuous processing

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

In addition, strategies similar to those in discrete manufacturing, such as repetitive or to-orders (for example, make-to-order, assemble-to-order, or engineer-to-order) might drive the process. Usually, both batch and continuous processing methods require extensive record keeping on quality and tolerance values during the process, as well as strict adherence to lot tracing and tracking.

Not all processes are planned, scheduled, or produced in their primary unit of measure. To accommodate this situation, full unit of measure capabilities are enabled throughout the Shop Floor Management system.

Most entry programs have a unit of measure next to the quantity fields, and the unit of measure is stored in the database tables along with the quantities. The system uses four fields in the Item Master table (F4101) throughout shop floor as default values in entry forms:

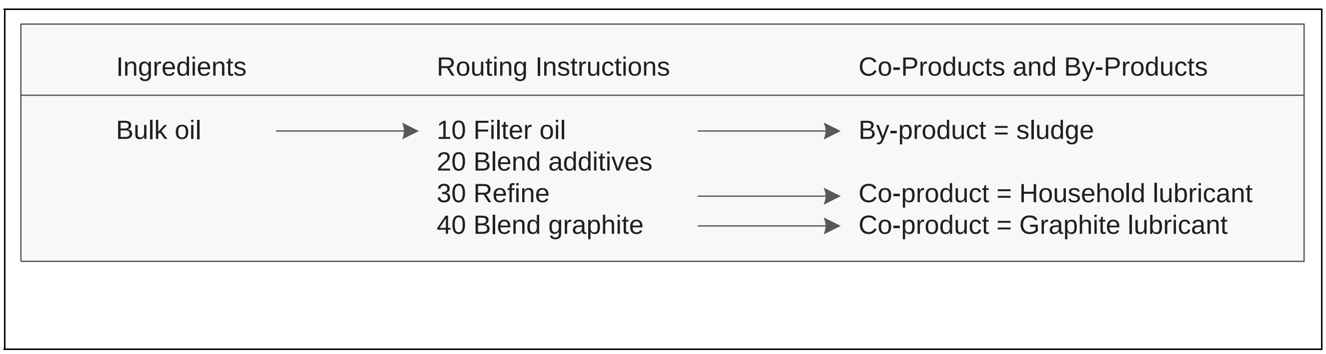
- Component Unit of Measure
- Production Unit of Measure
- Primary Unit of Measure
- Secondary Unit of Measure

The Primary Unit of Measure value must be the smallest of the three units of measure. If intermediates exist for an operation, the intermediate can be any valid unit of measure as long as the conversion is set up.

The next section provides different examples of process manufacturing.

Graphite Lubricant Batch Process

This graphic illustrates the ingredients, routing instructions in operation number sequence, and the co-products and by-products that the graphite lubricant batch process produces:



Graphite Lubricant Batch Process

Percent Process

In the example, the parent item is Soft Drink and its batch quantity is 300 GA:

Component	Quantity	Unit of Measure	Fixed/Variable
Vanilla	50	GA	Percent
Water	40	QT	Percent
Concentrate	10	LT	Percent

The table displays the percent calculation and conversion to batch unit of measure storage:

Component	Calculation	Batch Size	Converted Value
Vanilla	= .5 X 300	= 150 GA	150 GA
Water	= .4 X 300	= 120 GA	480 QT
Concentrate	= .1 X 300	= 30 GA	114 LT

The system uses the component unit of measure in the percent bill to convert the number of gallons that correspond to the percent for each component. In this example, the system calculates the water and concentrate components to be 120 GA and 30 GA of the batch size. The system converts the unit of measure to the component unit of measure and stores them as 480 QT and 114 LT.

You must set up the unit of measure conversion for percent bills to work properly. Verify that all of the components can convert to the batch quantity unit of measure.

Understanding Process Terminology

You should be familiar with the process manufacturing terms before using process manufacturing:

Process Term	Description
Co-Products	Many process steps create more than one output. A co-product is produced by process steps that are defined for specific ingredients. Co-products are usually the main products that companies sell to customers. For example, a graphite lubricant process creates two co-products: household and graphite lubricants. Material Requirements Planning plans for co-product demand.
By-Products	A by-product is produced as a residual or incidental item that results from the process steps. Companies can recycle, sell, or use by-products for other purposes. For example, a graphite lubricant process creates one by-product: sludge. Material Requirements Planning does not plan for by-product demand.
Ingredients	An ingredient is the raw material or item that is combined during process manufacturing to produce the end item. Typically, raw materials are purchased.
Intermediates	Intermediates enable 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 in a routing. You can manually attach intermediates. Intermediates are not stocked in inventory, sold to customers, or planned by MRP. 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.
Process Routing Instructions	A process routing instruction details the method of manufacture for a specific process item. It includes operations and operation sequence, work centers, and standards for setup and run. You can also define operator skill levels, inspection operations, and testing requirements.

Process Term	Description
Substitutes	A substitute item is an alternate item that the system uses in production when the primary item is not available. You can define substitutes for a single ingredient within the process. You might need to do so for several reasons, such as quality concerns, inventory shortages, or supplier delivery problems.
Alternate Operations	An alternate operation is a replacement for a normal operation for an item in the manufacturing process. You can define an alternate operation to be performed only as required, such as using oven B if oven A is unavailable. This information assists shop floor personnel, but it is not used by the Product Costing or the planning and execution systems.
Batch Processes	In batch processing, items are produced in fixed quantities, or batches. Food, petroleum, and pharmaceutical industries use batch processing. The batch process feature enables you to define different processes for items based on quantity or batch size, since processes vary by quantity.
Percent Bills of Material	Percent bills of material enable you to define processes with ingredient quantities that are expressed as a percent of the process batch quantity. The system processes percent information as follows: • Multiplies the ingredient percentage times the batch quantity to obtain ingredient quantities expressed in the batch quantity unit of measure. • Converts the ingredient quantities from the batch unit of measure to the ingredient unit of measure. The system stores quantities for ingredients as follows: • Calculates a percentage for the ingredient in relation to the batch size. • Converts the batch unit of measure to the ingredient unit of measure and stores the quantity for the ingredient. **Note.** Percent bills of material are not supported in Demand Flow® Manufacturing.

Common Elements Used in This Chapter

Oper Seq# (operation sequence number)

Enter a number used to indicate an order of succession.

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.

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.

In engineering change orders, a number that sequences the assembly steps for the engineering change.

For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced.

Skip To fields enable you to enter an operation sequence that you want to begin the display of information.

You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.

Effective From

Enter a date that indicates:

- When a component part goes into effect on a bill of material.
- When a routing step goes into effect as a sequence on the routing for an item.
- When a rate schedule is in effect.

The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.

Effective Thru (effective through)

Enter a date that indicates:

- When a component part is no longer in effect on a bill of material.
- When a routing step is no longer in effect as a sequence on the routing for an item.
- When a rate schedule is no longer active.

The default is December 31 of the default year defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.

Feat Cost % (feature cost percent)

Enter 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.

Enter the percentage as a whole number, for example, enter 5 percent as 5.0.

Move Hours

Enter the planned hours that are required to move the order from this operation to the next operation in the same work center.

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 backscheduling variable leadtime items.

Entering Processes

This section provides an overview of product data entry for process manufacturing and discusses how to:

- Enter processes and process operations.

- Enter outside operations.
- Enter process ingredients.
- Enter a substitute ingredient.
- Enter a co- and by-product list.
- Enter intermediates.
- Change multiple processes.

Understanding Product Data Entry for Processes

You use the Enter/Change Process program (P3003) to enter a process. You define a process item with ingredient relationships. Relationships also determine information about co-products, by-products, intermediates, and substitutions. You also enter batch information, batch quantity and unit of measure for the process.

After you enter a process, you must enter the process operations. Operations define the work centers and labor standards that are required to manufacture the process item. To enter the process operations, you must provide:

- Work center and operation sequence for the process.
- Hours for any machine, labor, setup, move, and queue time that you might incur.

For operations that you set up as outside operations, you need to specify a supplier and indicate that a purchase order is required.

Note. You have the option to access work center information for a particular operation by choosing the Work Center option on the Row menu of the Work With Routing Master form or the Enter Process Information form.

If you are using activity-based costing, you can enter an activity code for each operation sequence to indicate how you want the system to account for the operation. To activate the Activity Code field, you need to select activity-based costing in the Advanced Cost Accounting Constants program (P1609).

After you define operations for each process, you must enter the ingredients. These ingredients are the raw materials or items that are combined during operations to produce the process item. When entering process ingredients you can provide:

- Ingredients for each operation.
- Minimum and maximum grade or potency ranges that apply to the ingredients.
- Substitute ingredients that the system uses when the primary ingredient is not available.
- Percentages of applicable ingredients that the system uses.

When entering grade and potency information, you can only enter grade or potency values for an ingredient, but not both. You can only enter grade or potency information for items that are defined as lot-controlled.

You can enter substitute ingredients for components within the parent item. You can use substitute items if you encounter quality issues, inventory shortages, or supplier problems with the original component. The system highlights an ingredient's item description to indicate a substitution. Specify ingredient substitution for a specific process. Use item cross references for global substitutions.

You can enter as many ingredients in the form of percentages as necessary, but the sum of the percentages must equal 100 percent. The system uses the batch size to calculate percentages of the process for each ingredient. You should verify that each ingredient can convert to the process unit of measure, either by using the item unit of measure conversion or the standard unit of measure conversion.

You can enter production and cost information based on demand for a specified feature. You specify an issue type code that identifies how the system issues each component from stock. You identify how many days before or after the start of the process that a component is needed. You also identify the percentage of demand for a specified feature and the percentage that is used to calculate the cost of the feature.

Many process steps create more than one output. You can enter co-products, which are usually the main products that companies sell to customers, or by-products, which are produced as a residual item to the process steps.

Note. If you are entering a co-products and by-products list for a batch process, verify that the ratio of the co-products and by-products is the same for each batch quantity. For example, if a batch process with a batch quantity of 10 produces 10 each of a co-product and by-product, then a batch quantity of 20 must produce 20 each of the co-product and by-product.

Intermediates are products that are produced from ingredients in the process. Intermediates are not a finished product, but they do proceed to the next operation in the process. Intermediates enable 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 in the routing instruction.

Use the Where Used Update program (R30520) to change multiple processes. For example, you can use this program to replace an old ingredient with a new one. When you run this program, you can review the report to verify changes. You can use this program to perform various types of mass updates:

- Replace one ingredient with another.
- Delete a process item.
- Change effectivity dates for a process item.
- Change the quantity per assembly value for a process item.
- Change the issue type code.
- Change the unit of measure.

Use data selection to specify the process items that you want to change. Use processing options to define the change. This program finds all occurrences of the item (as an ingredient) in the Bill of Material Master File table (F3002) and updates the process. You can also update an ingredient that has past or future effectivity dates.

You can run this program in either proof or final mode. In proof mode, the system generates a report of the proposed changes for review, but it does not update the data. In final mode, the system generates a report that lists the changes and updates the data according to the selected choices.

Important! This program can potentially change many processes in the system at the same time. It is recommended that you first run it in proof mode to verify the choices, and then run it in final mode to change the data. You might want to restrict access to this program.

To make changes to a process and remove the old records, run the program twice. First, create the new records and then delete the old ones.

The system stores the changes in the Bill of Material Master File table. It does not automatically update the existing parts lists, MRP calculations, and costing information. The program updates:

- Low Level Code field in the Item Master table.
- Net Change Flag field in the Item Branch File table (F4102).

Prerequisite

Review the process to verify that the item that you are updating is active (within the effective dates) and appears in at least one process.

See Also

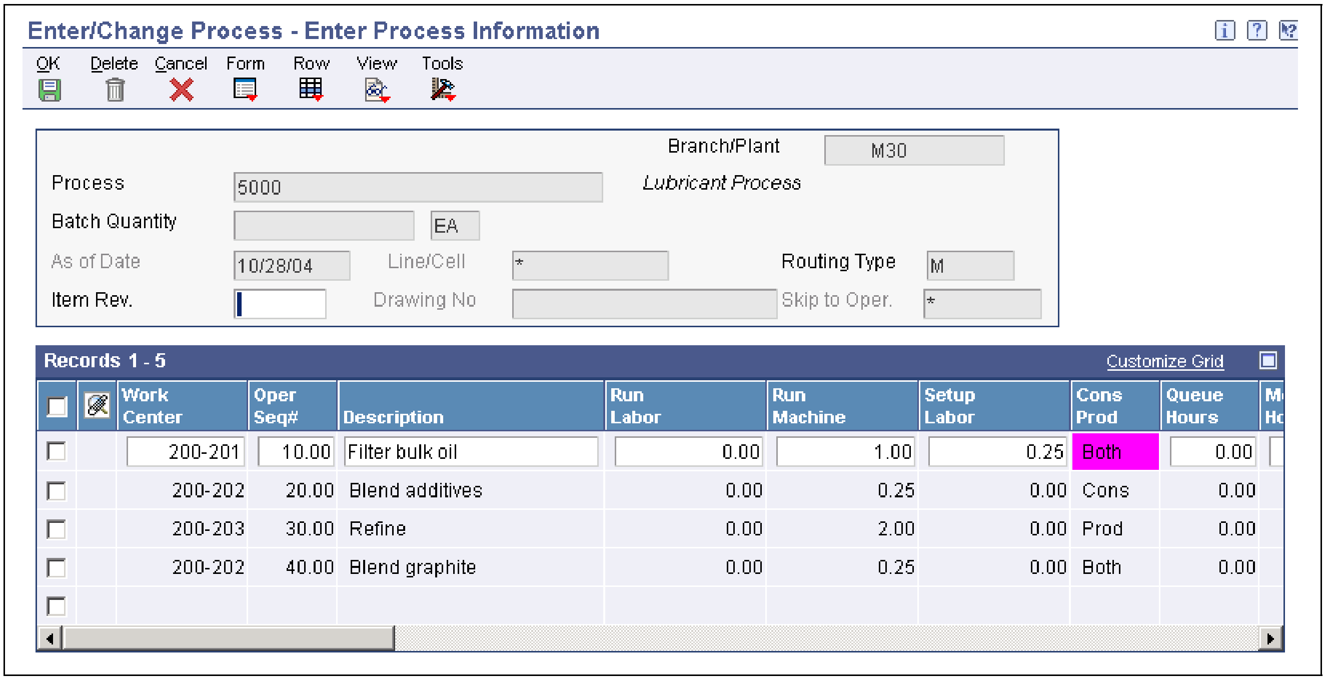
Chapter 5, "Entering Work Centers and Routing Instructions," Updating Component Scrap, page 85

Forms Used to Enter Processes

Form Name	Form ID	Navigation	Usage
Enter Process Information	W3003B	PDM Process (G3012), Enter/Change Process On Work with Routing Operations, complete the Item Number and Branch/Plant field and click Add.	Enter new processes and process operations. Enter effectivity dates, operation yield percentage, operation resource units, and outside operation information.
Enter Ingredients	W3002A	On Enter Process Information, select Ingredients from the Form menu.	Enter the ingredients required for the process together with grade and potency information.
Enter Component Substitutes form	W3002SB	On Enter Ingredients, select an ingredient and then select Substitutes from the Row menu.	Define substitutes for ingredients.
Co/By Product Revision	W3002PA	On Enter Process Information, select Co/By Revision from the Form menu.	Define the co- and by-products for the process.
Enter Intermediate Products	W3002IA	On Enter Process Information, select a process operation, and then select Intermediates from the Row menu.	Define intermediate products for the process.

Entering Processes and Process Operations

Access the Enter Process Information form.



Enter Process Information form

Work Center

Enter the alphanumeric code 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.

This is the physical location of the shop floor where routing operations occur.

Business unit security might prevent you from viewing information about business units for which you have no authority.

For the Equipment system, this is the craft/resource responsible for completing the maintenance activity.

Run Labor

Enter the standard hours of labor that you expect to incur in the normal production of this item.

The run labor hours in the Routing Master table 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.

For Equipment/Plant:

This is the estimated number of hours needed to complete a maintenance activity.

Run Machine

Enter the standard machine hours that you expect to incur in the normal production of this item.

Setup Labor

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

Queue Hours

Enter the total hours that an order is expected to be in queue at work centers and moving between work centers.

The system stores this value in the Item Branch table. 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 and populates the table with calculated values.

Line/Cell Enter a number that defines a production line or cell. Detailed work center operations can be defined inside the line or cell.

Crew Size Enter the number of people who work in the specified work center or routing operation.

The system multiplies the Run Labor value in the Routing Master table by crew size during costing to generate total labor amounts.

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.

For Shop Floor Management:

The Crew Size field on the Work Order Routing form contains the value entered on the Work Center Revision form (P3006). You can override the value by changing this field on the Work Order Routing form. However, the Work Center Revision form will not reflect this change.

Type Oper (type operation) Enter a UDC (30/OT) that indicates the type of operation. Values include:

A: Alternate routing

TT: Travel time

IT: Idle time

T: Text

For Product Costing:

Only operations with a blank type operation code are costed.

P C Enter 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:

0: Not a backflush work center

B: Backflush material and labor

M: Backflush material only

L: Backflush labor only

P: Preflush material only

Job Type Enter a UDC (07/G) that defines the jobs within the organization. You can associate pay and benefit information with a job type and apply that information to the employees who are linked to that job type.

Next Oper (next operation) Enter the operation number with which the current operation can be simultaneously processed.

Yield % (yield percent) Enter the planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the routing and the operation scrap percent in the bill of material. Material Requirements

Planning uses the scrap percent and the existing component scrap percent to plan component demand.

Time Basis

Enter a UDC (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 routing step. For example, 25 hours per 1,000 pieces or 15 hours per 10,000 pieces. You can maintain the time basis codes in Time Basis Codes.

The system uses the values in the Description-2 field on the User Defined Codes form for costing and scheduling calculations. The description is what the code represents, but is not used in calculations.

Entering Outside Operations

Access the Enter Process Information form.

Supplier

Enter the address book number of the preferred provider of this item.

Cost Type

Enter a code that designates each element of cost for an item. Examples of the cost object types are:

A1: Purchased raw material

B1: Direct labor routing roll-up

B2: Setup labor routing roll-up

C1: Variable burden routing roll-up

C2: Fixed burden routing roll-up

Dx: Outside operation routing roll-up

Xx: Extra add-ons, such as electricity and water

The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure enables you to use an unlimited number of cost components to calculate alternative cost roll-ups. The system then associates these cost components with one of six user defined summary cost buckets.

For outside operations, the value that you enter indicates the cost component with which to associate costs. You should not enter the same cost component for more than one operation. If you do, the cost component includes the total cost of all operations. When the material is received from one operation, the system calculates the cost of the operation using the total cost of all operations.

PO (Y/N) (purchase order (yes/no))

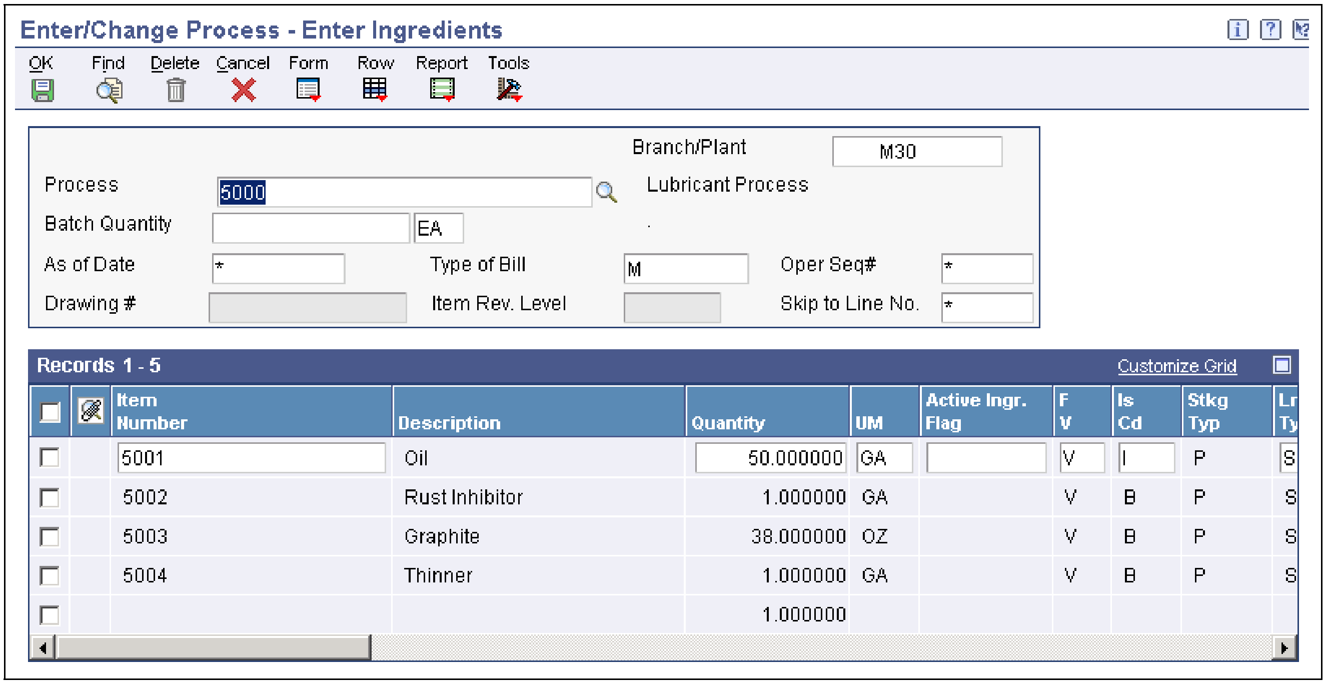
Enter a value to determine if the Work Order Generation program (P31410) creates a purchase order for a subcontracted operation within a routing. Values are:

Y: Yes, create a purchase order.

