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Glossary

Preface

Welcome to Release 11*i* of the Oracle Work in Process User's Guide.

This guide contains the information you need to understand and use Oracle Work in Process:

- Chapter 1 introduces Work in Process and describes its integration with other Oracle Manufacturing Applications.
- Chapter 2 provides information about setting up Work in Process and other integrated Oracle Manufacturing applications. It lists Work in Process parameters and profile options, and also contains implementation information and procedures.
- Chapter 3 explains how you to create, build, view, update, complete, close, and purge Discrete jobs, and how to use the Discrete Workstation.
- Chapter 4 explains the differences between standard and non–standard discrete jobs and provides examples of how you can use non–standard discrete jobs in your manufacturing process.
- Chapter 5 provides an overview of Flow Manufacturing and its integration with Work in Process, and explains how to create and use Work Order–less Completion transactions.
- Chapter 6 explains how to associate lines and assemblies, and how to create, build, view, update, complete, and purge Repetitive schedules.

- Chapter 7 provides an overview of material requirements, and explains how to transact, control, and track materials in Work in Process.
- Chapter 8 provides an overview of shop floor control including routings and operations; and explains how to move, control, and track assemblies on the shop floor.
- Chapter 9 provides information on resource requirements and charge types, and explains how you can manage resources in Work in Process.
- Chapter 10 provides information on how you can setup and use outside processing resources in your manufacturing process, and provide your suppliers with access to their purchase orders, instructions, and other information. It also provides a description of associated workflow notifications.
- Chapter 11 describes how you can use Discrete job and Repetitive schedule statuses to control production activities.
- Chapter 12 explains how you can track job and schedule costs in Work in Process.
- Chapter 13 explains how Discrete jobs and Repetitive schedules are scheduled in Work in Process.
- Chapter 14 describes how descriptive flexfields are used in Oracle Work in Process.
- Chapter 15 explains how to submit requests for reports and processes, and provides a brief description of each report and process.
- Appendix A provides a list of Work in Process windows and the paths that you follow to open them, and navigation paths to windows from character mode.
- Appendix B provides a comparison of manufacturing methods.
- Appendix C describes Work in Process supply types and their uses.
- Appendix D describes the purpose and process of creating job, schedule, and operation attachments.
- Appendix E describes the options available from the Tools menu.
- Appendix F describes Work in Process workflow notifications and provides an overview of how you can customize them to suit your business needs.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market–leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

`http://www.oracle.com/accessibility/`

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JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

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This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Other Information Sources

You can choose from many sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Work in Process.

If this guide refers you to other Oracle Applications documentation, use only the Release 11*i* versions of those guides.

Online Documentation

All Oracle Applications documentation is available online (HTML or PDF).

- **Online Help** – Online help patches (HTML) are available on MetaLink.
- **About Documents** – Refer to the About Document for the mini–pack or family–pack that you have installed to learn about new documentation or documentation patches that you can download. About Documents are available on Metalink.

Related User's Guides

Oracle Work in Process hares business and setup information with other Oracle Applications products. Therefore, you may want to refer to other user's guides when you set up and use *Oracle Work in Process*.

You can read the guides online by choosing Library from the expandable menu on your HTML help window, by reading from the Oracle Applications Document Library CD included in your media pack and on Metalink, or by using a Web browser with a URL that your system administrator provides.

You can purchase printed guides from the Oracle Store at http://oraclestore.oracle.com.

Guides Related to All Products

Oracle Applications User's Guide

This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI) available with this release of Oracle Work in Process (and any other Oracle Applications products). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

You can access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help file.

User Guides Related to This Product

Oracle Bills of Material User's Guide

This guide describes how to create various bills of materials to maximize efficiency, improve quality and lower cost for the most sophisticated manufacturing environments. By detailing integrated product structures and processes, flexible product and process definition, and configuration management, this guide enables you to

manage product details within and across multiple manufacturing sites.

Oracle Cost Management User's Guide

This guide describes how to use Oracle Cost Management in either a standard costing or average costing organization. Cost Management can be used to cost inventory, receiving, order entry, and work in process transactions. It can also be used to collect transaction costs for transfer to Oracle Projects. Cost Management supports multiple cost elements and multiple sub–elements. It also provides comprehensive valuation and variance reporting.

Oracle Flow Manufacturing User's Guide

This guide describes how to use Oracle's Flow Manufacturing functionality to support the processes of Flow manufacturing. It describes design features of demand management, line design and balancing, and kanban planning. It also describes production features of line scheduling, production, and kanban execution.

Oracle General Ledger User's Guide

This guide explains how to plan and define your chart of accounts, accounting period types and accounting calendar, functional currency, and set of books. It also describes how to define journal entry sources and categories so you can create journal entries for your general ledger. If you use multiple currencies, use this manual when you define additional rate types, and enter daily rates. This manual also includes complete information on implementing Budgetary Control.

Oracle HRMS User's Guide

This manual explains how to enter your employees. It also explains how to set up organizations and site locations. Even if you do not install Oracle HRMS, you can set up your employees, site locations, and organization using Oracle HRMS forms.

Oracle Inventory User's Guide

This guide describes how to define items and item information, perform receiving and inventory transactions, maintain cost control, plan items, perform cycle counting and physical inventories, and set up Oracle Inventory.

Oracle Manufacturing Scheduling User's Guide

This guide describes how to use Oracle Manufacturing Scheduling to view and reschedule single discrete jobs or the entire shop floor. Specifically, this guide details how to easily use the drag and drop functionality to view and reschedule jobs, operations, and resources.

Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide

This guide describes how to anticipate and manage both supply and demand for your items. Using a variety of tools and techniques, you can create forecasts, load these forecasts into master production schedules, and plan your end–items and their component requirements. You can also execute the plan, releasing and rescheduling planning suggestions for discrete jobs and repetitive schedules.

Oracle Mobile Supply Chain Applications User's Guide

This guide describes performing shop floor and warehouse transactions using a mobile client device interfaced with a networked computer system. The Mobile Server enables you to perform Oracle Application transactions using the Telnet Protocol Server.. You can create Oracle Work in Process shop floor transactions, enter Oracle Inventory and Oracle Warehouse Management transactions, and record Oracle Quality collection plan results.

Oracle Order Management User's Guide

This guide describes how to enter sales orders and returns, copy existing sales orders, schedule orders, release orders, confirm shipments, create price lists and discounts for orders, run processes, and create reports.

Oracle Project Manufacturing User's Guide

This guide describes the unique set of features Oracle Project Manufacturing provides for a project–based manufacturing environment. Oracle Project Manufacturing can be tightly integrated with Oracle Projects; however, in addition to Oracle Projects functionality, Oracle Project Manufacturing provides a comprehensive set of new features to support project sales management, project manufacturing costing, project manufacturing planning, project manufacturing execution and project quality management.

Oracle Purchasing User's Guide

This guide describes how to create and approve purchasing documents, including requisitions, different types of purchase orders, quotations, RFQs, and receipts. This guide also describes how to manage your supply base through agreements, sourcing rules and approved supplier lists. In addition, this guide explains how you can automatically create purchasing documents based on business rules through integration with Oracle Workflow technology, which automates many of the key procurement processes.

Oracle Shopfloor Management User's Guide

This manual provides information about managing complex shop floor relationships using network routings, lot based jobs, co–products, and lot genealogy.

Oracle Warehouse Management User's Guide

This manual provides information about warehouse resource management, warehouse configuration, and advanced pick methodologies for material handling for warehouses, manufacturing facilities, and distribution centers. This product is one of the components of Oracle Mobile Supply Chain Applications.

Installation and System Administration

Oracle Applications Concepts

This guide provides an introduction to the concepts, features, technology stack, architecture, and terminology for Oracle Applications Release 11*i*. It provides a useful first book to read before an installation of Oracle Applications. This guide also introduces the concepts behind Applications–wide features such as Business Intelligence (BIS), languages and character sets, and Self–Service Web Applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time to install Oracle Applications, the Oracle8 technology stack, and the Oracle8*i* Server technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you need to perform to finish your installation. You

should use this guide in conjunction with individual product user's guides and implementation guides.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i*. This guide describes the upgrade process and lists database and product–specific upgrade tasks. You must be either at Release 10.7

(NCA, SmartClient, or character mode) or Release 11.0, to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

Maintaining Oracle Applications

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. It contains how–to steps, screenshots, and other information that you need to run the AD utilities. This guide also provides information on maintaining the Oracle applications file system and database.

Oracle Applications System Administrator's Guide

This guide provides planning and reference information for the Oracle Applications System Administrator. It contains information on how to define security, customize menus and online help, and manage concurrent processing.

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the *Oracle Applications User Interface Standards for Forms–Based Products*. It also provides information to help you build your custom Oracle Forms Developer 6*i* forms so that they integrate with Oracle Applications.

Other Implementation Documentation

Oracle Applications Product Update Notes

Use this guide as a reference for upgrading an installation of Oracle Applications. It provides a history of the changes to individual Oracle Applications products between Release 11.0 and Release 11*i*. It includes new features, enhancements, and changes made to database objects, profile options, and seed data for this interval.

Multiple Reporting Currencies in Oracle Applications

If you use the Multiple Reporting Currencies feature to record transactions in more than one currency, use this manual before implementing Oracle Work in Process. This manual details additional steps and setup considerations for implementing Oracle Work in Process with this feature.

Multiple Organizations in Oracle Applications

This guide describes how to set up and use Oracle Work in Process with Oracle Applications' Multiple Organization support feature, so you can define and support different organization structures when running a single installation of Oracle Work in Process.

Oracle Workflow Guide

This guide explains how to define new workflow business processes as well as customize existing Oracle Applications–embedded workflow processes.You also use this guide to complete the setup steps necessary for any Oracle Applications product that includes workflow–enabled processes.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Work in Process implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

Oracle eTechnical Reference Manuals

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and

programs for a specific Oracle Applications product. This information helps you convert data from your existing applications, integrate Oracle Applications data with non–Oracle

Oracle Applications User Interface Standards for Forms–Based Products

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms, applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on Metalink.

Oracle Manufacturing APIs and Open Interfaces Manual

This manual contains up–to–date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes API's and open interfaces found in Oracle Manufacturing.

Oracle Order Management Suite APIs and Open Interfaces Manual

This manual contains up–to–date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes API's and open interfaces found in Oracle Order Management Suite.

Oracle Applications Message Reference Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD–ROM for Release 11i.

Training and Support

Training

Oracle offers a complete set of training courses to help you and your staff master Oracle Work in Process and reach full productivity quickly. These courses are organized into functional learning paths, so you take only those courses appropriate to your job or area of responsibility.

You have a choice of educational environments. You can attend courses offered by Oracle University at any one of our many Education

Centers, you can arrange for our trainers to teach at your facility, or you can use Oracle Learning Network (OLN), Oracle University's online education utility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your needs. For example, you may want to use your organization structure, terminology, and data as examples in a customized training session delivered at your own facility.

Support

From on–site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Work in Process working for you. This team includes your Technical Representative, Account Manager, and

Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle server, and your hardware and software environment.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed

your information because SQL*Plus and other database tools do not keep a record of changes.

About Oracle

Oracle provides an integrated line of software products for database management, applications development, decision support, and office automation, as well as Oracle Applications, an integrated suite of software modules for financial management, supply chain management, manufacturing, project systems, human resources management and customer relationship management.

Oracle products are available for mainframes, minicomputers, personal computers, network computers and personal digital assistants, allowing organizations to integrate different computers, different operating systems, different networks, and even different database management systems, into a single, unified computing and information resource.

Oracle is the world's leading supplier of software for information management, and the world's second largest software company. Oracle offers its database, tools, and applications products, along with related consulting, education, and support services, in over 145 countries around the world.

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Thank you for using Oracle Work in Process and this user's guide.

Oracle values your comments and feedback. At the end of this guide is a Reader's Comment Form you can use to explain what you like or dislike about Oracle Work in Process or this user's guide. Mail your comments to the following address or contact your Support representative.

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Oracle Corporation
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Or, send electronic mail to **mfgdoccomments_us@oracle.com**

CHAPTER

1

Overview of Work in Process

This chapter introduces Oracle Work in Process and describes its integration with other Oracle Applications.

- Overview: page 1 – 2
- Standard Documents: page 1 – 6
- Defining Job and Schedule Documents: page 1 – 6
- Defining Operation Documents: page 1 – 7

Overview

Oracle Work in Process is a complete production management system. Work in Process is part of Oracle Applications, an integrated suite of business solutions. Work in Process supports discrete, project, repetitive, assemble–to–order, work order–less, lot based jobs, or a combination of manufacturing methods. Inquiries and reports give you a complete picture of transactions, materials, resources, costs, and job and schedule progress.

> **Note:** The lot based jobs functionality is available only if Oracle Shopfloor Management is installed.

Manufacturing Support

- Build discrete jobs, both standard and non–standard (prototype, rework, maintenance, and special projects)
- Build lot based jobs, if Oracle Shopfloor Management is installed
- Build project jobs, both standard and non–standard
- Build repetitive schedules by production line/assembly
- Build final assembly orders for configure–to–order
- Complete assemblies without having to create a job or schedule

Production Scheduling

- Load and sequence repetitive production by assembly and production line
- Schedule start and stop times to the minute
- Schedule fixed, variable, and overlap time elements
- Use forward, backward, manual, and midpoint rescheduling
- Update the master production schedule automatically

Material Control

- Issue and return components from and to inventory
- Replenish supply subinventories by item, job, or day
- Backflush components automatically using operation or assembly completion
- Generate bill of material requirements using standard and alternate bills and revisions
- Select material for jobs and schedules using rules based picking

- Modify job and schedule material requirements as required
- Control engineering change implementation
- Issue and build serial number, lot–controlled, and revision controlled components and assemblies
- Use serial control for discrete production, through Oracle Mobile Supply Chain Applications, to track assembly moves throughout the manufacturing process
- Scrap components and assemblies
- Control MRP netting (production quantities can be non–nettable quantities)
- Display on–hand and available to transact quantities during material transactions
- Setup transaction processing options as required

Shop Floor Control

- Move assemblies between and within operations
- Use outside suppliers
- Combine move and completion transactions
- Charge resources and overheads automatically
- Generate routing operations using standard and alternate routings and revisions
- Modify routing operations as required
- If Oracle Shopfloor Management is installed, use network routings, co–products, and lot splitting and merging
- Setup transaction processing options as required

Resource Tracking

- Charge labor, machine, and outside resources automatically or manually
- Charge resources at standard, employee, or actual rates
- Charge labor by resource or employee
- View and report efficiency, usage, and transaction history

Costing

- Cost discrete jobs using standard or weighted average costs

- Segregates costs for project jobs
- Track costs by product line

Mobile Manufacturing

- Using a mobile device – perform work in process transactions including issuing and returning material, moving, completing, and scrapping assemblies
- View transaction information
- Create resource transactions
- Perform assembly and work orderless completions into Oracle Warehouse Management License Plate Numbers (LPN)
- Track jobs and move transactions using serial control and genealogy throughout the manufacturing process

  Note: LPN completions are supported only in standard cost organizations.

Import

- Import move transactions from data collection devices, factory floor machines or controllers using the Open Move Transaction Interface
- Import material transactions (component issue/return, assembly completion/return, replenishment) from data collection devices, custom data entry forms, and other manufacturing inventory systems using the Open Inventory Transaction Interface
- Import resource transactions from data collection devices and labor tracking systems using the Open Resource Cost Transaction Interface
- Import planned orders, update recommendations, and planned repetitive schedules directly from external sources using the Work Order Interface
- Update scheduling dates at the operation or resource level using the Work Order Interface

Increase Productivity

You can setup Oracle Applications and Work in Process to automate manufacturing information processing:

- Eliminate the need to define and update orders after each planning run by loading and rescheduling shop floor activity based on master schedule and material plans
- Eliminate excess navigation within windows by setting first field defaults that correspond to your primary manufacturing environment (discrete, repetitive, or assemble–to–order)
- Eliminate the need to transact at non–critical operations by defining them as no count point or no autocharge operations
- Eliminate the need to manually define job names by using the automatic sequence generator
- Eliminate the need to manually assign and verify lots during transaction processing by specifying default lot selection and verification rules

Standard Documents

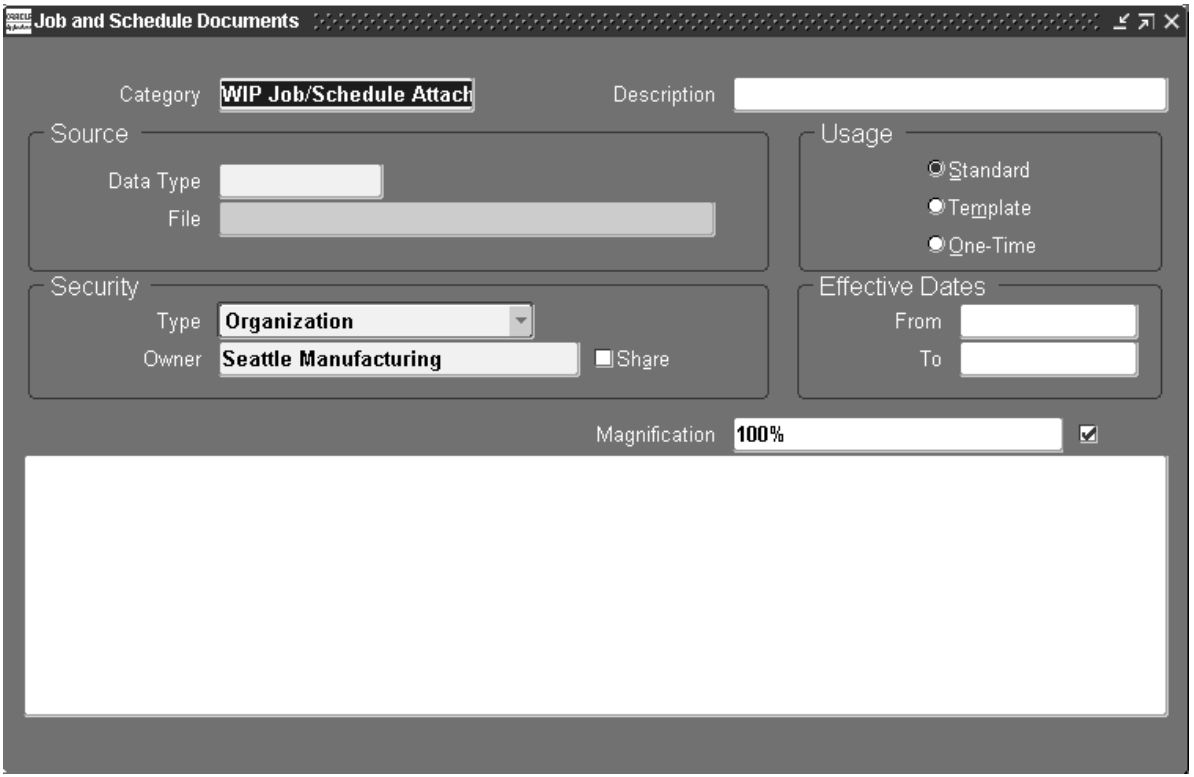
You can define standard documents for discrete jobs, repetitive schedules, and job/schedule operations. Standard documents can then be attached to discrete jobs, repetitive schedules, and operations as required.

Defining Job and Schedule Documents

You can use the Job and Schedule Documents window to create a catalog of standard job and schedule documents. You can then attach these documents to your jobs and repetitive schedules.

▶ **To define standard job and schedule documents:**

- Navigate to the Job and Schedule Documents window. See the procedure for Defining Operation Documents: page 1 – 7



See Also

Working with Attachments, *Oracle Applications User's Guide*

Attaching Files to Jobs, Schedules, and Operations: page E – 2

Adding an Attachment, *Oracle Applications User's Guide*.

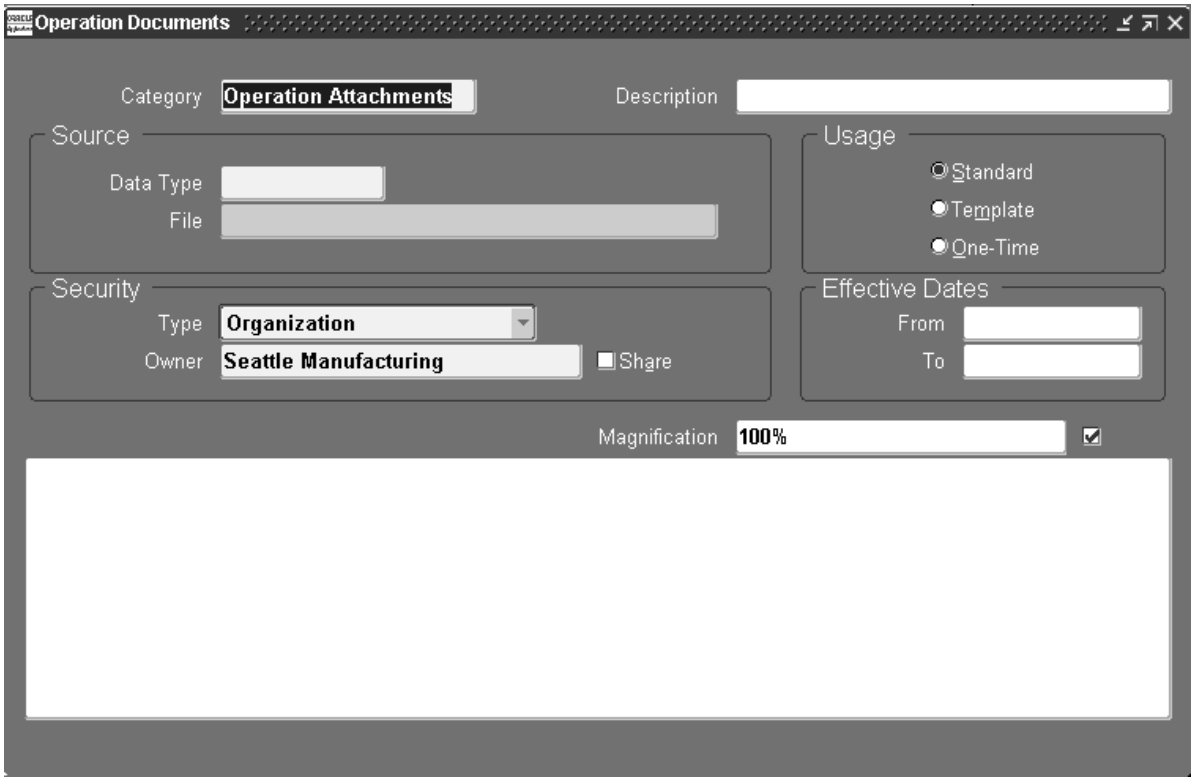
Defining Operation Documents

You can use this window to create a catalog of standard operation documents. You can then attach these documents to your work in process routing operations in the Operations window.

▶ **To define standard operation documents:**

1. Navigate to the Operation Documents window.
2. Enter a value in the Category field and any applicable description.

   Categories control which windows can access the document. Each window enabling attachments must list the document categories it can access.



3. In the Source Region, select a Document Datatype. Your choices are:

   - Document Reference: Reference to any type of document accessed through a document management system.
   - Short Text: Text stored in the database containing less than 2000 characters. This is entered in the Document block.
   - Long Text: Text stored in the database containing 2000 characters or more. This is entered in the Document block.

     Note: For Oracle Work in Process reports that print attachments, only the Short Text datatypes print. However, you can view Long Text datatype attachments in the Document block.
   - File: A file created in another application such a word processing or image file. When these types of files are opened in the Attachments window, a web browser window is invoked to view them.

- Web Page: A URL reference to a web page, a web browser window is invoked to view the page.

4. In the File field, enter the name of the file or URL for selected datatypes File or Web Page.
5. In the Usage region, specify how this document is used. Your choices are:
   - Standard: Document is used until the effective date expires.
   - Template: Document is used as a model for other documents and modified before use.
   - One–Time: Document is used only once.
6. In the Security region, indicate access to this document.
   - In the Type field, select users of the same Organization or Set of Books. Select None if you do not want to limit access.
   - In the Owner field, depending on your choice for security, select an Organization or Set of Books value. If you selected None, this field is disabled.
   - Check the Share check box if you want other users to have access to this document.
7. In the Effective Dates region, select any applicable dates in the From and To fields.
8. The Document block is used to displays the record selected in the Source region.

   If you selected Long Text or Short Text datatypes, enter that text here. If you selected Document Reference, File, or Web Page datatypes, choose Open Document to navigate to a browser window for viewing.
9. You have the option to change the view of the document by selecting a value in the Magnification field.
10. Save your work.

See Also

Working with Attachments, *Oracle Applications User's Guide*

Attaching Files to Jobs, Schedules, and Operations: page E – 2

Adding an Attachment, *Oracle Applications User's Guide*.

CHAPTER

2

Setting Up

This chapter provides information about setting up Oracle Work in Process as well as other integrated Oracle Applications, including these topics:

- Overview: page 2 – 2
- Related Setup Steps: page 2 – 3
- Setup Flowchart: page 2 – 6
- Setup Checklist: page 2 – 7
- Setup Steps: page 2 – 8
- WIP Parameters: page 2 – 14
- WIP Accounting Classes: page 2 – 42
- Shop Floor Statuses: page 2 – 51
- Defining Schedule Groups: page 2 – 53
- Defining Labor Rates: page 2 – 56
- Production Lines: page 2 – 58
- Profile Options: page 2 – 64
- Setup Profile Options Summary: page 2 – 64
- Profile Option Descriptions: page 2 – 66
- Security Functions: page 2 – 80

Overview of Setting Up

This section contains an overview of the tasks that you need to complete to set up Oracle Work in Process, including related product setup steps. Before beginning, consider the following:

Oracle Applications Implementation Wizard

If you are implementing more than one Oracle Applications product, we recommend that you use the Oracle Application Implementation Wizard to coordinate your setup activities. The Wizard guides you through the setup steps for the applications that you have installed, suggesting a logical sequence that satisfies cross–product implementation dependencies and reduces redundant setup steps.

You can use the Wizard to see a graphical overview of setup steps, read online help for a setup activity, and to open the appropriate setup window. You also can document your implementation for further reference and review by using the Wizard to record comments for each step.

Set up underlying Oracle Applications Technology

If you do not use the Oracle Applications Implementation Wizard to implement Work in Process, you need to complete several other setup steps, including:

- Performing system–wide setup tasks such as configuring concurrent managers and printers.
- Managing data security, which includes setting up responsibilities to allow access to a specific set of business data and complete a specific set of transactions, and assigning individual users to one or more of these responsibilities.
- Setting up Oracle Workflow.

For information on using the Oracle Applications Implementation Wizard, or on performing the implementation manually, see:

Oracle Applications Implementation Wizard User's Guide

Oracle Applications System Administrator's Guide

Oracle Workflow Guide

Set up Work in Process

There are 12 steps to set up Work in Process, three of which are required. All of the steps are visually depicted on the Work in Process Setup Flowchart (see: Overview of Setting Up Bills of Material, *Oracle Bills of Material User's Guide*) and listed in the Setup Check List (see: Overview of Setting Up Bills of Material, *Oracle Bills of Material User's Guide*).

Related Product Setup Steps

You may need to perform some or all of the following steps to set up Work in Process. These steps are discussed in detail in the Setting Up sections of the related Oracle product user's guides.

Oracle Inventory Setup Steps

Set up Inventory as described in the Overview of Setting Up Inventory, *Oracle Inventory User's Guide*. Ensure that all of the following steps are completed:

Step	AIW Reference
Create your organizations	Common Manufacturing
Define your organization parameters	Common Manufacturing
Define your items and item costs	Common Manufacturing
Launch your transaction managers	Common Manufacturing
Define your account aliases (optional)	Common Manufacturing
Define your transaction reason codes (optional)	Common Manufacturing
Define your units of measure (UOMs)	Common Manufacturing
Define your subinventories	Common Manufacturing
Define your stock locators	Common Manufacturing

Oracle Bills of Material

Set up Bills of Material as described in Overview of Setting Up Bills of Material, *Oracle Bills of Material User's Guide*. Ensure that all of the following steps have been completed:

Step	AIW Reference
Create your bills of material	Common Manufacturing
Define your resources	Common Manufacturing
Define your departments, department classes, resource shifts, and department resources	Common Manufacturing
Define your standard operations	Common Manufacturing
Create your routings (optional)	Common Manufacturing
Define simulation sets	Common Manufacturing
Calculate your manufacturing lead times (optional)	Common Manufacturing
Create your workday calendar	Common Manufacturing

Oracle Engineering

Set up Engineering as described in Overview of Setting Up Engineering, *Oracle Engineering User's Guide*.

Step	AIW Reference
Define your Engineering change orders (optional)	Common Manufacturing
Define your Engineering bills of material and routings (optional)	Common Manufacturing

Oracle Cost Management (Optional)

Set up Cost Management as described in Overview of Setting Up Cost Management, *Oracle Cost Management User's Guide*.

Step	AIW Reference
Define your cost types	Common Manufacturing
Define your resource activities and activity costs	Common Manufacturing
Define your default WIP accounting classes for categories (optional)	Common Manufacturing
Define resources, material sub–elements, overheads, and overhead defaults.	Common Manufacturing

Oracle MRP/Master Scheduling and Oracle Supply Chain Planning

Set up MRP/Master Scheduling and Supply Chain Planning. Optionally, define your demand classes.

Oracle Project Manufacturing (Optional)

Set up Project Manufacturing as described in Setting Up Project Manufacturing, *Oracle Project Manufacturing User's Guide* and the *Oracle Project Manufacturing Implementation Manual*.

Oracle Workflow (Optional)

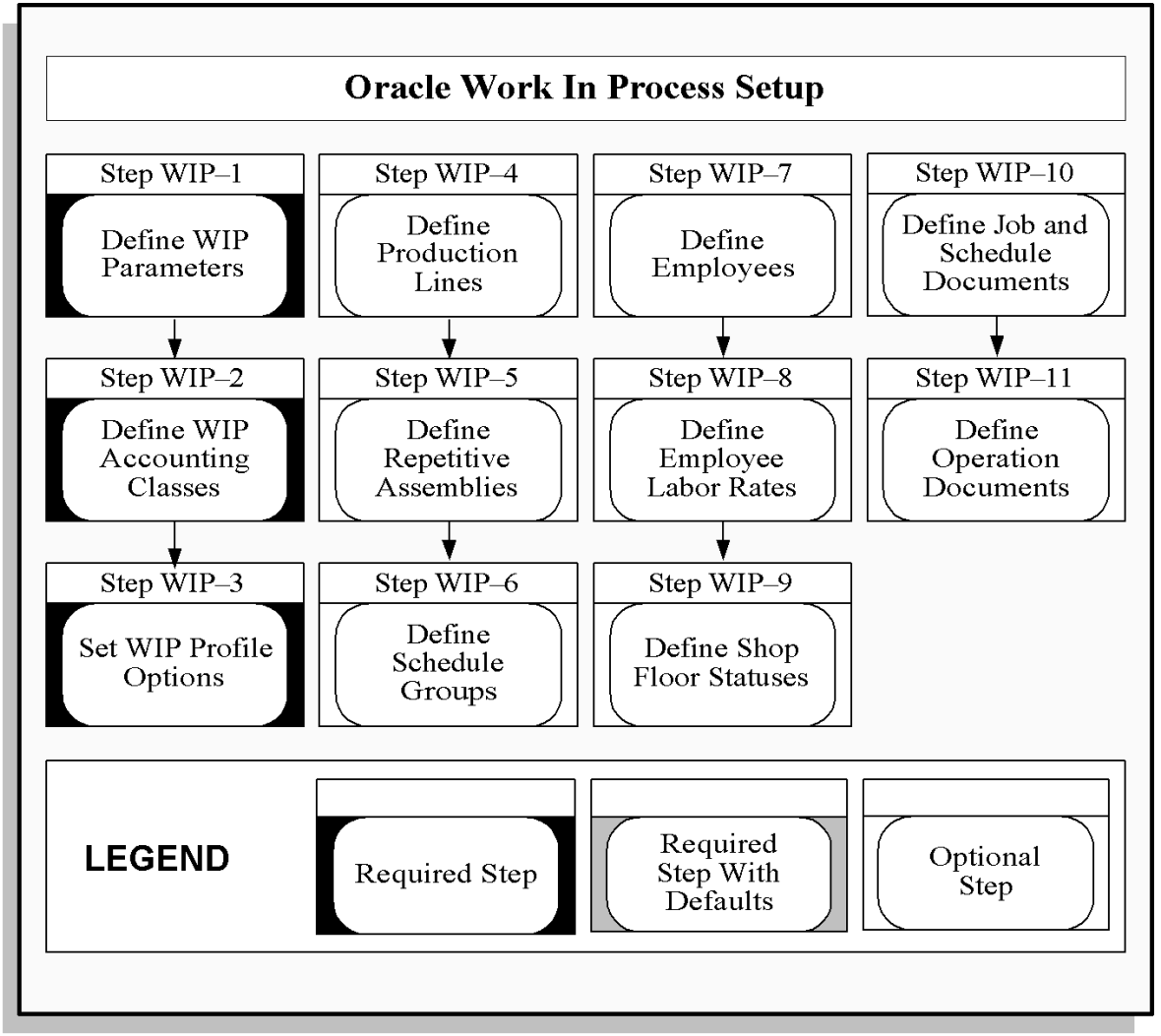
In order to initiate workflows that send notifications during outside processing operations, or to customize workflows to include your own notification recipients, you must have Oracle Workflow installed. Set up Oracle Workflow as described in the *Oracle Workflow User's GuideSetting Up Oracle Workflow, Oracle Workflow User's Guide*.

Oracle Supplier Management Portal (Optional)

You must have Supplier Management Portal installed in order to set up a user ID for your suppliers so that they can view their purchase orders on the Oracle Self–Service Web Applications web site. Set up Oracle Supplier Management Portal as described in the *Oracle Supplier Management Portal Implementation Manual.*

Setup Flowchart

The following flowchart lists the steps for setting up Work in Process:



The following flowchart diagrams the steps that you need to perform to set up work in Process. Some of the steps outlined in this flowchart and in the setup checklist are **Required** and some are Optional. "Required Step with Defaults" refers to setup functionality that comes with pre–seeded, default values. You should review the defaults and decide whether or not to change them to suit your business needs. If

you change the defaults, you should perform the setup step. You need to perform **Optional** steps only if you plan to use the related feature or complete certain business functions.

Setup Check List

The following table lists setup steps and a reference to their location within the Wizard. For a detailed description of AIW reference levels, see the Oracle Applications Implementation Wizard User's Guide. After you log on to Oracle Applications, complete the required steps to implement Work in Process:

Step #	Description	Discrete	Repetitive	Projects	Work Order–less Schedules	AIW Reference
1	Define Work in Process Parameters: page 2 – 8	Required	Required	Required	Required	Oracle Work in Process
2	Define Work in Process Accounting Classes: page 2 – 9	Required	Required	Required	Required	Oracle Work in Process
3	Set Work in Process Profile Options: page 2 – 10	Required	Required	Required	Required	Oracle Work in Process
4	Define Production Lines: page 2 – 11	Optional	Required	Optional	Optional	Oracle Work in Process
5	Define Repetitive Assemblies: page 2 – 11	NA	Required	N/A	Optional	Oracle Work in Process
6	Define Schedule Groups: page 2 – 12	Optional	NA	Optional	Optional	Oracle Work in Process
7	Define Employees (optional if using resources): page 2 – 12	Optional	Optional	Optional	Optional	Oracle Work in Process
8	Define Labor Rates (optional if using resources): page 2 – 12	Optional	Optional	Optional	Optional	Oracle Work in Process
9	Define Shop Floor Statuses (optional if using resources): page 2 – 12	Optional	Optional	Optional	NA	Oracle Work in Process
10	Define Job and Schedule Documents: page 2 – 13	Optional	Optional	Optional	NA	Oracle Work in Process

Step #	Description	Discrete	Repetitive	Projects	Work Order–less Schedules	AIW Reference
11	Define Operation Documents: page 2 – 13	Optional	Optional	Optional	NA	Oracle Work in Process
12	Define Report Sets: page 2 – 13	Optional	Optional	Optional	Optional	Oracle Work in Process

Setup Steps

You must complete the following steps to set up Work in Process. Each step includes a Context section that indicates whether you need to repeat the step for each set of books, set of tasks, inventory organization, HR organization, or other operating unit under Multiple Organizations.

Step 1 Define your Work in Process Parameters (Required with Defaults)

System Requirements: The following parameters define modes of operation and default values that affect Work in Process: Discrete Manufacturing Parameters, Repetitive Manufacturing Parameters, Move Transaction Parameters, Backflush Default Parameters, Intraoperation Steps Parameters, Outside Processing Parameters, Scheduling Parameters, and Other Parameters.

To define WIP parameters, you must change the control level for the Costing Enabled and Inventory Asset Value item attributes in the Item Attribute Controls window in Oracle Inventory. This change requires that costs be defined for all organizations that point to other organizations for their costs.

Attention: You cannot define Work in Process parameters when the costing organization is different from the current organization.

You must define modes of operation that affect other functions in Oracle Work in Process and assign default values before you can perform any transactions in your organization. You must also enable the intraoperation steps that you want to use in your routings to allow detailed tracking within operations on the shop floor. Work in Process always enables Queue for each operation and To Move for the final operation in a routing.

Define Bills of Material Parameters for Phantom Routing (Required)

There are two Bills of Material (BOM) parameters that you need to define in order to use phantom routing: *Use Phantom Routings* (choose whether or not to charge phantom routing cost); and *Inherit Phantom OP Seq* (choose whether or not phantom components inherit the operation sequence of the parent operation or maintain their own phantom routing sequence).

Define Profile Options for Project Manufacturing (Optional)

There are two Project Manufacturing (PJM) parameters that you need to define in order to use PJM with Work in Process: *Enable Model/Unit Number Effectivity* (choose whether or not to enable model/unit number effectivity on this site); and *Allow Cross Unit–Number Issues* (choose whether or not components with a different unit number from your assemblies can be issued to WIP).

Define Item Tolerance Type (Optional)

You need to enter an overcompletion tolerance type and tolerance value if you will be overcompleting assemblies on jobs or schedules. On the Master Items form, navigate to the Work in Process tab. Select the tolerance type percent or amount from the list of values, then enter the corresponding tolerance value.

Context: You need to perform this step once for each applicable item in the master organization where that item is defined..

Defining Items, *Oracle Inventory User's Guide*.

Work in Process Attribute Group, *Oracle Inventory User's Guide*.

Step 2 Define your WIP Accounting Classes (Required)

You must define Work in Process accounting classes before you can define discrete jobs and repetitive assemblies. You must define separate accounting classes for standard discrete jobs, non–standard expense jobs, non–standard asset jobs, and repetitive assemblies. Accounting classes include the elemental valuation and variance accounts you use to cost discrete and repetitive production.

System Requirements: you can define any number of accounting classes. Accounting classes define which valuation and variance accounts are charged and when they are charged. Every discrete job and repetitive schedule that you define must be assigned one of the following types of accounting classes: Discrete, Standard Discrete

Expense, Non–standard Asset, Non–standard Repetitive, or Lot Based Standard Discrete.

> **Note:** The Lot Based Standard Discrete type is available only if Oracle Shop Floor Management is installed.

Default: If you skip this step, *Discrete* will be used as the default value.

Context: Perform this step for each inventory organization in which you use Work in Process.

See: Defining WIP Accounting Classes: page 2 – 48.

Step 3 Set your Work in Process Profile Options (Required)

Profile options specify how Work in Process controls access to and processes data. In general, profile options can be set at one or more of the following levels: site, application, responsibility, and user.

System Requirements: the system administrator sets and updates profile values. The Oracle Applications System Administration Reference Manual contains a list of all profile options available to every Oracle Application. At this step, select the profile options related to the Work in Process (WIP) module. These system profiles must be set in order to have an operational system. They include, but are not limited to:

01) TP:WIP:Background Shop Floor Material Processing

02) WIP:Completion Material Processing

03) WIP:Completion Transaction Form

04) TP:WIP:Completion Transactions First Field

05) TP:WIP:Concurrent Message Level

06) TP:WIP:Material Transaction Form

07) TP:WIP:Material Transactions First Field

08) TP:WIP:Move Transaction

09) TP:WIP:Move Transaction First Field

10) TP:WIP:Move Transaction Quantity Default

11) TP:WIP:Operation Backflush Setup

12) TP:WIP:Resource Transactions First Field

13) TP:WIP:Shop Floor Material Processing

14) TP:WIP:Work Order–less Default Completion

15) WIP:Default Job Start Date

16) WIP:Define Discrete Job Form

17) WIP:Discrete Job Prefix

18) WIP:Enable Outside Processing Workflows

19) WIP:Exclude ECOs

20) WIP:Job Name Updatable

21) WIP:Move Completion Default

22) WIP:Requirement Nettable Option

23) WIP:See Engineering Items

Step 4 Define Production Lines (Optional)

You can associate production lines with repetitive assemblies, discrete jobs, and work order–less completions. A production line describes a unique set of operations, departments, and manufacturing cells that produce one or more of your products. You can define and update, but not delete production lines.

You must associate production lines with the assemblies that you plan to manufacture repetitively. You can build different repetitive assemblies on the same production line, which allows you to use production lines to aggregate material requirements for a number of assemblies by production line. You also can build the same assembly on different production lines.

See: Defining Production Lines: page 2 – 58

Step 5 Define your Repetitive Line and Assembly Associations (Optional)

If you manufacture assemblies repetitively, you must define your repetitive assemblies and associate them with production lines before you can define repetitive schedules. When you define repetitive schedules, you must specify the line on which you plan to produce the repetitive assembly and the quantity that you plan to build. Repetitive line scheduling then uses the line start and stop times, production rate, and lead time, along with the workday calendar to schedule your repetitive schedules.

See: Associating Lines and Assemblies: page 6 – 7

Step 6 Define Schedule Groups (Optional)

You can define schedule groups then assign them to jobs or work order–less completion transactions. For example, you can define a schedule group then assign that schedule group to a group of jobs that are being built on a specific production line and that must be completed on a specific date for a planned departure.

See: Defining Schedule Groups: page 2 – 53.

Step 7 Define your Employees (Optional)

If you do not install Oracle Human Resource Management Systems with Oracle Work in Process, you use the Enter Employees form to define employees whose labor rates you want to charge.

See: Employee Management, *Oracle Human Resources*.

Step 8 Define your Employee Labor Rates (Optional)

If you want to charge employee labor for employees that you defined in Step 7, you must define the hourly labor rate of your employees. Oracle Work in Process uses employee rates when you manually charge person–type resources to jobs or repetitive schedules that do not charge at the standard rate, and when you associate an employee number with the resource you are charging.

You can add, delete, and update the effective date of the hourly labor rates for person–type resources (employees). You can define multiple hourly labor rates for the same employee, as long as each rate has a different effective date. If you use actual costing, the hourly labor rate rather than the standard rate is used to compute the actual cost of person–type resources charged to discrete jobs and repetitive schedules. You can enter an employee number when performing a person–type resource transaction in the Resource Transactions window or the Resource Transaction Open Interface Process. The employee's most current hourly labor rate is used to compute the actual cost of the transaction.

See: Defining Labor Rates: page 2 – 56.

Step 9 Define your Shop Floor Statuses (Optional)

You have the option to prevent move transactions from steps within an operation by defining shop floor statuses that prevent moves, and assigning them to operations and intraoperation steps within discrete jobs or repetitive schedules. You can also use these statuses to record

more detailed information regarding assemblies at a particular step within an operation.

You can assign shop floor statuses to any intraoperation step associated with a job or repetitive line or assembly. You also can assign multiple statuses to an intraoperation step; however, you cannot assign the same shop floor status to more than one intraoperation step within the same operation. Shop floor statuses that are assigned to a repetitive line or assembly are valid for all repetitive schedules being built on that production line.

See: Defining Shop Floor Statuses: page 2 – 51.

Step 10 Define Job and Schedule Documents (Optional)

You can define standard job and schedule documents and then attach them to jobs and repetitive schedules.

See: Defining Job and Schedule Documents: page 1 – 6.

Step 11 Defining Operation Documents (Optional)

You can define operation documents then attach them to work in process routing operations.

See: Defining Operation Documents: page 1 – 7.

Step 12 Defining Report Sets (Optional)

Reports and concurrent programs can be assembled into request groups and request sets. A request group is a collection of reports or concurrent programs. Only a system administrator can create a request group. The system administrator defines request groups in order to control user access to reports and concurrent programs. Request sets define run and print options, and possibly, parameter values for a collection of reports or concurrent programs. Both end users and system administrators can define request sets; however, system administrators have request set privileges beyond those of end users.

See: Defining Report Sets: page 1 – 7.

WIP Parameters

You can use WIP parameters to define modes of operation and to assign default values for various work in process functions. You can only define one set of WIP parameters per organization. The following tables summarizes WIP parameters and their defaults:

Parameters, Discrete	Required?	Default Value
Discrete		
Default Discrete Class	Optional	Null
Default Lot Number Type	Required	Job Name
Respond to Sales Order Changes	Required	Always

Parameters, Repetitive	Required?	Default Value
Recognize Period Variances	Optional	All Schedules
Autorelease Days	Optional	0

Parameters, Average Costing	Required?	Default Value
Default Completion Cost Source	Required	System Calculated
System Option	Cond. Required	Use Predefined Resources
Cost Type	Cond. Required	Null
Auto Compute Final Completion	Optional	No

Parameters, Move Transactions	Required?	Default Value
Require Scrap Account	Optional	Disabled
Allow Creation of New Operations	Optional	Disabled
Allow Moves Over No Move Shop Floor Statuses	Optional	Enabled

Parameters, Backflush Default	Required?	Default Value
Supply Subinventory	Required	Null
Supply Locator	Optional	Null
Lot Selection Method	Optional	Expiration Date
Lot Verification	Optional	All
Release Backflush Components	Optional	Disabled

Parameters, Intraoperation Steps	Required?	Default Value
Intraoperation Steps	Optional	All are enabled

Parameters, Outside Processing	Required?	Default Value
Shop Floor Status for PO Move Resources	Optional	Null
Requisition Creation Time	Optional	At OSP operation
Production Scheduler	Optional	Null
Shipping Manager	Optional	Null

Parameters, Scheduling	Required?	Default Value
Include Resource Efficiency	Optional	Disabled
Include Resource Utilization	Optional	Disabled
Use Constraint–Based Scheduler (check box)	Optional	Disabled
Constraints	Optional	Resources
Primary Objective	Optional	Maximum Ontime Completion
Horizon (days)	Optional	Null
Simulation Set	Optional	Null
Maximum Penalty	Optional	Null
Penalty Per Day Late	Optional	Null
Due Date Tolerance (days)	Optional	Null

Parameters, Mobile	Required?	Default Value
Default Scrap Account	Optional	Null
Transaction Processing	Optional	Background

Parameters, Serial	Required?	Default Value
Default Serialization Start Operation	Optional	Disabled
Auto Associate Serial Numbers on Job Creation From Interface	Optional	Disabled
Default Intraoperation Step for Assembly Moves	Optional	Null

Parameters, Other	Required?	Default Value
Component ATP Rule	Optional	Null
Default Overcompletion Tolerance %	Optional	Null
Default Pick Slip Grouping Rule	Optional	Null
Default Plan Tasks	Optional	Disabled

Discrete Parameters

The following parameters affect discrete manufacturing.

Default Discrete Class

If Category Default WIP Classes are not set up and you are defining a standard, non–project discrete job or performing a work order–less completion, this parameter determines which accounting class is used as the default. See: Default WIP Classes: page 3 – 60 and Associating WIP Accounting Classes with Categories, *Oracle Cost Management User's Guide*.

You can only select an active, standard discrete accounting class when defining this parameter. See: Discrete Accounting Classes: page 2 – 42, Defining Discrete Jobs Manually: page 3 – 63, and Autocreating Final Assembly Orders: page 15 – 3.

Default Lot Number Type Parameter

Determines how lot numbers are assigned to discrete jobs. The options are as follows:

Job Name — Base job lot numbers on the job name you enter when you define the job. This is the default.

Based on Inventory Rules — Base job lot numbers on the lot number rules you defined in Oracle Inventory. See: Lot Control, *Oracle Inventory User's Guide* and.Defining Revision, Lot, LPN, Serial Parameters, *Oracle Inventory User's Guide*

Respond to Sales Order Changes

Determines the status of a work order reserved and linked to a sales order: if a configured item is de–linked from a sales order or sales order line placed on hold, you can set the following options:

Never	The work order will not be placed on hold if you de–link the configured item from the sales order, or if the sales order is placed on hold.
Always	The work order will be placed on hold if you de–link the configured item from the sales order, or if the sales order is placed on hold.
When Linked 1 to 1	The work order will be placed on hold if it is the only work order reserved to that sales order.

Attention: When cancelling sales order lines with ATO items, this parameter, is ignored by the system. See: Linking Sales Orders and Discrete Jobs: page 3 – 74

Repetitive Parameters

The following parameters affect repetitive manufacturing.

Recognize Period Variances

Determines which repetitive schedule variances are posted to the general ledger when an accounting period is closed. The options are as follows:

All Schedules	Post variances for all repetitive schedules.
Cancelled and Complete–No Charges Only	Post variances for repetitive schedules with statuses of Cancelled or Complete–No Charges.

Autorelease Days

Determines the time period within which the system automatically releases the next Unreleased schedule.

When you complete a repetitive schedule, the system searches within the autorelease time frame for an Unreleased schedule, or for a schedule with a status of Released, Complete, or On Hold. If one exists, the status of the newly completed schedule changes to Complete–No Charges and the future schedule is automatically released. If no such schedule exists, the status of the schedule changes to Complete. If more

than one schedule exists within the autorelease time frame, only one schedule is released.

Average Costing Parameters

These parameters affect how WIP assembly completion transactions are costed. The Default Completion Cost Source, Cost Type, and System Option parameters are defaulted when you define standard and non–standard accounting classes in the WIP Accounting Classes window. They can be overridden at the account class level. The Auto Compute Final Completion parameter is defaulted when you complete jobs. It also can be overridden.

> **Note:** You can only set these parameters if your current organization has been defined as an average cost organization in the Oracle Inventory Organization Parameters window. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Defining Costing Information, *Oracle Inventory User's Guide*.

Default Completion Cost Source

This parameter determines how resource costs are determined as assemblies are completed from jobs into inventory.

System Calculated — If this option is set, resources can be costed at either the actual resource costs or at the resource predefined cost depending on how the *System Option* parameter is subsequently set.

When completing assemblies from a non–standard job with no routing, the resource rate associated with the Average Rates cost type is used.

User–Defined — If the option is set, you must choose a user–defined cost type using the Cost Type Parameter. This cost type is then used to determine the resource cost for the assemblies being completed.

> **Note:** If there are uncleared costs left in the job, they are posted to the job variance accounts when the job is closed. Residual costs could be left in the job if: 1) the Auto Compute Final Completion option is set, but not all assemblies are completed or scrapped or 2) the job earns costs between the last final completion and the close transaction.

System Option

If you select the System Calculated completion cost source, you must select a System Option. The available options are as follows:

Use Actual Resources	Resources costs are determined based on the actual costs that have been charged to the job.
Use Predefined Resources	Resources costs are determined using the predefined resource cost.

> **Caution:** If you have chosen the *Use Predefined Resources* system option and are overcompleting assemblies that are associated with lot based resources and overheads, these resources and overheads are over–relieved from Work in Process. You can avoid this problem by selecting the *Use Actual Resources* system option. See: Assembly Over–completions and Over–returns: page 7 – 84 and Move Completion/Return Transactions: page 8 – 31.

Cost Type

Determines which cost type to use as the default when the Default Completion Cost Source is User–Defined. You can only select a Cost Type if the Default Completion Cost Source parameter is set to User Defined. See: Defining a Cost Type, *Oracle Cost Management User's Guide*.

Auto Compute Final Completion

Determines whether the Final Completion in the Completion Transaction window defaults to checked (Yes).

Move Transaction Parameters

The following parameters affect move transactions.

Require Scrap Account

Determines whether a scrap account is required when you use the Move Transactions window to move job and repetitive assemblies into and out of the Scrap intraoperation step of an operation. It also determines whether a scrap account is required when flow schedule assemblies are scrapped or returned from scrap through the Work Order–less Completions window. If you do not specify that a scrap account is required, it is optional.

This parameter also determines how scrap transactions are processed. If you enter a scrap account, the system debits this account and credits

the job or schedule elemental accounts through the operation at which the assemblies are scrapped. If you enter a reversing scrap transaction, the system credits this account and debits the job or schedule elemental accounts through the operation at which the assemblies are returned. If you do not provide a scrap account, the cost of scrap remains in the job or schedule until job or period close and is then written off as a variance.

Allow Creation of New Operations

Determines whether you can or cannot add an operation to a discrete job work in process routing during a move transaction. For example, you may want to add an operation to keep track of rework you were not expecting.

Allow Moves Over No Move Shop Floor Statuses

Determines whether moves are disallowed if an intraoperation step that disallows moves exists at an autocharge operation and intraoperation step between the From and To operations or at intervening intraoperation step at the From and To operations if they are direct charge. If an intraoperation step that disallows moves is found, a warning message is displayed and the move is disallowed.

> **Note:** The *Move Transactions: Allow Skipping Over No Move Statuses* security function can be set to override *no move* shop floor statuses. See: Security Functions: page 2 – 78.

Direct charge operations between the From and To Operations are not considered when the system checks for *no move* shop floor statuses. Scrap and Reject intraoperation steps at autocharge operations are also not considered. See: Shop Floor Statuses: page 8 – 63.

Backflush Default Parameters

The following parameters affect backflush transactions.

Supply Subinventory

Determines which supply subinventory and, if required by the subinventory, locator are used when backflushing Operation Pull and Assembly Pull components that do not have defaults defined at the bill of material component or at the inventory item level.

You can select an expense subinventory, if the Oracle Inventory *Allow Expense to Asset Transfer* profile option is set to Yes. See: Inventory Profile Options, *Oracle Inventory User's Guide*.

Supply Locator

Determines which supply subinventory, and if required by the subinventory, which locator is used when backflushing Operation Pull and Assembly Pull components that do not have defaults defined at the bill of material component or at the inventory item level.

Lot Selection Method

Determines how lot controlled Assembly Pull and Component Pull component items are selected during backflush transactions. The options are as follows:

Expiration Date Backflush lots are automatically selected based on their expiration date and the first in–first out (FIFO) method or, if the lot is not under shelf life control, the receipt date and the first in–first out (FIFO) method.

Manual Backflush lots must be manually selected.

Receipt Date Backflush lots are automatically selected based on their inventory receipt date using the first in–first out (FIFO) method.

Note: This parameter does not apply to components that are under both lot and serial control. When you backflush a component under both lot and serial control, you must enter both the lot and the serial number.

Lot Verification

Determines how lots that are automatically selected, based on whether the *Lot Selection Method* parameter is set to Receipt Date or Expiration Date, are verified during backflush transactions. When the *Lot Selection Method* parameter is set to Manual, manually selected lots are verified as if the *All* option has been specified. The lot verification options are as follows:

All Verifies that the lots automatically selected were the ones consumed by the assemblies.

Exceptions Only Verifies exceptions only. If the lot requirement for the component cannot be filled automatically using the FIFO method, you can assign lots to components manually.

Release Backflush Components

Used by component pick release functionality. If this check box is checked, operation pull and assembly pull supply type components are included in the pick release process.

> **Note:** The Discrete Job Pick List Report does not use this parameter.

Intraoperation Steps Parameter

Determines which intraoperation steps are enabled in your WIP routing operations. The options are Queue, Run, To Move, Reject and Scrap. See: Intraoperation Steps: page 8 – 9.

The Queue intraoperation step is automatically enabled for all operations and cannot be disabled. The To Move intraoperation step, even if disabled here, is automatically enabled for the final operations in routings so that assemblies can be completed into inventory.

See Also

Defining WIP Parameters: page 2 – 30

Outside Processing Parameters

The following parameters affect outside processing functionality:

Shop Floor Status for PO Move Resources

Determines which shop floor status is assigned to the Queue intraoperation step of an outside processing operation when you create discrete jobs and repetitive schedules. You first define the status on the Shop Floor Statuses window, and it then appears on the list of values for this parameter. See: .You then can assign the status to operations that have PO Move resources assigned to them (but not those assigned PO Receipt). Only *no move* statuses, those statuses which are not Allow Moves enabled, can be selected.

This status ensures that assembly moves from an outside processing resource operation can only be launched by the receipt of a purchase order in Oracle Purchasing. This ensures that the same number of assemblies are moved into and out of an outside processing resource operation. Problems in tracking work in process and cost variances are thus avoided.

Requisition Creation Time

Determines whether purchase requisitions are created for outside processing operations automatically or manually, and when in the manufacturing process they are created. An outside processing operation is an operation that contains an outside resource linked to an outside processing item.

At Job/Schedule Release Automatically creates purchase requisitions for all outside processing operations on a job or schedule (except non–countpoint/non– autocharge operations), when the job or schedule is released. Creating requisitions at job and schedule release makes it possible to create and release purchase orders to suppliers in advance.

At OSP Operation Automatically creates purchase requisitions when you move assemblies into the Queue intraoperation step of an outside processing operation. This is the parameter's default value. If the outside processing operation is the first operation of the job or repetitive schedule, a requisition is created at that operation when the status of the job or schedule is changed to Released.

Manual Requires you to manually create purchase requisitions in Oracle Purchasing. This option allows you to automatically charge outside processing resources at an operation, but does not link the creation of the requisition to either the creation or processing of the job or schedule.

Note: For lot based jobs in Oracle Shop Floor Management, set this is parameter to At OSP Operation. Multiple paths are available in a network routing, and the outside processing operation can change for each manufacturing run.

Production Scheduler

Associates an employee with the Production Scheduler job role on outside processing workflow notifications. The production scheduler receives notifications when there are no purchase orders for outside processing items, when outside processing assemblies have been shipped, or when they will not be shipped.

Shipping Manager

Associates an employee with the Shipping Manager job role on outside processing workflow notifications. The shipping manager receives a notification when intermediate assemblies are ready to be shipped to a supplier for outside services. The employee associated with this role receives all notifications for all jobs that have an outside processing operation.

Scheduling Parameters

This parameter is used to include resource factors in scheduling calculations–and if Oracle Manufacturing Scheduling is installed, to enable the constraint–based scheduling engine. Constraint–base scheduling considers resource, material constraints, and the number of days in the schedule when rescheduling jobs. If you do not set this parameter, the system assumes infinite capacity.

Check the Use Constraint Based Scheduler check box to enable the constraint–based scheduling engine. You also must select the constraints and the scheduling horizon that you want the engine to consider when rescheduling jobs.

Include Resource Efficiency (check box)

This check box provides the option to use resource efficiency in scheduling calculations; it affects both constraint–based and infinite scheduling. This factor influences resource elapsed time calculated during scheduling. Values of less than 100 percent elongate lead time. Resource efficiency is always considered in lead time calculations.

Include Resource Utilization (check box)

This check box provides the option to use resource utilization in scheduling calculations; it affects both constraint–based and infinite scheduling. This factor influences resource elapsed time calculated during scheduling. Values of less than 100 percent elongate lead time. Resource utilization is always considered in lead time calculations.

Use Constraint Based Scheduler (check box)

Choose this check box to enable the constraint–based scheduling engine. If this check box is not selected, the system assumes infinite capacity.

> **Caution:** Do not select this check box unless you have Oracle Manufacturing Scheduling installed.

Constraints

If you are using the constraint–based scheduling engine, open the list of values for the field, and select the constraints that the scheduling engine is to consider when rescheduling jobs.

Resources	If you select this option, the system considers the capacity of the resources available.
Resources and material	If you select this option, the system considers the capacity of the resources and the material available.

Primary Objective

The Primary Objective is the goal of work in process scheduling for your plant and determines the set of scheduling logic used on the shop floor.. Your choices are maximize Ontime Completion, Minimize Setup, or Minimize Operation Slack.

Horizon (days)

If you are using the constraint–based scheduling engine, enter the scheduling horizon, which is the number of days in the schedule that the engine must consider when rescheduling jobs. The scheduling horizon should be at least as long as your longest job scheduled, and you should add additional time to take into consideration future material receipts.

Simulation Set

The Simulation Set field enables you to adjust resource capacity. Simulation sets are used to link resource changes to available resource capacity for scheduling and planning. They are defined on the Simulation Sets window. If the Use in Scheduling field is checked for particular simulation sets, capacity moderations associated with that set are used when scheduling jobs.

When you assign resources to departments, you can use simulation sets for capacity modifications by defining them on the Capacity Changes window in Oracle Bills of Material. See: Assigning Resources to a Department, *Oracle Bills of Material User's Guide*.

Maximum Penalty

This value is the maximum penalty factor that can be entered when assigning penalties for scheduling.

Penalty Per Day Late

This value is the default penalty factor used in scheduling jobs not completed by the scheduled due date. Higher penalties generate attempts in the scheduling logic to circumvent such an event.

Due Date Tolerance (days)

The value in this field specifies the maximum number of days the job can be delayed during scheduling. This is a default value, you can enter another on the job.

See Also

Calculating Manufacturing Lead Times: page NO TAGCalculating Manufacturing Lead Time, *Oracle Bills of Material User's Guide*.

Manufacturing Lead Time Computations: page NO TAGManufacturing Lead Time Computations, *Oracle Bills of Material User's Guide*.

Detailed Scheduling: page 13 – 7

Mobile Parameters

The following parameter is set only if you are using Oracle Mobile Supply Chain Applications. This value must be set if you are entering scrap transactions.

Default Scrap Account

The Default Scrap Account value is used for scrap transactions. You can either enter an account number, or select an alias from the list of values. An alias is an easily recognized name or label representing an account.

> **Caution:** This account number is only used in Oracle Mobile Supply Chain Application scrap transactions. It is not used in standard Work in Process scrap transactions.

Transaction Processing Mode

Used to control mobile processing, your choices are either:

- Online: Transactions are processed while you wait, and control is returned when the transaction processing is completed.
- Background: Transactions are processed on a periodic basis, and control is returned immediately.

Resource, LPN, and serial tracking transactions ignore this parameter:

- Resource transactions are always processed in Background mode
- LPN transactions (including LPN completions, LPN work order–less completions, and LPN flow transactions) are always processed in Online mode
- Mobile serialized transactions are always processed in the Online mode

Serial Parameters

The following parameter is used to set features for serial number control tracking throughout manufacturing. Serial control includes control beginning at the routing, association of serial numbers to jobs before their production, serial based transaction entry, generation of serial numbers, and serial label printing. See: Serial Number Tracking Throughout Manufacturing: page 3 – 79, and Associating and Modifying Serial Number Job Information: page 3 – 82

Default Serialization Start Operation

Determines the job operation where tracking of the serial number begins. The values are:

- Enabled: If the serialization start operation is defined on the bill of material item routing, it is copied to the job routing. If this value is not defined on the item routing, the first operation is defaulted to be the serialization start operation on the job routing.
- Disabled: The serialization start operation on the job routing is blank.

Auto Associate Serial Numbers on Job Creation From Interface

Determines if serial numbers are automatically generated and associated with a job when a job is created through the WIP Mass Load interface. The job start quantity determines the number of serial numbers created. The values are:

- Enabled: Serial numbers are automatically generated and associated with a job.
- Disabled: Serial numbers are not automatically generated and associated with a job.

Default Intraoperation Step for Assembly Moves

This parameter is used for move transactions on a serialized job. It defines a default value for the intraoperation step where you are moving assemblies – the To step. Your choices are Queue, Run, To move, and null.

For example, when moving assemblies, if this value is set to:

- Queue – the default intraoperation To step for the next move transaction is the next Queue step in the routing.
- Run – the default intraoperation To step for the next move transactions is the next Run step in the routing.
- To move – the default intraoperation To step for the next move transaction is the next To move in the routing.
- Null – a default is not set, you must specify the step in your move transaction.

Other Parameters

The following parameter is used to set features for material availability checking, overcompletions, and component pick release.

Component ATP Rule

Determines which ATP Rule is used as the default when checking the material availability of component requirements. You can enter any user–defined ATP rule. See: Viewing Component ATP Information: page 7 – 20 and Defining ATP Rules, *Oracle Inventory User's Guide*.

Default Overcompletion Tolerance % (percent)

Determines the percentage of assemblies that you can over–complete on all jobs and schedules.

Default Pick Slip Grouping Rule

This field sets the default Pick Slip Grouping Rule displaying on the Component Pick Release window. Grouping rules are used each time you run component pick release; resulting tasks are grouped based on the rule. The grouping rules are defined on the Pick Slip Grouping Rules window in Oracle Inventory. See: Using the Component Pick Release Window: page 7 – 33

Default Plan Tasks

This parameter is used only by Oracle Warehouse Management enabled organizations. It determines the default Plan Tasks value displaying on the Component Pick Release window. The choices are:

- Enabled: Pick tasks are created, you can choose the time to release the tasks using the concurrent program.
- Disabled: Pick tasks are created and released when you choose Release on the Component Pick Release window.

See: Using the Component Pick Release Window: page 7 – 33

Defining WIP Parameters

WIP parameters define modes of operation and default values that affect Work in Process.

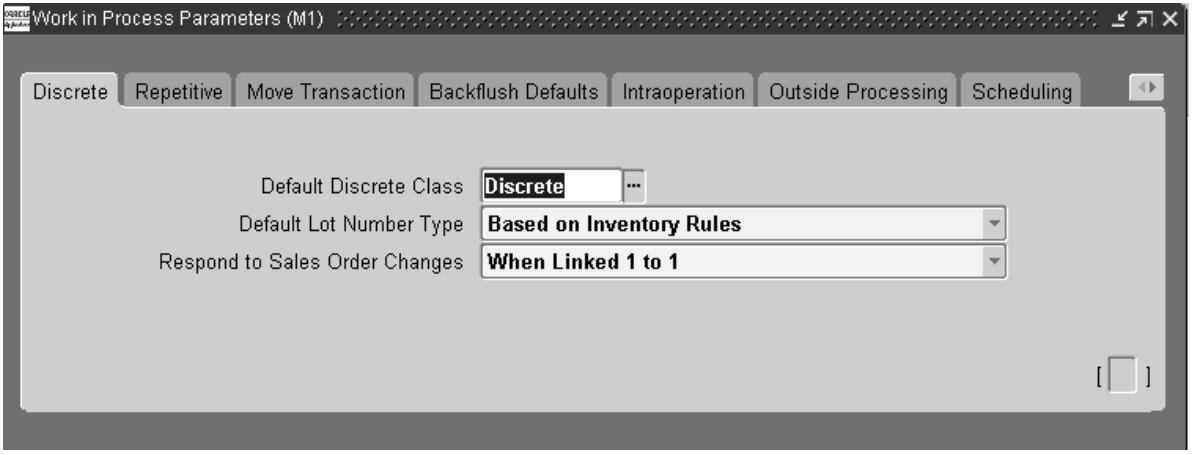
> **Caution:** You cannot define WIP parameters if the current organization shares costs with another organization. If the current organization does share costs, you must change the organization's control level for the Costing Enabled and Inventory Asset Value item attributes (Costing Group) to Item/Organization. This can be done using the Item Attribute Controls window in Oracle Inventory. Before changing these attributes, however, you must confirm that item costs have been defined in the current organization. See: Cost Organizations and Shared Costs, *Oracle Cost Management User's Guide* and Defining Item Attribute Controls, *Oracle Inventory User's Guide*.

Prerequisites

- ❑ Define a discrete accounting class. See: Defining WIP Accounting Classes: page 2 – 48.
- ❑ Option: define a shop floor status that disallows moves of PO resources. See: Defining Shop Floor Statuses: page 2 – 51.

▶ **To define and update Work in Process parameters:**

1. Navigate to the Work in Process Parameters window. See: WIP Parameters: page 2 – 14.
2. In the Discrete tabbed region, enter the Default Discrete Class. See: Default WIP Classes: page 3 – 60.



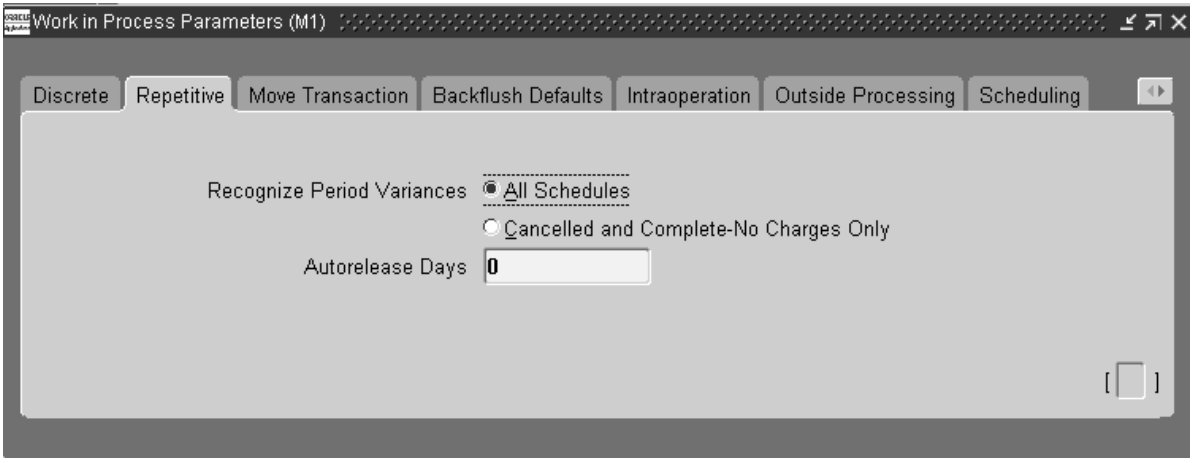
3. Select the Default Lot Number Type.

   Determines how lot numbers are assigned to discrete jobs.

4. Select one of the Respond to Sales Order Changes options.

   Determines whether and how the system responds to changes to configure–to–order (CTO) sales orders and their related discrete jobs.

5. In the Repetitive tabbed region, select the Recognize Period Variances option.

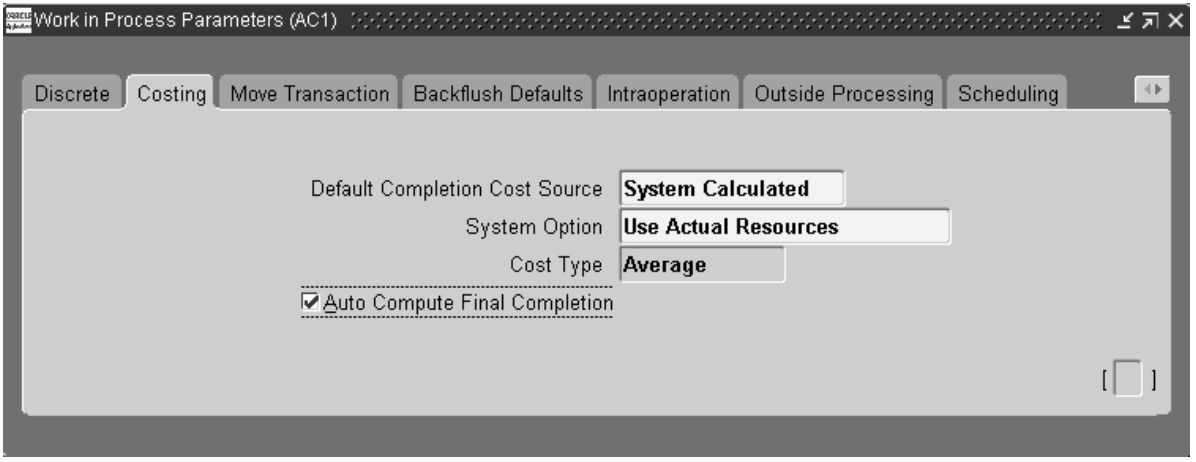


   Determines which repetitive schedule variances are posted to the general ledger when an accounting period is closed.

6. Enter the number of repetitive Autorelease Days.

   Determines the time period within which the system automatically releases the next Unreleased schedule.

7. In the Average Costing tabbed region, select a Default Completion Cost Source. The options are System Calculated and User Defined. See: Average Costing Parameters: page 2 – 19.



Attention: You can only set parameters in the Average Costing tabbed region if your current organization has been defined as an average cost organization in the Oracle Inventory Organization Parameters window. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Defining Costing Information, *Oracle Inventory User's Guide*.

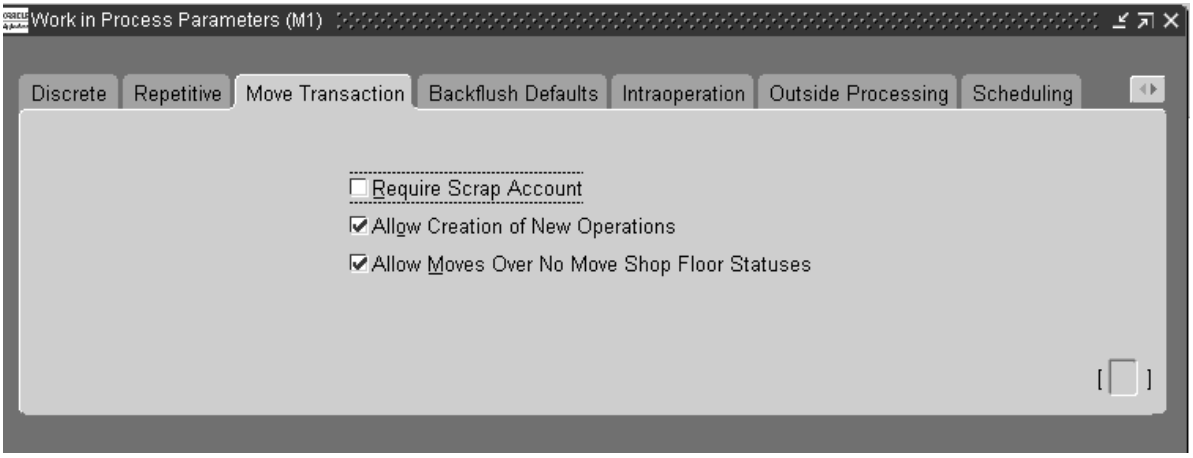
8. If you select the System Calculated as your default completion cost source, you must select a System Option. The options are Use Actual Resources and Use Predefined Resources.

9. Select a Cost Type.

   Determines which Cost Type is defaulted for when completing jobs. You must select a cost type if the *Default Completion Cost Source* parameter is User Defined.

10. Check the Auto Compute Final Completions check box to indicate whether the system should automatically determine when a completion transaction completes a job (quantity complete + scrap quantity = job quantity). The system calculates completion costs by taking the incurred job costs and dividing them by the completion quantity.

11. In the Move Transactions tabbed region, select or deselect the Require Scrap Account check box.



Determines whether a scrap account is required when you move assemblies into and out of the Scrap intraoperation step of an operation.

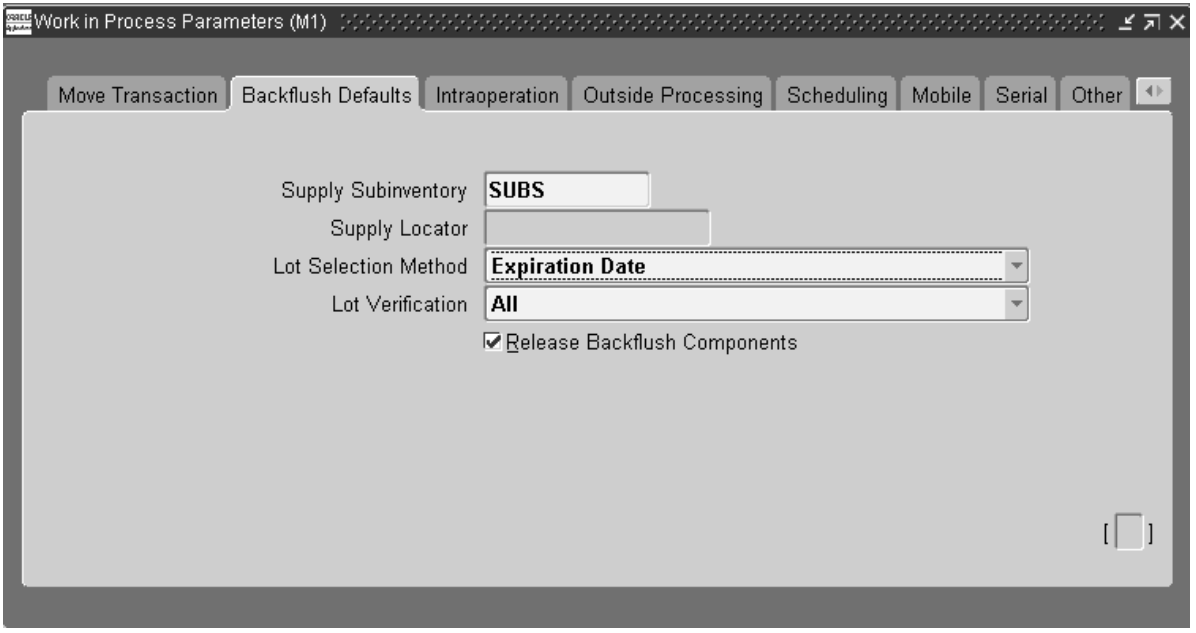
12. Select or deselect the Allow Creation of New Operations check box.

    Determines whether you can or cannot add an operation to a discrete job work in process routing during a move transaction.

13. Select or deselect the Allow Moves Over No Move Shop Floor Statuses.

    Determines whether moves are disallowed if an intraoperation step that disallows moves exists at an autocharge operation and intraoperation step between the From and To operations and intraoperation steps.

14. In the Backflush Defaults tabbed region, select a default backflush Supply Subinventory and, if required by the Supply Subinventory, a Supply Locator.



These two parameters determine which supply subinventory/ locator is used when backflushing Operation Pull and Assembly Pull components that do not have defaults defined at the bill of material component level or at the item level.

You can select an expense subinventory, if the Oracle Inventory *Allow Expense to Asset Transfer* profile option is set to Yes. See: Inventory Profile Options, *Oracle Inventory User's Guide*.

15. Select a backflush Lot Selection Method.

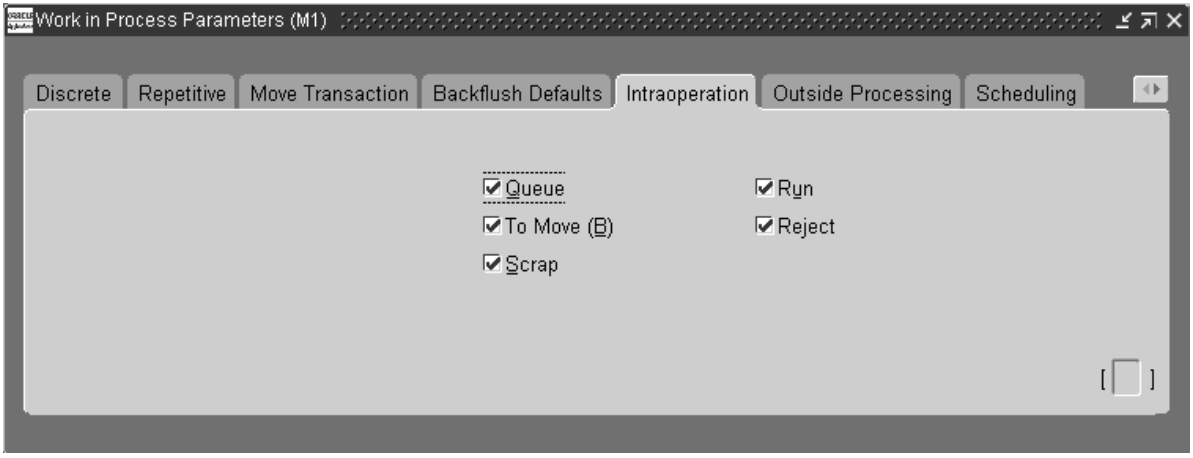
    Determines how lot controlled Assembly Pull and Component Pull component items are selected during backflush transactions.

16. Select a backflush Lot Verification Method.

    Determines how lots are verified during backflush transactions.

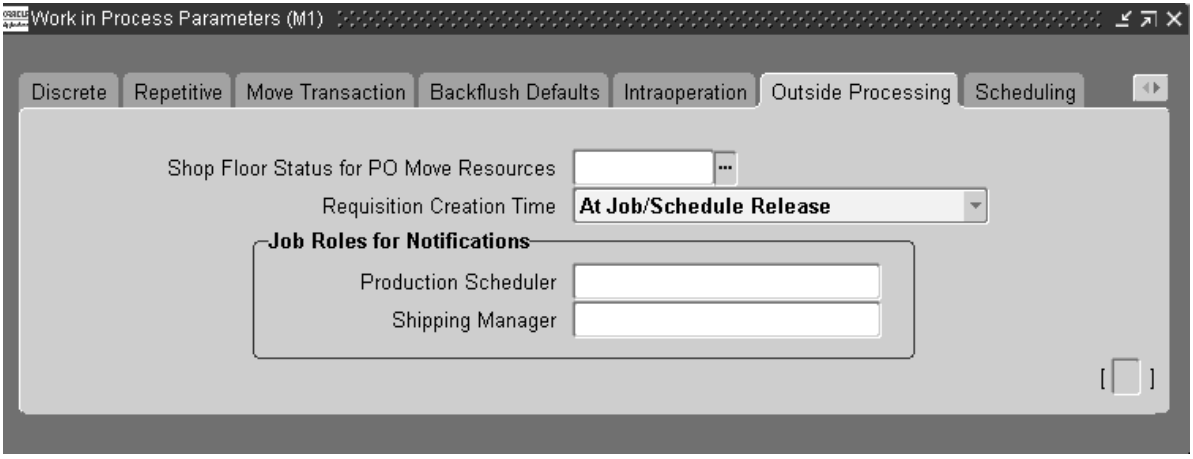
17. Check the Release Backflush Components check box to indicate if operation pull and assembly pull supply type components are included in the Component Pick Release window.