N: No, do not create a purchase order.

Entering Process Ingredients

Access the Enter Ingredients form.



Enter Ingredients form

Component Branch

Enter 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:

Branch/Plant - (MMCU)

Dept A - (MCU)

Dept B - (MCU)

Job 123 - (MCU)

Line No. (line number)

Enter a number to specify how the system displays the sequence of components on a single-level bill of material. This number initially indicates the sequence in which a component was added to the bill of material. You can modify this number to change the sequence in which the components appear.

Percent Scrap

Enter the percentage of unusable component material that is created during the manufacture of a particular parent item. During DRP/MPS/MRP generation, the system increases gross requirements for the component item to compensate for the loss. Enter percentages as whole numbers, for example, 5 percent as 5.0.

Note. Inventory shrink and scrap are compounded to calculate the total loss in the manufacture of a particular item. Accurate shrink and scrap factors support more accurate planning calculations.

The Shop Floor Management and Material Requirements Planning systems inflate component requirements by this percentage. This scrap percentage is unique to the relationship of one parent and one component.

P

Indicate whether the total quantity is required to be available or if a partial quantity available is acceptable to commit when you specify component and substitute items on the bill of material, Example: 100 lb of item A is available:

150 lb of item A is needed. If substitutes are not used and Partials Allowed is set to Y for item A, then the 100 lb will be committed. If substitute processing is used, substitutes will be checked next, and Partials Allowed on the substitute record will be considered

Ln Ty (line type)

Displays 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 it is included in calculations. Codes include:

S: Stock item

J: Job cost

N: Nonstock item

F: Freight

T: Text information

M: Miscellaneous charges and credits

W: Work order

Frm Grd (from grade)

Enter a UDC (40/LG) that indicates the minimum grade that is acceptable for an item.

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.

Thr Grd (through grade)

Enter a UDC (40/LG) that indicates the maximum grade that is acceptable for an item.

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.

Use only grade or potency, not both.

From Potency

Enter a number that indicates the minimum potency or percentage of active ingredients acceptable for an item.

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.

Thru Potency (through potency)

Enter a number that indicates the maximum potency or percentage of active ingredients that is acceptable for an item.

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.

F V (fixed variable)

Enter 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. Values are: *F:* Fixed Quantity. *V:* Variable Quantity (default). *%:* Quantities are expressed as a percentage and must total 100 percent. 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.
Is Cd (issue code)	Enter 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. Values are: *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. 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.
Leadtime Offset	Enter the number of days that a part is needed before or after the start date of a manufacturing work order. The system adds the lead time 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 that a part is needed prior to the work order start date, enter the days as a negative number. To indicate how many days after the work order start date that the part is required, enter a positive number.
Feat Plan % (feature plan percent)	Enter the percentage of demand for a specified feature based on projected production. For example, a company might produce 65 percent of their lubricant with high viscosity, and 35 percent with low viscosity, based on customer demand. The Material Planning system uses this percentage to accurately plan for a process's co-products and by-products. Enter percentages as whole numbers, for example, enter 5 percent as 5.0. The default value is 0 percent.

Entering a Substitute Ingredient

Access the Enter Component Substitutes form.

Substitute Item	Enter the item number that the system uses as a substitute if the original item is not available. It can be in short, long, or third item number format.
Quantity	Enter the number of units that the system applies to the transaction.

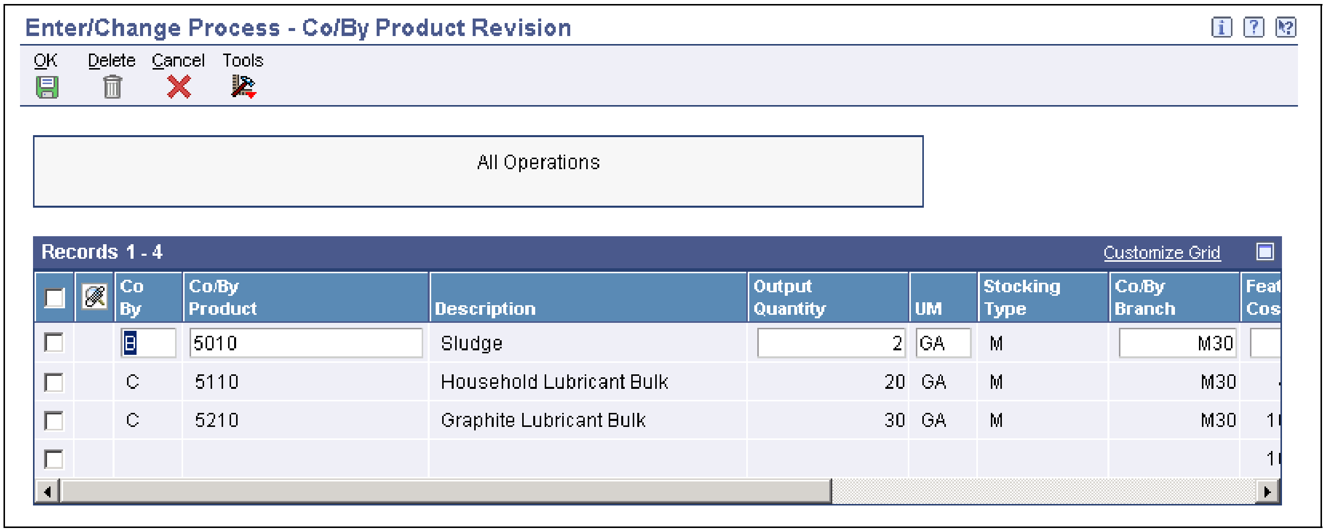
Sub Item Sequence

Enter a number that indicates the sequence for the substitute items for a component.

The system looks for substitute items by this sequence number.

Entering a Co- and By-Products List

Access the Co/By Product Revision form.


Enter/Change Process - Co/By Product Revision

OK Delete Cancel Tools

All Operations

Records 1 - 4 Customize Grid

		Co By	Co/By Product	Description	Output Quantity	UM	Stocking Type	Co/By Branch	Feat Cos
		B	5010	Sludge	2	GA	M	M30	
		C	5110	Household Lubricant Bulk	20	GA	M	M30	
		C	5210	Graphite Lubricant Bulk	30	GA	M	M30	1
									1

Co/By Product Revision form

Co By

Enter 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 next 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. Values are:

C: Co-products

B: By-products

I: Intermediate products

Blank: Standard components or ingredients

Co/By Product

Enter the item number for the co-product, by-product, or intermediate.

Output Quantity

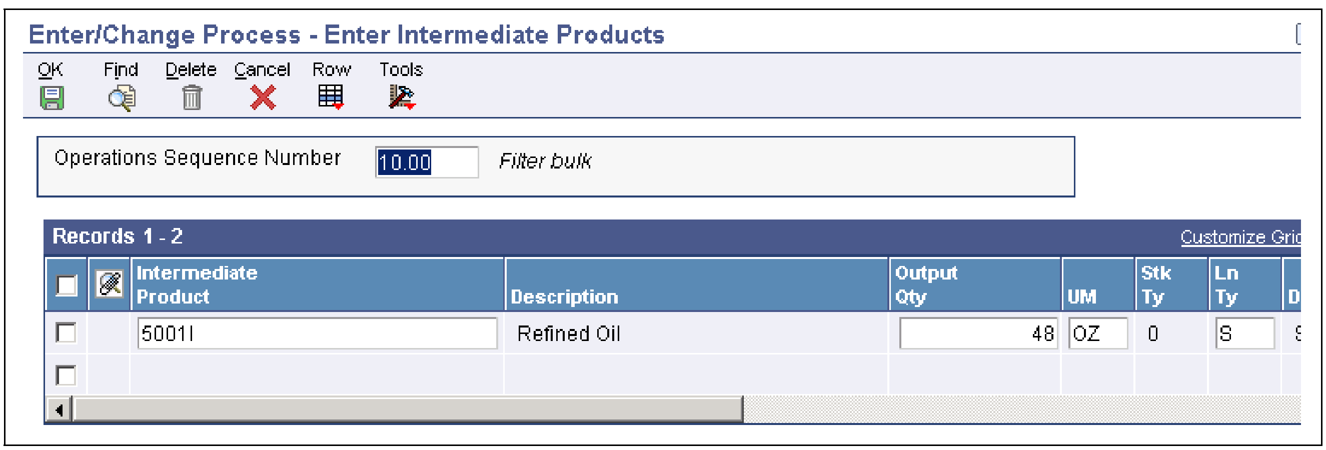
Enter the quantity of finished units that you expect this bill of material or routing to produce. This field enables you to specify varying quantities of components based on the amount of finished goods produced. For example, 1 ounce of solvent is required per unit up to 100 units of finished product.

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.
Co/By Branch	Represents a branch/plant or work center, usually defined as a business unit. The default value comes from the Default Location and Printers table.
Feat Cost% (feature cost percent)	Enter 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. Enter the percentage as a whole number, for example, enter 5 percent as 5.0. 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. The total of all percentages at an operation cannot exceed 100 percent. All percentages at the last operation must total 100 percent.
Resource % (resource percent)	Enter a number that indicates what percent of the ingredients should be issued separately to co-products and by-products. 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. For co-products and by-products at the final operation, their resource percent must total 100 percent to issue all ingredients.

Entering Intermediates

Access the Enter Intermediate Products form.



Enter Intermediate Product form

Output Qty (output quantity)	Enter the number of units that the system applies to the transaction. This value is the quantity of an intermediate that the system produces at the current step in the process.

Changing Multiple Processes

From the Advanced Product Data Management menu (G3031), select Where Used Update.

Verifying Processes

This section provides an overview of process verification and discusses how to:

- Run Integrity Analysis.
- Set processing options for Where Produced Inquiry.
- Review co- and by-products.
- Review resources.
- Review process instructions.

Understanding Process Verification

The Integrity Analysis program (R30601) generates a report that identifies any processes that you need to correct. If the report indicates errors, you should correct the processes and run the Integrity Analysis program again. When the program does not find errors in the processes, it updates the low-level codes in both the Item Master and the Item Branch File tables.

Note. It is recommended that you run the Integrity Analysis program immediately after a data conversion, such as a system startup, and then on a periodic basis, such as two or four times a year. You should also run the Integrity Analysis program before you run the Simulate Rollup (R30812) or MRP/MPS Requirements Planning (R3482) programs.

Instead of running the Integrity Analysis report, you can use online validation so that the system validates process items as you enter them. When you use online validation, the system does not allow you to enter recursive ingredients. For example, the system displays an error message if you attempt to enter a parent process item as an ingredient of itself.

The system retrieves the data for this report from the Bill of Material Structure Analysis Work File table (F30UI002).

You can review process information from several programs, depending on the information that you want to review. The Product Data Management system provides review programs, which enable you to review information about ingredients, co- and by-products, resources, and process instructions:

Program	Function
Ingredients Inquiry program (P30200)	Use this program to review the ingredients in a process.
Ingredients Where Used program (P30201)	Use this program to review the processes that include a specific ingredient.
Where Produced Inquiry program (P30210)	Use this program to review the processes that include a specific co-product or by-product.
Resources Inquiry program (P30240)	Use this program to review the resources of the process, such as the operations of the process and the work center at which they are processed.
Instructions Inquiry program (P3003)	Use this program to review the hours for machine, labor, and setup, as well as move and queue hours in the instructions for a specific process.

For the Ingredients Inquiry and the Ingredients Where Used programs, you can use the processing options or the View menu to determine how the system presents the information.

Forms Used to Verify Processes

Form Name	Form ID	Navigation	Usage
Work With Co-/By-Products Where Produced	W30210A	Daily PDM Process menu (G3012), select Where Produced Inquiry	View all processes that produce co- and by-products.
Work With Operations Sequence	W30240B	Daily PDM Process menu (G3012), Resources Inquiry	Verify resources such as operations, work centers, and run time for the process.
Process Inquiry	W3003A	On Work With Routing Operations, complete the Item Number and Branch/Plant fields and click Find. On Work with Process, select a process operation, and then select Inquiry from the Row menu.	Review run, move, queue, and setup hours for a specific operation step.

Running Integrity Analysis

From the Advanced Product Data Management menu (G3031), select Integrity Analysis.

Setting Processing Options for Where Produced Inquiry (P30210)

Use these processing options to set default versions.

Versions

These processing options identify the default versions. If left blank, version ZJDE0001 is used.

Item Master (P4101), ECO Workbench (P30225), Bill of Material Revisions (P3002), Single Level BOM Report (R30410)

Specify the versions called from the Where Produced Inquiry form.

Reviewing Co- and By-Products

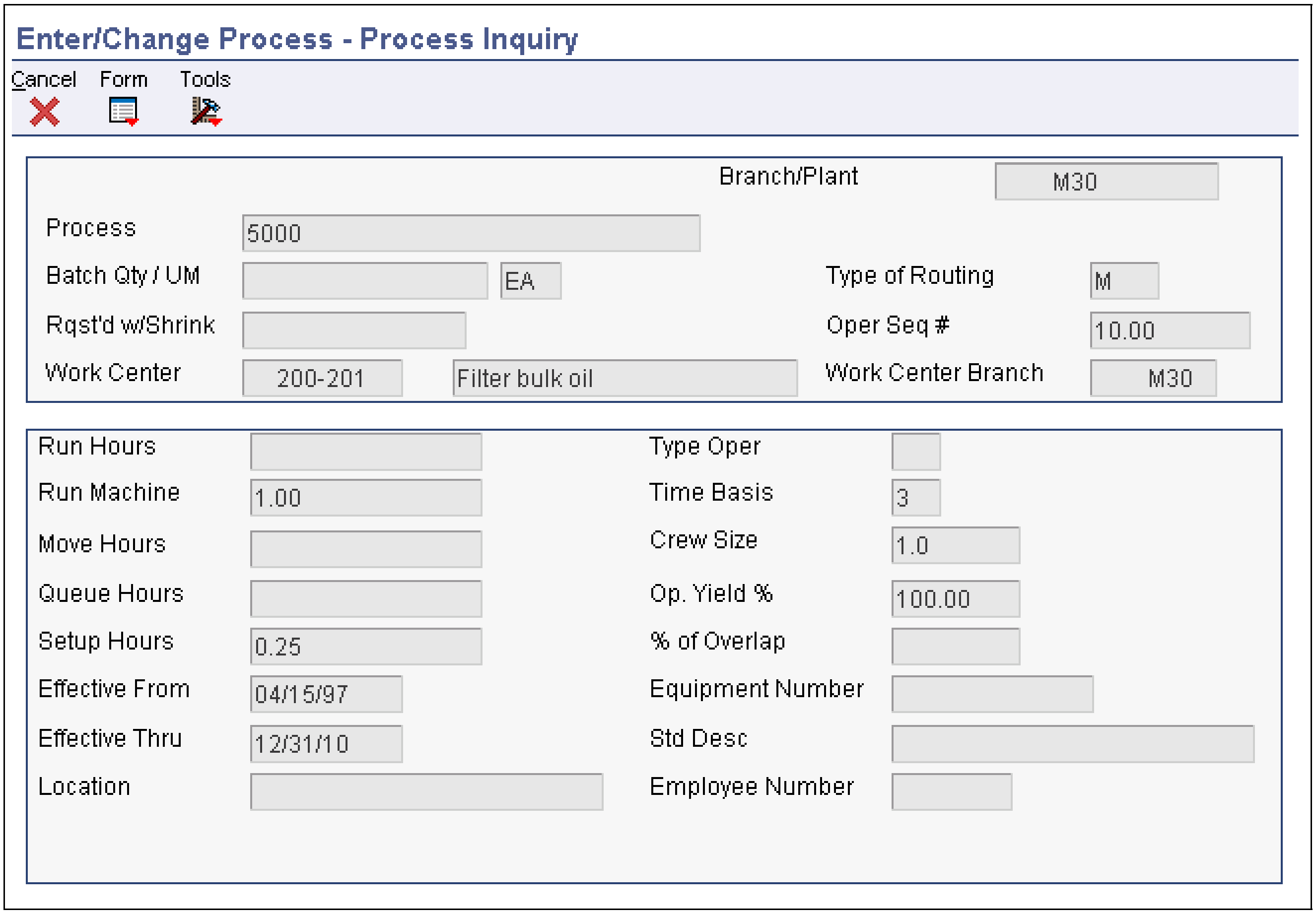
Access the Work With Co-/By-Products Where Produced form.

Reviewing Resources

Access the Work With Operations Sequence form.

Reviewing Process Instructions

Access the Process Inquiry form.



Process Inquiry form

CHAPTER 7

Working With Engineering Change Orders

This chapter provides an overview of engineering change management and discusses how to:

- Create engineering change orders.
- Validate engineering change orders.

Understanding Engineering Change Management

To maintain and increase market share, manufacturers often must respond quickly with engineering changes to their products. Engineering changes might be necessary to respond to market demand, governmental requirements, safety issues, service requirements, or for other functional or competitive reasons. Changes can involve adding a new part, changing an existing part, replacing an old part with a new part, or removing an existing item. Use Engineering Change Management to create, plan, review, approve, and implement engineering change orders and engineering change requests for any of these types of changes.

Product or process changes can affect many areas within the company, including:

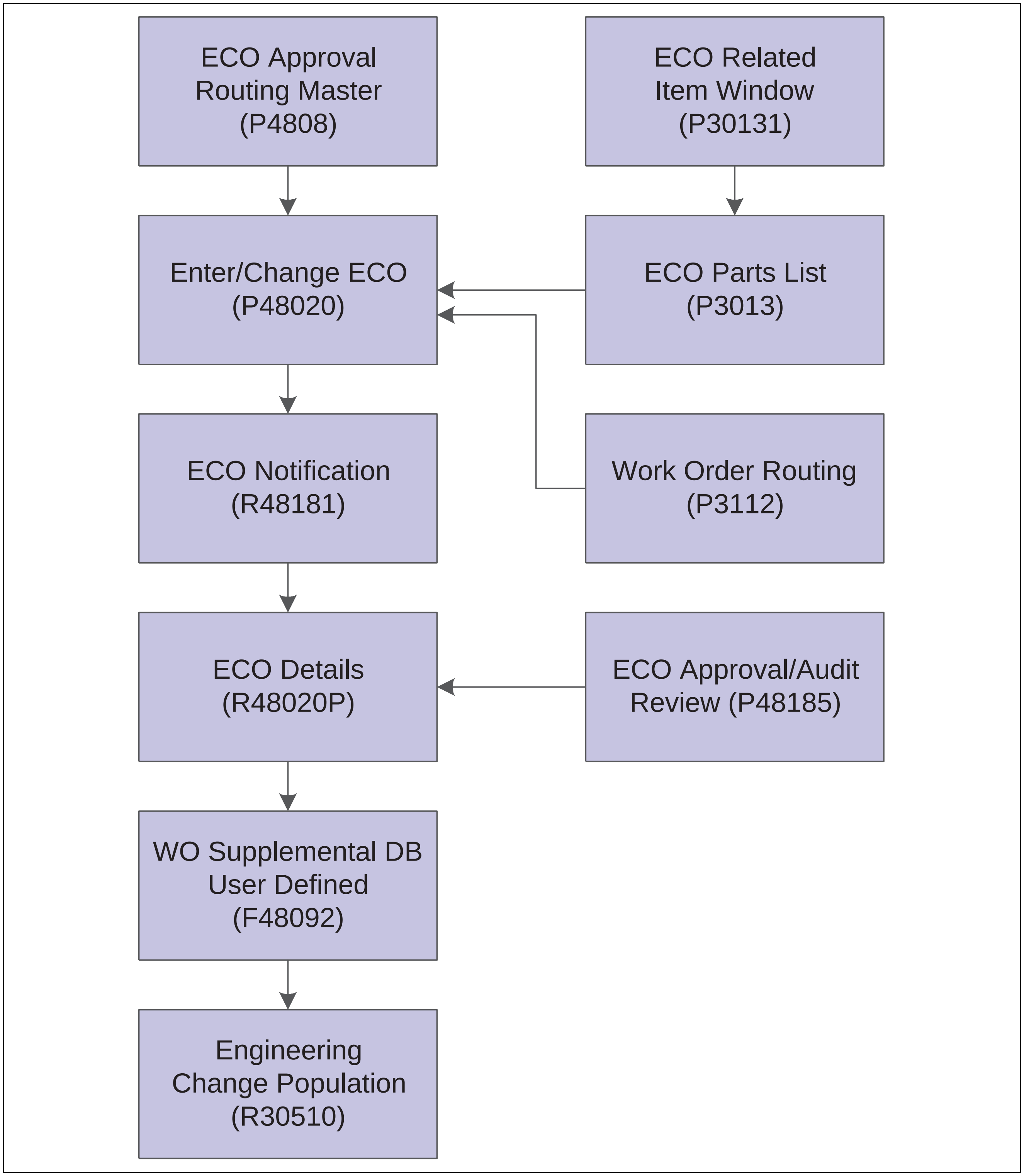
- Customer service
- Tooling
- Standards
- Suppliers
- Master production schedule
- Product cost
- Service parts
- Inventory
- Plant layout

Engineering change orders (ECOs) are numbered documents that you use to track product changes within the Engineering Change Management system. After you have tested and approved an ECO, you can implement it and modify the standard product or process.