18. In the Interoperation Steps tabbed region, enable Intraoperation Steps as required.



Determines which intraoperation steps are enabled in your WIP routing operations.

19. In the Outside Processing tabbed region, select which status is assigned to the Shop Floor Status for PO Move Resources parameter.



This parameter determines which shop floor status is assigned to the Queue intraoperation steps of outside processing operations when you create discrete jobs and repetitive schedules.

20. Select a Requisition Creation Time option.

    Determines whether or not requisitions for outside processing resources operations are created, and when in the outside

processing process they will be created (At Job/Schedule Release, At Operation, or Manual).

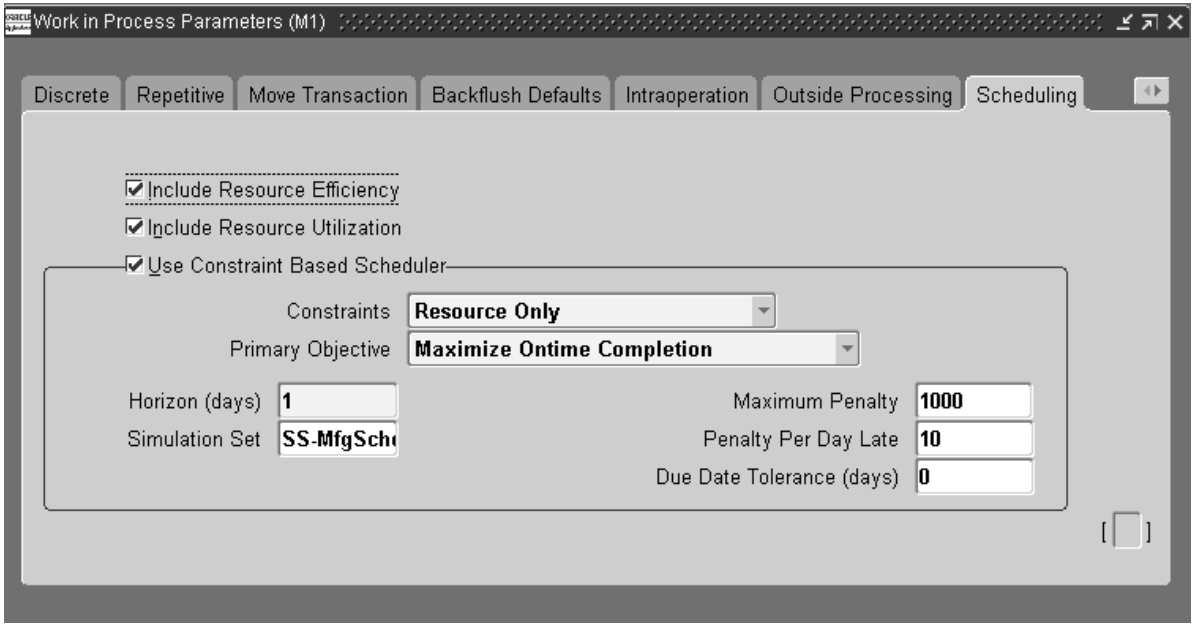
21. If you have outside processing operations, and you have set the WIP:Enable Outside Processing Workflows profile option to YES, select the employees that you want to associate with the Production Scheduler and the Shipping Manager job roles.

    The employee associated with either of these roles receives all notifications for all jobs that have an outside processing operation.

22. Select the Scheduling tabbed region to include resource factors in scheduling jobs, and to enable the Constraint Based Scheduler if Oracle Manufacturing Scheduling is installed.

23. Check the Include Resource Efficiency box if you want job scheduling to consider resource efficiency.

    Efficiency effects resource loading and is always considered in lead time calculations.



24. Check the Include Resource Utilization box if you want job scheduling to consider resource utilization.

    Utilization is always considered in lead time calculations. Resource availability is divided by the utilization percentage for capacity.

25. If you have Oracle Manufacturing Scheduling installed, check the Use Constraint Based Scheduler box to activate the Constraint Based scheduling engine. See: *Oracle Manufacturing Scheduling User's Guide*.

    Caution: Do not choose this check box unless you have Oracle Manufacturing Scheduling installed.

26. Select the constraints that you want the constraint–based scheduling engine to consider in its calculations when it reschedules jobs: Resources (only) or Resources and Material.

27. In the primary Objective field, select the primary goal of work in process scheduling for your plant.

    The choice of objective determines which set of scheduling logic is used on the shop floor. Your choices are maximize Ontime Completion, Minimize Setup, or Minimize Operation Slack.

28. Enter the number of days in the scheduling Horizon field. The horizon is the number of days in the schedule that the constraint–based scheduling engine is to consider in its calculations when it reschedules jobs (the default is 60 days). The horizon should be at least as long as your longest job on the schedule, and you should also add additional time to take into consideration future material receipts.

29. Select a simulation set in the Simulation Set field to enable the adjust resource capacity capability.

    Simulation sets are used to link resource changes to available resource capacity for scheduling and planning.

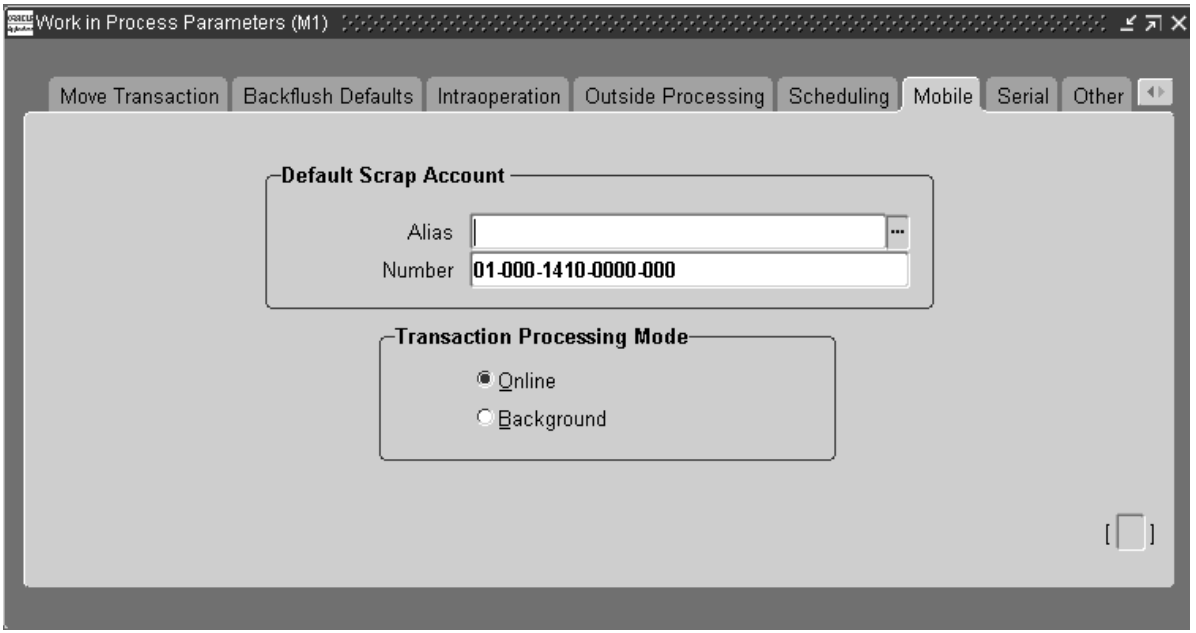
30. In the Maximum Penalty field, enter the maximum penalty factor that can be entered when assigning penalties for scheduling.

31. In the Penalty Per Day Late field, enter the default penalty factor used in scheduling jobs not completed by the scheduled due date.

32. In the Due Date Tolerance (days) field, enter the default number of days a job can be delayed during scheduling.

33. The Mobile tabbed region is used if you are using Oracle Mobile Supply Chain Applications. Select a Default Scrap Account value for scrap transactions, entering either an account number, or selecting an alias from the list of values.

    Caution: This account number is only used in Oracle Mobile Supply Chain Application scrap transactions. It is not used in standard Work in Process scrap transactions.



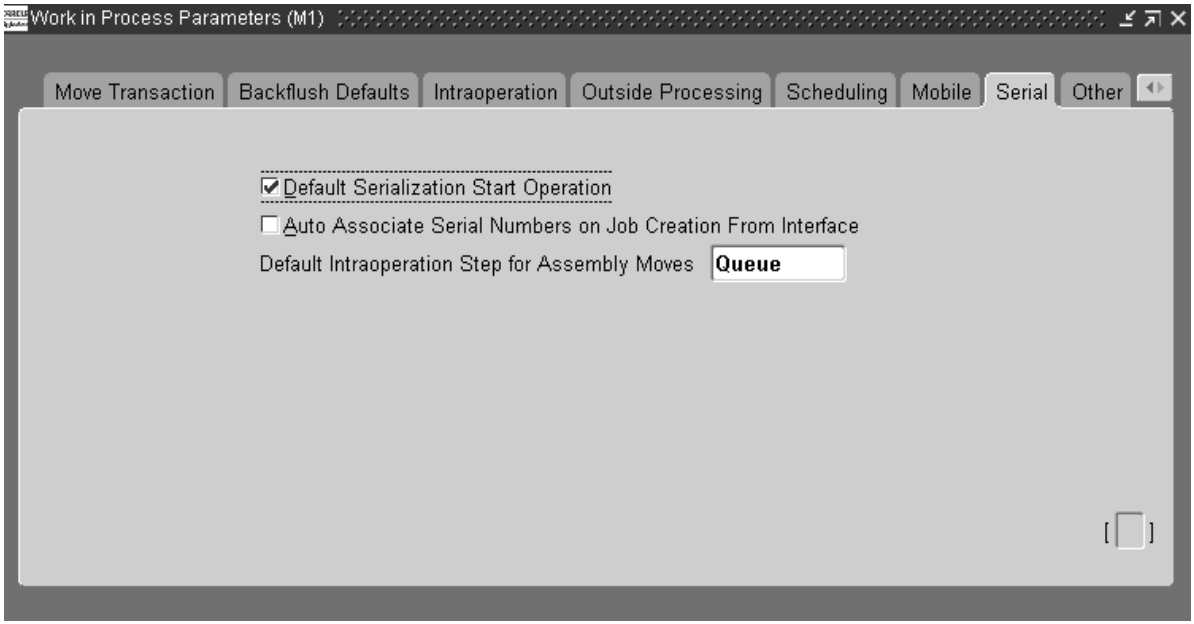
34. Select a Transaction Processing Mode.

    Your choices are Online, for immediate processing–or Background for periodic processing.

35. Use the the Serial tabbed region to select parameters for serial number control tracking. See: Serial Number Tracking Throughout Manufacturing: page 3 – 79

36. Use the Default Serialization Start Operation box to determine the job operation where tracking of the serial number begins. The choices are:

    - Enabled: If the serialization start operation is defined on the bill of material item routing, it is copied to the job routing. If this value is not defined on the item routing, the first operation is defaulted to be the serialization start operation on the job routing.
    - Disabled: The serialization start operation on the job routing is blank.



37. Use the Auto Associate Serial Numbers on Job Creation From Interface box to determine if serial numbers are automatically generated.

    This flag is used when jobs are created through the WIP Mass Load interface. The job start quantity determines the number of serial numbers created.

    If this flag is enabled, serial numbers are automatically generated and associated with a job. Otherwise, serial numbers are not automatically generated and associated with a job.

38. Select a value in the Default Intraoperation Step for Assembly Moves field. This value is used when the move quantity is at the intraoperation step, your choices are Queue, Run, To move, and null.

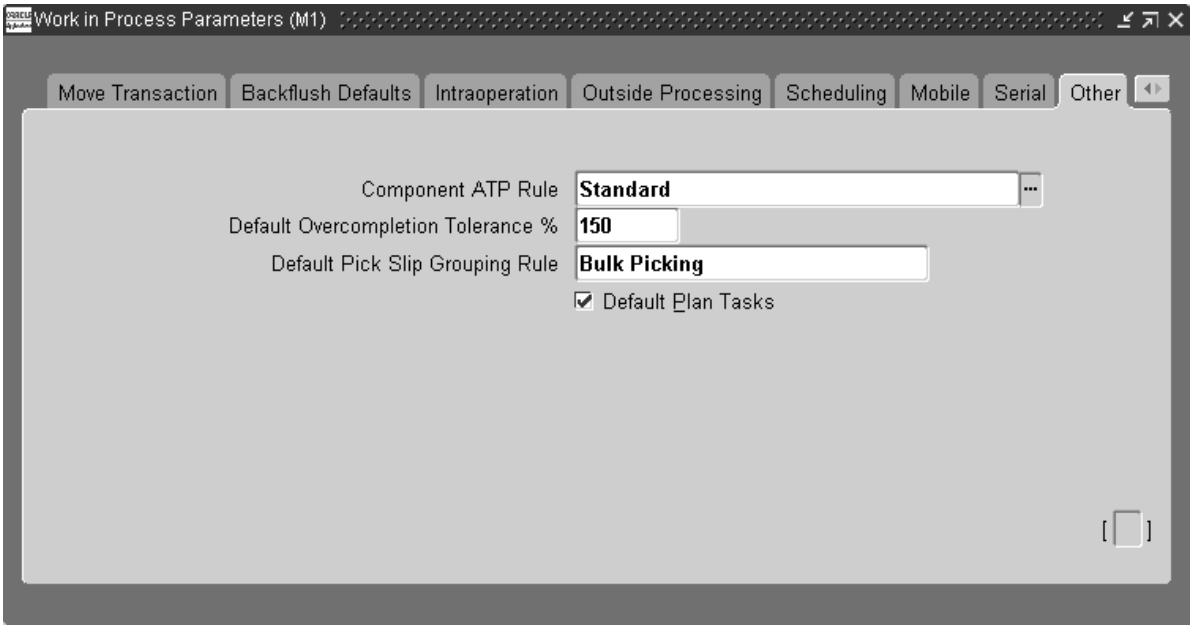
    For example, when moving assemblies, if this value is set to Queue – the default intraoperation To step for the next move transaction is the next Queue step in the routing.

    If the value is set to Run – the default intraoperation To step for the next move transactions is the next Run step in the routing.

    If set to To move – the default intraoperation To step for the next move transaction is the next To move in the routing.

However, if this value is set to null – a default is not set and you must specify the step in your move transaction.

39. In the Other tabbed region, select a Component ATP Rule. See: ATP Parameter: page 2 – 29.



40. Enter the Default Overcompletion Tolerance % (percent) of assemblies that can be over–completed on all jobs or schedules.

41. Select a Default Pick Slip Grouping Rule.

    This value displays on the Component Pick Release window for this organization, but can be changed during requirement picking. It is used to group tasks based on the pick method such as order pick or bulk pick. See: Using the Component Pick Release Window: page 7 – 33, and Pick Slip Grouping Rules, *Oracle Inventory User's Guide*

42. If you are setting up an Oracle Warehouse Management organization, use the Default Plan Tasks to determine the default value displaying on the Component Pick Release window. Your choices are:

    - Enabled: Pick tasks are created, you can choose the time to release the tasks using the concurrent program.

- Disabled: Pick tasks are created and released when you choose Release on the Component Pick Release window.

See: Using the Component Pick Release Window: page 7 – 33

WIP Accounting Classes

You can define any number of accounting classes. The valuation and variance accounts that are associated with these accounting classes determine which accounts are charged and when.

Discrete Accounting Classes

You can define accounting classes for each type of discrete production you use: standard discrete, asset non–standard discrete, and expense non–standard discrete. You must assign an accounting class all your discrete jobs.

Standard Discrete

Standard discrete accounting classes can be used to group job costs. For example, if you build subassemblies and finished goods, you can define your accounting classes so that you can separately value and report the costs associated with subassembly and finished goods production. Standard discrete accounting classes can be automatically defaulted when you create discrete jobs. See: Product Line Accounting Setup, *Oracle Cost Management User's Guide* and Discrete Parameters: page 2 – 17.

When you define an accounting class, you must assign valuation and variance accounts to it. When you issue materials to a job that uses this accounting class, the appropriate valuation accounts are charged. When the job is closed, final costs and variances are calculated and posted to the variance and valuation accounts. When the accounting period is closed, these journal entries are automatically posted to the general ledger.

Non–Standard Discrete

Non–standard discrete accounting classes can be used to group and report various types of non–standard production costs, such as field service repair or engineering projects.

For example to track recurring expenses — machine maintenance or engineering projects — with non–standard jobs, you can define and assign an accounting class with a type of expense non–standard to these jobs. The valuation accounts carry the costs incurred on these expense jobs as an asset during the period and automatically writes them off to the variance accounts at period close.

On the other hand, if you use non–standard discrete jobs to track production costs as assets, you can define and assign an accounting

class with a type of asset non–standard. Asset non–standard discrete jobs are costed the same as standard discrete jobs. Valuation accounts are charged when material is issued to a job and final costs and variances are calculated and posted to the appropriate variance and valuation accounts when the job is closed.

Repetitive Accounting Classes

Repetitive accounting classes are used to group production costs and must be assigned to each repetitive line/assembly association that is created. Every schedule for that assembly on that line uses these accounts. The accounts are charged whenever you transact against the line/assembly association. Repetitive accounting classes can be automatically defaulted when you associate repetitive assemblies with production lines. See: Product Line Accounting Setup, *Oracle Cost Management User's Guide*.

You can analyze repetitive manufacturing costs by assembly regardless of the line on which it was manufactured by using the same accounting class for all lines that build that assembly. You can use the same class for all assemblies on a line to do line based cost reporting or you can use a different accounting class for every line/assembly association.

Lot Based Job Accounting Classes

Oracle Shop Floor Management extends work in process functionality using network routings, lot based transactions, and yield based operational costing. If you have Oracle Shop Floor Management installed, you can define accounting classes for standard production and expense non–standard jobs.

Standard Lot Based

Standard jobs control the material, resources, and operations required to build an assembly and collect costs. When you build lot based jobs, the standard lot based accounting class is used to separately value and report costs associated with yielded production at each individual operation on the routing.

You must assign valuation and variance accounts to it. When you issue materials to a job that uses this accounting class, the appropriate valuation accounts are charged. When the job is closed, final costs and variances are calculated and posted to the variance and valuation accounts. When the accounting period is closed, these journal entries are automatically posted to the general ledger. If Estimated Scrap Accounting is enabled, both Estimated Scrap accounts are required. If

this feature is not enabled, the Estimated Scrap account fields are disabled.

Expense Non–standard Lot Based

Non–standard jobs control material and collects costs for miscellaneous activity. These jobs are used for expense work orders for testing, prototypes, and rework where operation yield costing is not considered. You can perform all transactions (moves, jumps, scrap, splits, and update assemblies or routings) with the exception of job merge.

Maintenance Account Class

Maintenance accounting classes are used to group costs for work orders used in Oracle Enterprise Asset Management (eAM). For example, if you are creating work orders for plant maintenance activities, you can define your accounting classes to separately value and report the costs related to asset. Maintenance accounting classes are automatically defaulted when you create eAM work orders.

When you define an accounting class, you must assign valuation and variance accounts to it. When you issue materials to a work order that uses this accounting class, the appropriate valuation accounts are charged. When the work order is closed, final costs and variances are calculated and posted to the variance and valuation accounts. When the accounting period is closed, these journal entries are automatically posted to the general ledger.

Valuation and Variance Accounts

WIP accounting class valuation accounts are charged when you issue components, move assemblies, complete assemblies, and charge resources.

Variance accounts associated with Standard Discrete and Non–standard Asset accounting classes are charged when jobs are closed. Variance accounts associated with Expense Non–standard Discrete, and optionally Repetitive accounting classes, are charged when accounting periods are closed.

As noted in the following table, different valuation and variance accounts are required under standard versus average costing.

Account	Valuation	Variance
Material	Standard and Average	Standard and Average
Material Overhead	Standard and Average	Standard and Average
Resource	Standard and Average	Standard and *Average
Outside processing	Standard and Average	Standard and *Average
Overhead	Standard and Average	Standard and *Average
Standard Cost	Standard Only	Variance not applicable
Bridging	Average Only	Variance not applicable
Expense	Average Only	Variance not applicable

Table 2 – 1 Standard Versus Average Costing Valuation and Variance Accounts (Page 1 of 1)

Valuation Accounts

WIP accounting class valuation accounts are defined as follows:

Material

Normally an asset account this account tracks material costs. Under standard costing, it is debited at standard when you issue material to a job or schedule and credited at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing, this account is debited at the average cost in effect at the time of the issue transaction and is credited when you complete assemblies from a job.

Material Overhead

Normally an asset account this account tracks material overhead (burden) costs. Under standard costing, it is charged/debited at standard when you issue material with material overhead to a job or schedule and relieved at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing, this account is debited at the average cost in effect at the time of the issue transaction.

Note: When a job is completed and material overhead is earned, this account is not charged /credited. Instead, the material overhead account for the completion subinventory is debited.

Resource An asset account that account tracks resource costs. Under standard costing, it is charged/debited at standard when resources are charged to a job or schedule and relieved/credited at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing, this account is debited and credited at the resource rate in effect at the time the resource is charged.

Outside Processing An asset account account that tracks outside processing costs. Under standard costing it is debited at the standard or purchase order cost when you receive items for a job or schedule in Oracle Purchasing. It is credited at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period. Under average costing when you move job or repetitive schedule assemblies through an outside processing operation, it is debited at the resource's predefined rate or at the purchase order cost. See: Performing Move Transactions: page 8 – 37.

Overhead Normally an asset account this account tracks resource or department overhead cost. Under standard costing it is debited at standard when resources are charged to a job or schedule. It is relieved at standard when you complete assemblies from a job or schedule, close a job, or close an accounting period.

For additional information about how elemental accounts are charged under standard and average costing see: Work in Process Average Cost Transactions, *Oracle Cost Management User's Guide* and Work in Process Standard Cost Transactions, *Oracle Cost Management User's Guide*.

Variance Accounts

WIP accounting class variance accounts are defined as follows:

Material This account tracks variances that occur when the previous level material costs charged to the job or schedule do not equal the previous level material costs that are relieved. This calculation gives you a net material usage and configuration variance.

Resource This account tracks variances that occur when the this level resource costs charged to the job or

	schedule do not equal the this level resource costs that are relieved. If you charge actual labor without creating resource rate variances (resource standard rate is set to No), the resource variance includes any rate, efficiency, and method variances. If you recognize rate variances or charge resources at standard, the resource variance includes resource efficiency, and any method variances.
Outside Processing	Tracks the variances that are occur when the this level outside processing costs charged to the job or schedule do not equal the this level outside processing costs that are relieved. If you do not calculate purchase price variance (resource standard rate is set to No), the outside processing variance includes any rate, efficiency, and method variances. If you recognize purchase price variance, this account includes efficiency and any method variances.
Overhead	Tracks the variances that are occur when the this level overhead costs charged to the job or schedule do not equal the this level overhead costs relieved from the job or schedule. These variances include both efficiency and method variances.
Standard Cost	Applies only to standard discrete and non–standard asset. This account is charged for the sum of all the elemental standard cost adjustments when you perform a standard cost update that impacts an active job. Cost updates are not performed for repetitive schedules or expense non–standard jobs.
Bridging	This field is optional.
Expense	Optional, used to accommodate European accounting practices.
Estimated Scrap	Applies only to lot based jobs in Oracle Shop Floor Management enabled inventory organizations when Estimated Scrap Accounting is enabled. If this feature isenabled, both Estimated Scrap accounts are required. The scrap account field is required when defining a department on the Departments window. Additionally when you define this account, you can also track operation yield and estimated scrap absorption when

creating transactions for lot based jobs. See: Defining Parameters, *Oracle Shop Floor Management User's Guide*

See Also

Work in Process Costs: page 12 – 6

Defining WIP Accounting Classes

Accounting classes are assigned and used when jobs, work orders, and repetive assemblies associated with production lines are defined.

▶ **To define accounting classes:**

1. Navigate to the WIP Accounting Classes window.

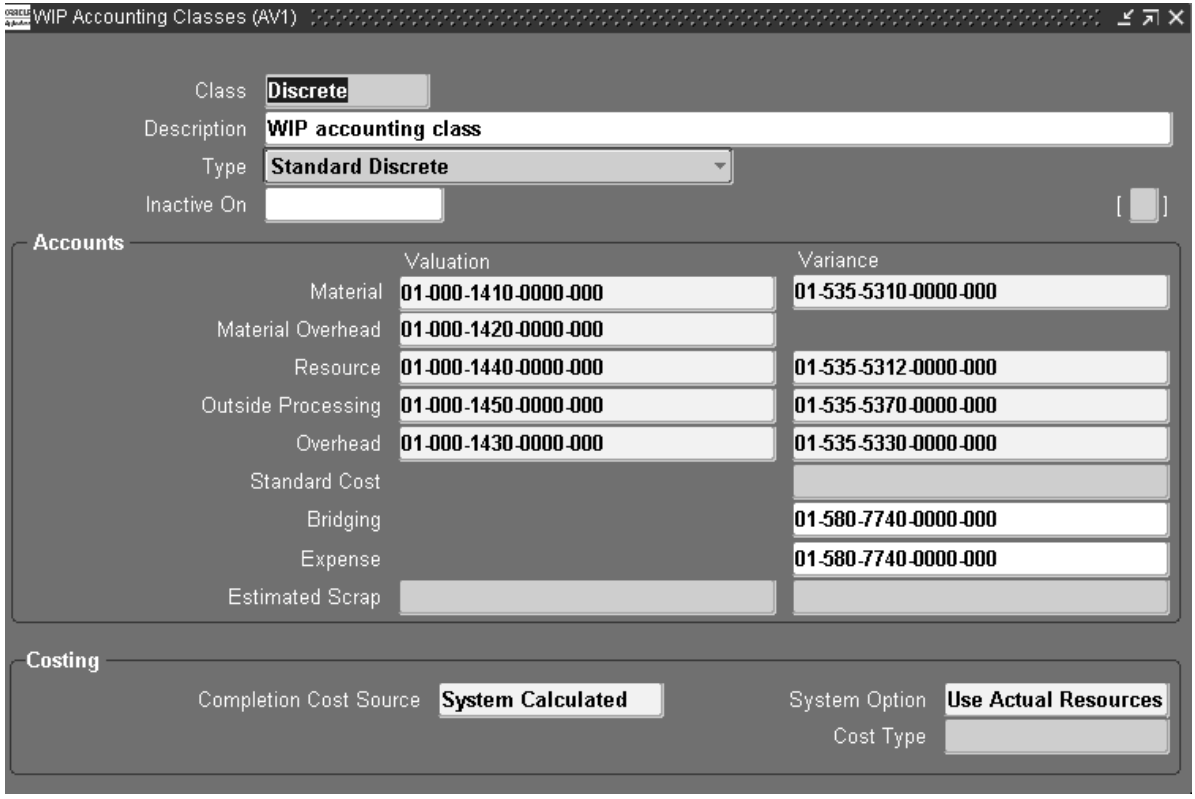
   If you are using an average costing organization, the Cositng region displays for entering average costing information. Otherwise, if using a standard costing organization, this region does not appear.

2. Enter a unique accounting class name and description in the Class and Description fields.

   You cannot update the class name after you save your changes.

3. Select an accounting class Type.

   The options are Standard Discrete, Repetitive Assembly, Asset Non–standard, Expense Non–standard, Standard Lot Based, Maintenance, and Expense Non–standard Lot Based. Production costs and variances are tracked in the valuation and variance accounts associated with these classes.



4. Enter the Inactive On date

   As of this date, you can no longer use this accounting class. The Inactive On date can be greater than or equal to the current date. If you do not enter an Inactive On date, the accounting class is active indefinitely.

5. In the Accounts region, select the general ledger accounts each required Valuation and Variance account. See: Valuation and Variance Accounts: page 2 – 44.

6. If you are defining an accounting class for an average costing organization, in the Costing region, select a Default Completion Cost Source.

   Note: This region displays only when you are using an average costing inventory organization.

   The default completion cost source defined in the WIP Parameters window is defaulted but can be overridden. The options are System Calculated and User Defined.

7. If you select the System Calculated as your default completion cost source, you must select a System Option. The options are Use Actual Resources and Use Predefined Resources.
8. Select a Cost Type.

   Determines which Cost Type is defaulted for when completing jobs. You must choose a cost type if the Default Completion Cost Source parameter is User Defined.
9. Save your work.

See Also

WIP Accounting Classes: page 2 – 42

Shop Floor Statuses

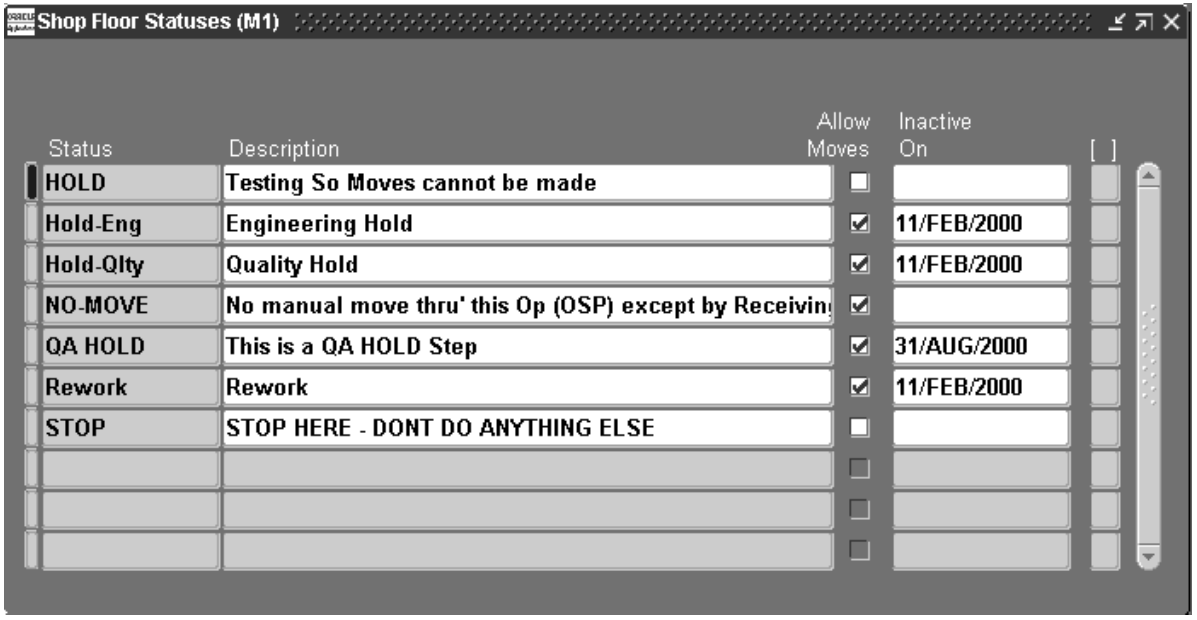
Shop floor statuses can be used to control shop floor move transactions. You can define as many shop floor statuses as are required.

Shop floor statuses can be assigned to the intraoperation steps of work in process routing operations. When assigned to an intraoperation step of an operation that is associated with a particular repetitive line and assembly, the status applies to all repetitive schedules building that assembly on that line.

Defining Shop Floor Statuses

▶ **To define shop floor statuses:**

1. Navigate to the Shop Floor Statuses window.



2. Enter an alphanumeric Status name.

   For example, enter WIPHold to signify that shop floor assemblies are on WIP hold or, QAHold to signify that the shop floor assemblies are on quality assurance hold.

3. Enter a Status description.

Descriptions can be used to identify shop floor statuses on standard reports. They can be up to 240 characters of alpha numeric text.

4. Uncheck Allow Moves so that you can use this status to control move transactions. Allow Moves defaults to checked.
5. Enter the Inactive On date.

   As of this date, you can no longer use this status.
6. Save your work.

See Also

Overview of Shop Floor Control: page 8 – 2

Assigning and Viewing Shop Floor Statuses: page 8 – 65

Shop Floor Statuses Report: page 15 – 68

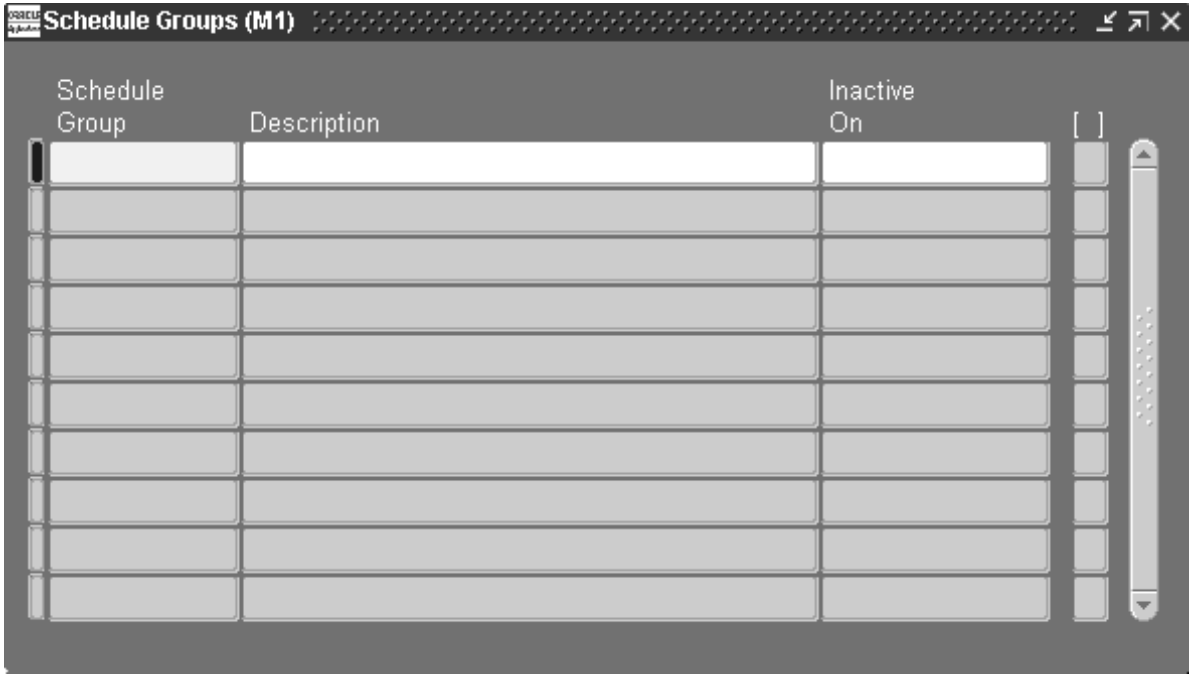
Defining Schedule Groups

You can assign flow schedules and discrete jobs to the schedule groups you define. Jobs and flow schedules within a given schedule group can be sequenced. Sequencing jobs and flow schedules within a schedule group makes it possible to prioritize, for example, by customer.

You can update schedule groups. You cannot delete schedule groups that are assigned to jobs and flow schedules.

▶ **To define a schedule group:**

1. Navigate to the Schedule Groups window.



2. Enter an alphanumeric name to identify the Schedule Group.

   Schedule groups are used to group discrete jobs and flow schedules. For example, you can create a Week01 schedule group to identify which jobs are to be released and built during the first week of your current production cycle. Schedule group names can be up to 30 characters and must be unique within the organization.

3. Enter a schedule group Description. Descriptions can be up to 240 characters of alphanumeric text.
4. Enter an Inactive On date.

   As of this date, you can no longer use this schedule group.

See Also

Build Sequencing: page 3 – 61

Schedule Group Listing Report: page 15 – 67

Defining Labor Rates

You can add, delete, and update the effective date of the hourly labor rates for person–type resources (employees). You also can define multiple hourly labor rates for the same employee, as long as each rate has a different effective date.

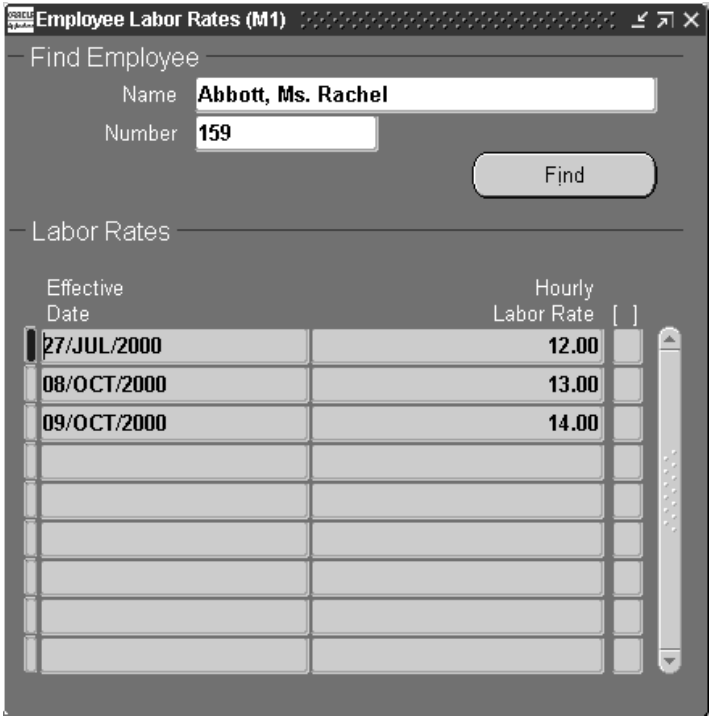
If you use actual costing, the hourly labor rate rather than the standard rate is used to compute the actual cost of person–type resources charged to discrete jobs and repetitive schedules. You can enter an employee number when performing a person–type resource transaction in the Resource Transactions window or the Resource Transaction Open Interface process. The employee's most current hourly labor rate is used to compute the actual cost of the transaction.

Prerequisites

- ❑ Enter at least one employee. See: Employee Management, *Managing People Using Oracle HRMS*.

▶ **To define or update the hourly labor rate of an employee:**

1. Navigate to the Employee Labor Rates window.



2. Select the employee Name or Number.
3. Select the Effective Date for each hourly labor rate.

   The hourly rate remains effective until the next effective date or until the inactive date of the employee. You can only update or delete future effective dates.
4. Enter the Hourly Labor Rate for the employee.

   You can define multiple hourly labor rates for the same employee as long as they have different effective dates. You can define a labor rate to the smallest currency denomination. For example, you can define a US dollar rate to the penny. You can only update or delete future labor rates.
5. Save your work.

See Also

Resource Requirements: page 9 – 11

Production Lines

You can define and update, but not delete, production lines. A production line describes a unique set of operations, departments, and/or manufacturing cells that produce one or more of your products. You can associate production lines with repetitive assemblies, discrete jobs, and work order–less completions.

See Also

Associating Lines and Assemblies: page 6 – 7

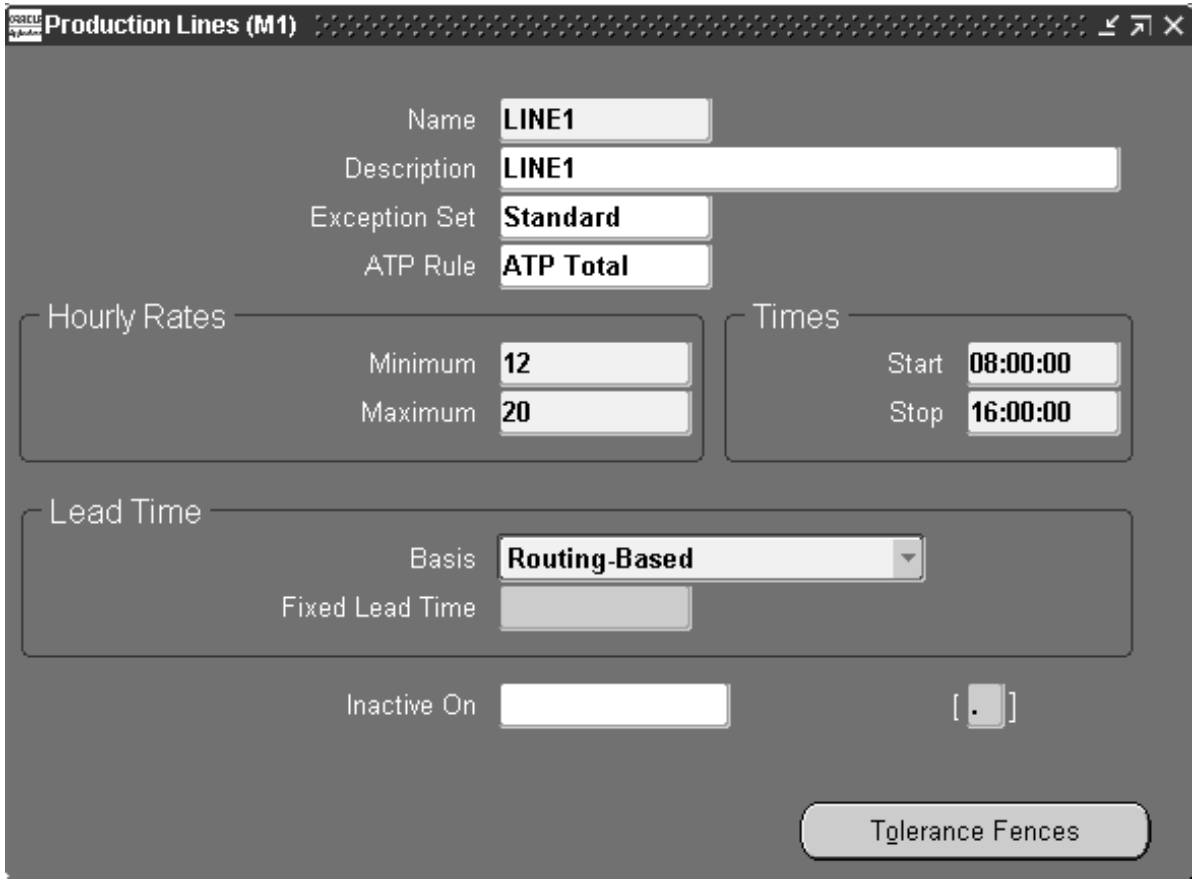
Defining Discrete Jobs Manually: page 3 – 63

Performing Work Order–less Completions: page 5 – 16

Defining Production Lines

▶ **To define a production line:**

1. Navigate to the Production Lines window.



2. Enter the production line Name.

   For example, enter LINE1 to signify production line number 1, or BOARD to signify the PC board assembly line.

3. Enter the production line Description.

4. Optionally, select an Exception Set. See: Creating Planning Exception Sets, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*. Defining ATP Rules, *Oracle Inventory User's Guide*.

   Production lines are rate–based resources. The exception sets that you assign to them help you identify capacity problems. See: Overview of Online Capacity Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

5. Optionally, select an ATP Rule. See: Defining ATP Rules, *Oracle Inventory User's Guide*.

You can select any user–defined ATP rule. The ATP rule that you assign to the production line is used when determining the capable to promise status of the line resource. See: Capable to Promise, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

6. Enter the Minimum Hourly Rate.

   This represents the minimum number of assemblies the line can produce per hour. The minimum hourly rate must be greater than or equal to 0 and less than or equal to the maximum rate.

7. Enter the Maximum Hourly Rate.

   This represents the maximum number of assemblies the line can produce per hour. The maximum hourly rate must be greater than or equal to the minimum rate.

8. Enter the production line Start time.

   This is the time at which your production line starts running every day. You can update this field at any time.

9. Enter the production line Stop time.

   This is the time at which your production line stops running every day. You can update this field at any time.

   The difference between the Start and Stop times represents the amount of time per day a line is available. If the Start and Stop times are the same, the production line is considered to be available 24 hours per day.

10. Select the Lead Time Basis.

    If the lead time varies by assembly, you can schedule the repetitive production time based on the routing of the assembly the line is building. You can set a fixed lead time if the lead time is determined by the production line and does not vary by assembly. You can update this field at any time.

    Fixed: The system schedules the first unit completion date and the operations of all repetitive schedules on this production line based on the fixed lead time hours you enter for the production line. Scheduling is done regardless of actual capacity or the lead time of the routing of the repetitive assembly.

    Routing–Based: The system schedules the first unit completion date and the operations of all repetitive schedules on this production line using the detailed shop floor scheduling algorithm, the routing of the assembly, and a quantity of 1.

11. If the lead time basis is fixed, you must enter the Fixed Lead Time, in hours per assembly, for the production line. This is the amount of time it takes to produce the first assembly, from start to finish on the production line. The daily quantity from that point on is set when you define individual repetitive schedules and must be less than or equal to the maximum hourly rate. The fixed lead time entered here is used to schedule repetitive schedules produced on this production line. You can update this field at any time. You cannot enter a value in this field for a routing–based production line.

Attention: For lines with a lead time basis of Routing–based, the lead time is calculated by applying the detailed shop floor scheduling algorithm to the routing of the assembly.

12. Enter the Inactive On date.

    The Inactive On date is greater than the current date. If you do not enter an Inactive On date, the production line is active indefinitely. You cannot update any repetitive schedule that uses this production line, nor can you assign this production line to a new repetitive schedule as of this date.

13. Save your work.

See Also

Associating Lines and Assemblies: page 6 – 7

Defining Repetitive Schedules Manually: page 6 – 14

Defining Discrete Jobs Manually: page 3 – 63

Performing Work Order–less Completions: page 5 – 16

Defining Tolerance Fences

Tolerance fences provide temporary increases to capacity above the standard operating rate to handle increases in orders. Oracle Flow Manufacturing uses flexible tolerance fences during line scheduling to temporarily alter the line rate, that is the capacity of the line.

This feature is activated by checking the Flex Tolerance check box on the Line Scheduling Workbench.

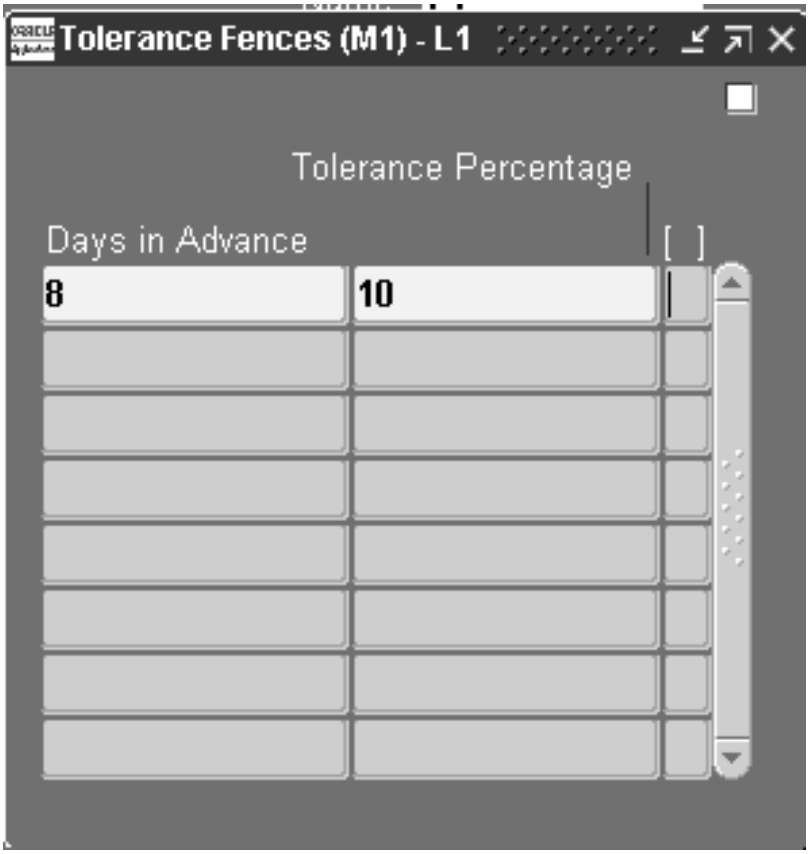
See Also

Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

▶ **To define tolerance fences:**

1. Choose Tolerance Fences from the Production Lines window.

   The Tolerance Fences window displays.



2. In the Days in Advance field, enter the number of days of notice needed before increasing the line capacity.

   The Days in Advance value should be equal to or greater than the fixed lead time value.

3. In the Tolerance Percent field, enter the percentage you want to increase the line capacity.

For example, the lead time for an assembly is 3 days on a line, and you know you can increase your capacity by 5 percent if given 5 days notice. Set Days in Advance at 8 days (the lead time plus number of days required for notice), and the tolerance percentage at 5.

The line rate is adjusted by the tolerance fence before scheduling rules are applied.

4. Save your work.

Profile Options

During implementation, you set a value for each user profile option to specify how Work in Process controls access to and processes data.

Generally, the system administrator sets and updates profile values. See: Setting User Profile Options, *Oracle Applications System Administrator's Guide*.

Setup Profile Options Summary

The table below indicates whether you can view or update the profile option, and at which System Administrator levels the profile options can be updated: User, Responsibility, Application, or Site. For a detailed description of each profile option, see: Profile Option Descriptions: page 2 – 66.

You are required to provide a value for a "Required" profile option. An "Optional" profile option provides a default value, which you only need to change if you do not want to accept the default. The key to the following chart is as follows:

- ✓

  You can update the profile option.

- –

  You can view the profile option value but you cannot change it.

- 0

  You cannot view or change the profile option value.

- D, R, P

  The profile is applicable to Discrete, Repetitive, or Project Manufacturing

- WO

  The profile is applicable to Flow Manufacturing (Work Order–less Completions)

Profile Option Name	User	User	Resp	App	Site	Required or Optional	Default Value	Applies To
TP:WIP Background Shop Floor Material Processing	✓	✓	✓	✓	✓	Required	Online processing	All
TP:WIP Completion Material Processing	✓	✓	✓	✓	✓	Required	Online processing	D, R, P
TP:WIP Completion Transaction Form	✓	✓	✓	✓	✓	Required	Online processing	D, R, P
TP:WIP Completion Transactions First Field	✓	✓	✓	✓	✓	Required	Job	D, R, P
TP:WIP Concurrent Message Level	✓	✓	✓	✓	✓	Required	Message level 0	D, R, P
TP:WIP Material Transaction Form	✓	✓	✓	✓	✓	Required	Online processing	D, R, P
TP:WIP Material Transactions First Field	✓	✓	✓	✓	✓	Required	Job	D, R, P
TP:WIP Move Transaction	✓	✓	✓	✓	✓	Required	Online processing	D, R, P
TP:WIP Move Transactions First Field	✓	✓	✓	✓	✓	Required	Job	D, R, P
TP:WIP Move Transaction Quantity Default	✓	✓	✓	✓	✓	Required	None	D, R, P
TP:WIP Operation Backflush Setup	✓	✓	✓	✓	✓	Required	Online processing	D, R, P
TP:WIP Resource Transactions First Field	✓	✓	✓	✓	✓	Required	Job	All
TP:WIP Shop Floor Material Processing	✓	✓	✓	✓	✓	Required	Online processing	All
TP:WIP:Workorderlesss Completion Default	✓	✓	✓	✓	✓	Required	Unscheduled	WO
WIP: Default Job Start Date	✓	✓	✓	✓	✓	Required	No	D, P
WIP: Define Discrete Job Form	✓	✓	✓	✓	✓	Required	Interactive definition	D, P
WIP: Discrete Job Prefix	✓	✓	✓	✓	✓	Required	None	D, P, WO
WIP: Enable Outside Processing Workflows	–	–	–	–	✓	Optional	No	D, R
WIP: Exclude ECOs	✓	✓	✓	✓	✓	Required	Open	D, R, P, WO
WIP: Job Name Updatable	–	✓	✓	✓	✓	Required	Yes	D, P

Profile Option Name	User	User	Resp	App	Site	Required or Optional	Default Value	Applies To
WIP: Move Completion Default	✓	✓	✓	✓	✓	Required	No	D, R, P
WIP: Requirement Nettable Option	✓	✓	✓	✓	✓	Required	View all subinventories	D, R, P, WO
WIP:See Engineering Items	✓	✓	✓	✓	✓	Required	Yes	D, R, P, WO

Profile Option Descriptions

The following information provides you with a description of each Work in Process profile option and its values.

TP:WIP:Background Shop Floor Material Processing

This profile option is used only when the TP:Move Transaction profile is set to *Background processing* and the transaction being processed is a move completion, move return, or operation pull backflush transaction.

If these conditions are met, the move transaction processor processes the assembly move portion of the transaction. The processing of the shop floor material portion of the transaction is controlled by this profile option. Available values are listed below:

Background processing
When set to background, shop floor material transactions are processed by the inventory material transaction processor on a periodic basis.

Concurrent processing
When set to concurrent, the inventory material transaction processor is launched to process the shop floor material transactions.

The concurrent request number, representing the concurrent process executing the shop floor material transaction, is displayed.

Online processing
When set to online, the move transaction processor processes the shop floor material backflush portions of transactions online by calling the inventory material transaction processor.

TP:WIP:Completion Material Processing

Controls material processing of assembly completion, assembly return, and assembly completion backflush transactions initiated using the Completion Transactions window. Available values are listed below:

Background processing — When you save a completion transaction, control is returned to you immediately. Assembly completions and returns and their associated backflush transactions are processed on a periodic basis.

Concurrent processing — When you save a completion transaction, a concurrent process is spawned and control is returned to you immediately.

The concurrent request number, representing the concurrent process executing the material transaction for the job or repetitive schedule, is displayed.

Online processing — When you save a completion transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

Attention: If you set TP:WIP:Completion Transactions Form profile option to Background processing, this profile option is disregarded.

Attention: If you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

TP:WIP:Completion Transaction Form

Determines whether completion transactions are processed online or in the background when transacting assembly completions using the Completion Transactions window. A completion transaction includes updating the completion quantity of a job or repetitive schedule, identifying the component items and quantities to be backflushed, and transferring reservations from the final assembly order to appropriate sales order lines and deliveries. Available values are listed below:

Background processing — When you save a completion transaction, control is returned to you immediately. Completion transactions are then processed on a periodic basis.

Online processing When you save a completion transaction, it is processed while you wait and control is returned once transaction processing is completed.

Attention: If you are using average costing, and the TP:INV:Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

TP:WIP:Completion Transactions First Field

Determines which field the cursor defaults to when you first enter the Completion Transactions window. Set this option based on your predominant manufacturing environment: assemble–to–order, project or discrete job, or repetitive.

The available first field values are *Line, Assembly, Job,* or *Sales Order*. You can navigate to another field to override the default.

Attention: You can only enter a Sales Order name if you have an ATO sales order linked to a job.

TP:WIP:Concurrent Message Level

Determines the level of detail reported in the move transaction concurrent log file during move transaction validation and processing. Available values are listed below:

Message level 0 Reports errors only.

Message level 1 Reports processing activities and errors.

Message level 2 Reports and time stamps processing activities and errors.

TP:WIP:Material Transaction Form

Controls the processing of component issue and return transactions entered in the WIP Material Transactions window. Available values are listed below:

Background processing When you save a material transaction, control is returned to you immediately. Transactions are then processed on a periodic basis.

Concurrent processing
: When you save a material transaction, a concurrent process is spawned and control is returned to you immediately.

  The concurrent request number representing the concurrent process executing the issue or return transactions for the job or repetitive schedule is displayed.

Online processing
: When you save a material transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

Attention: If you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

TP:WIP:Material Transactions First Field

Determines which field the cursor defaults to when you first enter the WIP Material Transactions window. Set this option based on your predominant manufacturing environment: assemble–to–order, project or discrete job, or repetitive.

The available first field values are *Line, Assembly, Job*, or *Sales Order*. You can navigate to another field to override the default.

Attention: You can only enter a Sales Order name if you have an ATO sales order linked to a job.

TP:WIP:Move Transaction

Determines whether move transactions performed using the Move Transactions window are processed online or in the background. Available values are listed below:

Background processing
: When you save a move transaction, control is returned to you immediately. Transactions are then processed on a periodic basis.

Online processing
: When you save a move transaction, the transaction is processed while you wait and control is returned once transaction processing is completed.

Attention: If you have this option set to Online processing, you cannot move more assemblies than are waiting at an operation step. However, if you have this option set to Background processing, you can move any number of assemblies, but validation of the quantity takes place in the background. You can correct and resubmit transactions that have errors using the Pending Move Transactions window.

Attention: If you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

TP:WIP:Move Transactions First Field

Determines which field the cursor defaults to when you first enter the Move Transactions window. Set this option based on your predominant manufacturing environment: assemble–to–order, project or discrete job, or repetitive.

The available first field values are Line, Assembly, Job, or Sales Order. You can navigate to another field to override the default.

Attention: You can only enter a Sales Order name if you have an ATO sales order linked to a job.

TP:WIP:Move Transaction Quantity Default

Indicates if and how move transaction quantities are defaulted. Available values are listed below:

None	No transaction quantity is defaulted.
Minimum Transfer Quantity	When you perform a move transaction, the transaction quantity defaults to the minimum transfer quantity if the minimum transfer quantity is less than or equal to the available quantity. If the minimum transfer quantity is greater that the available quantity, and the available quantity is not zero, then the available quantity is defaulted.
Available Quantity	When you perform a move transaction, if the available quantity is not zero, the transaction quantity defaults to the available quantity

TP:WIP:Operation Backflush Setup

Controls the backflush setup used in the Move Transactions window. This setup determines which component items and quantities are backflushed and also determines how component lot numbers are derived. Available values are listed below:

Online processing When you save a move transaction, the setup of operation backflush transactions is processed while you wait and control is returned once the setup processing is completed. Use this option when lot/serial numbers must be manually assigned (e.g., the *Lot Selection Method* parameter is set to Manual).

Attention: If you set the TP:WIP:Move Transactions profile option to Background processing, this profile option is disregarded and executes operation backflush setup in the background.

Attention: You should set this profile to Online processing if you are backflushing lot and serial controlled or serial controlled components or using manual lot entry.

Attention: If you are using average costing, and the TP:INV: Transaction Processing Mode profile option in Oracle Inventory is set to Form level processing, you must set this profile option to Online to ensure that transactions are processed in the proper sequence.

TP:WIP:Resource Transactions First Field

Determines which field the cursor defaults to when you first enter the Resource Transactions window. Set this option based on your predominant manufacturing environment: assemble–to–order, project or discrete job, or repetitive.

The available first field values are Line, Assembly, Job, or Sales Order. You can navigate to another field to override the default.

Attention: You can only enter a Sales Order name if you have an ATO sales order linked to a job.

TP:WIP:Shop Floor Material Processing

Controls processing of operation and assembly pull backflush, assembly scrap, move completion, and move return transactions from the Move Transactions window. Available values are listed below:

Background processing

When you save a move transaction, control is returned to you immediately. The operation and assembly pull backflush, assembly scrap, move completion, and move return transactions are then processed on a periodic basis.

Do not use background processing if you are backflushing lot controlled components that require manual entry of lot numbers either because of insufficient inventory or because the WIP *Backflush Lot Selection* parameter is set to Manual. See: Lot and Serial Number Backflushing: page 7 – 78.

Concurrent processing

When you save a move transaction, a concurrent process to process the material port of the move transaction is spawned and control is returned to you immediately.

The concurrent request number representing the concurrent process executing the move transactions for the job or repetitive schedule is displayed.

Online processing

When you save a move transaction, operation and assembly pull backflush, assembly scrap, move completion, and move return transactions are processed while you wait and control is returned once transaction processing is completed.

Attention: If you set the TP:WIP:Move Transactions or the TP:WIP:Operation Backflush Setup profile option to Background processing, the Move Transactions window disregards this profile option for operation pull backflush, assembly scrap, and move completion transactions and performs the material portion of the move transaction in the background.

TP:WIP:Work Order–less Default Completion

Determines the default for the Scheduled flag in the Work Order–less Completions window. Set this profile according to your business requirements. The default can be overridden. Available values are listed below:

Scheduled

The Schedule flag defaults to checked. Use this option if most of your work order–less completions

are based upon flow schedules generated by the Line Scheduling Workbench.

Unscheduled — The Scheduled flag defaults to unchecked. Use this option if most of your work order–less completions are manually entered and not based upon flow schedules generated by the Line Scheduling Workbench.

WIP:Default Job Start Date

Determines whether the start dates for jobs default to the current date and time or not at all when defining jobs in the Discrete Jobs window. The options are Yes or No.

WIP:Define Discrete Job Form

Indicates how to load the bill of material and routing information when defining jobs in the Discrete Jobs window. Available values are listed below:

Concurrent definition — When you save a job, a concurrent process is spawned and control is returned to you immediately.

The concurrent request number representing the concurrent process is displayed. You can view the status of the process in the Concurrent Requests window. The concurrent process updates the job status to Pending Bill Load, and if the bill of materials load succeeds, updates the job status to Pending Routing Load. The process then loads the routing information (if you defined a routing for the bill). If the routing load succeeds, the job status is updated to the choice you specified for the job (Unreleased, Released, or On Hold), and then loads the costing information. When all costing information is loaded, you can update the discrete job information and transact against it.

Concurrent definition produces an output report that indicates the job, assembly, relevant dates, and successful completion of each step (bill of materials load, routing load, and costing load). If the concurrent process fails, the status of the discrete job indicates the source of the problem (Failed bill

of material load or Failed routing load). If the bill of material or routing load fails you can resubmit the job once you change the job status to Unreleased, Released, or On Hold.

Interactive definition: When you save a job, job definition occurs immediately. The bill of material and routing are loaded while you wait and control is returned when the definition process is completed.

Attention: If you have complex bills of material and long routings, concurrent processing is recommended.

WIP:Discrete Job Prefix

Specifies the job prefix to use when autogenerating job names in the Discrete Jobs, Simulate Discrete Jobs, Import Jobs and Schedules, and AutoCreate windows in Work in Process, and in the Planner Workbench window in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning. It is also used when autogenerating the numbers for flow schedules created in the Work Order–less Completions window.

Work in Process concatenates this prefix with a value from the sequence WIP_JOB_NUMBER_S to create a default discrete job name.

WIP:Enable Outside Processing Workflows

Determines whether or not outside processing workflows are enabled.

Yes: All outside processing workflows are enabled.

No: No outside processing workflows are enabled.

WIP:Exclude ECOs

Controls which engineering change orders (ECOs) are included when you define jobs and schedules. This profile option also controls whether you can select revisions associated with open ECOs in the WIP Material Transactions window. See: ECO Statuses, *Oracle Engineering User's Guide* and ECO Implementation by Status: page 11 – 18. Your choices are:

- **Open**: ECOS with statuses of Release, Schedule, and Implement are considered when you choose a bill of material revision or revision date, and the bill of material is exploded. Open is the default value.

- **None**: Open ECOs are included with the statuses of Release, Schedule and Implement when you choose a bill of material revision or revision date. This enables you to explode item revisions on the bill of material.
- **All**: Only revised item lines with a status of Implemented are considered.

WIP:Job Name Updatable

Determines whether you can update the names of existing jobs in the Discrete Jobs window.

WIP:Move Completion Default

Determines the default transaction type for the Move Transactions window. If you specify Yes, the transaction type defaults to Complete. Otherwise, the transaction type defaults to Move. Note that you cannot specify that the Return transaction type be used as the default. See: Move Transaction Types: page 8 – 36.

WIP:Requirement Nettable Option

Determines which subinventories to include when displaying on–hand quantities in the Material Requirements and View Material Requirements windows. Available values are listed below:

View only nettable subinventories	Include only nettable subinventories when displaying on–hand quantities.
View all subinventories	Include all subinventories (nettable and non–nettable) when displaying on–hand quantities.

WIP:See Engineering Items

Determines whether you can define jobs and schedules for engineering items and whether you can add engineering items as material requirements.

See Also

Oracle Inventory Profile Options, *Oracle Inventory User's Guide*

Overview of User Profiles, *Oracle Applications User's Guide*

Security Functions

Function security is the mechanism by which user access to applications functionality is controlled. System administrators administer function security.

Access to Work in Process functionality is controlled either by *menus* and *form functions/subfunctions* or by *form function parameters*.

See Also

Overview of Function Security, *Oracle Applications User's Guide*

Form Function Parameters

Some Work in Process forms are coded to accept particular parameters. Parameters can be used to limit access to form elements such as:

- Window options
- Tools menu options
- Buttons

The syntax for entering form function parameters is:

PARAMETER = VALUE

For example, to enter a negative Boolean parameter value for the WIP_WIPDJMDF_CLOSE function, you would enter the following in the Parameters field in the Form Functions window:

UNCLOSE = N

The following table describes the Work in Process form function parameters. All values are either Y (Yes) or N (No). A detailed description of each form function parameter follows the table:

Function	User Function Name	Parameter
WIP_WIPDJMDF_CLOSE	Define Discrete Jobs: Close Discrete Jobs	UNCLOSE
WIP_WIPTXSFM_OVERRIDE_NO_MOVE	Move Transactions: Allow Skipping Over No Move Statuses	OVERRIDE_NO_MOVE_NO_SKIP
WIP_WIPTXSFM_NO_CMP	Move Transactions: No Completion Transactions	ALLOW_CMP

Function	User Function Name	Parameter
WIP_WIPTXSFM_NO_RSC	Move Transactions: No Resource Transactions	RESOURCE_TXNS
ALLOW_FINAL_COMPLETIONS	Completion Transactions: No Final Completions	ALLOW_FINAL_ COMPLETIONS

Define Discrete Jobs: Close Discrete Jobs

Determines whether you can unclose jobs using the Close Discrete Jobs window. When this function security parameter (UNCLOSE) is added and set to N, the Unclose option does not appear in the Tools menu. See: Closing Discrete Jobs: page 3 – 121.

The default for this option is Y.

Move Transactions: Allow Skipping Over No Move Statuses

Determines whether you can override '*no move*' shop floor statuses when performing a move transaction. If the WIP *Allow Moves Over No Move Shop Floor Statuses* parameter is set to N and this function security parameter (OVERRIDE_NO_MOVE_NO_SKIP) is set to Y, you can move assemblies over *no move* shop floor statuses. See: Move Transaction Parameters: page 2 – 20.

The default for this option is N.

Move Transactions: No Completion Transactions

Determines whether you can perform assembly completion and return move transactions using the Move Transactions window. When this function security parameter (ALLOW_CMP) is set to N, the Complete and Return options do not appear in the Transaction Type region of the Move Transactions window. See: Move Transaction Types: page 8 – 36.

The default for this option is Y.

Move Transactions: No Resource Transactions

Determines whether you can initiate a manual resource transaction from the Move Transactions window. When this function security parameter (RESOURCE_TXNS) is set to N, the Resources button does not appear in the Move Transactions window. See: Charging Resources with Move Transactions: page 9 – 36.

The default for this option is Y.

Completion Transactions: No Final Completions

Determines whether you can perform WIP final completions in an average costing organization. When this function security parameter (ALLOW_FINAL_ COMPLETIONS) is set to N, the Final Complete check box does not appear in the Completion Transactions window. See: Completing and Returning Assemblies: page 7 – 91.

The default for this option is Y.

Function Security

A form function invokes an Oracle Forms form. A non–form function (subfunction) is a securable subset of a form's functionality: in other words, a function executed from within a form. When the subfunction associated with a certain functionality is included in a menu, that functionality is enabled. For more information see: Menus Window, *Oracle Applications User's Guide*.

The following table describes the subfunction used in Work in Process. A detailed description of each function (subfunction) follows the table:

Menu	Function (Subfunction)	Functionality
WIP_TXN_MATERIAL	Allow Overcompletions	Overcompletions from Completion Transactions window
WIP_TXN_MOVE	Allow Overcompletions	Overcompletions from Move Transactions window

Allow Overcompletions

You can complete more assemblies than have been defined for discrete jobs and repetitive schedule.

See: Assembly Over–completions and Over–returns: page 7 – 84 and Move Completion/Return Transactions: page 8 – 31.

CHAPTER

3 Discrete Manufacturing

This chapter explains how to use and define jobs, including:

- Overview: page 3 – 2
- Discrete Manufacturing Process Diagram: page 3 – 6
- Setting Up: page 3 – 8
- Discrete Workstation: page NO TAG
- Creating Discrete Jobs: page 3 – 55
- Project Jobs: page 3 – 87
- Building Discrete Jobs: page 3 – 88
- Viewing Discrete Jobs: page 3 – 95
- Updating Discrete Jobs: page 3 – 104
- Simulating and Saving Simulated Jobs: page 3 – 111
- Completing Discrete Jobs: page 3 – 115
- Discrete Job Close: page: page 3 – 119
- Discrete Job Purge: page: page 3 – 127
- Processing Pending Jobs and Schedules: page 3 – 133

Overview

You can use Oracle Work in Process to produce assemblies in discrete batches, also known as discrete jobs.

Standard Versus Non–Standard Jobs

Standard discrete jobs control the material, resources, and operations required to build an assembly and collect its manufacturing cost.

Non–standard discrete jobs control material and collect costs for miscellaneous manufacturing activity. They may or may not build an assembly. This type of activity can include rework, field service repair, upgrade, disassembly, maintenance, engineering prototypes, and other projects. See: Overview of Non–Standard Discrete Jobs: page NO TAG

Discrete Versus Lot Based Jobs

A discrete job is a production order for the manufacture of a specific (discrete) quantity of an assembly, using a specific standard routing and operations.

If you have Oracle Shop Floor Management installed, you can use lot based jobs in your manufacturing. A lot based job follows a network routing. Network routings provide flexibility in choosing the next operation which, in turn, determines the series of operations the job moves through. See: Creating a Network Routing, *Oracle Shop Floor Management User's Guide*, and Creating a Lot Based Job, *Oracle Shop Floor Management User's Guide*

Shop Floor Control

Shop floor control helps you manage the flow of production inside the plant. Routings can be used to schedule job production activities and create requirements. You can use reports and views to help you control these activities.

Discrete Workstation

The Discrete Workstation enables you to obtain critical job information on all immediate and future jobs at a department resource to perform common shop floor transactions; and to view operating instructions, associated contracts, and other attachments without having to return to the Work in Process main menu.

Material Control

Material control helps you manage the flow of component material from inventory to jobs. Bills of material can be used to create job

material requirements. You can use reports and views to help you control material activities.

Non–Standard Job Bills of Material and Routings

You can assign a predefined bill of material or routing to a non–standard job or create one manually. You may use any bill or routing for the job, including one that does not match the assembly item of the job.

Engineering Bills and ECOs

You can build released as well as unreleased revisions and engineering items. You can also add engineering items as material requirements. The system can automatically update your jobs following an engineering change order (ECO).

You can create ECOs and pass down the information to unreleased jobs to specify a cumulative quantity, a range of jobs, or implement changes for specific lots. You can also add, change, or disable – items, operations, resources, and attributes. See: Defining ECO Revised Items, *Oracle Engineering User's Guide*

Processing Options

When you define discrete jobs, you can create discrete job operations, resource requirements, and material requirements either concurrently or interactively. Interactive processing loads all bill of material and routing information while you wait, returning control to you after the process is complete. Concurrent processing spawns a background process that loads all bill of material and routing information and returns control to you immediately.

Lot and Serial Control

You can build jobs for assemblies under lot control, serial control, or both lot and serial control.

You can track your jobs using serial control throughout the manufacturing process. This enables you to assign, perform serial transaction entry, import serial numbers, and print serial number labels. This functionality is supported through Oracle Mobile Supply Chain Applications. See: Serial Number Tracking Throughout Manufacturing: page 3 – 79

Planning Standard Discrete Jobs

Master Scheduling/MRP and Supply Chain Planning plans standard discrete jobs and their material requirements. You can automatically

create standard jobs from these planned orders. Master Scheduling/MRP and Supply Chain Planning can also reschedule standard jobs.

Master Scheduling/MRP and Supply Chain Planning does not plan non–standard discrete jobs. However, Master Scheduling/MRP and Supply Chain Planning nets non–standard jobs if you choose.

Work Order Interface

You can import planned order and planned order update recommendations for discrete jobs from external systems into Work in Process. See: Work Order Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

Requirements and Assembly Netting

You can specify whether a job's material requirements are included as demand in the MRP netting process. You can also specify whether the assemblies you build on a job are included as supply.

MPS Relief

When you build an MPS–Planned item using a job, the master schedule for the quantity you define is automatically updated (relieved).

Simulate Discrete Jobs

You can simulate a standard job to determine what materials, operations, and operation resources are required to support that job. You can convert your simulated job into an actual job. See: Simulating and Saving Simulated Jobs: page 3 – 111.

Available–to–Promise Materials

You can view component available–to–promise (ATP) information as you define, simulate, and view discrete jobs.

Final Assembly Orders

You can manually or automatically define jobs (final assembly orders) to build custom configurations for assemble–to–order products. You can allocate your discrete production by sales channel using demand classes. You can retain as–built configuration histories for quality and customer service tracking.

Job Close

You can close several standard and non–standard discrete jobs simultaneously. You can also close individual discrete jobs. See: Discrete Job Close: page 3 – 119.

Job Costs

You can cost standard and non–standard asset discrete production by job. You can report job cost on a period–to–date and cumulative–to–date basis. See: Discrete Job and Repetitive Schedule Costs: page 12 – 6

Job Purge

You can purge all information associated with discrete jobs including job header records and job detail and transaction information. You can also selectively purge some or all of the following job related information: job details (material requirements, resource requirements, and operations), ATO configurations, move transactions, and resource cost transactions.

View Workflows

You can view the status of workflows used for tracking outside processing of assemblies. Workflows automatically send notifications and activate processes during specific manufacturing points. You can display a graphical display of the status of workflows from the Tools menu in the Discrete Jobs and View Discrete Jobs windows.

Constraint–based Scheduling

If you have installed Oracle Manufacturing Scheduling; the Constraint–based Scheduling engine enables you to schedule discrete jobs and operations based on user–defined priorities, resources, and material availability. The Scheduler Workbench is the graphical interface used to schedule single discrete jobs, and reschedule pending jobs on the entire shop floor. See: Scheduling Single Discrete Jobs, *Oracle Manufacturing Scheduling User's Guide*, and Features, *Oracle Manufacturing Scheduling User's Guide*

Label Printing at Completion

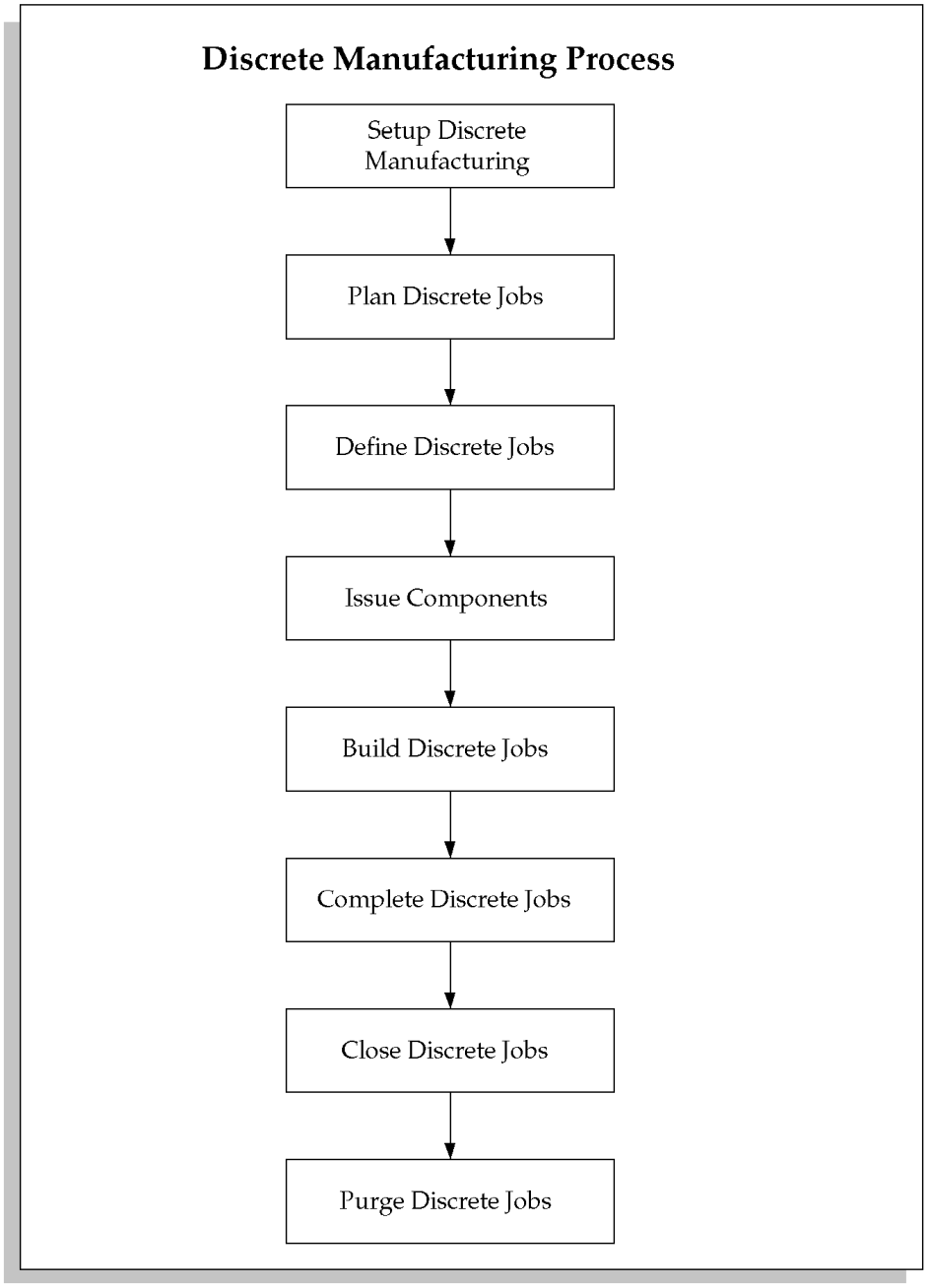
Label printing capabilities are available at the time of completion. This provides the ability to create labels for any descriptive information or customer requirements. See: Label Printing at Completion: page 7 – 82

See Also

Comparison of Manufacturing Methods: page C – 2

Discrete Manufacturing Process Diagram

The following diagram illustrates the discrete manufacturing process:


Discrete Manufacturing Process
Setup Discrete Manufacturing
Plan Discrete Jobs
Define Discrete Jobs
Issue Components
Build Discrete Jobs
Complete Discrete Jobs
Close Discrete Jobs
Purge Discrete Jobs

Setting Up

- For a listing of setups that affect discrete manufacturing see: Setup Prerequisites: page 2 – 3.
- For a listing of setup steps within Work in Process see: Setup Check List: page 2 – 7.
- For additional information about discrete parameters and accounting classes see: Discrete Manufacturing Parameters: page 2 – 17 and Discrete Accounting Classes: page 2 – 42.
- For a listing of profile options that affect discrete manufacturing see: Profile Options: page 2 – 64.

Overview of the Discrete Workstation

The Discrete Workstation provides you with a single window to obtain critical production information and perform common shop floor transactions. The workstation displays information by department or for a resource, and it lists all of the job operations for immediate and future dispatch at that department or resource.

You can view broad information, such as the utilization, efficiency, productivity, and load on the resources within a department or on a specific resource across all departments. You also can obtain detailed component and resource information on each individual job scheduled for the department or resource. You can perform move, completion, and other common transactions directly on the workstation's tabs, or open their corresponding Work in Process windows directly from the workstation. There is also a link to Oracle Project Contracts records associated with specific jobs.

The Discrete Workstation can record and track discrete production in organizations enabled for Oracle Shopfloor Management. You can use all the capabilities of monitoring and transaction work on discrete jobs in a mixed mode organization where discrete and lot based jobs are both used.

Features of the Discrete Workstation

On the Discrete Workstation, you can:

- View the utilization, efficiency, productivity, and load on the resource from all departments in table and graph format.
- View all of the jobs for immediate and future dispatch at the selected resource, including their components and resources
- View job component shortages
- View resource properties
- View project contract information linked to specific jobs
- Open the Material Transactions window and Issue components to jobs
- Move assemblies from one intraoperation step to another directly on the workstation using the mouse
- Open the Work in Process Move Transactions window and perform Move transactions
- Complete assemblies and operations

- Scrap assemblies
- Open the Work in Process Resource Transactions window and manually charge resources to jobs
- Manually charge resource time to jobs
- Collect quality results data during Move transactions
- Obtain operating instructions, diagrams, component attachments, ant other information previously attached to jobs, assemblies, and components

Discrete Workstation Window

The Discrete Workstation window is composed of two panes. The left pane displays the navigational tree. The right pane displays one or more tabs of detailed information that correspond to the branch or tab that you select from the tree.

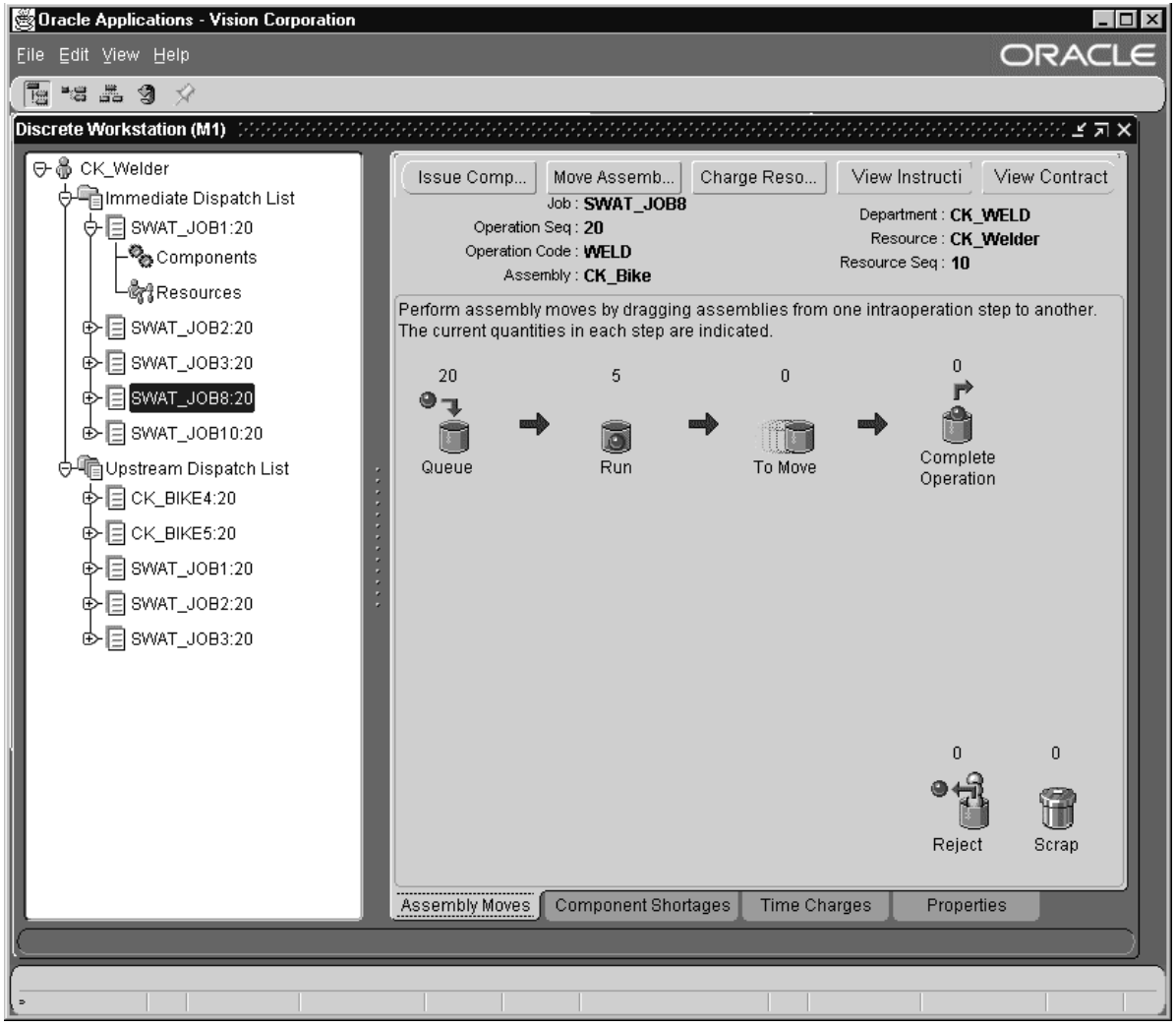
Navigational Tree

The workstation's left pane contains its navigational structure, which displays a hierarchical listing of the workstation contents. Since its structure is analogous to a tree with branches, it is referred to as the workstation tree, The tree displays four branches or levels of information. When you select a branch (the branch is highlighted), information relevant to that branch is displayed on tabs in the right pane of the workstation. See: Discrete Workstation Tree and Tabs: page 3 – 15 for detailed information on each of the workstation branches and tabs.

Tabbed Regions

The workstation's right pane displays one or more tabs of detailed information pertaining to the branch that you selected from the tree. The information is displayed either in tables, on lists, pictorially, or on graphs, so that you can quickly assess the status of the job. Tabs may also have buttons that enable you to:

- Perform common transactions directly from the tab, such as issuing components, performing assembly moves, or charging resources,
- Open the WIP Material Transactions, Move Transactions, and Resource Transactions forms directly from the workstation
- Obtain attachments previously appended to a job, such as drawings and instructions



Viewing the Discrete Workstation Tree

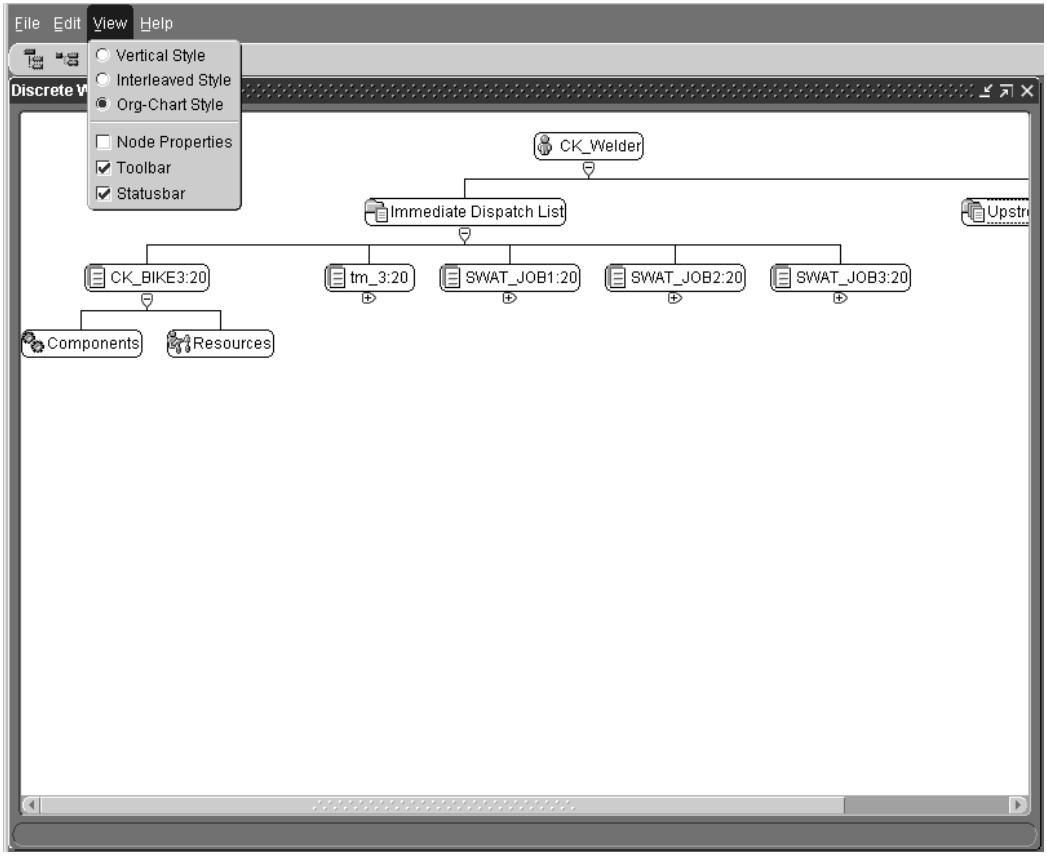
The information on the tree is always current, as jobs are completed – they are automatically removed from the tree. You can update the display at any time by choosing the Refresh tool.

You can choose to view the information on the workstation tree in Vertical (the default), Interleaved (horizontal), or Org Chart (organization chart) format. These choices are available through tools on the toolbar, or as menu selections under the View menu.

To view the tree in Interleaved or Org Chart format, you may need to widen the left pane to see the full display. You can use your mouse to drag the right side of the pane towards the right side of the window, or you can hide the tabs so the window's full width can be used to display the contents of the left pane.

▶ **To hide the right pane of the workstation:**

- Select the View menu, and remove the check mark from the Node Properties check box. The right pane is hidden.



▶ **To again display the right pane of the workstation:**

- Select the View menu and place a check mark in the Node Properties check box. The right pane is displayed.

Selecting the Department or Department and Resource

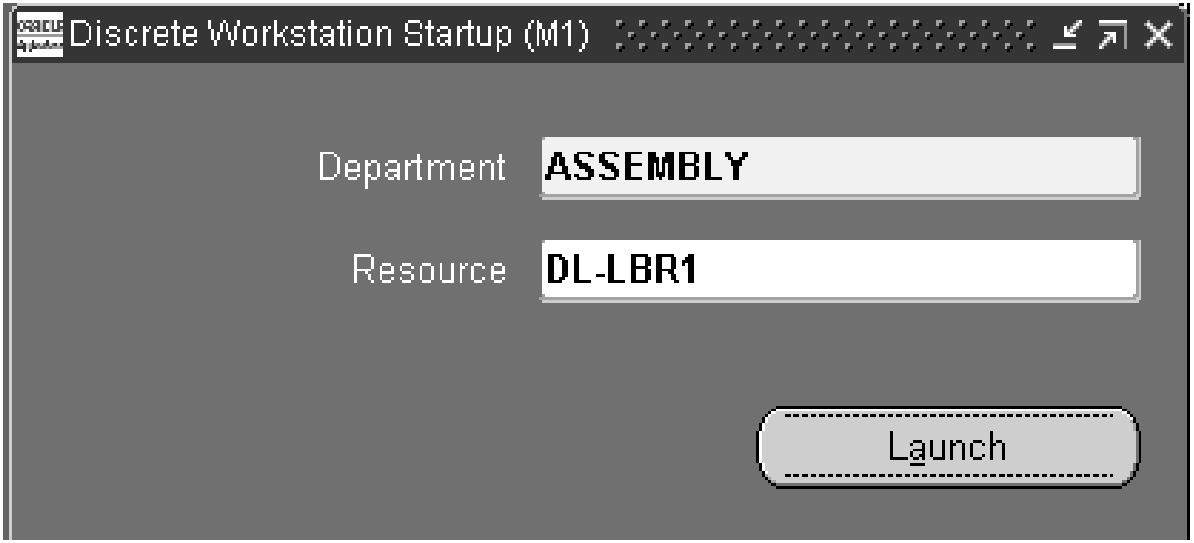
The Discrete Workstation provides you with production information on the jobs assigned to a particular department or resource. In order to launch the workstation, you must first select the department or the department and the resource whose jobs you want to view.

- If you want to view all of the job operations scheduled to be worked on in a department, you select only the department, then launch the workstation.
- If you want to view the job operations that are assigned to a resource associated with a specific department, you select the department and the resource, then launch the workstation.

If you want to view a different department or resource, you must close the workstation, and launch it again, choosing a new department and resource from the workstation startup window.

▶ **To Launch the Discrete Workstation**

1. Navigate to the Discrete Workstation. The Discrete Workstation Startup window opens.



2. In the Department field, select the department to view.

   Choose OK. If you want to view all of the job operations scheduled for the department.

3. Select a Resource from the list of values.

4. Choose Launch to display the Discrete Workstation.

The Discrete Workstation Branches and Tabs

The first, topmost branch on the Discrete Workstation tree displays information for the department or the resource that you selected when you launched the workstation. Listed below it are its two main branches:

- The Immediate Dispatch List branch, which displays all of the job operations that are ready to be worked on in the department or by the resource (there is a quantity of assemblies in its queue).
- The Upstream Dispatch List branch, which displays all of the job operations that are to be worked on in the department or by the resource in the near future (there is a quantity of assemblies ready to be moved in the previous operation).

Expanding any of the individual job operation branches under either main branch displays two additional branches, the components and resources branches for that job.

Branch Naming Conventions

The branch names displayed on the Discrete Workstation are automatically generated by the system. They contain the name of the job (which you created when you defined the job in the Discrete Jobs window), and the number of the operation, separated by a colon. For example: BIKE_Assy1:20 is the BIKE_Assy1 job at operation 20.

Discrete Workstation Transactions

From the Discrete Workstation, you can issue components, move assemblies, complete assemblies and operations, and charge resources without having to return to the main menu. You can either perform the transactions directly on the workstation tabs, or open the appropriate Work in Process window for that transaction.

Issue Components

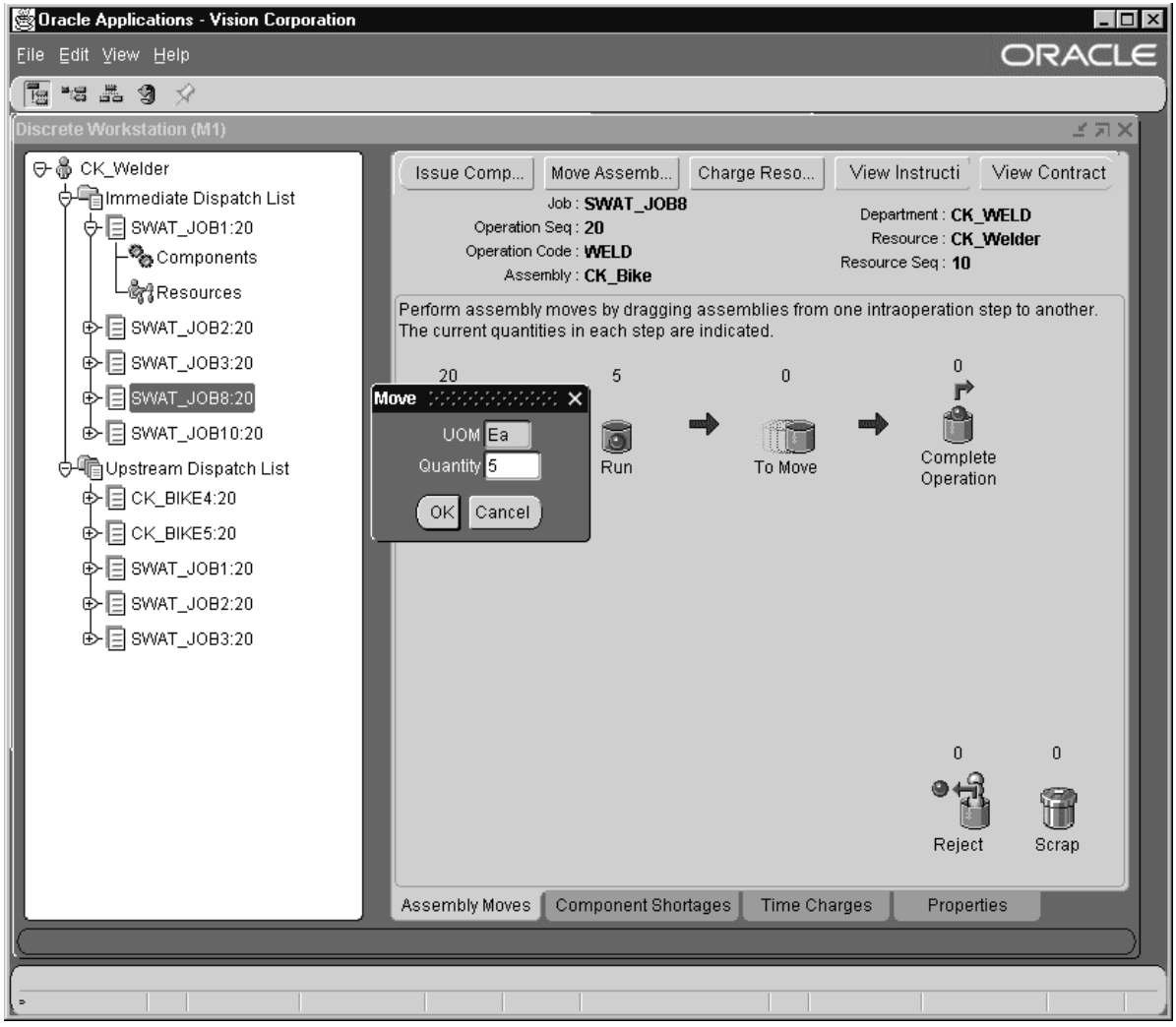
To issue components to a job from the workstation, you choose the Issue Components button, which opens the WIP Material Transactions window. All relevant job information is automatically defaulted into

the window from the workstation. See: Component Issues and Returns: page 7 – 42.

Move Assemblies

You can perform simple assembly Move transactions directly on the Assembly Move tab graphic using the mouse. The graphic displays a bucket for each intraoperation step, and uses a red ball to represent the assembly quantity. You move assembly quantities from one intraoperation step to another. by dragging the red ball to the bucket at that step.

When you move the assemblies, a window opens so that you can indicate the quantity that you want to move. The assembly quantity at each intraoperation step is displayed numerically above the step, and changes to reflect the number of assemblies that you move in or out of that step.



For more complex Move transactions, for example, if you want to over–complete, over–move, or complete lot and serial number controlled assemblies, you use the *Work in Process Move Transactions window*. You open the window directly from the workstation by choosing the Move Assemblies button on the Assembly Moves tab. All relevant job information is automatically defaulted into the window from the workstation.

See Also

Completing Discrete Jobs: page 3 – 115.

Completing and Returning Assemblies: page 7 – 91.

Assembly Over–completions: page 7 – 84.

Move Completion/Return Transactions: page 8 – 31.

Performing Move Transactions: page 8 – 37.

Performing Move Completion and Move Return Transactions Transactions: page 8 – 48.

Complete Assemblies and Complete Operations

You can complete assemblies and complete operations directly on the workstation Assembly Moves tab. You complete assemblies and operations when you drag the red ball graphic into the Complete Assembly or Complete Operation bucket on the tab's interactive graphic. You also can complete and over–complete assemblies on the Move transactions window, which you open by choosing the Move Assemblies button.

Completing Assemblies

You can complete assemblies on the Assembly Moves tab if you are at the last operation on the routing. The completed assembly is then moved into the completion subinventory designated on the routing.

Completing Operations

You can complete the operation on the Assembly Moves tab for any operation other than the last operation The assembly is moved into the Queue of the next operation.

Serial Control

If you want to over–complete or over–move assembly quantities, or complete assemblies that are lot or serial number controlled, you choose the Move Assemblies button, which opens the Move Transactions window.

Sales Orders and Outside Processing Operations

When a job with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Changing a job status to completed, closed, or canceled is prevented if open reservations exist. If you attempt one of these transactions for a job linked to a sales order, an error message displays. You have two options in order to continue:

- Unlink the sales order reserved to this job
- Reduce the job quantity of the job to equal the completed quantity

See Also

Assembly Completions and Returns: page 7 – 80.

Assembly Over–completions: page 7 – 84.

Performing Move Completion and Return Transactions: page 8 – 48.

Completing and Returning Assemblies: page 7 – 91.

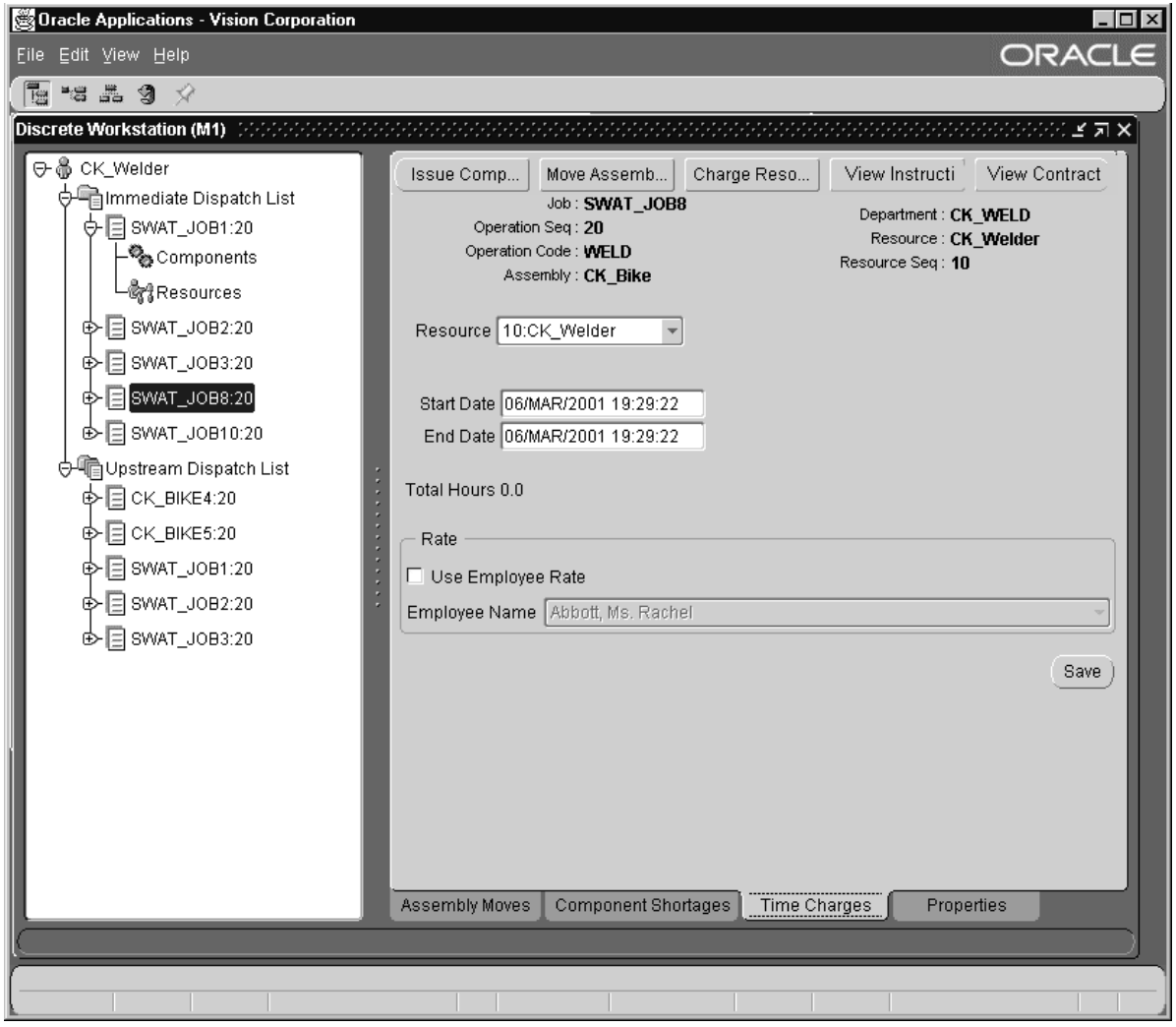
Linking ATO Sales Orders and Discrete Jobs: page 3 – 74

Charge Resources

Resources are automatically charged when you move assemblies, unless you set them up to be charged manually. If you are set up to charge resources manually, you charge them on the Resource Transactions window, which you an open directly from the workstation by choosing the Charge Resources. All relevant job information is automatically defaulted into the window from the workstation.

You also can use the workstation Time Charges tab to charge person and machine time to a resource. On this tab, you select the resource that you want to charge, and enter the Start and End Dates, and the workstation calculates the time. The time is charged at the standard rate unless you select the Use Employee Rate check box, which charges the time at the employee rate.

See: Charging Resources Manually: page 9 – 33 , and Charging Resources with Move Transactions: page 9 – 36.

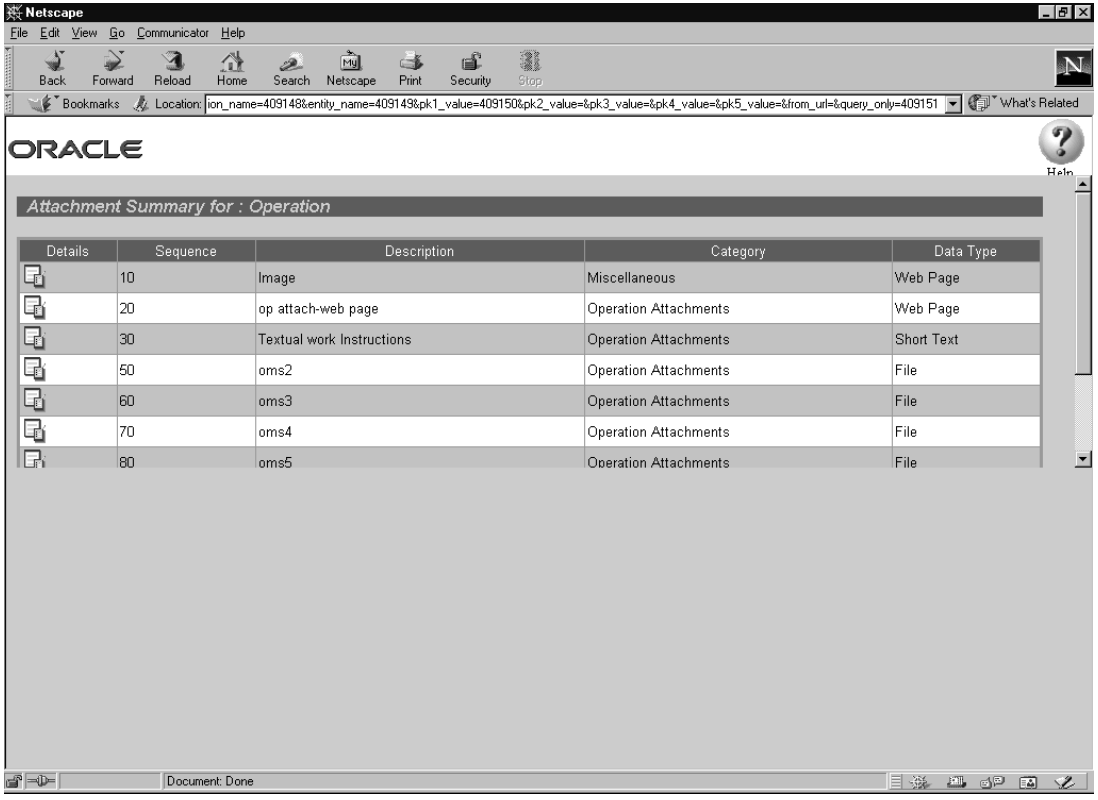


View Instructions

The View Instructions button is displayed on the Assembly Moves, Component Shortages, and Time Charges tabs. It enables you to download, view, and print instructions or other documents including drawings and web pages that were previously attached to the job, assembly, or component.

Choosing the View Instructions button opens an *Oracle Web Applications page* that lists the available attachments. Selecting an attachment displays it in the space below the list. To view a different attachment,

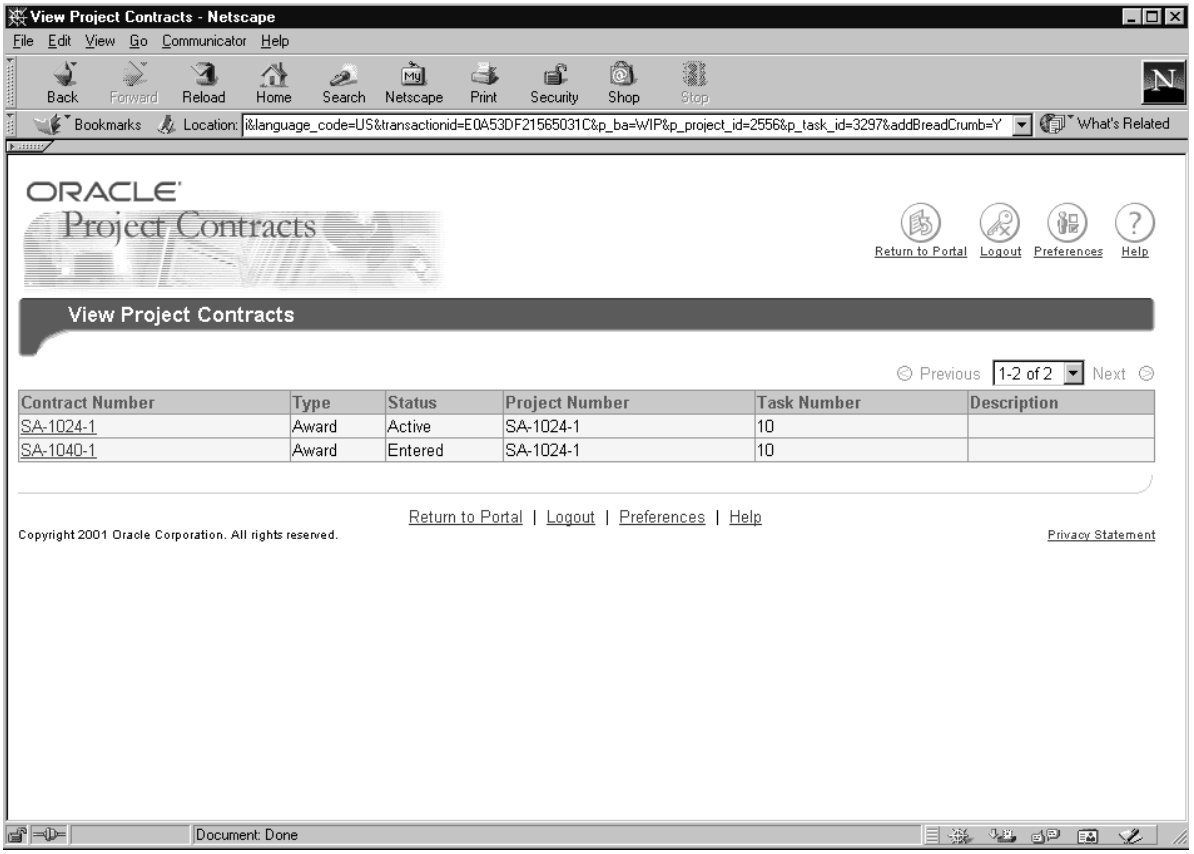
choose the web page's Back button, which returns you to the list. To return to the workstation, choose the Back to Invoking Page button (appears after you select an attachment to view). See: Attaching Files to Jobs, Schedules, and Operations: page E – 2.



View Contracts

You can view Oracle Project Contracts information for jobs that have an associated contract. The View Contracts tab is enabled only when Oracle Project Contracts is installed; and the discrete job has a project and, if applicable, corresponding task referenced.

When you select a job in the hierarchical tree, and then select View Contracts – the contracts associated with this job display including detail information about contract number, type, status, related project number and task, and description.



You can select the contract number to display the flowdown details which can include system attributes, terms and conditions types, article subjects, and standard note types.

See Also

Using the Contract Authoring Workbench, *Oracle Project Contracts User's Guide*

Business Areas and Contract Flowdown Attributes, *Oracle Project Contracts User's Guide*

Flowdown, *Oracle Project Contracts Implementation Manual*.

Department or Resource Branch

The topmost branch of the tree displays the name of either the department or the resource that you selected when you launched the workstation. Your choice affects which jobs are displayed, as described below:

Viewing a Department

If you launch the workstation by selecting a department, but do not select a resource, the workstation branches display all of the job operations scheduled to be worked on in that department. You can identify whether you are viewing information for a department or a resource by the graphic preceding the name. Department names are preceded by a graphic of a building.

Viewing a Resource

If you launched the workstation by selecting a department and a resource, the workstation branches display only the job operations scheduled to be worked on at or by that resource. If you selected a person resource when you launched the workstation, the name of the resource on this branch will be preceded by a graphic of a person; machine resources are preceded by a graphic of a conveyor belt.

Corresponding Tabs

When you select this branch, five tabs of information are displayed in the workstation's right pane. Four of the tabs provide tables and graphs that show you the utilization, efficiency, productivity, and load of the resources within the department or on a specific resource from across all departments that use the resource. The fifth tab displays a list of the department's or resource's properties.

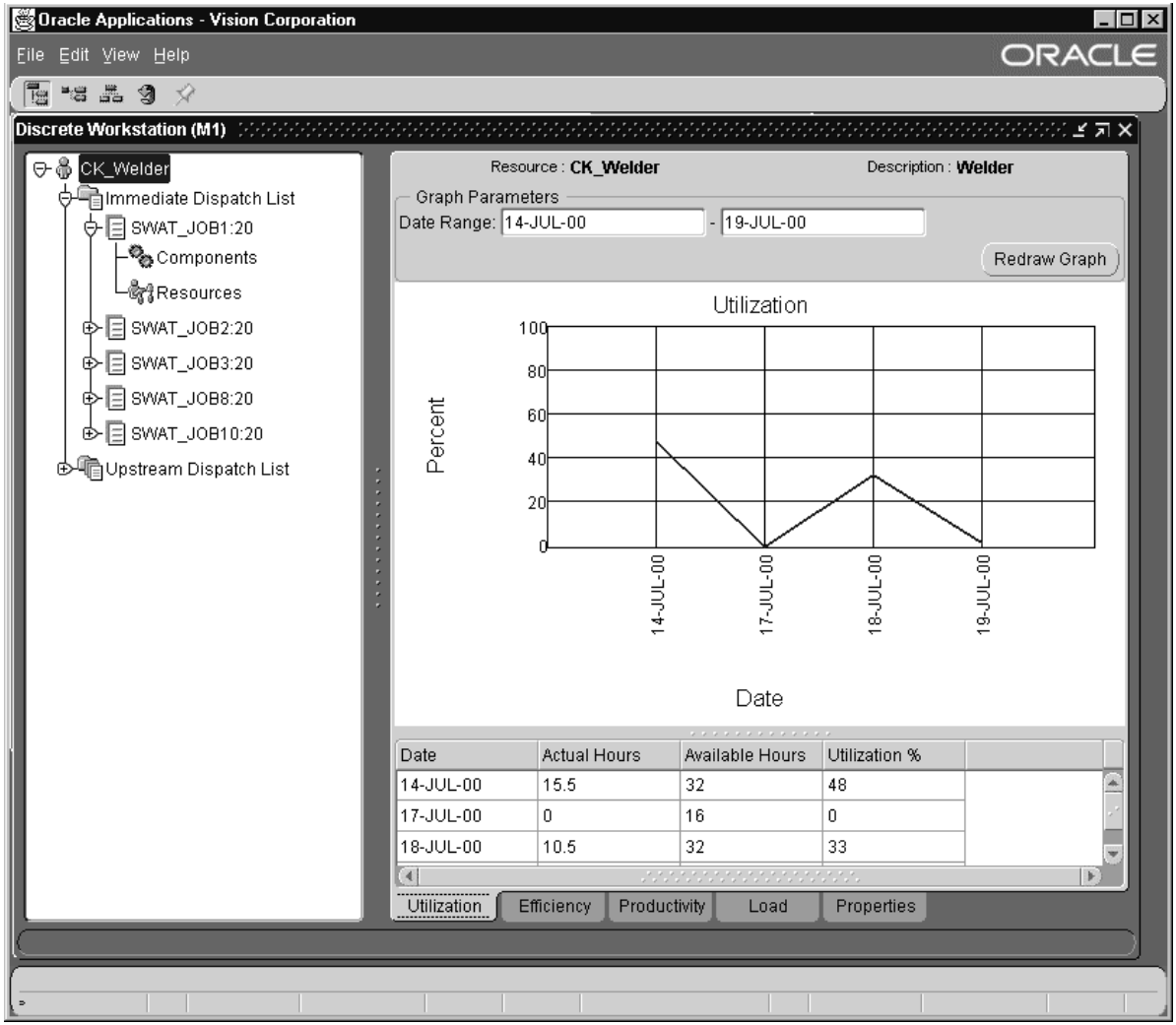
Utilization Tab

The *Utilization tab* displays in graph and table format, the department's or resource's daily percent utilization during the past five days (the default date range), or during a date range that you select. The top section of the tab displays the name of the department or resource and its description, and provides you with two Date fields that you can use to change the date range of the graph.

Utilization Graph

The *Utilization graph* displays as a percentage the hours the department or resource was actually used compared to the hours it was available to be used. It shows the daily percent utilization of the resources within the selected department, or of a particular resource across all departments, depending on whether you chose to view a department or a department/resource when you launched the workstation.

The utilization formula is: *Utilization = Actual Hours / Available Hours*.



The default view for the graph displays information for the last five working days, however, you can change the date range (you are restricted to dates in the past). If you change the graph dates, you use the Redraw Graph button to refresh (update) the display.

The following information on the graph is also displayed in a table below the graph:

- *Date:* a day in the selected date range (the default date range is the last five working days)
- *Actual Hours:* the actual hours charged
- *Available Hours:* the hours defined in Bills of Material resource definitions
- *Utilization Percent (%):* Actual Hours / Available Hours

Efficiency Tab

The *Efficiency tab* displays in graph and table format the efficiency percentage of the department or resource. It shows the daily percent efficiency of the resources within the selected department, or of a particular resource across all departments, depending on whether you chose to view a department or a department/resource when you launched the workstation. The top section of the tab displays the name of the department or resource and its description, and contains two Date fields that you can use to change the date range for the graph.

Efficiency Graph

The *Efficiency graph* is a line graph that represents the daily percentage of hours the department or resource is actually being used compared to how many hours it was expected to be used. The default date range for the graph is the last five working days, however you can change it (you are restricted to dates in the past). If you change the date range of the graph, you use the Redraw Graph button to refresh (update) the display.

The Efficiency formula is: *Efficiency = Actual Hours / Standard Hours*

The information from the graph is also displayed in a table below the graph:

- *Date:* a day in the selected date range (the default date range is the last five working days)

- *Actual Hours:* the actual hours charged to the resource
- *Standard Hours:* the number of hours that were expected to have been charged as defined in the routing
- *Efficiency Percent (%):* Actual Hours / Standard Hours

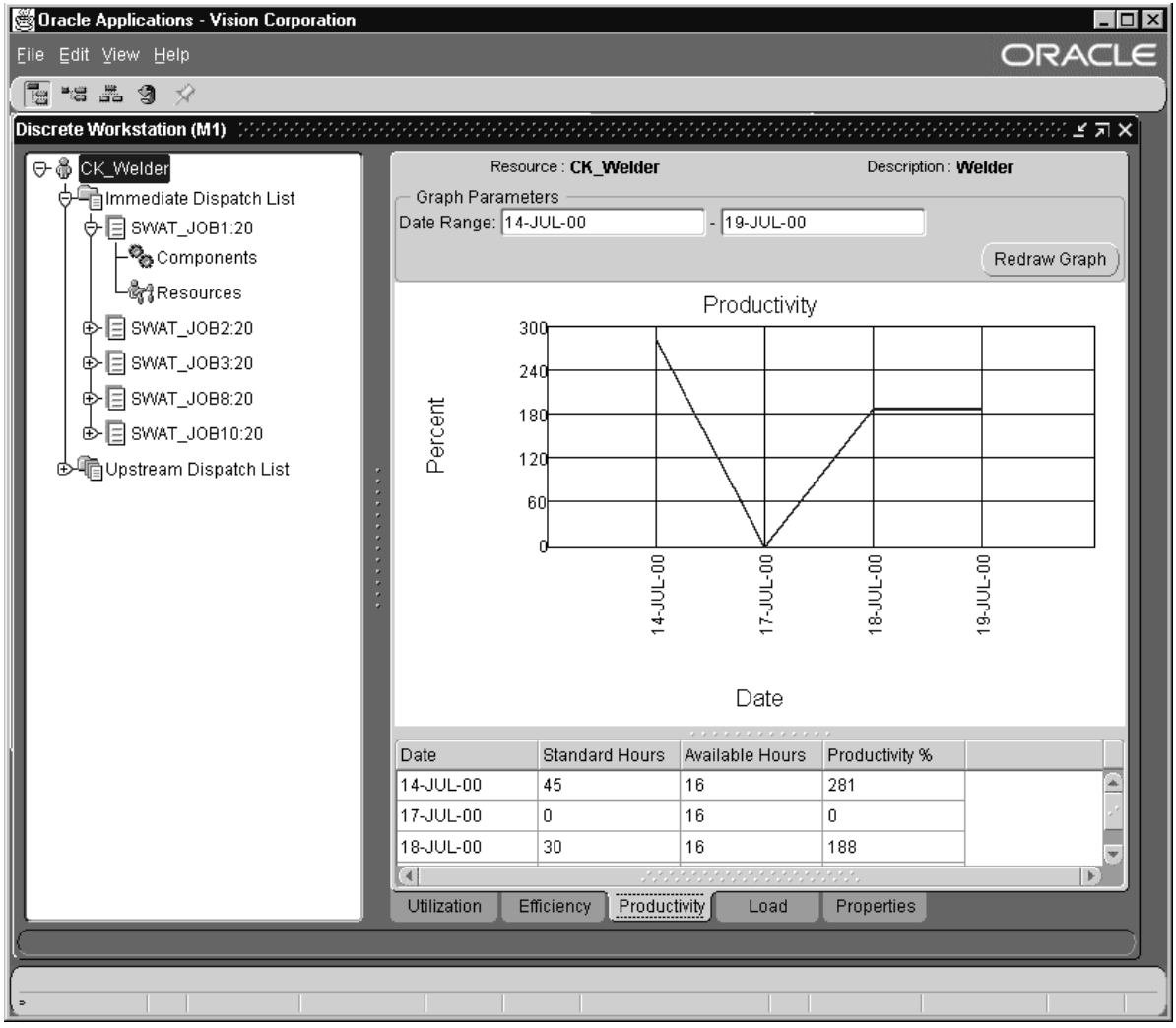
Productivity Tab

The *Productivity tab* displays the daily productivity of the department or resource in graph and table format. It shows the percent productivity of the resources within the selected department or of a particular resource across all departments, depending on whether you chose to view a department or a department/resource when you launched the workstation. The top section of the tab displays the name of the department or resource and its description, and provides you with two Date fields that you can use to define the date range for the graph.

Productivity Graph

The *Productivity graph* displays the daily percentage of hours the department or resource was expected to be used compared to the number of hours it was available to be used. The default date range for the graph is the last five working days, however you can change it (you are restricted to dates in the past). If you change the graph's dates, you must choose the Redraw Graph button to refresh (update) the display.

The Productivity formula is: *Productivity = Standard Hours / Available Hours*



The information from the graph is also displayed in a table below the graph:

- *Date:* a day in the selected date range (the default date range is the last five working days)
- *Standard Hours:* the number of hours that were expected to have been charged as defined in the routing
- *Available Hours:* the hours defined in Bills of Material resource definitions
- *Productivity Percent (%):* Standard Hours / Available Hours

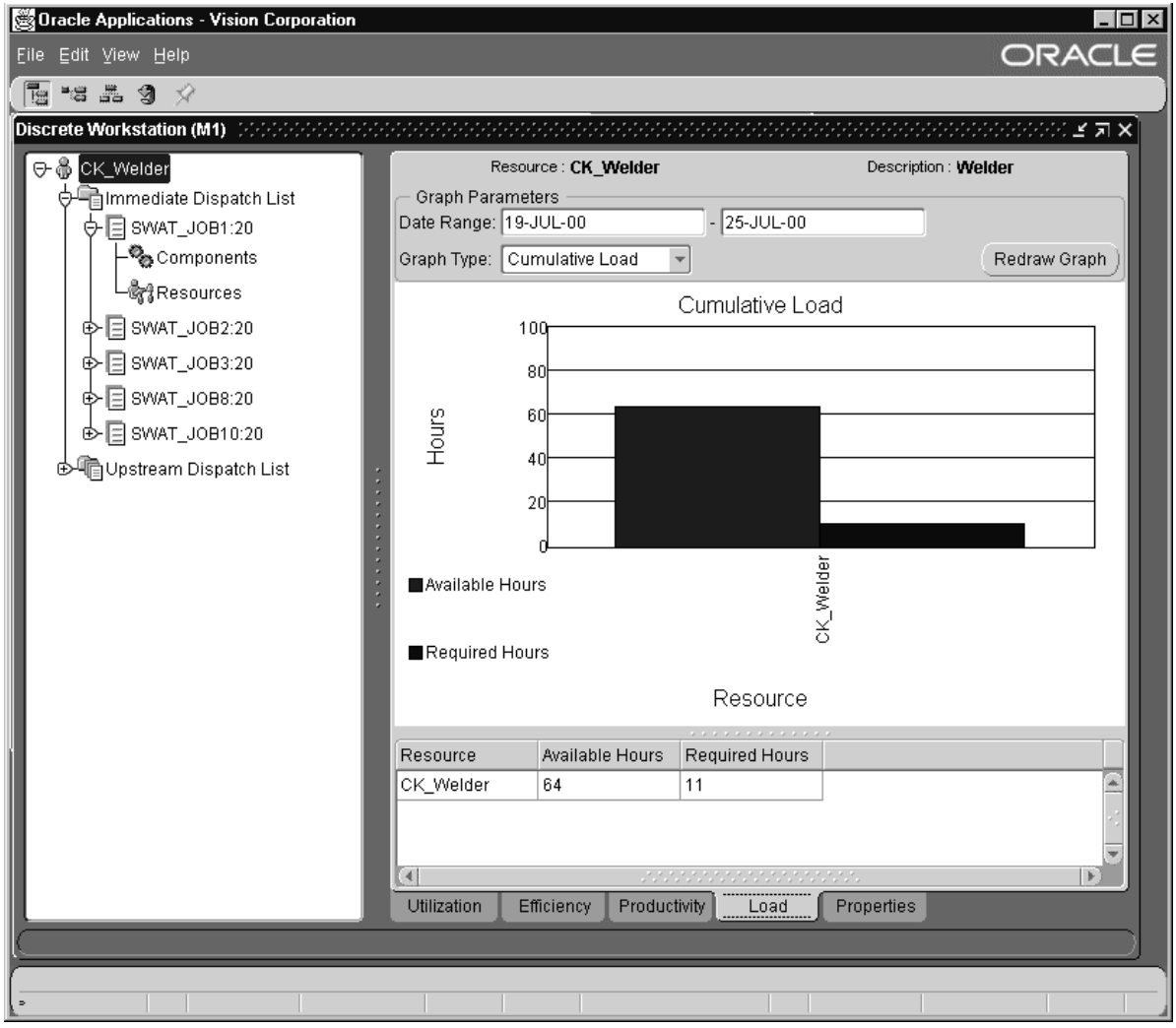
Load Tab

The *Load Tab* displays a bar graph that represents the load versus the capacity of the resource. It shows the percent load versus capacity of the resources within the selected department or of a particular resource across all departments, depending on whether you chose to view a department or a department/resource when you launched the workstation. The top section of the tab displays the name of the resource and its description, and provides you with two Date fields that you can use to define the date range for the graph.

On this tab, you can view the load on the department or resource on the two graphs, the Cumulative Load and Daily Load graphs, which you select from the Graph Type field's list of values.

Cumulative Load Graph

The *Cumulative Load graph* displays the cumulative available and required hours for the department or resource across the entire date range. The default date range for the graph is the last five working days, however you can change it (you are restricted to dates in the past). If you change the date range of the graph, you use the Redraw Graph button to refresh (update) the display.

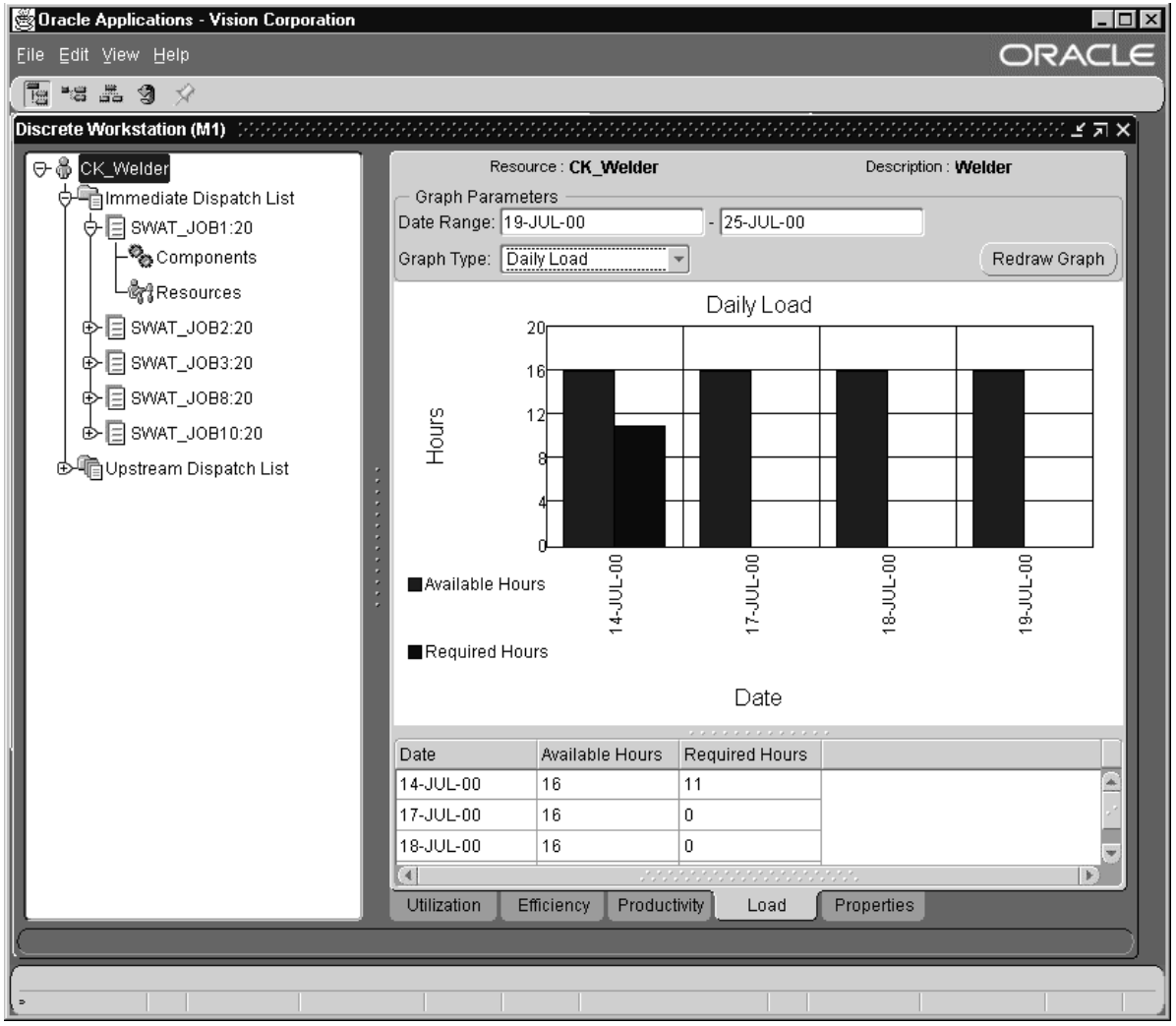


The following information from the graph is also displayed in a table below the graph:

- *Department or Resource:* the name of the department or resource that you selected at launch
- *Available Hours:* calculated from Bills of Material resource definitions. It represents the number of hours that can be worked during the given date range.
- *Required Hours:* calculated from the scheduled start/end times and the usage rates. It represents the number of hours required to be worked on any scheduled jobs during the given date range.

Daily Load Graph

The *Daily Load graph* displays the available and required hours for the resource by day. The default date range for the graph is the last five working days, however you can change it (you are restricted to dates in the past). If you change the date range of the graph, you use the Redraw Graph button to refresh (update) the display.

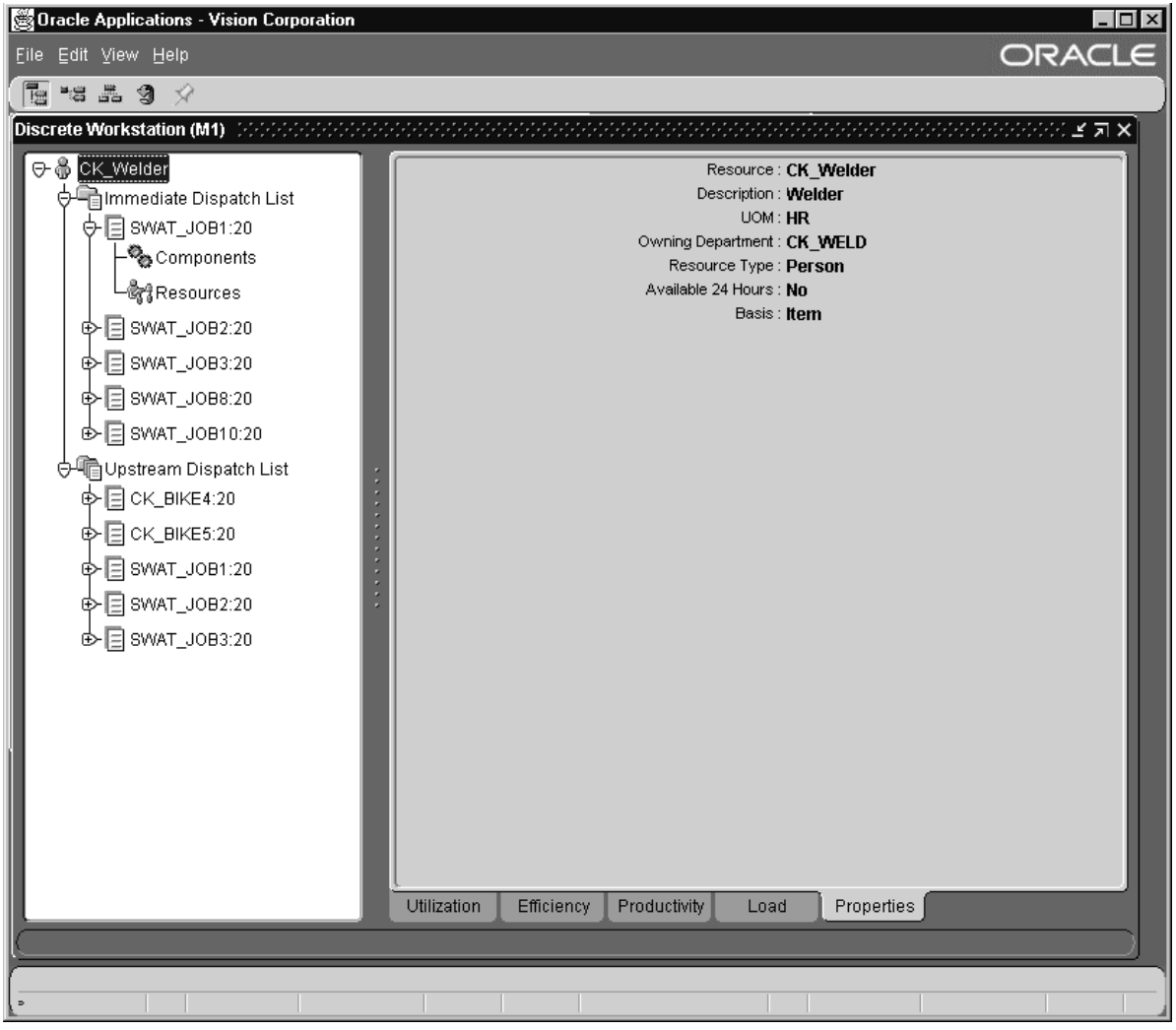


The following information from the graph is also displayed in a table below the graph:

- *Date:* a day in the selected date range (the default date range is the last five working days)
- *Available Hours:* calculated from Bills of Material resource definitions. It represents the number of hours that can be worked during the given date range.
- *Required Hours:* calculated from the scheduled start/end times and the usage rates. It represents the number of hours that are required for any job operations scheduled during the given date range.

Properties Tab

The *Properties tab for the department or resource* provides you with the resource, description, UOM (Unit of Measure), owning department, resource type, whether or not the resource is available 24 hours, and the basis:


Oracle Applications - Vision Corporation
File Edit View Help
ORACLE
Discrete Workstation (M1)
CK_Welder
Immediate Dispatch List
SWAT_JOB1:20
Components
Resources
SWAT_JOB2:20
SWAT_JOB3:20
SWAT_JOB8:20
SWAT_JOB10:20
Upstream Dispatch List
CK_BIKE4:20
CK_BIKE5:20
SWAT_JOB1:20
SWAT_JOB2:20
SWAT_JOB3:20
Resource : CK_Welder
Description : Welder
UOM : HR
Owning Department : CK_WELD
Resource Type : Person
Available 24 Hours : No
Basis : Item
Utilization
Efficiency
Productivity
Load
Properties

Immediate Dispatch List Branch

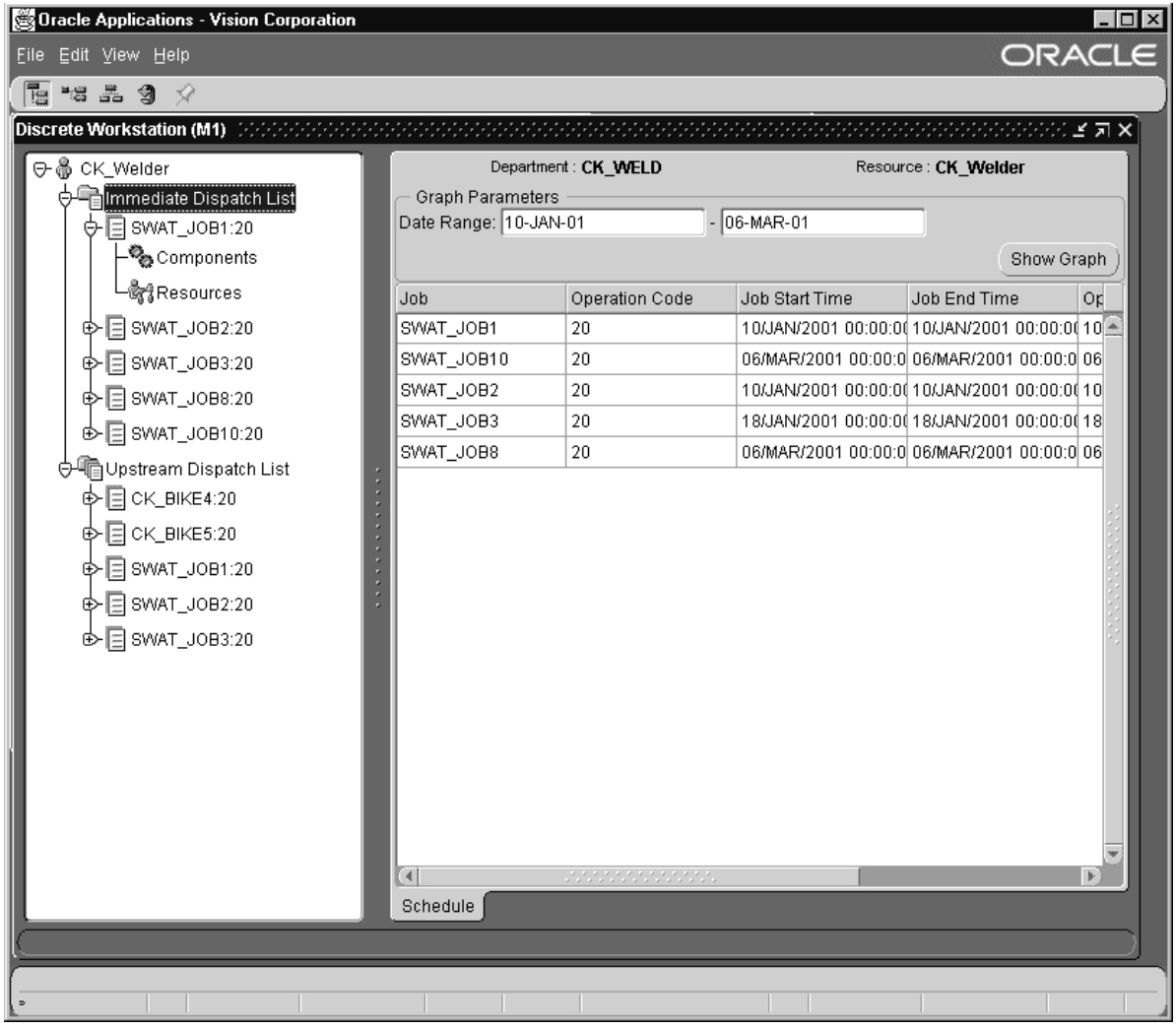
The Immediate Dispatch List is the first of the two main branches on the Discrete Workstation's navigation tree. When you select the Immediate Dispatch List branch itself, the Schedule tab is displayed. This tab lists all of the job operations on the tree in a table, along with their job and operation start and end times.

Listed below the Immediate Dispatch List branch are all of the current job operations that need to be worked on at the department or resource that you selected when you launched the workstation. Selecting an individual job operation branch displays the job operation's Components and Resources branches.

Each of the Immediate Dispatch List branches displays tabs of information about the job operation. Further, the tabs contain buttons that you can use to perform common transactions, and one that enables you to view attachments. All of these branches, tabs, and buttons are described in the sections that follow.

Schedule Tab

The *Schedule tab* lists all of the job operations on the Immediate Dispatch List and provides you with the job name, operation code, and operation start and end times. The top of the tab displays the name of the department and resource that you selected when you launched the workstation. There also are two Date fields that you can use to select a different date range for the jobs that appear on the graph (the last five working days are the default dates for the graph). If you change the default dates, you must choose the Show Graph button to refresh (update) the display.



Jobs for Immediate Dispatch

Job operations listed under the Immediate Dispatch List branch have assembly quantities in their Queue intraoperation step, and thus are jobs that you can work on immediately. Any job operation listed on the tree in red text and preceded by an icon of a stoplight, however, has been put on hold.

Each branch represents one job operation, and each job operation is supported by two branches of information: its Components branch,

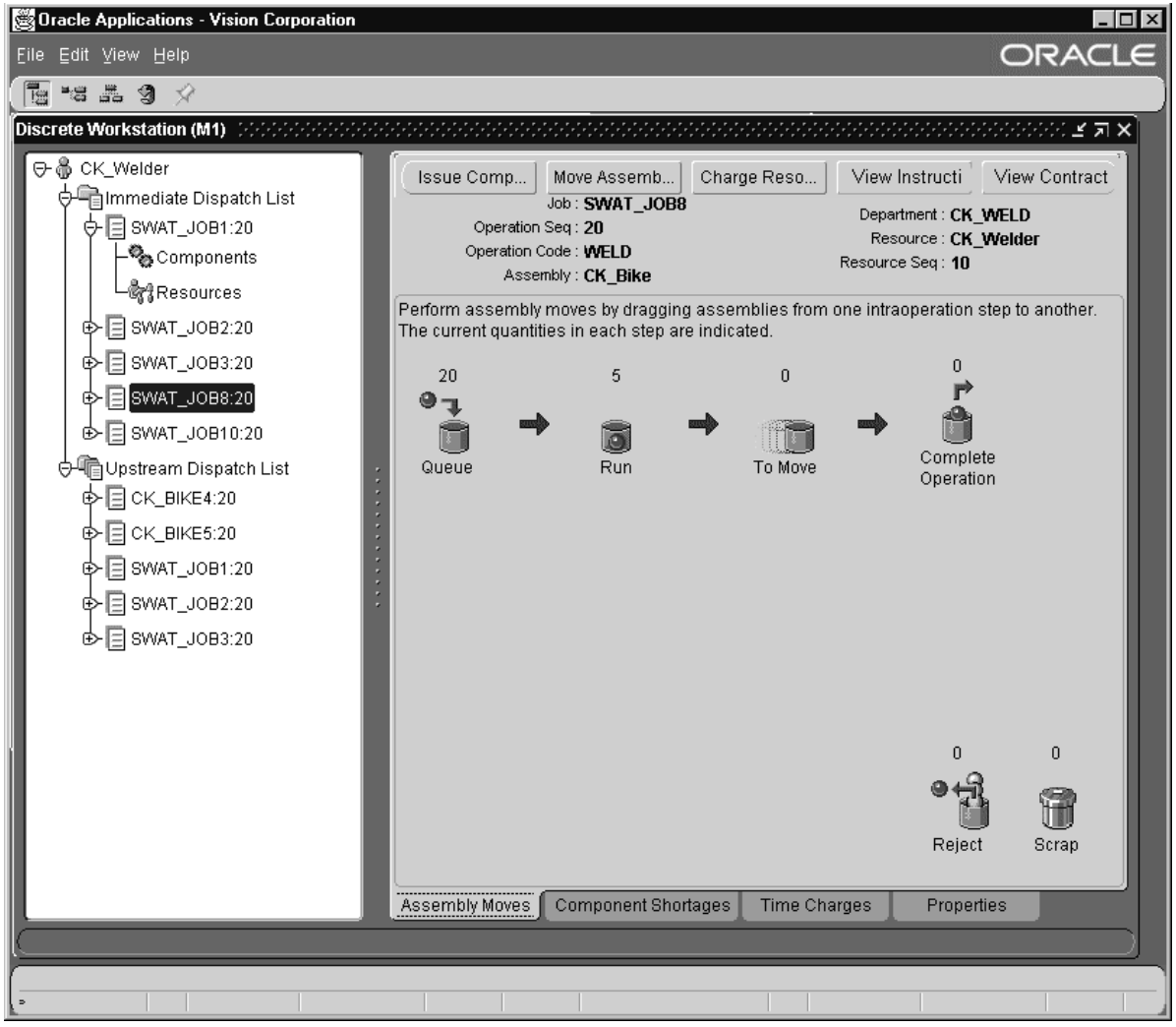
which displays the operation's Component Requirements tab, and its Resources branch, which displays its Resource Requirements tab.

When you select a job operation branch, four tabs of information about that operation are displayed in the workstation's right pane: the Assembly Moves, Component Shortages, Time Charges, and Properties tabs. These tabs provide you with production information and enable you to perform common shop floor transactions using the Issue Components, Move Assemblies, and Charge Resources buttons that appear at the top of the tabs. You also can download and print any operating instructions or other attachments associated with the job or its components by choosing the tab's View Instructions button.

Each of the tabs are pictured below and described in the following sections. For a description of each button and how you can use it to perform transactions, see Discrete Workstation Transactions: page 3 – 15.

Assembly Moves Tab

The top section of the *Assembly Moves tab* displays the job that you selected, its operation sequence, operation code, assembly, department, resource, and resource sequence:



The Assembly Moves tab displays an interactive graphic that you can use to perform simple Move and Completion transactions. It consists of buckets that represent Work in Process intraoperation steps, and a red ball graphic that represents the assembly quantity for the job. You use the mouse to perform simple move and transactions on the graphic.

The tab also displays three buttons, the Issue Components, Move Assemblies, and Charge Resources buttons, which you can use to open Work in Process transaction windows. You also can download operating instructions by choosing the View Instructions button.

Moving Assemblies: you use the mouse to perform simple move transactions by dragging the red ball graphic from one bucket to another. When you drag the red ball a small window opens so that you can enter the assembly quantity that you want to move. The assembly quantities that you move at each intraoperation step are displayed above the step's bucket.

Completing Assemblies: you can complete assemblies on the Assembly Tab if you are at the last operation on the routing. The completed assembly is then moved into the completion subinventory designated on the routing. You also can complete and over–complete assemblies on the Move transactions window, which you open by choosing the Move Assemblies button.

Completing Operations: at any operation other than the last operation, you can complete the operation, and the assembly is moved into the Queue of the next operation. You complete assemblies and operations when you drag the red ball graphic into the Complete Assembly or Complete Operation bucket on the tab's interactive graphic.

For information on performing these transactions, see Discrete Workstation Transactions: page 3 – 15

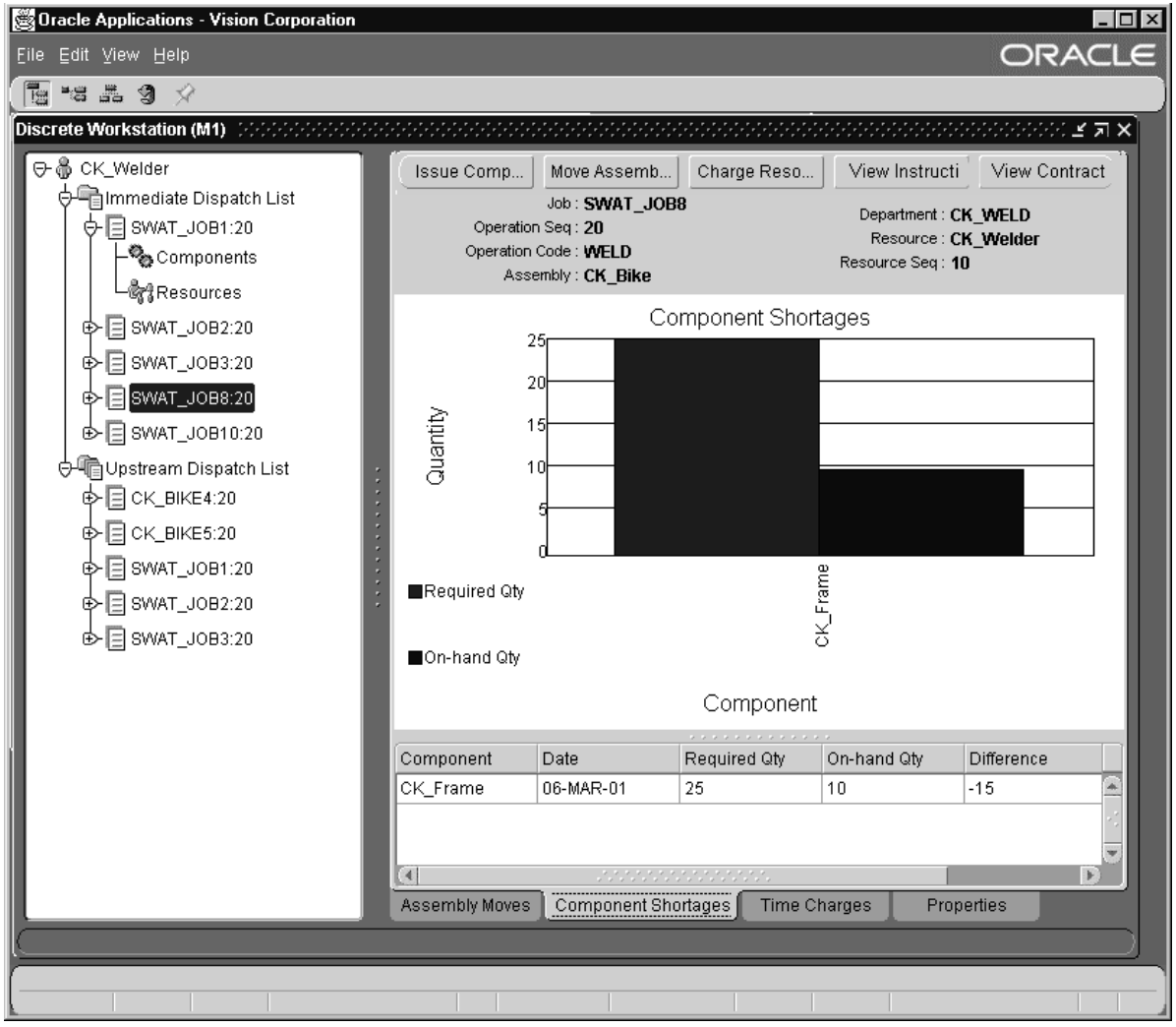
Component Shortages Tab

The *Components Shortages tab* displays in graph and table format a comparison of the components required for a job operation to the quantities of components on–hand. You can choose the Issue Components button on the tab, which opens the WIP Material Transactions window so that you can issue components to the job.

The top section of the Component Shortages tab displays the job that you selected, its operation sequence, operation code, assembly, department, resource, and resource sequence:

Component Shortages Tab Graph

The *Component Shortages bar graph* compares the job operation's required quantity to its on–hand quantity. The graph only displays job operations that have fewer components on–hand than are required for the operation.



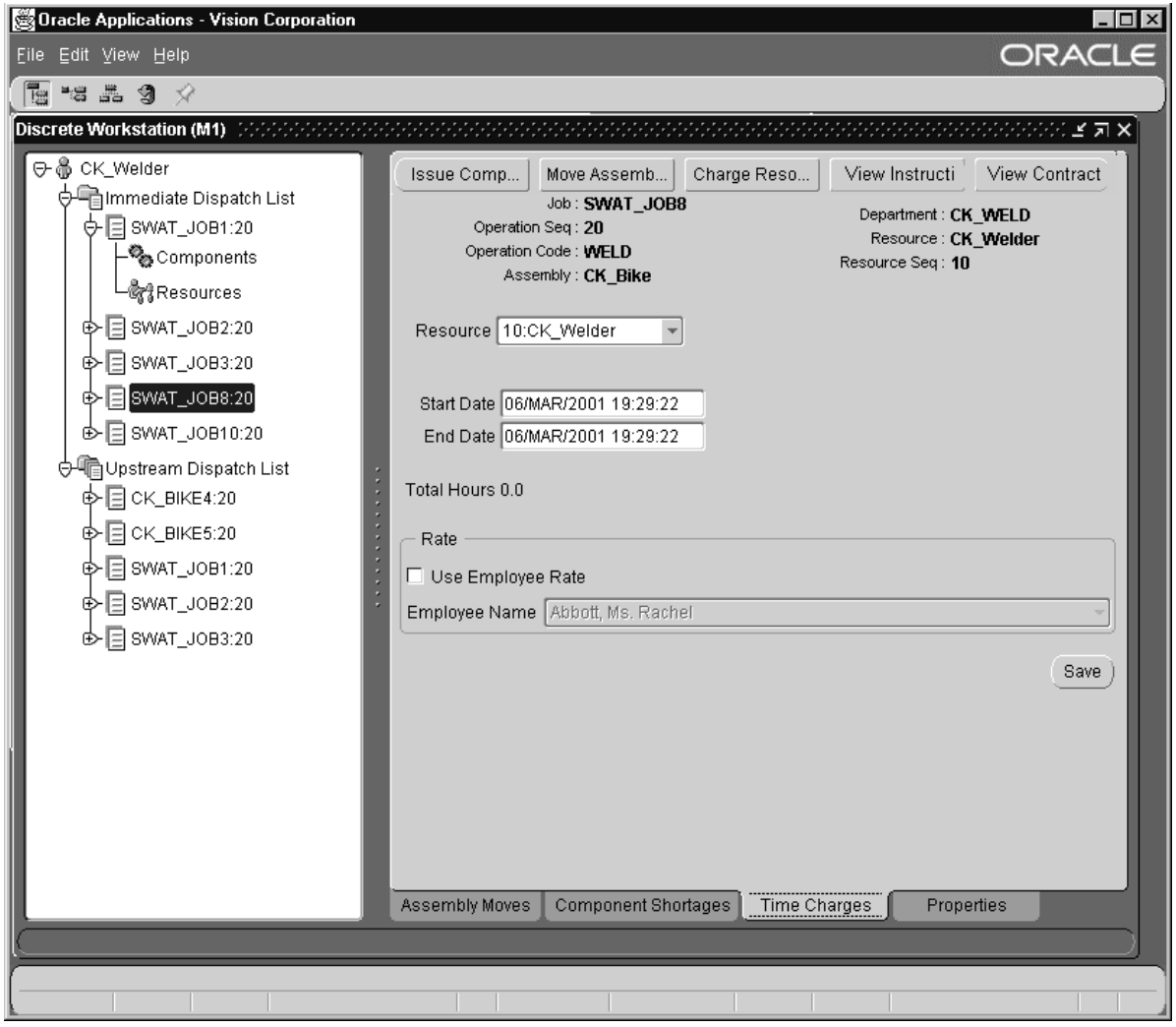
The graph provides you with the following information, which is also presented in a table below the graph:

- *Component:* the name of the component
- *Date:* the date where a shortage occurred
- *Required Quantity:* the number of components required for the job operation
- *On–Hand Quantity:* the number of the components required for the job operation that are in inventory
- *Difference:* the Required quantity minus the On–Hand quantity

Time Charges Tab

If an operation has been set up to allow manual resource charging, you can use the features on the *Time Charges tab* to manually charge both person– or machine–type resources to the operation.

You can charge resources directly from the Time Charges tab or you can charge them on the Resource Transactions window, which you can open by choosing the Charge Resources button. When you charge resources on the Resource Transactions window, the job, assembly, and other information from the workstation are automatically defaulted in the fields. The steps for manually charging resources on the Time Charges tab are listed below. For information and instructions on manually charging resources on the Resource Transactions window, see: Charging Resources Manually: page 9 – 33.



▶ **To manually charge resources on the Time Charges tab**

1. In the Resource field, open the drop–down box and select the resource to which you are charging time.

   The first resource on the list is the resource that you selected when you launched the workstation. Select this resource if you are charging time for a person–type resource. All other resources listed are machine–type resources assigned to that operation.

2. In the Start Date field, enter the start date and time for the period of time that you are charging to the resource. The date must be the

current or a future date (if an invalid date is entered the field color changes to red).

3. In the End Date field, enter the end date and time for the period of time that you are charging to the resource. The date must be either the same as the Start Date or a future date (if an invalid date is entered the field color changes to red).

   Note: When you change the start and end dates and times, the system calculates the total hours for that period and displays them directly below the End Date field.

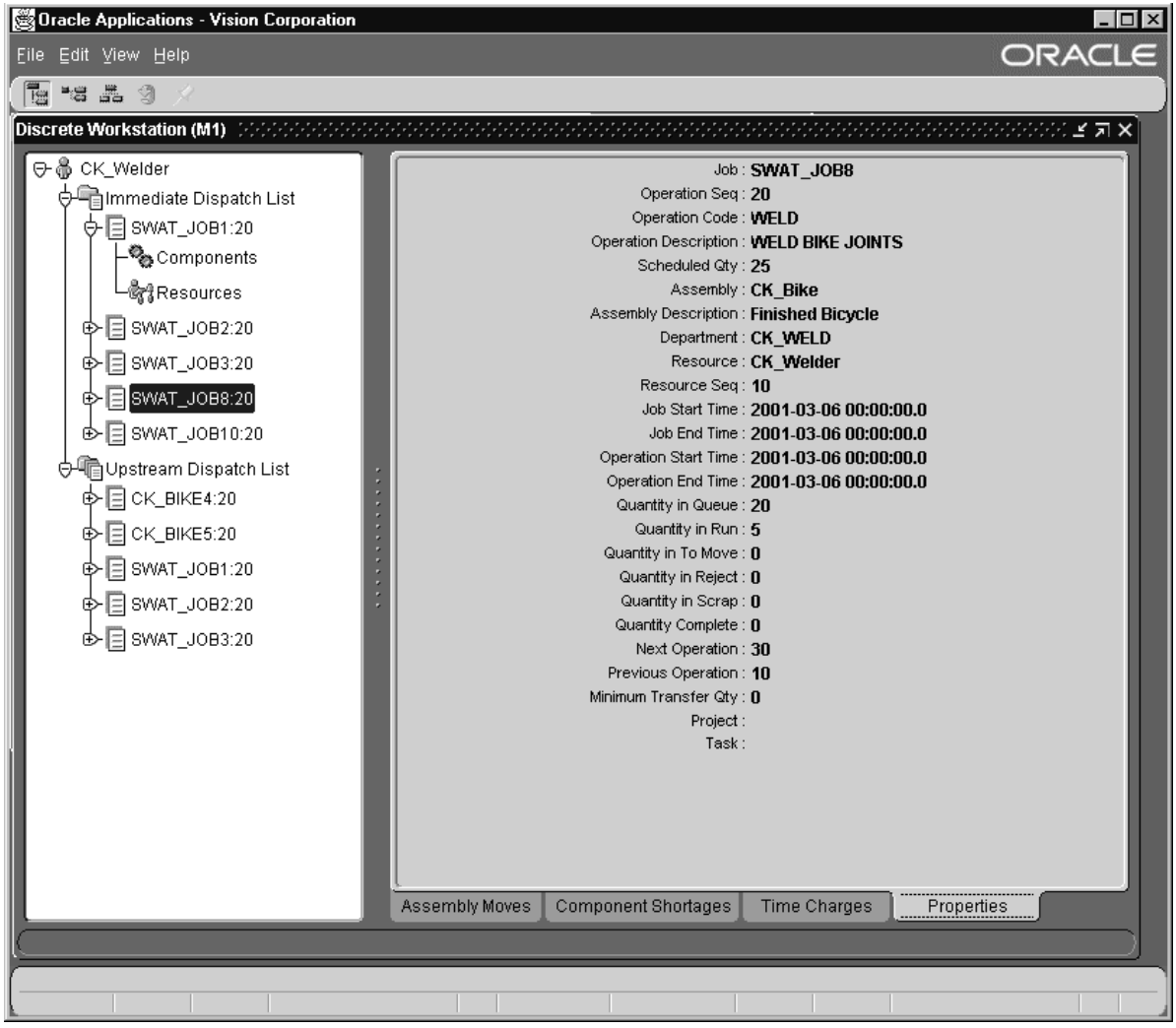
4. In the Rate block, check the Use Employee Rate check box ONLY if you are charging an employee's time to the operation at the *employee's rate*. If you do NOT check the check box, the employee's time will be charged at the *standard rate* (the default).

5. From the drop–down list for the Employee Name field, select the employee for whom you are charging time. The list only displays the names of employees assigned to the resource whose employee rate has already been set up in the system.

6. Choose the Save button on the tab to save your entries.

Properties Tab (Jobs for Immediate Dispatch)

The *Properties tab for jobs in the immediate dispatch list* provides you with the following information: job, operation sequence, operation code, operation description, scheduled quantity, assembly, assembly description, department, resource, resource sequence, job start time, job end time, operation start time, operation end time, quantity in Queue, quantity in Run, quantity in To Move, quantity in Reject, quantity in Scrap, quantity complete, next operation, previous operation, minimum transfer quantity, project, and task.