Engineering change requests (ECRs) are numbered documents that you use to track requested product changes within the Engineering Change Management system. After you have tested and approved an ECR, you can convert it to an ECO and implement it using the ECO processes.

The procedures for ECOs and ECRs are the same, except that you must use order type EN when you set up, review, or approve ECOs; and you must use order type EG when you set up, review, or approve ECRs.

The graphic illustrates the engineering change order process:



Engineering Change Order Process

Engineering Change Management Features

You use ECOs to:

Feature	Description
Define who approves the ECO	Defining ECO approvers enables you to: • Establish levels of approval so that each member of the first review group must approve the ECO before the next group receives notification. • Locate the status of an ECO and review who has approved it and who has yet to approve it. • Use electronic mail to notify reviewers and approve ECOs. • Create and maintain bill of material data that is associated with the change. • Notify reviewers during the approval process. • Limit access to the approval records.
Define which items to change	Defining which items to change enables you to: • Describe the change. • Define the parts and processes that are necessary to implement the ECO. • Include multiple parent item or component relationships on the same change order.
Define the change to the routing instructions	Defining the change to the routing instructions enables you to itemize the steps required to make the change.
Define additional detail	Defining additional detail enables you to: • Enter into a centralized database supporting data, such as costs, dates, reasons, status, affected work and purchase orders, approval history, and implementation steps. • Identify the originator of and reason for the change. • Set up UDCs to define the reason, status, and disposition of the change order. • Attach supplemental information.

System Integration

Engineering change orders (ECOs) integrate with Shop Floor Management and Inventory Management. Shop Floor Management uses the revision level maintained by ECOs to retrieve the appropriate bill of material for a work order. You can create a work order from a prior ECO revision level. Inventory Management updates the drawing revision level in the Item Master table (F4101).

Roles in the Engineering Change Order Process

The ECO process involves several people, each of whom fills a role:

The administrator, who sets up the ECO by completing several tasks:

- Setting up the approval routing master.
- Reviewing and modifying the ECO codes.

- Setting up next numbers.

The coordinator, who creates the ECO by completing several tasks:

- Verifying that no prior ECO or ECR exists for this change.
- Entering the ECO.
- Defining the change with a list of affected parent and component items.
- Establishing the new routing instruction operations to implement the ECO.
- Maintaining supplemental details.
- Running the notification program.

The reviewer, who approves or rejects the ECO by completing several tasks:

- Reviewing the ECO after system notification.
- Running reports to obtain information for an individual ECO or a list of open ECOs.
- Searching for outstanding ECOs periodically.

After the reviewer approves the ECO, the coordinator implements it by running the Engineering Change Population program (P30510).

Engineering Change Order Revision Levels

A revision level is an alphanumeric character that represents the number of times that an item has been changed. This value usually indicates a permanent change to the form, fit, or function of an item. For efficient tracking of changes with revision levels, the revision levels for an item's bill of material and its routing instruction should match. You can use an ECO to update the revision level for an item and a drawing.

Use ECOs to manage revision-level information. For example, you can:

- Assign the next revision level to an ECO using a value in UDC 30/NR.
- Load parent revision levels for a component that is being added or modified.
- Locate the revision levels of an ECO.
- Assign ECO revision levels automatically.
- Maintain drawing revision levels for each item that is changed by an ECO and update the drawing revision in either the Bill of Material (F3002) or Item Master table.

Common Elements Used in This Chapter

Status — Enter a UDC (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 completion date.

Phase In — Enter a UDC (40/PH) that indicates how the system phases in an engineering change order.

Creating Engineering Change Orders

This section provides an overview of the engineering change order process and engineering change requests and discusses how to:

- Set processing options for ECO Workbench.
- Locate existing engineering change orders.
- Set processing options for ECO Entry.
- Enter engineering change orders.
- Define routing instructions.
- Set processing options for ECO Parts List.
- Define affected items.
- Define changes.
- Load work orders or purchase orders into supplemental data.
- Notify reviewers of engineering change orders.
- Set processing options for ECO Notification.

See Also

Chapter 7, “Working With Engineering Change Orders,” Entering Engineering Change Orders, page 129

Understanding the Engineering Change Order Process

Use engineering change orders (ECOs) to plan, approve, and implement product changes. The creator of the ECO typically performs several tasks, such as setting up the approval routing master, reviewing and modifying the UDCs, and setting up next numbers.

Before you create an ECO, you might want to determine whether one already exists for the change. Use the ECO Workbench program (P30225) to review and manage ECO information and to determine the progress of an ECO.

You must first define the ECO number and codes that determine its priority, status, effective dates, and so on. Later, you must define the routing instruction, parts list, and detail information. If you specify a parent work order number on the ECO, you can retrieve related work orders and review the history of a product.

To delete an ECO, you must first delete the ECO parts list and then delete the ECO.

Routing Instructions

After you enter the ECO, you can define routing instructions that indicate the steps that are necessary to implement the ECO. For example, the engineering department might request that you test a new manufacturing process before it is implemented.

Note. You cannot use the Enter/Change ECO program (P48020) to change production routing instructions.

Parts List

After you have created the ECO and defined the routing instruction, you must define the change and identify the affected items. For all engineering change types except swap parent, you must enter information about the change for other items on the ECO Related Items List form.

You can use the UDC Next Revision Levels (30/NR) to automatically update revision levels based on the sequence that you define. Revision levels usually require an ECO and are for permanent, long-term changes. Revision levels include changes to form, fit, or function; and should match on a bill of material and routing instruction for the item. However, ECO will not update the Routing Revision Level. You can track changes in a bill of material with revision levels. Use the Item Revision Level field in the Enter/Change Bill program (P3002) to display a revision history of the bill. These revision levels are user defined and for reference only.

The values that you enter in the Chg Type (Change Type) and P/C Rel (Parent/Component Relationship) fields on the ECO Parts List Entry form define the changes and determine how the Engineering Change Population program updates the bill of material for the item.

You can use values in the Change Type and Parent/Component Relationship fields:

Field	Values
Change Type	*N:* Add a new part. *C:* Change an existing part. *S:* Swap an old part with new part. *R:* Remove an existing part.
Parent/Component Relationship	*P:* Parent item. *C:* Component item.

The Change Type and Parent/Child Relationship fields allow eight possible combinations. These combinations are as follows:

- On the ECO Parts List Entry form:

Change	Change Type	P/C Rel	Information that You Enter	Revision Level
Add a new bill	N	P	Parent item for the new bill.	New parent revision.
Change a bill	C	P	Current parent item.	Current parent revision.
Swap a parent item	S	P	Swap to parent item. Swap from parent information.	Swap to parent revision. Swap from parent revision.
Remove a bill	R	P	Current parent information.	Current revision.
Add a new component	N	C	New component.	New component revision.

Change	Change Type	P/C Rel	Information that You Enter	Revision Level
Change a component	C	C	The component to change.	New revision of component.
Swap a component	S	C	Swap to component. Swap from component.	Revision of swap to component. Revision of swap from component.
Remove a component	R	C	The component to remove.	Revision of component to remove.

- On the ECO Related Items form:

Change	Change Type	P/C Rel	Information that You Enter	Revision Level
Add a new bill	N	P	Components for the new parent.	Revision level of added components.
Change a bill	C	P	Updated parent information.	New revision.
Swap a parent item	S	P	Not allowed.	Not allowed.
Remove a bill	R	P	Not allowed.	Not allowed.
Add a new component	N	C	Parent bills using component (where used).	Revision of new components' parent.
Change a component	C	C	Parent bills that will have component changes.	Parent of new component revision.
Swap a component	S	C	Parent bill having components swapped.	Revision of parent having component swapped.
Remove a component	R	C	Parent bills have component removed (where used).	Revision of parent having component removed.

Related Items

After you create an ECO, define the routing instructions, and define the parts list, you also define the items affected by the change. You can update an ECO with the next revision level only if no pending ECOs exist for the item. If pending ECOs exist, the system displays an error message and does not update the revision level.

Engineering Change Order automatically selects related items based on the change type and parent and child relationship values. You can delete the related items for which you do not want to implement the change.

Use effective dates to phase in and out any product or process changes. Effective dates might not require an ECO process and are for smaller, short-term or low-impact changes.

You can maintain the drawing revision level for each item. The Engineering Change Population program can update the drawing revision level in both the Bill of Material table and the Item Master table.

Defining changes does not update the work order parts list for the item. You can update the bills of material with engineering change information manually, or by using either the Where Used Update program (R30520) or the Engineering Change Population program. However, you cannot delete or change the parts on the ECO parts list after you have run the Engineering Change Population program.

Pending Orders

After you process existing work orders and purchase orders, you can review pending orders for items that are affected by the ECO. You can work with open and existing work orders and purchase orders, and enter a quantity and cost estimate for incorporating the ECO into the work order or part on the purchase order.

The system displays the orders, based on the supply and demand inclusion rules that you specify in the processing options.

Use the ECO Parts List program (P3013) to access and review the items on pending purchase orders and work orders that are affected by an ECO.

Notification

After you define an ECO and its routing instructions and parts list, use the ECO Notification program (R48181) to send notices to the reviewers that you defined in the approval routing master. To generate notifications, you must have an address book record established. You can run ECO Notification in either of two ways:

- To process several ECOs, use the data selection in the ECO Notification program.
- To process a single ECO, run the ECO Notification program from the Enter/Change ECO program.

You run this program only once. After all of the reviewers in the first review group have reviewed the ECO, the system sends notification to the next review group.

You can set a processing option to activate flash messages for the item that is affected by the ECO. You can then view the flash message from review programs. The system deactivates the flash message when you run the Engineering Change Population program to update the bill of material for the item.

Understanding Engineering Change Requests

Engineering Change Requests (ECRs) are numbered documents that you use to track requested product changes within the Engineering Change Management system. When used with engineering change orders (ECOs), ECRs enable you to create two change request processes with separate reviewers and approvers. For example, the shop floor employees can use ECRs to request that the design engineering staff make a change to a product. After the ECR is reviewed and approved, you can use the ECO processes to implement the change.

The procedures for ECRs are the same as the procedures for ECOs. Use order type EG when setting up, reviewing, or approving ECRs.

Forms Used to Enter Engineering Change Orders

Form Name	Form ID	Navigation	Usage
Work With ECO Workbench by Item	W30225A	Engineering Change Management (G3013), ECO Workbench	Locate existing engineering change orders.
ECO Work Order Entry Revisions	W48020A	Engineering Change Management (G3013), Enter/Change ECO On Work With ECO Work Order Entry, click Add.	Enter new ECOs.
Work Order Routing	W3112E	On Work With ECO Work Order Entry, complete the Branch/Plant field and click Find. Select a record then select Order Routing from the row menu.	Enter routing instructions to support the ECO.
ECO Parts List Entry	W3013D	Engineering Change Management (G3013), ECO Parts List On Work With ECO Parts List, complete the Branch/Plant field and click Find. Select a record.	Specify the type of change and the items affected by the change. Load work orders or purchase orders into supplemental data, by using Row exit.
ECO Related Items	W30131A	On ECO Parts List Entry, select a record, and select Related Items from the Row menu.	Define information to support the changes.

Setting Processing Options for ECO Workbench (P30225)

Use these processing options to set default values and versions.

Versions

These processing options specify the program versions called from the ECO Workbench. If left blank, version ZJDE0001 will be used.

1. Enter/Change Order (P48020)

Specify the version called from the ECO Workbench.

2. WO Details *ZJDE0001 (P480200), (work order details)

Specify the version of the Work With Supplemental Data program to call when you select WO Details from the Row menu on the Work With ECO Workbench by Item form. If you leave this field blank, the system uses ZJDE0001 as the default version.

3. Pending PO's *ZJDE0002 (P480200) (pending purchase orders)	Specify the version of the Work With Supplemental Data program to call when you select Pending POs from the Row menu on the Work With ECO Workbench by Item form. If you leave this field blank, the system uses ZJDE0002 as the default version.
4. Parts List (P3013)	Specify the version called from the ECO Workbench.
5. Approval/Audit Review (P48185)	Specify the version called from the ECO Workbench.
6. Address Book Address Search (P0101S)	Specify the version called from the ECO Workbench.
7. Work Order Routing (P3112)	Specify the version called from the ECO Workbench.

Defaults 1

These processing options supply default values to preload on the initial inquiry. If left blank, no value will be preloaded.

Reason Code	Specify a default value for initiating an engineering change order. Enter a value from UDC 40/CR.
Phase Code	Specify a default value identifying the phase in requirements for the ECO. Enter a value from UDC 40/PH.
Work Order Type	Specify a default value for the ECO Type. Enter a value from UDC 00/TY.
Priority	Specify a default value for the ECO order priority. Enter a value from UDC 00/PR.
Originator	Specify the address book number of the person initiating the ECO.

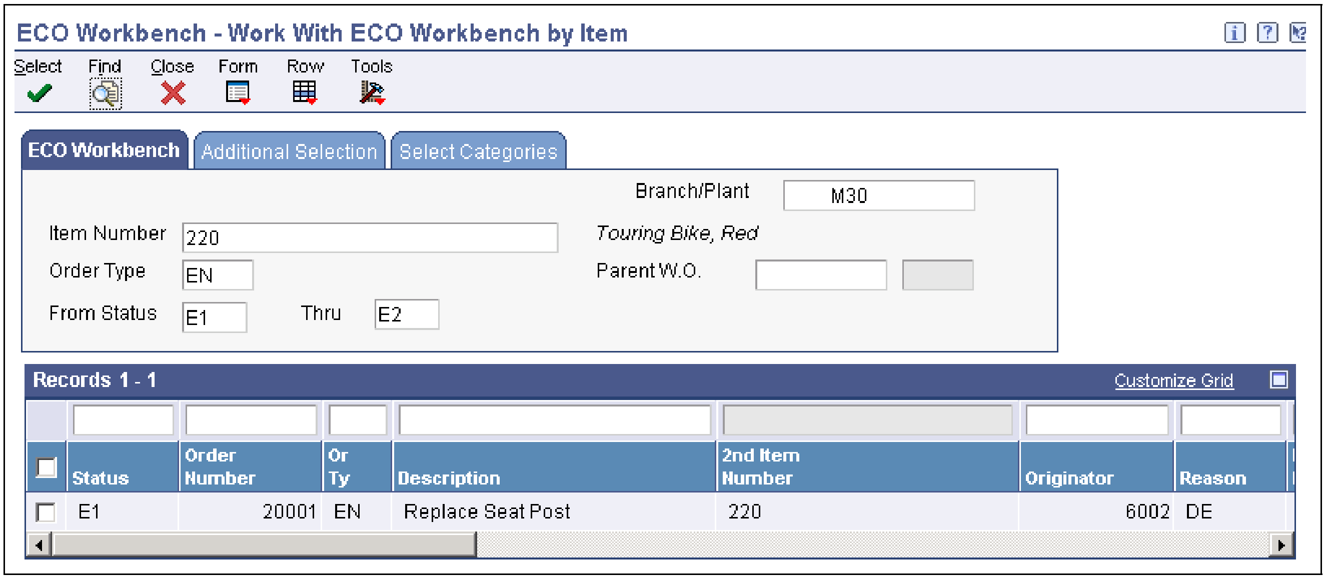
Defaults 2

These processing options supply default values to preload on the initial inquiry. If left blank, no value will be preloaded.

From Status, Thru Status (from status, through status)	Specify the default value range associated with the ECO status. Enter a value from UDC 00/SS.
Item Number	Specify the default item number.
Document Types	Specify the default document type. Enter a value from UDC 00/DT.
Phase	Specify the phase or system code for the default value. Enter a value from UDC 00/W1.

Locating Existing Engineering Change Orders

Access the Work With ECO Workbench by Item form.



Work With ECO Workbench by Item form

Order Number Displays the number that identifies an original document.

Type Displays a UDC (00/TY) that indicates the classification of a work order or engineering change order.

You can use work order type as a selection criterion for work order approvals.

Originator Displays the address book number of the person who originated the change request. The system verifies this number against the Address Book.

Reason Displays a UDC (40/CR) that indicates the reason for an engineering change order.

Priority Displays a UDC (00/PR) that indicates the relative priority of a work order or engineering change order in relation to other orders.

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.

Target Incorp (target incorporation) Displays a date that identifies the beginning of the date range within which the engineering change order should be completed according to plan.

Actual Displays the date that the work order or engineering change order is completed or canceled.

Setting Processing Options for ECO Entry (P48020)

Use these processing options to set default values, control processing, and specify versions when entering engineering change orders.

Defaults

These processing options supply default values for document types and engineering change order status on the ECO Work Order Entry Revisions form.

Document Type	Specify a default value for document type. If left blank, EN will be used. Enter a value from UDC 00/DT.
Status	Specify a default value for the order status. If no value is entered, then blank will be used. Enter a value from UDC 00/SS.

Process

This processing option specifies the document type used when converting an engineering change request to an engineering change order.

ECO Order Type	Specify a default value for document type. If left blank, EN will be used. Enter a value from UDC 00/DT.

Edits

These processing options specify whether the system validates an engineering change request is approved before converting it to an engineering change order and if the generic text is copied.

1. ECR Approval Validation	Specify if the system validates the engineering change request is approved before copying it to an engineering change order. Blank: No approval validation *1:* Approval validation
2. Copy ECR Generic Text to ECO	Specify whether to copy generic text. Blank: Do not copy ECR text to the ECO *1:* Copy ECR text to the ECO

Versions

These processing options control which version of the programs the system uses when entering an engineering change order.