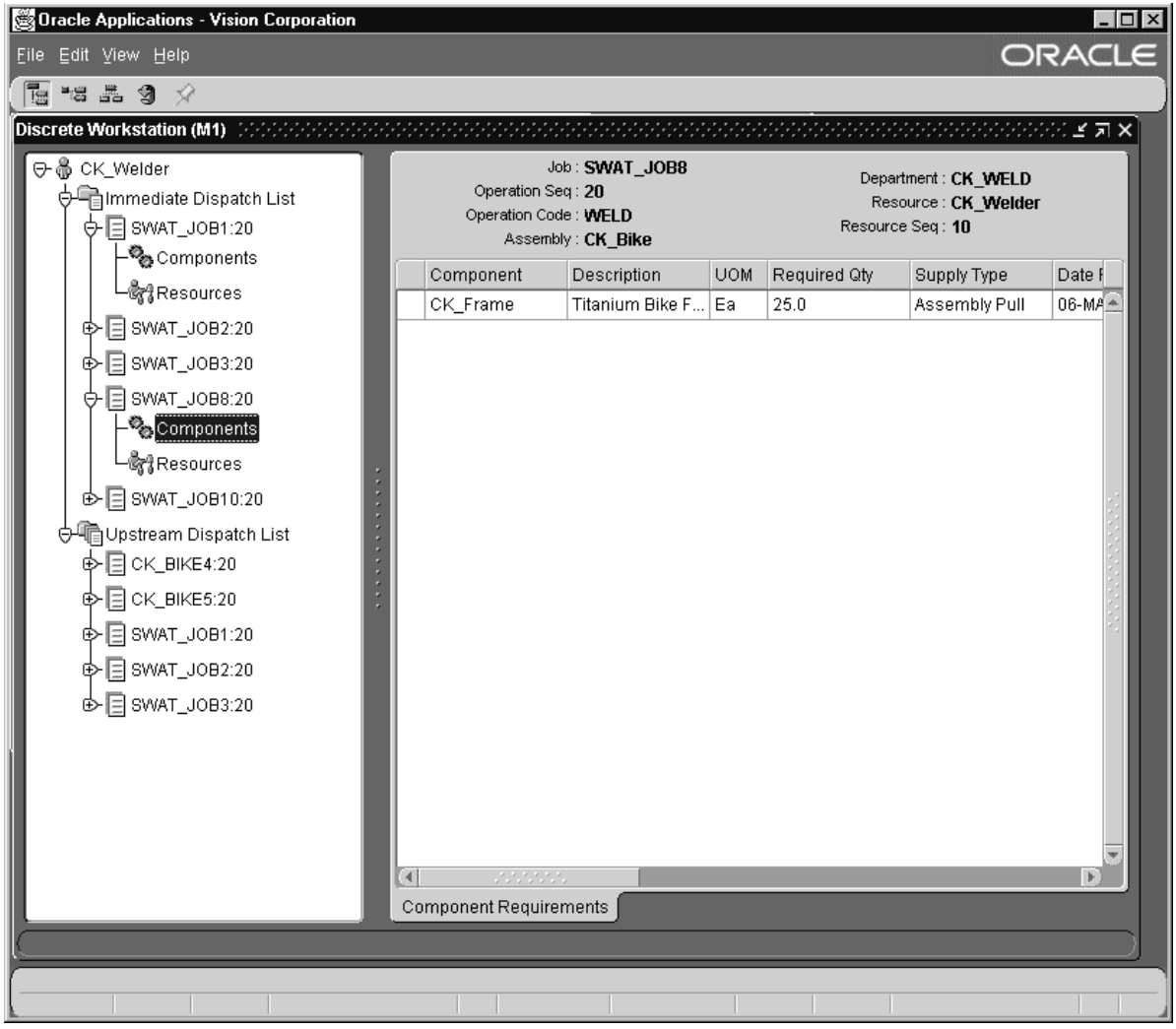


Components Branch (Jobs for Immediate Dispatch)

The Components branch displays the Component Requirements tab. This tab lists all of the components required for the job operation.

Component Requirements Tab (Jobs for Immediate Dispatch)

The header at the top of the *Component Requirements tab for jobs in the immediate dispatch list* displays the job, operation sequence, operation code, assembly, department, resource, and resource sequence.



The tab's table provides the following information about the component (you may have to scroll to see all of the columns of information):

- Component

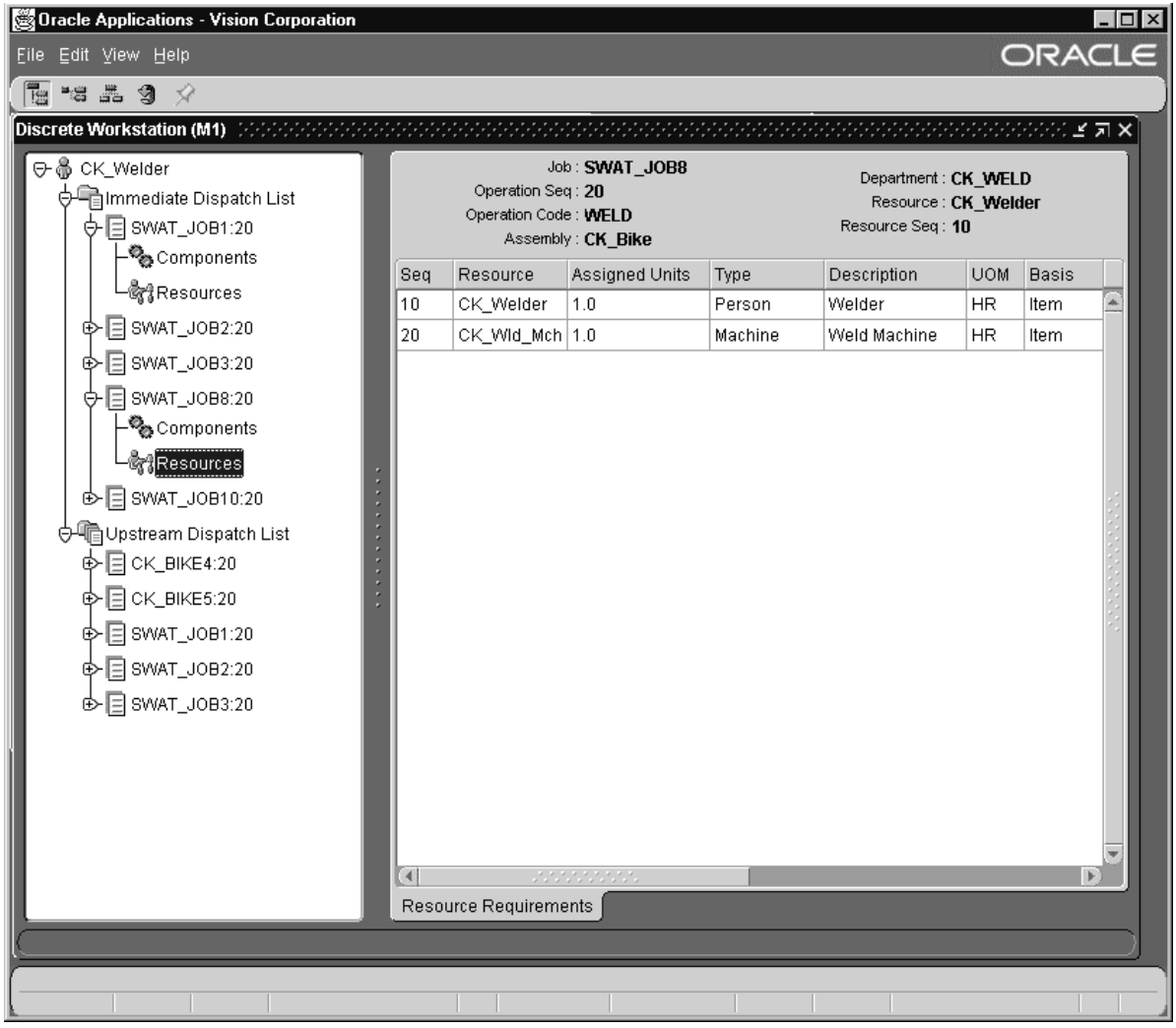
- Description
- UOM (Unit of Measure)
- Required Quantity
- Supply Type
- Date
- Subinventory
- Locator
- Quantity Issued
- Quantity Per Assembly
- Comments

Resources Branch (Jobs for Immediate Dispatch)

Selecting the Resources branch opens the *Resource Requirements tab.* This tab lists all of the resources required the the job operation.

Resource Requirements Tab (Jobs for Immediate Dispatch)

The top section of the *Resource Requirements tab for jobs in the immediate dispatch list* provides you with the job, operation sequence, operation code, assembly, department, resource, and resource sequence.



The tab's table provides the following information about the resource (you may have to scroll to see all of the columns of information):

- Sequence
- Resource
- Assigned Units
- Type
- Description
- UOM

- Basis
- Usage Rate
- Start Date
- Completion Date

Upstream Dispatch List

The Upstream Dispatch List branch is the second of two main branches on the Discrete Workstation. The tab for the Upstream Dispatch List branch itself is blank. If there are jobs for future dispatch at that department or resource, expanding the tree displays them on a list below this branch. When you select a job operation from the tree, the workstation also displays the operation's Components and Resources branches.

Job operations on the Upstream Dispatch List display two tabs of information, the Component Shortages and Properties tabs. The job operation's Components branch displays the Component Requirements tab, and its Resources branch displays the Resource Requirements tab.

Detailed information on each of these tabs is provided in the sections that follow.

Jobs for Upstream Dispatch

Job operations on the *Upstream Dispatch List* have assembly quantities in the To Move intraoperation step of the previous operation. These job operations are scheduled to be worked on in the near future at the resource you are viewing.

Each branch under the Upstream Dispatch List represents one job operation, and each job operation is supported by two branches of information: its Components branch, which displays the operation's Component Shortages and Properties tabs, and its Resources branch, which displays its Resource Requirements tab.

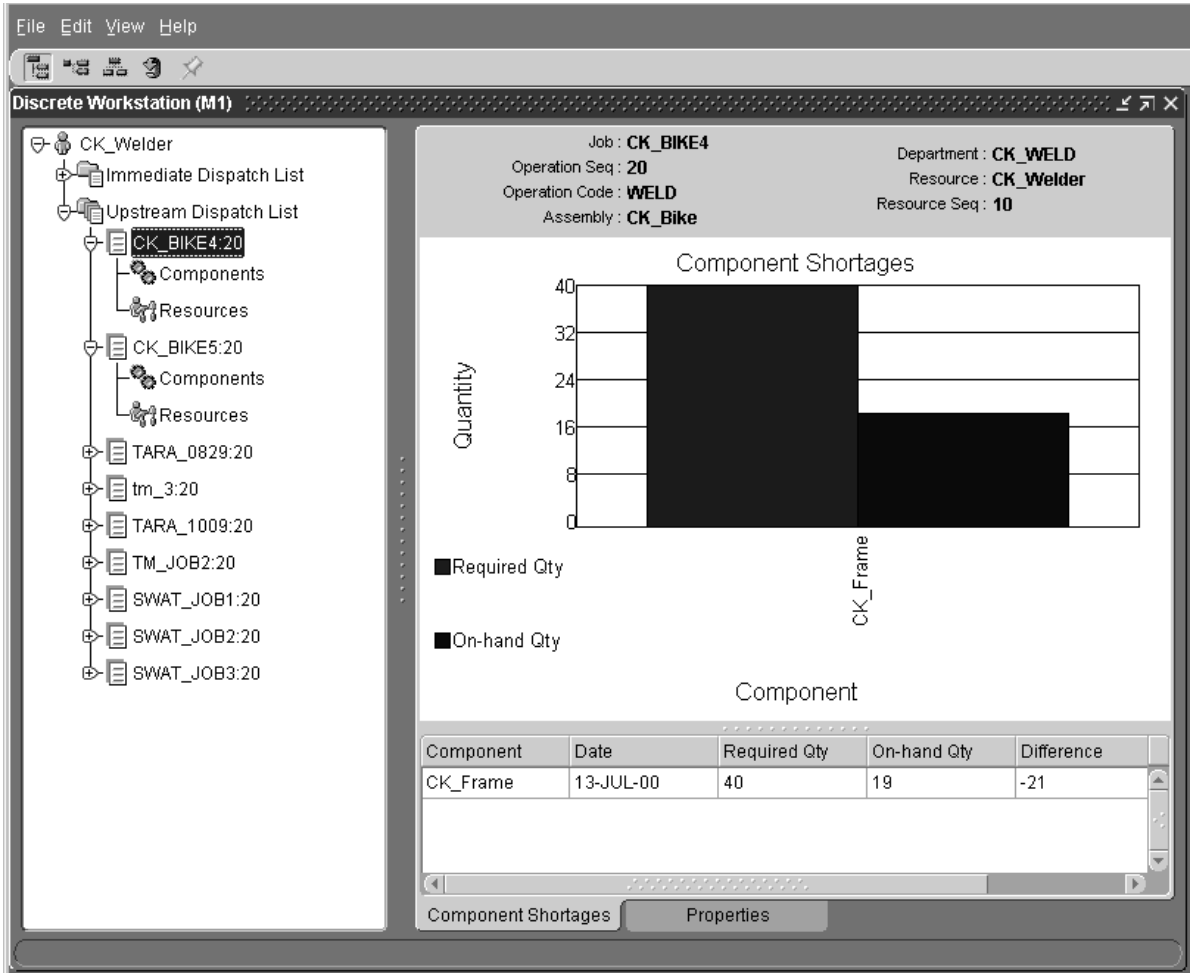
Component Shortages Tab (Jobs for Upstream Dispatch)

The *Component Shortages tab* displays a comparison of the components required for a job operation to the quantities of components on–hand.

The top section of the Component Shortages tab displays the following information about the department and resource: job, operation sequence, operation code, assembly, department, resource, and resource sequence.

Component Shortages Tab Graph

The *Component Shortages bar graph for jobs in the upstream dispatch list* compares the job operation's required quantity to its on–hand quantity. The graph only displays job operations that have fewer components on–hand than are required for the operation.



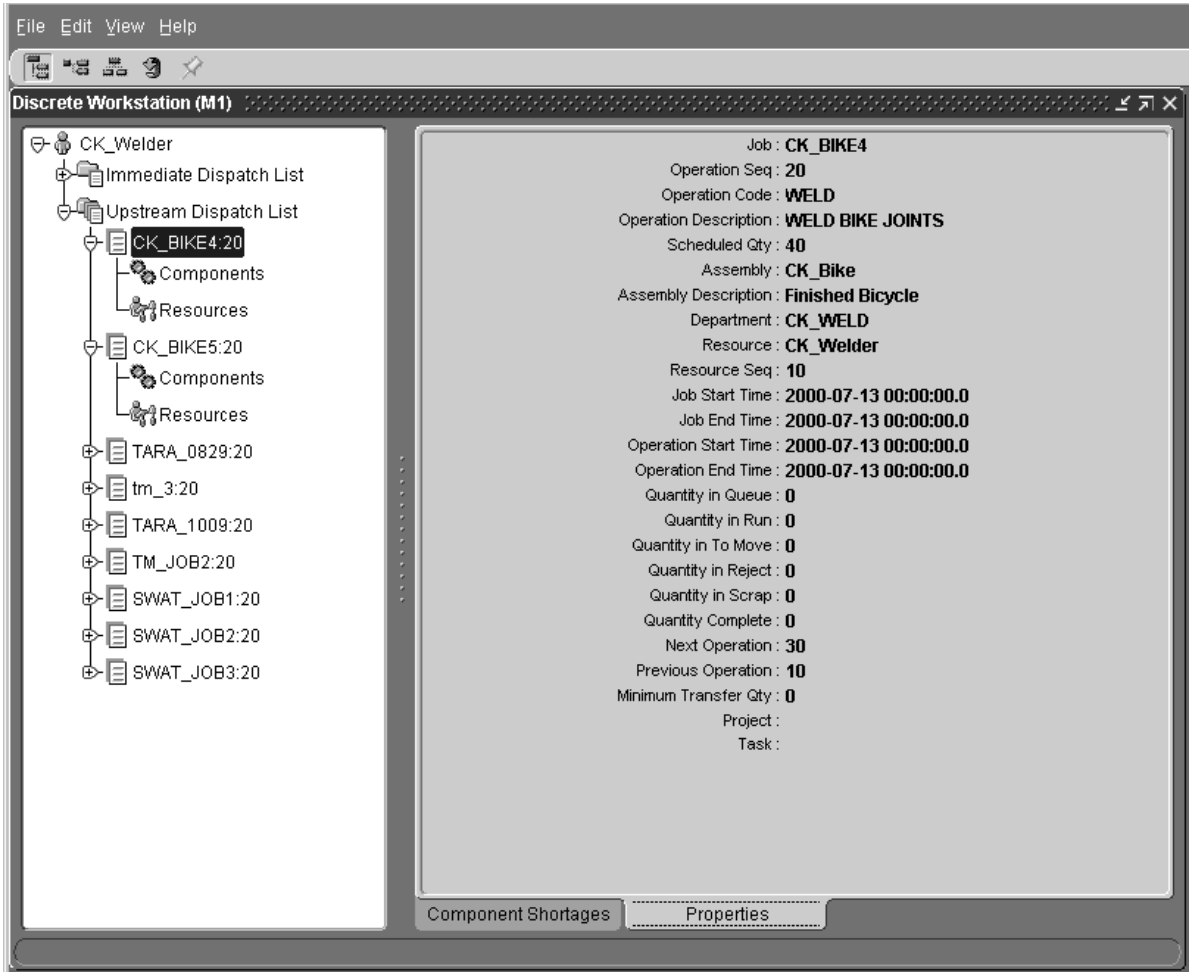
The graph provides you with the following information, which is also presented in a table below the graph:

- *Component:* the name of the component
- *Date:* the date where the shortage occurred

- *Required Quantity:* the number of components required for the job operation
- *On–Hand Quantity:* the number of the components required for the job operation that are in inventory
- *Difference:* the Required quantity minus the On–Hand quantity

Properties Tab (Jobs for Upstream Dispatch)

The *Properties tab for jobs in the upstream dispatch list* displays the following information:



- Job
- Operation Sequence
- Operation Code
- Operation Description
- Scheduled Quantity
- Assembly
- Assembly Description
- Department
- Resource
- Resource Sequence
- Job Start Time
- Job End Time
- Operation Start Time
- Operation End Time
- Quantity in Queue
- Quantity in Run
- Quantity in To Move
- Quantity in Reject
- Quantity in Scrap
- Quantity in Complete
- Next Operation
- Previous Operation
- Minimum Transfer Quantity
- Project
- Task

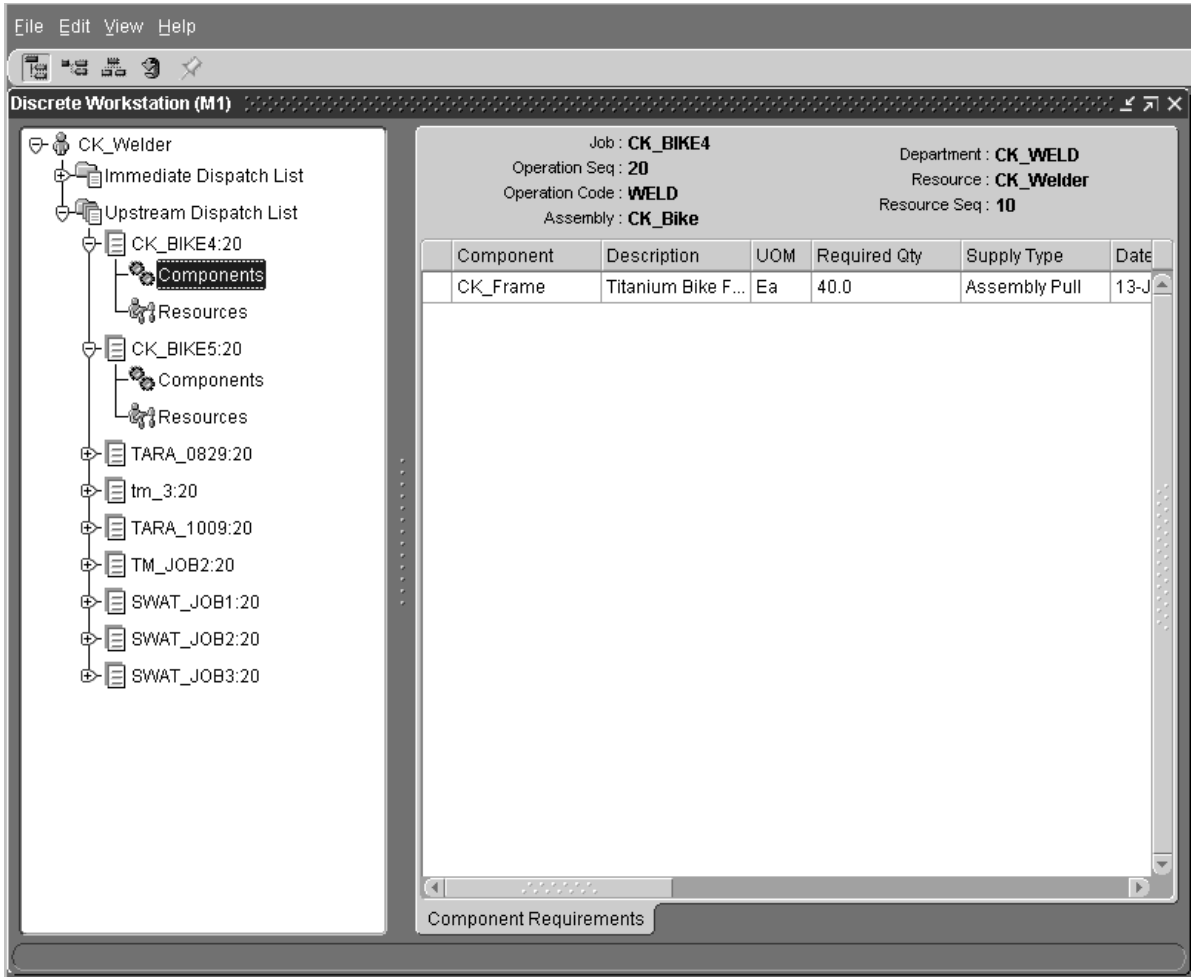
Components Branch (Jobs for Upstream Dispatch)

The *Components branch* displays the *Component Requirements tab*. This tab lists all of the components required for the job operation.

Component Requirements Tab (Jobs for Upstream Dispatch)

The section at the top of the *Component Requirements tab for jobs in the upstream dispatch list* displays the job, operation sequence, operation code, assembly, department, resource, and resource sequence.

The tab's table provides the following information about the component (you may have to scroll to see all of the columns of information):



- Component
- Description
- UOM (Unit of Measure)

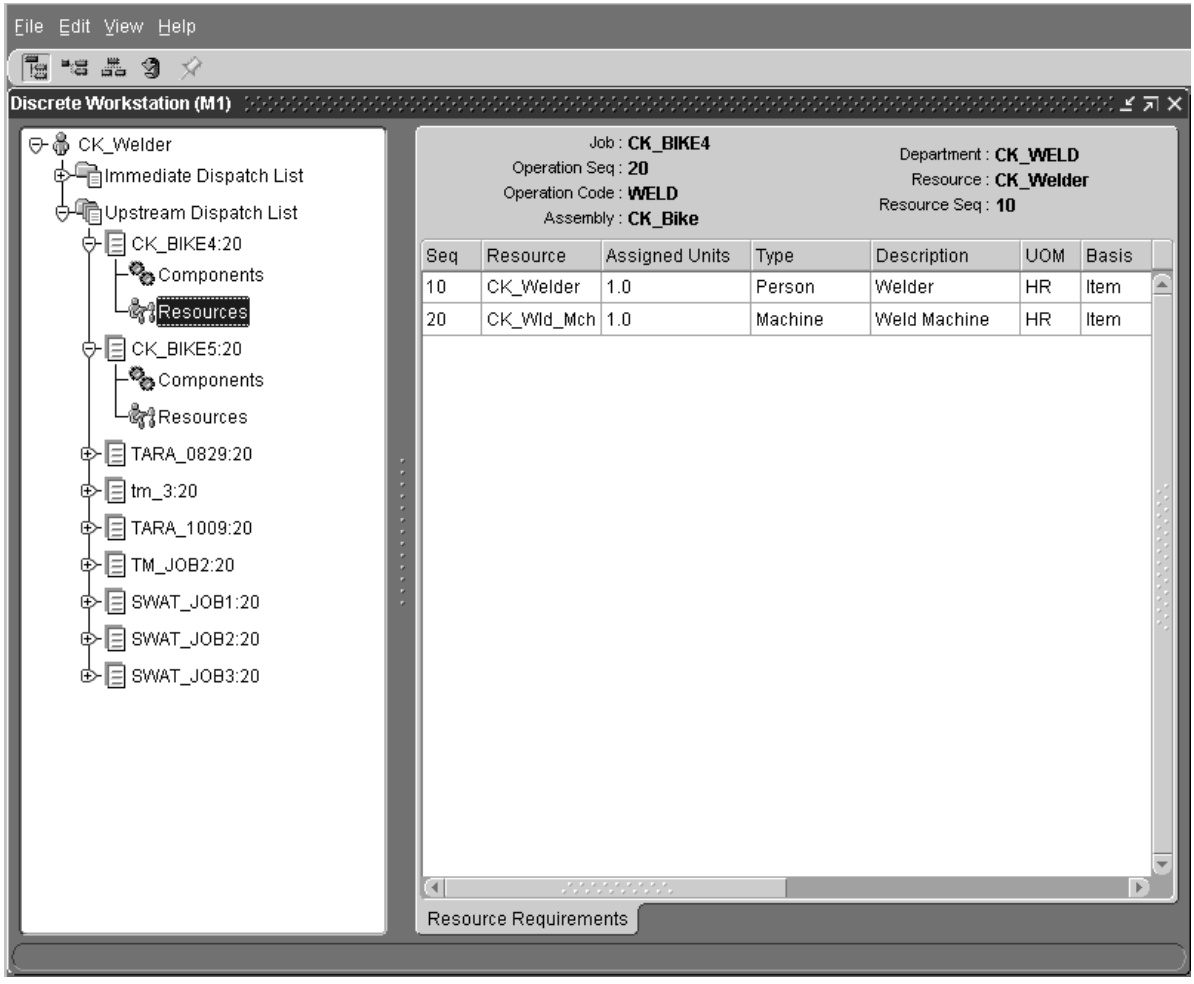
- Required Quantity
- Supply Type
- Date
- Subinventory
- Locator
- Quantity Issued
- Quantity Per Assembly
- Comments

Resources Branch (Jobs for Upstream Dispatch)

Selecting the Resources branch opens the *Resource Requirements tab*. This tab lists all of the resources required the the job operation.

Resource Requirements Tab (Jobs for Upstream Dispatch)

The top section of the *Resource Requirements tab for jobs in the upstream dispatch list* provides you with the job, operation sequence, operation code, assembly, department, resource, and resource sequence.



The table provides the following information about the resource (you may have to scroll to see all of the columns of information):

- Sequence
- Resource
- Assigned Units
- Type
- Description
- UOM
- Basis

- Usage Rate
- Start Date
- Completion Date

Creating Discrete Jobs

You can create discrete jobs in the following ways:

- manually (both standard and non–standard discrete jobs). See: Defining Discrete Jobs Manually: page 3 – 63.
- manually from a simulation (standard discrete jobs only). See: Simulating and Saving Simulated Jobs: page 3 – 111.
- automatically using Oracle Master Scheduling/MRP and Oracle Supply Chain Planning to plan your standard discrete production, then using the Planner Workbench to implement your planned orders. See: Planned Discrete Jobs: page 3 – 55.
- automatically using Advanced Planning and Scheduling's High Level Scheduling Engine to schedule jobs and import them into Work in Process
- automatically (standard discrete jobs only) from final assembly orders for specific customer configurations and/or standard assemble–to–order (ATO)/configure–to–order items. See: Final Assembly Orders: page 3 – 56.
- using the Work Order Interface to import planned orders and updated planned order recommendations. See: Work Order Interface, *Oracle Manufacturing APIs abd Open Interfaces Manual*.

  Note: If you have Oracle Shop Floor Management installed, you can create lot based jobs. The entire quantity of a lot based job moves on the basis of the network routing.

Planned Discrete Jobs

You can create planned orders and reschedule recommendations using the Planner Workbench in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning. You can modify the due dates and quantities of planned orders, and also firm plan these orders. You can create new discrete jobs by implementing all or some planned orders.

When you create jobs using the Planner Workbench, you can specify the WIP accounting class. Accounting classes can be defaulted. See: Product Line Accounting Setup, *Oracle Cost Management User's Guide*, Discrete Parameters: page 2 – 17, and Discrete Accounting Classes: page 2 – 42.

If the job being created is for a lot controlled assembly, the WIP *Default Lot Number Type* parameter is used to determine whether lot numbers

are assigned based on the job name or based on the Oracle Inventory lot number rules.

Discrete jobs created from planned orders use the planned order quantity as the default job quantity. The primary bill of materials and primary routings for the assemblies are used to create work in process bills and routings. Jobs created from planned orders are backward scheduled from the required completion date. The calculated start date is used to determine the bill and routing revisions and revision dates.

Planning takes shrinkage rate, component yield, and safety stock into consideration in the planning process. Once you define the standard job, supply is calculated using the following formula:

available supply quantity = (MRP net quantity – quantity completed – quantity scrapped) x 1 – item shrinkage rate)

You can also use the Planner Workbench to reschedule existing jobs. For example, you can reschedule every assembly in the plan or you can reschedule only certain specific assemblies.

When you implement planned orders and create discrete jobs, Planning does not take into account the *WIP:View Only Released ECOs* profile option in the Personal Profile Values window.

Oracle Advanced Planning provides a profile option enabling you to align Work in Process production with engineering changes for planning See: Aligning Engineering Change Order Dates in Planning and Production: page 3 – 57

See Also

Overview of Implementing Planning Recommendations, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Discrete Scheduling: page 13 – 5

Detailed Scheduling: page 13 – 7

Final Assembly Orders

You can automatically create final assembly orders for Assemble to Order (ATO) items entered in Oracle Order Management. These discrete job orders are created on a single job to single sales order delivery basis.

On the Sales Order window (which you open from the Discrete Jobs window in Work in Process), you also can associate discrete jobs for both standard items and ATO items with sales orders and thereby allocate production to specific customers.

To determine the job start date, you schedule jobs created from final assembly orders backwards from the order due date. The calculated start date is used to determine the bill and routing revisions and revision dates.

See Also

Overview to Supplying Unique Configurations, *Oracle Configure To Order Implementation Manual*

Linking ATO Sales Orders and Discrete Jobs: page 3 – 74

AutoCreating Final Assembly Orders: page 15 – 3

Discrete Scheduling: page 13 – 5

Work Order Interface

You can load planned orders, planned order update recommendations, and suggested repetitive schedules from any source — planning systems, order entry systems, finite scheduling packages, production line sequencing programs, spreadsheets, and even custom entry forms — into the Work Order Interface. For example, if your plant directly feeds to your customer's plant, you can take demands directly from your customer rather than waiting for the next MRP run thus reducing response time and eliminating unnecessary overhead.

You then use the Import Jobs and Schedules window to launch the WIP Mass Load program, which validates records in the Work Order Interface table and implements any imported records as new discrete jobs, updated discrete jobs, or pending repetitive schedules.

See:Work Order Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

Aligning Engineering Change Order Dates in Planning and Production

In Oracle Advanced Planning, the ECO Use–up Date is the date when the on–hand quantity is calculated to be 0. It is calculated from inventory supply and requirement demand. Work in Process detailed

scheduling calculations are taken sequentially. Therefore, production order recommendations from planning can result in recommendations that either ignore active ECOs, or assume future ECOs are already active.

Oracle Advanced Planning provides a profile option to align Work in Process production with engineering change orders in planning. This enables you to control if resource and component schedules, calculated by Oracle Advanced Planning, are forwarded to Oracle Work in Process when ECO Revision Date differs from the order Start Date.

The profile option, MSC: Release WIP Details if Order Date Different than BOM Revision Date, has the following settings:

- Yes: Work in Process details are release even if the the job or schedule Start Date is different than the bill of material Revision Date.

  The planning engine updates the ECO Revision Date to the Start Date of the earliest affected job or schedule. Oracle Work in Process ignores the job BOM Revision Date and explodes the bill of material and routing details. It uses the planning recommended new Start Date, instead of the existing order Start date. This eliminates revision conflicts among multiple engineering change orders.

- No: Work in process details are not released if the job or schedule Start Date is different than the bill of material Revision Date. Work in Process explodes the details effective as of the Start Date.

See:Engineering Change Orders Use–Up Effectivity, *Oracle Advanced Planning Implementation and User's Guide*

Kanban Replenishments

In a pull–based system, inventory items for a particular part or assembly area are replenished as soon as they are needed. When the items are needed, kanban cards in Oracle Inventory change their Supply Status to Empty, and Inventory generates production kanban replenishment request automatically.

If the source type of the kanban card is Production, as opposed to Supplier or Inter–Org, the type of Work in Process Entity that is created is determined based on the assembly referenced by the kanban card per the following rules:

- If the lowest priority or primary routing of the assembly is a Flow routing, a Flow schedule is created. This is true even if the items Repetitive Planning attribute is set
- If the lowest priority or primary routing of the item is not a Flow routing, and the Repetitive Planning attribute is set, then a repetitive schedule is created.
- If the lowest priority or primary routing of the item is not a Flow routing, and the Repetitive Planning attribute is NOT set, then a discrete job is created

Signals to create discrete jobs and repetitive schedules are processed by the WIP Mass Load program.

When discrete jobs and repetitive schedules are created in response to kanban replenishment signals, they are automatically loaded into the Work Order Interface and automatically processed. If the replenishment signal creates a discrete job, the kanban card is referenced on that job; however, if the replenishment signal creates a repetitive schedule, the kanban card is not referenced. Once the discrete job or repetitive schedule has been successfully loaded, the status of the kanban card is updated to *In process.*

When kanban replenishment jobs and schedules fail validation and processing, they are automatically deleted from the interface table. The reason for their failure is noted on the Job and Schedule Interface report, which is automatically printed each time the Mass Load program is run. When imported, non–kanban job and schedule information that fails validation or processing is marked. You can use the Pending Jobs and Schedules window to view, update, and resubmit this information.

See Also

Overview of Kanban Replenishment, *Oracle Inventory User's Guide*

Work Order Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

Overview of Reports and Programs, *Oracle Applications User's Guide*

Importing Jobs and Schedules: page 15 – 35

Processing Pending Jobs and Schedules: page 3 – 133

WIP Accounting Class Defaults

You can set up default WIP accounting classes at several levels:

- at the category account level for discrete jobs and repetitive line/assembly associations
- at the Default Discrete Class parameter class level for standard discrete jobs
- at the project cost group level for project jobs

Non–Project Defaults

You can set up non–project default WIP accounting classes at the category account level and at the *Default Discrete Class* parameter level.

Non – Project Standard Discrete Jobs

The default discrete accounting classes that you have associated with categories in the Default WIP Accounting Classes for Categories window are used when you create standard discrete jobs for items that belong to categories that belong to the product line category set. For example, if you create a job to build Item A, and Item A belongs to a category that belongs to the product line category set, then the WIP accounting class associated with Item A's category is defaulted. This defaulting logic is applied no matter how jobs are created. See: Creating Discrete Jobs: page 3 – 55.

Attention: If default discrete WIP accounting classes do not exist, the accounting class specified for the *Default Discrete Class* parameter is used. See Discrete Parameters: page 2 – 17.

Non – Project Referenced Work Order–less Completions

When you perform work order–less completions, *discrete* accounting classes that are associated with categories are defaulted if the item being completed belongs to a category that belongs to the product line category set. For example, if you are performing a work order–less completion for Item A, and Item A belongs to a category that belongs to the product line category set, then the WIP accounting class associated with Item A's category is defaulted.

Repetitive Assemblies

When you associate repetitive assemblies with production lines, the repetitive accounting classes that you have associated with categories are defaulted if the assembly item being associated belongs to a category that belongs to the product line category set. For example if

you create a repetitive line/assembly association for an assembly Item B, and Item B belongs to a category that belongs to the product line category set, then the WIP accounting class associated with Item B's category is defaulted.

Project Related Defaults

Discrete accounting classes can also be defaulted when you define project referenced jobs and perform project referenced work order–less completions. If the assembly item belongs to a category that belongs to the product line category set, then the WIP accounting class associated with the item's category is defaulted.

However, if a default discrete class cannot be found for a project job or work order–less completion based on the assembly item's category set, the system does not default the accounting class specified for the *Default Discrete Class* parameter. Instead it uses the WIP accounting class that is associated with the *project* as defined in the Project Parameters window. Like other accounting class defaults it can be overridden but *only* with an accounting class that was associated with the project's cost group in the WIP Accounting Classes for Cost Groups window. See: Assigning Project Parameters, *Oracle Project Manufacturing User's Guide*, and Defining Cost Groups, *Oracle Cost Management User's Guide*.

Attention: If you create a project referenced job or perform a project referenced work order–less completion, and the system can find neither a *default* accounting class nor a *project* WIP accounting class, the accounting class is not defaulted and one must be selected.

See Also

Associating WIP Accounting Classes with Categories, *Oracle Cost Management User's Guide*

Product Line Accounting Setup, *Oracle Cost Management User's Guide*

Build Sequencing

You can sequence the jobs and Flow schedules that you are building within schedule groups. This is done by assigning a unique schedule number to each job or Flow schedule within a group.

Schedule Groups

Schedule groups are defined in the Define Schedule Groups window and can be optionally assigned to jobs, in the Discrete Jobs window, or to Flow schedules, in the Line Scheduling Workbench Options window. The schedule group assigned in the Line Scheduling Workbench Options window can be overridden in the Work Order–less Completions window, but only with a schedule group that is associated with a Flow schedule.

Build Sequence

Sequencing jobs and Flow schedules within a schedule group makes it possible to prioritize, for example by customers, the jobs or Flow schedules being built on a specific production line.

Production Lines

You must specify a production line when you sequence Flow schedules. Production lines are optional for discrete jobs. When a production line is assigned, the schedule group/build sequence/production line combination must be unique, as shown in the following table.

Schedule Group 1000	**Schedule Group 2000**
Production Line 4000, Build Sequence 0001	**Production Line 4000,** Build Sequence 0001
Production Line 4000, Build Sequence 0002	**Production Line 4000,** Build Sequence 0002
Production Line 5000, Build Sequence 0001	**Production Line 5000,** Build Sequence 0001
Production Line 5000, Build Sequence 0002	**Production Line 5000,** Build Sequence 0002

All of the above combinations would be valid for any job or Flow schedule, but you cannot assign the same combination to both a discrete job and a Flow schedule.

See Also

Defining Schedule Groups: page 2 – 53

Defining Discrete Jobs Manually

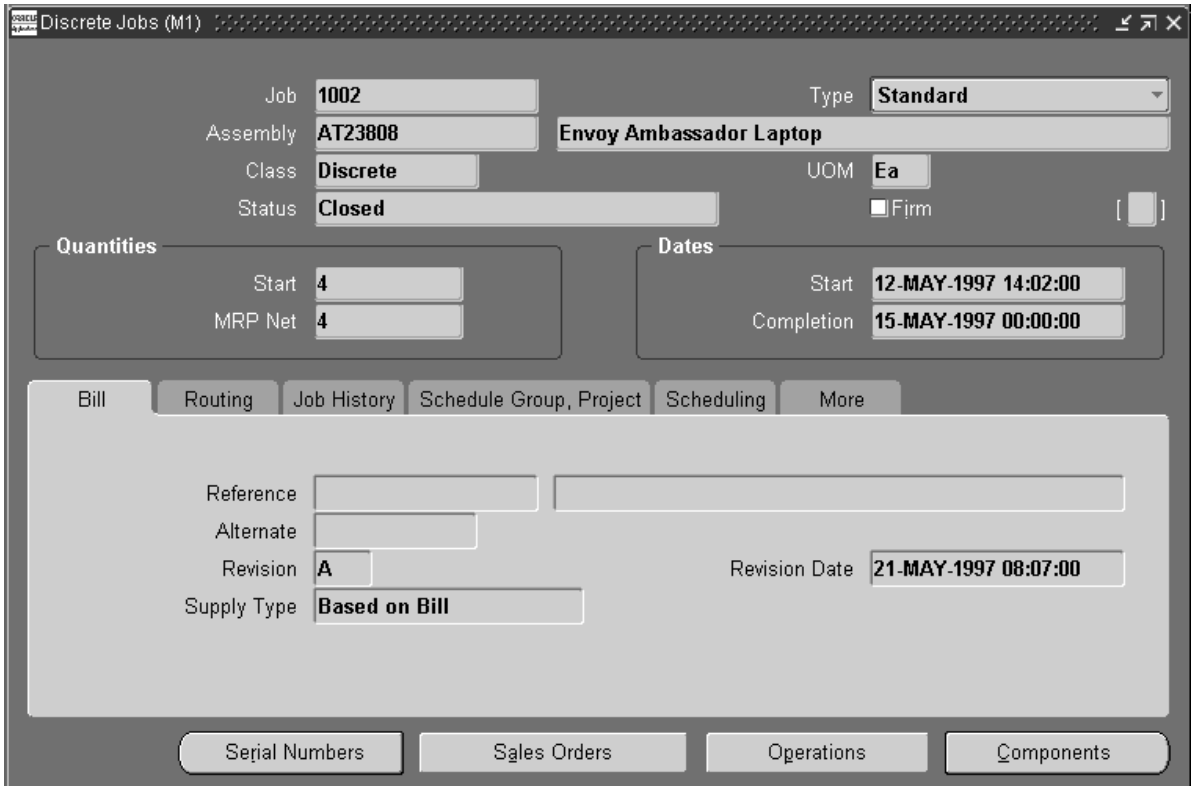
You can manually define standard, non–standard, and project jobs. You can assign bills and routings to standard discrete jobs to create material requirements, schedule operations, and create resource requirements. You can optionally assign alternate bills of material and/or alternate routings when you define standard discrete jobs (however, neither bills of material nor routings are required). You also can assign bill of material references and/or routing references to non–standard discrete jobs to create material requirements, schedule operations, and create resource requirements.

Further, you can attach illustrative or explanatory files (in the form of text, images, word processing documents, spreadsheets, video, and so on) to discrete jobs. See: About Attachments, *Oracle Applications User's Guide*.

After saving a job, use the Component and Operations buttons to immediately view the details of the job, including its material requirements, operations, and operation material and resource requirements.

▶ **To define a discrete job:**

1. Navigate to the Discrete Jobs window. The Discrete Jobs Summary window appears
2. Choose New to display the Discrete Jobs window.



You can define discrete jobs one–at–a–time in the Discrete Jobs window. This method is described below. You can, however, also define several jobs simultaneously using the Discrete Jobs Summary folder window. See: Combination Block, *Oracle Applications User's Guide*

Caution: The following nine fields cannot be accessed in the Discrete Jobs Summary folder window even if included in your user folder: bill and routing Alternates, bill and routing Revisions and Revision Dates; Completion Subinventory and Locator; and Supply Type. If you need to change the values that are defaulted into these fields, navigate to the Discrete Jobs detail window.

3. Enter or generate the Job name.

   You can generate a default Job name by choosing *Apply Default Job Name* from the Tools menu or by simply pressing the tab key. If you do enter the job name, it must be unique and alphanumeric.

Attention: Default job names can only be automatically generated by the automatic sequence generator if a prefix has been specified for the *WIP:Discrete Job Prefix* profile option.

4. Select the job Type, either Standard or Non–Standard. See: Standard Versus Non–Standard Discrete Jobs: page 4 – 4.

5. If defining a standard discrete job, select the job Assembly.

   The assembly is the item you are building. If a primary bill of material, primary routing, or both exist for this assembly, they are defaulted.

   You cannot select an assembly that has a primary routing that is Flow related. If you do, a warning is displayed and you are prompted to enter another routing designator.

   See: Creating a Flow Routing, *Oracle Bills of Material User's Guide*.

   Assemblies are optional for non–standard discrete jobs, however, you must enter them for non–standard discrete jobs with routings if you want to track shop floor move and resource transactions.

   If you set the *WIP:See Engineering Items* profile option to Yes, you can define jobs for engineering items.

Attention: If you are defining a job for an ATO sales order, you must enter an ATO item.

Attention: You can define discrete jobs for assemblies that do not have components and for assemblies that have components with disable dates less than or equal to the current date.

6. Select the accounting Class.

   If a default discrete WIP accounting class can be found, it is used. See: WIP Accounting Class Defaults: page 2 – 17 and Discrete Accounting Classes: page 2 – 42.

   For non–standard jobs, you can select any active Asset Non–standard or Expense Non–standard accounting class.

7. Select the job Status.

   When you define a job, its status defaults to Unreleased but can be changed to Released or On Hold. See: Discrete Job Statuses: page 11 – 7.

8. Check the Firm check box to firm your job. You cannot firm a non–standard discrete job.

   Firming a discrete job prevents MRP from suggesting rescheduling and replanning recommendations when changes to supply or

demand occur. If replanning is required, the MRP planning process creates new jobs to cover the new demand. See: Firm Order Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

▶ **To define job quantities:**

1. Enter the job Start quantity.

   Standard discrete jobs must have a start quantity greater than zero. When you enter a start quantity for jobs with bills and routings, the component material requirements, department schedules, resource load, and job start and end dates are all determined automatically.

   For non–standard jobs, if you enter a start quantity of 0 and specify a bill of material reference, the corresponding bill is exploded but material requirements equal to 0 are created. To perform move and completion transactions for a non–standard job, the start quantity must be greater than zero.

Attention: If you link a job to an ATO sales order, the start quantity defaults from the sales order. If you link several sales orders to a single job, the order quantities are totalled and the start quantity is automatically updated.

2. Enter the MRP Net quantity.

   The MRP net quantity is the number of assemblies that MRP considers as supply on the scheduled completion date.

   For standard and non–standard discrete jobs with assemblies, the MRP net quantity is derived from the job start quantity. For non–standard discrete jobs without assemblies, the default is zero.

Attention: On standard jobs, do not use MRP net quantity to identify planned shrinkage due to operation yield loss. The MPS and MRP planning processes automatically deduct scrapped assemblies from the quantity as you scrap. Therefore, reducing the MRP net quantity and scrapping assemblies double counts job scrap.

Attention: You can use MRP net quantity to identify planned shrinkage due to operation yield loss on non–standard jobs. Master Scheduling/MRP and Supply Chain Planning does not include quantities scrapped or the item shrinkage factor in determining available supply from a non–standard job.

▶ **To schedule a discrete job with a routing:**

- Enter or select either the Start or Completion date and time.

If you enter a start date and time the completion date and time are automatically forward scheduled based on the assembly's routing. Similarly, if you enter a completion date, the start date and time are automatically backward scheduled based on the assembly's routing. You can enter a past due start date to forward schedule a job that should have started before the current date. You cannot enter a start date and time greater than the completion date and time.

You can use the start date of the job to default bill and routing revisions and revision dates. If a start date is not entered, bill and routing revisions and revision dates default based on fixed and variable lead times of the assembly.

▶ **To schedule a discrete job without a routing:**

- Enter or select either the Start and/or Completion date and time.

  If you enter only one date and time and your job type is standard, the missing date and time is calculated using the fixed and variable lead time of the assembly. If the assembly has both a fixed and variable lead time, the lead time for the job is calculated as job quantity times variable lead time plus fixed lead time. If you enter only one date and time and your job type is non–standard, the other dates and times are calculated using the fixed and variable lead time of the routing reference.

  If your job is non–standard and has a routing reference, the fixed and variable lead times of the routing reference are used instead of the assembly lead time. If your job is non–standard and you specify no routing reference, you must enter both dates and times.

Attention: You can use the *WIP:Default Job Start Date* profile option to specify whether the start date for a job defaults to the current date and time or does not default at all.

▶ **To assign a bill of material reference to a non–standard discrete job and/or an alternate bill of material/revision to a standard discrete job:**

1. On the Bill tab, select the bill of material Reference if defining a non–standard discrete job.

   Bill of material references are used to create material requirements for non–standard discrete jobs, however, they are not required. Instead, you can define the job without material requirements, then customize it by adding only those material requirements that are required. See: Adding and Updating Material Requirements: page 7 – 10.

2. Select the Alternate bill of material. See: Primary and Alternate Bills of Material, *Oracle Bills of Material User's Guide*.

   You can select an alternate bill if alternates have been defined for the assembly you are building. If the *WIP:See Engineering Items* profile option is set to Yes, you can also select engineering items as alternates. See: Profile Options: page 2 – 64.

   For non–standard discrete jobs, you can enter any alternate defined for the bill Reference specified.

3. Select the bill of material Revision.

   The bill revision and date determines which version of the bill of material is used to create job component requirements. The start date of a standard discrete job can be used to default the bill revision and revision date. If a start date is not selected, the revision and revision date are derived based on fixed and variable lead times of the assembly.

   You can update the bill revision of a standard discrete job as long as the job remains unreleased. You can update the bill revision for standard bills or alternate bills. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   You can explode item revisions that have associated ECOs with Release, Schedule, and Implement statuses. If you set the *WIP:Exclude ECOs* profile option to None, you can also explode revisions for ECOs that have an Open status. See: ECO Implementation By Status: page 11 – 18.

   If you are building a non–standard job and the Revision Control attribute for the assembly item is set to Yes, the revision of the bill reference must be valid for the assembly. See: Defining Items, *Oracle Inventory User's Guide* and Inventory Attribute Group, *Oracle Inventory User's Guide*.

   You can create an ECO for a job and specify a cumulative quantity, a range of jobs, or implement changes for specific lots. For example: Job1 quantity is for 100 units of an item. If an ECO is created specifying a cumulative quantity of 50, the existing job is divided into two jobs and the ECO is implemented on the remaining 50 units. See: Defining ECO Revised Items, *Oracle Engineering User's Guide*

4. Select the bill Revision date and time.

   You can select a bill revision date other than the one that is derived for standard bills, alternate bills, or bill references. You can update this date as long as the job remains Unreleased.

5. Select the Supply Type.

   The supply type defaults to *Based on Bill*. This supply type indicates that component requirements are supplied based upon their individual supply types. You can override this default by choosing one of the following supply types: Push, Assembly Pull, Operation Pull, Bulk, or Supplier. See: Supply Types: page D – 2.

▶ **To assign a routing reference to a non–standard discrete job and/or an alternate routing/revision to a job:**

1. On the Routing tab, select the routing Reference if defining a non–standard job.

   Routing references can be used to create routings (operations and resource requirements) for non–standard discrete jobs, but are not required. You can optionally define non–standard jobs without routings, then customize them by adding only those operations that are required. See: Adding and Updating Operations: page 8 – 12.

   Attention: You can assign any routing to a non–standard job, including one that does not match the assembly you assigned, using the routing reference.

2. Select the alternate Routing.

   You can select an alternate routing if alternates have been defined for the assembly you are building. If the *WIP:See Engineering Items* profile option is set to Yes, you can select engineering routings as alternates. See: Profile Options: page 2 – 64 and Primary and Alternate Routings, *Oracle Bills of Material User's Guide*.

   For non–standard job, you can enter any alternate defined for the routing reference specified.

3. Select the routing Revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   The start date of a standard discrete job can be used to derive the routing revision and revision date. If a start date is not selected, the revision and revision date are derived based on fixed and variable lead times of the assembly.

   You can update the routing revision as long as the job remains unreleased. For standard discrete jobs, the routing revision determines which version of the routing is used to create the job routing (operations and resource requirements). For non–standard discrete jobs, the routing reference determines the routing for the job. The revision you select for the non–standard job applies to the routing reference, not the assembly.

4. Select the routing Revision Date and time.

   You can update routing revision dates for standard routings, alternate routings, or routing references. You can update routing revision dates as long as the job remains unreleased.

5. Select the completion Subinventory and, if required by the subinventory, Locator.

   Assemblies are completed into or returned from this subinventory and locator. If the assembly has a routing, the completion subinventory and locator are defaulted from the routing but can be overwritten. For non–standard discrete jobs, you can select completion subinventories and locators only if you specified an assembly.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

Attention: You can override the completion subinventory and locator you specify here when you complete or return assemblies using the Completion Transactions window.

Caution: You must specify a completion subinventory and locator if you plan to complete or return assemblies using the Move Transactions window since the subinventory and locator specified here are automatically used for those transactions.

Project locator logic is used if you are assigning a completion subinventory to a project job. See: Manage Locators in Project Manufacturing, *Oracle Project Manufacturing User's Guide*

▶ **To assign a demand class, kanban identifier, lot number, description, and overcompletion tolerance type and tolerance value:**

1. On the More tab, select the Demand Class.

   You can select any enabled and active demand class. Demand classes are not required. See: Overview of Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide* and Creating Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

2. If the assembly is under lot control, select a Lot Number.

   Lot numbers are automatically assigned based on how the *Default Lot Number Type* parameter is set, either by job name or based on Inventory lot number rules, but can be overwritten or deleted. See: Discrete Parameters: page 2 – 17.

When you complete or return assemblies using the Completion Transactions window, job lot numbers entered here are automatically defaulted but can be changed. Job lot numbers must be entered here before you can move and complete or move and return lot controlled assemblies using the Move Transactions window.

3. Enter the job Description.

   Descriptions can be used to identify jobs on standard reports. They can be up to 240 characters of alpha numeric text. They are optional.

4. Enter the Kanban reference.

5. In the Overcompletion region, select the Tolerance Type. The options are Percent or Amount. If you do not select the Tolerance Type, it implies an *infinite* tolerance value.

6. Enter the Overcompletion Tolerance Value that corresponds to the Overcompletion Tolerance Type that you selected.

   - If you did not select an Overcompletion Tolerance Type, no tolerance is indicated and you can over–complete all assemblies on this job.
   - If you indicate a value of zero, you will not be able to over–complete any assemblies on this job.

▶ **To define schedule group and project information:**

1. On the Schedule Group, Project tab, select the Schedule Group.

   You have the option to assign discrete jobs to any active schedule group. See: Defining Schedule Groups: page 2 – 53

2. Enter a Build Sequence identifier. See: Build Sequencing: page 3 – 61.

3. Select a production Line.

   You can select any active production line. Production lines are optional for discrete jobs. They are not used for scheduling or transactional purposes. However, if you do select a production line, the combination of schedule group, build sequence, and production line must be unique.

4. Select a Project and, if required, a task.

   You can only select a project if the current organization's *Project References Enabled* parameter is set in Oracle Inventory. You must select a task if the *Project Control Level* parameter is set to Task and

you have entered a project. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Creating Projects, *Oracle Projects User's Guide*.

5. Enter the Unit Number. This enables you to associate an end item model/unit effectivity number with the item.

   You must have Oracle Project Manufacturing installed, the item must be under model/unit effectivity control, and you must have a model/unit number associated with it to enable this functionality. If the item is not under model/unit number control, this field is disabled. See: Model/Unit Effectivity, *Oracle Project Manufacturing Implementation Manual*.

   Note: You can update unit effectivity through Mass Load for discrete jobs that are unreleased and project related.

6. Save your work.

   If you are defining a discrete job, you must save the job before viewing component requirements and operations for that job.

▶ **To define Manufacturing Scheduling information:**

If you have installed Oracle Manufacturing Scheduling, you can use the fields on this tab to change scheduling information defaulted from the WIP Parameters window. To enable this functionality, select the Constraint Based Scheduler check box on the Scheduling tab of the WIP Parameters window.

Warning: Do not check the Constraint Based Schedule check box unless you have installed Oracle Manufacturing Scheduling.

1. Select the Scheduling tab.
2. In the Requested Due Date field, you can enter a due date that is different than the completion date for the job.
3. In the Scheduling Priority field, enter a number ranging from 1 to 99, with 1 being the highest priority. The default priority is 10. See: Rescheduling All Job or Pending Scheduling Jobs, *Oracle Manufacturing Scheduling User's Guide*
4. In the Penalty Per Day Late field, enter a penalty factor value used for scheduling jobs not completed by the scheduled due date. Higher penalties generate attempts in scheduling to circumvent such an event.
5. In the Due Date Tolerance (days) field, specify the maximum number of days the job can be delayed during scheduling.

6. Save your work.

▶ **To change a saved job:**

- See: Updating Discrete Jobs: page 3 – 104.

▶ **To view pending job information:**

- You can determine if there are any pending transactions or documents for a job using the Transaction Summary window. See: Viewing Pending Job Transactions: page 3 – 97.

▶ **To view operations:**

- Choose the Operations button. The Operation window appears and the job's operations are displayed. You can optionally view the components required at a selected operation using the Components button. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view component requirements:**

- Choose the Components button. The Material Requirements window appears and the job's components are displayed. See: Viewing Component Requirements: page 7 – 18 and Viewing Component ATP Information: page 7 – 20.

Attention: When no routing exists, all components default to operation sequence of 1.

▶ **To view outside processing workflows:**

- See: Outside Processing Workflows: page 10 – 49.

▶ **To link an ATO sales order to a standard discrete job:**

- See: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74.

Attention: The Sales Order button is disabled if you are changing a production kanban job.

See Also

Setting up Discrete Manufacturing: page 3 – 8

Updating Discrete Jobs: page 3 – 104

Discrete Job Status Control: page 11 – 4

Discrete Job Statuses: page 11 – 7

Discrete Scheduling: page 13 – 5

Attaching Files to Jobs, Schedules, and Operations: page E – 2

Linking Sales Orders and Discrete Jobs

You can reserve assemblies on a Discrete job for a specific sales order line whether or not the assemblies are Assemble–to–Order (ATO) items. You link both standard and non–standard Discrete jobs to sales orders by selecting one or more sales orders from the Sales Order window when you create the job. You can link one or more sales order lines with one or more jobs.

You can also enter the demand class for the job to help you track production by sales channel. When you are building final assembly orders, the demand class is automatically loaded based on the customer. You can enter any valid demand class.

When linking ATO sales orders and jobs, however, the following rules are applied:

- the assembly item cannot be a Pick–to–order item
- the sales order line item must be demanded, but not yet shipped
- the assembly item must be a standard item or an ATO item, not a model or an option

The WIP parameter, Respond to Sales Order Changes, determines the response to changes for configured sales orders and their linked Discrete jobs. Options are to ignore the sales order change or change the status of linked jobs to On Hold. When making changes to sales order lines with ATO items, this parameter is ignored by the system. See: WIP Parameters: page 2 – 14.

You cannot cancel jobs linked to sales orders without first undoing the links between them (see the task.

Prerequisites

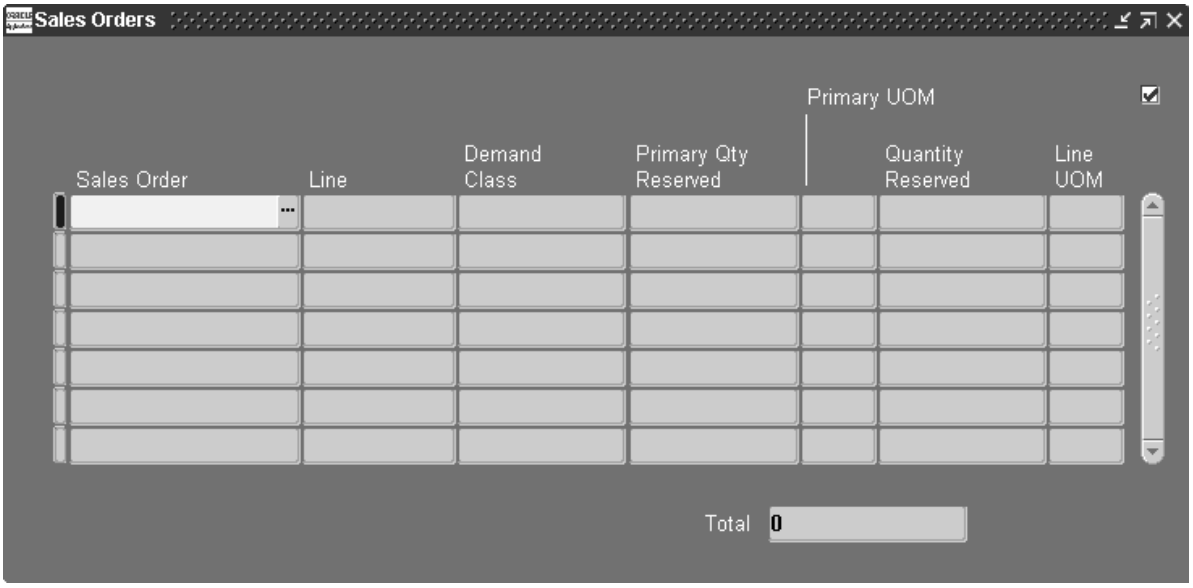
- ❑ Define at least one discrete job. See: Defining Discrete Jobs Manually: page 3 – 63.

▶ **To link a Discrete job with a sales order**

1. Navigate to the Discrete Jobs window.
2. Enter the Job name.

Attention: Once you chose a job or assign an assembly to a job, you can only select sales order lines that are for that assembly.

3. Choose the Sales Orders button. The Sales Order window appears.



4. Select one or more sales orders.

   You can select multiple sales orders as long as the total quantity allocated does not exceed the job quantity. You cannot select a sales order that has order lines that are currently being satisfied by a Flow schedule.

Attention: You can attach a sales order to a job before entering an assembly, start quantity, or demand class for a job. Work in Process defaults the assembly, start quantity, or demand class based upon the sales order you specify.

5. Enter the sales order Line.

   If you enter a line that also specifies a shipment number, the sales order shipment number is entered in the Ship Number field. You can specify a sales order line that does not include a sales order shipment number.

6. Enter the Quantity Allocated.

   This is the quantity of the sales order, line number, and shipment number combination that the discrete job fulfills.

7. Save your work.

▶ **To link a Discrete job with an ATO sales order:**

1. Select a Sales Order that has a line defined for the job's ATO item and demand class.

   You can select multiple sales orders as long as the total quantity allocated does not exceed the job quantity. You cannot select a sales order that has order lines that are currently being satisfied by a Flow schedule.

☞ **Attention:** You can attach a sales order to a job before entering an assembly, start quantity, or demand class for a job. Work in Process defaults the assembly, start quantity, or demand class based upon the sales order you specify.

2. Enter the sales order Line.

   If you enter a line that also specifies a shipment number, the sales order shipment number is entered in the Ship Number field. You can specify a sales order line that does not include a sales order shipment number.

3. Enter the Quantity Allocated.

   This is the quantity of the sales order, line number, and shipment number combination that the discrete job fulfills.

4. Save your work.

▶ **To view an ATO sales order linked with a discrete job:**

1. Navigate to the Discrete Jobs window.
2. Choose Find from the Query Menu. See: Finding Discrete Jobs: page 3 – 89.

▶ **To undo links between Discrete jobs and sales orders:**

1. Navigate to the Sales Order window.
2. Enter the Job name.
3. Choose the Sales Orders button. The Sales Order window appears.
4. Select one or more sales orders.

5. Choose Delete from the Edit Menu to undo the link.
6. Save your work.

Over–completion Quantities Reserved to Sales Orders

You can reserve over–completion quantities from jobs linked to sales orders when using the Completion Transactions and Move Transactions windows. To reserve over–completions:

- The linked sales order must be open.
- You enter the sales order number for each completion line. This reserves the surplus amount, otherwise the over–completion is unreserved excess inventory.

  Note: Oracle Mobile Supply Chain Applications does not support this feature.

Over–completion Reservations and Multiple Sales Orders

When multiple sales orders are tied to the same job, you can have instances where a job fulfilled by several sales orders is closed by over–completing only one order line. For example:

- JobA is a quantity of 200
- It is linked to Sales Order1 for 100, and Sales Order2 for 100, the completed quantities on both lines are reserved
- The over–completion tolerance for the job is 20 percent

  Note: Over–completion tolerance limits for discrete jobs are defined in the WIP Parameters window. See: Defining WIP Parameters: page 2 – 30
- 80 are completed referencing Sales Order1
- 120 completed referencing Sales Order2

The over–completion quantity meets the tolerance level, and the job status is changed to complete–even though Sales Order1 still has 20 units open linking to this job. You have several options to close this open record:

- Cancel the jobs linked to the sales order line
- Delink the jobs linked to the same sales order line
- Reduce the quantity on the jobs linked to the same sales order line

Sales Order Over–shipments and Over–completion Reservations

The over–shipment tolerance for the sales order is defined in Order Management. Depending on the tolerance settings for job over–completions and sale order over–shipments, it is possible to have job over–completions that are not reserved to the sales order. For example:

- JobA is for a quantity of 10, and linked to Sales Order1 for 10 each
- The over–completion tolerance is 20 percent for the job, and the over shipment tolerance is 10 percent for the sales order
- 12 are completed for Job A–an over–completion quantity of 2, (20 percent)

One of the over–completions is reserved to the job, the other is unreserved. You can reserve the other surplus by increasing the quantity on the picking transaction to reserve it to the sales order.

See Also

Defining Discrete Jobs Manually: page 3 – 63,

Assembly Over–completions and Over–returns: page 7 – 84

Completing Discrete Jobs: page 3 – 115.

Move Completion/Return Transactions: page 8 – 31.

Performing Move Completion and Move Return Transactions: page 8 – 48

Completing and Returning Assemblies: page 7 – 91

Serial Number Tracking Throughout Manufacturing

You can track your jobs using serial control throughout the manufacturing process. This enables you to assign and associate serial numbers to a job, and track the assembly by serial number as it progresses on the shop floor. Serial number tracking is enabled for discrete jobs, both standard and non–standard. This feature also includes:

- Serial control beginning at a specific point in the routing
- Association of serial numbers to jobs before build
- Serial based transaction entry
- Import and auto–generation of serial numbers
- Serial number label printing

You can view the genealogy of the serialized assembly including move transactions, component issues, returns to stock, and completions. See: Viewing Job Transaction Genealogy: page 3 – 100 and Describing Lot Split,Merge, and Genealogy, *Oracle Warehouse Management User's Guide*

Serial tracking for work in process transactions is only supported in the online mode through Oracle Mobile Supply Chain Applications.

Setting Up Serial Number Control Tracking

Serial control for items is defined in Oracle Inventory. Work order serial tracking for assemblies is set in the Work in Process Parameters window.

Inventory Setup

❑ Specify the serial control type as Predefined. This value is defined in Inventory attribute, Serial Generation.

Work in process serial tracking is only enabled when you use the value of Predefined. See: Inventory Attribute Group, *Oracle Inventory User's Guide*.

❑ Establish the type of serial number uniqueness for your organization in the Oracle Inventory Organization Parameters window.

Your options for serial number uniqueness are Within inventory items, Within an organization, or Across organizations. See:

Defining Revision, Lot, LPN, Serial Parameters, *Oracle Inventory User's Guide*

- ❑ Optionally, you can predefine serial numbers in Oracle Inventory.

  You can generate serial numbers using the Serial Number Generation concurrent program, see: Generating Serial Numbers, *Oracle Inventory User's Guide*. You also have the option to generate numbers from within the Associate Serial Numbers window.

Work in Process Setup

Several parameters are set in the Serial tabbed region of the Work in Process Parameters window. See: Defining WIP Parameters: page 2 – 30

- ❑ Default Serialization Start Operation

  Determines the job operation where serial number tracking begins. The serial start operation on the item routing is always copied to the job routing during job creation. If there is no serialization start operation on the item routing, and this parameter is enabled – the serialization start operation is defaulted to the first operation on the job routing, This value displays on the Discrete Jobs window. If this parameter is not enabled, the serialization start operation on the job routing is blank, and serialization is disabled.

- ❑ Auto Associate Serial Numbers on Job Creation From Interface

  If this parameter is enabled, serial numbers are automatically generated and associated to a job when a job is created through the WIP Mass Load Interface.

  When you submit the WIP Mass Load program using the Import Jobs and Schedules window, new standard and non–standard discrete jobs are created. The Work Order Interface uses the value in this parameter to create serialized records for the new jobs. See:Importing Jobs and Schedules: page 15 – 35, and Work Order Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

- ❑ Default Intraoperation Step for Assembly Moves

  This parameter is used for move transactions on a serialized job. It defines a default value for the intraoperation step where you are moving assemblies – the To step. Your choices are Queue, Run, To move, and Null. The following table shows the next move for for Default Intraoperation Step values in this parameter.

Default Intraoperation Step Value	To Step for the Next Move Transaction
Queue	The next Queue step in the routing
Run	The next Run step in the routing
To move	The next To move in the routing
Null	A default step is not set, you must specify the step in your move transaction

.

- Example One

  There are three operations in a serialized job –10, 20, 30. Operation 10 is the Serialization Start Operation, and the Default Intraoperation Step for Assembly Moves is set to Queue.

  The first time a serialized move is performed, the From Operation and From Step are set to 10 Queue because the assembly is still at 10 Queue.

  The To Operation is defaulted to the next count point operation, and the To Step is defaulted to Queue because the parameter is set to this value.

  If all the operations are count point operations, the first transaction moves from 10 Queue to 20 Queue, and the second transaction moves from 20 Queue to 30 Queue.

- Example Two

  There are three operations in a serialized job –10, 20, 30. Operation 10 is the Serialization Start Operation, and the Default Intraoperation Step for Assembly Moves is set to either Run or To Move.

  The first time a serialized move is performed, the From Operation and From Step are set to 10 Queue because the assembly is still at 10 Queue.

  The To Operation is defaulted to the From Operation because the value for Default Intraoperation Step for Assembly Moves is later in the routing than the current step (that is, Run and To Move takes place after Queue),

  If all the operations are count point operations, the first transaction moves from 10 Queue to 10 Run or To Move (depending on the default value). The second transaction moves from 10 Run or To Move, to 20 Run or To Move.

- ❑ Transaction Processing Mode

  This parameter has two settings: Online and Background. For serialized transactions, this parameter is ignored and will always use the Online setting.

See Also

Setting Up Serial Number Control, *Oracle Inventory User's Guide*

Serial Number Control, *Oracle Inventory User's Guide*,

Associating and Modifying Serial Number Job Information: page 3 – 82

Associating and Modifying Serial Number Job Information

The Associate Serial Numbers window is accessed from the Discrete Jobs window, and is enabled only for jobs under serialization. If you are creating a new job, you must first save your record in order to enter information on this window.

This window enables you to generate and associate new or existing serial numbers to the job. You can also print labels for these serial numbers from this window.

▶ **To associate serial number to jobs:**

1. Navigate to the Associate Serial Numbers window.

   The Job name, Job Quantity, and Assembly name field values default from the record accessed on the Discrete Jobs window.

   If there is a quantity of this job already associated to serial numbers – that quantity displays in the Qty Associated field, and those serial records display in the Associate Serial Numbers region.

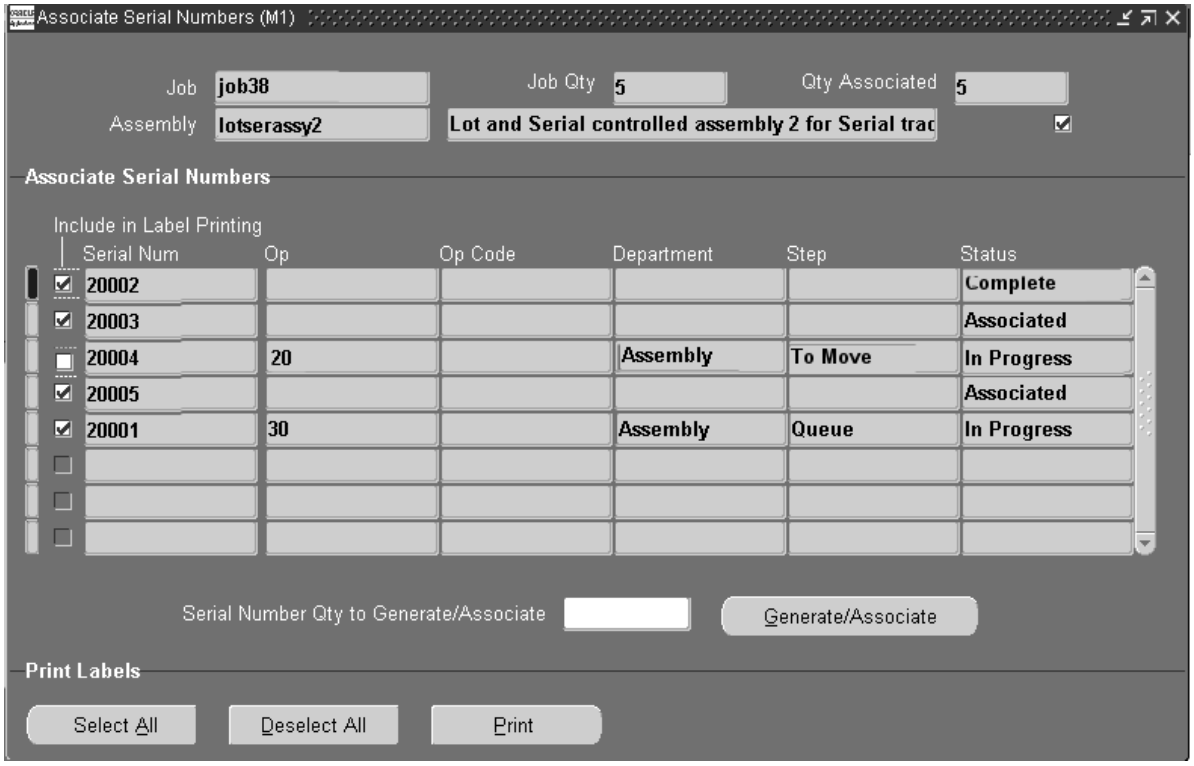
   Association can be performed either by creating a new record, selecting from the list of values, or generating multiple serial numbers to a job.

2. To create a new serial number and associate to an assembly, enter a value in the Serial Number field.

   You can enter any value according to serial number uniqueness rules. See: Defining Revision, Lot, LPN, Serial Parameters, *Oracle Inventory User's Guide*

3. You also have the option to select a serial number from a predefined list of values.

   See: .Generating Serial Numbers, *Oracle Inventory User's Guide*



4. To generate and associate serial numbers from this window, enter the number of serial numbers to generate in the Serial Number Qty to Generate/Associate field.
5. Choose Generate/Associate.

   The serial number values display in the Serial Number field. The number of serial numbers associated to this job displays in the Qty Associated field.
6. Check the Include in Serial Printing if you want to print labels for these records.
7. Save your work.

   Initially, the values in the Operation, Operation Code, Department, and Step fields are blank – and the Status field is Associated until you perform transactions.

As you perform move transactions, the applicable values for those moves display Operation, Operation Code, Department, and Step fields. The Status field is In Progress while you are performing move transactions.

When the assembly is completed, the value in the Status field changes to Complete.

▶ **To cancel a serial number associated to a job:**

1. Select the row for the record you want to disassociate.
2. Delete the entire row from the window.

   You can only disassociate or delete rows with a status of Associated.

Label Printing for Serialized Parts

Labels can be printed after serial numbers have been associated to a job. You can set up serial label printing either in Oracle Inventory, or Oracle Warehouse Management. This includes selecting serial number label types, formats, and assigning printers.

You can print labels from the Associate Serial Numbers window, or from the mobile device window.

▶ **To print serial number labels using the Associate Serial Numbers window:**

1. Enable the Include in Label Printing check box for the serial records you want to print.

   In the Print Labels region, you can enable all the serial number records for printing by choosing Select All. You can disable all selected records for printing by choosing Deselect All. .
2. Choose Print.

Moving Serialized Assemblies

You can perform serialized move transactions through Oracle Mobile Supply Chain Applications using a mobile device. The location of the assembly on the routing determines the window used for the transactions. For example, jobs not serialized do not require serial entry

– and serialized jobs require serial number entry before you can proceed. This functionality uses the following rules:

- Before reaching the serialization start operation, move transactions are performed using the window where serial number entry is not available.
- Once a serialized assembly moves to the Queue of the serialization start operation, move transactions are performed using a window requiring serial number entry.
- The current location of the assembly (the From Operation and Step), and the setting of the Default Intraoperation Step for Assembly Moves parameter – is used as the default destination for the To Operation and Step.

  The default destination is the next occurrence of the step that you selected for the parameter setting. The next occurrence is in either the current operation, or the next countpoint operation – depending on the From Step. Default information can be changed. For example:

  – If the From Operation and Step is 20 Queue, and the parameter is set to Run, 20 Run is the default value for the To Operation.

  – If the From Operation and Step is 20 Queue, and the parameter is set to Queue, 30 Queue is the default if 30 is a countpoint operation.
- Before the serialization start operation, where serial number entry is not available, you can move both backward and forward. However, when moving forward, an assembly must be moved to Queue of the serialization start operation before it can move forward. Starting from that point, the serial number represents a specific assembly and serial number entry is required.
- Backflush components are issued in the quantity and item as defined on the bill of material.
- Genealogy is not built for negative issues and negative return transactions in serial number tracking.
- Only serial numbers associated with a specific job can be transacted for that job.
- Only one assembly can be moved or completed per transaction.

- In Rules based component picking, you cannot employ the option to have push issue transactions created automatically for serialized components.

Project Jobs

Jobs with project or project and task references are known as project jobs. You can add project references to both standard and non–standard discrete jobs.

Project jobs make it possible to track the material and manufacturing costs that are specific to a project. You can issue project or common inventory to project jobs. You can also charge resources and overhead to project jobs.

Like other discrete jobs, project jobs can created in several ways:

- manually defined in the Discrete Jobs window
- planned in Oracle Master Scheduling/MRP and Oracle Supply Chain Planning then implemented using the Planner Workbench

Attention: You can add project references to discrete jobs only If the *Project References Enabled* organization parameter in Oracle Inventory is set. You must also specify a task if the *Project Control Level* organization parameter is set to Task and the job has a project. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Creating Projects, *Oracle Projects User's Guide*.

See Also

Assigning Project Parameters, *Oracle Project Manufacturing User's Guide*

Building Discrete Jobs

Steps involved in building discrete jobs include:

- Releasing jobs to production. See: Releasing Discrete Jobs: page 3 – 92.
- Issuing components to jobs and, if necessary, returning them back to inventory. See: Issuing and Returning Specific Components: page 7 – 49 and Issuing and Returning All Push Components: page 7 – 54.
- Using Shop Floor Control to coordinate, on an as required basis, the following:
  - Moving assemblies between routing operations and intraoperation step. See: Performing Move Transactions: page 8 – 37.
  - Scrapping assemblies. See: Scrapping Assemblies: page 8 – 72.
  - Backflushing or issuing and returning operation pull and assembly pull components automatically with move transactions
  - Charging resources. See: Charging Resources with Move Transactions: page 9 – 36 and Charging Resources Manually: page 9 – 33.
- Changing jobs to accommodate changes in production. See: Changing Discrete Jobs: page 3 – 105 and Mass Changing Discrete Job Statuses: page 3 – 109.

  Note: If you have Oracle Shop Floor Management installed, you can use lot based jobs in your manufacturing. The entire quantity of a lot based job moves on the basis of the network routing.

See Also

Overview of Material Control: page 7 – 2

Overview of Shop Floor Control: page 8 – 2

Finding Discrete Jobs

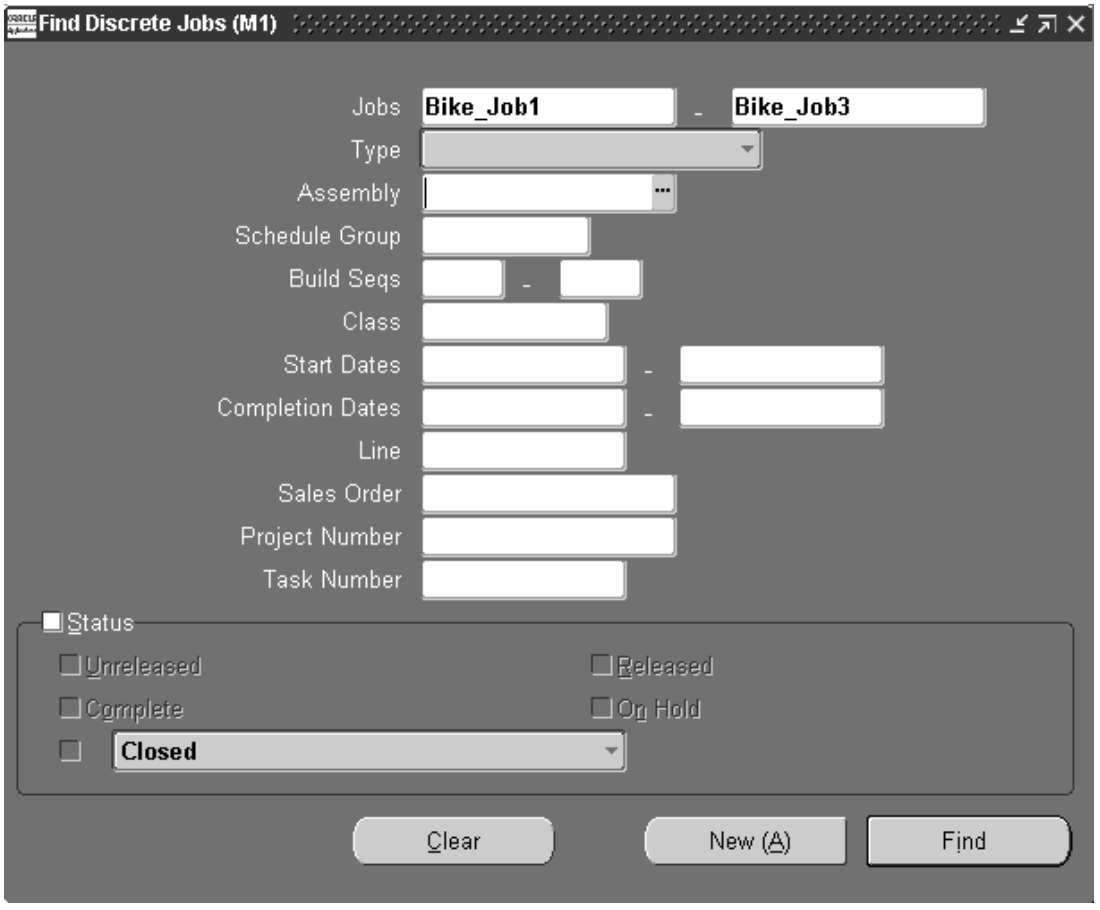
You can find then view, release, change, reschedule, or close discrete jobs. You can also query to find jobs to purge.