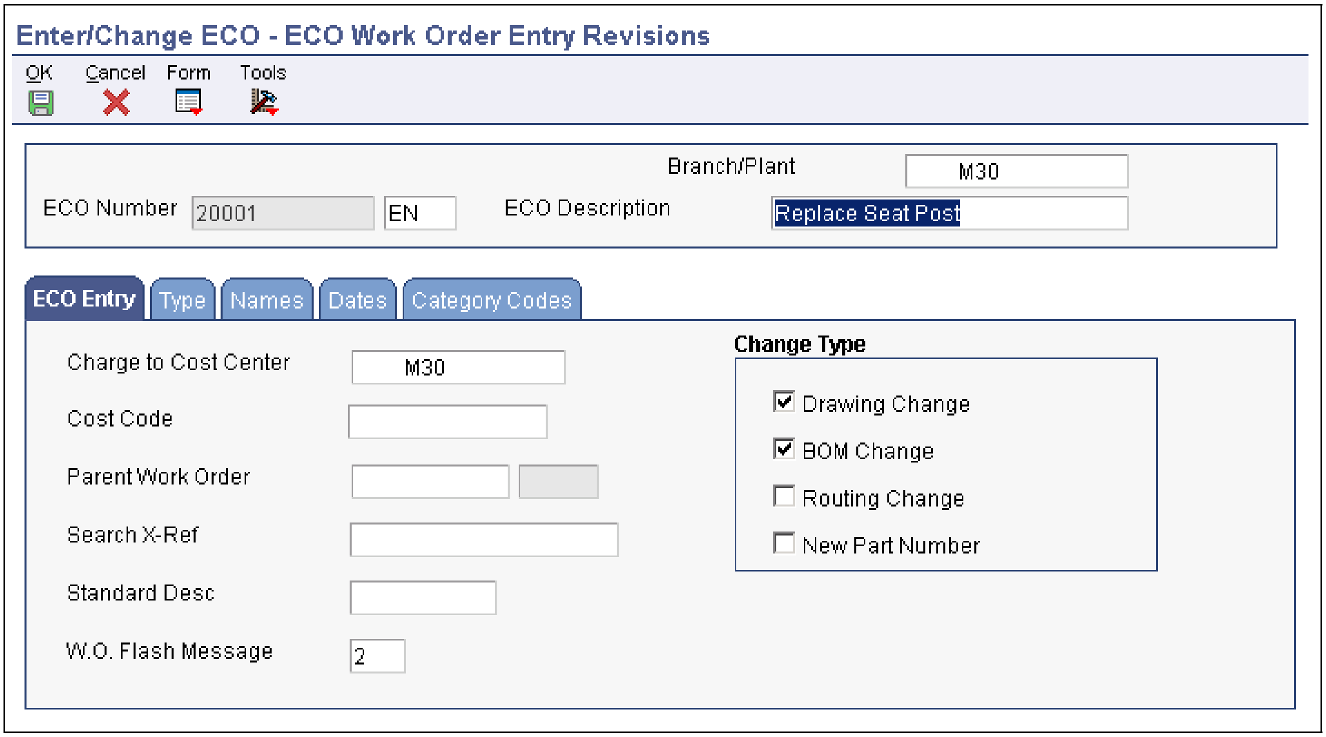
WO Details (P480200) (work order details)	Specify the version of work order details supplemental data you want the system to use. If you leave this blank, the system uses ZJDE0001.
Parts List (P3013)	Specify the version for the parts list you want the system to use. If you leave this blank, the system uses ZJDE0001.
Workbench (P30225)	Specify the version of the ECO Workbench you want the system to use. If you leave this blank, the system uses ZJDE0001.
Pending PO's (P480200) (pending purchase orders)	Specify the version of pending purchase order supplemental data you want the system to use. If left blank, the system uses ZJDE0002.
Approval Notification (P48181)	Specify the version of ECO Notification you want the system to use. If you leave this blank, the system uses ZJDE0001.
Approval Audit/Review (P48185)	Specify the version of ECO Approval/Audit Review you want the system to use. If you leave this blank, the system uses ZJDE0001.
Instruction/Disposition (P4802)	Specify the version to call. If you leave this blank, the system uses ZJDE0001.

Work Order Routing (P3112)
Specify the version of Work Order Routing you want the system to use. If you leave this blank, the system uses ZJDE0001.

Work Order Record (P48217)
Specify the version of Work Order Record Type you want the system to use. If you leave this blank, the system uses ZJDE0001.

Entering Engineering Change Orders

Access the ECO Work Order Entry Revisions form.



ECO Work Order Entry Revisions form

ECO Entry

Cost Code
Enter a subset of an object account. Subsidiary accounts include detailed records of the accounting activity for an object account.

Note. If you are using a flexible chart of accounts and the object account is set to six digits, you must use all six digits. For example, entering 000456 is not the same as entering 456 because, if you enter 456, the system enters three blank spaces to fill a six-digit object.

Parent Work Order
Enter a number that identifies the parent work order. You can use this number to:

- Enter default values for new work orders, such as Type, Priority, Status, and Manager.
- Group work orders for project setup and reporting.

Search X-Ref (search cross reference)
Enter an alphanumeric value used as a cross-reference or secondary reference number. Typically, this is the customer number, supplier number, or job number.

W.O. Flash Message (work order flash message)
Enter a UDC (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.

Drawing Change
Select this option to specify that the engineering change order requires a drawing change.

BOM Change (bill of material change)
Select this option to specify that the engineering change order requires a change to the bill of material.

Routing Change
Select this option to specify that the engineering change order requires a change to the routing.

New Part Number
Select this option to specify whether a new part number is required for an engineering change order.

Type

Existing Disp (existing disposition)
Enter a UDC (40/ED) that identifies the disposition of the existing item affected by the engineering change order.

Names

Coordinator
Enter the address book number of the person assigned to do the work.

Supervisor
Enter the address book number of the supervisor.

Manager
Enter the address book number of a manager or planner.

Note. A processing option for some forms enables you to enter a default value for this field based on values for category codes 1 (Phase), 2, and 3. You set up the default values on the Default Managers and Supervisors form. After you set up the default values and the processing option, the default information displays automatically on any work orders that you create if the category code criterion is met. You can either accept or override the default value.

Dates

Design
Enter the date that an item is scheduled to arrive or that an action is scheduled for completion.

Engineering
Enter the date the person responsible for the work order receives the work order.

Incorporated
Enter the date that the work order or engineering change order is planned to be completed.

Design
Complete the three fields which are Actual Dates.

Enter the start date for the order. You can enter this date manually, or have the system calculate it using a backscheduling routine. The routine starts with the required date and offsets the total leadtime to calculate the appropriate start date.

Engineering
Enter the date that the system sends the engineering change order notice to the inspector in the review process.

Incorporated Enter the date that the work order or engineering change order is completed or canceled.

Category Codes

Phase Enter a UDC (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.

Note. Certain forms contain a processing option that enables 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.

Category 02 Enter a UDC (00/W2) that indicates the type or category of a work order.

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.

Category 03 Enter a UDC (00/W3) that indicates the type or category of the work order.

Note. A processing option for some forms enables 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.

Category 04 Enter a UDC (00/W4) that indicates the type or category of the work order.

Category 05 Enter a UDC (00/W5) that indicates the type or category of the work order.

Experience Level Enter a UDC (00/W9) that indicates the type or category of the work order.

Service Type Enter a UDC (00/W7) that indicates the service type for the work order.

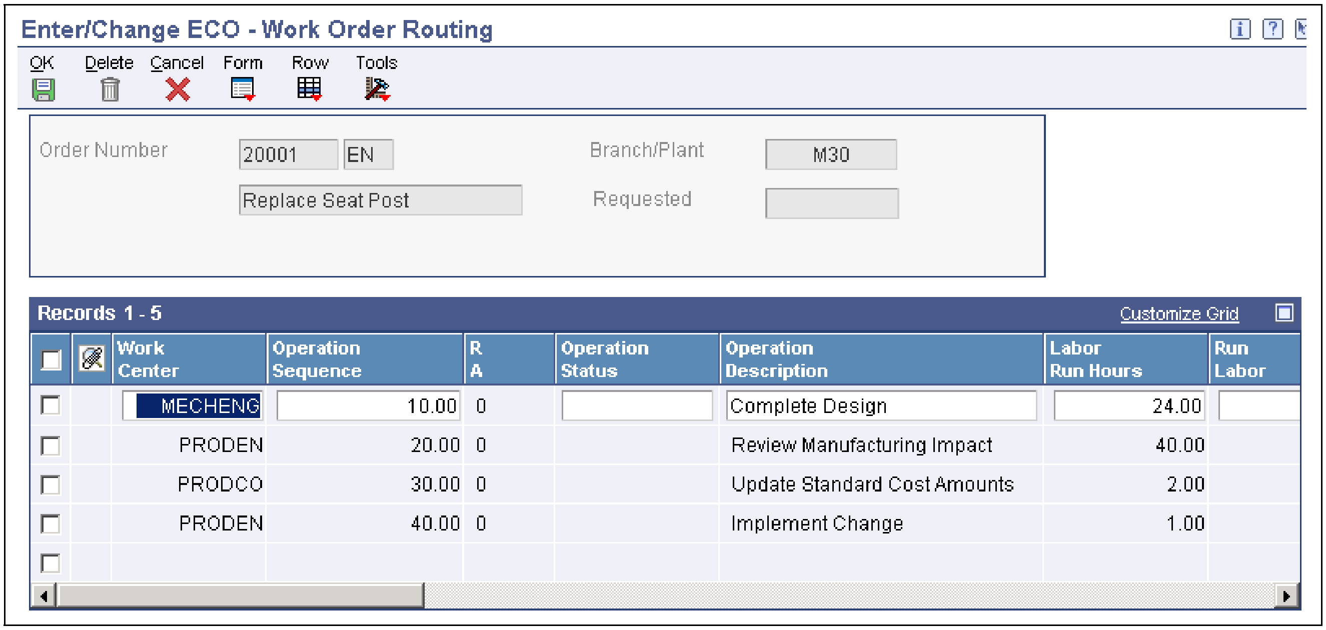
Skill Type Enter a UDC (00/W8) that indicates the type or category of the work order.

Category 10 Enter a UDC (00/W0) that indicates the type or category of the work order.

Defining Routing Instructions

After you create the ECO, you must define the routing instructions. In subsequent steps you define the parts list and define items affected by the change.

Access the Work Order Routing form.



Work Order Routing form

Setting Processing Options for ECO Parts List (P3013)

Use these processing options to set default values, identify versions, and define process controls for pending engineering change orders.

Defaults

This processing option specifies the document type that you want to use for the search.

1. Order Type

Specify the type of document on which you want the system to search. Order type is a UDC (00/DT) that identifies the type of document, such as an order or an invoice. Enter an order type to use as the default value or select it from the Search User Define Code form. If you leave this processing option blank, the system uses *EN* for engineering change order.

Versions

These processing options control which version of the programs the system uses when processing an ECO parts list:

1. Item Master Revisions (P4101B)

Specify the version that the system uses when you select the Row exit to the Item Master Revisions program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Master Revisions program displays information.

Therefore, you might need to set the processing option to a specific version.

2. Item Inquiry With Word Search (P41200)

Specify the version that the system uses when you select the Row exit to the Item Inquiry With Word Search program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Inquiry With Word Search program displays information. Therefore, you might need to set the processing option to a specific version.

3. Supply and Demand Inquiry (P4021)

Specify the version that the system uses when you select the Row exit to the Supply and Demand Inquiry program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Supply and Demand Inquiry program displays information. Therefore, you might need to set the processing option to a specific version.

4. Bill of Material Inquiry (P30200)

Specify the version that the system uses when you select the Row exit to the Bill of Material Inquiry program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Bill of Material Inquiry program displays information. Therefore, you might need to set the processing option to a specific version.

5. Where Used Inquiry (P30201)

Specify the version that the system uses when you select the Row exit to the Where Used Inquiry program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Where Used Inquiry program displays information.

Therefore, you might need to set the processing option to a specific version.

6. Item Branch (P41026B)

Specify the version that the system uses when you select the Row exit to the Item Branch program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Item Branch program displays information. Therefore, you might need to set the processing option to a specific version.

7. WO Scheduling Workbench (P31225)

Specify the version that the system uses when you select the Row exit to the Work Order Scheduling Workbench program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Work Order Scheduling Workbench program displays information. Therefore, you might need to set the processing option to a specific version.

8. Enter/Change Order (P48020)

Specify the version that the system uses when you select the Form exit to the Enter/Change Order program from the Work With ECO Parts List form or from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Enter/Change Order program displays information.

Therefore, you might need to set the processing option to a specific version.

9. Work Order Routing (P3112)

Specify the version that the system uses when you select the Row exit to the Work Order Routing program from the Work With ECO Parts List form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Work Order Routing program displays information.

Therefore, you might need to set the processing option to a specific version.

10. ECO Related Item (P30131)

Specify the version that the system uses when you select the Row exit to the ECO Related Item program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the ECO Related Item program displays information.

Therefore, you might need to set the processing option to a specific version.

11. Purchase Order (P4310)

Specify the version that the system uses when you select the Row exit to the Purchase Order program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Purchase Order program displays information.

Therefore, you might need to set the processing option to a specific version.

12. WO Details (P480200)

Specify the version that the system uses when you select the Row exit to the Work Order Detail program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0001 version.

Versions control how the Work Order Detail program displays information.

Therefore, you might need to set the processing option to a specific version.

13. Pending PO (P480200)

Specify the version that the system uses when you select the Row exit to the Pending Purchase Orders program from the ECO Parts List Entry form. If you leave this processing option blank, the system uses the ZJDE0002 version.

Versions control how the Pending Purchase Orders program displays information.

Therefore, you might need to set the processing option to a specific version.

Process

These processing options control information about pending engineering change orders. First, specify the version of the Supply/Demand Inclusion Rules program (P34004) to use when adding engineering change orders. Secondly, specify whether the system uses the value in the To Revision field from the UDC table 30/NR when no pending engineering change orders exist. Finally, specify the UDC table for retrieving the next revision level.

1. Supply/Demand Inclusion Rules

Specify the version of the Supply/Demand Inclusion Rules that the system uses. The system uses this version to add orders to the ECO Pending Orders Detail program. If you leave this processing option blank, the system does not add any orders.

Versions control how the Supply/Demand Inclusion Rules program displays information. Therefore, you might need to set the processing option to a specific version.

2. To Revision Field

Specify whether the system uses the default value in the To Revision field from the next revision level UDC table when no pending engineering change orders exist.

When you set this processing option to update the item revision to the next revision level, the system updates the revision level for the change types as depicted in the tab level help.

Values are:

Blank: The system uses a default value of the current revision level in the To Revision field.

1: The system uses a default value of the next revision level in the To Revision field.

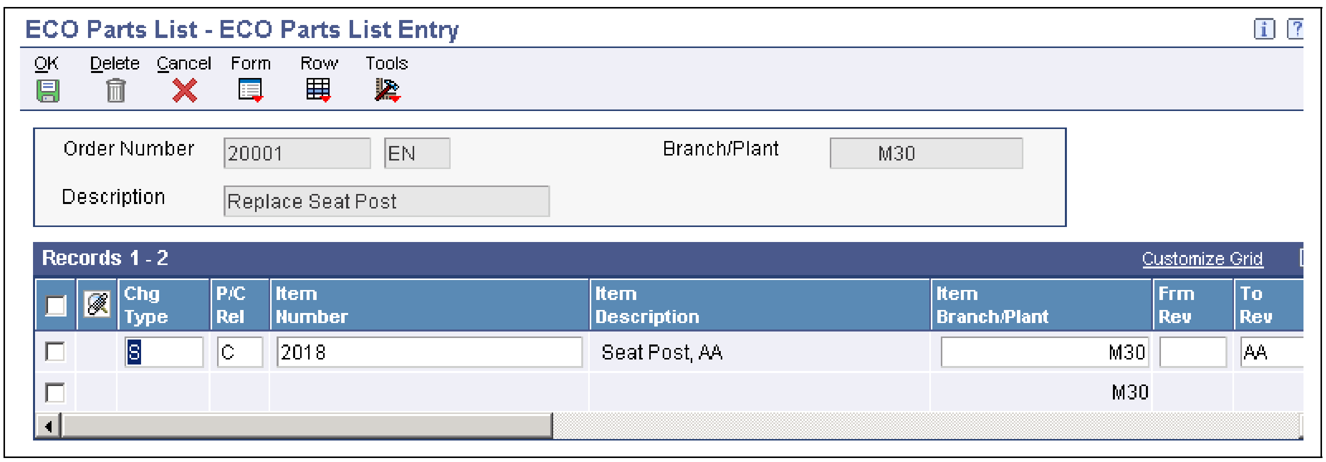
3. UDC Product Code Specify the product code of the UDC table from which the system retrieves the next revision level. If you leave this processing option and the UDC Code Type processing option blank, the system uses 30.

4. UDC Code Type Specify code type of the UDC table from which the system retrieves the next revision level. If you leave this processing option and the UDC Product Code processing option blank, the system uses NR.

Defining Affected Items

After you define and save the parts list, you define the items affected by the change.

Access the ECO Parts List Entry form.



ECO Parts List Entry form

Chg Type (change type) Enter a code that describes the type of item change. This value is used by the Related Items window to determine the number and nature of related items allowed. The value is also used during Engineering Change Population to determine the changes. Values are:

N: Add a new component or bill

S: Swap or replace one item with another

C: Change an existing component or bill

R: Remove an existing component or bill

P/C Rel (parent/component relationship) Enter a code that indicates whether the item is a parent or component. Using this value, the system selects items for you on the Related Items window when you perform a where-used inquiry for components or a single-level or multilevel inquiry for parent items. The Engineering Change Population program uses this value to determine the requested change. Values are:

P: The item is a parent.

C: The item is a component.

Frm Rev (from revision) Enter the revision level for the part that was previously reported. This might be the previous sequential revision.

To Rev (to revision) Enter the revision level for the part that is reported next. This might not be the next sequential revision.

Bill Type Specify a UDC (40/TB) that designates the type of bill of material. You can define different types of bills of material for different uses. For example:

M: Standard manufacturing bill

RWK: Rework bill

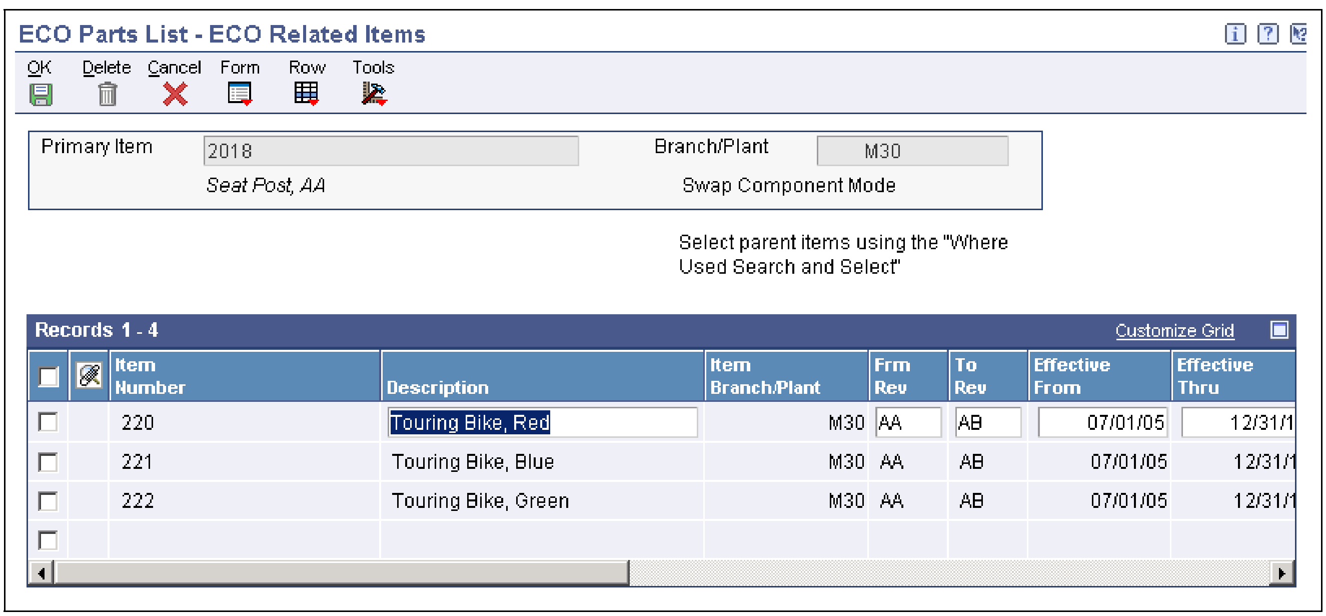
SPR: Spare parts bill

The system enters bill type M in the work order header when you create a work order, unless you specify another bill type. The system reads the bill type code on the work order header to know which bill of material to use to create the work order parts list. MRP uses the bill type code to identify the bill of material to use when it attaches MRP messages. Batch bills of material must be type M for shop floor management, product costing, and MRP processing.

Swp Rev (swap revision) Enter the revision level of the Swap-to item whenever an engineering change order is swapping out one item for another. The swap-to revision becomes the next revision level for the item only when the ECO is created in Swap To mode.

Defining Changes

Access the ECO Related Items form.



ECO Related Items form

To Rev (to revision) Enter the revision level for the part that is reported next. This might not be the next sequential revision.

Curr Rev (current revision) Enter the revision level for an item. If you enter a revision level in this field, verify that the revision level of the routing for an item matches the revision level on the bill of material for the item.

Line No. (line number) Enter a number that specifies how the system displays the sequence of components on a single-level bill of material. This number initially indicates the sequence in which a component was added to the bill of material. You can modify this number to change the sequence in which the components appear.

F V (fixed variable) Enter a code to indicate 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. Values are:

F: Fixed Quantity

V: Variable Quantity (default)

%: Quantities are expressed as a percentage and must total 100 percent.

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.

Loading Work Orders or Purchase Orders into Supplemental Data

Access the ECO Parts List Entry form.

Notifying Reviewers of Engineering Change Orders

From the Engineering Change Management menu (G3013), select ECO Notification.

Setting Processing Options for ECO Notification (R48181)

Processing options enable you to specify the default processing for programs and reports.

Do not modify EnterpriseOne demo versions, which are identified by ZJDE or XJDE prefixes. Copy these versions or create new versions to change any values, include the version number, version title, prompting options, security, and processing options.

Process

This processing option specifies whether to use a flash message.

Item Flash Message Specify the Item Flash Message code used by the system. Enter a value from UDC 40/FL.

When you specify a flash message in this processing option, it affects what you need to enter in the Item Flash Message processing option for Engineering Change Population (R30510). If the same UDC value appears in the Item Flash Message processing option for R48181 and R30510, ECO Approval (P4818) will remove the flash message.

If you do not want the flash message removed until you run R30510, enter the UDC value for R48181, but leave the processing option blank for R30510. Alternatively, you can specify the flash message for R48181 for notifications, and use a different version of R48181 for approvals.

Validating Engineering Change Orders

This section provides an overview of ECO validation and the bill of material update and discusses how to:

- Set processing options for ECO Revisions Inquiry.
- Review revision information.
- Set processing options for ECO Approval/Audit Review.
- Review approval audit information.
- Set processing options for ECO Open Task Review.
- Review open tasks.
- Set processing options for ECO Approval.
- Approve engineering change orders.
- Update the bill of material.
- Set processing options for Engineering Change Population.

Understanding ECO Validation

Both reviewers and coordinators can review engineering change order (ECO) information. For an ECO, you can locate all of the revision-level changes made to the item. To view the most current revision information, you should run the Engineering Change Population program (R30510) daily. To help you plan and schedule work, you can search for an ECO by requested dates, start dates, and labor hours by operation. You can review ECOs and evaluate outstanding ECOs that are awaiting approval. An ECO coordinator can review ECO information to:

- Review work orders and purchase orders for affected items.
- Determine whether anyone has rejected an ECO.
- Review the progress of an ECO.
- Plan and schedule work.
- Determine who is in the process of reviewing an ECO.
- Determine who has not received notification.

You locate the ECO that awaits approval, and then indicate the approval or rejection. You can also enter text to provide more information regarding the approval.

After you locate an engineering change order (ECO) for review, you must indicate the approval or rejection. The reviewer typically performs this task. After the last person in the approval routing has approved the ECO, the system updates the status code with the value that you specify in a processing option.

To reject an ECO, use status code R to stop the notification process. After a reviewer rejects an ECO, the creator of the ECO must redefine the ECO and restart the notification process.

You can set a processing option to protect the approval field so that only the current user can change approval status.

Approval status codes are stored in UDC table 30/ST. Approval status code *A* is hard-coded and is the only value that initiates the notification of other review groups. You can define additional approval status codes.

Understanding the Bill of Material Update

For engineering change orders (ECOs) with attached parts lists, you can process the ECO parts list and related items list to update the Bill of Material Master File table (F3002) with the requested changes.

The Engineering Change Population program (R30510):

- Processes ECOs.
- Updates the bills of material for the items on the ECO.
- Creates a report in proof or final mode that describes the requested changes.
- Updates ECO-related information in the Item Branch File table (F4102).
- Updates the Item Master table (F4101) for item flash messages that are based on other outstanding ECOs.
- Validates the ECO for full approval before accepting the requested changes.
- Updates the effectivity dates.
- Updates the drawing revision level.
- Copies substitute items from the old component to the new component.
- Updates the parent or component revision level.

Important! It is recommended that you first run this program in proof mode. In proof mode, the report lists all of the requested changes without actually changing any records. Review the report and then run the program in final mode to update records. After you run this program and update table F3002, you cannot change the parts list and run the program again.

The Engineering Change Population program updates only the bill of material. You must update the routing instruction to include the same item revision level as the bill of material if you want to synchronize them.

Prerequisites

Before you complete the tasks in this section:

- Verify that all reviewers approved the ECO.
- Verify that the ECO parts list contains the correct change type and relationship values.
- Verify that the ECO-related items list contains the items that you want to include in the change.

Forms Used to Validate Engineering Change Orders

Form Name	Form ID	Navigation	Usage
Work With ECO Revision Inquiry	W30135A	Engineering Change Management (G3013), ECO Revisions Inquiry	Review approved and pending engineering change order information.
Work With ECO Approval/Audit Review	W48185A	Engineering Change Management (G3013), ECO Approval/Audit Review	Review approver names, current status, planned completion date, and remarks for a specific engineering change order.
ECO Approval Revisions	W4818A	Engineering Change Management, ECO Approval On Work With ECO Approval, complete search fields and click Find. Select an approver name and click Select. On Work With ECO Approval/Audit Review, complete the Order Number field and click Find. Select an approver name and click Select.	Approve engineering change orders and add notes.
Enter ECO Assignments	W30220B	Engineering Change Management (G3013), ECO Open Task Review On Work With ECO Assignment Review, complete the search fields and click Find. Select an operation and click Select.	Review open tasks.

Setting Processing Options for ECO Revisions Inquiry (P30135)

Use these processing options to set default values and define versions.

Versions

These processing options control which version of the programs the system uses.

1. Enter/Change Order (P48020)

Specify the version that the system uses when you select the Row exit to the Enter/Change Order program from the ECO Revisions Inquiry form. If you leave this processing option blank, the system uses version ZJDE0001.

2. BOM Revisions (P3002)

Specify the version that the system uses when you select the Row exit to the BOM Revisions program from the ECO Revisions Inquiry form. If you leave this processing option blank the system uses version ZJDE0001.

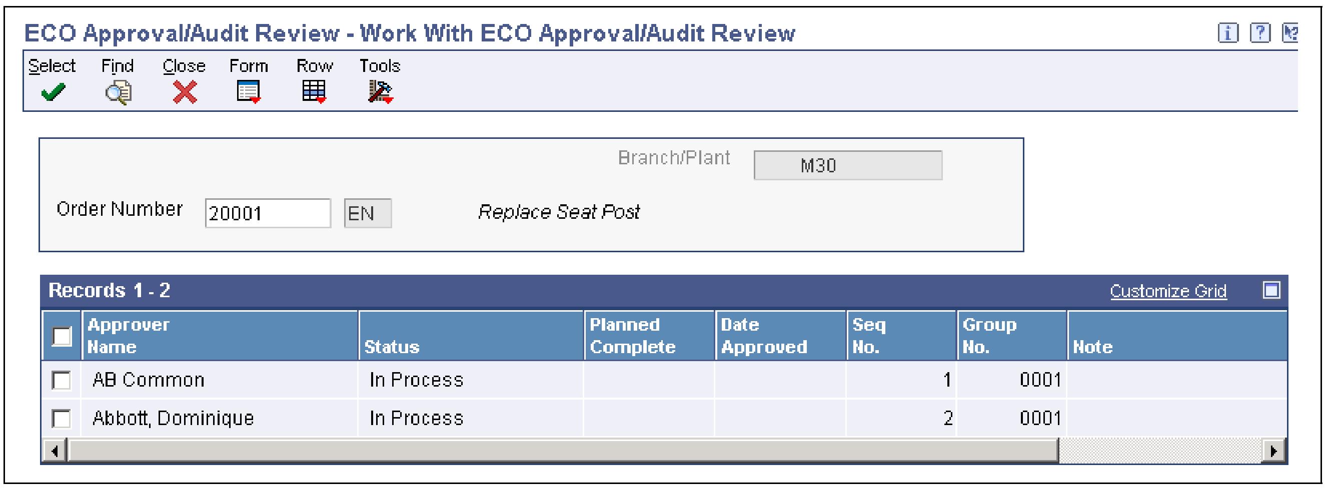
Defaults

This processing option specifies the document type that you want to use for the search.

1. Order Type	Specify the type of document on which you want the system to search. Order type is a UDC (00/DT) that identifies the type of document, such as an order or an invoice. Enter an order type to use as the default value or select it from the Search User Define Code form. If you leave this processing option blank, the system uses *EN* for engineering change order.

Reviewing Revision Information

Access the Work With ECO Approval/Audit Review form.



Work With ECO Approval/Audit Review

Approver Name	Displays the names of the approvers. This 40-character alphabetic field appears on a number of forms and reports. You can enter dashes, commas, and other special characters, but the system cannot search on them when you use this field to search for a name.
Status	Displays the status for each approver.
Planned Complete	Displays the date that the work order or engineering change order is planned to be completed.
Date Approved	Displays the date on which an approver has approved or rejected an ECO. The default value is the current system date.
Seq No. (sequence number)	For PeopleSoft EnterpriseOne, displays the sequence set up for the order in which valid environments are displayed. For PeopleSoft World, displays a sequence or sort number that the system uses to process records in a user defined order.
Group No. (group number)	Displays a number used to combine similar records.
Note	Displays a 40-character description.

Setting Processing Options for ECO Approval/Audit Review

Use these processing options to define versions.

Versions

These processing options control which version of the programs the system uses.

1. Approval (P4818)

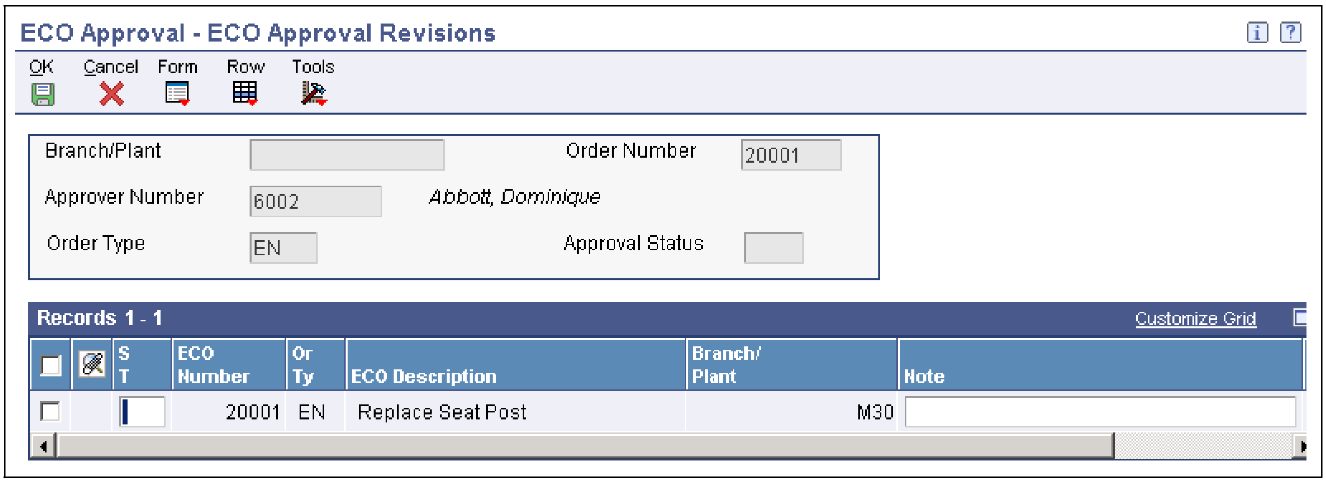
Specify the version that the system uses when you select the Row exit to the ECO Approval program. If you leave this processing option blank, the system uses version ZJDE0001.

2. Enter/Change Order (P48020)

Specify the version that the system uses when you select the Form exit to the Enter/Change ECO program. If you leave this processing option blank the system uses version ZJDE0001.

Reviewing Approval Audit Information

Access the ECO Approval Revisions form.



ECO Approval Revisions form

Setting Processing Options for ECO Open Task Review (P30220)

Use these processing options to set default values and define versions.

Defaults

This processing option specifies the document type that you want to use for the search.

1. Order Type

Specify the type of document on which you want the system to search. Order type is a UDC (00/DT) that identifies the type of document, such as an order or an invoice. Enter an order type to use as the default value or select it from the Search User Define Code form. If you leave this processing option blank, the system uses * to load all document types.

2. Operation Status — From, 3. Operations Status — Thru

Specify the default from and through operation statuses. Enter values from UDC 31/OS.

Versions

These processing options control which version of the programs the system uses.

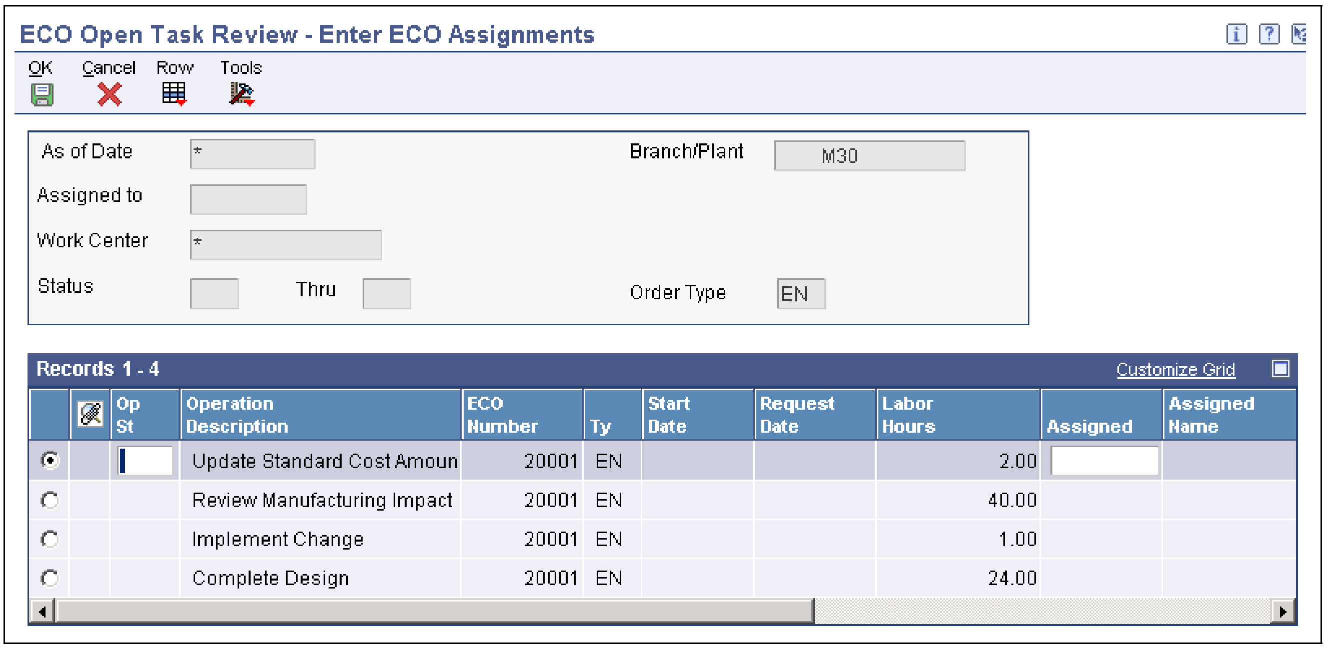
1. Enter/Change Order (P48020)
Specify the version that the system uses when you select the Row exit to ECO Entry. If you leave this processing option blank, the system uses version ZJDE0001.

2. Parts List (P3013)
Specify the version that the system uses when you select the Row exit to ECO Parts List. If you leave this processing option blank the system uses version ZJDE0001.

3. Work Order Routing (P3112)
Specify the version that the system uses when you select the Row exit to Routing. If you leave this processing option blank the system uses version ZJDE0001.

Reviewing Open Tasks

Access the Enter ECO Assignments form.



Enter ECO Assignments

Op St (operation status)
Enter the operation status code that identifies the current status of a work order or engineering change order as the operation steps in the routing are completed. Enter a value from UDC 31/ OS.

Operation Description
Displays a remark about an item.

ECO Number (engineering change order number)
Displays a number that identifies an original document. This document can be a voucher, a sales order, an invoice, unapplied cash, a journal entry, and so on.

Work Center
Displays an alphanumeric code 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.

You can assign a business unit to a document, entity, or person for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business unit to track equipment by responsible department.

Business unit security might prevent you from viewing information about business units for which you have no authority.

Oper Seq# (operation sequence number)

Displays a number used to indicate an order of succession.

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.

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.

In engineering change orders, a number that sequences the assembly steps for the engineering change.

For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced.

Skip To fields enable you to enter an operation sequence that you want to begin the display of information.

You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13.

Setting Processing Options for ECO Approval (P4818)

Processing options enable you to specify the default processing for programs and reports.

Do not modify EnterpriseOne demo versions, which are identified by ZJDE or XJDE prefixes. Copy these versions or create new versions to change any values, include the version number, version title, prompting options, security, and processing options.

Defaults

This processing option specifies the document type that you want to use for the search.

1. Order Type

Specify the type of document on which you want the system to search. Order type is a UDC (00/DT) that identifies the type of document, such as an order or an invoice. Enter an order type to use as the default value or select it from the Search User Define Code form. If you leave this processing option blank, the system uses * to load all document types.

2. Approval Status

Specify the default approval status on which yo want the system to search. If you leave this processing option blank, no value will be entered. Enter a value from UDC 30/ST.

3. Status Code W.O. (status code work order)

Enter the ECO Status code to update the ECO order master when approval routing is complete. If you leave this processing option blank, no ECO status update will occur. Enter a value from UDC 00/SS.

Versions

These processing options control which version of the programs the system uses.

1. Enter/Change Order (P48020)
Specify the version that the system uses when you select the Row exit to ECO Master. If you leave this processing option blank, the system uses version ZJDE0001.

2. Approval Notification (R48181)
Specify the Approval Notification version that the system uses. If you leave this processing option blank the system uses version ZJDE0001.

Edits

These processing options control which version of the programs the system uses.

1. Approval Security
Enable approval security.

Values are:

Blank: Approval security is disabled.

1: Approval security is enabled.

Approving Engineering Change Orders

Access the ECO Approval Revisions form.

Approver Number
Enter a number that identifies an entry in the Address Book system, such as employee, applicant, participant, customer, supplier, tenant, or location.

S T (status)
Enter a UDC (30/ST) that indicates the approval status of an engineering change order. For example:

A: Accept (initiates notification of next review group).

R: Reject (stops the notification process).

Updating the Bill of Material

From the Engineering Change Management menu (G3013), select Engineering Change Population.

Setting Processing Options for Engineering Change Population (R30510)

Use these processing options to set default values, define if the system runs in proof or final mode, establish edits, and control various update options.

Mode

This processing option controls whether the program is run in proof or final mode.

Mode
Specify whether the system runs the Engineering Change Population program (P30510) in proof or final mode. It is recommended that you first run this program in proof mode. The proof report lists all requested changes without actually changing any data. Review the report and then run the program in final mode to update the data in the Bill of Materials Change table (F3011). After you run this program in final mode, you cannot change the parts list and run the program again. Values are:

Blank: The system runs in proof mode.

1: The system runs in final mode.

Edits

This processing option controls whether the system uses engineering change order verification for the Engineering Change Population program (R30510).

ECO Approval Validation

Specify whether the system uses engineering change order verification for the Engineering Change Population program (P30510). ECO approval verification lets you update the ECO in final mode only if everyone on the ECO approval list has approved the ECO. If you leave this field blank, it is possible that an ECO can be fully incorporated without any approval. Values are:

Blank: The system does not verify that the ECO is fully approved before allowing the final mode update.

1: The system verifies that the ECO is fully approved before allowing the final mode update.

Process

These processing options control various update options, which item flash message the system uses, and whether the system automatically copies a component's substitute items to the new bill of material.

Update Actual Incorporation Date

Specify whether the system updates the actual incorporation date of the engineering change order to the system date. Values are:

Blank: The system does not update the date.

1: The system updates the date of the ECO.

Status Code

Specify the default status code for the engineering change order. Status code is a UDC (00/SS) that identifies the status of the engineering change order. Enter the status code to use as the default value or select it from the Select User Define Code form. If you leave this field blank, the system does not change the status.

Update Revision Level

Specify whether the system updates the revision level in the Item Branch table (F4102) when the bill of material revision level is updated for a corresponding parent item. The item revision level appears on the Manufacturing Data form in the Inventory Management system.

Values are:

Blank: The system does not update the revision level.

1: The system automatically updates the revision level in the Item Branch table.

Update Item Balance Revision Info

Specify whether the system updates the engineering change order item balance revision level information in the Item Branch table (F4102). Item balance revision level information appears on the Manufacturing Data form in the Inventory Management system. Values are:

Blank: The system does not update the item balance revision level information.