▶ **To find one or several discrete jobs to view, release, change, reschedule, or close:**

1. When the Find Discrete Jobs window appears, enter your search criteria.

   You can query by Job name, job Type (standard or non–standard), Assembly, Schedule Group, a range of Build Sequences, accounting Class, a range of Start Dates, a range of Completion Dates, Sales Order, Project Number, Task Number, or job Status. You can combine or omit criteria as required.

   Caution: Querying to find jobs does not validate the records returned. For example, querying to find a range of jobs to close does not return only those jobs in that range that can be closed.

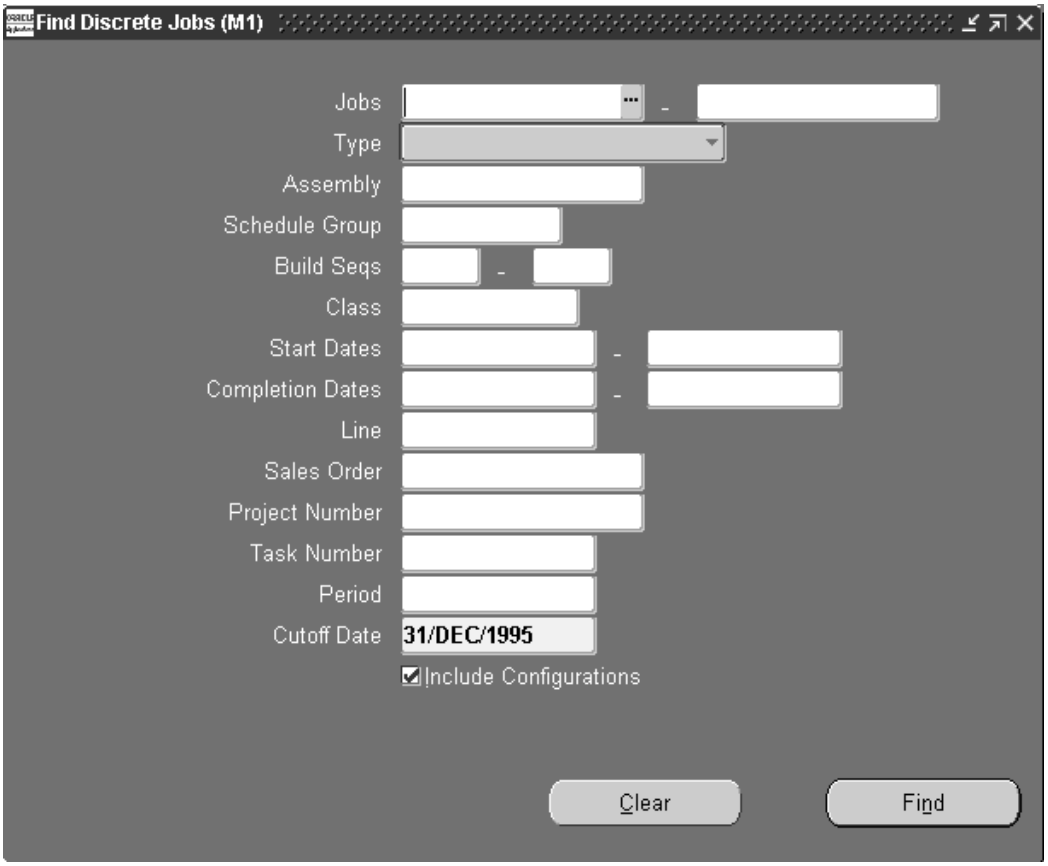


2. Choose the Find button.

▶ **To find one or several discrete jobs to include in your purge:**

1. When the Find Discrete Jobs window appears, enter your general search criteria.

   You can by query by Job name, job Type (standard or non–standard), Assembly, Schedule Group, a range of Build Sequences, accounting Class, a range of Start Dates, a range of Completion Dates, Sales Order, Project Number, or Task Number.



2. Select an accounting Period or enter a Cutoff Date for the purge.

   You can query by closed accounting Period. When you select an accounting period, the end date of that period is defaulted as the purge Cutoff date and cannot be overridden.

   If you do not select an accounting Period, the cutoff date of the most recently closed accounting period is defaulted. You can override this date with any date in a closed period.

☞ **Attention:** Only jobs with close dates before or on the purge cutoff date are purged.

3. Choose whether to Include Configurations for jobs that have ATO configurations.

   If you do not choose to include jobs that have ATO configurations in your query, no jobs that include ATO configurations are returned when you choose Find. If you do include configurations, you still

have access to lot and serial information using the Lot Genealogy window or the Lot Transactions and Transaction Serial Numbers windows in Oracle Inventory. See: Viewing Material Transactions, *Oracle Inventory User's Guide*.

Attention: If Oracle Bills of Materials purges the configured item that you build in Work in Process, then Oracle Bills of Material replaces the configured item on the job with the model the configuration was based on. You do not want to include configurations if you need this information for customer support. For example, if a customer complains that you did not build the configuration he ordered.

See Also

Searching for Information, *Oracle Applications User's Guide*

Releasing Discrete Jobs

You must release a job to production before transacting against it. Releasing a discrete job with a routing automatically loads the job quantity into the Queue intraoperation step of the first operation. If PO Move or PO Receipt resource requirements exist at the first operation, purchase requisitions for these resources are automatically generated.

▶ **To release a single job:**

1. Navigate to the Discrete Jobs window.
2. Find a job. See: Finding Discrete Jobs: page 3 – 89.
3. Change the selected job's status to Released. See: Discrete Job Statuses: page 11 – 7.

Attention: You can release discrete jobs in either the Discrete Jobs Summary window or the Discrete Jobs window. See: Combination Block, *Oracle Applications User's Guide*.

4. Save your work.

▶ **To release several discrete jobs:**

- See: Mass Changing Discrete Job Statuses: page 3 – 109.

See Also

Job and Repetitive Schedule Status Changes: page 11 – 15

Discrete Job Status Control: page 11 – 4

Printing Reports for Current Discrete Jobs

If you are in the Discrete Jobs, Close Discrete Jobs, Purge Discrete Jobs, or View Discrete Jobs window, you can use the *Print Reports* Tools menu option to print the Discrete Job Routing Sheet, Discrete Job Pick List Report, or the Discrete Job Shortage Report for the *activ*e or current job. See: Current Record Indicator, *Oracle Applications User's Guide*.

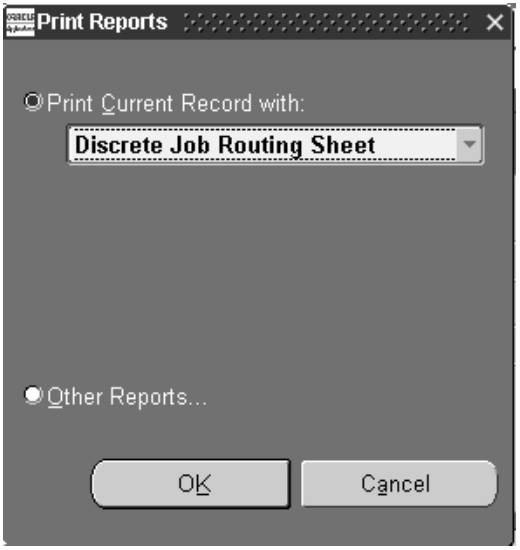
> **Additional Information:** These are the reports that make up the Discrete Shop Packet: page 15 – 29.

You can also use the Print Reports window to navigate to the Submit Requests window.

▶ **To print a report for the current discrete job:**

1. From the Discrete Jobs, Close Discrete Jobs, or View Discrete Jobs window choose *Print Reports* from the Tools menu. See: Tools menu: page F – 2.

   The Print window appears.



2. Select the *Print Current Record with* option.
3. Select the name of the report and choose OK.

   When you choose OK, a concurrent request to print the report is submitted. You can view the status of concurrent requests. See: Using the Concurrent Requests Window, *Oracle Applications Users Guide.*

▶ **To submit a request for a different report:**

1. Select the *Other Reports* option from the Print Reports window.
2. Choose OK. The Submit Requests window appears.

See Also

Submitting a Request, *Oracle Applications User's Guide*

Discrete Job Routing Sheet: page 15 – 19

Discrete Job Pick List Report: page 15 – 17

Discrete Job Shortage Report: page 15 – 21

Viewing Discrete Jobs

To view discrete job information see:

- Viewing Discrete Job Information: page 3 – 95
- Viewing Material Requirements: page 7 – 14, Viewing Component Requirements: page 7 – 18, and Viewing Component ATP Information: page 7 – 20
- Viewing Operations: page 8 – 20 and Viewing Job and Schedule Operations: page 8 – 22
- Viewing Resource Requirements: page 9 – 27
- Viewing Job Transaction Genealogy: page 3 – 100

You also can view discrete job information on a variety of reports.

If you have Oracle Shop Floor Management installed, discrete job reports also support lot based job information. See: Lot Based Job Reporting, *Oracle Shop Floor Management User's Guide*

Viewing Discrete Job Information

You can view information for discrete jobs of any status, including jobs that are closed, cancelled or on hold. You can also view operation, material requirement, and resource requirement information associated with discrete jobs.

The Production Control Board's Discrete Workstation provides you with detailed information on all of the immediate and future job operations for a department and resource that you select. You also can view all information for one job in the View Discrete Jobs window, or partial information for several jobs using the Discrete Jobs Summary folder window. See Combination Block, *Oracle Applications User's Guide* andCustomizing the Presentation of Data in a Folder, *Oracle Applications User's Guide*.

▶ **To view discrete job information:**

- Navigate to View Discrete Jobs window. When the Find Discrete Jobs window appears, enter your search criteria. See: Finding Discrete Jobs: page 3 – 89.

  Jobs are automatically displayed in the View Discrete Jobs Summary folder window. The information you can view in summary window, depends on how your discrete job folder is defined. Using

the Summary/Detail option from the Go Menu, you can switch to the View Discrete Jobs window to view all information for a selected job. You can optionally navigate to the View Discrete Jobs window by choosing the Open button from the View Discrete Jobs Summary window.

▶ **To print reports for a job:**

- You can print reports for the 'active' or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93.

▶ **To view operations:**

- From either the View Discrete Jobs or View Discrete Jobs Summary windows choose the Operations button. The Operation window appears and displaying the job's operations. You can optionally view the components required at a selected operation using the Components button. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view component requirements:**

- From either the View Discrete Jobs or View Discrete Jobs Summary windows, choose the Components button. The Material Requirements window appears and the job's components are displayed. See: Viewing Component Requirements: page 7 – 18 and Viewing Component ATP Information: page 7 – 20.

Attention: When no routing exists, all components default to operation sequence of 1.

▶ **To view sales orders that are linked to a standard discrete job:**

- From either the View Discrete Jobs window, choose the Sales Order button. See: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74.

▶ **To view pending job information:**

- You can determine if there are any pending transactions or documents for a job using the Transaction Summary window. See: Viewing Pending Job Transactions: page 3 – 97.

▶ **To view outside processing workflows:**

- See: Outside Processing Workflows: page 10 – 49.

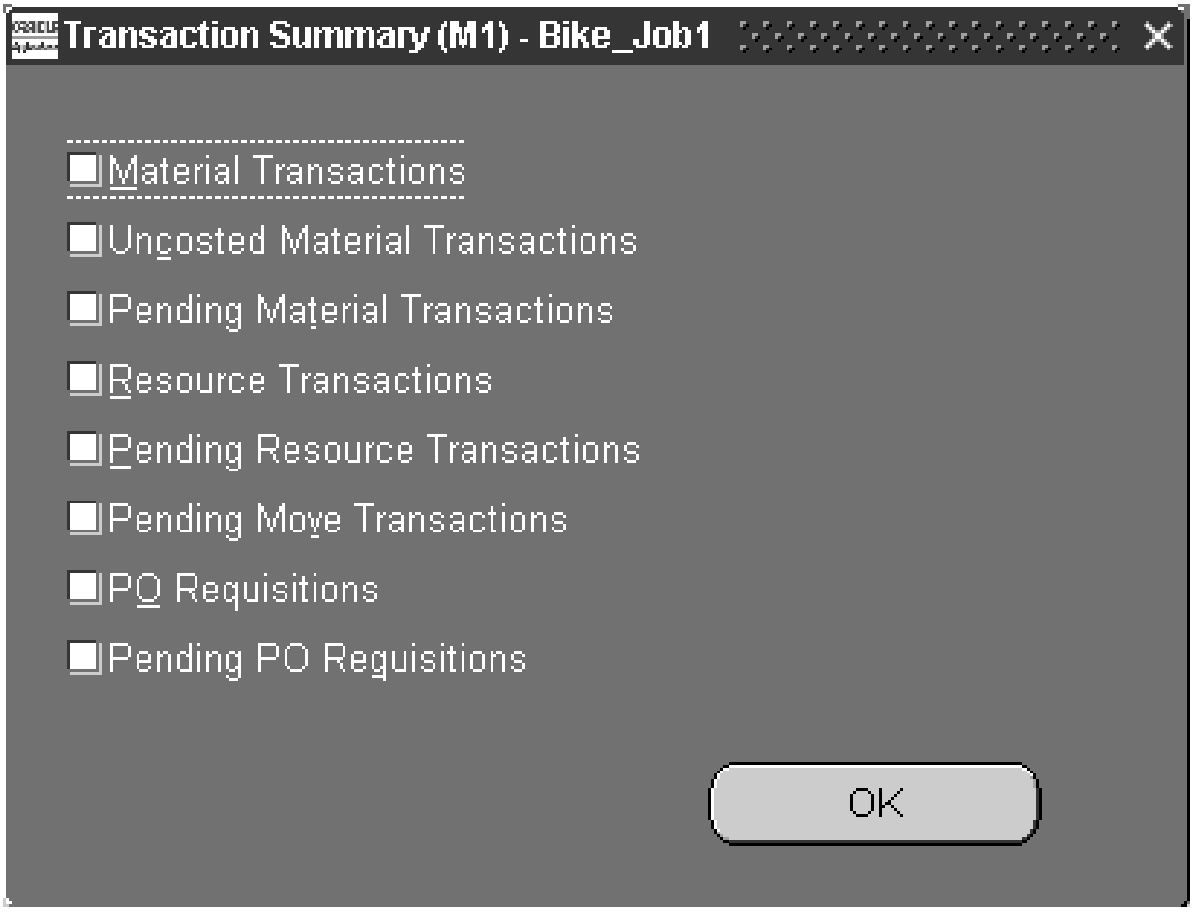
Work in Process provides workflows to track outside processing of assemblies. If you want to activate workflow notifications, you must have your system administrator set up the WIP:Enable Outside Processing Workflows profile option. See: Outside Processing Workflow Setup: page 10 – 54

Viewing Pending Job Transactions

You can use the Transaction Summary window to determine if there are pending transactions or unprocessed documents associated with a job. You cannot purge or close jobs if pending transactions or unprocessed documents exist. In some instances, you also cannot change a job from one status to another. For example, you cannot change jobs from a Released to an Unreleased status if pending information exists.

▶ **To view pending transactions and conditions for a job:**

1. Select a queried job in the Discrete Jobs, View Discrete Jobs, Close Discrete, or Purge Discrete Jobs window. See: Finding Discrete Jobs: page 3 – 89.
2. Choose *Transaction Summary* from the Tools menu to invoke the Transaction Summary window. See: Tools menu: page F – 2.



If a restriction exists, the check boxes indicating the type of restrictions is marked. An explanation of each restrictive condition follows:

Material Transactions: Components have been issued to the job and there are records in the WIP_REQUIREMENTS_OPERATIONS table. You can view information about issues material in the Material Requirements. See: Viewing Material Requirements: page 7 – 14 and Viewing Component Requirements: page 7 – 18.

Uncosted Material Transactions: There are uncosted transaction records in the MTL_MATERIAL_TRANSACTIONS table. You can check to see if transactions are uncosted, the costed indicator is off, using the Material Transactions window. See: Viewing Material Transactions, *Oracle Inventory User's Guide* and Oracle Inventory Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink*.

Pending Material Transactions: There are unprocessed material transaction records in the MTL_MATERIAL_TRANSACTIONS_TEMP table. You can view, update, and resubmit these records in the Pending Transactions window in Oracle Inventory. See: Viewing Pending Transactions, *Oracle Inventory User's Guide* and Oracle Inventory Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink*.

Resource Transactions: Resources have been charged and there are records in the WIP_OPERATIONS_RESOURCES table.

Pending Resource Transactions: There are pending resource and overhead transaction records in the WIP_COST_TXN_INTERFACE table. You can view and resubmit these records using the Pending Resource Transactions window. See: Processing Pending Resource Transactions: page 9 – 47 and Oracle Work in Process Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink*.

Pending Move Transactions: There are pending move transaction records in the WIP_MOVE_TXN_INTERFACE table. You can view and resubmit these records using the Pending Move Transactions window. See: Processing Pending Move Transactions: page 8 – 54 and Oracle Work in Process Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink*.

PO Requisitions: There are purchase requisitions in the PO_REQUISITION_LINES table. See: Reviewing Requisition, *Oracle Purchasing User's Guide* and Oracle Purchasing Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink* .

Pending PO Requisitions: There are unprocessed records in the PO_REQUISITION_ INTERFACE table. See: Requisition Import Process, *Oracle Purchasing User's Guide* and Oracle Purchasing Electronic Technical Reference Manual (eTRM) on Oracle *MetaLink*.

See Also

Closing Discrete Jobs: page 3 – 121

Purging Discrete Jobs: page 3 – 128

Viewing Discrete Job Information: page 3 – 95

Viewing Job Transaction Genealogy

You can view historical information for discrete jobs in the Lot Genealogy window. This graphical interface provides an integrated view of genealogy information for discrete jobs, lot based jobs, and Oracle Warehouse Management inventory transactions. You can view transaction information for discrete jobs such as component issues, assembly completions, and move transactions.

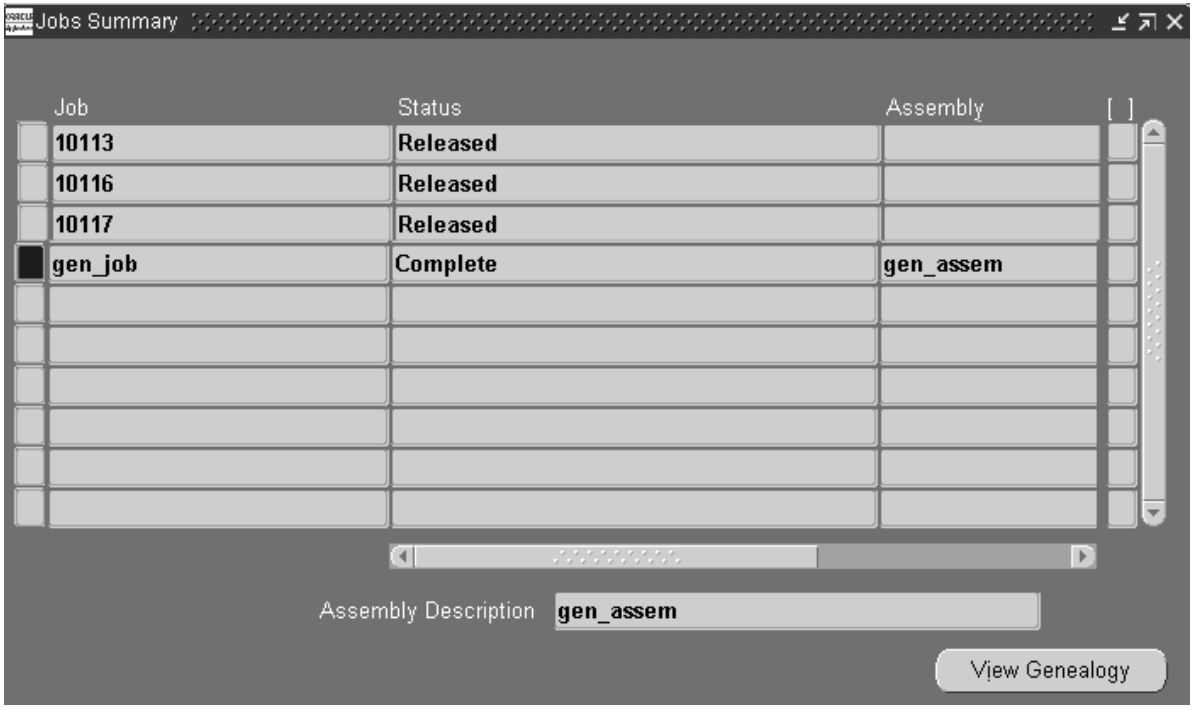
▶ **To view discrete job transaction genealogy:**

1. Select View Genealogy from the Work in Process menu.
2. When the Find Lots/Jobs window appears, select the Jobs radio button.
3. Enter your search criteria.

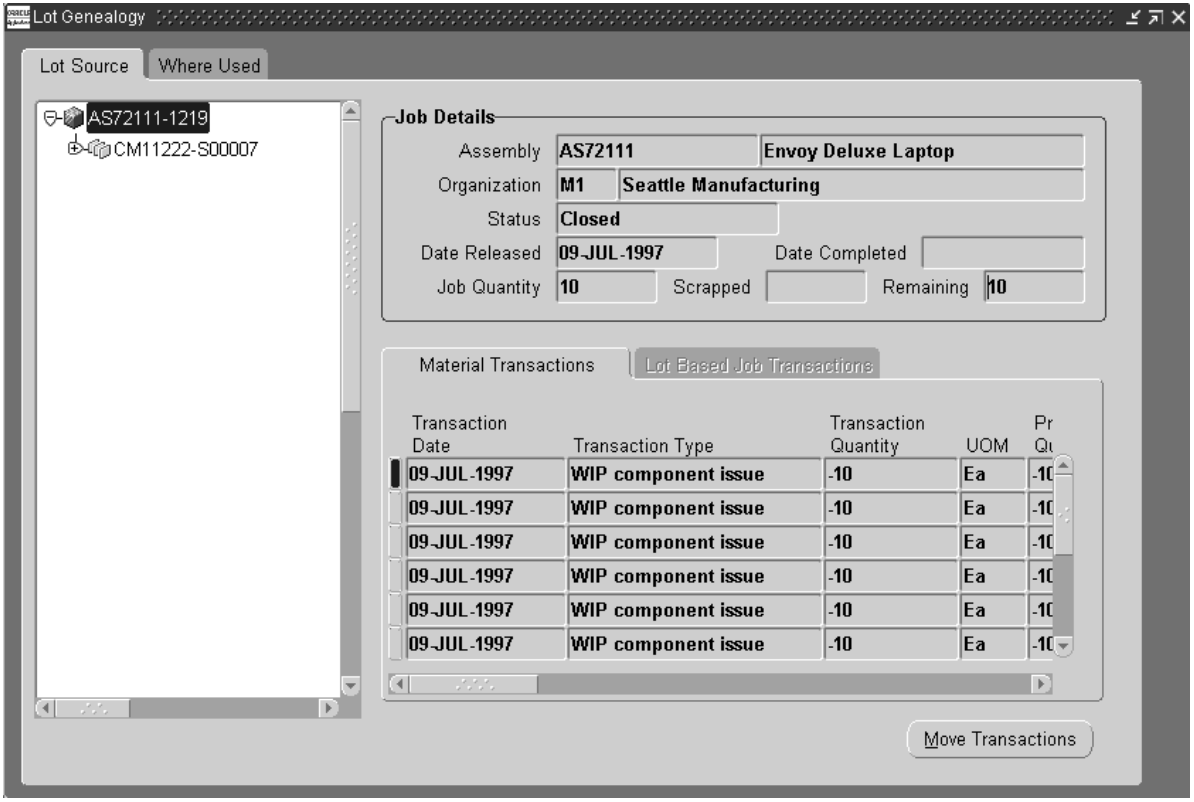
   You can query by Jobs, Assembly, job Status, a range of Start Dates, and a range of Completion Dates. You can combine or omit criteria as required.

4. Choose Find.

The Jobs Summary window appears with the records that meet your criteria and displays job name, status, assembly, and start and completion dates.



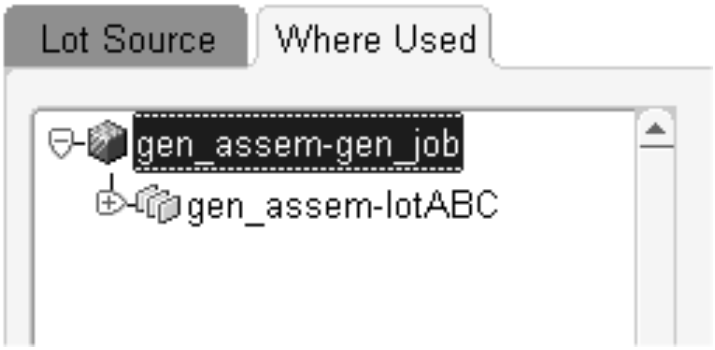
5. Select a record and choose View Genealogy.



The Lot Genealogy window displays. The left pane is in a tree format containing two tabs for different views:

- Lot Source displays the source of the record you are viewing. It is designated by assembly name, appended by the job name, at the top node of the tree. For example, you may be producing a specific job from components of a particular lot. Material used in this assembly/job combination is expanded under the top node.

- Where Used displays the assembly this material is used. It is designated by assembly name, appended by the job name, at the top node of the tree. The assembly/job combinations using this top record are expanded below it.



In the right pane, information about the job displays in the Job Details region. The Material Transactions tab displays historical transaction information for the record selected on the hierarchical tree. You can view transactions such as component issues and assembly completions.

Note: The Lot Based Job Transactions tab is available only for Oracle Shop Floor Management enabled organizations.

6. Choose Move Transactions to access the View Move Transactions window. See: Viewing Move Transactions: page 8 – 52

See Also

Describing Lot Split,Merge, and Genealogy, *Oracle Warehouse Management User's Guide*

Updating Discrete Jobs

You can make the following changes to your discrete jobs:

- Change the name of existing jobs in the Discrete Jobs window, but only if the *WIP:Job Name Updatable* profile option is set. See: Profile Options: page 2 – 64.
- Change dates, quantities, bills, statuses, and routings. See: Changing Discrete Jobs: page 3 – 105, Rescheduling Discrete Jobs: page 3 – 106, and Mass Changing Discrete Job Statuses: page 3 – 109.
- Add, update, and delete operations. See: Adding and Updating Operations: page 8 – 12, Deleting Operations: page 8 – 17, and Midpoint Rescheduling: page 8 – 18.
- Add, update, and delete material requirements. See: Adding and Updating Material Requirements: page 7 – 10 and Deleting Material Requirements: page 7 – 13.
- Add, change, and delete resource requirements. See: Adding and Updating Resource Requirements: page 9 – 16 and Deleting Resource Requirements: page 9 – 25.
- Implement engineering change orders in Oracle Engineering. See: Implementation of ECOs on Discrete Jobs and Repetitive Schedules, *Oracle Engineering User's Guide* and ECO Implementation By Status: page 11 – 18.
- Add, change, and delete WIP Attachments. See: Attaching Files to Jobs, Schedules, and Operations: page E – 2.
- If you have Oracle Shop Floor Management installed, you can create and update lot based jobs. The entire quantity of a lot based job moves on the basis of the network routing.

See Also

Discrete Job Status Control: page 11 – 4

Job and Repetitive Schedule Status Changes: page 11 – 15

Creating a Lot Based Job, *Oracle Shop Floor Management User's Guide*

Changing Discrete Jobs

You can change discrete jobs using the Discrete Jobs and Discrete Jobs Summary windows. The status of the job determines if and what information can be changed. See: Discrete Job Status Control: page 11 – 4.

Quantities

You can increase or decrease the job quantity with no restrictions if the job is unreleased. If the job is released and work has begun on the assembly, you cannot decrease the job quantity lower than the number of assemblies that have already passed the Queue intraoperation step of the first operation. If a sales order is linked to the job, you cannot decrease the job quantity lower than the order quantity. The material requirements and job dates are automatically adjusted based upon the quantity change. If the job's assembly is an MPS–planned item, the update process automatically adjusts the MPS relief quantity.

Dates

You can reschedule standard and non–standard jobs to respond to changes in plans or unexpected downtime by changing their start and/or completion dates and times. Jobs might require rescheduling when capacity or material schedules change, or when standards change. See: Rescheduling Discrete Jobs: page 3 – 106.

Statuses

You can change the status of a discrete job although some changes from one status to another are disallowed and others are conditional. See: Job and Repetitive Schedule Status Changes: page 11 – 15.

Prerequisites

- ❑ Define at least one standard or non–standard discrete job. See: Defining Discrete Jobs Manually: page 3 – 63.

▶ **To change discrete jobs:**

1. Navigate to the Discrete Jobs window.
2. Choose Find from the Query Menu. See: Finding Discrete Jobs: page 3 – 89.
3. Change jobs in either the Discrete Jobs or Discrete Jobs Summary folder window. From the Discrete Jobs Summary window, you can

choose the Open button to navigate to the Discrete Jobs window. See: Combination Block, *Oracle Applications User's Guide*.

▶ **To view pending job information:**

- You can use the Transaction Summary window to determine if pending transactions or conditions exist for a job. Some status changes are disallowed when pending information exists. See: Viewing Pending Job Transactions: page 3 – 97.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Mass Changing Discrete Job Statuses: page 3 – 109

Rescheduling Discrete Jobs: page 3 – 106

Attaching Files to Jobs, Schedules, and Operations: page E – 2

Rescheduling Discrete Jobs

You can reschedule standard and non–standard discrete jobs with and without routings. You can enter job start and completion dates earlier than the current date to maintain relative date priorities for department schedules and material requirements. You can also reschedule discrete jobs by rescheduling their operations. See: Adding and Updating Operations: page 8 – 12 and Midpoint Rescheduling: page 8 – 18.

If you change a job quantity, the system automatically prompts you to reschedule the job.

Prerequisites

❑ Define at least one discrete job with a status of Released or Complete. See: Defining Discrete Jobs Manually: page 3 – 63.

▶ **To reschedule a standard job with a routing or a non–standard job with a routing reference:**

1. Navigate to the Discrete Jobs window. See: Combination Block, *Oracle Applications User's Guide*.
2. Enter the Name of the job.

3. In the Dates region, enter either the Start or Completion date and time.

   For standard jobs, if you enter a start date and time, the completion date and time are automatically forward scheduled based on the assembly's routing. Similarly, if you enter a completion date and time, the start date and time are automatically backward scheduled based on the assembly's routing. You can enter a past due start date to forward schedule a job that should have started before the current date. You cannot enter a start date and time greater than the completion date and time.

   For non–standard jobs, the same forward and backward scheduling logic is applied. However, for non–standard jobs, scheduling is based on the routing reference not the assembly's routing.

   Note: If your job is non–standard and has a routing reference that has no routing, the fixed and variable lead times of the routing reference are used to calculate the start or completion date and time.

4. Save your work.

▶ **To reschedule a standard job without a routing or a non–standard job without a routing reference:**

1. Navigate to the Discrete Jobs window.
2. Select the Job.
3. In the Dates region, enter either the Start or Completion date and time or enter both the Start or Completion date and time.

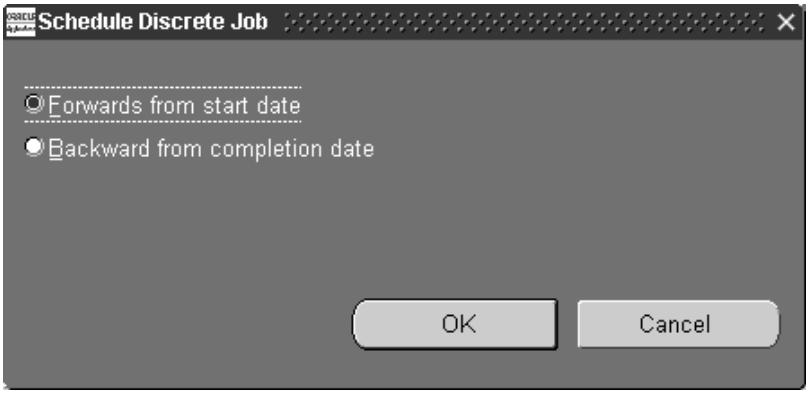
   For standard jobs without routings, you can enter either the start date and time or the completion date and time. If you enter a start date and time, the lead time for the job is calculated by adding the job assembly's fixed and variable lead times and multiplying this sum by the job quantity. The completion date and time are then automatically forward scheduled using this lead time. Similarly, if you enter a completion date and time, the start date and time are automatically backward scheduled using this lead time. Standard jobs can also be manually scheduled by entering both the start and the completion date and time.

   For non–standard job without routing references, both the start and the completion dates and times must be entered.

4. Save your work.

▶ **To reschedule a discrete job with a routing after changing a start quantity:**

1. After changing your start quantity and saving your work, the Schedule Discrete Job window appears.



   Select a scheduling method:

   Forwards from start date: The completion date is cleared and the job is forward scheduled using the start date and time.

   Backwards from completion date: The start date is cleared and the job is backward scheduled using the completion date and time.

   Manual: For jobs without routings and operations, you have the option to reschedule by accepting the current job start and completion dates.

2. Choose OK to save your work.

▶ **To reschedule a discrete job using Constraint–based Scheduling:**

If you have installed Oracle Manufacturing Scheduling, the Constraint–based Scheduling engine enables you to reschedule jobs based on your date if constraints allow. Or it moves the job forward to the first available time slot as resources and material are available.

- Rescheduling All Jobs or Pending Scheduling Jobs

  When you reschedule all jobs or pending scheduling jobs from the Schedule Discrete Jobs window, the constraint–based scheduling engine uses the requested due date and scheduling priority. The highest priority jobs are scheduled first. Jobs with the same priority are scheduled based on the earliest requested due date. Firm jobs and any associated operations are not rescheduled.

- Automatically Rescheduling Jobs and Operations

  The required resource and material are used as the determining factor. The automatic scheduler enables you to specify the start and end dates, forward or backward schedule a job, and schedule an operation using the midpoint or midpoint forward scheduling method.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Changing Discrete Jobs: page 3 – 105

Detailed Scheduling: page 13 – 7

Discrete Rescheduling: page 13 – 12

Rescheduling All Job or Pending Scheduling Jobs, *Oracle Manufacturing Scheduling User's Guide*

Mass Changing Discrete Job Statuses

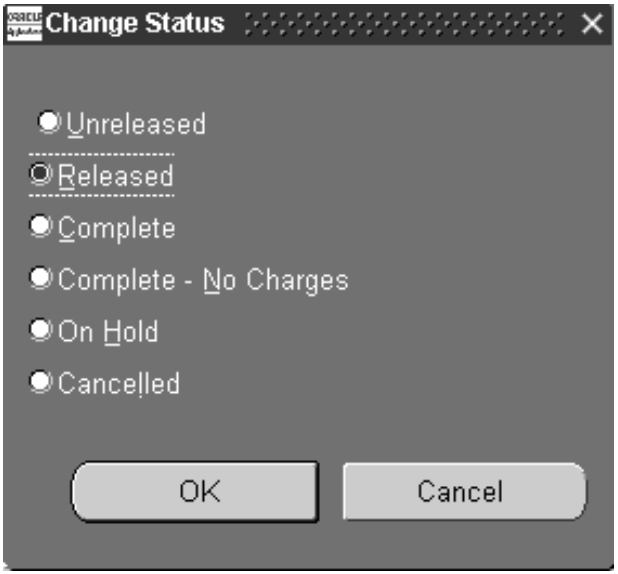
You can change the status of a group of discrete jobs using the *Change Status* option from the Tools menu. This mass change capability can be used for a variety of purposes such as releasing jobs to production and putting jobs on hold.

▶ **To change the status of several Discrete jobs:**

1. Navigate to the Discrete Jobs window.
2. Choose Find from the Query menu. See: Finding Discrete Jobs: page 3 – 89.

   The Discrete Jobs Summary window appears with the results of the query.
3. In the Discrete Jobs Summary window, select and deselect jobs as required. See: Selecting Multiple Records, *Oracle Applications User's Guide*.
4. Choose Change Status from the *Tools menu*. See: Tools menu: page F – 2.

   The Change Status window appears.



5. Choose a status. See: Discrete Jobs Statuses: page 11 – 7 and Job and Repetitive Schedule Status Changes: page 11 – 15.
6. Choose OK.
7. Save your work.

▶ **To view pending job information:**

- You can use the Transaction Summary window to determine if pending transactions or conditions exist for a job. Some status changes are disallowed when pending information exists. See: Viewing Pending Job Transactions: page 3 – 97.

See Also

Changing Discrete Jobs: page 3 – 105

Discrete Job Status Control: page 11 – 4

Simulating and Saving Simulated Jobs

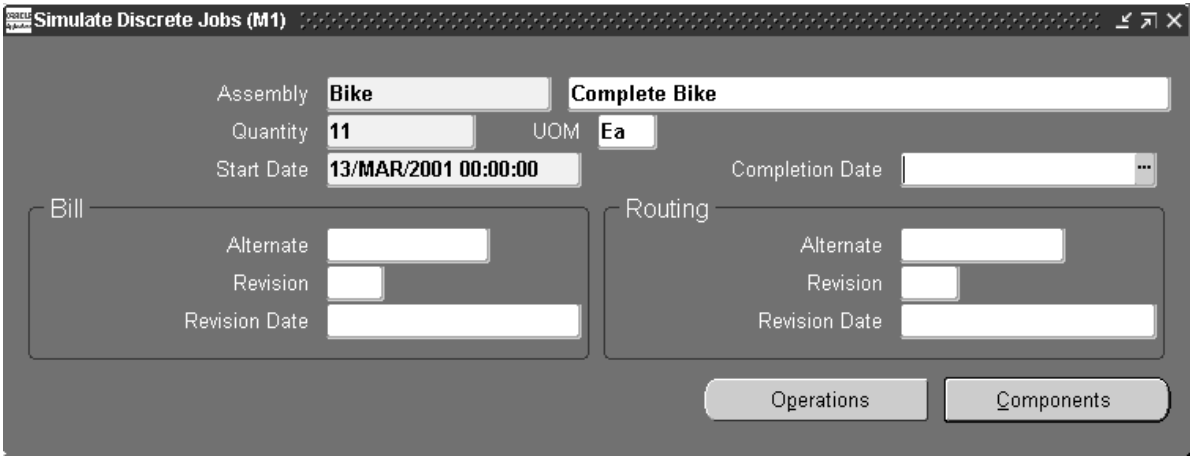
You can simulate a standard job to determine what materials, operations, and operation resources are required to support that job. You can specifically do all of the following:

- vary the job quantity and/or start and completion dates to determine scheduling and requirement constraints
- view both on–hand and available to promise quantities for simulated component requirements
- vary the bills of material and/or routings and their associated revisions and revision dates

When you are satisfied with the simulated job, you can convert it into an actual job and save it.

▶ **To simulate a discrete job:**

1. Navigate to the Simulate Discrete Jobs window.



2. Select the simulation Assembly.

   You can only simulate standard discrete jobs with assemblies, although routings are not required.

   If you set the *WIP:See Engineering Items* profile option to Yes, you can also simulate jobs for engineering items.

   You cannot select an assembly that has a primary routing that is flow related. If you do, a warning is displayed and you are prompted to enter another routing designator.

See: Creating a Flow Routing, *Oracle Bills of Material User's Guide*.

3. Enter the job Quantity.
4. Enter either a job Start Date and time or a Completion Date and time.

   You can enter start dates and times earlier than the current date to maintain relative date priorities for department schedules and material requirements
5. Optionally, select an Alternate bill of material. See: Primary and Alternate Bills of Material, *Oracle Bills of Material User's Guide*.

   You can select an alternate bill if alternates have been defined for the assembly you are building. This bill of material is used instead of the assembly's standard bill of material.
6. Select the bill Revision and Revision Date and time.

   The bill revision and date determines which version of the bill of material is used to create job component requirements. The start date of a standard discrete job can be used to default the bill revision and revision date. If a start date is not selected, the revision and revision date are derived based on fixed and variable lead times of the assembly. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   You can explode item revisions that have associated ECOs with Release, Schedule, and Implement statuses. If you set the *WIP:Exclude ECOs* profile option to None, you can also explode revisions for ECOs that have an Open status. See: ECO Implementation By Status: page 11 – 18.
7. Optionally, select an Alternate routing. See:Overview of Routings, *Oracle Bills of Material User's Guide*.

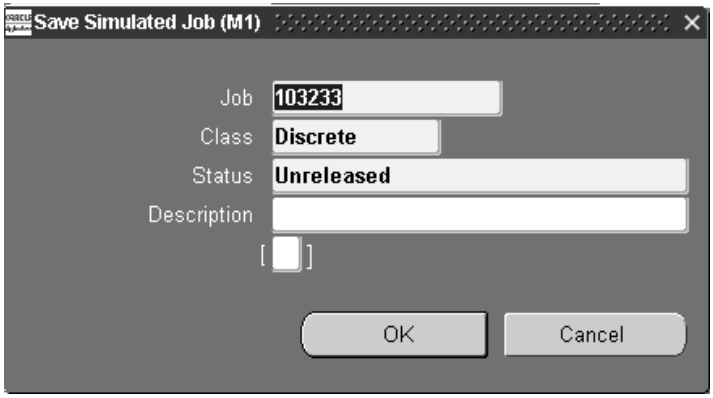
   You can select an alternate routing if alternates have been defined for the assembly you are building. This routing is used instead of the assembly's standard routing. If the *WIP:See Engineering Items* profile option is set to Yes, you can select engineering routings as alternates. See: Profile Options: page 2 – 64Profile Options: page 2 – 64 and Primary and Alternate Routings, *Oracle Bills of Material User's Guide*.
8. If the assembly has a routing, select the routing Revision and Revision Date and time. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   The start date of a standard discrete job can be used to derive the routing revision and revision date. If a start date is not selected,

the revision and revision date are derived based on fixed and variable lead times of the assembly.

▶ **To save a simulated job:**

1. Choose Save Simulated Job from the Tools menu. The Save Simulated Jobs window appears. See: Tools menu: page F – 2.



2. Enter the Job Name.

   If a prefix has been entered for the *WIP:Discrete Job Prefix* profile option, the automatic sequence generator generates a default job name. This name can be overwritten. See: Profile Options: page 2 – 64.

   The following fields are defaulted as follows:

   Class: If a default accounting class can be found, it is used. If one cannot be found, you must assign an accounting class to the job in the Discrete Jobs window. See: WIP Accounting Class Defaults: page 2 – 17 and Discrete Accounting Classes: page 2 – 42.

   Status: The status defaults to Unreleased. See: Discrete Job Statuses: page 11 – 7.

   Note: The above defaults can be changed using the Discrete Jobs window. See: Defining Discrete Jobs Manually: page 3 – 63

3. Enter a job Description.

   Descriptions can be used to identify jobs on standard reports. They can be up to 240 characters of alpha numeric text. They are optional.

4. Optionally, enter the a descriptive flex value for the job. See: Setting Up Descriptive Flexfields: page 14 – 4.

5. Save your work by choosing OK.

   Note: Values for the following fields are derived or defaulted but can be changed using the Discrete Jobs window. See: Defining Discrete Jobs Manually: page 3 – 63

   MRP Net Quantity: Derived from the job start quantity.

   Supply Type: Defaults to *Based on Bill.* See: Supply Types: page D – 2.

   Firm Planned option: Defaults to off (not automatically firmed).

   Completion Subinventory and Locator: For jobs with routings, defaults from the routing.

   Lot Number: For lot controlled job assemblies, defaults based on how the WIP *Default Lot Number Type* parameter is set. See: Backflush Default Parameters: page 2 – 21.

   You can also use the Discrete Jobs window to enter values for optional fields: Demand Class, Project, Task, Schedule Group, Build Sequence, and Production Line.

▶ **To view simulated job operations:**

- Choose the Operations button. The Operation window appears displaying the job's operations. You can optionally view the components required at a selected operation using the Components button. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view simulated component requirements:**

- Choose the Components button. The Material Requirements window appears and the job's components are displayed. See: Viewing Component Requirements: page 7 – 18 and Viewing Component ATP Information: page 7 – 20.

Attention: When no routing exists, all components default to operation sequence of 1.

Completing Discrete Jobs

You complete job assemblies into inventory using the Completion Transactions and Move Transactions windows. You also use these windows to return completed assemblies back to jobs. When you complete or return assemblies, any remaining quantities are automatically updated.

> **Note:** You can also complete Work in Process assemblies using the Inventory Transaction Interface and the Open Move Transaction Interface.

Over–completions

- Over–completing and over–moving assembly quantities

  You can complete an assembly quantity into inventory that is greater than the job start quantity, or move an assembly quantity that is greater than the quantity at an intraoperation step, whether or not the assemblies have a routing. This is referred to as an "over–completion," and it is useful when your production process yields more assemblies than planned.

  > **Note:** You also can over–complete assemblies using the Inventory Transaction Interface and the Open Move Transaction Interface, but you must explicitly specify the over–completion transaction quantity, as it will not be derived by Work in Process.

  To be able to over–complete assemblies on jobs, you must:

  - Set up a tolerance level to restrict the number of assemblies that can be over–completed
  - Enable the over–completion feature by checking the Over–completion check box on the Completion Transaction or Move Transaction windows when completing assemblies

  When you over–complete assemblies to Discrete jobs, all resources are charged and any backflush components are backflushed.

- Over–completion Tolerance

  You must set up a tolerance level for the quantity of assemblies that can be over–completed. The tolerance level is used to validate the over–completion quantity. If a completed quantity is greater than the tolerance allows, the transaction will fail.

  You can set up tolerances at three levels: at the organization level by setting the Default Over–completion Tolerance Percent parameter, at the item level by setting Oracle Inventory item

attributes, or at the job or schedule levels when defining jobs and schedules. If you do not set up a tolerance at either the item or job or schedule level, the default over–completion tolerance percent parameter is used to validate over–completion assembly quantities. If you do not enter a value for this parameter, it defaults to zero, and you will be unable to over–complete assemblies. Instead, you will receive a message telling you that you cannot over–complete because there is no tolerance. For more information on over–completion tolerance levels, see: Assembly Over–completions: page 7 – 84

- Over–Completions from the Completion Transaction and Move Transaction windows

  Once you set up tolerance levels, you enable over–completion on the Completion Transaction and Move Transaction windows by selecting the Over–Completion check box before performing the transaction. For instructions, see: Completing and Returning Assemblies: page 7 – 91 and Performing Move Completion/Return Transactions: page 8 – 48.

  You can specify any completion subinventory and, if required, locator when you complete or return assemblies with a completion transaction. If you complete or return assemblies using move transactions, the subinventory and locator that you assigned (if any) to the job is used. You can complete or return partial job or schedule quantities to different subinventories and locators. The status of a discrete job is automatically updated to complete when your cumulative quantity completed equals the job quantity.

- Over–completion Quantities Reserved to Sales Orders

  You can reserve over–completion quantities from jobs linked to sales orders when using the Completion Transactions and Move Transactions windows. The sales order number for each completion line must be entered. This reserves the surplus amount, otherwise the over–completion is unreserved excess inventory. See: Linking Sales Orders and Discrete Jobs: page 3 – 74.

Backflushing

When you complete assemblies, all components with the supply type of Assembly pull are automatically backflushed. When components for assemblies under lot control, serial number control, or lot and serial control are backflushed upon assembly completion, you must assign lot and/or serial numbers to the components.

Shop Floor Statuses

You cannot complete assemblies from a job if a shop floor status that prevents shop floor moves has been assigned the To move intraoperation step of the last operation. In this case, you must assign a status that allows shop floor moves in order to complete the assemblies.

Outside Processing Operations

When a job or schedule with outside processing operations is changed to complete status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Sales Orders

Changing a job status to completed is prevented if open reservations exist. If you attempt one of these transactions for a job linked to a sales order, an error message displays. You must reduce the job quantity, or unlink the sales order to continue the transactions. See: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74

Non–Standard Job Completions

You must have an assembly and job quantity to complete a non–standard discrete job. You can complete an assembly quantity greater than the job start quantity, with or without a routing, as long as the quantity is within the tolerance set. For some non–standard jobs, such as those used for disassembly or equipment maintenance, there is no need to complete assemblies.

Final Assembly Order Completions

When you complete assemblies from final assembly orders using a completion transaction, reservations are automatically transferred from the job to the subinventory and locator based on sales order line delivery due dates. You may override the automatic transfer. When returning completed assemblies back to a final assembly order, you must enter the sales order line and delivery information so that the system knows which reservations to transfer from inventory to WIP.

Costing

Under standard costing, assemblies are received into inventory at standard cost and the job is relieved of costs at standard. Under average costing, assemblies are received and the job relieved of costs at average.

Serial Number Validations for Discrete Assembly Completions

For a serialized item returned to stock, validations occur to prevent re–issuing to a different job. At the time of completion, serialized assemblies and components are available from stock if they have specific values set for discrete assemblies and components in the Serial Numbers window in Oracle Inventory:

See: Serial Number Validations for Component Returns and Assembly Completions: page 7 – 83

Label Printing at Completion

Label printing capabilities are available at the time of completion. This provides the ability to create labels for any descriptive information or customer requirements. See: Label Printing at Completion: page 7 – 82

See Also

Assembly Completions and Returns: page 7 – 80

Performing Move Completion/Return Transactions: page 8 – 48

Assembly Over–completions: page 7 – 84

Assembly Over–returns: page 7 – 84

Completing and Returning Assemblies: page 7 – 91

Work in Process Costs: page 12 – 6

WIP Valuation: page 12 – 8

Discrete Job Close

You can close discrete jobs using the Close Discrete Jobs (SRS) and Close Discrete Jobs windows. The window you choose depends on your requirements

The Close Discrete Jobs window enables you to:

- Submit and immediately process job close requests
- Specify a close date other than the system date
- Unclose discrete jobs
- Check and resubmit failed job close requests
- View discrete jobs before closing them

The Close Discrete Jobs (SRS) window enables you to:

- Specify when to submit the close request (concurrent or scheduled processing)
- Specify a close date other than the system date
- Use criteria for closing jobs based on a range of accounting classes, job numbers, and dates – including release, start, and completion dates
- Exclude or include jobs linked to sales orders from the processing
- Exclude or include uncompleted jobs from the processing
- Exclude or include jobs with pending transactions

You can use the Close Discrete Jobs window to close discrete jobs and to resubmit jobs that have failed to close. You can also use this window to unclose jobs, that is, correct jobs closed in error..

Prior to closing discrete jobs, you can review job value information using the Discrete Job Value Report, which lists standard and non–standard asset jobs, or the Expense Job Value Report, which lists non–standard expense jobs. See: Discrete Job Value Report: page 15 – 25 and Expense Job Value Report: page 15 – 32.

Warning: Only jobs closed in error should be unclosed, and this should be done immediately after the close. If assembly costs are rolled up between the time you close then unclose a job, your costs may be incorrect because the unclose process does *not* revalue the job.

Before closing, unclosing, or resubmitting jobs, you can view job detail information (operations, material requirements, and resource

requirements) and ATO sales order information for those jobs. You can also print reports for selected jobs.

Close Requirements

In the Close Discrete Jobs (Form) window, you cannot close a job that has pending material, resource, or move transactions including those that the concurrent manager has not processed. You also cannot close a job that has uncosted material transactions. If you attempt to close a job for which pending or uncosted transactions exist, the close process fails and the job status changes to Failed Close. See: Viewing Pending Job Transactions: page 3 – 97. You have the option to close these types of jobs in the concurrent program.

When a job with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Changing a job status to completed, closed, or canceled is prevented if open reservations exist. If you attempt one of these transactions for a job linked to a sales order, an error message displays. You have two options in order continue:

- Unlink the sales order reserved to this job
- Reduce the job quantity of the job to equal the completed quantity

If you close a job for an MPS–planned item with a quantity complete different from the quantity originally scheduled, the MPS for the actual quantity is automatically updated. See: Schedule Relief, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

In Oracle Warehouse Management organizations, open move orders for a job are cancelled when the job is closed. However, you must perform an unload task transaction to delete the material requirement and move order record.

Unclose Requirements

You cannot unclose a job that does not have a status of Closed. You cannot unclose a job that is linked to a sales order. You also cannot unclose a job that was closed in a now closed accounting period.

History

Information associated with a job is not deleted when the job is closed. You can view information for closed discrete jobs. You also can print reports on closed jobs and closed job values. See: Discrete Job Data Report: page 15 – 11 and Discrete Job Value Report: page 15 – 25.

See Also

Closing Discrete Jobs: page 3 – 121

Closing Discrete Jobs Using Submit Requests: page 15 – 7

Purging Transaction History, *Oracle Inventory User's Guide*

Overview of Period Close, *Oracle Cost Management User's Guide*

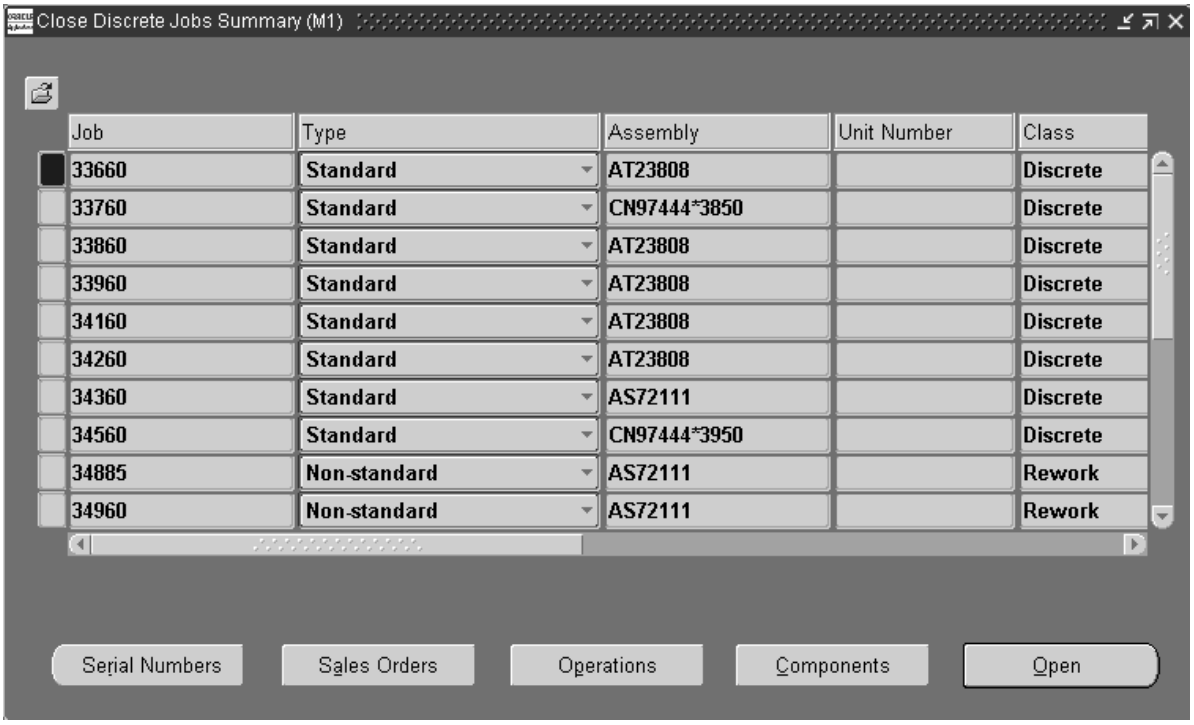
Closing Discrete Jobs

The form function parameter, WIP_WIPDJMDF_CLOSE. enables the Unclose option in the Tools menu. If you do not want Unclose to display in the menu, set the parameter to No. See: Security Functions: page 2 – 78.

▶ **To find one or more jobs to view, close, or reopen**

1. Navigate to the Close Discrete Jobs window. The Find Discrete Jobs window appears.
2. Query to find one or more jobs. See: Finding Discrete Jobs: page 3 – 89.

   The Close Discrete Jobs Summary window appears with the results of your query. Option: to navigate to the Close Discrete Jobs window, choose the Open button.

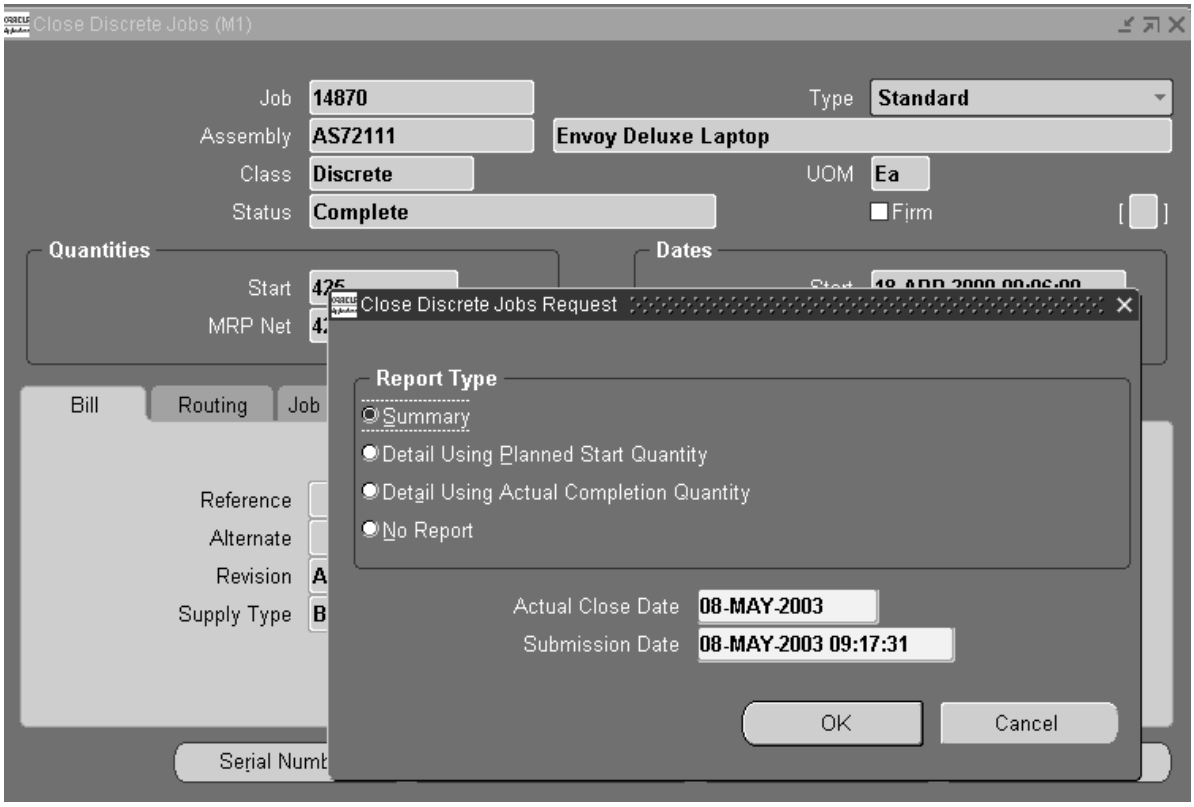


You can view information about the jobs you intend to close from either the Close Discrete Jobs or the Close Discrete Jobs Summary window. You can view job *operation* information by choosing the Operations button and *component requirement* information by choosing the Components button, see: Viewing Job and Schedule Operations: page 8 – 22, Viewing Component Requirements: page 7 – 18, and Viewing Component ATP Information: page 7 – 20. You can also view *sales orders* that are linked to standard discrete jobs by choosing the Sales Orders button, see: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74.

▶ **To close discrete jobs:**

1. Navigate to the Discrete Jobs Summary window. If more than one job is displayed in the Discrete Jobs Summary window, select the jobs to close. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

   You can only close jobs with statuses of Cancelled, Complete, Complete – No Charges, Failed Bill Load, Failed Close, Failed Routing Load, On Hold, Released, and Unreleased.



2. Choose Close from theTools menu. The Close Discrete Jobs Request window appears.

3. Select a Report Type.

   Reports are printed per the Report Type specified, after the close process computes job close variances. If your organization uses standard costing, the Discrete Job Value Report – Standard Costing is printed when standard discrete jobs and non–standard asset jobs are closed. If your organization uses average costing, the Discrete Job Value Report – Average Costing is printed. The Expense Job Value Report is printed when expense non–standard jobs are closed regardless of your costing method. It is always printed in detail format regardless of the Report Type option specified. For more information about these reports see: Discrete Job Value Report: page 15 – 25 and Expense Job Value Report: page 15 – 32.

   Report Type options and formats are as follows:

Summary: Lists each job and includes job header, period–to–date summary, and cumulative–to–date summary information. The system also lists summary elemental account values for each job.

Detail Using Planned Start Quantity: Lists each job using the planned start quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information.

Detail Using Actual Completion Quantity: Lists each job using the actual completion quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information.

No Report: Does not print a report.

4. Select an Actual Close Date. The system date is the default.

   The actual close date must be later than the most recently dated material, resource, or move transactions associated with the selected job or jobs. It must also be in an open accounting period. If it is not, the last date of the most recent open accounting period is defaulted.

5. Select a Submission Date and time. The system date and time is the default.

6. Choose OK to submit the request.

   Only those jobs with appropriate statuses are closed. The statuses of jobs that are being closed are changed to Pending Close until the close process completes.

Attention: The abnormal termination of a close request, either due to a hardware problem or manual termination of a concurrent request, can result in a status of Pending Close. These jobs must be manually resubmitted.

▶ **To reopen closed jobs:**

1. From the queried jobs displayed, select which jobs to reopen. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

You can only reopen closed jobs. When you reopen a job, it reverts to its pre–close status. For example, reopening a job that had a pre–close status of Complete changes its status from Closed back to Complete. See: Discrete Job Statuses: page 11 – 7.

2. Choose *Unclose* from the Tools menu to submit the request.

   When you choose Unclose, job statuses are immediately changed to their pre–close status.

   Caution: Only the status of the job is changed. Costing information, historical information, and MPS quantities are not updated.

▶ **To check the status of close requests:**

- You can check the status of close requests using the Concurrent Requests window. See: Concurrent Requests, *Oracle Applications User's Guide*.

▶ **To print reports for a job:**

- If you need additional information about a job, you can optionally print reports for the *active* or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93.

▶ **To view pending job information:**

- You can use the Transaction Summary window to determine if there are pending or uncosted transactions associated with a job. You cannot close jobs if pending or uncosted transactions exist. See: Viewing Pending Job Transactions: page 3 – 97.

▶ **To resubmit jobs with a Pending Close status:**

1. From the queried jobs displayed, select one or more jobs to resubmit. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

2. Choose *Check Requests* from the Tools menu. See: Tools menu: page F – 2.

   You can use the *Check Requests* option from the Tools menu to manually resubmit jobs that have failed to close and have a Pending Close status. Resubmitting a job with *Check Request* sets the job's status back to its original status. Resubmitting jobs that have Pending Close statuses because the process has not yet concluded does not interrupt the close process.

See Also

Discrete Job Close: page 3 – 119

Overview of Period Close, *Oracle Cost Management User's Guide*

Defining Discrete Jobs Manually: page 3 – 63

Discrete Accounting Classes: page 2 – 42

Discrete Job Purge

You can purge discrete job information using the Purge Discrete Jobs window and Purge Discrete Jobs (SRS). You can purge all information associated with discrete jobs including job header records and job detail and transaction information. You can also selectively purge some or all of the following job related information: job details (material requirements, resource requirements, and operations), ATO configurations, move transactions, and resource cost transactions. Selective purging allows you to retain pertinent historical information. For example, you can retain operation information but purge move transactions associated with these operations.

Purge Rules

A discrete job may not purge if the any of the following information still exists:

- material transactions that reference the job

  You can purge material and completion transaction information in Oracle Inventory. See: Purge Transactions, *Oracle Inventory User's Guide*.

- purchase transactions, purchase requisitions, or purchase orders that reference the job in Oracle Purchasing

- quality results records that reference the job

  You can delete quality results records in the Oracle Quality. See: Updating and Deleting Quality Results, *Oracle Quality User's Guide*.

Reporting

You can submit a request to print a Purge Report as you purge discrete jobs. When you printed a report as part of the purge process, the output of the report is determined by the defaulted purge parameters used and the level of detail choosen (Full, Summary, or Excepting) in the Purge Options window.

The Purge Report can also be submitted independently of the purge process using the Submit Requests window. When submitted independently of the purge process, only the jobs and/or schedules that failed to purge are listed.

See Also

Purging Discrete Jobs: page 3 – 128

Purging Jobs and Schedules: page 15 – 44

Specifying Purge Options: page 3 – 130

Purging Discrete Jobs

You can use the Purge Discrete Jobs window to purge information associated with discrete jobs that were closed in a now closed accounting period. You can purge all discrete job information or just selected information: details (material requirements, resource requirements, and operations), associated ATO configurations, or associated move and/or resource cost transactions.

Before purging a job, you can view detail and ATO sales order information for that job. You can also print one or all of the reports in the Discrete Job Packet for the job. See: and .

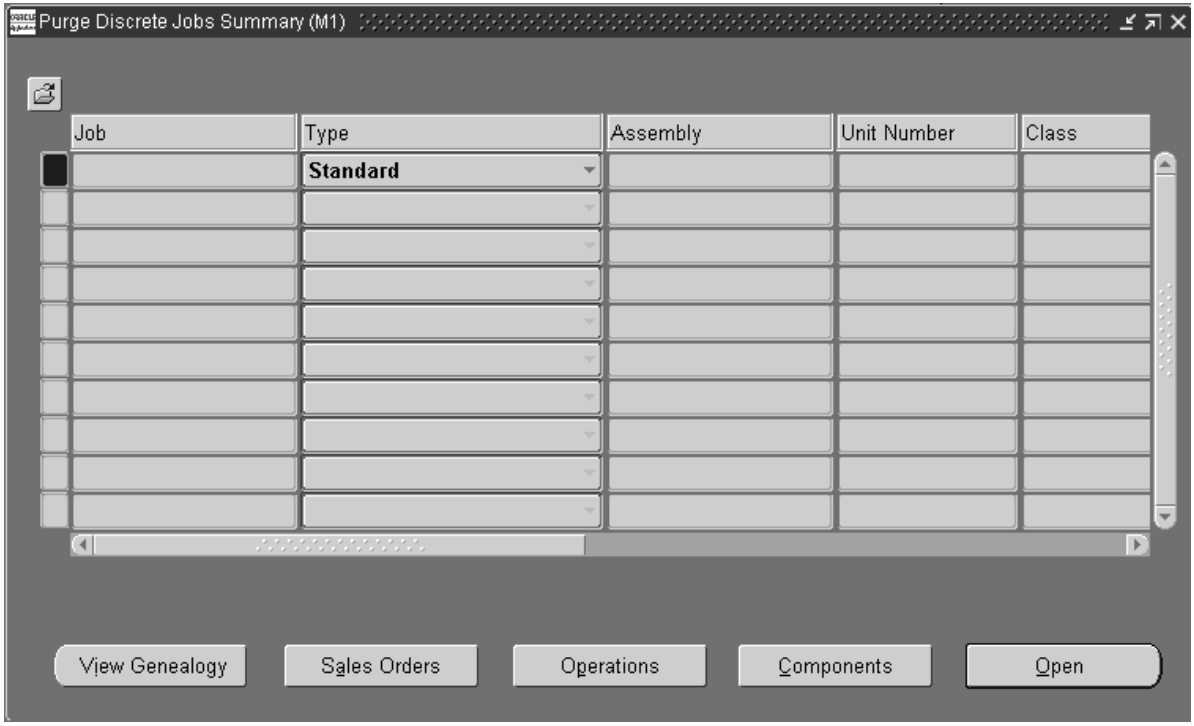
Prerequisites

- ❑ You must have at least one closed period for your organization. See: Overview of Period Close, *Oracle Cost Management User's Guide*.

▶ **To find jobs to purge:**

1. Navigate to the Purge Discrete Jobs window. The Find Discrete Jobs window appears.
2. Query to find one or more discrete jobs. See: Finding Discrete Jobs: page 3 – 89.

   The Purge Discrete Jobs Summary window appears with the results of your query.



▶ **To print reports for a selected job:**

- See: Printing Reports for Current Discrete Jobs: page 3 – 93.

▶ **To view pending job information:**

- You can use the Transaction Summary window to determine if there are pending transactions or conditions associated with a job. You cannot purge jobs if pending transactions or unprocessed documents exist. See: Viewing Pending Job Transactions: page 3 – 97.

▶ **To view operations and operation requirements for a selected job:**

- From either the Purge Discrete Jobs or Purge Discrete Jobs Summary window choose the Operations button.

  The operations, if any, required for the job are displayed. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view component requirements for a selected job:**

- From either the Purge Discrete Jobs or Purge Discrete Jobs Summary window choose the Components button.

  The component materials, if any, required the job are displayed. See: Viewing Component Requirements: page 7 – 18.

Attention: When no routing exists, all components default to operation sequence of 1.

▶ **To view sales orders that are linked to a standard discrete job:**

- From the Purge Discrete Jobs Summary window choose the Sales Order button. See: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74.

▶ **To select which discrete jobs to purge and/or report:**

1. From the jobs displayed, select which to include in the purge. You can select and deselect jobs as required. See: Selecting Multiple Records, *Oracle Applications User's Guide*.
2. Choose *Purge* from the Tools menu. See: Tools menu: page F – 2.

   The Purge Options window appears. See: Specifying Purge Options: page 3 – 130.

See Also

Purge Report: page 15 – 50

Transaction Control by Status: page 11 – 17

Changing Discrete Jobs: page 3 – 105

Specifying Purge Options

After selecting which jobs/schedules to purge in the Purge Jobs or Purge Repetitive Schedules window, you can choose from the following action type options:

Purge and Report	Purges the selected jobs/schedules and prints a report.
Report Only	Prints a report listing the selected jobs/schedules but does not purge them.

Purge Only Purges the selected jobs/schedules but does not print a report.

If you choose to the print a report, you can choose whether the report is printed in Full, Summary, or Exception format.

Attention: Printing a report before submitting a purge request allows you to view the records you have selected, but does not give you any indication of whether the selected jobs/schedules meet the purge conditions.

Prerequisites

- ❑ Select the jobs/schedules to include in your purge. See: Purging Discrete Jobs: page 3 – 128 and Purging Repetitive Schedules: page 6 – 42.

▶ **To purge information for the selected jobs or schedules and print a report:**

1. From the Purge Options window, choose the *Purge and Report* action. This is the default option.
2. Choose the level of detail to include in the report. The options are as follows:

   Full: The report lists all job and/or schedule records selected for the purge, the table and number of rows affected as well as those records that cannot be purged because of purge rule violations. *Full* is the default option.

   Summary: The report lists all job and/or schedule records selected for the purge but in a tabular form. The table and row detail is omitted although exception information is included.

   Exception: The report lists only those job and/or schedule records that cannot be purged because of purge violation rules. Exception information is included.
3. Choose OK to submit the purge and print the report.

Attention: Once you commit the process, all related information is removed from the database.

▶ **To only print a report for the selected jobs or schedules:**

1. From the Purge Options window, choose the *Report Only* action.
2. Choose the level of detail to include in the report. The options are *Full, Summary,* or *Exception* (see above).

3. From the Include option group, choose what information to include in the report. The options are as follows:

   Headers: If you choose to purge Headers, all other options are automatically selected and are, furthermore, required. Purging headers purges all information associated with the selected jobs or repetitive schedules.

   Details: You can choose to purge job or repetitive schedule details (operations and material and resource requirements). If you choose this option, you can also choose to purge move and resource transactions.

   Move Transactions: You can choose to purge move transactions. If you choose this option, you can also choose to purge schedule details and resource transactions.

   Resource Transactions: You can choose to purge resource transactions. If you choose this option, you can also choose to purge schedule details and move transactions.

Attention: If you enter a date that is earlier than the repetitive schedule's complete or cancel date or the discrete job's close date, the system does not purge any job or schedule information.

4. Choose OK to print the report.

▶ **To purge without printing a report:**

1. From the Purge Options window, choose the *Purge Only* action.
2. From the Include option group, choose what information to purge. See above.
3. Choose OK to submit the purge and print the report.

▶ **To view pending job information:**

- You can determine if there are any pending transactions or conditions for a job using the Transaction Summary window. See: Viewing Pending Job Transactions: page 3 – 97.

See Also

Purge Report: page 15 – 50

Transaction Control by Status: page 11 – 17

Changing Discrete Jobs: page 3 – 105

Processing Pending Jobs and Schedules

You can view, update, delete, and resubmit records (rows) that have failed validation and remain in the Work Order Interface (WIP_JOB_SCHEDULE_INTERFACE) table. You can view the error messages associated with failed records. Error messages assist you in updating failed records before resubmission.

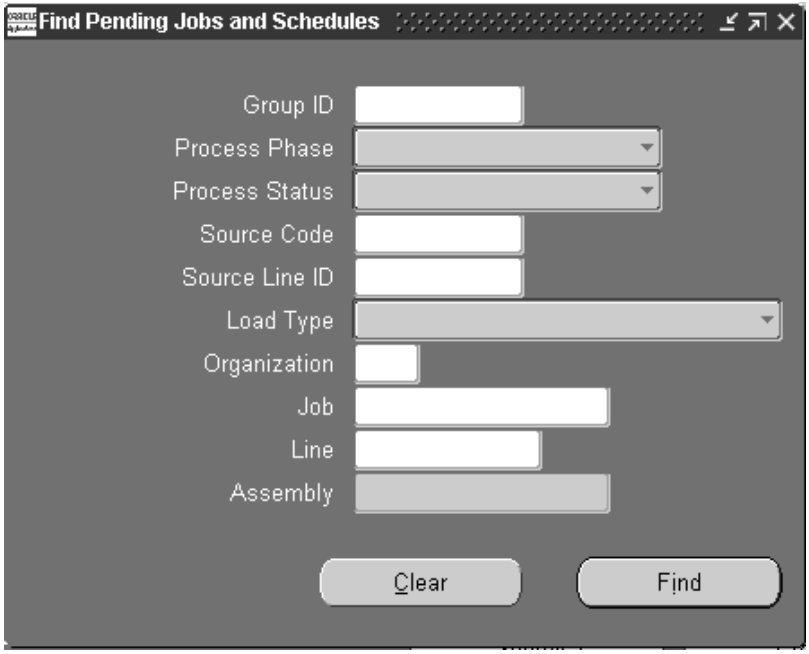
You cannot insert new job and schedule records into your interface table using this window.

Prerequisites

- ❑ Insert job and schedule data into the Work Order Interface table. See: Work Order Interface: page 3 – 57., and Open Job and Schedule Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

▶ **To find job and schedule interface records:**

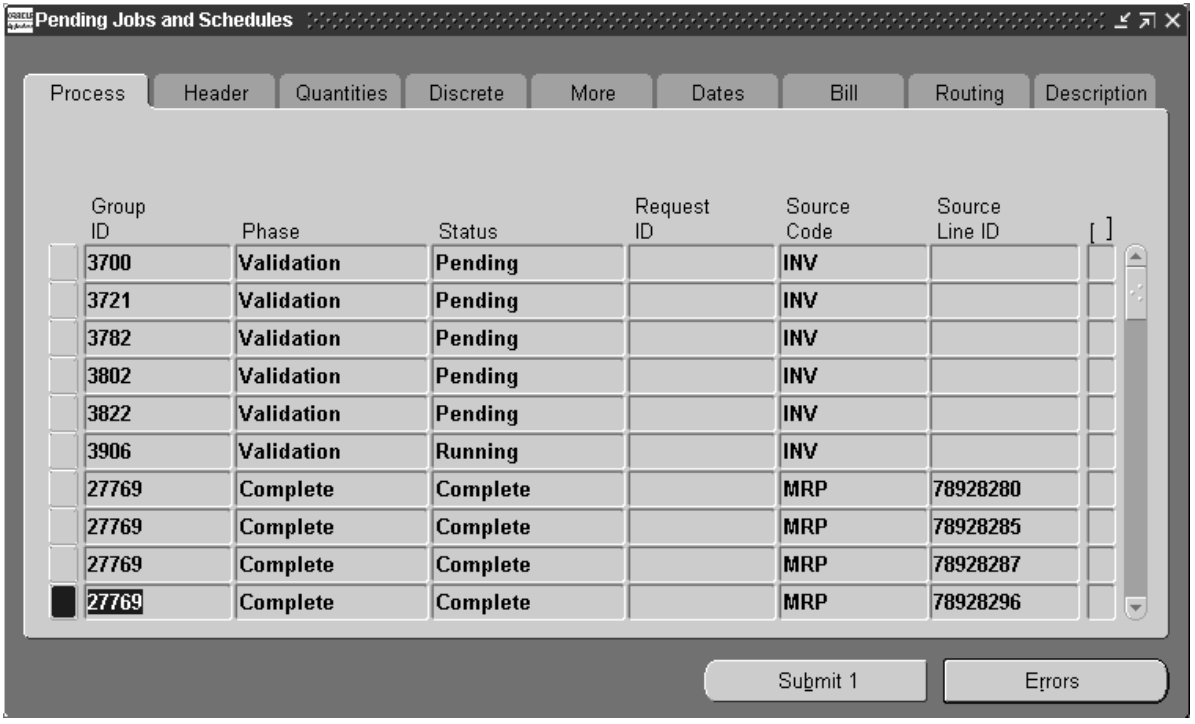
1. Navigate to the Pending Jobs and Schedules window. The Find Pending Jobs and Schedules window appears.



2. Enter your selection criteria.

You can find all records with a specific Group ID. You can also find all records that have a specific Process Phase (Validation, Explosion, Creation, or Complete), Process Status (Pending, Running, Error, or Complete), Source Code, Source Line ID, Load Type (Create Standard job, Create Repetitive Schedule, Update Discrete Job, or Create Non–standard Job), or are for a specific Organization. You can also search for a specific Job, Assembly, or Line and Assembly.

3. Choose the Find button. The Pending Jobs and Schedules window appears with the results of your query.



▶ **To view job and schedule interface records:**

For each record, you can view the following information using the Pending Jobs and Schedules window's tabbed regions:

Process: Group ID, Phase, Status, Request ID, Source Code, and Source Line (if applicable)

Header: Load Type, Organization, Job, Line, Assembly

Quantities: Discrete Start and Net Quantities, Repetitive Daily Quantity and processing Days, and Total Quantity (both discrete and repetitive)

Discrete: Class, Lot Number, Schedule Group, Build Seq, Project Number and Task

More: Status, Firm planned option, Demand Class, Scheduling Method, Unit Number

Dates: First Unit Start Date, First Unit Completion Date, Last Unit Start Date, and Last Unit Completion Date

Bill: Reference, Alternate, Revision, Revision Date, Supply Type

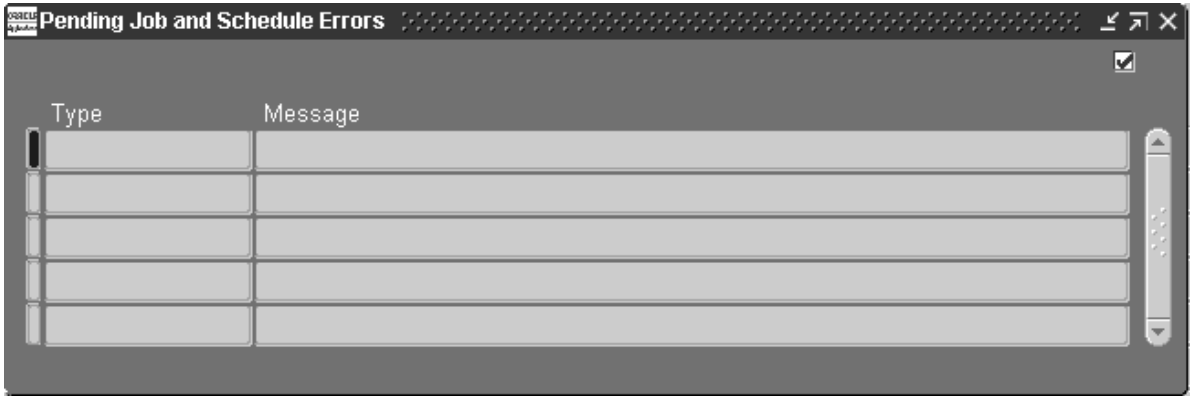
Routing: Reference, Alternate, Revision, Revision Date, and Completion Subinventory, and Completion Locator

Description: Description and Created By

▶ **To view error details for failed job and schedule records:**

1. In the Pending Jobs and Schedules window, select the failed (Status=Error) record.
2. Choose the Errors button. The Pending Job and Schedule Errors window appears.

   All errors for the selected record are displayed. The *Type* indicates whether the failed record produced an Error or a Warning. The *Message* explains why the transaction failed. Using these messages you can determine what fields need to be updated.



▶ **To update job and schedule interface records:**

1. Select the record to update.

   You can only update records with a processing status of Error. You can update all fields except the Group ID, processing Phase, processing Status, Request ID, and Total Quantity.

   In general, the default values are derived in the same way that they are derived when you manually enter discrete jobs and repetitive schedules in the Discrete Jobs and Repetitive Schedules windows. See: Defining Discrete Jobs Manually: page 3 – 63 and Defining Repetitive Schedules Manually: page 6 – 14.

2. In the Process tabbed region, enter the Source Code and Source Line.

   The Source Code and Source Line identify the source of the interface record. For example, if you load jobs and schedules from different sources, you can use a difference Source Code to identify each.

3. In the Header tabbed region, select the Load Type.

   The Load Type indicates whether the current interface record is a planned order, update recommendation, or suggested repetitive schedule.

   Possible values include:

   - Create Standard Discrete Job
   - Create Pending Repetitive Schedule
   - Update Standard or Non–Standard Discrete Job
   - Non–Standard Discrete Job

4. Select the Organization.

   You can only select enabled organizations. See: Creating an Organization, *Oracle Human Resources User's Guide*.

5. Select the Job, Line/Assembly, or Assembly.

   The assembly is the item you are building. An assembly is optional for non–standard discrete jobs.

   Select the production Line on which to build the repetitive assembly and the repetitive Assembly to be produced on that line.

6. In the Quantities tabbed region, enter the Start Quantity and Net Quantity for discrete jobs or the Daily Quantity and number of Days for repetitive schedules.

7. In the Discrete tabbed region, select the class.

   For records with a Load Type of 4 (Non–Standard Discrete Job), you can select any active Asset Non–standard, Expense Non–standard, or Project accounting class. For records with a Load Type 1 (Create Standard Discrete Job), you can select any active Standard Discrete accounting class.

8. Select the Lot Number.

9. Select the Schedule Group.

   You can optionally assign discrete jobs to any active schedule group. See: Defining Schedule Groups: page 2 – 53

10. Enter the Build Sequence identifier. See: Build Sequencing: page 3 – 61.

    The combination of schedule group and build sequence must be unique for each job.

11. Select the Project and, if required, task.

    You can only select a project if the current organization's *Project References Enabled* parameter is set in Oracle Inventory. You must select a task if the *Project Control Level* parameter is set to Task and you have entered a project. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Creating Projects, *Oracle Projects User's Guide*.

12. On the More tab, select a status for the job or repetitive assembly/line.

    You can select a status of Unreleased, Released or On Hold for any record. See: Discrete Job Statuses: page 11 – 7 or Repetitive Schedule Statuses: page 11 – 12.

13. Select whether the discrete job or repetitive schedule is Firm.

14. Select the Demand Class.

    You can select any enabled and active demand class. See: Overview of Demand Classes, *Oracle Master Scheduling/MRP and Supply Chain Planning User's Guide* and Creating Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

15. For discrete jobs, select the Scheduling Method.

    You can choose one of the following:

Routing: You can schedule discrete jobs using routing lead times, if the Load Type is 1 (Create Standard Discrete Job) or 3 (Update Standard or Non–Standard Discrete Job).

Item Lead Time: You can schedule discrete jobs using item lead times, even if the item has a routing, if the Load Type is 1 (Create Standard Discrete Job) or 3 (Update Standard or Non–Standard Discrete Job).

Manual: You can manually schedule your discrete jobs by entering start and/or completion dates.

16. Enter the Unit Number. If you have Oracle Project Manufacturing installed, this enables you to associate an end item model/unit effectivity number with the item.

    The item must be under model/unit effectivity control, and you must have a model/unit number associated with it. If the item is not under model/unit number control, this field is disabled. See: Model/Unit Effectivity, *Oracle Project Manufacturing Implementation Manual*.

    You can update the assembly unit number through WIP Mass Load for discrete jobs that are unreleased, project related, and use unit effectivity.You can change job status from Unreleased to Released in the same process.

17. In the Dates tabbed region, enter a First Unit Start Date (FUSD), First Unit Completion Date, a Last Unit Start Date, or a Last Unit Completion Date (LUCD).

    If you are using Manual scheduling, enter both a FUSD and a LUCD.

18. In the Bill tabbed region, select the bill of material Reference for your non–standard discrete job.

    You can select bill of material reference if the Load Type is 3 (Update Standard or Non–Standard Discrete Job) or 4 (Non–Standard Discrete Job).

19. Select the bill Alternate if creating a discrete job.

    You can select an alternate bill if alternates have been defined for the assembly. For non–standard jobs, you can enter any alternate defined for the bill Reference specified.

20. Select the bill Revision and bill Revision date. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

21. Select the Supply Type.

You can select any of the following Supply Types: Push, Assembly Pull, Operation Pull, Bulk, or Supplier. See: Supply Types: page D – 2.

22. In the Routing tabbed region, select the routing Reference your non–standard discrete job.

    Routing references are used to create routings (operations and resource requirements) for non–standard discrete jobs, however, they are not required.

23. Select the routing Alternate if creating a discrete job.

    You cannot enter a value here unless you have defined alternate routings for the assembly you are building. For non–standard jobs, you can enter any alternate defined for the routing reference you specify. See: Primary and Alternate Routings, *Oracle Bills of Material User's Guide*.

24. Select the routing Revision and Revision Date. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

25. Select the Completion Subinventory, and if required, locator.

    You can select a Completion Subinventory if your Load Type is 1 (Create Standard Discrete Job) or if your Load Type is 4 and you have an assembly.

26. In the Description tabbed region, enter the Description

    You can optionally enter a Description that can be used to identify jobs on standard reports. They can be up to 240 characters of alpha numeric text.

27. Enter the Created By identifier.

    You can update the name of the user that created the transaction is displayed. This field can be updated.

28. Save your work.

▶ **To select and resubmit pending job and schedule records:**

1. From the queried records displayed, select which to resubmit. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

   You can only resubmit records with a processing status of Error. If you do not mark a row for resubmission, you can still update it but the WIP Mass Load Program does not process it again when polling the Open Job and Schedule Interface table.

2. Choose the *Submit* from the Tools menu.

Resubmitting records resets their process status flags to 1 (Pending), and nulls their Group ID. The next time the WIP Mass Load Program polls the Open Job and Schedule Interface table, these records are reevaluated.

▶ **To delete job and schedule interface records:**

1. Select the record to delete. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

   You can only delete records with a processing status of Error. When you delete records, their corresponding error messages are deleted from the Errors table (WIP_INTERFACE_ERRORS).

2. Choose Delete from the Edit menu.

CHAPTER

4

Non–Standard Discrete Jobs

This chapter explains the differences between non–standard and standard discrete jobs and illustrates how non–standard discrete jobs can be used, including:

- Overview: page 4 – 2
- Standard Versus Non–Standard Discrete Jobs: page 4 – 4
- Business Scenarios: page 4 – 7

Overview

Non–standard discrete jobs can be used to control materials and resources and to collect costs for a wide variety of miscellaneous manufacturing activities such as rework, field service repair, upgrade, disassembly, maintenance, and engineering prototypes.

Assemblies

You can optionally assign an assembly to a non–standard job. For example, if you are using a non–standard job to rework assemblies, you can identify those assemblies on the job. On the other hand, if you are using a non–standard job to track machine maintenance, you do not have to associate the job with an assembly.

Quantities

You can choose whether to specify a job quantity on a non–standard job. The job quantity enables you to track the assemblies on the shop floor and to plan supplies. You cannot define a job quantity if you have not defined an assembly for the non–standard job.

Bills of Material and Routings

You can assign bills of material and routings to non–standard discrete jobs, or you can create them manually. You can assign any bill or routing including one that does not match the assembly item of the job.

Transactions

You can perform move, issue, backflush, resource, scrap, and completion transactions on non–standard discrete jobs with assemblies. For non–standard jobs without assemblies, you can only do issue and resource transactions.

Planning Options

You can specify how Oracle Planning applications plans material requirements and job quantities. For each material requirement on a non–standard job, you can use the MRP Net field to specify whether MRP includes the requirement as a demand. For the assembly, you can specify the MRP net quantity as the number of assemblies you expect the non–standard job to supply on the completion date of the job.

Asset and Expense Accounting Class

You can define asset accounting classes for non–standard discrete jobs you want to carry as an asset during the life of the job. Asset classes are

costed on a job basis. You can also define expense accounting classes for non–standard jobs you want to expense during each accounting period.

Job Close

You can manually close non–standard jobs whenever you choose. The system automatically performs an accounting close for non–standard jobs with expense type accounting classes on a periodic basis during the period close process.

Job Costs

You can charge, value, and report the standard costs of material, material overhead, resources, resource overhead, and outside processing for non–standard discrete jobs. You can charge resource and outside processing at actual cost. Non–standard jobs with expense type accounting classes are not subject to revaluation at cost update. Non–standard jobs do not earn material overhead on Completions.

Project Non–Standard Jobs

If Project Manufacturing is implemented, you can use project non–standard jobs in the same way that you use common non–standard jobs.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Discrete Accounting Classes: page 2 – 42

Defining Discrete Jobs Manually: page 3 – 63

Project Jobs: page 3 – 87

Discrete Job Close: page 3 – 119

Overview of Material Control: page 7 – 2

Overview of Shop Floor Control: page 8 – 2

Charging Resources Manually: page 9 – 33

Standard Versus Non–Standard Discrete Jobs

Non–standard jobs are similar to standard jobs, however, there are noteworthy differences including:

- Non–standard jobs are more flexible than standard jobs. Because of this they can be used to manage such varying activities as rework, field service repair, upgrades, disassembly, maintenance, engineering prototypes, and other miscellaneous projects.
- Oracle Master Scheduling/MRP and Supply Chain Planning does not create planned orders or reschedule recommendations for non–standard jobs. You must manually define and reschedule non–standard jobs. However, if a non–standard job is assigned an assembly bill of material, a routing, or both, Oracle Master Scheduling/MRP and Supply Chain Planning considers the job's material requirements as demand and its assemblies as supply. Oracle Capacity considers resource load for non–standard jobs.
- Oracle Master Scheduling/MRP and Supply Chain Planning does not deduct scrapped assemblies from the MRP net quantity, or deduct the MRP net quantity by the item shrinkage rate for non–standard jobs. As such, you must identify planned assembly shrinkage by entering an MRP net quantity that is less than the job quantity.
- Non–standard expense jobs are period costed and are not subject to cost updates, whereas standard discrete and asset type non–standard jobs are costed when closed and are automatically revalued by the cost update. Non–standard discrete jobs do not earn overhead on completion. Instead material overhead at completion is posted directly to the subinventory material overhead account. See: Discrete Job and Repetitive Schedule Costs: page 12 – 6.
- Work in Process does not implement engineering change orders (ECOs) on non–standard jobs. See: ECO Implementation by Status: page 11 – 18
- You can use a bill and routing from another assembly. For example, you can set up a standard upgrade routing to use for a group of assemblies.
- You can define bill of material loops, that is, you can define the assembly itself as a requirement on its bill. This is useful for upgrade, disassembly, and repair activities.
- You can return a greater quantity of assemblies to non–standard discrete jobs than you completed into inventory.

The following table illustrates the differences between non–standard and standard discrete jobs.

Job Field Values	Standard Discrete Job	Non–Standard Discrete Job
Name	Required	Required
Type	Required	Required
Description	Optional	Optional
Assembly	Required	Optional. Enter if you want to perform move and/or completion transactions.
Job Class	Required	Required
Status	Required	Required
Quantity	Required	Required. You can enter 0. Enter a positive number if you want to perform move and/or completion transactions.
MRP Net Qty	Required. Defaults from Quantity.	Required. Defaults from Quantity. If you do not enter an assembly then you cannot enter a value in this field.
Start Date	Required	Required. If a routing exists for the job, then you can enter either a start or a completion date. Otherwise, you must enter both a start and completion date.
Completion Date	Required	Required. If a routing exists for the job, then you can enter either a start or a completion date. Otherwise, you must enter both a start and completion date.
Firm	Required. Defaults to Yes if item is MPS planned. Otherwise, defaults to No.	You cannot enter a value in this field. Defaults to No.
Lot Number	Optional	Optional
Routing Reference	You cannot enter a value in this field.	Optional. Enter a value if you want to perform job scheduling based on a routing.
Alt. Routing	Optional	Optional
Revision	Optional	Optional. You must enter a value in this field if you have a routing for the assembly.
Revision Date	Optional	Optional. You must enter a value in this field if you have a routing for the assembly.
Completion Sub.	Optional	Optional
Completion Locator	Optional	Optional
Bill Reference	You cannot enter a value in this field.	Optional. Enter a value if you want to automatically create material requirements based on a bill of materials.

Job Field Values	Standard Discrete Job	Non–Standard Discrete Job
Alt. Bill	Optional	Optional
Revision	Optional	Optional. You must enter a value in this field if you have a bill for the assembly.
Revision Date	Optional	Optional. You must enter a value in this field if you have a bill for the assembly.
Supply Type	Required. Defaults to Based on bill.	Required. Defaults to Based on bill.

See Also

Overview of Non–Standard Discrete Jobs: page 4 – 2

Business Scenarios

Non–standard discrete jobs are very flexible and can be used to control a wide variety of manufacturing activities. The following sections provide various business scenarios that explain how non–standard discrete jobs can be used to manage rework, field service repairs, upgrades, disassembly, maintenance, and engineering prototypes.

Rework Assemblies

Business Example

You are a chair manufacturer that has rejected a lot of 100 completed chairs due to an overly glossy finish. You have decided to rework these chairs on a non–standard discrete job.

Assumptions

You have 100 rejected chair assemblies in a non–nettable Material Review Board (MRB) subinventory.

Since this type of rework occurs frequently, your manufacturing engineers have already defined standard rework operations for stripping, sanding, repainting, and reinspection with appropriate resources.

Setup

Use the Discrete Jobs window to define a non–standard discrete job for the chair assembly with a job quantity of 100. Since it is highly likely that you will be 100% successful in reworking the chairs, enter 100 in the MRP Net Quantity field. Select an asset type non–standard accounting class since you are building up an asset.

Use the Operations window to manually create a routing for the stripping, sanding, repainting, and reinspection operations needed.

Use the Material Requirements window to manually create the only component requirement (the chair assembly) at the stripping operation. Enter Push as the supply Type since you will likely push the assembly to the stripping operation, and specify the supply subinventory as the MRB subinventory. Do *not* check MRP Net if you do not want to create demand for items that are supplied from a non–nettable subinventory.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the WIP Material Transactions window to issue the chair assembly to the non–standard discrete job. Use the Move Transactions window to move the chairs from operation to operation and to charge resources and overhead.

Use the Completion Transactions window to complete the perfectly finished chairs into a nettable finished goods inventory.

Costing

When all the chairs are completed, the job status changes to Complete. Your cost accountants can run a Discrete Job Value Report to check all the charges.

The job must have an ending balance equal to the cost of the resource and overhead charges only. The material charges for the chair assemblies net to a zero balance because the only material on the job was the chair assemblies that you issued to and completed from the job. Ending resource and overhead charge balances are written off as a variance when you close the job.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Adding and Updating Material Requirements: page 7 – 10

Adding and Updating Operations: page 8 – 12

Issuing and Returning All Push Components: page 7 – 54

Performing Move Transactions: page 8 – 37

Completing and Returning Assemblies: page 7 – 91

Discrete Job Close: page 3 – 119

Using the Component Pick Release Window: page 7 – 33

Upgrade Assemblies

Business Example

You are a computer manufacturer that wants to upgrade some printed circuit boards from an older revision to the now current revision. You have decided to upgrade these assemblies from revision A to revision C on a non–standard discrete job.

Assumptions

You have 100 revision A printed circuit board assemblies in a non–nettable spare parts subinventory. From past upgrade efforts, your manufacturing engineers expect 90% success in the upgrade.

For this upgrade effort, your manufacturing engineers have defined an alternate bill of material for the revision C of the printed circuit board. This alternate bill, named UpgradeToC, includes all the items that are required for revision C that are not in revision A. In other words, this alternate bill is the upgrade kit.

Since upgrades such as this occur frequently, your manufacturing engineers have defined an alternate routing, named Upgrade. This routing includes all the standard printed circuit board upgrade operations including remove, replace, test1, and test2.

Setup

Use the Discrete Jobs window to define a non–standard discrete job for revision C of the printed circuit board assembly with a job quantity of 100. Since you expect that 90% success when the rework is complete, enter 90 in the MRP Net Quantity field rather than the job quantity. Select an asset type non–standard accounting class since you are building up an asset.

Enter the printed circuit board and the Upgrade alternate routing into the Routing Reference and Alternate Routing fields respectively to schedule the start and end dates of the job and to create the WIP operations and resources. Enter the printed circuit board assembly and the UpgradeToC alternate bill in the Bill Reference and Alternate Bill fields respectively in order to get the upgrade kit components onto the non–standard discrete job.

Use the Material Requirements window to manually create the component requirement for the printed circuit board. The printed circuit board will likely be a push component at the remove operation. For the printed circuit board, do *not* check MRP Net since you do not want to create demand for items that are supplied from a non–nettable

subinventory. Since the upgrade kit components are supplied from nettable subinventories, check MRP Net for these items.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the WIP Material Transactions window to issue the printed circuit board and upgrade kit components to the non–standard discrete job.

Use the Move Transactions window to move the printed circuit boards from operation to operation and to charge resources and overheads. You can also use the Move Transactions window to scrap unfixable printed circuit boards.

Use the Completion Transactions window to complete the finished Revision C printed circuit boards into a nettable finished goods inventory.

Costing

When all the printed circuit boards are completed or scrapped, the job status changes to Complete. Your cost accountants can run a Discrete Job Value Report to check all the charges.

The job must have costs incurred equal to the standard cost of the printed circuit board assemblies, plus the cost of the upgrade kit material, plus the standard or actual cost of resources charged, and the standard cost of overhead charged. The costs relieved from the job equal the standard cost of the completed and scrapped printed circuit board assemblies. The balance is written off as a variance when you close the job.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Adding and Updating Material Requirements: page 7 – 10

Adding and Updating Operations: page 8 – 12

Charging Resources Manually: page 9 – 33

Issuing and Returning All Push Components: page 7 – 54

Performing Move Transactions: page 8 – 37

Completing and Returning Assemblies: page 7 – 91

Discrete Job Close: page 3 – 119

Using the Component Pick Release Window: page 7 – 33

Disassemble Assemblies

Business Example

You are a custom bicycle manufacturer that has received a cancellation for a custom bike you have recently completed. You have decided to disassemble this bike into its major components so that you can reuse these components on future custom orders. Use a non–standard discrete job to disassemble the bike.

Assumptions

You have one completed custom bicycle in a nettable finished goods (FGI) subinventory. Your manufacturing engineers have set up a standard operation to disassemble bicycles, called Disassembly, with a single direct charge resource, called Tech1.

Setup

Use the Discrete Jobs window to define a non–standard discrete job for the bicycle assembly with a job quantity of 1. Since you will not be receiving any finished bicycles as a supply, enter zero in the MRP Net Quantity field rather than the job quantity. Select an expense type non–standard accounting class since you are not building up WIP assets. Use a class with accounts that correspond to the appropriate expense accruals.

Use the Operations window to manually create a single operation routing with the Disassembly standard operation as the only operation.

Use the Material Requirements window to manually create the component requirements. The first requirement must be the bicycle assembly itself at the Disassembly operation. Enter Push as the supply Type since you will likely push the bicycle assembly to the Disassembly operation and enter the FGI subinventory in the Supply Subinventory field. Check MRP Net since you want to create demand for a bicycle that is supplied from the nettable FGI subinventory.

Further, you must create negative component requirements for each of the major components you expect to return to inventory from the bicycle including the frame, seat, handlebars, crank set, wheels, and tires. For

these components, check MRP Net so that the MRP planning process sees these negative demands as supply.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the WIP Material Transactions window to issue the bicycle to the non–standard discrete job.

Use the Resource Transactions window to charge resource time incurred during the dismantling process.

Use the WIP Material Transactions window to return the frame, seat, wheels, and so on to inventory as you dismantle the bicycle. These return transactions fill the negative requirements you created using the Update Requirements window. Do not use the Completion Transactions window since there is nothing to complete.

Costing

When the disassembly process is over and all the components have been returned to inventory, you must change the job status to Cancelled–no charges. The cost accountants can run a Discrete Job Value Report to check all the charges.

The job must have an ending balance equal to the resource and overhead costs incurred during assembly and disassembly and any outside processing costs incurred during assembly. The costs of materials issued and returned must be equal since all the components of the bicycle were returned to inventory. The resource, overhead, and outside processing costs are written off as a variance when you close the job or at period end when expense type non–standard jobs are automatically expensed.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Adding and Updating Material Requirements: page 7 – 10

Adding and Updating Operations: page 8 – 12

Charging Resources Manually: page 9 – 33

Issuing and Returning All Push Components: page 7 – 54

Performing Move Transactions: page 8 – 37

Completing and Returning Assemblies: page 7 – 91

Discrete Job Close: page 3 – 119

Using the Component Pick Release Window: page 7 – 33

Build Engineering Prototypes

You can define prototype bills of material in two ways. The first is to use engineering change orders (ECO) to define future revisions to items on a bill. The second is to create a new engineering item and bill.

In either case, you may build a small quantity of these new structures to validate the design and to ensure manufacturability. You can use non–standard jobs to manage the prototype build process for both future revisions and new engineering items.

Business Example #1 – Future Revision of an Existing Item

You are an automotive parts manufacturer that wants to build a batch of fuel filter prototypes for next year's model. These fuel filters are only slightly revised from this year's models and are defined as a future unreleased revision rather than as a new item. You have decided to build these prototype assemblies on a non–standard discrete job.

Assumptions

Your manufacturing engineers have used engineering change orders to define a future open bill of material for the fuel filters with a revision identifier of 95 and revision date of 01–Jan. You can build the 95 revision in the regular fuel filter production area on a standard fuel filter routing. The engineers may modify the routing on the fly during the build process. Cost accounting has not performed a cost rollup for this future version of the fuel filter.

Setup

Use the Discrete Jobs window to define a non–standard discrete job for the fuel filter assembly, revision 95 with a revision date of 01–Jan, with a job quantity of 10. Since none of these prototypes will be available as supply, enter zero in the MRP Net Quantity field rather than the job quantity. Select an expense type non–standard accounting class since you are performing engineering activities. Use a class with accounts that correspond to your engineering prototype expense accruals.

Enter the current routing into the Routing Reference field to schedule the start and end dates of the job and to create the WIP operations and resources.

Enter the 95 revision with the revision date of 01–Jan into the Bill Revision and Revision Date fields respectively to get the correct component requirements into the non–standard discrete job. You must have the *WIP:Exclude Open ECOs* profile option set to None to allow you to define jobs for open revisions.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the WIP Material Transactions window to issue the components to the non–standard discrete job.

Use the Move and Resource Transactions windows to move the fuel filters from operation to operation and to charge resources and overheads. You can also use these windows to add either operations or resources as needed.

Use the Completion Transactions window to complete revision 95 of the finished fuel filters into a non–nettable engineering prototypes inventory.

Costing

When all the fuel filters are completed or scrapped, the job status changes to Complete. Your cost accountants can run a Discrete Job Value Report to check all the charges.

The job must have an ending balance equal to the cost of material, resources and overhead charges less the current standard cost for the completed fuel filters (since this future version is not the current standard). The balance is written off as a variance when you close the job or at period end when expense type non–standard jobs are automatically expensed.

Business Example #2 – Engineering Items

You are an automotive parts manufacturer that wants to build a batch of fuel filter prototypes for a brand new model. These fuel filters are a brand new engineering item that does not meet the same window, fit, or function of any item. You have decided to build these prototype assemblies on a non–standard discrete job.

Assumptions

Your manufacturing engineers have defined a new engineering item bill of material for the fuel filters with a revision identifier of 95A and revision date of 01–Jan. You can build the new item in the regular fuel filter production area on a standard fuel filter routing. The engineers modify the routing on the fly during the build process. Cost accounting has not performed a cost rollup or a cost update for this new engineering fuel filter.

Setup

Use the Discrete Jobs window to define a non–standard discrete job for the engineering fuel filter assembly, revision 95A with a revision date of 01–Jan, with a job quantity of 10. Since none of these prototypes will be available as supply, enter zero in the MRP Net Quantity field rather than the job quantity. Select an expense type non–standard accounting class since you are performing engineering activities. Use a class with accounts that correspond to your engineering prototype expense accruals.

Enter the standard fuel filter into the Routing Reference field to schedule the start and end dates of the job and to create the WIP operations and resources.

Enter the 95A revision with the revision date of 01–Jan into the Bill Revision and Revision Date fields respectively to get the correct component requirements into the non–standard discrete job. You must have the *WIP:See Engineering Items* profile option set to Yes to allow you to define jobs for engineering items.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the WIP Material Transactions window to issue the components to the non–standard discrete job.

Use the Move and Resource Transactions windows to move the fuel filters from operation to operation and to charge resources and overheads. You can also use these windows to add either operation or resources as needed.

Use the Completion Transactions window to complete revision 95A of the finished engineering fuel filters into a non–nettable engineering prototypes inventory.

Costing

When all the fuel filters are completed or scrapped, the job status changes to Complete. Your cost accountants can run a Discrete Job Value Report to check all the charges.

The job must have an ending balance equal to the cost of material, resources and overhead charges. No costs were relieved from the job by the completion transaction since the costs of the engineering fuel filter have never been rolled up or updated. The job balance is written off as a variance when you close the job or at period end when expense type non–standard jobs are automatically written off.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Adding and Updating Material Requirements: page 7 – 10

Adding and Updating Operations: page 8 – 12

Charging Resources Manually: page 9 – 33

Issuing and Returning All Push Components: page 7 – 54

Performing Move Transactions: page 8 – 37

Completing and Returning Assemblies: page 7 – 91

Discrete Job Close: page 3 – 119

Using the Component Pick Release Window: page 7 – 33

Track Other Projects

Business Example

You are a contract electronics manufacturer who can charge customers for design services as well as production services. You have decided to track their design service projects using non–standard discrete jobs.

Assumptions

Your manufacturing engineers have already set up a dummy item, named Design_Project, with a number of alternate routings for various types of design projects. In this case, Project7 is the alternate routing that most closely matches this specific project.

You can use the Operations window to modify this standard routing to exactly match the major tasks (operations) and responsibilities (resources) for this specific project.

Setup

Use the Discrete Jobs window to define a non–standard discrete job with no assembly and a job quantity of zero. There is no need for an assembly since you will not be moving or completing anything. Select an expense type non–standard accounting class since you are performing project activities. Use a class with accounts that correspond to your project accruals. Use the job name and description to identify the specific customer and design contract.

Enter the Design_Project item and the Project7 alternate routing into the Routing Reference and Alternate Routing fields respectively to create the WIP operations and resources. Since you will not be making moves, the purpose of this routing is to serve as a task reference list and charging point for the individuals who are performing this project.

Print the Discrete Job Pick List Report and release the job using the Discrete Jobs window. Or release the job and use the Component Pick Release window to select requirements and generate move orders.

Transactions

Use the Resource Transactions window to charge resources time incurred during the life of the project. You can charge at a standard rate or a rate based on the specifics of your contract.

Use the Move or Resource Transactions windows, or the Operations window to modify the operations or resources as required for this particular project.

Use the WIP Material Transactions window to issue any items that the project might require.

Costing

Since you will do this project over several periods, you can leave this job open for as long as you want. The job must have an ending balance equal to the material, resource, and overhead charges incurred during any period. The cost accountants must run a Discrete Job Value report each period to review the charges and bill the customer. The job balance is written off as a variance when you close the job or at period end when expense type non–standard jobs are automatically expensed.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Adding and Updating Material Requirements: page 7 – 10

Adding and Updating Operations: page 8 – 12

Charging Resources Manually: page 9 – 33

Issuing and Returning All Push Components: page 7 – 54

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CHAPTER

5

Flow Manufacturing

This chapter explains how to use flow manufacturing in Work in Process, including:

- Overview: page 5 – 2
- Setting Up: page 5 – 7
- Flow Schedules: page 5 – 8
- Work Order–less Completions: page 5 – 11
- Overview of the Flow Workstation: page 5 – 27
- Flow Workstation Window: page 5 – 28
- The Flow Workstation Branches and Tabs: page 5 – 33
- Flow Workstation Transactions: page 5 – 35
- Linearity, Load, and Properties of the Line: page 5 – 38
- Open Schedules and Events: page 5 – 46

Overview of Flow Manufacturing

Flow Manufacturing is a set of manufacturing processes and techniques designed to reduce product cycle time through line design and line balancing, reduce product costs by minimizing inventories and increasing inventory turns, and to enhance product quality through total quality control. It is significantly different from other manufacturing processes in that it is a just–in–time (JIT) or demand–based ”pull” system that manufactures to customer order.

A Multi–Mode Environment

Integrating Flow Manufacturing with other Oracle Applications such as Work in Process enables you to operate in a multi–mode environment. This means that you can concurrently implement Discrete, Repetitive, and Flow manufacturing methods in the same or different inventory organizations by plant, product family, assembly line, or process. For example, you can produce some of your product families in the Flow environment and others in the Discrete environment.

Mixed–Model Production

Flow Manufacturing uses dedicated assembly lines that are designed to support the manufacture of product families through mixed–model production. Mixed–model production enables you to produce any item in a product family in any sequence and in a lot size of one. To ensure optimum resource utilization and the smooth flow of materials, lines are designed to minimize bottlenecks, to eliminate non value–added tasks, and to integrate quality inspections into the process.

When setting up Flow Manufacturing assembly lines, the goal is to set up balanced lines that enable you to meet the expected demand in the shortest possible time. Using ”pull” manufacturing, materials flow through the line at a steady rate (known as TAKT time), starting with the final assembly operation.

Mixed–model production is driven by *Flow schedules*, rather than by Discrete work orders, and uses existing Flow routings. Schedules are sequenced based on customer orders, and component material is managed, and replenished at its point–of–use by kanban bins and signals.

Kanban Material Replenishment

In Oracle Flow Manufacturing, you can both plan and execute kanbans, a method of just–in–time material replenishment that can be applied to the production of items with relatively constant demand and medium to high production volume. Kanban material replenishment is a

self–regulating pull system that uses replenishment signals (kanbans) to pull the minimum amount of material possible into production bins when needed to meet demand.

When material is needed, a kanban signal is sent electronically or manually to feeding operations and/or external suppliers. A *supplier kanban* may automatically trigger a purchase order to a supplier, while an *internal kanban* results in an inter–organizational transfer.

See Also

Flow Manufacturing, *Oracle Flow Manufacturing User's Guide*

Kanban Planning and Execution, *Oracle Flow Manufacturing User's Guide*

Mixed Model Map, *Oracle Flow Manufacturing User's Guide*

Creating Flow Schedules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Product Synchronization, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Flow Manufacturing Integration with Work in Process

Integrating Flow Manufacturing with Work in Process has simplified production execution. The following overviews provide you with a brief introduction to the Flow Manufacturing features provided in Work in Process:

Work Order–less Assembly Completions and Returns

You can complete and return flow schedules and unscheduled flow assemblies without having to create a work order. When you perform a WIP Assembly Completion, operation pull, assembly pull, and push components are backflushed and resources and overheads are charged. For a WIP Assembly Return, operation pull, assembly pull, and push components are returned to inventory and resource and overhead transactions are reversed. You perform these transactions on the Work Order–less Completions window, which you can open from both the Flow Manufacturing and Work in Process menus.

Quality Data Collection during Work Order–less Completions

You can collect quality results data when you complete Flow schedules and unscheduled assemblies on the Work Order–less Completions window. When you set up a collection plan to associate with a Work Order–less completion transaction, you can specify mandatory quality data collection, in which case, the user must enter quality results before completing the transaction. You also can specify that quality data is collected automatically in the background. Detailed information on setting up collection plans for recording quality data during transactions is available in the *Oracle Quality User's Guide.*

Assembly Scrap and Return of Scrap

You can scrap and return from scrap both scheduled and unscheduled assemblies at any operation. This can be performed for assemblies where no routing exists. Operation and assembly pull, and push components at events prior to the scrap line operation are automatically backflushed. You can substitute components at any operation on or prior to the scrap operation. You can specify a scrap account for scrap and return from scrap transactions.

Component Substitutions

You can add, delete, and substitute components that are not normally associated with the assembly you are building.

Component Backflush

Operation Pull, assembly pull, and push components are automatically backflushed when you complete a Flow schedule. Conversely, when you return Flow assemblies, reversing transactions are created. Bulk and supplier components are not backflushed. The bills for phantom components are exploded and the phantom's components are backflushed when transactions are saved.

Production Kanban Replenishment

You can use kanban signals to create a discrete job, repetitive schedule, or Flow schedule (or you can use existing job or schedule) to replenish production kanbans whose supply status is *Empty* or *In Process.* Production kanbans for discrete jobs or repetitive schedules are replenished when assemblies are completed through the Completion or Move Transaction form. Production kanbans for scheduled and unscheduled flow assemblies are completed on the Work Order–less Completion form.

You can complete an assembly into the subinventory or locator specified by the kanban. The first assembly completed automatically updates the supply status of its production kanban to *Full.*

Lot and Serial Number Control

You can specify lot, serial, and lot and serial number information for assemblies and components when you perform Work Order–less Completion transactions. You also can set the WIP *Lot Selection Method* parameter to specify whether lot controlled components are selected manually or automatically during backflush transactions. If you specify manual selection, you select which lots are used; if you specify automatic selection, lots are selected on the basis of their inventory expiration or receipt date. See: Backflush Parameters: page 2 – 21 and Lot and Serial Number Backflushing: page 7 – 78.

ATO (Assemble–to–Order) Reservations

You can accept a customer order, generate a Flow schedule, and complete it using a Work Order–less Completion transaction. Components are automatically reserved to satisfy that specific sales order.

Sales Order Reservations

You can reserve the assemblies being built on a Flow schedule to a sales order. One or more Flow schedules can be used to satisfy a sales order. Sales order lines cannot be satisfied by both discrete jobs and Flow schedules.

Inventory Transaction Open Interface

You can load work order–less completion transaction information from external systems — such as bar code readers and other data collection devices — into the Inventory Transaction Open Interface. When this data is processed, it is validated, and invalid records are marked so that you can correct and resubmit them

Mobile Manufacturing

Oracle Mobile Manufacturing is the component of Oracle Mobile Supply Chain Applications used for Oracle Work in Process transactions. The interface of a mobile client device with a networked computer system is used to create transactions. You can perform Flow Manufacturing completion and scrap transactions, and work order–less completions.

See Also

Comparison of Manufacturing Methods: page C – 2

Performing Work Order–less Completions: page 5 – 16

Completing and Returning Assemblies: page 7 – 91

Performing Move Transactions: page 8 – 24

Creating Flow Schedules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Product Synchronization, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Flow Manufacturing Transactions, *Oracle Mobile Supply Chain Applications User's Guide*

Work Order–Less Transactions, *Oracle Mobile Supply Chain Applications User's Guide*

Setting Up

- For a listing of out–of–product setups that affect flow manufacturing see: Related Product Setup Steps: page 2 – 3.
- For a listing of setups within Work in Process that affect flow manufacturing see: Setup Check List: page 2 – 7.
- For additional information about parameters and accounting classes see: WIP Parameters: page 2 – 14 and WIP Accounting Classes: page 2 – 42.
- For a listing of profile options that affect Flow manufacturing see:Profile Options: page 2 – 64.
- For information on setting up flow routings see: Creating a Flow Routing, *Oracle Flow Manufacturing User's Guide*
- For information on defining scheduling rules see: Defining Scheduling Rules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*
- For information on creating standard events see: Defining Flow Manufacturing Standard Events, *Oracle Flow Manufacturing User's Guide*
- For information on creating flow lines see Overview of the Graphical Line Designer Workbench, *Oracle Flow Manufacturing User's Guide*

Flow Schedules

Flow schedules are production schedules for assemblies produced on Flow Manufacturing lines. They are created to meet planned production orders and/or sales orders. You can link sales orders to flow schedules, and you also have the option to reserve the schedule's completed assemblies to the associated sales order..

You create flow schedules on the Flow Manufacturing Line Scheduling Workbench. Flow schedules are scheduled within a line and optionally within a schedule group. Once you create a flow schedule, you can use the Work Order–less Completions window to perform completion, return, and scrap transactions.

See Also

Defining Scheduling Rules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Creating Flow Schedules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Flow Schedule Completions

You perform completion transactions for flow schedules in the Work Order–less Completions window. At the time of completion, material is automatically backflushed and resources and overheads are charged. You can create completion transactions for:

- Assemblies for flow schedules created in Flow Manufacturing, or created to replenish production kanbans
- Scheduled and unscheduled assemblies

You can also use kanban signals to create a flow schedule completion when the kanban card status is changed to Full (notifies you that the order has been filled).

See Also

Work Order–less Completions: page 5 – 11,

Performing Work Order–less Completions: page 5 – 16.

Flow Manufacturing Transactions, *Oracle Mobile Supply Chain Applications User's Guide*

Work Order–Less Transactions, *Oracle Mobile Supply Chain Applications User's Guide*

Flow Schedule Reservations

You can use assemblies that have been completed into Inventory through work order–less completions to satisfy sales orders. Unlike discrete manufacturing, these sales orders are not required to be assemble–to–order (ATO) sales orders.

For both scheduled and unscheduled sales orders, you specify that assemblies from a single flow schedule can fill multiple sales orders. For scheduled flow schedules only, you can specify that assemblies from a single sales order satisfy multiple flow schedules.

You can designate the sales order to the schedule when it is created in the Line Scheduling Workbench. This sales order is for reference and does not create a reservation.

Attention: If you are using Oracle Mobile Supply Chain Applications for your work order–less completions transactions, only configured to order (CTO) flow schedules are reserved to designated sales orders.

Reserving Sales Orders

As you complete flow schedules that reference ATO sales orders in the Work Order–less Completions window, the Reserve option defaults to enabled but can be disabled. If the flow schedule is linked to a sales order for a non–ATO item, the Reserve option defaults to disabled.

Note: Discrete jobs cannot be used to satisfy an ATO sales order if a flow schedule has been created to satisfy it.

You can only reserve a quantity that is less than or equal to the open quantity of a sales order. Because completions that are being processed may affect this quantity, the system checks to see that all pending completions for that flow schedule are processed first.

The item required, completion subinventory, locator, revision, and demand class specified in the sales order line are the same as the values entered at the time of completion.

Once the a link between the flow schedule and the sales order is established and the reservation is made, the work order status is changed to Work Order Open if the earlier order status was Manufacturing Released. The supply reservation created will have a different delivery ID so you will need to obtain the new delivery ID from MTL_DEMAND, and create a reservation in On–Hand inventory. You will need to create hard reservations for each of the lots specified in the transaction.

Returning Reserved Assemblies

You can only return assemblies to flow schedules if no reservation between the flow schedule and sales order exists. Therefore, to return an assembly that was reserved to a flow schedule, you must first break the reservation in on–hand inventory.

Kanban Replenishment

You can use kanban signals to create a discrete job, repetitive schedule, or flow schedule (or you can use an existing one) to replenish production kanbans whose supply status is *Empty* or *In Process.* Production kanbans for discrete jobs or repetitive schedules are replenished when assemblies are completed through the Completion or Move Transaction form. Production kanbans for scheduled and unscheduled flow assemblies are completed on the Work Order–less Completion form.

You can complete an assembly into the subinventory or locator specified by the kanban. The first assembly completed automatically updates the supply status of its production kanban to *Full.*

See Also

Kanban Planning and Execution, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Work Order–less Completions

You can do all of the following on the Work Order–less Completions window:

- Complete unscheduled or scheduled assemblies to Inventory
- Return unscheduled or scheduled assemblies from Inventory
- Scrap assemblies from and return scrapped assemblies to any operation
- Explode the assembly's bill of material and add, delete, and change components–and review items under lot and serial number control
- Specify lot, serial, and lot and serial information for assemblies and components.
- Create material reservations for assemblies that are linked to sales orders
- Replenish production kanbans

If Oracle Mobile Supply Chain Applications is installed, you can use a mobile client device networked with a computer system to complete or return unscheduled and scheduled assemblies to inventory, and return unscheduled assemblies. See: Work Order–Less Transactions, *Oracle Mobile Supply Chain Applications User's Guide.*

If Oracle Warehouse Management is installed, you can perform work order–less completions into license plate numbers (LPN). License plate numbers are identifiers for tracking both inbound and outbound material – providing genealogy and transaction history for each license plate. For work order–less return transactions, you must first unpack the LPN before performing the assembly return transaction See: Explaining License Plate Management, *Oracle Warehouse Management User's Guide*

Component Backflushing and Resource Transactions

When you complete assemblies in this window, components are automatically backflushed. Resources that are specified as item based, when you perform return transactions all resource changes are rreversed. For lot based resources, return transactions do not reverse charges.

When adding a component through the Material Transaction interface, with an operation sequence that does not exist on the routing, the

backflush transaction is still processed with the invalid operation sequence.

Lot and Serial Components

Backflush completions for components under lot number control can be identified manually or automatically depending on how the WIP Backflush Lot Selection Method parameter is set.

For backflush components under serial, or lot and serial control, you can manually identify which lot and serial number combinations to backflush using the Lot/Serial action in the Components window. If you return assemblies using this window, you must always identify the lot, serial, and lot or serial numbers of the components being returned to inventory.

See: Lot and Serial Backflushing: page 7 – 78 and Backflush Default Parameters: page 2 – 21.

Flow Schedule Completions

- On the Routings window in Oracle Bills of Material, in the WIP tabbed region–the Count Point and Autocharge flags are enabled and not modifiable. Therefore, resources are set up to be charged.
- If an operation and event combination is disabled, the resources linked to those departments are not charged. However, components tied to those operations and events are backflushed.
- If the event is not assigned to a line operation, the resource and material associated with that operation is charged when performing completion and scrap transactions.
- When performing scrap transactions, all components are backflushed in the line operations prior to, and including, the line operation scrapped.

Collecting Quality Results Data

If Oracle Quality is installed and at least one qualified collection plan exists, both the Enter Quality Results option on the Tools menu and the Quality button on the toolbar are enabled. When mandatory collection plans are used, quality results data must be entered and saved before you can save your transaction. See: Using Oracle Quality with Oracle Work in Process, *Oracle Quality User's Guide*.

Serial Number Validations for Unscheduled and Flow Schedule Completions

For a serialized item returned to stock, validations occur to prevent re–issuing to a different flow schedule. At the time of completion, serialized assemblies and components for flow schedules are available from stock if they have the following values set in the Serial Numbers window in Oracle Inventory:

- Flow Schedule Work Order–less Completions

  State value: Defined but not used.

  State value: Issued out of stores. This is restricted to serial numbers that were previously returned to the same flow schedule that you are completing.

- Unscheduled Work Order–less Completions

  State value: Defined but not used.

  State value: Issued out of stores. This is restricted to serial numbers that were previously transacted for an unscheduled work order–less return.

See: Serial Number Validations for Component Returns and Assembly Completions: page 7 – 83

Non–updatable Fields

The following table lists the fields that cannot be updated in the Work Order–less Completions window:

	WIP Assembly Completion	WIP Assembly Return	Scrap	Return from Scrap
Unscheduled Assemblies	Build Sequence	Build Sequence	Build Sequence, Subinventory/Locator, Lot/Serial button	Build Sequence, Subinventory/Locator, Lot/Serial button
Scheduled Flow Schedule	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task, Subinventory/Locator, Lot/Serial button	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task, Subinventory/Locator, Lot/Serial button

Table 5 – 1 (Page 1 of 2)

	WIP Assembly Completion	WIP Assembly Return	Scrap	Return from Scrap
Unscheduled Assemblies with a Kanban Reference	Build Sequence, Subinventory/Locator	DISALLOWED	DISALLOWED	DISALLOWED
Scheduled Flow Schedule with a Kanban	Build Sequence, Subinventory/Locator	DISALLOWED	DISALLOWED	DISALLOWED
Unscheduled Assemblies with a Sales Order Reference	Build Sequence	DISALLOWED	Build Sequence, Subinventory/Locator, Lot/Serial button	Build Sequence, Subinventory/Locator, Lot/Serial button
Scheduled Flow Schedule with a Sales Order Reference	Build Sequence	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task, Subinventory/Locator, Lot/Serial button	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task, Subinventory/Locator, Lot/Serial button	Assembly, Line, Schedule Group, Build Sequence, Schedule Number, Accounting Class, Project/Task, Subinventory/Locator, Lot/Serial button

Table 5 – 1 (Page 2 of 2)

See Also

Profile Options: page 2 – 64

Security Functions: page 2 – 78

Work Order–less Completion Transaction Types

WIP assembly completion

Receive completed assemblies into inventory. If backflush components are under lot or serial number control, the lots and serial control numbers to backflush must be identified. Lots for backflush components under lot number control can be identified manually or automatically based on how the WIP Backflush *Lot Selection* parameter is set. See: Backflush Default.

For backflush components under serial number control or manual lot control, you must manually identify which serial numbers or lot numbers to backflush using the lot/serial number action in the Components window.

WIP assembly return

Return assemblies from inventory. All operation pull, assembly pull and push components are automatically returned to inventory. If the returned components are under lot or serial number control, the lots and serial numbers to return must be identified using the Lot/Serial action in the Components window.

WIP scrap transactions

Scrap assemblies at any operation. You can scrap assemblies even if the assembly does not have a routing. When this is done, the Scrap Operation defaults to 1. All operation pull, assembly pull and push components are backflushed when a flow schedule assembly is scrapped.

If the WIP *Require Scrap Account* parameter is set to Yes, and a scrap account is entered, the system debits this account and credits the elemental accounts associated with the flow schedule through the operation at which the assemblies are scrapped. Resource and overhead cost elements at scrap operations that are non–autocharge operations are also charged. However resource and overhead cost elements at the non–autocharge operations prior to the scrap operation are not charged.

If you do not provide a scrap account, the cost of scrap remains in the flow schedule until job or period close and is then written off as a variance, you must enter a scrap account. See: .

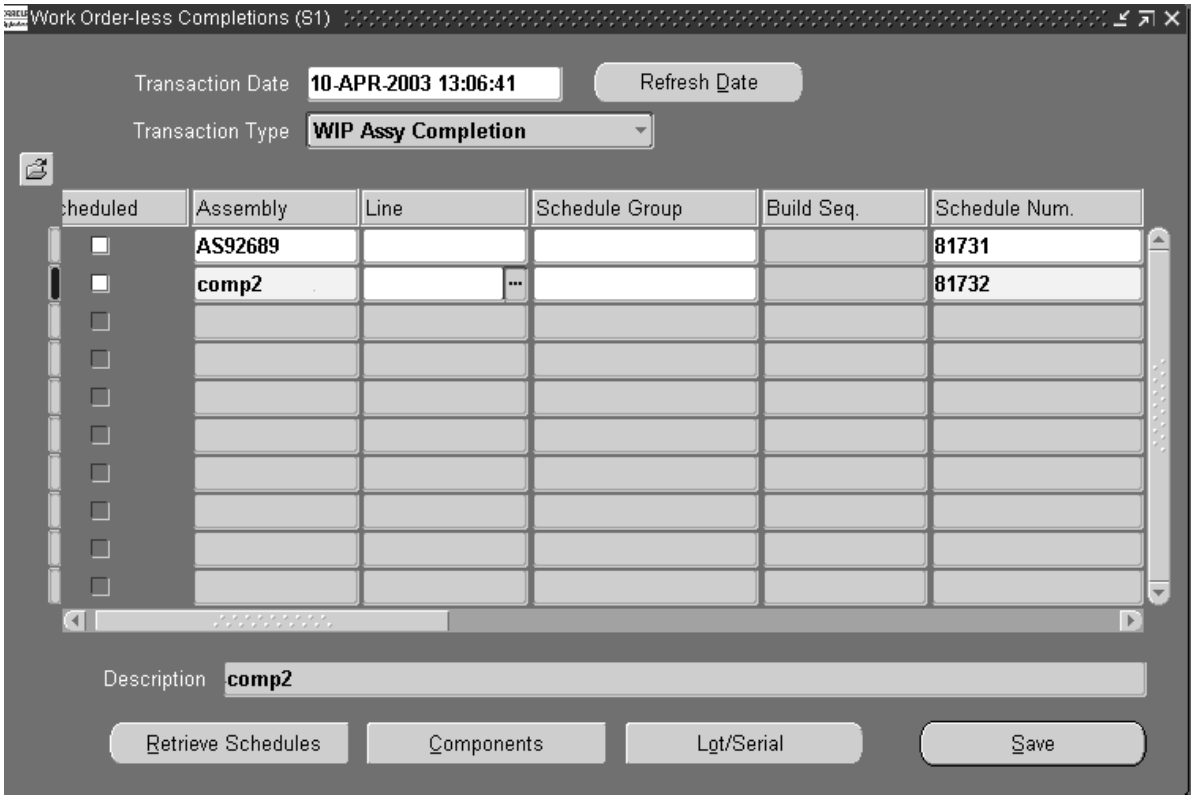
WIP return from scrap

Return assemblies from scrap. If you enter a reversing scrap transaction, the system credits this account and debits the job or schedule elemental accounts through the operation at which the assemblies are returned.

Performing Work Order–less Completions

▶ **To complete or return scheduled or unscheduled assemblies:**

1. Navigate to the Work Order–less Completions window.



2. Select a Transaction Date and time.

   The system date is defaulted but can be overridden with a date that is not greater than the current date, and falls within an open accounting period.

   Use the Refresh Date button if you want to change the Transaction Date after entering data on this window. This enables you to change the date without losing information already selected.

3. Select the WIP assembly completion or WIP assembly return Transaction Type. See: Work Order–less Completion Transaction Types: page 5 – 14

4. If you are completing a scheduled assembly, select the Scheduled check box.

5. Select an Assembly.

   You can select any assembly that has it's Build in WIP attribute set in Oracle Inventory. If a primary bill of material, primary routing, or both exist for this assembly, they are defaulted. See: Defining Items, *Oracle Inventory User's Guide* and Work In Process Attribute Group, *Oracle Inventory User's Guide*.

   If you select a Schedule Number first, the information associated with that schedule is defaulted. If you select an assembly before selecting a schedule, you can only select schedules that are building that assembly.

   If you select a Sales Order and Order Line, the assembly is defaulted.

6. Select a production Line.

   You can select any active production line. Production lines are optional.

   If you select a Schedule Number before selecting a Production Line, the information associated with that schedule is defaulted. If you override the defaulted production line, all defaults are cleared. If you select a production line before selecting a schedule, you can only select schedules that are being build on that production line.

7. Select a Schedule Group. See: Defining Schedule Groups: page 2 – 53.

   You can assign unscheduled Flow completions to any active schedule group. If you are completing a scheduled assembly, this field will default from the schedule number. The schedule group is optional.

   If you select a Schedule Number before selecting a Schedule Group, the information associated with that schedule is defaulted. If you select a schedule group before selected a schedule, you can only select schedules that belong to that schedule group.

   Also, if the transaction type is a WIP assembly completion, the applicable Project, Task, Sales Order Line, Sales Order Delivery, and Kanban ID are defaulted.

8. Enter a Schedule Number.

   When completing unscheduled assemblies, you can assign a unique, alphanumeric Schedule Number to an unscheduled assembly. If you do not enter a Schedule Number, and a prefix has

been specified for the WIP:Discrete Job Prefix profile option, a default Schedule Number is assigned by the automatic sequence generator when you press the tab key. When completing scheduled assemblies, select from the List of Values.

9. If the transaction type is a WIP assembly completion, you can select a Sales Order and an Order Line on that Sales Order.

   When completing unscheduled assemblies, you can select a Sales Order and Order Line that is for the selected assembly. You can only select sales orders that are open and that have either a standard item or a configured item in at least one of their order lines. Also, the order line selected should not be linked to a discrete job.

   When completing a scheduled assembly that was created by scheduling a sales orders, this field will default from the schedule number.

10. If you have selected a Sales Order/Order Line, you can enable the Reserve option to create a reservation. See: Reserving Available Inventory, Oracle Inventory User's Guide.

    If the Sales Order and Order Line selected is for an assemble–to–order (ATO) item, the Reserve option is automatically enabled but can be disabled. If the Sales Order/Order Line is for a non–ATO item, the Reserve option, it can be, enabled.

    > **Note:** If you are using Oracle Mobile Supply Chain Applications, only configured to order items (CTO) can be reserved in inventory for flow schedule referencing a sales order.

11. Select a unit of measure in the UOM field. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

12. Enter a transaction Quantity. For scheduled completions, the transaction quantity will default to the schedule number.

13. Select a Completion Subinventory and, if required, a Locator. Several rules apply to these fields for defaulted information:

    - If a completion subinventory/locator was specified on the routing, it is defaulted but can be overridden. See: Completion Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.
    - The Completion Subinventory/Locator is defaulted from any existing Sales Order and Sales Line values.

- If you have selected a Kanban Number, the completion subinventory/locator for that kanban, if specified, is defaulted and cannot be changed.
- The Locator field information defaults from any applicable project and task combination entered.
- If you entered a default Completion Subinventory on the item routing, the Completion Subinventory/Locator is defaulted. You can create a reservation for the quantity completed, the subinventory/locator/lot information for the previous reservation is overridden.
- Completion locators are required if the Locator Control Parameter in Oracle Inventory is set to require a locator.

14. Select a BOM Revision.

    When you select an assembly, the primary bill of material for the assembly is defaulted. If there is more than one revision for the primary bill of material, the transaction date is used to determine the bill revision and revision date.

    If you set the WIP:Exclude ECOs profile option to None, engineering change orders with Open statuses, as well as those with Release, Schedule, and Implement statuses, are considered when the bill of material is exploded. See: Overview of Engineering Change Orders, *Oracle Engineering User's Guide*, Defining Engineering Change Orders, *Oracle Engineering User's Guide*, and ECO Implementation By Status: page 11 – 18.

15. Select a BOM revision Date and time.

    You can select a BOM revision date other than the one determined by the transaction date and time.

16. Select a Routing Revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

    When you select an assembly, the primary routing for the assembly is defaulted. If there is more than one revision for the primary routing, the transaction date is used to determine the routing revision and revision date.

17. Select a Routing revision Date and time.

    You can select a routing revision date other than the one determined by the transaction date and time.

18. Select a BOM Alternate bill of material.

You can select an alternate bill if alternates have been defined for the assembly you are building.

19. Select a Routing Alternate.

    You can select a routing alternate if alternates have been defined for the assembly you are building.

20. Select a Project, and if required, a Task.

    You can only select a project if the current organization's Project References Enabled parameter is set in Oracle Inventory. You must select a task if the Project Control Level parameter is set to Task and you have entered a project number. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Defining Project Information, *Oracle Inventory User's Guide*.

    > **Note:** The default information in these fields cannot be changed if an existing schedule, sales order and line, or kanban number is entered.

21. If the transaction type is a WIP assembly completion and the specified Flow schedule does not reference a Sales Order/Order Line, you can select a Kanban Number. for replenishment.

    See: Completions to Kanbans with Supply Statuses of Full.

    When you select a kanban, the quantity for that kanban is defaulted. If a completion subinventory/locator for the kanban have been specified, they are also defaulted.

22. Select an accounting Class.

    See: WIP Accounting Class Defaults: page 2 – 17 and Discrete Accounting Classes: page 2 – 42.

23. Select a Demand Class.

    The Demand Class is defaulted from the Sales Order/Order Line, but can be overridden. You can select any enabled and active demand class. See: Overview of Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide* and Creating Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

24. Optionally, select a transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

25. Optionally, enter a transaction Reference.

    References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

26. If you are completing assemblies under lot, serial, or lot and serial control, choose Lot/Serial. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

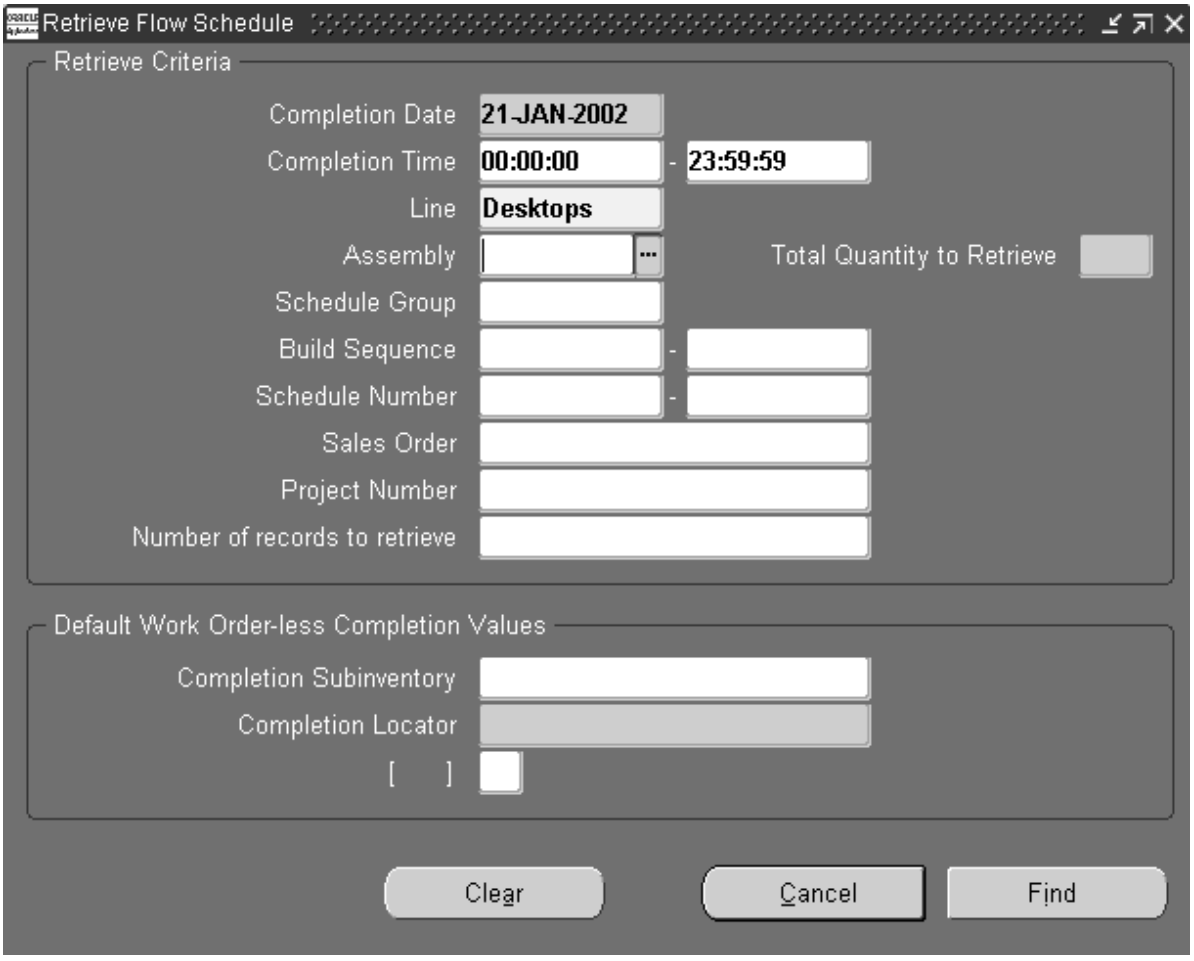
27. Save your work.

Attention: Assembly Pull, Operation Pull, and Push components are automatically backflushed. Bulk and supplier components are not backflushed. The bills for Phantoms are exploded and the Phantom components are backflushed.

The system backflushes these components from the supply subinventory/locator assigned to the components on the bill of materials or the one specified in the Components window. If no supply subinventory/locator is assigned to the bill components, the system pulls components from the supply subinventory/locator defined for the item. If no item supply subinventory/locator is defined at the item level, items are pulled from the default supply subinventory/locator as determined by the Supply Subinventory and Supply Locator parameters. See: Backflush Parameters: page 2 – 21.

▶ **To complete multiple flow schedules:**

1. Navigate to the Work Order–less Completion window.
2. Change the date and time to the completion date and time desired.
3. Choose Retrieve.
4. Enter the retrieve criteria. Line is a required field, all others are optional.



5. Optionally, enter default completion sub–inventory, locator, and flex field information.
6. Choose Retrieve.
7. A window will appear informing you how many records will be retrieved. Choose OK to retrieve them all, choose Cancel to return to the Retrieve window and change your criteria.

☞ **Attention:** Items under lot and serial control cannot be retrieved and must be entered individually using the Work Order–less Completions window. If any other items cannot be retrieved, you will receive an error. Other errors are usually caused by an incorrect or missing completion sub–inventory on a routing. To permanently fix the errors, return to all routings and ensure a

completion sub–inventory and locator are entered. To temporarily fix it, you can return to the retrieve screen and enter a default completion sub–inventory and locator.

8. If there are schedules retrieved that you do not want to complete, highlight them and delete them.
9. Add any other scheduled or non–scheduled items you wish to complete at the same time, and choose Save.

▶ **For component transactions including adding deleting changing, or specifying lot/serial information:**

1. Choose the Components button.

   The Components window appears, displaying the exploded bill of material for this assembly.
2. Select the component item at which to make the change.
3. Modify the editable fields you want to change.
4. In all transactions, optionally you can select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.
5. In all transactions, optionally you can enter a transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

▶ **To change a component:**

1. Select the component to be replaced, and select the value you want to substitute.
2. Change the quantity, if required.

   The quantity you enter here is the total quantity for the completion. The Revision for the substitute is defaulted based on the transaction date. The supply subinventory/locator are defaulted from the item. See: Defining Items, *Oracle Inventory User's Guide* and Work In Process Attribute Group, *Oracle Inventory User's Guide*.

   If there is no supply subinventory/locator at the item level, the supply Subinventory, and if required, the Supply Locator, are defaulted based on the values entered for the WIP *Supply Subinventory* and *Supply Locator* parameters. See: Backflush Default Parameters: page 2 – 21.
3. Save your work.

▶ **To add a component:**

1. From the File menu, select New.

   A new row displays in the Components window.

2. Select the Operation where the component will be used.

   If the assembly has no routing, the system displays 1 as the default operation sequence. This value cannot be updated.

3. Select a component to add and enter a quantity.

   The Revision and Supply Subinventory/Locator, are defaulted the same as for a Substitute.

4. Save your work.

▶ **To delete a component:**

- Select the component you want to take out, delete, and save your work.

▶ **To enter lot and serial number information for a component.**

- Components under lot or serial number control are indicated when Lot/Serial button is available. Select a component, then choose the Lot/Serial button.

  See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

▶ **To resubmit transactions that fail to process:**

- You can resubmit transactions that fail to process using the Transaction Open Interface window in Oracle Inventory.

▶ **To add, delete, or change components or specify component lot/serial information:**

1. Choose Components to display the Components window.
2. Select the Operation at which to make the substitution.

   If the assembly has no routing, the system displays 1 as the default operation sequence. This value cannot be updated.

3. Select a substitution Type from the following options:

   Add: Add a component at the operation.

   Delete: Delete a component from the operation.

Change: Substitute one component for another at the operation.

Lot/Serial: Specify lot/serial number information for items.

- If you are scrapping assemblies, and the substitution type is changed, deleted, or lot or serial, the event operation sequence selected must precede the scrap line operation in the routing network.
- If you are Changing a component, you must select the component to be replaced, select a Substitute component and enter a Quantity. The quantity you enter here is the total quantity for the completion. The Revision for the substitution is defaulted based on the transaction date. The supply subinventory/locator are defaulted from the item. See: Defining Items, *Oracle Inventory User's Guide* and Work In Process Attribute Group, *Oracle Inventory User's Guide*.
- If you are Adding a component, select a component to add and enter a Quantity. The Revision and supply Subinventory/Locator, are defaulted the same as for a Substitute.
- If you are Deleting a component, select the component to delete.
- To enter Lot/Serial information for a component, select a component then choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

4. Optionally, select a transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.
5. Optionally, enter a transaction Comment.

   Comments can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.
6. Choose Done to save your work.

▶ **To resubmit transactions that fail to process:**

- You can resubmit transactions that fail to process using the Inventory Transactions Open Interface window in Oracle Inventory.

See Also

Backflush Transactions: page 7 – 74

Setting Up Flow Manufacturing: page 5 – 7

Scrapping Flow Schedule Assemblies

You can use the Work Order–less Completions window to scrap scheduled and unscheduled Flow assemblies. Specifically, you can do all of the following:

- Scrap assemblies at any operation in the routing, which in turn causes all Assembly Pull, Operation Pull, and Push components to be backflushed and all resources charged
- Return assemblies to Flow schedules that have been scrapped (this creates reversing resource charge and component backflush transactions)

Scrap and return from scrap transactions are disallowed if either the Flow schedule or unscheduled assembly references a kanban.

▶ **To scrap or return from scrap unscheduled Flow assemblies:**

1. Select the WIP Scrap transaction or WIP Return from Scrap transaction type. See: Work Order–less Completion Transaction Types: page 5 – 14.
2. Specify an Assembly, production Line, Schedule Group, or optionally generate a Schedule Number, assembly bill and routing information. When scrapping and returning scrap, you cannot enable the Reserve option, or select a Completion Subinventory/Locator, Project/Task, or Kanban number.
3. Select a Sales Order and an Order Line on that Sales Order.
4. Select a Scrap Line Operation Sequence.
5. Select a Discrete Accounting class.

   The scrapped assemblies are written off against the accounts associated with this class.
6. If the WIP *Require Scrap Account* parameter is set, you must enter a scrap account number or an account Alias. If you do not specify that a scrap account is required, it is optional. See: Move Transaction Parameters: page 2 – 20 and Defining Account Aliases, *Oracle Inventory User's Guide*.
7. Optionally specify a Demand Class, a Reason, for the Scrap transaction, and enter a Comment about the transaction.

Overview of the Flow Workstation

The Flow Workstation provides you with immediate access to critical Flow Manufacturing production information. It enables you to track the flow of work throughout the shop floor and to complete scheduled and unscheduled assemblies directly from the workstation. It also provides you with detailed component, resource, and property information on flow schedules, unscheduled assemblies and their events, and operation instructions and other attachments.

Features of the Flow Workstation

The Flow Workstation enables you to:

- View the linearity, load, and properties of the selected line
- View a line operation's open schedules and events, and unscheduled assemblies
- View detailed information on the components and resources required for schedules and events
- Obtain the kanban locations of components required at an operation
- Complete flow schedules and unscheduled assemblies
- Complete line operations
- Request kanban replenishment
- Obtain operating instructions, diagrams, component attachments, and other information attached to assemblies and events
- Enter quality data at specific points in the routing

See Also

Mixed Model Map, *Oracle Flow Manufacturing User's Guide*

Product Synchronization, *Oracle Flow Manufacturing User's Guide*

Flow Manufacturing Line Balance, *Oracle Flow Manufacturing User's Guide*

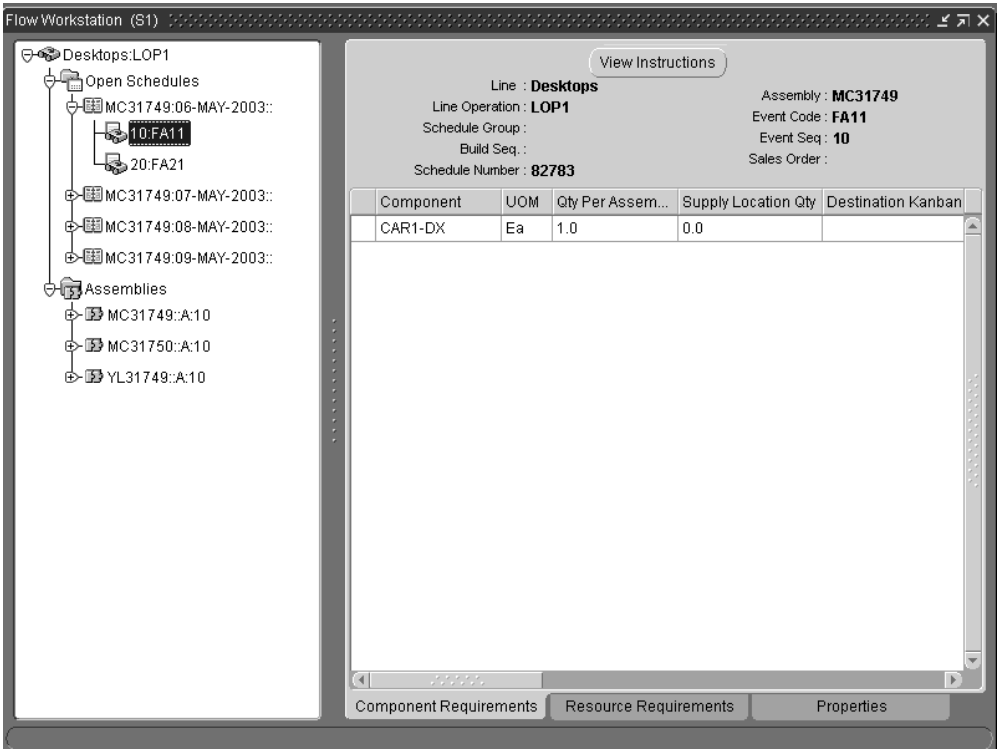
Overview of the Graphical Line Designer Workbench, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Flow Workstation Window

The Flow Workstation window consists of two panes. The *left pane* displays the workstation directory chooser or navigator in tree format. The *right pane* displays one or more tabs of detailed information that correspond to the branch that you select from the tree.

The workstation's left pane displays a hierarchical listing of the workstation's contents. Since its structure is analogous to a tree with branches, it is referred to as the workstation tree. The tree displays four branches (levels) of information. When you select a branch (this highlights the branch), information relevant to that branch is displayed on tabs in the right pane of the workstation. When you launch the Flow Workstation, it immediately displays the tabs for the first event of the first scheduled line operation.



The workstation's right pane displays one or more tabbed regions of detailed information pertaining to the branch that you select on the tree. The information on the tabs is displayed either in tables, lists, or in graph format, so that you can quickly assess the status of the schedule or assembly. See: Flow Workstation Tree and Tabbed Regions: page

5 – 33 for detailed information on each of the workstation branches and tabs.

There are tabs available to:

- Open windows directly from the workstation so that you can perform common transactions, such as Work Order–less Completion transactions and kanban replenishment.
- View attachments previously appended to a job, such as drawings and instructions. See: View Instructions: page 5 – 49

Viewing the Flow Workstation Tree

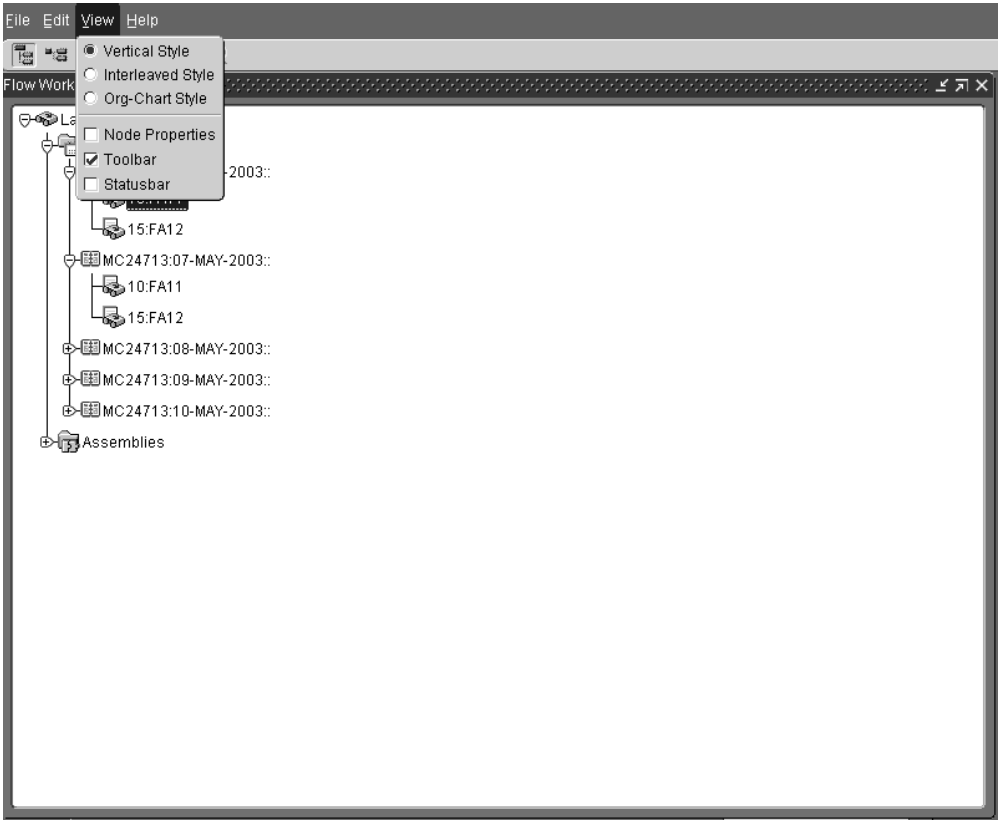
Dynamic information: the information on the tree is dynamically created when you launch the workstation. You also can update the display at any time by choosing the Refresh tool (curved arrow icon on the toolbar). As schedules are completed, they are automatically removed from the tree so that only current schedules are displayed.

Choice of Formats: you can choose to view the information on the tree in Vertical (the default), Interleaved (horizontal), or Org Chart (organization chart) format. These choices are available through tools on the toolbar or as menu selections under the View menu.

Wider View: in order to view the tree in Interleaved or Org Chart format, you may need to widen the left pane to see the full display. There are two ways that you can do this: you can use your mouse to drag the right side of the pane towards the right side of the window, or you can hide the tabbed regions so that the window's full width can be used to display the contents of the left pane. As follows:

▶ **To hide the right pane of the workstation:**

- Select the View menu, then remove the check mark from the Node Properties check box. The tabs in the right pane are hidden, and the contents of the left pane fill the window area.



▶ **To again display the right pane of the workstation:**

- Select the View menu, then place a check mark in the Node Properties check box. The tabs in the right pane are again displayed.

Flow Workstation Toolbar

The following tools are located on the toolbar directly below the workstation menus. From left to right, they are:

- *Vertical Style:* the default; displays the branches of the navigation tree vertically
- *Interleaved Style***:** displays the branches of the navigation tree horizontally
- *Org Chart Style:* displays the branches of the navigation tree in the same format as a standard corporate organization chart

- *Refresh:* use this tool to refresh (update) the workstation display
- *Pin Tab:* use this tool to place the active tabbed region in a separate window that remains on top of and separate from the workstation
- *Replenish Kanban:* use this tool to replenish kanbans
- *Enter Quality Results*: use this tool to access the Enter Quality Results window, it is enabled if there is an exiting collection plan

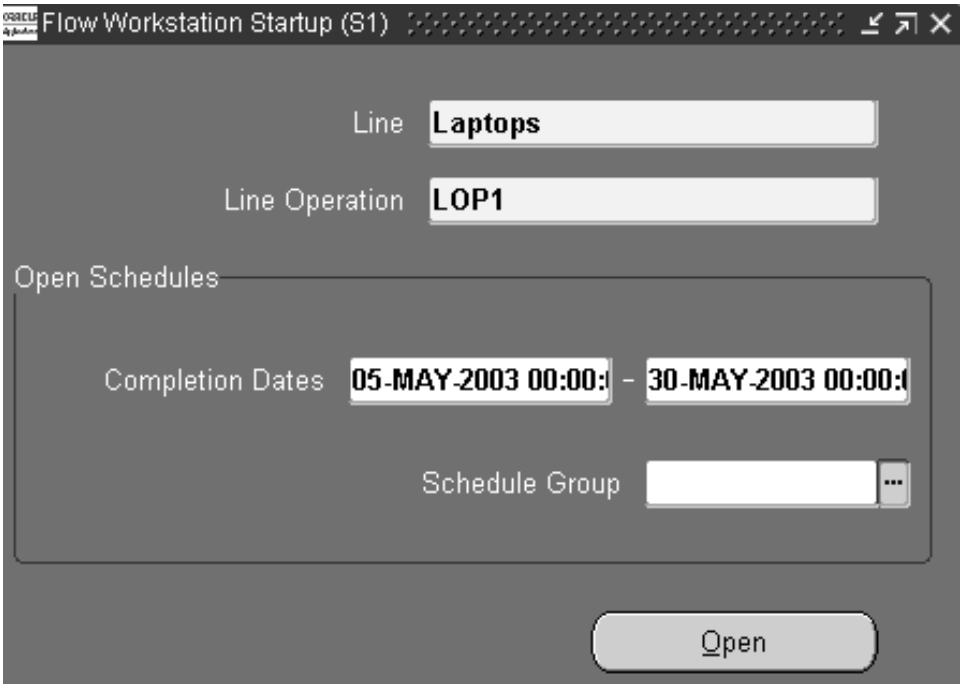
Selecting the Line and Line Operation

The Flow Workstation displays information for only one line and line operation at a time. When you select the workstation from the menu, a window opens for selecting the line and line operation for schedules and assemblies you want to view. You can enter a range of dates and a schedule group–allowing you to filter and view schedules for a particular shift or date.

Attention: You must first define line operations in order to use the Flow Workstation.

▶ **To launch the Flow Workstation:**

1. Navigate to the Flow Workstation. The Flow Workstation Startup window displays.
2. In the Line field, select a line from.
3. In the Line Operation field, select a line operation.



4. In the Open Schedules region, enter a range of dates in the Completion Dates fields.

   This allows you to filter and view schedules for a particular shift or date.

5. In the Schedule Group field, select a value from the list of values.

   This identifier groups schedules for scheduling and releasing purposes. Schedules within a schedule group can be sequenced.

6. Choose Open.

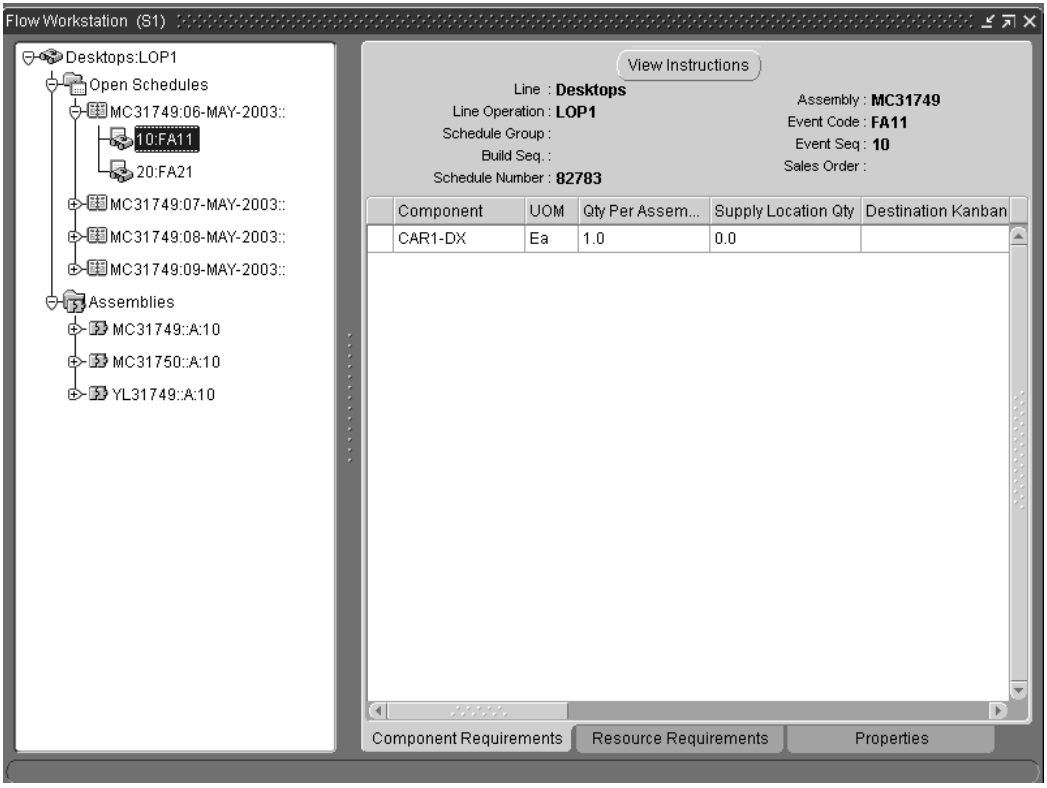
   The Flow Workstation displays.