1: The system automatically updates the item balance revision level information in the Item Branch table.

Item Flash Message

Specify the message that the system uses when resetting the flash message due to other outstanding engineering change orders. Item flash message is a UDC (40/FL) that identifies the item message. Enter the status code to use as the default value or select it from the Select User Define Code form. If you leave this field blank, the system does not display the item flash message.

If you specified a flash message in ECO Notification (R48181), enter the same UDC value here to remove the flash message after the ECO is processed.

Update Drawing Revision Level

Specify whether the system updates the drawing revision level in the Item Master table (F4101) when a change is made to the drawing revision level for items defined in the engineering change order (ECO)

parts list and related item list. The drawing revision level appears on the Manufacturing Data form in the Inventory Management system. Values are:

Blank: The system does not update the drawing revision level.

1: The system automatically updates the drawing revision level in the Item Master table.

Copy Substitutes Items

Specify whether the system copies a component's substitute items to the new component or bill of material during a swap or change. Values are:

Blank: The system does not copy a component's substitute items.

1: The system automatically copies a component's substitute items to the new component or bill of material.

Defaults

This processing option controls the default engineering change order type that the system uses.

Order Type

Specify the order type that the system uses when running the Order Change Population program (P30510). Order type is a UDC (00/DT) that identifies the type of the engineering change order.

Enter the order type to use as the default value or select it from the Select User Define Code form. If you leave this field blank, the system includes all order types.

APPENDIX A

PeopleSoft EnterpriseOne Product Data Management Planning Reports

This appendix provides an overview of Product Data Management reports and enables you to:

- View summary tables of all reports.
- View details for selected reports.

Product Data Management Reports

The product data management reports are based on these tables:

- Bill of Material Master File (F3002)
- Routing Master File (F3003)

The engineering change order reports are based on these tables:

- Bill of Material Master File
- Work Order Master (F4801)

PeopleSoft Product Data Management Reports A to Z

The table lists the product data management reports, sorted alphanumerically by report ID.

Report ID and Report Name	Description	Navigation
R30420 Material Where Used	Lists the parent assemblies that contain a specific component and displays all the subassemblies of the components for an item, as well as the indented level of these subassemblies. A version of this report is used for the Where Used Ingredient report.	Periodic PDM Discrete menu (G3021), Where Used Item Report Periodic PDM Process menu (G3022), Where Used Ingredient
R30435 Process Report	Displays process information including run hours, effectivity dates, ingredients, quantity per, and co- and by-products for each operation sequence.	Periodic PDM Process menu (G3022), Process Report

Report ID and Report Name	Description	Navigation
R30430 Standard Routing Information	Displays the work centers, sequence numbers, planned yield, run hours, setup hours, move hours, crew size, and effective dates for a parent item.	Periodic PDM Discrete menu (G3021), Routing Instructions Report Periodic PDM Process menu (G3022), Instructions Report
R30460 Bill of Material Print	Displays all the levels of an item's components and enables you to review all of the subassemblies. A version of this report is used for the Multi Level Ingredient report.	Periodic PDM Discrete menu (G3021), Multi Level Bill of Material Periodic PDM Process menu (G3022), Multi Level Ingredient
R30460 Bill of Material Print	Displays the first-level component information for an item. Information includes item number, description, component quantity, effectivity dates, operations sequence numbers, and revision levels. A version of this report is used for the Single Level Ingredient report	Periodic PDM Discrete menu (G3021), Single Level Bill of Material Periodic PDM Process menu (G3022), Single Level Ingredient
R48020P ECO Work Order Print	Lists all of the details for a specific ECO.	Engineering Change Management menu (G3013), ECO Details
R48421 ECO Summary Report	Lists the ECOs that are currently in the approval process or as a basis for running the Engineering Change Population program (R30510).	Engineering Change Management menu (G3013), Open ECOs

PeopleSoft Product Data Management Reports: Selected Reports

Some reports include a more detailed description, as well as information about processing options. These reports are listed alphanumerically by report ID in this appendix.

R30420 - Where Used Item Report

Use this report to illustrate where items are used on the bill of material.

Processing Options for Material Where Used (R30420)

Use these processing options to control the report format and control the number of detail lines to print on the report.

Format Option

These processing options specify whether the report prints the bill of material for a single level, multi-level, or multi-level indented and if one or two detail lines are printed.

Mode of Report

Enter the mode or style for the report. Values are:

1: Single level

2: Multi-level

3: Multi-level indented

Print Line of Detail

Specify whether one or two lines of detail information prints.

1: Print second line of detail information.

Blank: Print one line of detail information.

R30460 - Multi Level Bill of Material Report and Single Level Bill of Material Report

You can generate several reports to review bill of material information. These reports retrieve data from the Bill of Material Master File table. You access these report from the Periodic PDM Discrete menu (G3021) and the Periodic PDM Process menu (G3022). They enable you to display different views of the bill of material.

You can use processing options to define the format and scope for each report.

Important! It is recommended that you do not change the first two data sequences from the settings in the demonstration version of these reports. If you change the data sequencing, you might obtain unexpected or inaccurate results.

Processing Options for Bill of Material Print (R30460)

Use these processing options to set the report display format and define the type of information displayed on the report.

Display

These processing options control the display format, display sequence, and other parameters for the report.

1. Inquiry Mode

Specify whether the system displays the information in single level or multilevel format. The single level format displays the item's first-level components, the multilevel format displays the subassemblies and components for an item, and the multilevel indented format displays the subassemblies indented. Values are:

Blank: Display the multilevel indented format.

1: Display the single level format.

2: Display the multilevel format.

3: Display the multilevel indented format.

2. As of Date

Specify the as of date that the system uses for the bill of material. The as of date is the date that the system uses for effectivity checking. Enter a specific date to display bills of material that are effective on or after that date. You can enter any future or past date as the default value or select it from the Calendar. If you leave this processing option blank, the system uses the current date.

3. Type Bill of Material

Specify the type of bill of material that the system uses as the default value. Bill of material type is a UDC (40/TB) that designates the type of bill of material. Enter the bill of material type to use or select it from the Select User Define Code form. If you leave this processing option blank, the system uses M (manufacturing bill of material).

4. Display Sequence

Specify whether the system sequences the information by component line number or by operation sequence number. The component line number indicates the sequence of components on a bill of material. The operation sequence number indicates the number that designates the routing step in the fabrication or assembly process that requires a specified component part. Values are:

Blank: Sequence by component line number.

1: Sequence by component line number.

2: Sequence by operation sequence number.

Print

These processing options control the types of information that are included on the report.

1. Detail Line

Specify whether the system prints a second line of detail for each item. This second line of detail includes data such as leadtime level and bill revision level. Values are:

Blank: Print only one line of detail for each item.

1: Print a second line of detail for each item.

2. Component Locators

Specify whether the system prints the component locations. The component location is the specific location of a component in the assembly of an item, for example, the location of a part on a circuit board. Values are:

Blank: Do not print component locations.

1: Print component locations.

3. Parent Item Detail Line

Specify whether the system prints a line of detail for the parent item. This detail line includes data such as the drawing number. Values are:

Blank: Do not print a line of detail for the parent item.

1: Print a line of detail for the parent item.

Process

These processing options control the types of item quantities that are included on the report.

1. Phantom Items

Specify whether the system explodes the phantoms to the next level and omits the display of the phantom. A phantom is normally defined for engineering or manufacturing purposes. Phantoms enable common parts, that may or may not be assembled, to be grouped in a bill of material structure. When viewing the bill of material, you may want to display only the subassemblies and raw material. Values are:

Blank: Omit the phantom items from the inquiry and display only the subassemblies and raw material.

1: Include phantom items in the inquiry.

2. Process Items

Specify whether the system displays process items. Process items include the process, co-products, by-products, and ingredients. A discrete bill may contain a component that is produced from a process. You use this processing option when you combine discrete and process manufacturing to display a complete structure of the requirements. Values are:

Blank: Exclude process items.

1: Include process items.

3. Subassemblies

Specify whether the system displays subassemblies. A subassembly is an assembly that is used at a higher level to make up another assembly. Values are:

Blank: Exclude subassemblies.

1: Include subassemblies.

4. Text Lines

Specify whether the system displays text lines. Values are:

Blank: Exclude text lines.

1: Include text lines.

5. Consolidate Component Items

Specify whether the system consolidates duplicate components. The same component may be listed in the bill of material several times, either on different subassemblies or on the same subassembly at different operations. When you use this processing option with the Subassemblies processing option, the system consolidates components at the subassembly level or for all levels of the bill of material. When viewing the consolidated components, the quantity required is accumulated for duplicate components. Values are:

Blank: Display individual occurrences of duplicate components.

1: Consolidate duplicate components.

6. Purchased Item

Specify whether the system explodes to the next level of purchased items in the bill of material report. Values are:

Blank: Exclude lower-level purchased items.

1: Include lower-level purchased items.

7. Shrinkage

Specify whether the system adjusts the requested quantity for shrinkage. Shrinkage is the planned loss of a parent item caused by factors such as breakage, theft, deterioration, and evaporation. Values are:

Blank: Do not adjust the requested quantity for shrinkage.

1: Adjust the requested quantity for shrinkage.

8. Scrap

Specify whether the system adjusts the extended quantity for scrap. Scrap is unusable material that results from the production process. It is material outside of specifications and of such characteristics that rework is impractical. Values are:

Blank: Do not adjust the extended quantity for scrap.

1: Adjust the extended quantity for scrap.

9. Yield

Specify whether the system adjusts the extended quantity for yield. Yield is the ratio of usable output from a process to its input. Values are:

Blank: Do not adjust the extended quantity for yield.

1: Adjust the extended quantity for yield.

10. Requested Quantity Enter the required quantity of the parent item in the bill of material inquiry.

11. Unit of Measure as Input Enter the unit of measure of the parent item in which the requested quantity is entered.

R48020P - ECO Work Order Print Report

You can print a variety of engineering change order information to help you manage the ECOs that you create. You can access the reports from the Engineering Change Management menu (G3013).

You can generate the ECO Work Order Print report to list all of the details for a specific ECO. You can set the processing options to specify the amount and type of information in the report. The system retrieves the data for this report from the Bill of Material Master table.

Processing Options for ECO Work Order Print (R48020P)

Use these processing options to select the information to print on the report and set default values.

Print

These processing options specify the information to include on the report.

1. Notes Specify if notes print on the report. Values are:

Blank: Do not print notes.

1: Print notes.

2. Parts List Specify if the parts list prints on the report. Values are:

Blank: Do not print parts list.

1: Print parts list.

3. Routing Specify if the routing prints on the report. Values are:

Blank: Do not print routing.

1: Print routing.

Defaults

This processing option specifies the default note type to print.

Record Type Enter the default note type that will be printed. If left blank, note type A will be used.

R48421 - ECO Summary Report

Use the ECO Summary Report to list the ECOs that are currently in the approval process or as a basis for running the Engineering Change Population program.

You can set up the report with information:

- Document type and status code.
- Category code and product family.

- Status code for pending approval.
- Status code for ECOs that have been approved.

The system retrieves the data for this report from the Work Order Master table.

Glossary of PeopleSoft Terms

activity	A scheduling entity in PeopleSoft EnterpriseOne Form Design Aid that represents a designated amount of time on a calendar.
activity rule	The criteria by which an object progresses from one given point to the next in a flow.
add mode	A condition of a form that enables users to input data.
Advanced Planning Agent (APAg)	A PeopleSoft EnterpriseOne tool that can be used to extract, transform, and load enterprise data. APAg supports access to data sources in the form of rational databases, flat file format, and other data or message encoding, such as XML.
application server	A server in a local area network that contains applications shared by network clients.
as if processing	A process that enables you to view currency amounts as if they were entered in a currency different from the domestic and foreign currency of the transaction.
alternate currency	A currency that is different from the domestic currency (when dealing with a domestic-only transaction) or the domestic and foreign currency of a transaction. In PeopleSoft EnterpriseOne Financial Management, alternate currency processing enables you to enter receipts and payments in a currency other than the one in which they were issued.
as of processing	A process that is run as of a specific point in time to summarize transactions up to that date. For example, you can run various PeopleSoft EnterpriseOne reports as of a specific date to determine balances and amounts of accounts, units, and so on as of that date.
back-to-back process	A process in PeopleSoft EnterpriseOne Workflow Management that contains the same keys that are used in another process.
batch processing	A process of transferring records from a third-party system to PeopleSoft EnterpriseOne. In PeopleSoft EnterpriseOne Financial Management, batch processing enables you to transfer invoices and vouchers that are entered in a system other than EnterpriseOne to PeopleSoft EnterpriseOne Accounts Receivable and PeopleSoft EnterpriseOne Accounts Payable, respectively. In addition, you can transfer address book information, including customer and supplier records, to PeopleSoft EnterpriseOne.
batch server	A server that is designated for running batch processing requests. A batch server typically does not contain a database nor does it run interactive applications.
batch-of-one immediate	A transaction method that enables a client application to perform work on a client workstation, then submit the work all at once to a server application for further processing. As a batch process is running on the server, the client application can continue performing other tasks. See also direct connect and store-and-forward.
business function	A named set of user-created, reusable business rules and logs that can be called through event rules. Business functions can run a transaction or a subset of a transaction (check inventory, issue work orders, and so on). Business functions also contain the application programming interfaces (APIs) that enable them to be called from a form, a database trigger, or a non-EnterpriseOne application. Business functions can be combined with other business functions, forms, event rules, and other components to make up an application. Business functions can be created through

	event rules or third-generation languages, such as C. Examples of business functions include Credit Check and Item Availability.
business function event rule	See named event rule (NER).
business view	A means for selecting specific columns from one or more PeopleSoft EnterpriseOne tables whose data is used in an application or report. A business view does not select specific rows, nor does it contain any actual data. It is strictly a view through which you can manipulate data.
central objects merge	A process that blends a customer's modifications to the objects in a current release with objects in a new release.
central server	A server that has been designated to contain the originally installed version of the software (central objects) for deployment to client computers. In a typical PeopleSoft EnterpriseOne installation, the software is loaded on to one machine—the central server. Then, copies of the software are pushed out or downloaded to various workstations attached to it. That way, if the software is altered or corrupted through its use on workstations, an original set of objects (central objects) is always available on the central server.
charts	Tables of information in PeopleSoft EnterpriseOne that appear on forms in the software.
connector	Component-based interoperability model that enables third-party applications and PeopleSoft EnterpriseOne to share logic and data. The PeopleSoft EnterpriseOne connector architecture includes Java and COM connectors.
contra/clearing account	A general ledger account in PeopleSoft EnterpriseOne Financial Management that is used by the system to offset (balance) journal entries. For example, you can use a contra/clearing account to balance the entries created by allocations in PeopleSoft EnterpriseOne General Accounting.
Control Table Workbench	An application that, during the installation Workbench processing, runs the batch applications for the planned merges that update the data dictionary, user-defined codes, menus, and user override tables.
control tables merge	A process that blends a customer's modifications to the control tables with the data that accompanies a new release.
cost assignment	The process in PeopleSoft EnterpriseOne Advanced Cost Accounting of tracing or allocating resources to activities or cost objects.
cost component	In PeopleSoft EnterpriseOne Manufacturing Management, an element of an item's cost (for example, material, labor, or overhead).
cross segment edit	A logic statement that establishes the relationship between configured item segments. Cross segment edits are used to prevent ordering of configurations that cannot be produced.
currency restatement	The process of converting amounts from one currency into another currency, generally for reporting purposes. You can use the currency restatement process, for example, when many currencies must be restated into a single currency for consolidated reporting.
database server	A server in a local area network that maintains a database and performs searches for client computers.
Data Source Workbench	An application that, during the Installation Workbench process, copies all data sources that are defined in the installation plan from the Data Source Master and Table and Data Source Sizing tables in the Planner data source to the System-release number data source. It also updates the Data Source Plan detail record to reflect completion.

date pattern	A calendar that represents the beginning date for the fiscal year and the ending date for each period in that year in standard and 52-period accounting.
denominated-in currency	The company currency in which financial reports are based.
deployment server	A server that is used to install, maintain, and distribute software to one or more enterprise servers and client workstations.
detail information	Information that relates to individual lines in PeopleSoft EnterpriseOne transactions (for example, voucher pay items and sales order detail lines).
direct connect	A transaction method in which a client application communicates interactively and directly with a server application. See also batch-of-one immediate and store-and-forward.
Do Not Translate (DNT)	A type of data source that must exist on the iSeries because of BLOB restrictions.
dual pricing	The process of providing prices for goods and services in two currencies.
edit code	A code that indicates how a specific value for a report or a form should appear or be formatted. The default edit codes that pertain to reporting require particular attention because they account for a substantial amount of information.
edit mode	A condition of a form that enables users to change data.
edit rule	A method used for formatting and validating user entries against a predefined rule or set of rules.
Electronic Data Interchange (EDI)	An interoperability model that enables paperless computer-to-computer exchange of business transactions between PeopleSoft EnterpriseOne and third-party systems. Companies that use EDI must have translator software to convert data from the EDI standard format to the formats of their computer systems.
embedded event rule	An event rule that is specific to a particular table or application. Examples include form-to-form calls, hiding a field based on a processing option value, and calling a business function. Contrast with the business function event rule.
Employee Work Center	A central location for sending and receiving all PeopleSoft EnterpriseOne messages (system and user generated), regardless of the originating application or user. Each user has a mailbox that contains workflow and other messages, including Active Messages.
enterprise server	A server that contains the database and the logic for PeopleSoft EnterpriseOne or PeopleSoft World.
EnterpriseOne object	A reusable piece of code that is used to build applications. Object types include tables, forms, business functions, data dictionary items, batch processes, business views, event rules, versions, data structures, and media objects.
EnterpriseOne process	A software process that enables PeopleSoft EnterpriseOne clients and servers to handle processing requests and run transactions. A client runs one process, and servers can have multiple instances of a process. PeopleSoft EnterpriseOne processes can also be dedicated to specific tasks (for example, workflow messages and data replication) to ensure that critical processes don't have to wait if the server is particularly busy.
Environment Workbench	An application that, during the Installation Workbench process, copies the environment information and Object Configuration Manager tables for each environment from the Planner data source to the System-release number data source. It also updates the Environment Plan detail record to reflect completion.
escalation monitor	A batch process that monitors pending requests or activities and restarts or forwards them to the next step or user after they have been inactive for a specified amount of time.

event rule	A logic statement that instructs the system to perform one or more operations based on an activity that can occur in a specific application, such as entering a form or exiting a field.
facility	An entity within a business for which you want to track costs. For example, a facility might be a warehouse location, job, project, work center, or branch/plant. A facility is sometimes referred to as a *business unit* .
fast path	A command prompt that enables the user to move quickly among menus and applications by using specific commands.
file server	A server that stores files to be accessed by other computers on the network. Unlike a disk server, which appears to the user as a remote disk drive, a file server is a sophisticated device that not only stores files, but also manages them and maintains order as network user request files and make changes to these files.
final mode	The report processing mode of a processing mode of a program that updates or creates data records.
FTP server	A server that responds to requests for files via file transfer protocol.
header information	Information at the beginning of a table or form. Header information is used to identify or provide control information for the group of records that follows.
interface table	See Z tables.
integration server	A server that facilitates interaction between diverse operating systems and applications across internal and external networked computer systems.
integrity test	A process used to supplement a company's internal balancing procedures by locating and reporting balancing problems and data inconsistencies.
interoperability model	A method for third-party systems to connect to or access PeopleSoft EnterpriseOne.
in-your-face-error	In PeopleSoft EnterpriseOne, a form-level property which, when enabled, causes the text of application errors to appear on the form.
IServer service	Developed by PeopleSoft, this internet server service resides on the web server and is used to speed up delivery of the Java class files from the database to the client.
jargon	An alternative data dictionary item description that PeopleSoft EnterpriseOne or People World displays based on the product code of the current object.
Java application server	A component-based server that resides in the middle-tier of a server-centric architecture. This server provides middleware services for security and state maintenance, along with data access and persistence.
JDBNET	A database driver that enables heterogeneous servers to access each other's data.
JDEBASE Database Middleware	A PeopleSoft proprietary database middleware package that provides platform-independent APIs, along with client-to-server access.
JDECallObject	An API used by business functions to invoke other business functions.
jde.ini	A PeopleSoft file (or member for iSeries) that provides the runtime settings required for EnterpriseOne initialization. Specific versions of the file or member must reside on every machine running PeopleSoft EnterpriseOne. This includes workstations and servers.
JDEIPC	Communications programming tools used by server code to regulate access to the same data in multiprocess environments, communicate and coordinate between processes, and create new processes.