The Flow Workstation Branches and Tabs

The first and topmost branch on the Flow Workstation tree displays the name of the line and line operation that you selected when you launched the workstation. The main branches:

- The Open Schedules branch displays all of the flow schedules at that operation
- The Assemblies branch displays all of the unscheduled flow assemblies at that operation

Expanding any branch in the Open Schedule or Assembly branches, displays branches for that schedule's or assembly's events. When you select (highlight) a branch, corresponding tabbed regions of information about that branch are immediately displayed in the right frame of the workstation. When you launch the workstation, it automatically displays the first event of the first open schedule:



The following table lists the workstation branches and the corresponding tabbed regions of information that are displayed.

Flow Workstation Branch	Corresponding Tabbed Region Displayed
Line and Line Operation	Linearity, Load, Properties of the entire line
Open Schedules	Blank Tab
Individual Schedules	Component Requirements, Resource Requirements, and Properties for each assembly scheduled at the line operation
Schedule Events	Component Requirements, Resource Requirements, Properties for each assembly's events
Assemblies	Blank Tab
Individual Assemblies	Component Requirements, Resource Requirements, Properties for each unscheduled assembly assigned to the line operation
Assembly Events	Component Requirements, Resource Requirements, Properties for each assembly's events

Branch Naming Conventions

Branch titles contain sections of information identifying the branch. Each section in the branch name is separated by a colon (if two colons appear together, no information is available for the section):

- **Topmost branch:** displays first the name of the line, then the line operation code. For example: FlowLine01:Op20
- **Open Schedules branches:** display the Assembly, Schedule Completion Date, Schedule Group, and Build Sequence. For example: Assy01:25–SEP–99:Grp1:20
- **Assemblies branches:** display the Assembly Number, Assembly Description, Routing Revision, and Event Sequence. For example: Assy01:Bike:B:20
- **Events branches:** display the Event Sequence and Event Code. For example: 40:STO2

Flow Workstation Transactions

On the Flow Workstation, you have access to common shop floor transactions: you can request kanban replenishment, and you can perform line operation and schedule completions.

Kanban Replenishment

The flow Workstation provides access to windows for replenishing kanbans. Choose the Replenish Kanban icon on the toolbar, see: Flow Workstation Toolbar: page 5 – 30). When you choose Replenish Kanban, the Find Kanban window opens. Enter search criteria and choose Find to display the Kanban Cards Summary window.

See Also

Kanban Planning and Execution, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Accessing the Planning Region, *Oracle Flow Manufacturing User's Guide*

Accessing the Production Region, *Oracle Flow Manufacturing User's Guide*

Defining Kanban Cards, *Oracle Inventory User's Guide*

Overview of Kanban Replenishment, *Oracle Inventory User's Guide*

Line Operation, Schedule, and Assembly Completions

On the Flow Workstation, you can complete both line operations and flow schedules directly from the workstation. Choose the appropriate transaction, either Complete Line Operation or Complete Schedule. Both functions are available on the Component Requirements, Resource Requirements, and Properties tabs for all open schedules.

Complete Line Operations

Choose Complete Line Operation to open the Complete Line Operation window and move assemblies to the next operation. Completing the line operation removes the assemblies from the current line operation's list of open schedules on the workstation tree. It does not trigger any cost or inventory transactions. See: Complete Line Operation button: page 5 – 47.

Attention: Selecting the Complete Line Operation button does not complete the schedule nor does it perform any material

transactions. If you are working on the last operation of the schedule, you have the option to complete the schedule using the Work Order–less Completions window.

Complete Schedules

Choosing Complete Schedule displays the Work Order–less Completions window to complete an open schedule. If you are at the last operation on a schedule, you are prompted to complete the schedule. You can choose another time to complete the schedule. See: Complete Schedule button: page 5 – 49, and Performing Work Order–less Completions: page 5 – 16.

Complete Assemblies

You can complete assemblies by choosing Complete Assembly. Choosing this button opens the Work Order–less Completions window in unscheduled mode (the Scheduled check box is not selected), so that you can perform a Work Order–less Completion transaction to complete the assembly.

Performing a Work Order–less Completion transaction automatically backflushes components and charges resource and overhead costs. Once the assembly has been completed, it is removed from the line operation's list of unscheduled Assemblies. See: Buttons on Open Schedule Tabs: page 5 – 47.

Integration with Oracle Quality

If collection plans exist for line operation completions, you can enter quality data within the Flow Workstation. You can enter results for mandatory collection plans or optional collection plans at specific points on a routing. This feature also prevents completing the line operation if there are remaining mandatory collections plans. When the collection plan data is entered, and the completion transaction is saved – the quality data is also saved.

The Quality icon on the toolbar of the Flow Workstation is enabled when Oracle Quality is enabled for the organization, and a collection plan exists for the line operation:

- If the collection plan is mandatory, the Enter Quality Results window from Oracle Quality, automatically displays when you choose Complete Line Operation.
- If the collection plan is optional, choose the Quality icon on the toolbar to display this window.

See Also

Complete Line Operation Button: page 5 – 47.

Entering Quality Results Directly, *Oracle Quality User's Guide*

Setting Up Collection Plans for Line Operation Completion Transactions, *Oracle Quality User's Guide*

Linearity, Load, and Properties of the Line

Selecting the topmost branch of the tree (Line:Line Operation), displays three tabbed regions of information in the right pane – the Linearity, Load, and Properties tabs. The information on these tabs can help you manage production across the entire line.

See Also

Product Synchronization, *Oracle Flow Manufacturing User's Guide*

Flow Manufacturing Line Balance, *Oracle Flow Manufacturing User's Guide*

Linearity Tab

One of the goals of Flow Manufacturing is to produce a constant quantity of products. Linearity determines how close your production matches the production schedule, and the Flow Workstation provides you with immediate access to that information.

When you select the topmost branch of the tree, the Linearity tab is the first tab displayed. Its two graphs, Planned vs Actual and Mix, enable you to determine if production is meeting linearity.

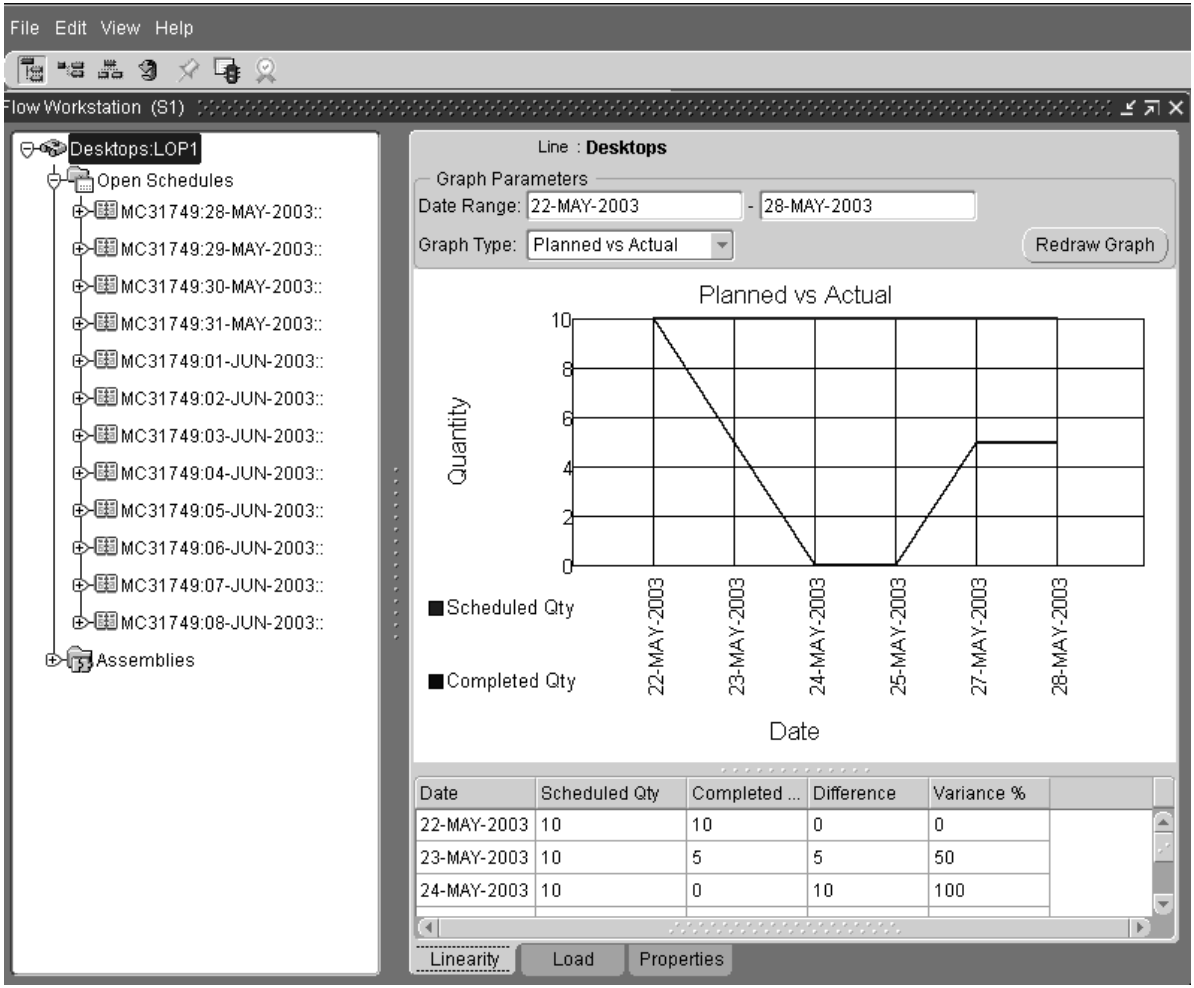
Both the Planned vs Actual and Mix graphs chart the linearity for the entire line, not just the line operation selected. The graphs automatically display the last week of production, but you can select your own range of dates to view. If you change the dates of the graph, choose Redraw Graph to refresh the display.

Planned And Actual Graph

The Planned vs Actual graph compares the cumulative actual quantity completed on the line to the quantity that was scheduled to be completed during the past week or a defined date range.

- The cumulative quantity completed is the total combined number of scheduled and unscheduled units completed on the line for each date.
- The cumulative quantity scheduled is the total combined number of units scheduled to be produced on the line for each date, displayed on the Line Scheduling Workbench.

Both scheduled and completed quantities accumulate the units over the date range. For example, the data point on the graph for the first day shows the values for that day only. The data point for the second day, shows the combined data values for the first and the second day, and so on.

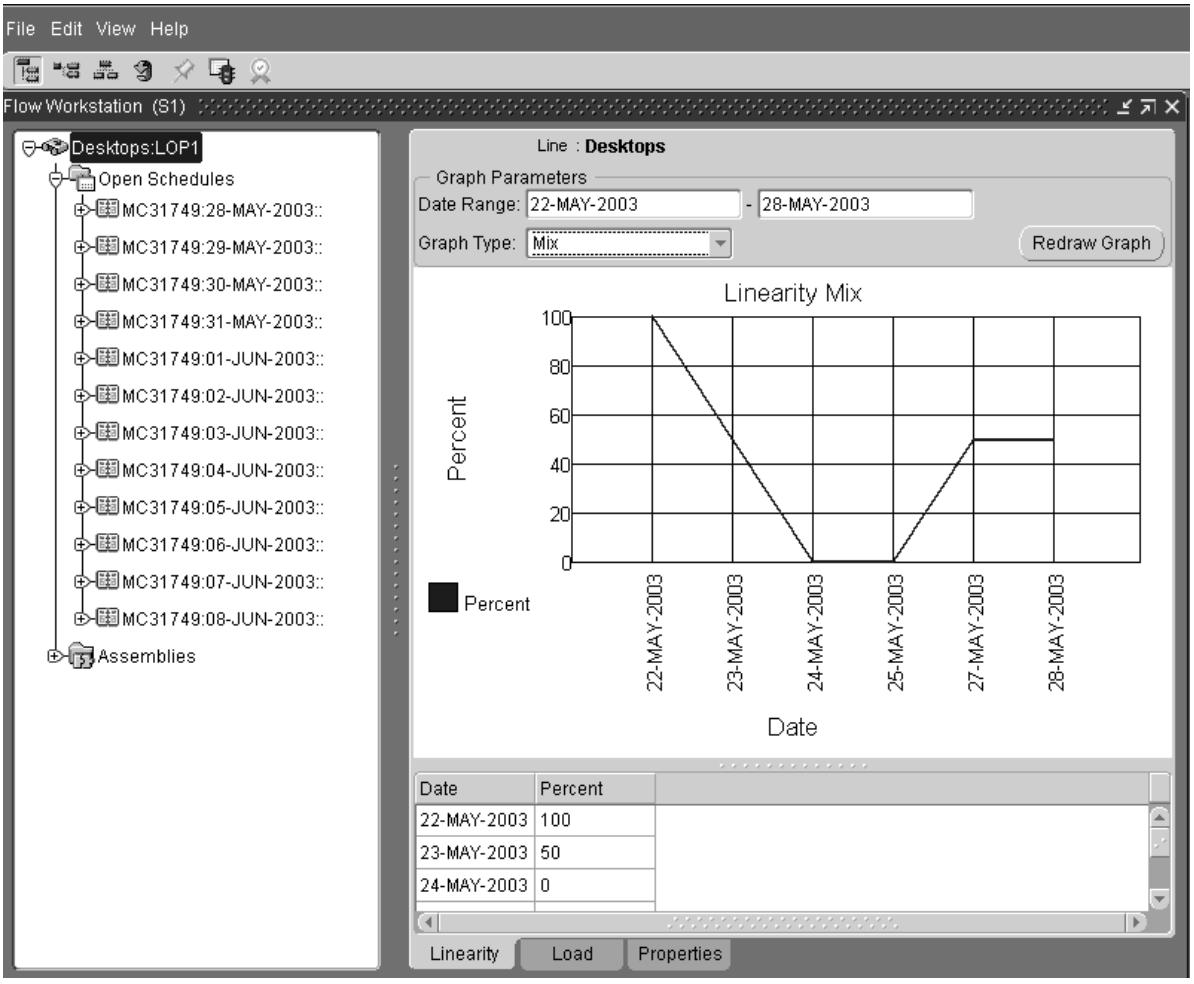


The information from the graph is also displayed in a table below the graph including Date, Scheduled Quantity, Completed Quantity, Difference (between the scheduled and actual quantities), and Variance Percent.

Mix Graph

The Mix graph displays the linearity percentage of the product mix on the line over time, based on the assembly being built. The information on this graph is beneficial for lines that produce multiple products. Its linearity calculation measures the difference (differential or deviation) between the number of units scheduled to be completed and the number of units actually completed for each product. It compares it to the total planned quantity for all products. The differential is calculated for each assembly built on the line, and then the differentials are summed.

See: Mixed Model Map, *Oracle Flow Manufacturing User's Guide*



The variance (the sum of the differences between what is scheduled and what is completed) is calculated using this formula:

Linearity = (1 – (sum of differentials/total planned quantity)) * 100

The following charts shows an example of this calculation:

Day One Assemblies	Scheduled Quantity	Actual Quantity	Differential
Assembly 1	20	18	2
Assembly 2	20	19	1
Assembly 3	20	23	3
Total	**60**	**60**	**6**

Day Two Assemblies	Scheduled Quantity	Actual Quantity	Differential
Assembly 1	20	22	2
Assembly 2	20	16	4
Assembly 3	20	22	2
Total	**60**	**60**	**8**

Linearity for Day 1 = (1 - (6/60)) * 100 = 90%

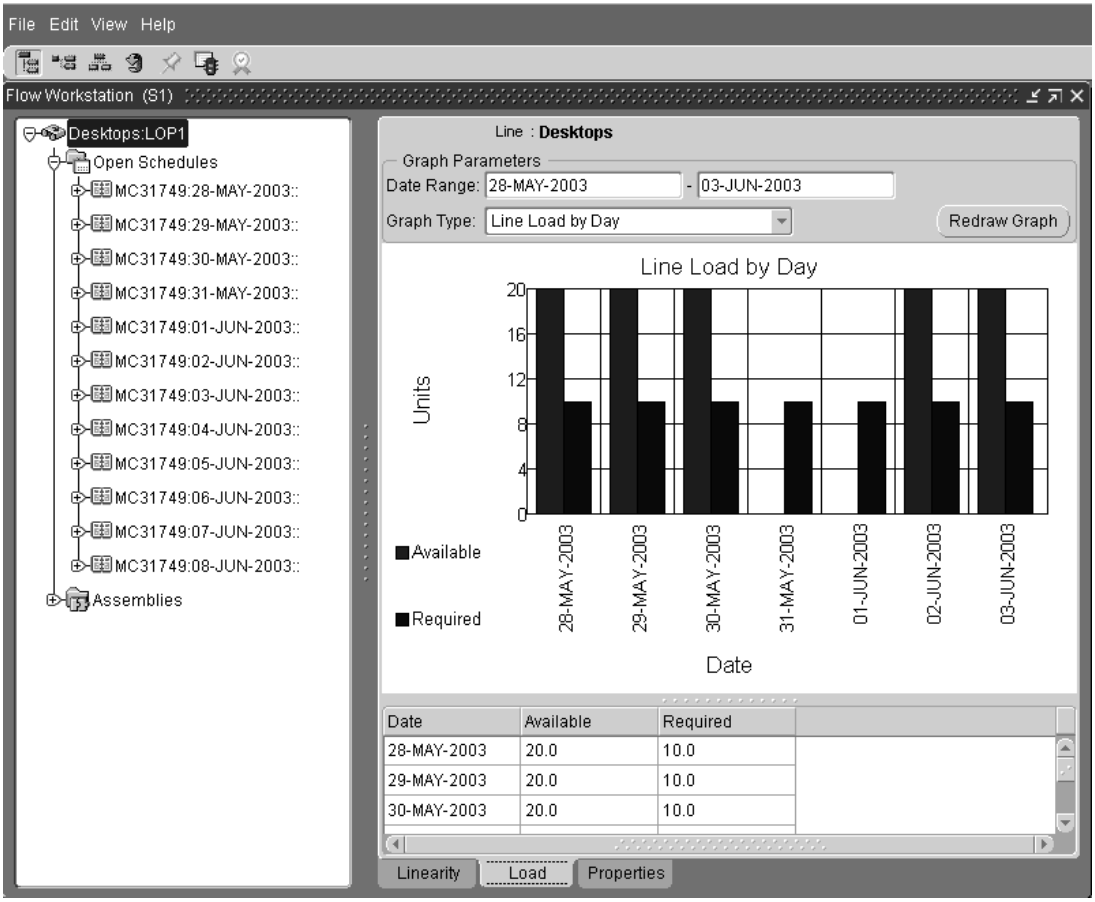
Linearity for Day 2 = (1 - (8/60)) * 100 = 87%

Load Tab

The Load tab provides you with two graphs that compare the load on the line to the line's capacity either by completion date or by line operation resource. Both graphs show the load and capacity for the entire line, not just for the line operation selected when you opened the workstation. The Line Load by Day graph calculates the load on the entire line for each day. The Cumulative Load by Line Operation Resource graph calculates the load for each line operation resource over a date range that you define. If you define your own date range, you must choose the Redraw Graph button to refresh the display.

Line Load by Day Graph

The Line Load by Day bar graph calculates the load (required hours) versus the capacity (available hours) of the entire line by completion date. For each completion date in the date range, it displays two bars, one representing the load, and the other representing the capacity of the entire line.



Cumulative Load by Line Operation Resource Graph

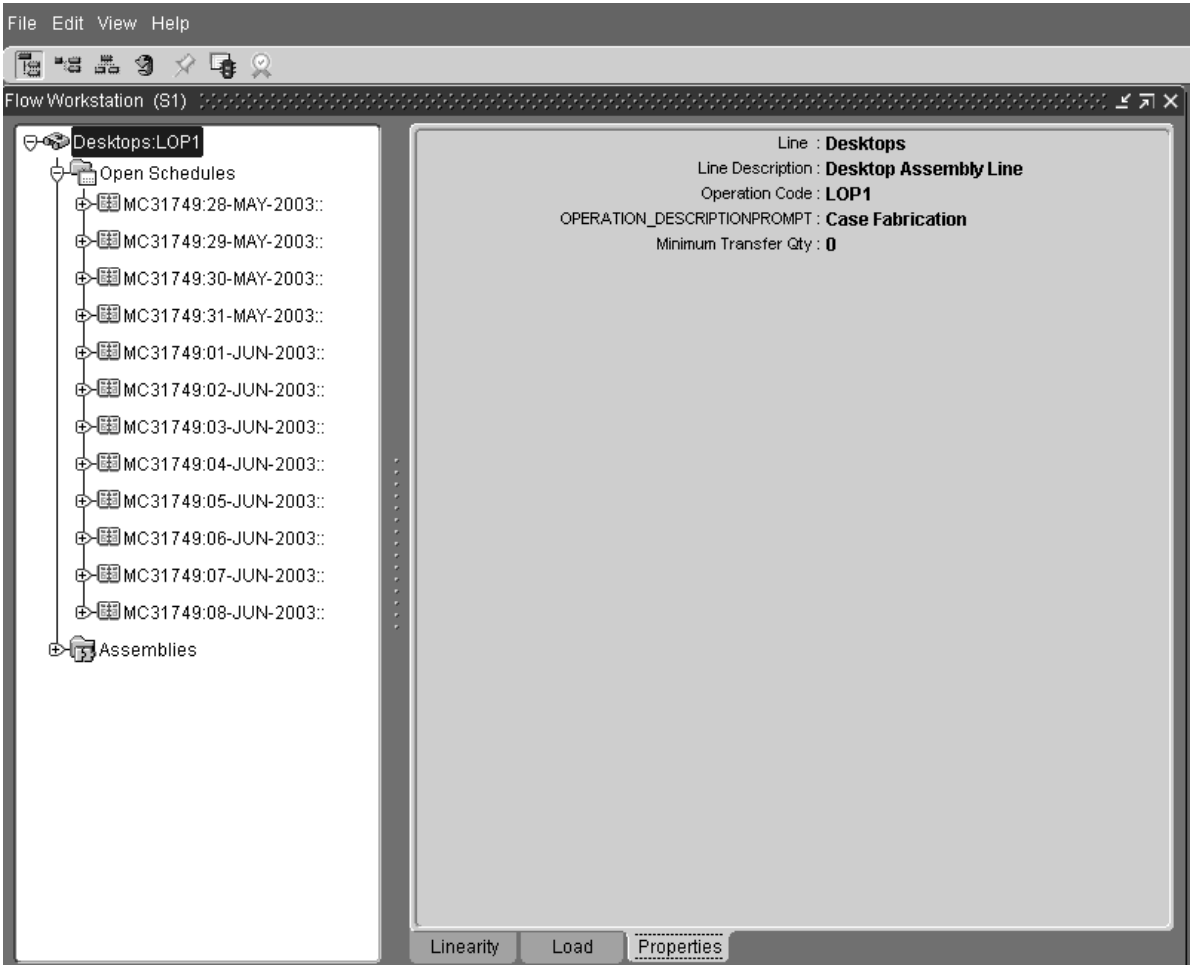
The second graph on the Load tab, the Cumulative Load by Line Operation Resource graph, compares the load for the entire line to the capacity of the line at each line operation resource. For each line operation resource, the graph displays two bars: one that shows the cumulative load on the resource assigned to the line operation, and the other that shows the cumulative capacity of the resource assigned to the line operation for the date range defined.

Even though you select a single line operation to view when you open the workstation, the graph looks at the load placed on the resource from the entire line in order to present a more accurate picture of the resource's availability. For example, on a welding line where the graph displays the load on the line's ArcWeld, SubWeld, and Welder. If the Welder is required for 10 hours at Operation 10 and 10 hours at

Operation 20, the total load on the Welding resource, 20 hours, is displayed.

Properties Tab

The Properties tab displays the following information about the line operation that you selected when you opened the workstation: the line, line description, operation code, operation description prompt, and the minimum transfer quantity.

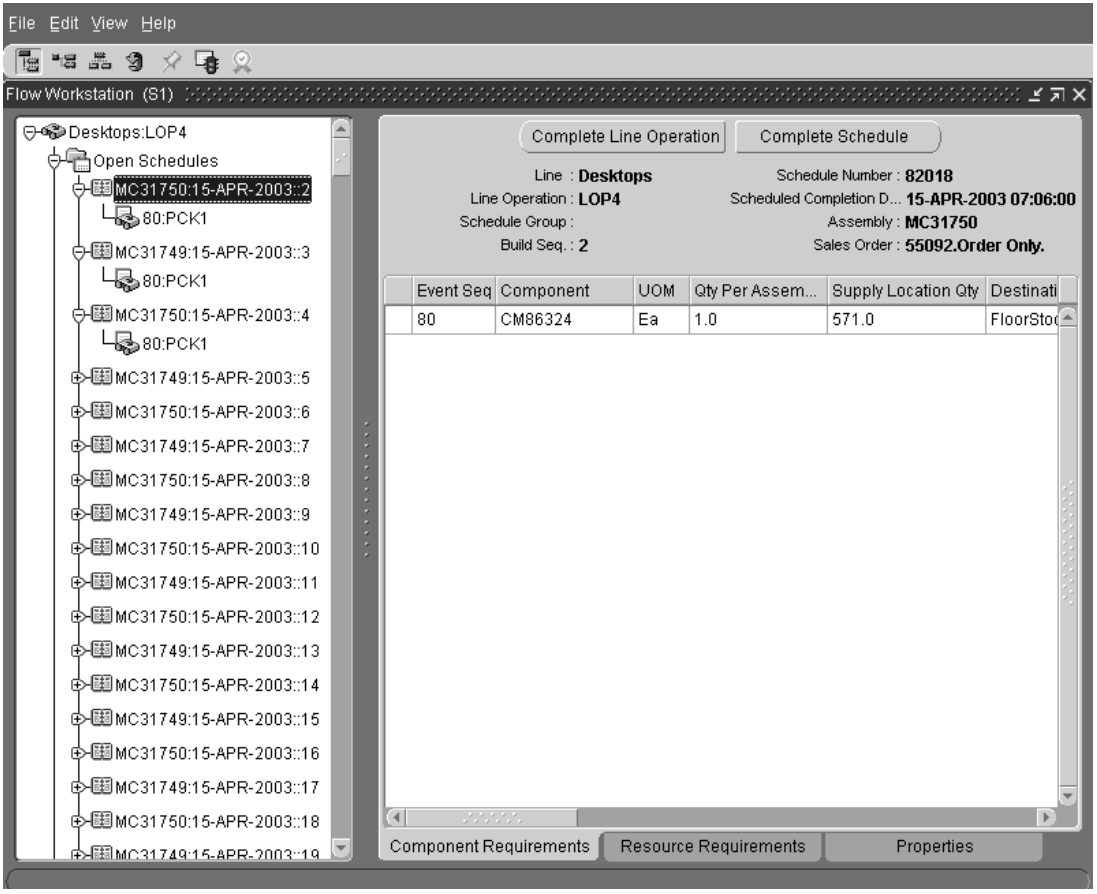


Note: An application program interface (API) enables customized attributes to display on the Properties tab. See: Customized Display for Properties Tabbed Region: page H – 2.

Open Schedules and Events

The Flow Workstation displays all of the open schedules, unscheduled assemblies, and events for the line operation selected.

There are three tabs of information for each open schedule, unscheduled assembly, and event listed: Component Requirements, Resource Requirements, and Properties. The Complete Line Operation and Complete Assembly buttons enable you to reduce your list of open schedules as you complete the schedules at your line operation.



The Open Schedules branch is used to display all assemblies scheduled for work at that line operation. When you select an open schedule, the events for that operation are displayed – along with component and resource requirements.

See Also

Defining Scheduling Rules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Creating Flow Schedules, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain User's Guide*

Buttons on Open Schedule Tabs

The Complete Line Operation and Complete Schedule buttons enable you to perform transactions directly from the workstation. View Instructions enables you to download attachments associated with schedules and components.

Completing Line Operations

Complete Line Operation enables you to complete a line operation by removing it from the list of open schedules and placing it on the list of open schedules for any other operation.

Attention: Completing a line operation does not complete the schedule, nor does it trigger inventory transactions or charge costs. If you want to complete a schedule, you must use the Work Order–less Completions window.

When you choose Complete Line Operation, the Complete Line Operation window opens for selecting another operation for completion. If you are at the last line operation, you will be prompted to complete the schedule. If you choose to complete it, the Work Order–less Completions window automatically opens. See: Performing Work Order–less Completions: page 5 – 16.

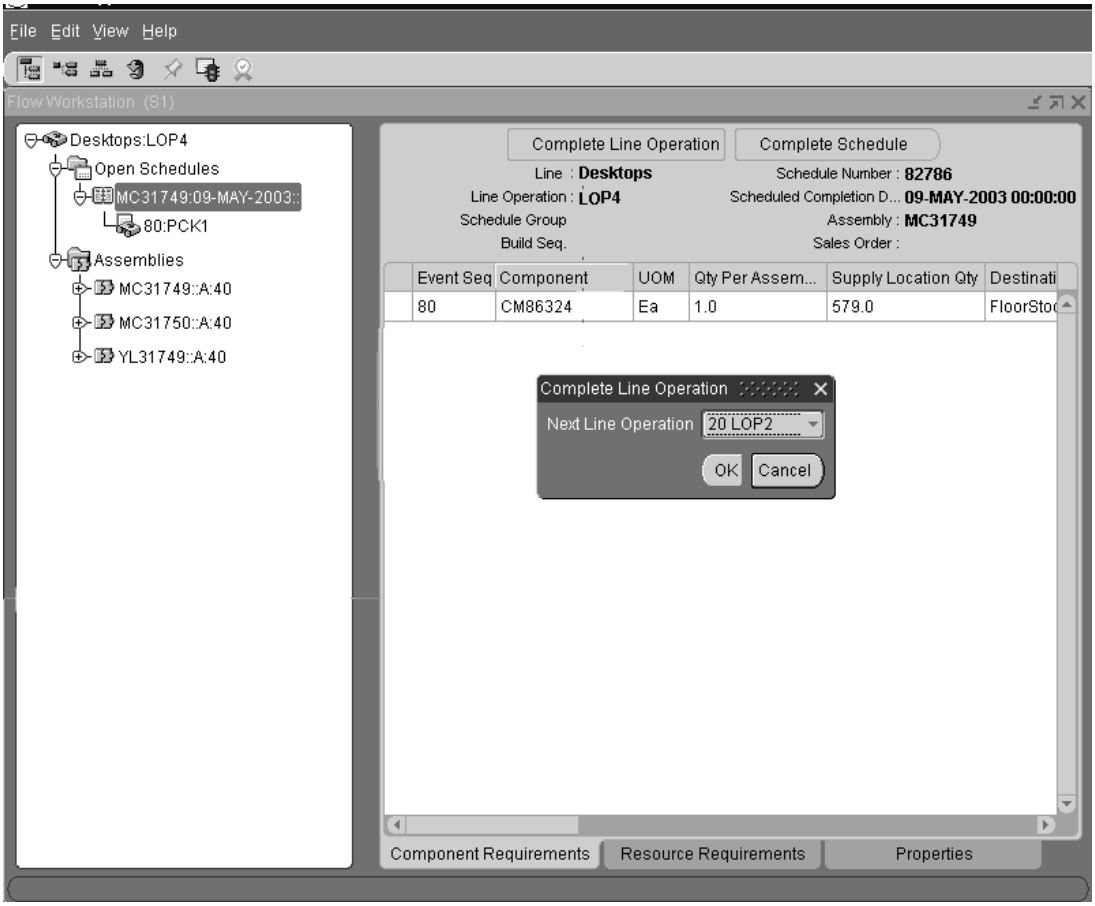
The Flow Workstation is integrated with Oracle Quality. If collection plans exist for line operation completions, you can enter quality data. See: Integration with Oracle Quality: page 5 – 36., and Setting Up Collection Plans for Line Operation Completion Transactions, *Oracle Quality User's Guide*

▶ **To complete a line operation:**

1. On the Flow Workstation tree, select the open schedule.

2. On any of the tabbed regions displayed in the right frame of the workstation, select the Complete Line Operation button. The Complete Line Operation window opens.

   If a mandatory collection plan exists for this line operation, the Enter Quality Results window from Oracle Quality automatically displays. You can also enter optional collection plan data by choosing the Quality icon on the toolbar. See: .Entering Quality Results Directly, *Oracle Quality User's Guide*



3. In the Next Line Operation field, select the number of the line operation that you want to move the assembly to from the field's list of values (you can move it to a previous line operation).

4. Select OK to complete the line operation and close the window. The schedule is removed from the list of Open Schedules on the workstation tree.

Completing Schedules

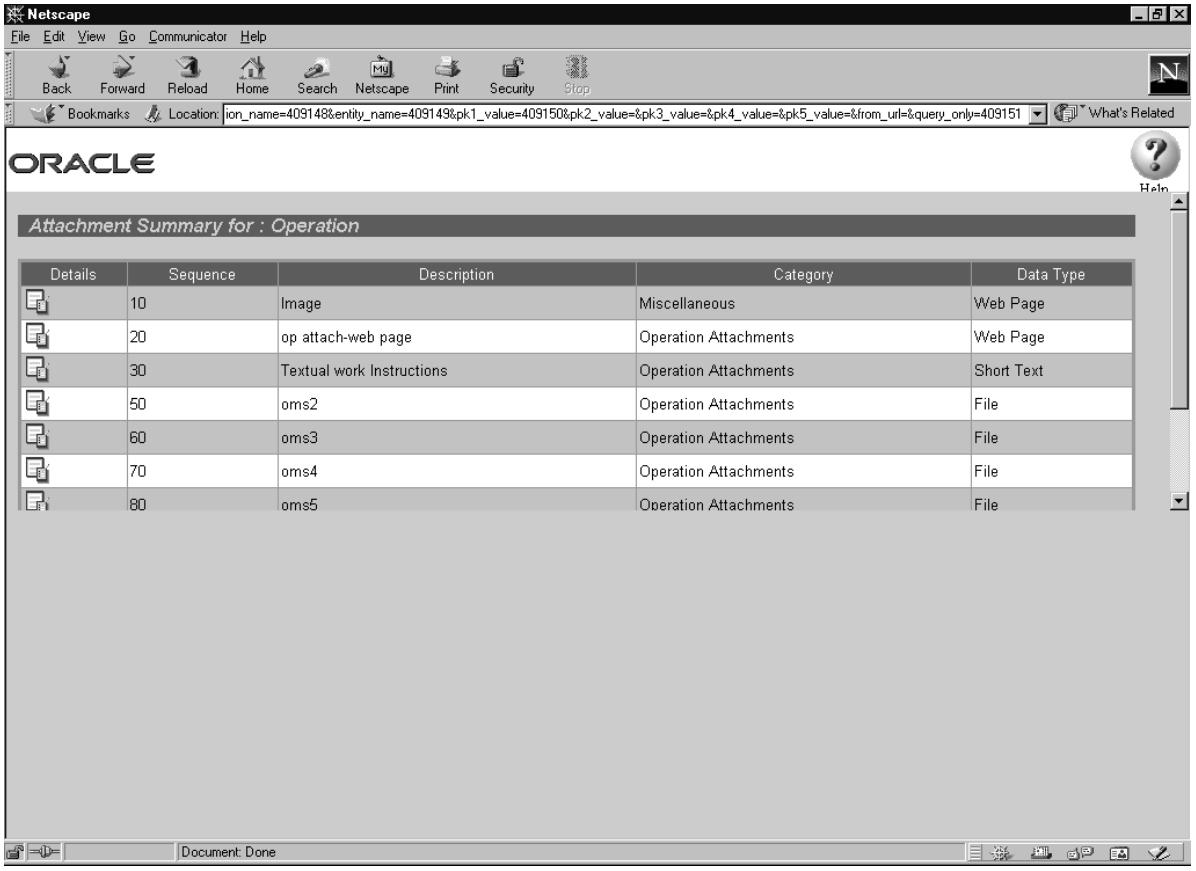
The Complete Schedule button is displayed on the Open Schedule Component Requirements, Resource Requirements, and Properties tabs. Selecting this button opens the Work Order–less Completions window. When you complete a schedule using the Work Order–less Completions window, components and costs are automatically backflushed and charged.

See: Performing Work Order–less Completions: page 5 – 16.

View Instructions

You can View Instructions from the Events and Properties tabs, This enables you to view any attachments that were previously associated with an open schedule or event's components and resources. Attachments may include operating instructions, drawings, memos, web pages, or any other kind of information.

When you choose View Instructions a web page displays a list of the available attachments. Select any of the attachments listed.

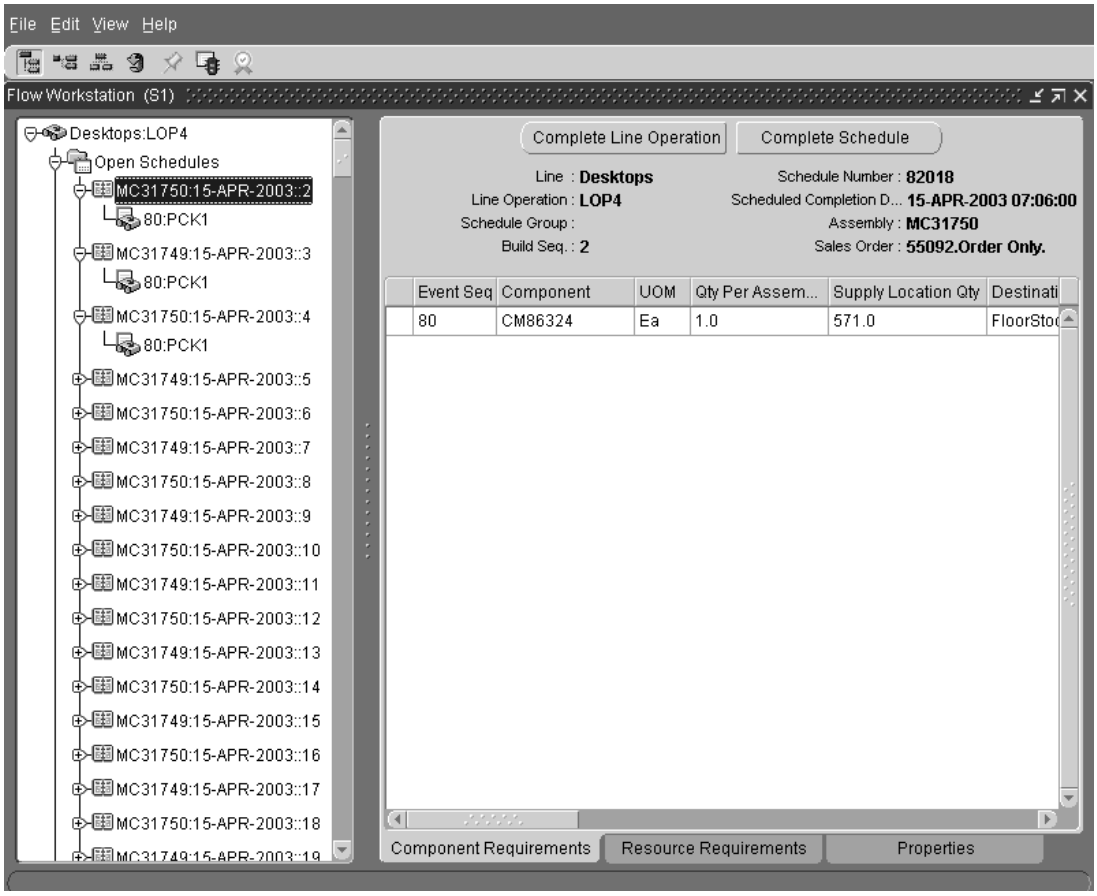


Note: If a resource, assembly, or component is associated with an attachment, an icon of a paper clip is visible next to its name.

Open Schedule Component Requirements Tab

The Component Requirements tab for open schedules lists all of the components required at the line operation to make the particular assembly. It provides you with details on the line and line operation, as well as information on each required component.

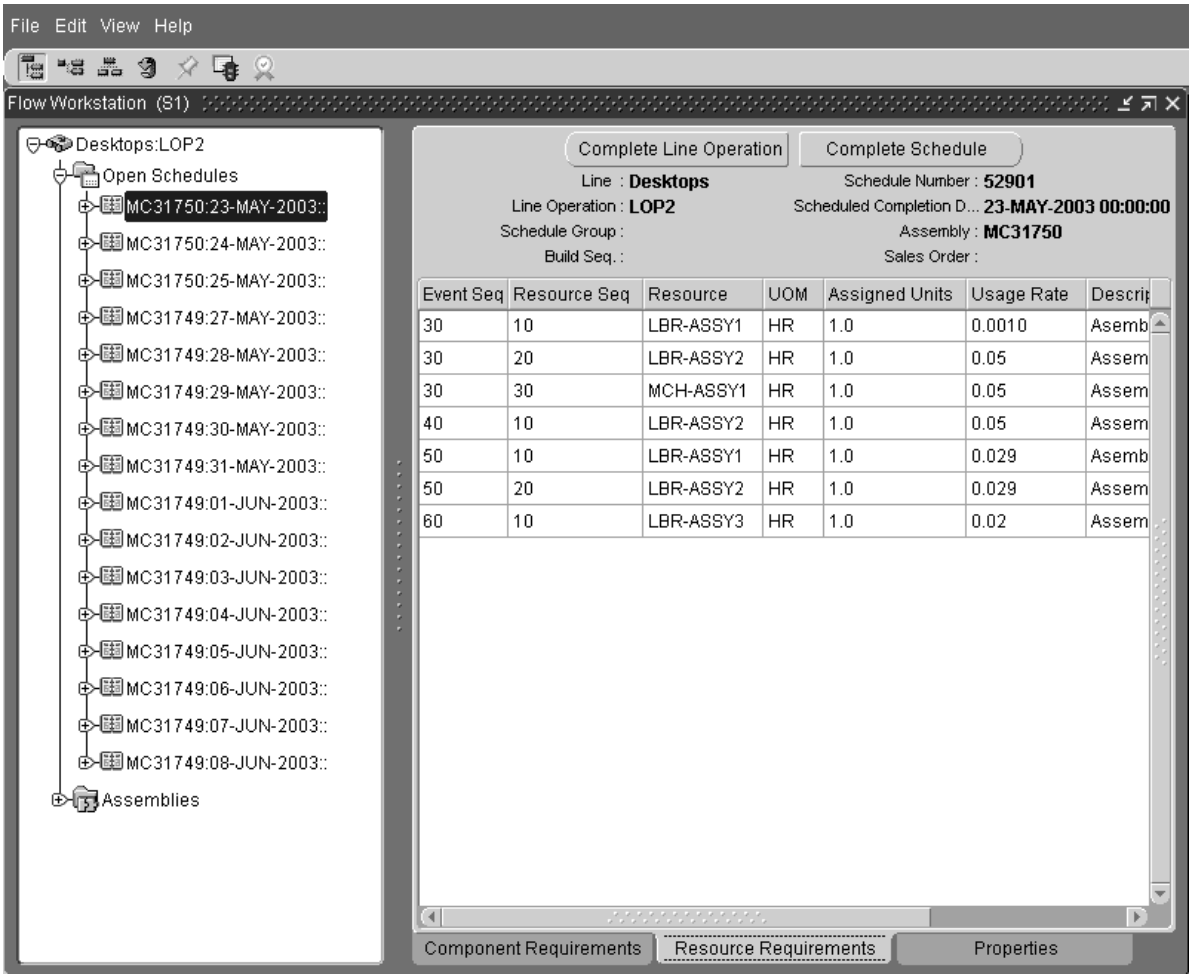
The following information on the assembly's components is listed: Event Sequence, Component, Unit of Measure, Quantity Per Assembly, Supply Location Quantity, Destination Kanban Subinventory, Destination Kanban Locator, Supply Kanban Subinventory, Supply Kanban Locator, and Description.



Open Schedule Resource Requirements Tab

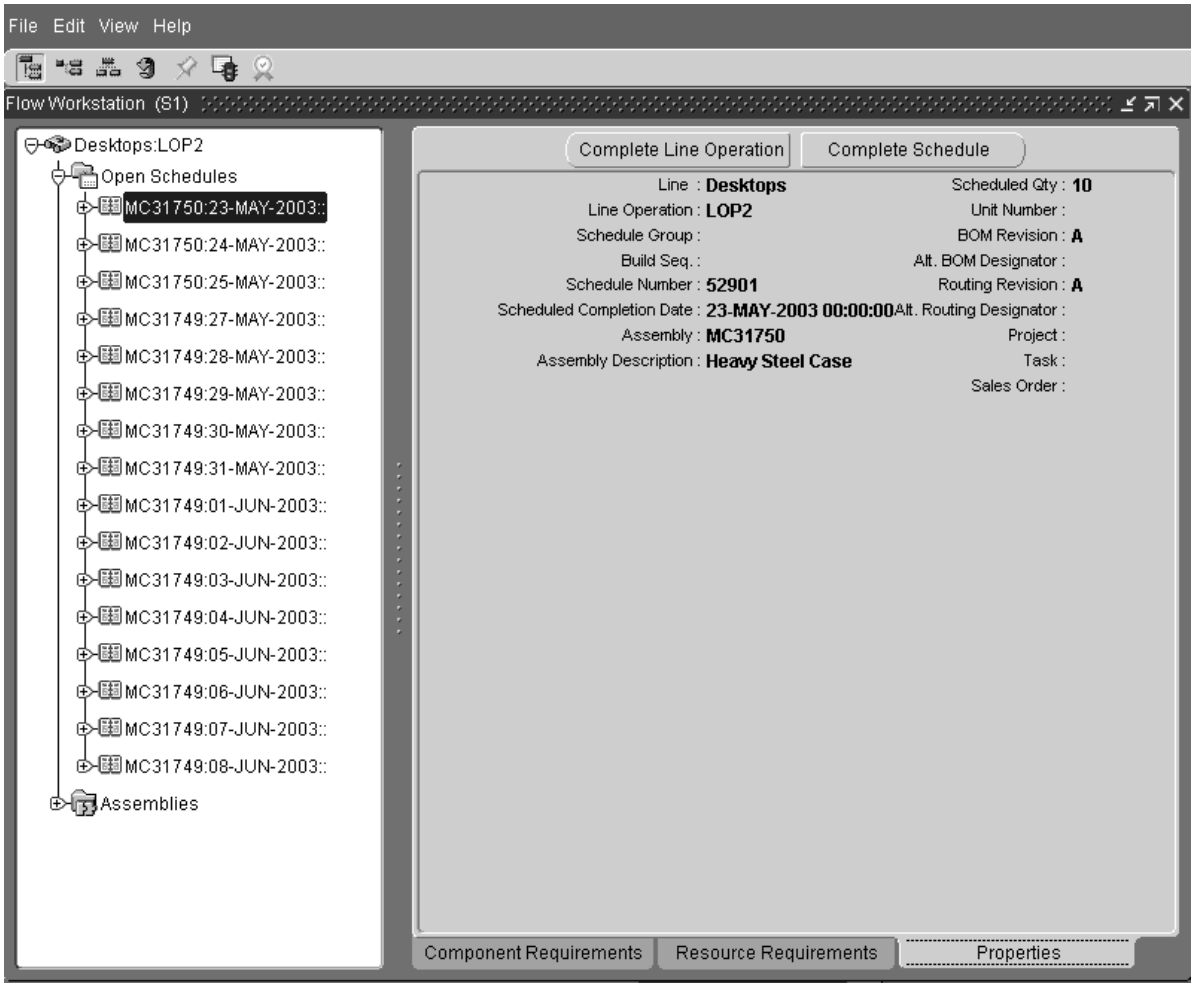
The Resource Requirements tab lists all of the resources that are required to manufacture the particular assembly that you selected from the tree. In addition to detailed information on each required resource, the tab also provides you with information on the line and line operation.

The following information is included in this region: Event Sequence,Resource Sequence, Resource, Unit of Measure, Assigned Units, Usage Rate, Description.



Open Schedule Properties Tab

The Properties tab provides you with the following information on the Line and Line Operation and assembly: line, line operation, schedule group, build sequence, schedule number, scheduled completion date, assembly, assembly description, scheduled quantity, unit number, Bill of Material (BOM) revision, alternate BOM designator, routing revision, alternate routing designator, project, task, and sales order.



Note: An application program interface (API) enables customized attributes to display on the Properties tab. See: Customized Display for Properties Tabbed Region: page H – 2.

Open Schedule Events

Selecting a schedule from the list of open schedules displays the events (tasks) required to produce that assembly at that operation. For example, events for the Paint operation, might be: Sand, Paint, Finish. Each event is supported by three tabs of information: Component Requirements, Resource Requirements, and Properties.

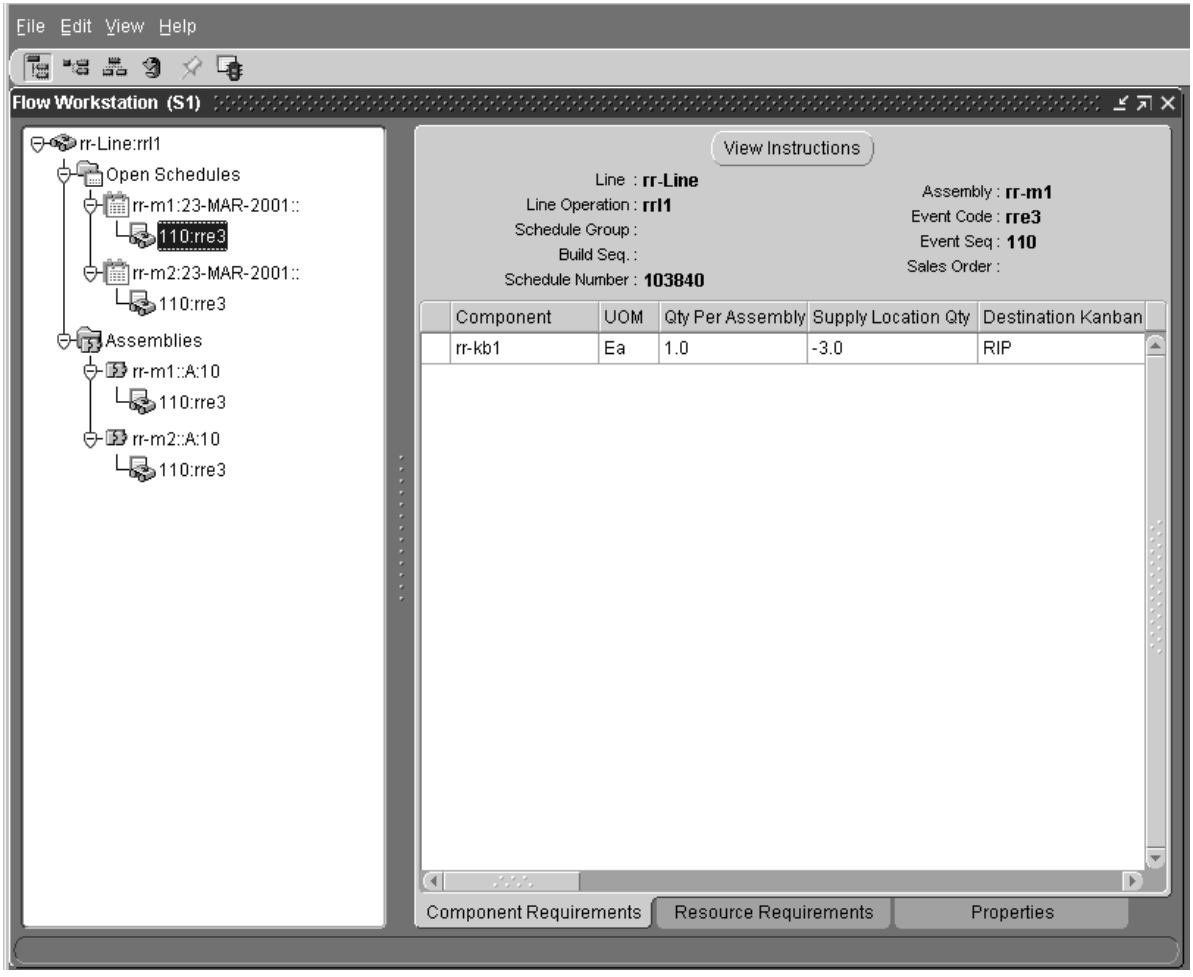
In addition, if an attachments are associated with the assembly or any of its components, you can download them by choosing the View Instructions.

See Also

Defining Flow Manufacturing Standard Events, *Oracle Flow Manufacturing User's Guide*

Event Component Requirements Tab

The Component Requirements tab for scheduled assembly events lists all of the components required at this event to produce the assembly. The tab lists details of the line and line operation and information on each required component.



You can view the following information in this region:

- Component
- Unit of Measure (UOM)
- Quantity per Assembly
- Supply Location Quantity
- Destination Kanban Subinventory
- Destination Kanban Locator
- Supply Kanban Subinventory
- Supply Kanban Locator

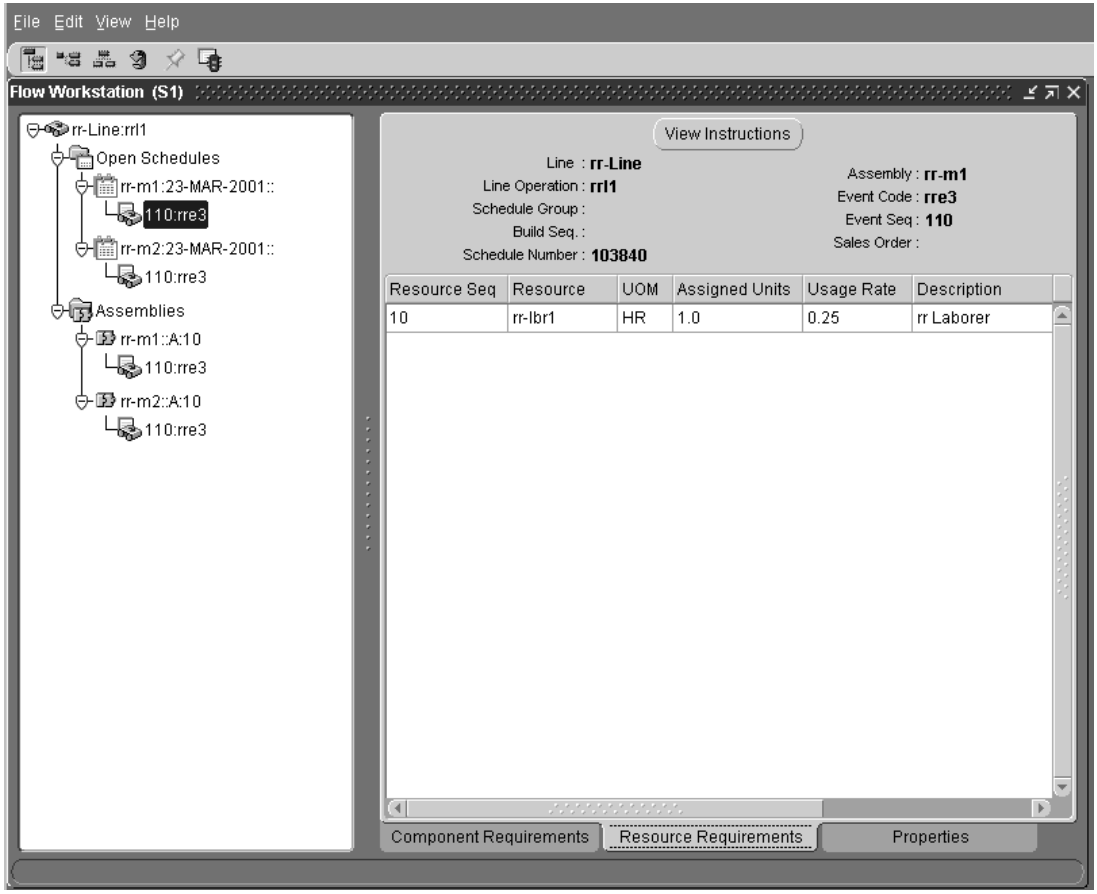
- Description

Event Resource Requirements Tab

The Resource Requirements tab for scheduled assembly Events lists all of the resources required at this event to produce the particular assembly.

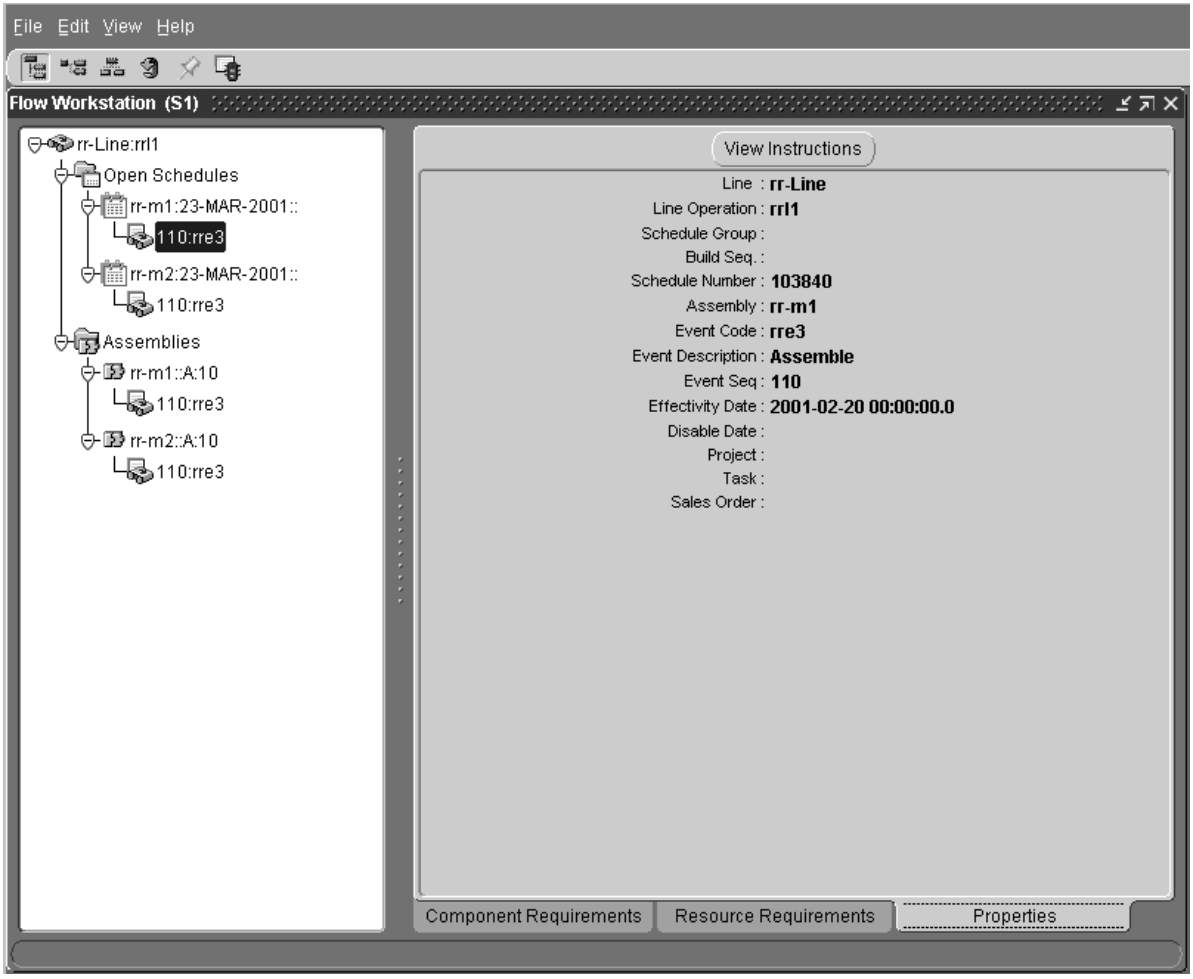
The tab's table provides you with the following information on the resources needed at that event including:

- Resource Sequence
- Resource
- Unit of Measure (UOM)
- Assigned Units
- Usage Rate
- Description



Event Properties Tab

The Properties tab for scheduled assembly Events lists the following information on the line and line operation: line, line operation, schedule group, build sequence, schedule number, assembly, event code, event description, event sequence, effectivity date, disable date, project, task, and sales order.



Note: An application program interface (API) enables customized attributes to display on the Properties tab. See: Customized Display for Properties Tabbed Region: page H – 2.

CHAPTER

6

Repetitive Manufacturing

This chapter explains how to use and define repetitive schedules, including:

- Overview: page 6 – 2
- Repetitive Manufacturing Process Diagram: page 6 – 5
- Setting Up: page 6 – 6
- Production Line and Assembly Associations: page 6 – 7
- Creating Repetitive Schedules: page 6 – 13
- Building Repetitive Schedules: page 6 – 19
- Viewing Repetitive Schedules: page 6 – 25
- Updating Repetitive Schedules: page 6 – 28
- Completing Repetitive Schedules: page 6 – 35
- Repetitive Schedule Purge: page 6 – 41

Overview

You can use Work in Process to produce assemblies on a continuous basis. This is known as repetitive manufacturing. See: Comparison of Manufacturing Methods: page C – 2

Repetitive Schedules

You can control your repetitive production quantities using repetitive schedules. You charge all production costs to the assembly itself, eliminating the need for discrete jobs.

Production Lines

You can manage repetitive production by production line. Production lines control how you schedule individual assemblies. Material and shop floor transactions are also controlled by production line. You can build an assembly on one or several lines. You can build single or multiple assemblies on a line.

Shop Floor Control

Shop floor control helps you manage the flow of production inside the plant. Routings can be used to schedule repetitive production activities and create requirements. You can use reports and views to help you control these activities. You can use production lines to separate areas of the shop floor.

Material Control

Material control helps you manage the flow of component material from inventory onto lines and into repetitive schedules. Bills of material can be used to create repetitive material requirements. You can build different repetitive assemblies on one production line to aggregate material requirements for a number of assemblies. You can use reports and views to help you control material activities.

Engineering Bills and ECOs

You can build released as well as unreleased revisions and engineering items. You can also add engineering items as material requirements. The system can automatically update your repetitive schedules following an engineering change order (ECO). You always schedule to build the most current revision.

Repetitive Line Scheduling

You can define minimum and maximum line rates, line start and stop times, and line lead times for repetitive production lines. The system uses these rates and times to schedule repetitive production to the minute.

Fixed and Variable Speed Production Lines

You can specify all the assemblies on a production line to run at the same production rate on your fixed rate lines. You can specify the production rate by assembly for your variable rate lines.

Fixed vs. Routing Based Line Lead Time Options

You can schedule your repetitive production lead time based on the assembly's routing or lead time line attributes to best simulate your repetitive production process.

Partial Days and Fractional Rates

You can define repetitive schedules for any number of processing days, including partial days. You can specify the daily quantity and/or the total quantity as any positive number including decimal quantities (up to 6 decimal places), such as 1.25.

Planning Repetitive Production

Oracle Master Scheduling/MRP and Supply Chain Planning plans your repetitive production. You can automatically create repetitive schedules from planning's suggestions.

Work Order Interface

You can import planned repetitive schedules from external systems into Work in Process. See: Work Order Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

Period–Based Costs

You can calculate the costs of repetitive production and recognize any variances on a periodic basis by closing accounting periods. You do not need to close repetitive schedules.

Repetitive Assembly and Line Costs

Repetitive production costs are tracked by assembly so you do not have to review your costs by individual repetitive schedule. You can also track your costs by assembly on a line or by individual line so you can

compare costs for your production lines. See: Work in Process Costs: page 12 – 6

Repetitive Schedule Purge

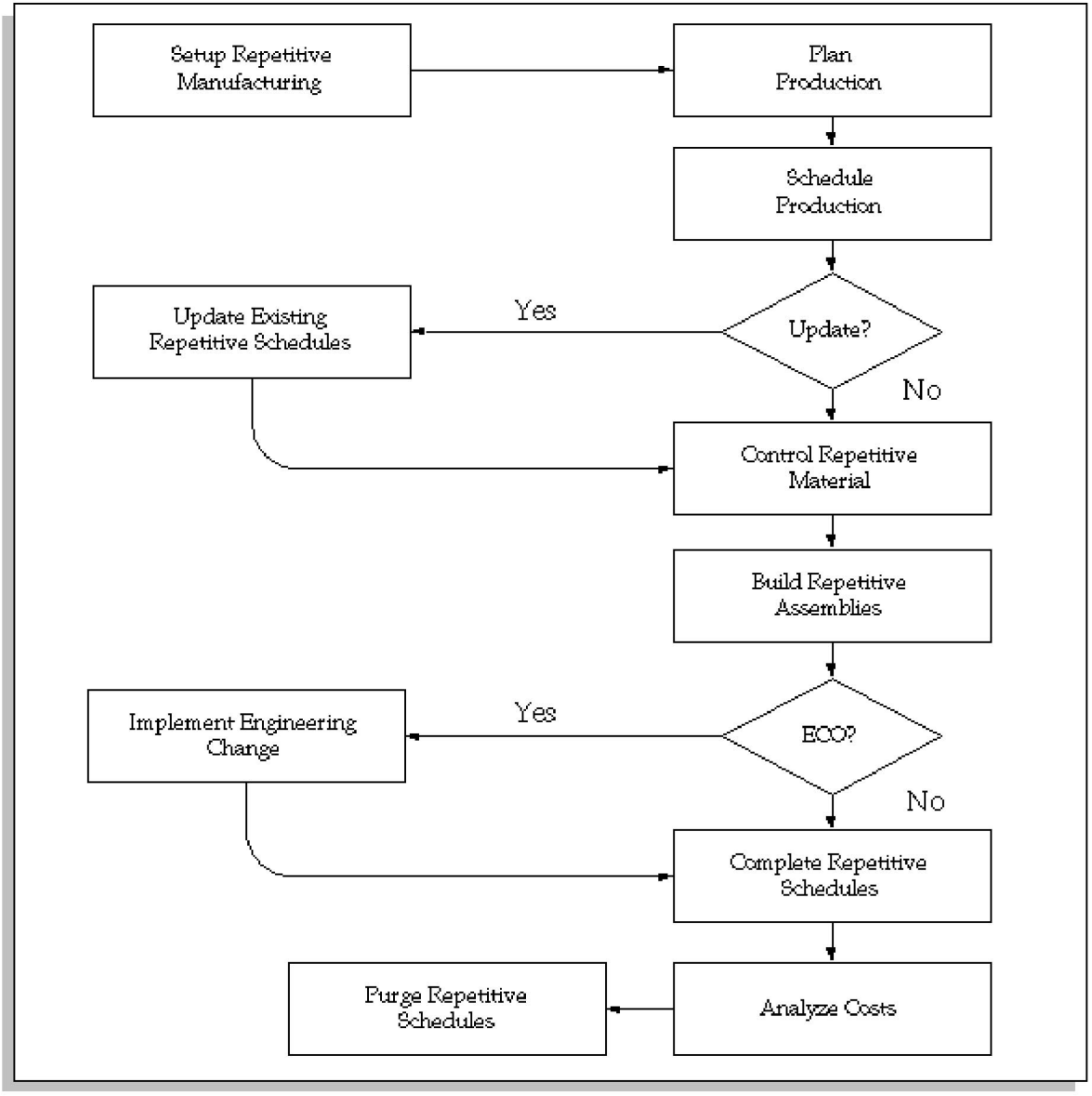
You can purge all information associated with repetitive schedules including header records and detail and transaction information. You can also selectively purge some or all of the following schedule related information: schedule details (material requirements, resource requirements, and operations), move transactions, and resource cost transactions.

View Workflows

You can view the status of workflows used for tracking outside processing of repetitive schedules. Workflows automatically send notifications and activate processes during specific manufacturing points. You can display a graphical display of the status of workflows from the Tools menu in the Repetitive Schedules and View Repetitive Schedules windows. See: Outside Processing Workflows: page 10 – 49

Repetitive Manufacturing Process Diagram

The following diagram illustrates the repetitive manufacturing process:



Setting Up

- For a listing of setups that affect repetitive manufacturing see: Setup Prerequisites: page 2 – 3.
- For a listing of setup steps within Work in Process see: Setup Check List: page 2 – 7.
- For additional information about repetitive parameters and accounting classes see: Repetitive Manufacturing Parameters: page 2 – 18 and Repetitive Accounting Classes: page 2 – 43.
- For a listing of profile options that affect repetitive manufacturing see: Profile Options: page 2 – 64.

Production Line and Assembly Associations

You can define, update, and delete line/assembly associations.

Associating Lines and Assemblies

Line/assembly associations establish a link between an assembly and the production line on which it is manufactured. You can define any number of line/assembly associations. You can also update and delete line/assembly associations.

Your repetitive assembly/line associations guide your repetitive production process. You can build the same assembly on different production lines. You can also build different assemblies on the same production line. Building different assemblies on the same production line makes it possible to aggregate, by production line, material requirements for a number of assemblies.

For each assembly on a line, you can enter a primary or alternate bill and a primary or alternate routing. If you change routings for an assembly on a line and there are open repetitive schedules, the new routing must have the same operations as the prior routing.

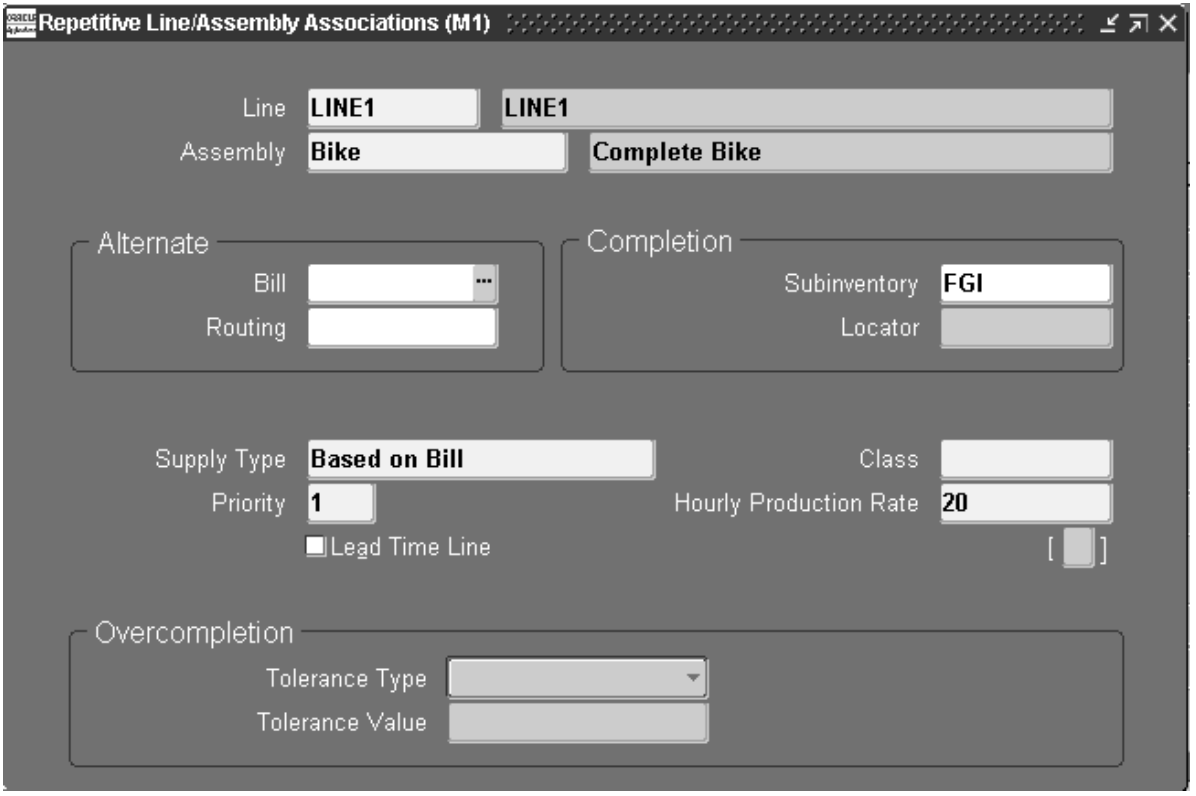
If you plan to over–complete assemblies, you can set a tolerance level, which restricts the number of assemblies that can be over–completed on the schedule.

Prerequisites

- ❑ Define and enable one production line. See: Defining Production Lines: page 2 – 58.

▶ **To add a line/assembly associations:**

1. Navigate to the Repetitive Line/Assembly Associations window. The Repetitive Line/Assembly Associations summary window appears.



Attention: You can associate several lines and assemblies simultaneously using the Repetitive Line/Assembly Associations Summary window. You can, however, also associate lines and assemblies one–at–a–time in the Repetitive Line/Assembly Associations window. This method is described below. See: Combination Block, *Oracle Applications User's Guide*Navigating Within a Combination Block, *Oracle Applications User's Guide*.

2. Choose the New button to open the Repetitive Line/Assembly Associations window.
3. Select the production Line where you build the repetitive assembly, then the assembly or select the Assembly then the production line.

   You cannot update the name of a production line after you have assigned it to a repetitive assembly nor can you delete a production line that supports repetitive schedules.

▶ **To assign an alternate bill or alternate routing to the line/assembly association:**

1. Select the alternate Bill of material. See: Primary and Alternate Bills of Material, *Oracle Bills of Material User's Guide*.

   You can select an alternate bill if alternates have been defined for the assembly. If the *WIP:See Engineering Items* profile option is set to Yes, you can select engineering items as alternates. See: Profile Options: page 2 – 64.

2. Select the alternate Routing. See Primary and Alternate Routings, *Oracle Bills of Material User's Guide*.

   You can select an alternate routing if alternates have been defined. If the *WIP:See Engineering Items* profile option is set to Yes, you can select engineering routings as alternates.

▶ **To enter a completion subinventory and locator:**

- Select the completion Subinventory and, if required by the subinventory, the Locator.

  Assemblies are completed or returned into or from this subinventory and locator. If the assembly has a routing, the completion subinventory and locator are defaulted from the routing but can be overwritten.

Attention: You can override the completion subinventory and locator you specify here when you complete or return assemblies using the Completion Transactions window.

Caution: You must specify a completion subinventory and locator if you plan to complete or return assemblies using the Move Transactions window since the subinventory and locator specified here are automatically used for those transactions.

▶ **To enter a supply type, accounting class, line priority, and hourly production rate:**

1. Select the Supply Type. See: Supply Types: page D – 2.

   The supply type defaults to *Based on Bill*. This supply type indicates that component requirements are supplied based upon their individual supply types. You can override this default by choosing one of the following supply types: Push, Assembly Pull, Operation Pull, Bulk, or Supplier. See: Supply Types: page D – 2.

2. Select an accounting Class.

Accounting classes can also be defaulted based on the assembly item's category default WIP class. You can override these defaults with any active repetitive accounting class. See: WIP Accounting Class Defaults: page 3 – 60 and Repetitive Accounting Classes: page 2 – 43.

3. Enter a numeric line Priority.

   You must specify a line priority for each line/assembly association. Oracle Master Scheduling/MRP and Oracle Supply Chain Planning uses line priority to determine which line to create repetitive schedules on. Repetitive schedules are created on the highest priority line first. For example, if you build the same assembly on two lines and the first line has a priority of 1 and the other a priority of 10, Master Scheduling/MRP and Supply Chain Planning creates repetitive schedules on the first line — the one with a priority of 1 — first.

4. Enter the Hourly Production Rate of assemblies on the production line.

   The maximum hourly rate for the production line is the default. The repetitive line scheduling method also uses the production rate to calculate how fast the line runs in terms of completed assemblies per hour. The production rate for any assembly on the line must be less than the maximum hourly rate on the line.

5. Check the Lead Time Line check box to indicate which production line Oracle Bills of Material is to use to calculate the processing lead time for the repetitive assembly. Master Scheduling/MRP and Supply Chain Planning uses the calculated lead time in its planning process. Oracle Capacity also uses the lead time line to rollup resource requirements during rough cut capacity planning.

   If you do not select a lead time line for the repetitive assembly, the lead time rollup process in Bills of Material does not calculate a lead time for this repetitive assembly. There is no requirement to specify a lead time line.

▶ **To set the tolerance level for over–completing assemblies:**

1. In the Overcompletion region, select the Overcompletion Tolerance Type. The options are Percent or Amount. If you do not select a Tolerance Type, it signifies no tolerance, and you will not be able to over–complete assemblies on this job.

2. In the Overcompletion Tolerance Value field, enter the corresponding value for the Overcompletion Tolerance Type. If you did not select an Overcompletion Tolerance Type, you will not be

able to enter a value in this field or over–complete assemblies on this job.

▶ **To change line/assembly associations:**

1. Navigate to the Repetitive Line/Assembly Associations Summary window.
2. Choose Find from the Query Menu.
3. In the Find Repetitive Line/Assembly Associations window, select either a Line to find all Line/Assembly associations for that line, select an Assembly to find all Line/Assembly associations for that Assembly, or select a Line and Assembly.
4. Select the Line/Assembly association to change and choose the Open button.
5. Change Line/Assembly association information as required.

See Also

Defining Repetitive Schedules Manually: page 6 – 14

Deleting Line/Assembly Associations: page 6 – 11

Deleting Line/Assembly Associations

You can delete line/assembly associations that have not been used to define a repetitive schedule.

▶ **To delete line/assembly associations:**

1. Navigate to the Repetitive Line/Assembly Associations Summary window.
2. Choose Find from the Query Menu.
3. In the Find Repetitive Line/Assembly Associations window, enter your search criteria. The results display in the Repetitive Line/Assembly Associations Summary window.

Attention: You can delete line/assembly associations in either the Repetitive Line/Assembly Associations window or Repetitive Line/Assembly Associations Summary windows. See: Combination Block, *Oracle Applications User's Guide*Navigating Within a Combination Block, *Oracle Applications User's Guide*.

4. Select the Line/Assembly association.
5. Choose Delete from the Edit Menu.

See Also

Associating Lines and Assemblies: page 6 – 7
Defining Repetitive Schedules Manually: page 6 – 14

Creating Repetitive Schedules

You can create repetitive schedules in the following ways:

- manually. See: Defining Repetitive Schedules Manually: page 6 – 14.
- automatically using Oracle Master Scheduling/MRP and Supply Chain Planning to plan your repetitive schedules, then using the Planner Workbench to implement them. See: Planned Repetitive Schedules: page 6 – 13.
- using the Open Job and Schedule Interface to import suggested repetitive schedules. See: Open Job and Schedule Interface: page 3 – 57.

Planned Repetitive Schedules

Oracle Master Scheduling/MRP and Supply Chain Planning creates planned orders and reschedule recommendations. You can choose whether to implement these planned orders.

You can use the Planner Workbench in Oracle Master Scheduling/MRP and Supply Chain Planning to automatically implement some or all suggested repetitive schedules. When you implement planned schedules, their statuses change to Pending–Mass Loaded. You cannot perform transactions against schedules with this status.

Implemented schedules are assigned a default description and load date. You can update the schedule as if it were an unreleased schedule. For example, you can modify the first and last unit start date, the processing days, daily quantity, the production line, and firm plan the schedule.

Repetitive schedules are loaded across production lines using the line priorities specified in the Repetitive Line/Assembly Associations window. The bill and routing revisions default to the current revision, alternate bill and routing, supply type, WIP accounting class, and completion subinventory and locator are based on the line/assembly association.

Oracle Master Scheduling/MRP and Supply Chain Planning does not suggest changes to repetitive schedules, instead it suggests new repetitive schedules to meet the demand. Therefore, it is possible to have pending schedules that overlap existing repetitive schedules.

For example, suppose you have a schedule that starts at the beginning of next week for 10 assemblies a day for the next 5 days. Oracle Master Scheduling/MRP and Supply Chain Planning suggests a schedule that starts the beginning of next week for 25 assemblies a day for the next 5 days. When you implement the repetitive schedule in the Planner Workbench, Work in Process assigns a status of Pending–Mass Loaded to the new schedule. In the Repetitive Schedules window, you now have two overlapping schedules with different rates (10 per day and 25 per day), and different statuses (Unreleased and Pending–Mass Loaded). Either cancel the unreleased repetitive schedule and change the status of the pending schedule to Unreleased or Released or, update the rate of the unreleased schedule to match the recommended rate and cancel the pending schedule.

See Also

Overview of Master Scheduling, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Repetitive Line Scheduling: page 13 – 14

Repetitive Planning Versus Discrete Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Defining Repetitive Schedules Manually

You can define repetitive schedules to build assemblies repetitively on a production line. Repetitive schedules are used to schedule production, resources, and material requirements, and to collect the costs of manufacturing a repetitive assembly on a production line.

You can assign bills and routings to repetitive schedules to create material requirements, schedule operations, and create resource requirements. Neither bills of material nor routings are required however.

You can specify the line, the assembly you are building, daily quantity, processing days, and/or total quantity, as well as a date around which to schedule.