jde.log	The main diagnostic log file of PeopleSoft EnterpriseOne. This file is always located in the root directory on the primary drive and contains status and error messages from the startup and operation of PeopleSoft EnterpriseOne.
JDENET	PeopleSoft proprietary communications middleware package. This package is a peer-to-peer, message-based, socket-based, multiprocess communications middleware solution. It handles client-to-server and server-to-server communications for all PeopleSoft EnterpriseOne supported platforms.
Location Workbench	An application that, during the Installation Workbench process, copies all locations that are defined in the installation plan from the Location Master table in the Planner data source to the System data source.
logic server	A server in a distributed network that provides the business logic for an application program. In a typical configuration, pristine objects are replicated on to the logic server from the central server. The logic server, in conjunction with workstations, actually performs the processing required when PeopleSoft EnterpriseOne and World software runs.
MailMerge Workbench	An application that merges Microsoft Word 6.0 (or higher) word-processing documents with PeopleSoft EnterpriseOne records to automatically print business documents. You can use MailMerge Workbench to print documents, such as form letters about verification of employment.
master business function (MBF)	An interactive master file that serves as a central location for adding, changing, and updating information in a database. Master business functions pass information between data entry forms and the appropriate tables. These master functions provide a common set of functions that contain all of the necessary default and editing rules for related programs. MBFs contain logic that ensures the integrity of adding, updating, and deleting information from databases.
master table	See published table.
matching document	A document associated with an original document to complete or change a transaction. For example, in PeopleSoft EnterpriseOne Financial Management, a receipt is the matching document of an invoice, and a payment is the matching document of a voucher.
media storage object	Files that use one of the following naming conventions that are not organized into table format: Gxxx, xxxGT, or GTxxx.
message center	A central location for sending and receiving all PeopleSoft EnterpriseOne messages (system and user generated), regardless of the originating application or user.
messaging adapter	An interoperability model that enables third-party systems to connect to PeopleSoft EnterpriseOne to exchange information through the use of messaging queues.
messaging server	A server that handles messages that are sent for use by other programs using a messaging API. Messaging servers typically employ a middleware program to perform their functions.
named event rule (NER)	Encapsulated, reusable business logic created using event rules, rather that C programming. NERs are also called business function event rules. NERs can be reused in multiple places by multiple programs. This modularity lends itself to streamlining, reusability of code, and less work.
nota fiscal	In Brazil, a legal document that must accompany all commercial transactions for tax purposes and that must contain information required by tax regulations.
nota fiscal factura	In Brazil, a nota fiscal with invoice information. See also *nota fiscal.*

Object Configuration Manager (OCM)	In PeopleSoft EnterpriseOne, the object request broker and control center for the runtime environment. OCM keeps track of the runtime locations for business functions, data, and batch applications. When one of these objects is called, OCM directs access to it using defaults and overrides for a given environment and user.
Object Librarian	A repository of all versions, applications, and business functions reusable in building applications. Object Librarian provides check-out and check-in capabilities for developers, and it controls the creation, modification, and use of PeopleSoft EnterpriseOne objects. Object Librarian supports multiple environments (such as production and development) and enables objects to be easily moved from one environment to another.
Object Librarian merge	A process that blends any modifications to the Object Librarian in a previous release into the Object Librarian in a new release.
Open Data Access (ODA)	An interoperability model that enables you to use SQL statements to extract PeopleSoft EnterpriseOne data for summarization and report generation.
Output Stream Access (OSA)	An interoperability model that enables you to set up an interface for PeopleSoft EnterpriseOne to pass data to another software package, such as Microsoft Excel, for processing.
package	EnterpriseOne objects are installed to workstations in packages from the deployment server. A package can be compared to a bill of material or kit that indicates the necessary objects for that workstation and where on the deployment server the installation program can find them. It is point-in-time snap shot of the central objects on the deployment server.
package build	A software application that facilitates the deployment of software changes and new applications to existing users. Additionally, in PeopleSoft EnterpriseOne, a package build can be a compiled version of the software. When you upgrade your version of the ERP software, for example, you are said to take a package build. Consider the following context: “Also, do not transfer business functions into the production path code until you are ready to deploy, because a global build of business functions done during a package build will automatically include the new functions.” The process of creating a package build is often referred to, as it is in this example, simply as “a package build.”
package location	The directory structure location for the package and its set of replicated objects. This is usually \\deployment server\release\path_code\package\package name. The subdirectories under this path are where the replicated objects for the package are placed. This is also referred to as where the package is built or stored.
Package Workbench	An application that, during the Installation Workbench process, transfers the package information tables from the Planner data source to the System-release number data source. It also updates the Package Plan detail record to reflect completion.
PeopleSoft Database	See JDEBASE Database Middleware.
planning family	A means of grouping end items whose similarity of design and manufacture facilitates being planned in aggregate.
preference profile	The ability to define default values for specified fields for a user-defined hierarchy of items, item groups, customers, and customer groups.
print server	The interface between a printer and a network that enables network clients to connect to the printer and send their print jobs to it. A print server can be a computer, separate hardware device, or even hardware that resides inside of the printer itself.
pristine environment	A PeopleSoft EnterpriseOne environment used to test unaltered objects with PeopleSoft demonstration data or for training classes. You must have this environment so that you can compare pristine objects that you modify.

processing option
A data structure that enables users to supply parameters that regulate the running of a batch program or report. For example, you can use processing options to specify default values for certain fields, to determine how information appears or is printed, to specify date ranges, to supply runtime values that regulate program execution, and so on.

production environment
A PeopleSoft EnterpriseOne environment in which users operate EnterpriseOne software.

production-grade file server
A file server that has been quality assurance tested and commercialized and that is usually provided in conjunction with user support services.

program temporary fix (PTF)
A representation of changes to PeopleSoft software that your organization receives on magnetic tapes or disks.

project
In PeopleSoft EnterpriseOne, a virtual container for objects being developed in Object Management Workbench.

promotion path
The designated path for advancing objects or projects in a workflow. The following is the normal promotion cycle (path):

11>21>26>28>38>01

In this path, *11* equals new project pending review, *21* equals programming, *26* equals QA test/review, *28* equals QA test/review complete, *38* equals in production, *01* equals complete. During the normal project promotion cycle, developers check objects out of and into the development path code and then promote them to the prototype path code. The objects are then moved to the productions path code before declaring them complete.

proxy server
A server that acts as a barrier between a workstation and the internet so that the enterprise can ensure security, administrative control, and caching service.

published table
Also called a master table, this is the central copy to be replicated to other machines. Residing on the publisher machine, the F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.

publisher
The server that is responsible for the published table. The F98DRPUB table identifies all of the published tables and their associated publishers in the enterprise.

pull replication
One of the PeopleSoft methods for replicating data to individual workstations. Such machines are set up as pull subscribers using PeopleSoft EnterpriseOne data replication tools. The only time that pull subscribers are notified of changes, updates, and deletions is when they request such information. The request is in the form of a message that is sent, usually at startup, from the pull subscriber to the server machine that stores the F98DRPCN table.

QBE
An abbreviation for query by example. In PeopleSoft EnterpriseOne, the QBE line is the top line on a detail area that is used for filtering data.

real-time event
A service that uses system calls to capture PeopleSoft EnterpriseOne transactions as they occur and to provide notification to third-party software, end users, and other PeopleSoft systems that have requested notification when certain transactions occur.

refresh
A function used to modify PeopleSoft EnterpriseOne software, or subset of it, such as a table or business data, so that it functions at a new release or cumulative update level, such as B73.2 or B73.2.1.

replication server
A server that is responsible for replicating central objects to client machines.

quote order
In PeopleSoft EnterpriseOne Procurement and Subcontract Management, a request from a supplier for item and price information from which you can create a purchase order.

	In PeopleSoft EnterpriseOne Sales Order Management, item and price information for a customer who has not yet committed to a sales order.
selection	Found on PeopleSoft menus, a selection represents functions that you can access from a menu. To make a selection, type the associated number in the Selection field and press Enter.
Server Workbench	An application that, during the Installation Workbench process, copies the server configuration files from the Planner data source to the System-release number data source. It also updates the Server Plan detail record to reflect completion.
spot rate	An exchange rate entered at the transaction level. This rate overrides the exchange rate that is set up between two currencies.
Specification merge	A merge that comprises three merges: Object Librarian merge, Versions List merge, and Central Objects merge. The merges blend customer modifications with data that accompanies a new release.
specification	A complete description of a PeopleSoft EnterpriseOne object. Each object has its own specification, or name, which is used to build applications.
Specification Table Merge Workbench	An application that, during the Installation Workbench process, runs the batch applications that update the specification tables.
store-and-forward	The mode of processing that enables users who are disconnected from a server to enter transactions and then later connect to the server to upload those transactions.
subscriber table	Table F98DRSUB, which is stored on the publisher server with the F98DRPUB table and identifies all of the subscriber machines for each published table.
supplemental data	Any type of information that is not maintained in a master file. Supplemental data is usually additional information about employees, applicants, requisitions, and jobs (such as an employee's job skills, degrees, or foreign languages spoken). You can track virtually any type of information that your organization needs. For example, in addition to the data in the standard master tables (the Address Book Master, Customer Master, and Supplier Master tables), you can maintain other kinds of data in separate, generic databases. These generic databases enable a standard approach to entering and maintaining supplemental data across PeopleSoft EnterpiseOne systems.
table access management (TAM)	The PeopleSoft EnterpriseOne component that handles the storage and retrieval of use-defined data. TAM stores information, such as data dictionary definitions; application and report specifications; event rules; table definitions; business function input parameters and library information; and data structure definitions for running applications, reports, and business functions.
Table Conversion Workbench	An interoperability model that enables the exchange of information between PeopleSoft EnterpriseOne and third-party systems using non-PeopleSoft EnterpriseOne tables.
table conversion	An interoperability model that enables the exchange of information between PeopleSoft EnterpriseOne and third-party systems using non-PeopleSoft EnterpriseOne tables.
table event rules	Logic that is attached to database triggers that runs whenever the action specified by the trigger occurs against the table. Although PeopleSoft EnterpriseOne enables event rules to be attached to application events, this functionality is application specific. Table event rules provide embedded logic at the table level.
terminal server	A server that enables terminals, microcomputers, and other devices to connect to a network or host computer or to devices attached to that particular computer.

three-tier processing — The task of entering, reviewing and approving, and posting batches of transactions in PeopleSoft EnterpriseOne.

three-way voucher match — In PeopleSoft EnterpriseOne Procurement and Subcontract Management, the process of comparing receipt information to supplier's invoices to create vouchers. In a three-way match, you use the receipt records to create vouchers.

transaction processing (TP) monitor — A monitor that controls data transfer between local and remote terminals and the applications that originated them. TP monitors also protect data integrity in the distributed environment and may include programs that validate data and format terminal screens.

transaction set — An electronic business transaction (electronic data interchange standard document) made up of segments.

trigger — One of several events specific to data dictionary items. You can attach logic to a data dictionary item that the system processes automatically when the event occurs.

triggering event — A specific workflow event that requires special action or has defined consequences or resulting actions.

two-way voucher match — In PeopleSoft EnterpriseOne Procurement and Subcontract Management, the process of comparing purchase order detail lines to the suppliers' invoices to create vouchers. You do not record receipt information.

User Overrides merge — Adds new user override records into a customer's user override table.

variance — In Capital Asset Management, the difference between revenue generated by a piece of equipment and costs incurred by the equipment.

In EnterpriseOne Project Costing and EnterpriseOne Manufacturing Management, the difference between two methods of costing the same item (for example, the difference between the frozen standard cost and the current cost is an engineering variance). Frozen standard costs come from the Cost Components table, and the current costs are calculated using the current bill of material, routing, and overhead rates.

Version List merge — The Versions List merge preserves any non-XJDE and non-ZJDE version specifications for objects that are valid in the new release, as well as their processing options data.

visual assist — Forms that can be invoked from a control via a trigger to assist the user in determining what data belongs in the control.

vocabulary override — An alternate description for a data dictionary item that appears on a specific PeopleSoft EnterpriseOne or World form or report.

wchar_t — An internal type of a wide character. It is used for writing portable programs for international markets.

web application server — A web server that enables web applications to exchange data with the back-end systems and databases used in eBusiness transactions.

web server — A server that sends information as requested by a browser, using the TCP/IP set of protocols. A web server can do more than just coordination of requests from browsers; it can do anything a normal server can do, such as house applications or data. Any computer can be turned into a web server by installing server software and connecting the machine to the internet.

Windows terminal server — A multiuser server that enables terminals and minimally configured computers to display Windows applications even if they are not capable of running Windows software themselves. All client processing is performed centrally at the Windows terminal server and only display, keystroke, and mouse commands are transmitted over the network to the client terminal device.

work day calendar	In EnterpriseOne Manufacturing Management, a calendar that is used in planning functions that consecutively lists only working days so that component and work order scheduling can be done based on the actual number of work days available. A work day calendar is sometimes referred to as planning calendar, manufacturing calendar, or shop floor calendar.
workflow	The automation of a business process, in whole or in part, during which documents, information, or tasks are passed from one participant to another for action, according to a set of procedural rules.
workgroup server	A server that usually contains subsets of data replicated from a master network server. A workgroup server does not perform application or batch processing.
XAPI events	A service that uses system calls to capture PeopleSoft EnterpriseOne transactions as they occur and then calls third-party software, end users, and other PeopleSoft systems that have requested notification when the specified transactions occur to return a response.
XML CallObject	An interoperability capability that enables you to call business functions.
XML Dispatch	An interoperability capability that provides a single point of entry for all XML documents coming into PeopleSoft EnterpriseOne for responses.
XML List	An interoperability capability that enables you to request and receive PeopleSoft EnterpriseOne database information in chunks.
XML Service	An interoperability capability that enables you to request events from one PeopleSoft EnterpriseOne system and receive a response from another PeopleSoft EnterpriseOne system.
XML Transaction	An interoperability capability that enables you to use a predefined transaction type to send information to or request information from PeopleSoft EnterpriseOne. XML transaction uses interface table functionality.
XML Transaction Service (XTS)	Transforms an XML document that is not in the PeopleSoft EnterpriseOne format into an XML document that can be processed by PeopleSoft EnterpriseOne. XTS then transforms the response back to the request originator XML format.
Z event	A service that uses interface table functionality to capture PeopleSoft EnterpriseOne transactions and provide notification to third-party software, end users, and other PeopleSoft systems that have requested to be notified when certain transactions occur.
Z table	A working table where non-PeopleSoft EnterpriseOne information can be stored and then processed into PeopleSoft EnterpriseOne. Interface tables also can be used to retrieve PeopleSoft EnterpriseOne data. Interface tables are also known as interface tables.
Z transaction	Third-party data that is properly formatted in interface tables for updating to the PeopleSoft EnterpriseOne database.

Index

A

accounting and costing information
  entering 70
additional documentation x
Address Book Master table (F0101)
  PDM tables 10
Advanced Cost Accounting Constants program (P1609)
  activity code 77
alternate operation
  entering 77
  routing instructions 68
alternate operations
  process terminology table 100
application fundamentals ix
approval routings
  setting up 32
  setting up order-specific 34
approving engineering change orders 138
Assembly Inclusions Rules table (F3293)
  QNTY data item 17
available hours
  F3007 table 89

B

batch bill of material 37
batch processes
  process terminology table 100
batch processing
  co/by-products 97
batch routing instructions 69
batches
  process manufacturing example 98
bill of material
  printing multi-level BOM 151
Bill of Material Comparison program (P30204)
  Display Comparisons form 63
  processing options 61
Bill of Material Component Substitutes program (P3002S) 43
Bill of Material Inquiry form 59
Bill of Material Inquiry program (P30200)
  locating multilevel BOM 53
  processing options 54
Bill of Material Master File table (F3002)
  PDM tables 10
  QNTY data item 17
Bill of Material Print program (R30460)
  multi-level BOM 150
  processing options 151
  single level BOM 150
Bill of Material Revisions program (P3002)
  processing options 44
Bill of Material Where Used program (P30201)
  processing options 60
Bill of Material Where Used Update program (R30520)
  processing options 64
Bill of Materials Change File table (F3011)
  PDM tables 10
  QNTY data item 17
bills of material
  batch bills 37
  bulk item 40
  changing multiple 64
  comparing 53
  component locators 40
  entering 43
  entering grade or potency information 47
  entering planning 44
  entering production information 43
  features 8
  locating 53
  locating graphically 53
  locating multilevel 53
  locating single level 53
  locating where component is used 53, 61
  manufacturing bills 38
  nonstock item 40
  overview 35
  parent and component relationships 38
  part replacement 40
  percent bills 38
  percent example 98
  phantom items 39
  planning bills 36

repetitive manufacturing 27
reviewing 52
substitute item 39
terminology 38
tools 40
types 36
updating 139
usage 36
verifying 52
bulk item 40
Business Unit Master table (F0006)
PDM tables 10
by-products
entering 103
process terminology table 99

C

calculating lead time 85
calendars
setting up 28
changing multiple bills of material 64
changing multiple processes
prerequisite 104
checking low-level codes 53
CO Related Items form
defining engineering changes 136
Co/By Product Revision form 111
co-products
entering 103
process terminology table 99
comments, submitting xiv
common elements xiv, xviii
comparing bills of material 53
Component Locator File table (F3015)
PDM tables 11
Component Locator program (P3015) 44
Component Locator Revisions form 51
Component Locator Revisions form 51
Component Locator Revisions program (P3015)
processing options 51
component locators 40
entering BOMs 44
component scrap
example 78
updating 77, 85
components
locating in multilevel BOM 61
locating in single-level BOM 61
constants
setting up 18
contact information xiv
continuous processing
co/by-products 97
converting quantity decimal places 17
costing and accounting information
entering 70
creating an ECO
related items 123
creating routing instruction 76
creating work center 69
cross-references xiii
cumulative lead time 86
calculating 93
manufactured product type 86
cumulative planned yield percent 77
Customer Connection website x

D

decimals
converting for quantities 17
defining engineering changes 136
defining routing instructions
related items 123
defining the parts list
related items 123
discrete manufacturing 7
overview 7
Display Comparisons form 63
document type constants
work orders 21
Document Type Maintenance program (P40040)
setting up constants 21
Document Type Master (F40039) Conversion program (R31P40039)
processing options 22
documentation
printed x
related x
updates x

E

ECO Approval (P4818)
processing options 144
ECO Approval program (P4818)
ECO Approval Revisions form 145
reviewing ECOs 138
ECO Approval Revisions form 145

locating approval audit information 142
ECO Approval Routing Master program (P4808)
ECO Approval Routing Revisions form 34
processing options 33
setting up 32
ECO Approval Routing Revisions form 34
ECO Approval/Audit Review program (P48185)
ECO Approval Revisions form 142
locating approval audit information 142
processing options 141
ECO Details program (R48020P) 154
processing options 154
ECO Entry program (P48020)
processing options 127
ECO Notification program (R48181)
notifying reviewers 124
processing options 137
eco open task review (P30220)
Enter ECO Assignments form 143
ECO Open Task Review program (P30220)
processing options 142
reviewing open tasks 143
ECO Order Specific Routing Approval program (P48182)
Order Specific Routing Approval Revisions form 34
ECO Parts List Detail table (F3013)
PDM tables 11
QNTY data item 17
ECO Parts List Entry form 122
defining affected items 135
ECO Parts List program (P3013)
CO Related Items form 136
defining affected items 135
defining engineering changes 136
ECO Parts List Entry form 135
processing options 132
ECO Related Items form 123
ECO Revisions Inquiry program (P30135)
locating revision information 141
processing options 140
Work With ECO Approval/Audit Review form 141
ECO Summary Report program (R48421)
printing ECO information 154
reports description table 150
ECO Work Order Entry Revisions form
entering 129
ECO Work Order Print program (R48020P)
reports description table 150
ECO Workbench program (P30225)
locating existing engineering change orders 121
processing options 125
Work With ECO Workbench by Item form 126
elements
common xviii
engineering change management
approving orders 138
creating requests 124
defining order changes 122
defining routing instructions for ECOs 121
entering ECOs 121
features 9
locating existing orders 121
locating order open tasks 143
notifying reviewers of orders 124
orders overview 117
overview 117
printing order information 154
requests overview 117
reviewing orders 138
reviewing orders for approval 138
reviewing pending ECOs 124
setting up approval routings 32
setting up orders 31
setting up UDCs 33
updating BOMs 139
working with orders 121
engineering change orders
approving 138
creating requests 124
defining changes 122, 136
defining routing instructions 121
definition 117
entering 121
features 118
locating existing 121
notifying reviewers 124
overview 121
personnel involvement 119
printing information 154

process flow 117
reviewing 138
reviewing for approval 138
reviewing pending orders 124
revision levels 120
setting up 31
setting up reviewers 32
system integration 119
Engineering Change Population program (R30510)
processing options 145
updating BOMs 139
Engineering Change Reason table (40/CR)
setting up 33
engineering change requests
creating 124
definition 117
Enter Bill of Material Information form 47
Enter Change Routing program (P3003)
processing options 78
Enter Component Substitutes form 50, 110
Enter ECO Assignments form 143
Enter Generic Message/Rates form 16
Enter Ingredients form 107
Enter Intermediate Products form 112
Enter Process Information form 104, 107
Enter Routing Information form 78, 80, 84
Enter/Change Bill program (P3002)
Enter Bill of Material Information form 47
entering BOM 43
entering grade and potency information 47
entering planning bill and kit information 47
Enter/Change ECO program (P48020)
defining routing instructions 121
ECO Work Order Entry Revisions form 129
entering ECOs 121
Work Order Routing form 131
Enter/Change ECR program (P48020) 124
Enter/Change Process program (P3003)
Co/By Product Revision form 111
Enter Component Substitutes form 110
Enter Ingredients form 107
Enter Intermediate Products form 112
Enter Process Information form 104
entering co-products and by-products list 103
entering ingredients 102
entering intermediates 103
entering operations 104
entering outside operations 107
entering production information 103
Enter/Change Resource Units program (P3007)
setting up for shifts 28
Work Center Resource Unit Revision form 30
Enter/Change Routing program (P3003) 76
Enter/Change Work Center program (P3006)
entering costing and accounting information 70
work center rates 70
entering a co-products and by-products list 103
entering an ingredient 107
entering bills of material 43
component locators 44
entering component locators 44
entering engineering change orders 121
entering grade or potency information 47
entering intermediates 103
entering operations
Enter/Change Process program (P3003) 104
entering outside operations 107
Enter Routing Information form 84
entering planning bill and kit information 44
entering process ingredients 102
entering process operations 102
entering production information
entering BOM 43
entering routing instructions
Enter Routing Information form 80
entering work center
Work Center Master Revisions form 71
environments
repetitive manufacturing 25
example
component scrap 78
fixed lead time 88

Existing Disposition table (40/ED)
  setting up 33

F

F0006 table
  PDM tables 10
F0007 table
  PDM tables 10
F0101 table
  PDM tables 10
F30006 table
  creating work centers 69
  PDM tables 10
F30008 table
  PDM tables 10
F3002 table
  PDM tables 10
  QNTY data item 17
F30026 table
  work center efficiency 74
F3003 table
  PDM tables 10
F3007 table
  available hours 89
  PDM tables 10
F3009 table
  PDM tables 10
  work hours per day 89
F3011 table
  PDM tables 10
  QNTY data item 17
F3013 table
  PDM tables 11
  QNTY data item 17
F3015 table
  PDM tables 11
F3016 table
  PDM tables 11
F30161 table
  PDM tables 11
F3105 table
  QNTY data item 17
F3112 table
  PDM tables 11
F3283 table
  QNTY data item 17
F3293 table
  QNTY data item 17
F40205 table
  PDM tables 11
F4101 table
  PDM tables 11
F4101M table
  PDM tables 11
F4102 table
  PDM tables 11
  time basis code 88
F41021 table
  PDM tables 11
F4104 table
  PDM tables 11
F4801 table
  PDM tables 11
F4808 table
  PDM tables 11
F48092 table
  PDM tables 11
F4818 table
  PDM tables 11
features
  bills of material 8, 36
  engineering change management 9
  engineering change orders 118
  routing instructions 8, 9
  work center 67
  work centers 9
field descriptions
  common xviii
fixed lead time
  example 88
forms
  ECO related items 136

G

generating leadtimes 95
global implementation steps 3
grade information
  entering 47

H

hours
  entering work center 69

I

implementation
  global steps 3
  PDM specific 4
  product 3
implementation steps

product specific 4
industry overview 5
ingredients
entering 102, 107
process terminology table 99
Ingredients Inquiry program (P30200)
review programs table 113
Ingredients Where Used program (P30201)
review programs table 113
Instructions Inquiry program (P3003)
Process Inquiry form 114
review programs table 113
integration
engineering change order 119
inventory management 2
master production schedule 2
procurement 2
product costing and manufacturing accounting 2
requirements planning 2
resource requirements planning 2
sales order management 2
shop floor management 2
Integrity Analysis program (R30601)
verifying processes 113
intermediates
entering 103
process terminology table 99
inventory management
engineering change orders integration 119
integration 2
Item Branch File table (F4102)
PDM tables 11
Item Branch/Plant program (P41026)
specifying fixed or variable lead time 86
Item Cross Reference File table (F4104)
PDM tables 11
Item Location File table (F41021)
PDM tables 11
Item Manufacturing Data table (F4101M)
PDM tables 11
Item Master program (P4101)
specifying fixed or variable lead time 86
Item Master table (F4101)
PDM tables 11
item to line relationship
repetitive manufacturing 28
items
bulk 40
nonstock 40
phantom 39
substitute 39

K

Kanban Card Detail table (F30161)
PDM tables 11
Kanban Master table (F3016)
PDM tables 11
kanbans
repetitive manufacturing 28
kits
entering 44

L

labor hours
lead time concepts 87
lead time
calculating 85
calculating cumulative 93
calculating data 86
calculating level 91
calculating manufacturing 92
calculating per unit 94
calculating setup hours 95
concepts 87
cumulative 86
factors 85
fixed 88, 89
level 86
manufacturing 86
overlapping and concurrent operations 90
overview 85
per unit 86
type 86
understanding 85
variable 88, 89
work order start date 88
lead time concepts
labor hours 87
machine hours 87
move hours 87
prime load code 88
purchased parts 88
queue hours 87
resource units 87

set up hours 87
time basis code 87
total queue and hours 87
lead times
generating 91
Leadtime Rollup program (R30822A)
generating lead times 91
processing options 95
level lead time 86
calculating 91
manufactured product type 86
Line Type Control Constants File table (F40205)
PDM tables 11
locating a bill of material graphically 53
locating bills of material 53
locating existing engineering change orders 121
locating where component is used
multilevel BOM 61
low-level codes
updating 53

M

machine hours
lead time concepts 87
manufacturing 6
engineering change management 117
process 97
process terminology 99
repetitive 25
repetitive example 26
repetitive terminology 27
setting up information 13
types 6
manufacturing bill of material 38
manufacturing constants
setting up 18
Manufacturing Constants program (P3009) 68
Manufacturing Constants Revision form 29
overview 18
setting up shifts 28
Manufacturing Constants Revision form 19
setting up shifts 29
Manufacturing Constants table (F3009)
PDM tables 10
manufacturing lead time 86
calculating 92
manufactured product type 86
master production schedule
integration 2
master routing instructions 68
Material Where Used program (R30420) 150
processing options 150
reports description table 149
messages
work order 15
MMA Partners x
move hours
lead time concepts 87
Multi Level Ingredient program (R30460) 151
reports description table 150
Multi Level Where Used program (P30201)
locating component 61
Work With Bill of Material Where Used form 61
multilevel bill of material
locating component 61

N

nonstock item 40
notes xiii
notifying reviewers
ECOs 124

O

operation
routing instructions 68
operation scrap percent 77
operation start and due date
fixed lead time 89
operation start and due dates
variable lead time 89
operation start date 89
operational planned yield percent 77
operations
entering 104
entering processes 102
overlapping and concurrent 90
Order Approval Audit table (F4818)
PDM tables 11
Order Processing program (R31410) 77
Order Routing Approval Master table (F4808)

PDM tables 11
Order Specific Routing Approval Revisions form 34
Order Type Conversion program (R31P802)
processing options 24
Order Type table (48/OT)
setting up 33
outside operation
Enter Routing Information form 84
entering 76, 77
outside operations
entering 107
overview
bills of material 35
engineering change management 117
lead time 85
process manufacturing 97
product 1, 5
product data management setup 13
repetitive manufacturing 25

P

P0004A program 14
P0006 program
setting up work centers 70
P00191 program
processing options 15
standard procedures overview 15
P1609 program
activity code 77
P3002 program
enter BOM 43
enter or change BOM 47
processing options 44
P3002S program 43
P3003 program
Co/By Product Revision form 111
creating routing instructions 76
Enter Component Substitutes form 110
Enter Ingredients form 107
Enter Intermediate Products form 112
entering co-products and by-products list 103
entering ingredients 102
entering intermediates 103
entering operations 104
entering outside operations 107
entering production information 103
Process Inquiry form 114
processing options 78
P3006 program
processing options 70
work center rates 70
P3007 program
processing options 30
setting up resource units for shifts 28
Work Center Resource Unit Revision form 30
P3009 program
manufacturing constants
master routing 68
Manufacturing Constants Revision form 29
overview 18
P3013 program
CO Related Items form 136
defining affected items 135
processing options 132
P30135 program
locating revision information 141
processing options 140
P3015 program
component locator 44
Component Locator Revisions form 51
processing options 51
P30200 program
processing options 54
single-level BOM 53
P30201 program
multi level where used 61
processing options 60
single level where used 61
P30204 program
Display Comparisons form 63
processing options 61
P30210 program
processing options 114
P30220 program
processing options 142
reviewing open tasks 143
P30225
Work With ECO Workbench by Item form 126
P30225 program
locating existing engineering change orders 121
processing options 125
P3093 program
updating materials and labor hours 77
P31410 program

purchase order for subcontracted operation 85
P40040 program
setting up constants 21
P4101 program
specifying fixed or variable lead time 86
P41026 program
specifying fixed or variable lead time 86
P48020 program
creating ECRs 124
defining routing instructions 121
ECO Work Order Entry Revisions form 129
entering ECOs 121
processing options 127
Work Order Routing form 131
P4808 program
ECO approval routing 32
ECO Approval Routing Revisions form 34
processing options 33
P4818 program
processing options 144
reviewing ECOs for approval 138
P48182 Program
ECO order specific routing 34
P48185 program
locating approval audit information 142
processing options 141
parent and component relationship 38
part replacement 40
pending ECOs
reviewing 124
PeopleBooks
ordering x
PeopleCode, typographical conventions xii
PeopleSoft application fundamentals ix
per unit lead time 86
calculating 94
manufactured product type 86
percent bill of material 38
percent bills of material
example 98
process terminology table 100
phantom items 39
Phase In table (40/PH)
setting up 33
Planned Yield Update program (R3093)
processing options 85
updating materials and labor hours 77
planning bill of material 36
planning bills of material
entering 44
potency information
entering 47
prerequisites ix
prime load code
lead time concepts 88
printed documentation x
printing
multi-level BOM 151
printing routing instructions
R30430 program 77
process flow
engineering change orders 117
Process Inquiry form 114
process manufacturing 7
batch process example 98
changing multiple processes 103
entering co-products and by-products list 103
entering ingredients 102
entering intermediates 103
entering process operations 102
entering processes 102
entering production information 103
overview 7, 97
terminology 99
verifying processes 113
Process Report program (R30435)
reports description table 149
process routing instructions
process terminology table 99
process terminology
alternate operations 100
batch processes 100
by-products 99
co-products 99
ingredients 99
intermediates 99
percent bills of material 100
process routing instructions 99
substitutes 100
processes
changing multiple 103
entering 102

verifying 113
procurement
integration 2
product costing and manufacturing accounting
integration 2
product data management 52
approving ECOs 138
bills of material 35
bills of material terminology 38
changing multiple BOMs 64
changing multiple processes 103
comparing bills of material 53
converting quantity decimal places 17
creating ECRs 124
defining ECO changes 122
defining routing instructions for ECOs 121
discrete manufacturing 7
engineering change management overview 117
engineering change order features 118
engineering change order personnel 119
engineering change order process flow 117
engineering change order revision levels 120
engineering change orders 117
engineering change requests 117
entering bills of material 43
entering co-products and by-products list 103
entering component locators 44
entering costing and accounting information 70
entering engineering change orders 121
entering intermediates 103
entering outside operation 77
entering planning bill and kit information 44
entering process ingredients 102
entering process operations 102
entering processes 102
entering production information 43, 103
entering routing instructions 76
features 8
generating lead times 91
locating BOM graphically 53
locating engineering change order open tasks 143
locating existing engineering change orders 121
locating multilevel BOM 53
locating single-level BOM 53
locating where component is used 61
notifying reviewers of ECOs 124
overview 5
process manufacturing 7, 97
repetitive manufacturing 8, 25
reports table 149
reviewing ECOs 138
reviewing ECOs for approval 138
reviewing pending ECOs 124
setting up approval routings 32
setting up engineering change orders 31
setting up manufacturing information 13
setting up order-specific routing 34
setting up resource units for shifts 28
setting up shift calendars 28
setting up shift information 28
setting up UDCs 14
system integration 1, 119
system setup 13
types of bills of material 36
understanding routing instructions 67
understanding work centers 67
updating BOMs 139
updating component scrap 77
usage 6
verifying bills of material 52
verifying processes 113
working with engineering change orders 121
Product Data Management
printing ECO information 154
product lead time
cumulative type 86
level type 86
manufacturing type 86
per unit type 86
production information
entering 103
entering bills of material 43
production line
repetitive manufacturing 27
purchased parts
lead time concepts 88

Q

quantities
  converting decimal places 17
Quantity Decimal Conversion program (R30QNTY)
  overview 17
  processing options 18
queue hours
  lead time concepts 87

R

R30420 program 150
  processing options 150
  reports description table 149
R30430 program
  printing routing instructions 77
  reports description table 150
R30435 program
  reports description table 149
R30460 program 151
  multi-level ingredients 150
  processing options 151
  single level ingredients 150
R30510 program
  processing options 145
  updating BOMs 139
R30520 program
  changing multiple processes 103
  processing options 64
  where used update 64
R30601 program
  verifying processes 113
R30822A program
  leadtime rollup 91
  processing options 95
R3093 program
  processing options 85
R30QNTY program
  overview 17
  processing options 18
R31410 program 77
R31P40039 program
  processing options 22
R31P802 program
  processing options 24
R48020P program 154
  processing options 154
  reports description table 150
R48181 program
  notifying reviewers of ECOs 124
  processing options 137
R48421 program
  printing ECO information 154
  reports description table 150
related documentation x
repetitive manufacturing 8
  bills of material 27
  example 26
  item to line relationship 28
  kanbans 28
  overview 8, 25
  production line 27
  routing instructions 27
  setting up 25
  setting up resource units for shifts 28
  setting up shift calendars 28
  setting up shift information 28
  setting up shifts in manufacturing constants 28
  terminology 27
replacing parts 40
reports table
  product data management 149
requirements planning
  integration 2
resource requirements planning
  integration 2
resource units
  lead time concepts 87
  setting up shifts 28
review programs table
  Ingredients Inquiry program (P30200) 113
  Ingredients Where Used program (P30201) 113
  Instructions Inquiry program (P3003) 113
  Where Produced Inquiry program (P30210) 113
reviewing bills of material 52
reviewing engineering change orders 138
reviewing open tasks 143
reviewing operations by work center 76
reviewing work center operations 76
Revise Single Business Unit program (P0006)
  setting up work centers 70
revision levels
  engineering change orders 120

routing instruction
creating 76
entering 67
routing instruction creation
overview 76
routing instructions
alternate operation 68
batch 69
defining for ECOs 121
Enter Routing Information form 80
entering 76
features 9
master 68
operation 68
overview 67
repetitive manufacturing 27
setting up order-specific approval routing 34
Routing Master File table (F3003)
PDM tables 10
Routing Type UDC table (40/TR)
setting up 14
Rules Table Detail table (F3283)
QNTY data item 17

S

sales order management
integration 2
scrap
operation percent 77
set up hours
lead time concepts 87
setting up
manufacturing constants 18
product data management 13
standard procedures 15
setting up approval routings 32
setting up document type constants
work orders 21
setting up engineering change orders 31
setting up manufacturing information 13
setting up order-specific approval routing 34
setting up shift calendars 28
setting up shift information 28
setting up shifts
manufacturing constants 28
setting up UDCs
engineering change management 33
setting up user defined codes 14
setup hours
calculating 95
shift calendars
setting up 28
shifts
setting up 28
setting up in manufacturing constants 28
setting up resource units 28
shop floor management
engineering change orders integration 119
integration 2
Single Level Ingredient program (R30460)
reports description table 150
Single Level Where Used program (P30201)
locating component 61
Work With Bill of Material Where Used form 61
single-level bill of material
locating component 61
standard procedures
setting up 15
Standard Procedures program (P00191)
overview 15
processing options 15
Standard Routing Information program (R30430)
reports description table 150
Standard Routing Information report (R30430)
printing routing instructions 77
start date
work order 88
work order fixed lead time 88
work order variable lead time 88
Stocking Type Code UDC table (41/I)
setting up 14
substitute item 39
substitutes
process terminology table 100
suggestions, submitting xiv
system
setup 13
system integration
engineering change orders 119
system setup
manufacturing constants 18
shift calendars 28

T

terminology
  bills of material 38
time basis code
  F4102 table 88
  lead time concepts 87
time basis code UDC table (30/TB)
  setting up 14
Time Basis Code UDC table (30/TB)
  setting up 14
tools
  bills of material 40
total queue and move hours
  lead time concepts 87
Type of Day UDC table (00/TD
  setting up 14
types
  bills of material 36
types of manufacturing 6
typographical conventions xii

U

UDC tables
  Engineering Change Reason table (40/CR) 33
  Existing Disposition table (40/ED) 33
  Order Type table (48/OT)) 33
  Phase In table (40/PH) 33
  Routing Type (40/TR) 14
  Stocking Type Code (41/I) 14
  time basis code (30/TB) 14
  Time Basis Code (30/TB) 14
  Type of Day (00/TD) 14
  Work Order Priority table (00/PR) 33
  Work Order Status table (00/SS) 33
  Work Order/ECO Type table (00/TY) 33
understanding lead time 85
understanding routing instruction creation 76
understanding work center creation 69
units of measure
  usage 6
updating bills of material 139
updating component scrap 77, 85
user defined codes
  setting up 14
User Defined Codes program (P0004A) 14

V

verifying processes 113
visual cues xiii

W

warnings xiii
Where Produced Inquiry program (P30210)
  processing options 114
  review programs table 113
Where Used Update program (R30520)
  changing multiple BOMs 64
  changing multiple processes 103
Where Used Update report 103
WO Supplemental DB User Defined table (F48092)
  PDM tables 11
work center
  creating 69
  defining 67
  entering 69
  entering accounting information 74
  entering costing and accounting information 70, 74
  entering costing information 74
  entering routing instructions 67
  features 67
  overview 67
  Work Center Master Revisions form 71
work center creation
  overview 69
Work Center Master File table (F30006)
  PDM tables 10
Work Center Master Revisions form 70, 71
work center operation
  reviewing 76
work center rate 70
Work Center Rate Revisions form 70, 74
Work Center Rates File table (F30008)
  PDM tables 10
Work Center Resource Unit Revision form 30
Work Center Resource Units program (P3007)
  processing options 30
Work Center Resource Units table (F3007)
  PDM tables 10
Work Center Revision program (P3006)
  processing options 70

work centers
  features 9
work hours per day
  F3009 table 89
work order
  start date 88
  start date fixed lead time 88
  start date variable lead time 88
Work Order Generation program (P31410)
  purchase order for subcontracted operation 85
Work Order LSN table (F3105)
  QNTY data item 17
Work Order Master File table (F4801)
  PDM tables 11
Work Order Priority table (00/PR)
  setting up 33
Work Order Routing form
  defining routing instructions 131
Work Order Routing table (F3112)
  PDM tables 11
Work Order Status table (00/SS)
  setting up 33
Work Order/ECO Type table (00/TY)
  setting up 33
work orders
  document type constants 21
Work With Bill of Material - Tree View form 60
Work With Bill of Material Where Used form
  locating component 61
Work With Co-/By-Products Where Produced form 114
Work With ECO Approval/Audit Review form
  locating revision information 141
Work With ECO Workbench by Item form
  locating existing ECOs 126
Work With Operations Sequence form 114
Work With Work Center Where Used form 70, 76
Workday Calendar table (F0007)
  PDM tables 10
working with engineering change orders 121
working with routing instructions 76

Y

yield
  cumulative planned yield percent 77
  operation scrap percent 77
  operational planned yield percent 77