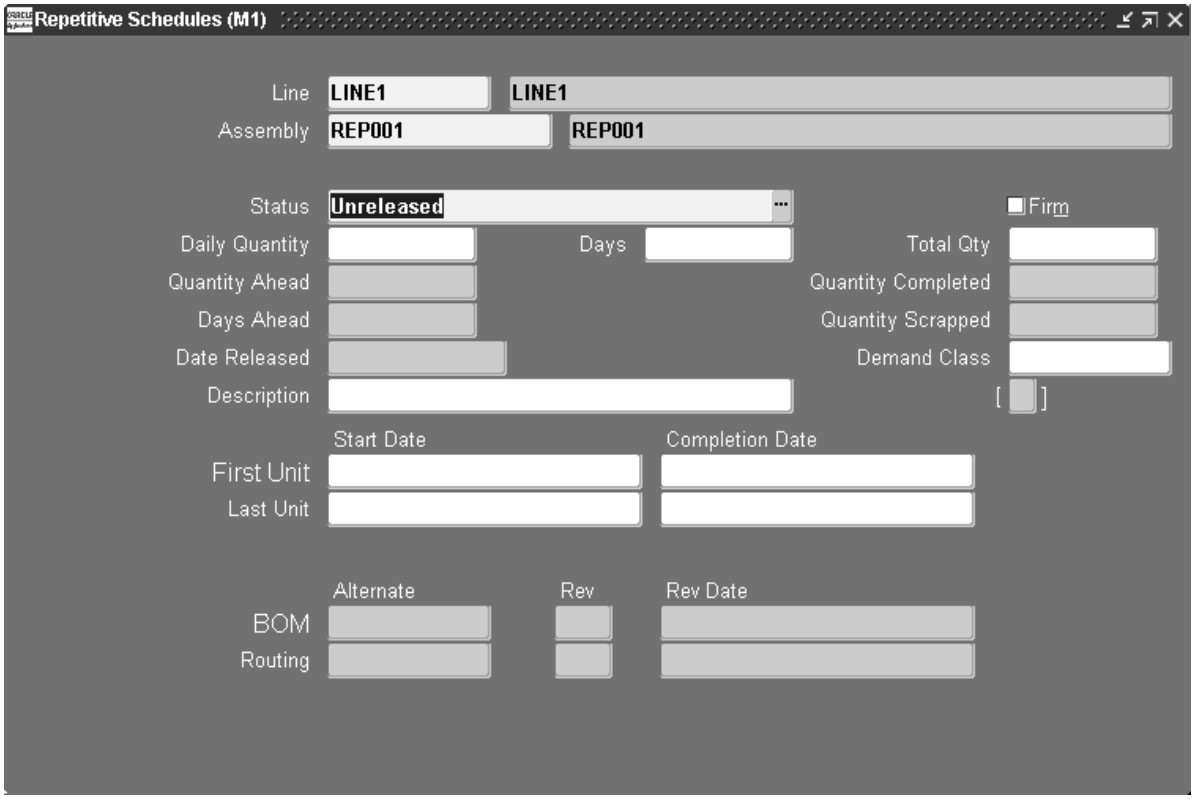
You can attach illustrative or explanatory files — in the form of text, images, word processing documents, spreadsheets, video, and so on — to repetitive schedules. See: About Attachments, *Oracle Applications User's Guide*., and Attaching Files to Jobs, Schedules, and Operations: page E – 2

Prerequisites

- ❑ Define at least one production line. See: Defining Production Lines: page 2 – 58.
- ❑ Define at least one Repetitive Line/Assembly Association. See: Associating Lines and Assemblies: page 6 – 7.

▶ **To define a repetitive schedule:**

1. Navigate to the Repetitive Schedules window. The Repetitive Schedule Summary window appears.
2. Choose the New button to open the Repetitive Schedules window.



Attention: You can define several repetitive schedules simultaneously in the Repetitive Schedules Summary window. You can, however, also define repetitive schedules one–at–a–time using the Repetitive Schedules window. This method is described below. See: Combination Block, *Oracle Applications User's Guide*.

3. Select the production Line and the repetitive Assembly.

   You can select any production Line and associated Assembly. The routing, bill, accounting class, supply type, and completion subinventory/locator defined for the Repetitive Line/Assembly Association selected are defaulted. See: Associating Lines and Assemblies: page 6 – 7.

4. Select the schedule Status.

   When you define a repetitive schedule, its default status is Unreleased but can be changed to Released or On Hold. See: Repetitive Schedule Statuses: page 11 – 12.

5. Enter the Daily Quantity for the repetitive schedule.

   If you do not enter the daily quantity, enter the number of processing days and the total quantity.

   The number of completed assemblies you plan to produce on the schedule each day. This quantity is effective from the schedule start date to the schedule end date.

6. Enter the number of Days for the repetitive schedule. Use decimal numbers to indicate partial days (up to 6 decimal places).

   This is the number of days that the repetitive schedule requires, from the first assembly completion date through the last assembly completion date, to manufacture the total number of assemblies.

   If you enter the number of days, the total quantity is automatically calculated based on the daily quantity. If you do not enter the number of days, enter the daily quantity and total quantity.

7. Enter the Total Quantity of assemblies that you plan to manufacture with this schedule.

   If you enter the total quantity, the processing days are calculated based on the daily quantity. If you do not enter the total quantity, enter the daily quantity and number of processing days.

8. Select the Demand Class.

   You can select any enabled and active demand class. Demand classes are not required. See: Overview of Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide* and Creating Demand Classes, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

9. Check the Firm check box to firm your schedule.

   Firming repetitive schedules prevents MRP from suggesting rescheduling and replanning recommendations when changes to

supply or demand occur. Firming a repetitive schedule locks in that schedule's daily quantity as the recommended daily quantity for future schedules using that line/assembly association. See: Firm Order Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

10. Enter the Description.

    Descriptions can be used to identify repetitive schedules on standard reports. They can be up to 240 characters of alpha numeric text. They are not required.

▶ **To schedule a repetitive schedule with a routing or a fixed lead time repetitive schedule without a routing:**

- Select a First Unit Start Date (FUSD) or First Unit Complete Date (FUCD) or a Last Unit Start Date (LUSD) or Last Unit Complete Date (LUCD).

  Only one date (FUSD, FUCD, LUSD, or LUCD) is required for repetitive assemblies with routings and repetitive assemblies without routings that are associated with production lines that have Fixed lead time. The repetitive schedule is automatically forward or backward scheduled based upon the dates entered.

▶ **To schedule a repetitive schedule without a routing that has a routing–based lead time:**

- Select the FUSD and FUCD or select the LUSD and LUCD.

  A set of start or completion dates is required for repetitive schedules without routings that are associated with production lines that have Routing–based lead times. The system uses the processing days to schedule the dates not entered.

▶ **To assign bill of material and routing revisions and dates:**

1. Select the bill of material Revision.

   The bill of material defaults based on the repetitive line and assembly selected. You can however, select an alternate revision and revision date and time if alternates have been defined.

   You can update the bill revision as long as the repetitive schedule remains unreleased. You can update the revision for standard bills or alternate bills. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

You can explode item revisions that have associated ECOs with Release, Schedule, and Implement statuses. If you set the *WIP:Exclude ECOs* profile option to None, you can also explode revisions for ECOs that have an Open status. See: ECO Implementation By Status: page 11 – 18.

2. Select the bill Revision Date and time.

   You can update the bill revision date for standard bills or alternate bills. You can update the bill revision date as long as the repetitive schedule remains unreleased.

3. Select the routing Revision.

   The routing defaults based on the repetitive line and assembly selected. You can, however, update the routing revision as long as the schedule remains unreleased. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*

4. Select the routing Revision Date and time.

   You can update routing revision dates for standard and alternate routings. You can update the routing revision date as long as the schedule remains unreleased. If you do not enter a revision date, the system uses the first unit start date (FUSD).

5. Save your work.

▶ **To view outside processing workflows:**

- See: Outside Processing Workflows: page 10 – 49

See Also

Changing Repetitive Schedules: page 6 – 28

Repetitive Line Scheduling: page 13 – 14

Rescheduling Repetitive Schedules: page 6 – 30

Building Repetitive Schedules

Steps involved in building repetitive schedules include:

- Releasing repetitive schedules to production. See: Releasing Repetitive Schedules: page 6 – 22.
- Issuing components to repetitive schedules and, if necessary, returning them back to inventory. See: Issuing and Returning Specific Components: page 7 – 49 and Issuing and Returning All Push Components: page 7 – 54.
- Using Shop Floor Control to coordinate, on an as required basis, the following:
  - Moving assemblies between routing operations and intraoperation steps as required. See: Production Line Moves: page 8 – 33.
  - Scrapping assemblies. See: Scrapping Assemblies: page 8 – 72.
  - Backflushing or issuing and returning operation pull and assembly pull components automatically with move transactions.
  - Charging resources. See: Charging Resources with Move Transactions: page 9 – 36 and Charging Resources Manually: page 9 – 33.
- Changing repetitive schedules to accommodate changes in production. See: Changing Repetitive Schedules: page 6 – 28 and Mass Changing Repetitive Schedule Statuses: page 6 – 32.

See Also

Overview of Material Control: page 7 – 2

Overview of Shop Floor Control: page 8 – 2

Repetitive Component Issues and Returns: page 7 – 44

Repetitive Production Line Backflushes: page 7 – 77

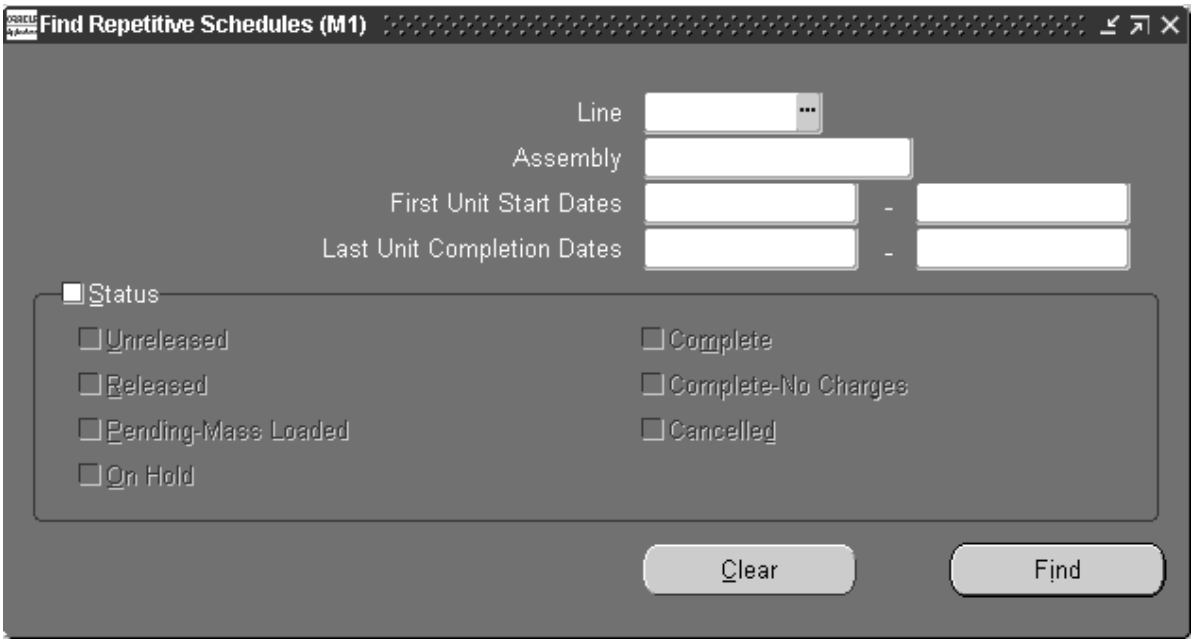
Finding Repetitive Schedules

You can find then view, release, change, and reschedule repetitive schedules. You can also find then purge information associated with repetitive schedules.

▶ **To find one or several repetitive schedules to view, release, change, or reschedule:**

1. When the Find Repetitive Schedules window appears, enter your search criteria.

   You can query by assembly Line and Assembly, a range of First Unit Start Dates, a range of First Unit Completion Dates, and Status. You can combine or omit criteria as required.



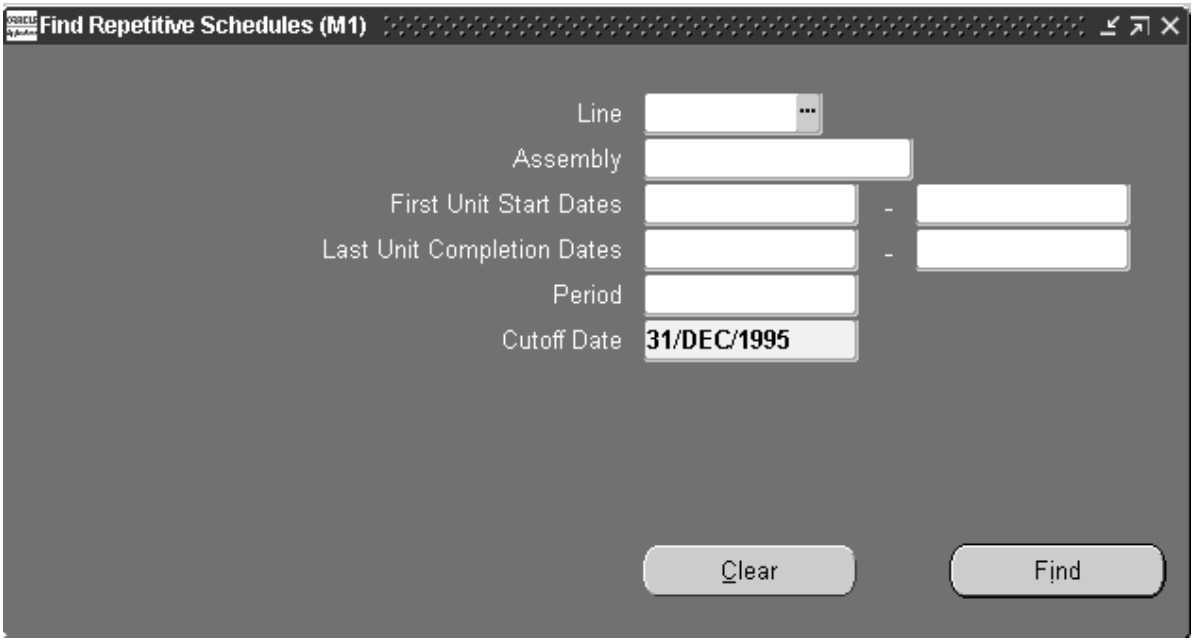
   Caution: Querying to find repetitive schedules does not validate the records returned. For example, querying to find a range of schedules to release does not return only those jobs in that range that can be released.

2. Choose the Find button.

▶ **To find one or several repetitive schedules to include in your purge:**

1. When the Find Repetitive Schedules window appears, enter your search criteria.

   You can query by assembly Line and Assembly, a range of First Unit Start Dates, or a range of First Unit Completion Dates.



2. Select an accounting Period or enter a Cutoff Date for the purge.

   You can query by closed accounting Period. When you select an accounting period, the end date of that period is defaulted as the purge Cutoff date and cannot be overridden.

   If you do not select an accounting Period, the cutoff date of the most recently closed accounting period is defaulted. You can override this date with any date in a closed period.

☞ **Attention:** When purging repetitive schedules, the date a repetitive schedule was changed to Complete–No Charges or Cancelled is compared to the purge cutoff date. Only repetitive schedules that were set to Complete–No Charges or Cancelled on or before the cutoff date are purged.

Caution: If you enter a cutoff date that is earlier than the date a repetitive schedule was changed to Complete–No Charges or

Cancelled, the system purges only the repetitive schedule detail and transaction information up to the date you enter.

3. Choose the Find button.

See Also

Searching for Information, *Oracle Applications User's Guide*

Releasing Repetitive Schedules

You must release a repetitive schedule to production before transacting against it. Releasing a repetitive schedule with a routing automatically loads the total number of assemblies to be built for the repetitive schedule into the Queue intraoperation step of the first operation. If PO Move or PO Receipt resource requirements exist at the first operation, purchase requisitions are automatically generated for these resources.

▶ **To release a single repetitive schedule:**

1. Navigate to the Repetitive Schedules window. The Repetitive Schedules Summary window appears.
2. Find a repetitive schedule. See: Finding Repetitive Schedules: page 6 – 20.

   The Repetitive Schedules Summary window appears with the results of the query.
3. Change the selected schedule's status to Released. See: Repetitive Schedule Statuses: page 11 – 12.

Attention: You can release repetitive schedules in either the Repetitive Schedules Summary or the Repetitive Schedules window. See: Combination Block, *Oracle Applications User's Guide*.

4. Save your work.

▶ **To release several repetitive schedules:**

- See: Mass Changing Repetitive Schedule Statuses: page 6 – 32.

See Also

Job and Repetitive Schedule Status Changes: page 11 – 15

Repetitive Schedule Status Control: page 11 – 10

Printing Reports for Current Repetitive Schedules

If you are in the Repetitive Schedules, Purge Repetitive Schedules, or View Repetitive Schedules window, you can print selected reports for the 'active' or current schedule. See: Current Record Indicator, *Oracle Applications User's Guide*.

You can print any one of the following reports:

- Repetitive Routing Sheet: page 15 – 54
- Repetitive Pick List Report: page 15 – 52
- Repetitive Line Report: page 15 – 51
- Repetitive Schedule Shortage Report: page 15 – 56
- Repetitive Schedule Data Report: page 15 – 55

▶ **To print a report for the current repetitive schedule:**

1. From the Repetitive Schedules or View Repetitive Schedules window choose *Print Reports* from the Tools menu. See: Tools menu: page F – 2.

   The Print window appears.

2. Select the name of the report and choose OK

   When you choose OK, a concurrent request to print the report is submitted. You can view the status of concurrent requests. See: Using the Concurrent Requests Window, *Oracle Applications User's Guide*.

See Also

Submitting a Request, *Oracle Applications User's Guide*

Viewing Repetitive Schedules

To view repetitive schedule information see:

- Viewing Repetitive Schedule Information: page 6 – 25
- Viewing Material Requirements: page 7 – 14 and Viewing Component Requirements: page 7 – 18
- Viewing Operations: page 8 – 20 and Viewing Job and Schedule Operations: page 8 – 22
- Viewing Resource Requirements: page 9 – 27

You can also print a variety of repetitive schedule reports.

Viewing Repetitive Schedule Information

You can view information for repetitive schedules of any status, including schedules that are closed, cancelled, or on hold. You can view one schedule or several. You can also view operation, material requirement, and resource requirement information associated with repetitive schedules.

You can view repetitive schedule information in summary or detail. See: Combination Block, *Oracle Applications User's Guide*.

▶ **To view repetitive schedule information:**

- Navigate to View Repetitive Schedules window. When the Find Repetitive Schedules window appears, enter your search criteria. See: Finding Repetitive Schedules: page 6 – 20.

  Repetitive schedules are automatically displayed in the View Repetitive Schedules Summary window. Using the Summary/Detail option from the Go Menu, you can switch to the View Repetitive Schedules window to view all information for a selected schedule. You can optionally navigate to the View Repetitive Schedules window by choosing the Open button from the *View Repetitive Schedules Summary window.*

By tabbed region, all of the following information can be viewed in View Repetitive Schedules Summary window:

Status region: Line, Assembly, Status, Date Released

Quantities region: Daily Quantity, Days, Total Quantity, Quantity Completed

Start Dates region: First and Last Unit Start Dates

Completions Dates region: First and Last Unit Completion Dates

Bill Information region: Alternate Bill, Revision, Revision Date, and Supply Type

Routing region: Alternate Routing, Routing Revision, and Revision Date

Planning, Description region: Firm plan option, Demand Class and Description

Current Progress region: Quantity Completed, Quantity Scrapped, and Quantity Ahead, and Days Ahead

▶ **To view repetitive schedule operations:**

- From either the View Repetitive Schedules window or the View Repetitive Schedules Summary window, choose the Operations button. The Operation window appears displaying the repetitive schedules's operations. You can optionally view the components required at a selected operation using the Components button. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view repetitive schedule component requirements:**

- From either the View Repetitive Schedules window or the View Repetitive Schedules Summary window, choose the Components button. The Material Requirements window appears and the repetitive schedule's components are displayed. See: Viewing Component Requirements: page 7 – 18

▶ **To print reports for a repetitive schedule:**

- You can print selected reports for the 'active' or current schedule See: Printing Reports for Current Repetitive Schedules: page 6 – 23.

▶ **To view outside processing workflows:**

- See: Outside Processing Workflows: page 10 – 49

  Work in Process provides workflows to track outside processing of repetitive schedules. If you want to activate workflow notifications, you must have your system administrator set up the WIP:Enable Outside Processing Workflows profile option. See: Outside Processing Workflow Setup: page 10 – 54

Updating Repetitive Schedules

You can make the following changes to your repetitive schedules:

- Change dates, quantities, bills, statuses, and routings. See: Changing Repetitive Schedules: page 6 – 28 and Rescheduling Repetitive Schedules: page 6 – 30.
- Add, update, and delete operations. See: Adding and Updating Operations: page 8 – 12 and Deleting Operations: page 8 – 17.
- Add, update, and delete material requirements. See: Adding and Updating Material Requirements: page 7 – 10 and Deleting Material Requirements: page 7 – 13.
- Add, change, and delete resource requirements. See: Adding and Updating Resource Requirements: page 9 – 16 and Deleting Resource Requirements: page 9 – 25.
- Implement engineering change orders in Oracle Engineering. See: Implementation of ECOs on Discrete Jobs and Repetitive Schedules, *Oracle Bills of Material User's Guide* and ECO Implementation By Status: page 11 – 18.
- Add, change, and delete WIP Attachments. See: Attaching Files to Jobs, Schedules, and Operations: page E – 2.

See Also

Repetitive Schedule Status Control: page 11 – 10

Job and Repetitive Schedule Status Changes: page 11 – 15

Changing Repetitive Schedules

You can change repetitive schedules using the Repetitive Schedules and Repetitive Schedules Summary windows. The status of the schedule determines if and what information can be changed. See: Repetitive Schedule Status Control: page 11 – 10.

Quantities

You can update the daily production quantity, the number of processing days and the total quantity of a repetitive schedule. You can reduce or increase the schedule quantity. Changing the daily production rate on a repetitive schedule causes the total quantity to change accordingly based on the processing days. Changing the

processing days causes the total quantity to change according to the daily quantity. Changing the total quantity on a schedule does not impact the daily quantity. Instead increasing the total quantity causes the processing days to increase. Conversely, reducing the total quantity decreases the processing days.

Once the repetitive schedule is released and work has begun on the assembly, you cannot decrease the total quantity lower than the number of assemblies that have already passed the Queue intraoperation step of the first operation. The material requirements and schedule dates are automatically adjusted based upon the quantity change. If the schedule's assembly is an MPS–planned item, the update process automatically adjusts the MPS relief quantity.

Dates

You can change the dates and times on a repetitive schedule. If you change the first unit start date, first unit completion date, last unit start date, or last unit completion date, Work in Process reschedules the repetitive schedule to adjust the remaining start and completion dates. Changing any of the four start and completion dates does not impact the processing days, total quantity, daily quantity, or lead time. Work in Process does not allow you to change dates and times to cause overlapping of schedules for the same assembly on the same line. See: Rescheduling Repetitive Schedules: page 6 – 30.

Statuses

You can change the status of a repetitive schedule although some changes from one status to another are disallowed and others are conditional. See: Job and Repetitive Schedule Status Changes: page 11 – 15.

Prerequisites

- ❑ Define at least one repetitive schedule. See: Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To change repetitive schedules:**

1. Navigate to the Repetitive Schedules window. The Repetitive Schedules Summary window appears.
2. Choose Find from the Query Menu. See: Finding Repetitive Schedules: page 6 – 20.
3. Change repetitive schedules in either the Repetitive Schedules or Repetitive Schedules Summary windows. From the Repetitive

Schedules Summary window, you can choose the Open button to navigate to the Repetitive Schedules window. See: Combination Block, *Oracle Applications User's Guide*.

See Also

Defining Repetitive Schedules Manually: page 6 – 14

Mass Changing Repetitive Schedules Statuses: page 6 – 32

Rescheduling Repetitive Schedules: page 6 – 30

Attaching Files to Jobs, Schedules, and Operations: page E – 2

Rescheduling Repetitive Schedules

You can reschedule repetitive schedules with and without routings. When you change a repetitive schedule quantity, the system automatically prompts you to choose the date around which you want to reschedule. The number of processing days increases/decreases to reflect the quantity change.

When you update the number of workdays, you must choose the date around which you want to reschedule. The current schedule is rescheduled around the date you specify.

You can enter first unit/last unit start (FUCD/LUSD) and first unit/last unit completion (FUCD/LUCD) dates and times earlier than the current date and time to maintain relative date priorities for department schedules and material requirements.

Prerequisites

- ❑ Define at least one repetitive schedule with a status of Released or Complete. See: Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To reschedule a repetitive schedule with a routing or a fixed lead time repetitive schedule without a routing:**

1. Navigate to the Repetitive Schedules window. The Repetitive Schedule Summary window appears. See: Combination Block, *Oracle Applications User's Guide*.

2. Choose the New button to navigate to the Repetitive Schedules window.
3. Select the production Line and Assembly.
4. Select a FUSD or FUCD or a LUSD or LUCD.

   Only one date (FUSD, FUCD, LUSD, or LUCD) is required for repetitive assemblies with routings and repetitive assemblies without routings that are associated with production lines that have Fixed lead time. The repetitive schedule is automatically forward or backward scheduled based upon the dates entered.
5. Save your work.

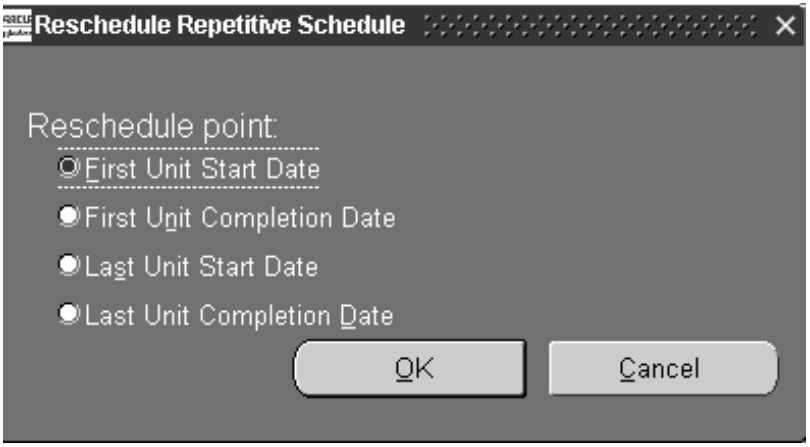
▶ **To reschedule a repetitive schedule without a routing that has a routing–based lead time:**

1. Navigate to the Repetitive Schedules window.
2. Select the production Line.
3. Select the repetitive Assembly.
4. Select the FUSD and FUCD or select the LUSD and LUCD.

   A set of start or completion dates is required for repetitive schedules without routings that are associated with production lines that have Routing–based lead times. The system uses the processing days to schedule the dates not entered.
5. Save your work.

▶ **To reschedule a repetitive schedule after changing the daily quantity, the processing days, or the total quantity:**

1. After changing the Daily quantity, which updates the Total Quantity based on the number of processing Days; changing the number of processing Days, which updates the Total Quantity based on the Daily Quantity; or changing the Total Quantity, which updates the number of processing Days but does not update the Daily Quantity; and saving your work, the Reschedule Repetitive Schedule window appears.



Select a reschedule point option:

First Unit Start Date: All other dates and times are cleared and the schedule is forward scheduled using the FUSD and time.

First Unit Completion Date: All other dates and times are cleared and the schedule is forward scheduled using FUCD and time.

Last Unit Start Date: All other dates and times are cleared and the schedule is backward scheduled using the LUSD and time.

Last Unit Completion Date: All other dates and times are cleared and the schedule is backward scheduled using the LUCD and time.

2. Choose the Reschedule button.

See Also

Defining Repetitive Schedules Manually: page 6 – 14

Changing Repetitive Schedules: page 6 – 28

Repetitive Line Scheduling: page 13 – 14

Repetitive Line Rescheduling: page 13 – 19

Mass Changing Repetitive Schedule Statuses

You can change the statuses of repetitive schedules 'en masse' using the *Change Status* option from the Tools menu. This mass change capability

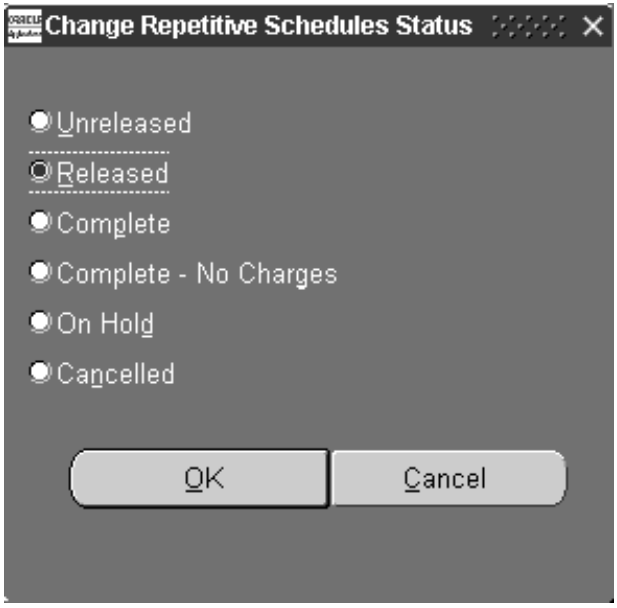
can be used for a variety of purposes such as releasing schedules to production and putting schedules on hold.

▶ **To change the status of several repetitive schedules:**

1. Navigate to the Repetitive Schedules window. The Repetitive Schedules Summary window appears.
2. Choose Find from the Query Menu. See: Finding Repetitive Schedules: page 6 – 20.

   The Repetitive Schedules Summary window appears with the results of the query.
3. In the Repetitive Schedules Summary window, select and deselect schedules as required. See: Selecting Multiple Records, *Oracle Application User's Guide*.
4. Choose Change Status from the *Tools menu*. See: Tools menu: page F – 2.

   The Change Repetitive Schedules Status window appears.



5. Choose a Status. See: Repetitive Schedules Statuses: page 11 – 12 and Discrete Job and Repetitive Schedule Status Changes: page 11 – 15.
6. Choose OK to save your work.

See Also

Changing Repetitive Schedules: page 6 – 28

Repetitive Schedule Status Control: page 11 – 10

Completing Repetitive Schedules

You can complete repetitive assemblies from repetitive schedules into inventory using the Completion Transactions and Move Transactions windows. You can also return completed assemblies back to schedules using these windows.

> **Note:** You can also complete WIP assemblies using the Inventory Transaction Interface and the Open Move Transaction Interface.

Over–completions

If the repetitive schedule is over–completion enabled, you can complete a quantity of assemblies greater than the total quantity on the schedule, whether or not the schedule has a routing. This feature is useful when the production process yields more assemblies than planned. Since all over–completed quantities are allocated to the last open schedule, you can over–complete assembly quantities up to the tolerance limit of that schedule.

To enable over–completion for assemblies on Repetitive schedules, you must:

- Set up a tolerance level to control the number of assemblies that can be over–completed
- Enable the over–completion feature by checking the Over–completion check box on the Completion Transaction or Move Transaction windows when completing assemblies

When you over–complete assemblies to Repetitive schedules, all resources are charged and any backflush components are backflushed.

Over–completion Tolerance

You must set up a tolerance level for the quantity of assemblies that can be over–completed. The tolerance level, which is either a number or a percent, is used to validate the quantities. If an over–completed quantity is greater than the tolerance allows, the transaction will fail.

You can set up tolerances item by item, or you can set a parameter at the organization level that sets the default over–completion tolerance percent for all items. When you set the tolerance at the organization level, you also are setting the default that will be used to validate over–completion assembly quantities when no tolerance level has been set at either the item or job or schedule levels.

If you do not set a tolerance level, the default over–completion tolerance percent defaults to zero. If you then try to over–complete

assemblies, you will receive a message telling you that you cannot over–complete because there is no tolerance. For more information on over–completion tolerance levels, see: Assembly Over–completions: page 7 – 84

Over–Completions from the Completion Transaction and Move Transaction windows

Once you set up tolerance levels, you enable over–completion on the Completion Transaction and Move Transaction windows by selecting the Over–Completion check box before performing the transaction. For instructions, see: Completing and Returning Assemblies: page 7 – 91 and Performing Move Completion/Return Transactions: page 8 – 48.

If there is an open schedule for the same repetitive assembly being built on the same line, you also can optionally increase the assembly quantity by increasing the total quantity, the daily quantity, or the number of processing days. You can then move these additional assemblies from the Queue intraoperation step of the first operation sequence to the To Move intraoperation step of the last operation sequence. You then will have sufficient quantity in the To Move intraoperation step of the last operation sequence to complete from the schedule without having to over–complete assemblies. You can optionally define an additional schedule so you can complete from the line without over–completing from any schedule.

Over–returns

You can return more assemblies to repetitive schedules than you completed into inventory. Any excess quantities are allocated to the first open schedule.

Routings

When you complete an assembly from a Repetitive schedule with a routing, it is transacted from the To Move intraoperation step in the last operation of the schedule into the completion subinventory, and if required, the locator for the line. If you did not specify a completion subinventory and locator for the line, then you must specify a subinventory and possibly a locator when you perform the completion transactions.

Complete versus Complete–No Charges

When the number of assemblies completed equals the number of planned assemblies, the schedule is complete and the status of the schedule changes to either Complete or Complete–No Charges. The difference between these two statuses depends upon whether a future

schedule exists. The end date of the schedule does not determine when a schedule is complete, and a repetitive schedule can be active after its end date.

If there is a subsequent schedule with a status of Unreleased within the autorelease days time fence, or a schedule with a status of Released, Complete, or On Hold, then the status of the current schedule changes to Complete–No Charges and is automatically released the next schedule if appropriate. If there is no subsequent schedule that meets this requirement, then the status of the current schedule changes to Complete. This keeps the current schedule active so that you can transact any unused or excess material and perform delayed resource and material transactions.

Multiple Schedules

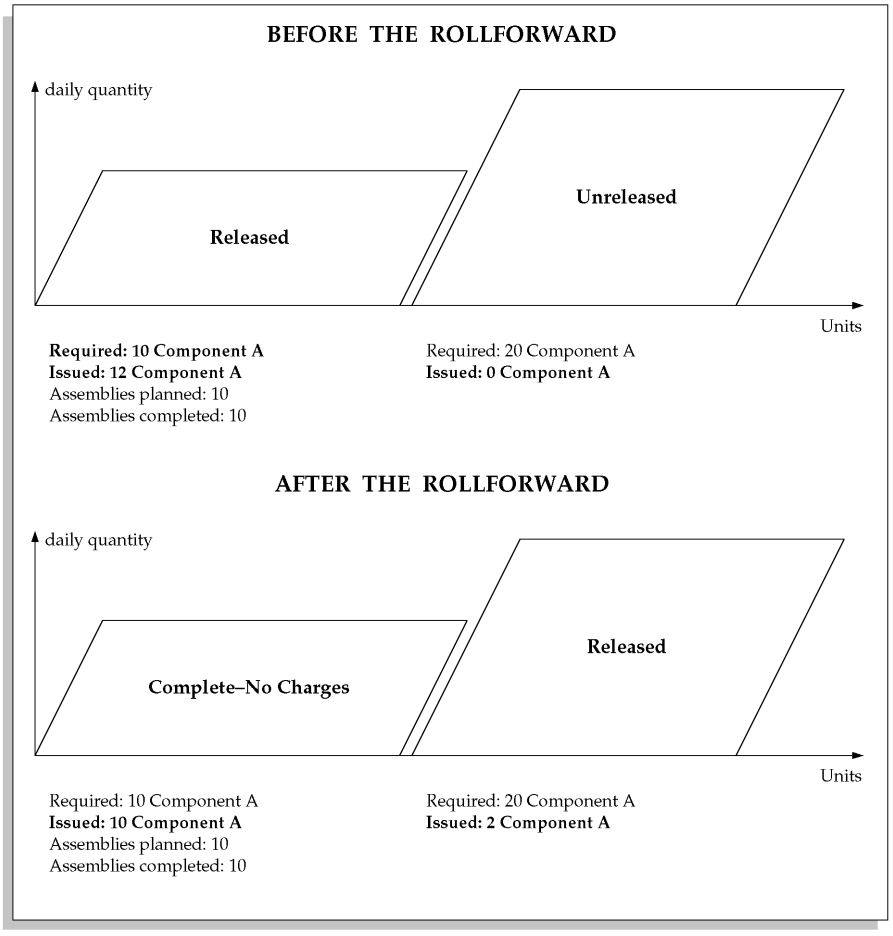
When you have more than one active schedule open for an assembly on a line at one time, the completion transactions automatically allocate the correct completion quantity to each schedule starting with the oldest schedules.

For example, a repetitive schedule is scheduled to complete 100 assemblies on 10–JAN and 200 assemblies on 11–JAN. On 11–JAN when you complete 200 assemblies, the transaction completes 100 assemblies to the first schedule and the remaining 100 assemblies to the second schedule.

Rolling Material Forward

When the number of assemblies completed plus the assemblies in the Scrap intraoperation steps equals the number of assemblies planned, the schedule is checked for any excess material. Over–issuing results in excess material. This can occur as a result of pushing too much material to the schedule or from reducing the total quantity of the schedule.

If there is any excess material, the system checks to see if there is a future schedule with a status of Unreleased within the autorelease days time frame, or a schedule with a status of Released, Complete, or On Hold following the newly completed schedule. If so, this excess material charge rolls forward to the next schedule, the next schedule is released (if appropriate), and the status of the completed schedule changes to Complete–No Charges. If an appropriate schedule is not found, the status changes to Complete and the excess material charges do not roll forward. You can then analyze the schedule and transact the excess material.



Roll forward also occurs if you cancel a schedule and there is an existing Unreleased schedule within the time fence specified by the *Repetitive Autorelease Days Parameter.* See: Repetitive Manufacturing Parameters: page 2 – 18.

Determines the time period within which the system automatically releases the next Unreleased schedule.

When you complete a repetitive schedule, the system searches within the autorelease time frame for an Unreleased schedule, or for a schedule with a status of Released, Complete, or On Hold. If one exists, the status of the newly completed schedule changes to Complete–No Charges and the future schedule is automatically released. If no such schedule exists, the status of the schedule changes

to Complete. If more than one schedule exists within the autorelease time frame, only one schedule is released.

Stopping Repetitive Schedules

Repetitive schedules stop when the number of assemblies completed plus the assemblies in the Scrap intraoperation steps equals the number of planned assemblies. No further action is needed. You do not close repetitive schedules. To prevent accidental charges, change the status of any Complete schedules to Cancelled or Complete–No Charges.

Serial Number Validations for Assembly Completions and Returns

For a serialized item returned to stock, validations occur to prevent re–issuing to a different repetitive schedule. At the time of completion, serialized assemblies and components for repetitive schedules are available from stock if they have the following values set in the Serial Numbers window in Oracle Inventory:

- State value: Defined but not used.
- State value: Issued out of stores. This is restricted to serial numbers that were previously returned to the same repetitive schedule that you are completing.

Serial Number Validations for Component Returns and Assembly Completions: page 7 – 83

Sales Orders and Outside Processing Operations

When a schedule with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Changing a schedule status to completed, closed, or canceled is prevented if open reservations exist. If you attempt one of these transactions for a schedule linked to a sales order, an error message displays. You can unlink the reservations, or reduce the schedule quantity to equal the completed quantity. See: Linking ATO Sales Orders and Discrete Jobs: page 3 – 74

Label Printing at Completion

Label printing capabilities are available at the time of completion. This provides the ability to create labels for any descriptive information or customer requirements. See: Label Printing at Completion: page 7 – 82

See Also

Overview of Period Close, *Oracle Cost Management User's Guide*

Move Transaction Types: page 8 – 36

Assembly Over–completions and Over–returns: page 7 – 84

Completing and Returning Assemblies: page 7 – 91

Repetitive Schedule Purge

You can purge repetitive schedule information using Purge Repetitive Schedules (Form) and Purge Repetitive Schedules (SRS). You can purge all information associated with repetitive schedules including their schedule header records and schedule detail and transaction information. You can also selectively purge the following repetitive schedule information: schedule details (material requirements, resource requirements, and operations), move transactions, and resource cost transactions. Selective purging allows you to retain pertinent historical information. For example, you can retain operation information but purge move transactions associated with these operations.

Purge Rules

A repetitive schedule may not purge if the any of the following information still exists:

- material transactions that reference the repetitive schedule

  You can purge material and completion transaction information associated with repetitive schedules in Oracle Inventory. See: Purge Transactions, *Oracle Inventory User's Guide*.

- purchase transactions, purchase requisitions, or purchase orders that reference the repetitive schedule in Oracle Purchasing.

- quality results records that reference the repetitive schedule

  You can delete quality results records associated with repetitive schedules in the Oracle Quality. See: Updating and Deleting Quality Results, *Oracle Quality User's Guide*.

Reporting

You can submit a request to print a Purge Report as you purge repetitive schedules. When you print a report as part of the purge process, the output of the report is determined by the defaulted purge parameters used and the level of detail choosen (Full, Summary, or Excepting) in the Purge Options window.

The Purge Report can also be submitted independently of the purge process using the Submit Requests window. When submitted independently of the purge process, only the jobs and/or schedules that failed to purge are listed.

See Also

Purging Repetitive Schedules: page 6 – 42

Purging Jobs and Schedules: page 15 – 44

Specifying Purge Options: page 3 – 130

Purging Repetitive Schedules

You can use the Purge Repetitive Scheules window to purge information associated with Cancelled and Complete–No Charges repetitive schedules. You can purge all repetitive schedule information or just selected information: details (material requirements, resource requirements, and operations), or associated move and/or resource cost transactions.

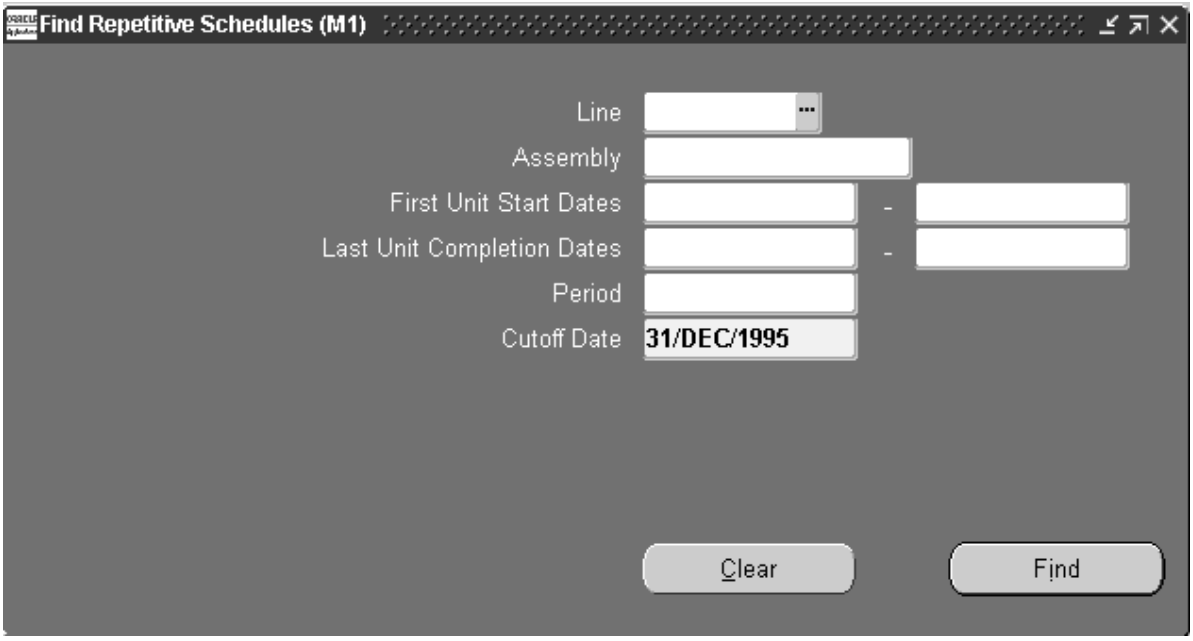
Before purging a repetitive schedule, you can view detail information for that schedule. You can also print one or all of the reports in the Repetitive Schedule Packet for the schedule. See: Current Record Indicator, *Oracle Applications User's Guide* and Repetitive Shop Packet: page 15 – 59 Overview of Period Close, *Oracle Cost Management User's Guide*.

Prerequisites

- ❑ You must have at least one closed period for your organization. See: Overview of Period Close, *Oracle Cost Management User's Guide*.

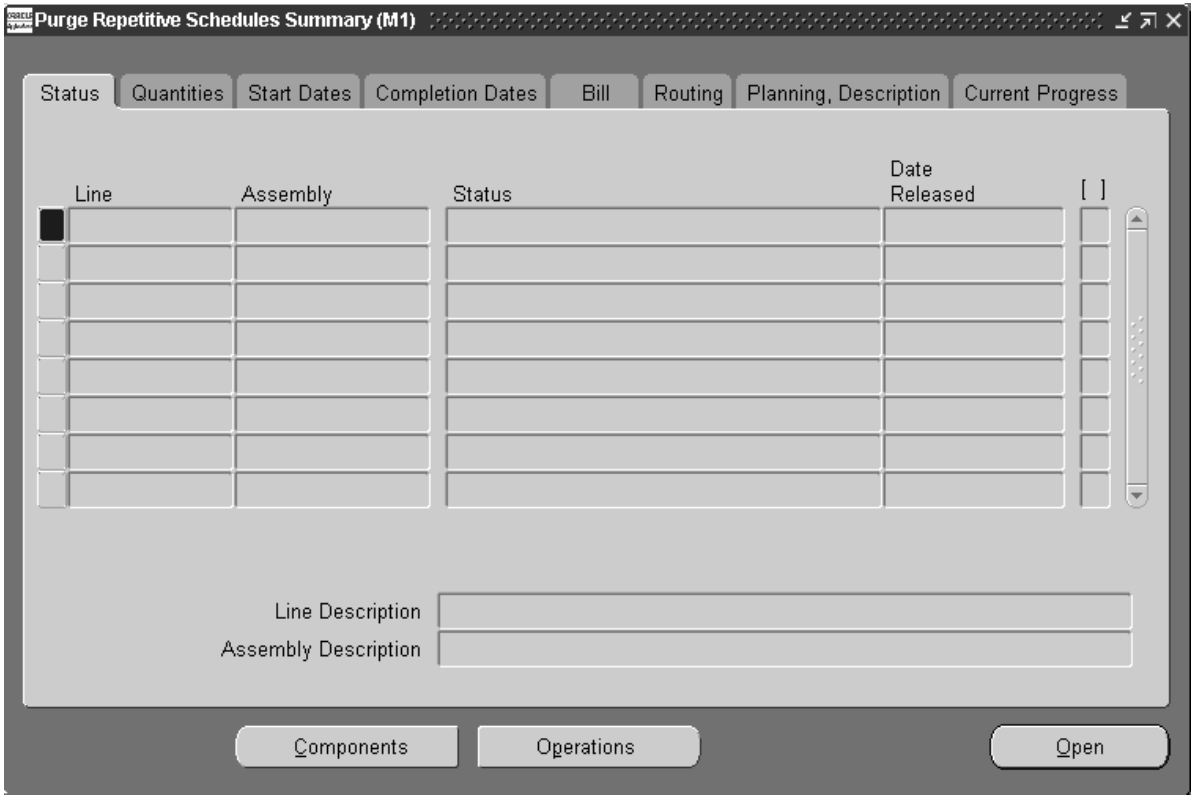
▶ **To find repetitive schedules to purge:**

1. Navigate to the Purge Repetitive Schedules window. The Find Repetitive Schedules window appears.



2. Query to find one or more repetitive schedules. See: Finding Repetitive Schedules: page 6 – 20.

   The Purge Repetitive Schedules Summary window appears with the results of your query.



▶ **To print reports for the queried records:**

- Printing Reports for Current Repetitive Schedules: page 6 – 23.

▶ **To view operations and operation requirements for a selected repetitive schedule:**

- From either the Purge Repetitive Schedules or Purge Repetitive Schedules Summary window choose the Operations button.

  The operations, if any, required for the schedule are displayed. See: Viewing Job and Schedule Operations: page 8 – 22.

▶ **To view component requirements for a selected repetitive schedule:**

- From either the Purge Repetitive Schedules or Purge Repetitive Schedules Summary windows choose the Components button.

  The component materials, if any, required the schedule are displayed. See: Viewing Component Requirements: page 7 – 18.

Attention: When no routing exists, all components default to operation sequence of 1.

▶ **To select which repetitive schedules to purge and/or report:**

1. From the schedules displayed, select which to include in the purge. See: Selecting Multiple Records, *Oracle Applications User's Guide*.
2. Choose *Purge* from the Tools menu. See: Tools menu: page F – 2.

   The Purge Options window appears. See: Specifying Purge Options: page 3 – 130.

See Also

Purge Report: page 15 – 50

Transaction Control by Status: page 11 – 17

Changing Repetitive Schedules: page 6 – 28

CHAPTER

7

Material Control

This chapter explains how materials are transacted, controlled, and tracked in Work in Process, including:

- Overview: page 7 – 2
- Setting Up: page 7 – 6
- Material Requirements Control: page 7 – 7
- Adding and Updating Material Requirements: page 7 – 10
- Material Control Process Diagram: page 7 – 24
- Component Picking: page 7 – 25
- Component Issues and Returns: page 7 – 46
- Phantom Assemblies: page 7 – 62
- Supply Subinventory and Locator Replenishment: page 7 – 67
- Backflush Transactions: page 7 – 74
- Assembly Completions and Returns: page 7 – 80
- WIP Inventory Accuracy: page 7 – 97

Overview

You can control and monitor which materials are used and how they flow from inventory to discrete jobs and repetitive schedules and from jobs and schedules to inventory.

Material Requirements

When you define jobs and repetitive schedules, you can combine standard, alternate, or common bills of material and routings to create specific material requirements anywhere in the routing. The job or schedule assembly revision determines which version of the bill of materials is used to create the material requirements. See: Overview of Bills of Material, *Oracle Bills of Material User's Guide* and Creating a Bill of Material, *Oracle Bills of Material User's Guide*.

Synchronizing your Bills of Material and Routings

You can specify at which operations component items are required by associating bills of material with routings. When bills and routings are synchronized, material is pushed or pulled onto jobs and schedules only where and when it is needed. This eliminates excess work in process inventory.

Push and Pull Requirements

You can push (issue) and pull (backflush) components items onto jobs and repetitive schedules. A component's supply type determines how it is supplied. See: Supply Types: page D – 2, Backflush Transactions: page 7 – 74, and Component Issues and Returns: page 7 – 42.

Replenish Supply Subinventories and Locators

You can replenish depleted supply subinventory stores. This ensures that materials are available for backflush transactions. See: Supply Subinventory and Locator Replenishment: page 7 – 65.

Component Picking

You can select component requirements to issue to jobs and schedules on the Component Pick Release window. This window generates move orders. You can select items for discrete jobs, lot based jobs, repetitive schedules, and flow schedules. Each manufacturing mode has a distinct and individual window. You can also use a rules based system to determine a recommended source location for each component. See: Component Picking: page 7 – 25

Reverse Transactions

Material transactions are reversible. You can return components that have been issued to jobs and schedules back to inventory. You can also return completed assemblies from inventory to jobs and schedules. See: Component Issues and Returns: page 7 – 42 and Assembly Completions and Returns: page 7 – 80.

Transaction Processing Options

You can choose how to process material transactions using WIP transaction processing profile options. For most transactions, the available options are on–line, concurrent, and background processing. See: Profile Options: page 2 – 64.

Open Material Transactions Interface

You can load work in process material transaction information from external systems — such as bar code readers and other data collection devices — into the Inventory Transaction Interface. When this data is processed, it is validated, and invalid records are marked so that you can correct and resubmit them.

Transaction Control

The status of a job or schedule indicates what point it has reached in its life cycle. Statuses also control which activities can be performed. For example, when you define a job or schedule, its status defaults to Unreleased**.** You must change its status to Released before you can transact against it. See: Transaction Control By Status: page 11 – 17.

Lot and Serial Number Control

You can issue, backflush, and complete lot, serial number, and lot and serial number controlled items. For lot controlled assemblies you build using discrete jobs, there are complete lot composition inquiries and reports. See: Lot and Serial Number Backflushing: page 7 – 78.

You can track your jobs using serial control throughout the manufacturing process, with serial transaction entry for assembly moves. This functionality is supported through Oracle Mobile Supply Chain Applications. . See: Serial Number Tracking Throughout Manufacturing: page 3 – 79

Backflush Lot Selection

You can specify how lot controlled components are selected during backflush transactions with the WIP *Lot Selection Method* parameter. Lots can be selected manually — in other words you specify which lots

are used — or they can be selected automatically based on either their inventory expiration or receipt date. See: Backflush Default Parameters: page 2 – 21.

Revision Control

Oracle Work in Process, Oracle Inventory, Oracle Bills of Material, and Oracle Engineering combine to provide complete revision control. You can define item revisions in either Oracle Inventory, Oracle Bills of Material, or Oracle Engineering. You can build open, released, scheduled, and implemented revisions. You cannot build revisions that have statuses of On Hold. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

Engineering Items

You can choose whether to build engineering items and whether to use engineering items as material requirements.

Alternate Units of Measure

You can issue components and complete assemblies using alternate units of measure. Transactions are recorded and reported in both the base and transacted units of measure.

Nettable Controls

You can specify whether assembly quantities are included as supply in the MRP planning process when you define jobs and schedules. You can also specify whether job and schedule material requirement quantities are included as demand in the net requirements calculation.

You can specify, using the *WIP:Requirement Nettable* profile option, whether the quantities in non–nettable subinventories are included when on–hand quantities are displayed in the Material Requirements and View Material Requirements windows. You can also choose to include non–nettable inventories when using the Discrete Job and Repetitive Schedule Shortage Reports to view inventory balances.

Requirements Reporting

You can view material requirements in a variety of ways including by assembly, by job, by production line, by date required, and by subinventory. Shortages can be highlighted so that planners and buyers can respond. See: Viewing Material Requirements: page 7 – 14.

Mobile Manufacturing

If Oracle Mobile Supply Chain Applications is installed, the Mobile Manufacturing component enables you to perform all work in process material transactions using a mobile client device networked with a computer system. This includes issuing material from inventory to charge against a job, reversing component issues, and issuing components from jobs to fill negative material requirements. See: Mobile Manufacturing, *Oracle Mobile Supply Chain Applications User's Guide.*

WIP Inventory Accuracy

You can maintain accurate inventory balances for components and assemblies using tools provided in Oracle Inventory and Work in Process. See: WIP Inventory Accuracy: page 7 – 97.

See Also

Setting Up Material Control: page 7 – 6

Material Requirements Control: page 7 – 7

Setting Up

- For a listing of out–of–product setups that affect material processing see: Setup Prerequisites: page 2 – 3.
- For a listing of setup within Work in Process that affect material processing see: Setup Check List: page 2 – 7.
- For additional information about parameters that affect material processing see: WIP Parameters: page 2 – 14.
- For a listing of profile options that affect material processing see: Profile Options: page 2 – 64.

Material Requirements Control

Open material requirements are satisfied when components are issued and backflushed.

When you create jobs and repetitive schedules that have bills of material, routings, or both, material requirements for the appropriate components are automatically created. These requirements (demands) are considered 'open' until they are fulfilled.

The MRP planning process and available to promise calculations include open requirements as demand but do not formally allocate them to their parent jobs and repetitive schedules.

Material shortages occur when insufficient inventory exists to cover open requirements. The MRP planning process reports current and projected material shortages and develops a plan to satisfy those shortages.

Negative Requirements

You can use negative material requirements to recover by–products or other reusable components. Jobs and repetitive schedules supply negative requirements instead of consuming them. See: By–Product Recovery: page 7 – 8.

Available–to–Promise Materials

You can view available–to–promise (ATP) status of components as you define, simulate, and view discrete jobs and as you view repetitive schedules. See: Viewing Component ATP Information: page 7 – 20

WIP Shortage Reporting

The Discrete Job Shortage and Repetitive Schedule Shortage Reports list shortages or open requirements for jobs and repetitive schedules based on requirement date. You can optionally include quantities in non–nettable subinventories in the on–hand quantities displayed on these reports. You can also use these report to view bulk and supplier component requirements.

The View Material Requirements window can be used to view the requirements for a component across jobs and schedules. You can view quantities required and issued for each component.

Material Requirements Reporting

You can supplement materials information provided by WIP reports and inquiries with Oracle Inventory reports and inquiries. For

example, you can use Oracle Inventory reports to list on–hand balances and transaction information.

See: Oracle Inventory Reports, *Oracle Inventory User's Guide*.

See Also

Overview of Material Requirements Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Available to Promise, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

By–Product Recovery

You can create negative material requirements to support the recovery of by–products and other reuseable or recoverable components. Negative requirements are supplied instead of consumed by jobs and schedules. For example, if you add negative material requirements to a non–standard discrete job that is tracking the disassembly of a completed part, the job supplies component materials rather than consuming them. Negative requirements are considered supply by the MRP planning process.

You can define negative requirement usage quantities when you assign components to bills of material in Oracle Bills of Material. Negative requirements can be assigned to lot, serial number, and lot and serial number controlled items.

See Also

WIP Material Transaction Types: page 7 – 48

Supply Types: page D – 2

Adding and Updating Material Requirements: page 7 – 10

Kanban Completion Supply Statuses

In a pull–based system, inventory items for a particular part or assembly area are replenished as soon as they are needed. When the items are needed, kanban cards in Oracle Inventory change their

Supply Status to Empty, and Inventory generates production kanban replenishment requests automatically.

When completing WIP Entities (jobs, repetitive schedules, and Flow schedules) that replenish production kanbans, you can override the defaulted kanban number with a supply status of *Empty* or *In process*.

You can also override the defaulted kanban number with a kanban supply status of *Full* if previous completions from the selected schedule have set that kanban's status to *Full* or if it has been referenced. Referenced in this context means that the WIP Entity and Kanban are linked because the WIP Entity was created to replenish the Kanban.

See Also

Kanban Planning and Execution, *Oracle Flow Manufacturing User's Guide*

Accessing the Planning Region, *Oracle Flow Manufacturing User's Guide*

Accessing the Production Region, *Oracle Flow Manufacturing User's Guide*

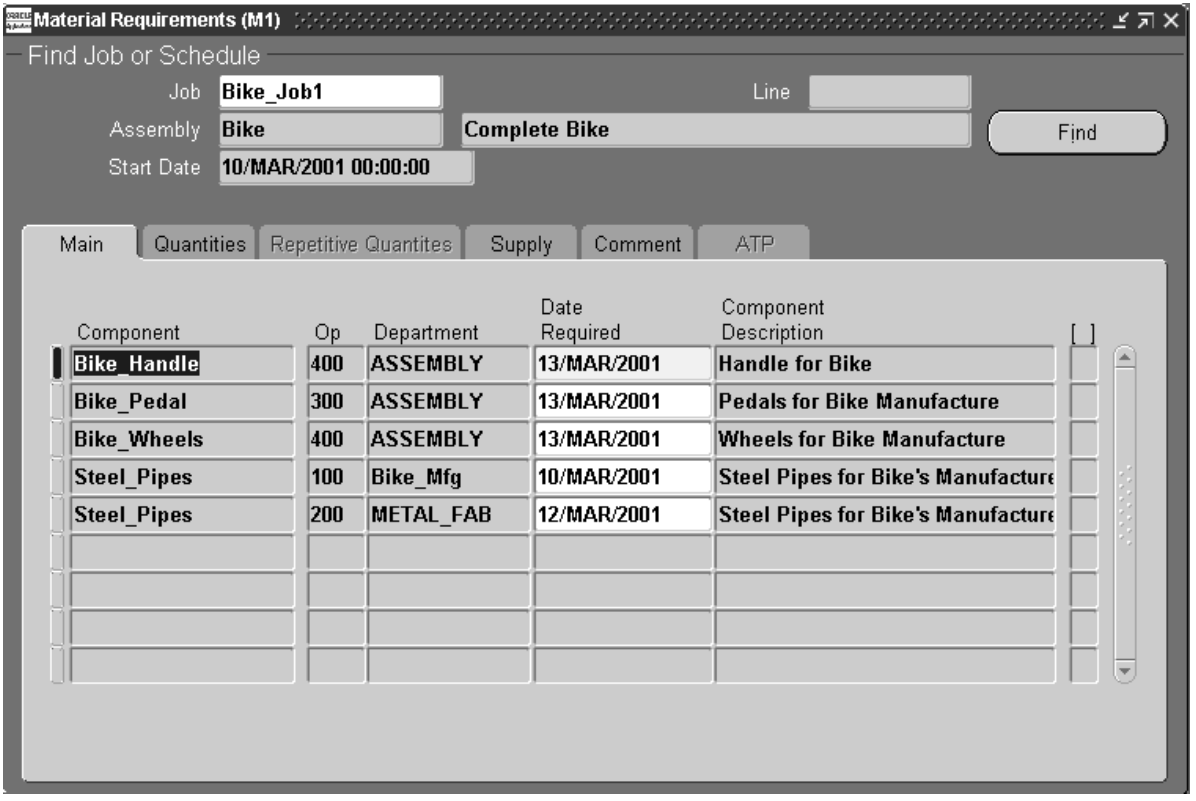
Adding and Updating Material Requirements

You can add material requirements to discrete jobs and repetitive schedules with statuses of Unreleased, Released, On Hold, and Complete.

> **Note:** You can also add material requirements to jobs and schedules by issuing components not required by the job or schedule. See: Issuing and Returning Specific Components: page 7 – 49.

▶ **To add or update material requirements:**

1. Navigate to the Material Requirements window.



2. Select the Job or repetitive Line and Assembly.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Unreleased, Released, On Hold, or Complete.

3. If you select a line and assembly, choose the repetitive schedule by selecting the first unit start date of that schedule. If you select a discrete job, the system displays the scheduled start date of the job.
4. Optionally, choose the Find button to populate the Material Requirements region.
5. From the Main tabbed region of the Material Requirements region, select the Component to update or add.

   You can add items with Push, Assembly Pull, Operation Pull, Bulk, Phantom, and Supplier supply types. If you add Phantom items, their supply types are changed to Push. Supply types are also changed to Push if you add Assembly Pull items to jobs or schedules without bills of material. Similarly, if you add Operation Pull items to jobs or schedules without routings, their supply types are changed to Assembly Pull.

   You can add engineering items as requirements if you have the *WIP:See Engineering Items* profile option set to Yes. See: Profile Options: page 2 – 64 and Engineering Bills of Material and Routings, *Oracle Engineering User's Guide*.

   In the case of non–standard discrete jobs, you can add the primary assembly as a component. In other words, the job assembly requires itself. This is useful when you use non–standard jobs to manage rework or disassembly. See: Rework Assemblies: page 4 – 7 and Disassemble Assemblies: page 4 – 11.

   You can add items that already exists as job or schedule component requirements if you add them at a different operation sequence.
6. If adding a component, select the Operation Sequence number. See: Overview of Routings, *Oracle Bills of Material User's Guide* and Creating a Routing, *Oracle Bills of Material User's Guide*.

   You can only add components at existing operations. The operation sequence identifies where the material is required.

   If you add a requirement to a job or schedule without a routing, the system displays 1 as the default operation sequence. This value cannot be updated.
7. Select the Date Required.

   For jobs with routings, the system displays the start date of the operation as the default. For repetitive schedules with routings, the system displays the first unit start date of the operation as the default. You can update the date required with a date that lies between the start and completion dates of the operation.

For jobs and schedules without routings, the systems displays the scheduled start date of the job or the first unit start date of the schedule as the default. You can update the date required with a date and time that lies between the start date and time and completion date and time of the job or schedule.

8. In the Quantities tabbed region, enter the Per Assembly Quantity or the Required Quantity for the component.

   If you are adding a component, the per assembly quantity defaults to 1 and the required quantity is derived from the job or schedule quantity and displayed in the component's primary UOM. It can be updated. If you update the per assembly quantity, the required quantity is automatically calculated. Conversely if you update the required quantity, the per assembly quantity calculated. You can enter a decimal value, such as 1.25, for both the per assembly and the required quantity. You can also enter a required or per assembly quantity of zero.

9. In the Supply tabbed region, select the Supply Type. See: Supply Types: page D – 2.

   When you add components, the supply type specified for the item in Oracle Inventory is normally defaulted. If the item does not have a supply type, the supply type defaults to Push.

   Supply type selection is restricted based on the type and makeup of the job or schedule. You cannot, for example, change the supply type of a Push component to Assembly Pull if the job or schedule has no routing.

10. If the component's supply type is Assembly Pull or Operation Pull, you must select the supply Subinventory, and if required by the supply subinventory, the supply Locator. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

11. Check the MRP Net check box to include material requirements as demand in the calculation of net requirements. See: Net Work in Process, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*.

    If a negative quantity for a standard discrete job or repetitive schedule is entered, this check box is disabled.

    For non standard–jobs with a negative quantity, the MRP check box is enabled. However, Oracle planning nets the negative requirement as supply rather than demand.

When initially creating non–standard discrete jobs, this flag is unchecked. You must manually mark the check box for components to be considered as demand by Oracle planning applications.

12. In the Comments tabbed region, enter or update the Comment.
13. Save your work.

See Also

Material Requirements Control: page 7 – 7

Setting Up Material Control: page 7 – 6

Deleting Material Requirements: page 7 – 13

Deleting Material Requirements

You can delete material requirements from Unreleased discrete jobs and repetitive schedules. You cannot delete material requirements that have been issued even if their due quantity is 0. You cannot delete material requirements if any transactions gave been made for a particular component.

▶ **To delete material requirements:**

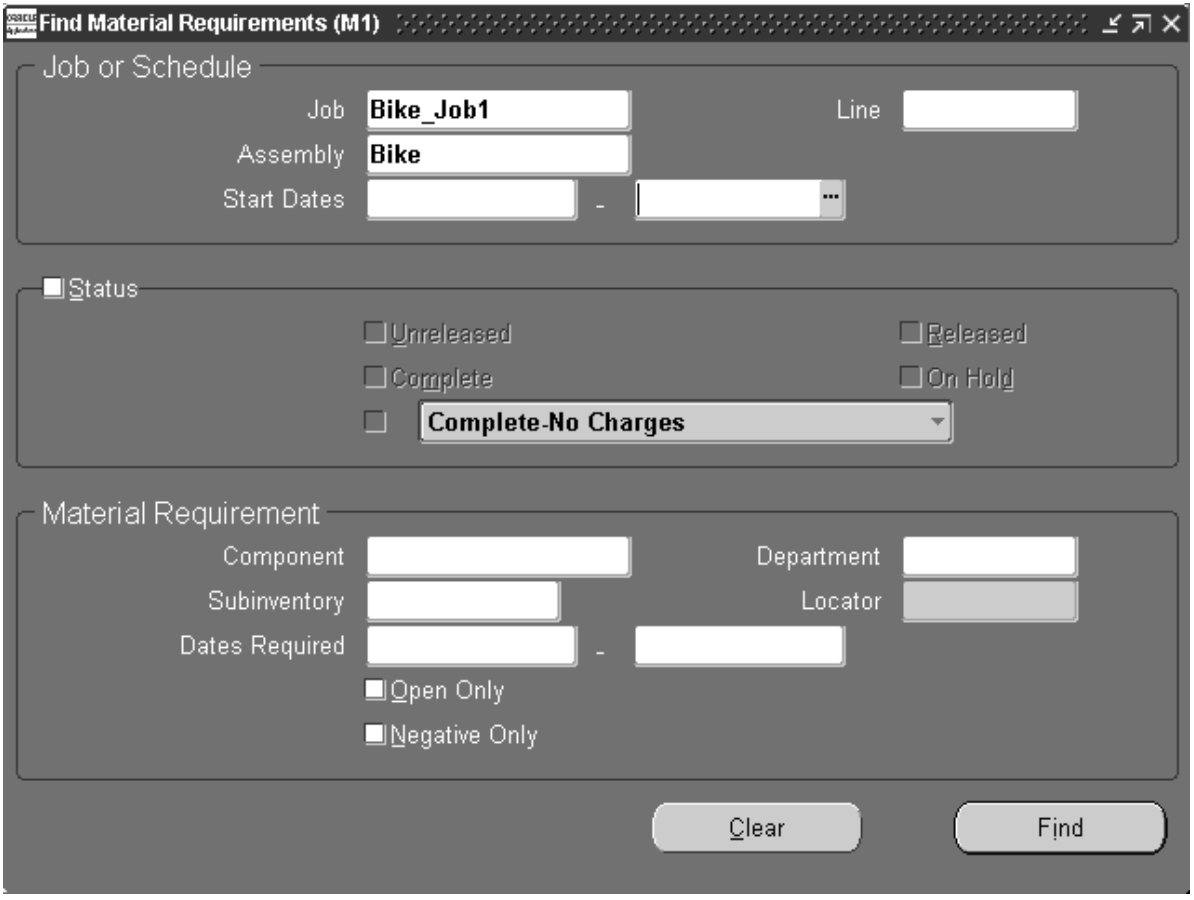
1. Navigate to the Material Requirements window.
2. Select the Job or Line and Assembly.
3. If you select a line and assembly, choose the repetitive schedule by selecting the first unit start date of that schedule. If you have selected a discrete job, the system displays the scheduled start date of the job.
4. Choose the Find button to populate the Material Requirements region.
5. In the Material Requirements region, select the Component.
6. Choose Delete Record from the Edit Menu.
7. Save your work.

Viewing Material Requirements

You can view material requirements for individual discrete jobs and repetitive schedules using the View Material Requirements window. You can also view material requirements across jobs and schedules using this window.

▶ **To find and view material requirements:**

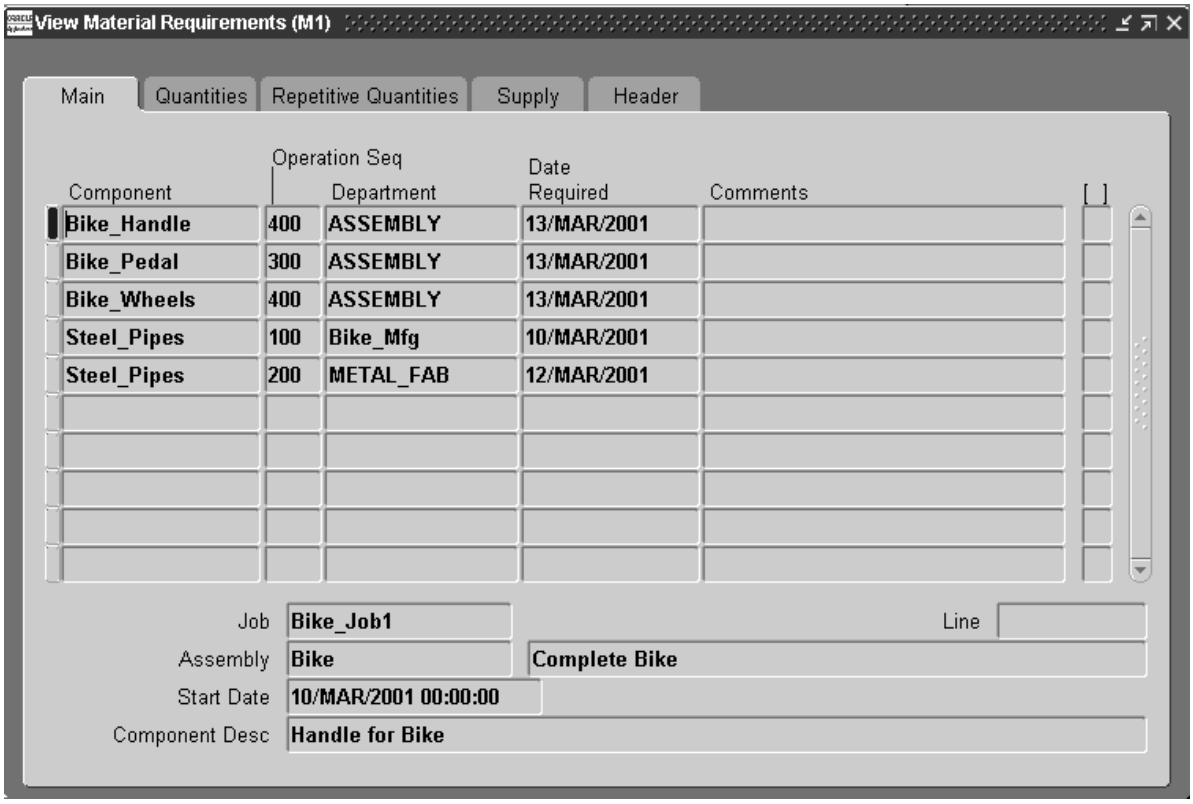
1. Navigate to the View Material Requirements window. The Find Material Requirements window appears.



You can view requirements for jobs and schedules of a specific status (Unreleased, Complete, Released, On Hold, Complete–No Charges). You can view all requirements for a specific component or all components required from a specific subinventory/locator.

You can also view components required on a specific date or within a range of dates. Lastly you can view open or negative requirements.

2. Enter any combination of search criteria and choose the Find button. The results display in the View Material Requirements window.



You can view the following information in View Material Requirements window's tabbed regions:

Main: Component, Operation Sequence, Department, Date Required, Comments

Note: You can view Component Descriptions using the Material Requirements window. See: Adding and Updating Material Requirements: page 7 – 10

Quantities: Component, UOM, Per Assembly, Required, Issued, Open, and On Hand

Repetitive Quantities: Component, UOM, Per Assembly, Required Today, Issued Today, Ahead or Behind Quantities, Days

Supply: Component, (Supply) Type, Subinventory, Locator, and MRP Net flag

Header: Component, Job, Line, Assembly, and Status

ATP: ATP Allowed flag and ATP Rule

You can also view, if entered, descriptive flexfield information. See: Setting Up Descriptive Flexfields: page 14 – 4.

See Also

Searching for Information, *Oracle Applications User's Guide*

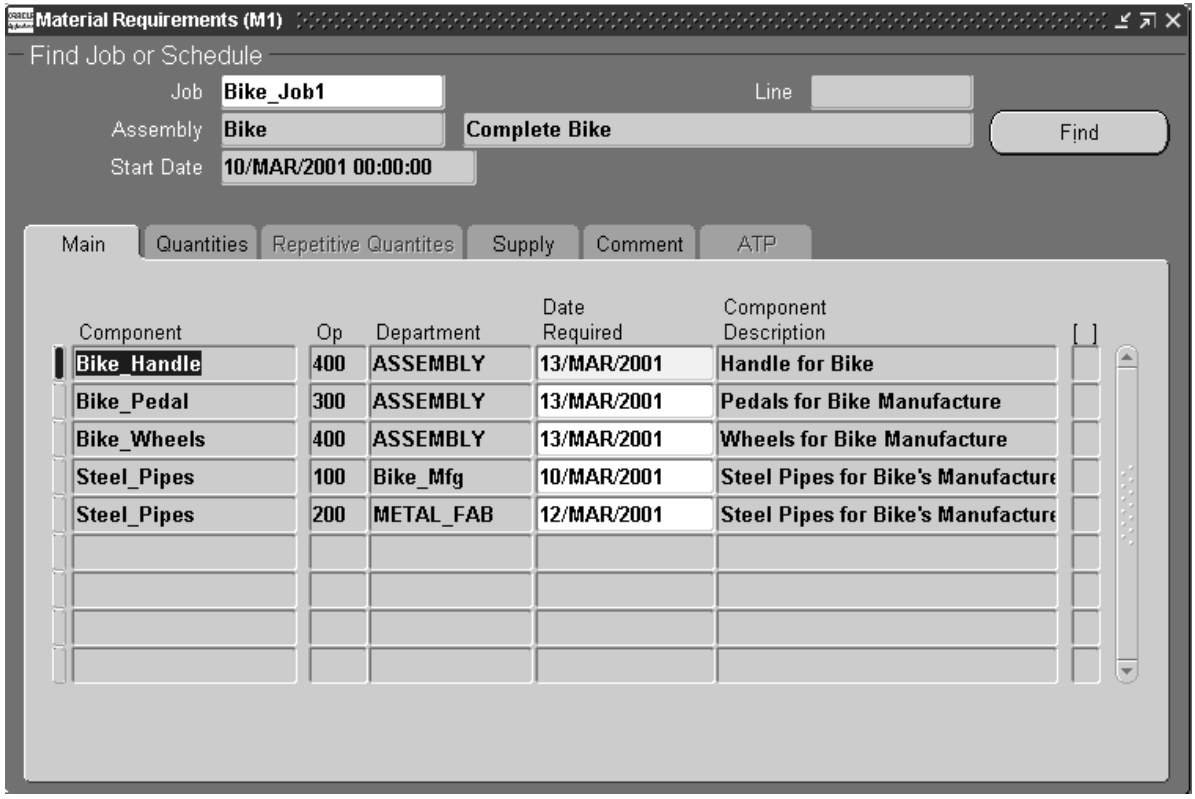
Material Requirements Control: page 7 – 7

Viewing Component Requirements

You can view job and repetitive schedule component requirements by choosing the Components button from the Discrete Jobs, Simulate Discrete Jobs, View Discrete Jobs, Close Discrete Jobs, Purge Discrete Jobs, Repetitive Schedules, View Repetitive Schedules, and Purge Repetitive Schedule windows. You can also view component requirements for a specific job or repetitive schedule operation by choosing the Operations then the Components button from any of these windows. From the Discrete Jobs, Simulate Discrete Jobs, and View Discrete Jobs windows, you can optionally view ATP component information.

▶ **To view component requirements for the current job, schedule or operation:**

- After choosing the Components button, the Material Requirements window (in view only mode) appears. You can then view detailed information about components in the window's tabbed regions. You can view material requirements across jobs and schedules using the View Material Requirements window. See: Viewing Material Requirements: page 7 – 14.



- *Main:* Component, Operation Sequence, Department, Date Required, Component Description.
- *Quantities:* Component, UOM, Per Assembly, Required, Issued, Open, and On Hand.
- *Repetitive Quantities:* Component, Per Assembly, Required Today, Issued Today, Ahead or Behind Quantity, Days.
- *Supply:* Component, (Supply) Type, Subinventory, Locator, and MRP Net flag.
- *Comment:* Component, comment
- *ATP:* Component, ATP Allowed flag and ATP Rule

  Note: This region is accessible only if you are viewing material requirements using a window that allows ATP checking the Material Requirements window, the Check ATP button is enabled only if you have accessed this window from a window that allows ATP checking.

▶ **To view component ATP for jobs and repetitive schedules:**

- If the Check ATP button is enabled in the Material Requirements window, you can check the ATP status of components. See: Viewing Component ATP Information: page 7 – 20.

Attention: The Check ATP button is only enabled if you choose the Components button from the Discrete Jobs, Simulate Discrete Jobs, View Discrete Jobs, or View Repetitive Schedules window, or if you choose the Operations button, then the Components button from any of these windows.

You can only check the ATP status of the components that have their ATP Allowed flag set. This flag is automatically set if the Check ATP attribute for that item is set. See: Defining Items, *Oracle Inventory User's Guide* and Order Management Attribute Group, *Oracle Inventory User's Guide*.

You can view the ATP status of several component records at one time by choosing multiple records. If you choose *Select All* from the Edit menu, only those components that have their ATP Allowed flag set are highlighted. If you specifically select components that do not have this flag set, you are warned that the components that you have selected are not Check ATP enabled. You must deselect these components before proceeding. See: Selecting Multiple Records, *Oracle Applications User's Guide*.

See Also

Defining Discrete Jobs Manually: page 3 – 63

Simulating and Saving Simulated Jobs: page 3 – 111

Closing Discrete Jobs: page 3 – 121

Viewing Discrete Job Information: page 3 – 95

Purging Discrete Jobs: page 3 – 128

Viewing Repetitive Schedule Information: page 6 – 25

Purging Repetitive Schedules: page 6 – 42

Viewing Component ATP (Available to Promise) Information

As you define, simulate, and view discrete jobs and as you view repetitive schedules, you can view their associated components by

choosing the Components button. See: Viewing Component Requirements: page 7 – 18.

If the displayed components have their Check ATP attribute set, you can optionally view their ATP status by choosing the Check ATP button. See: Defining Items, *Oracle Inventory User's Guide* and Order Management Attribute Group, *Oracle Inventory User's Guide*.

> **Note:** You do not have to enter ATP Information and ATP Criteria as you do when checking the ATP status of components in Oracle Inventory. This information is automatically derived.

However, you can only view the ATP status of a component if an ATP Rule can be found and applied to that component. When searching for an ATP Rule, the system first checks at the WIP parameter level, then at the item attribute level, and finally at the organization parameter level. If an ATP rule cannot be found, an error message is displayed when you Choose the Check ATP button. See: ATP Parameter: page 2 – 29, Organization Parameters Window, *Oracle Inventory User's Guide*, and Defining ATP, Pick, Item–Sourcing Parameters, O*racle Inventory User's Guide*.

▶ **To view the available–to–promise status of components:**

1. After choosing the Check ATP button from the Material Requirements window, the ATP Results window appears and displays current ATP information as follows:

   Required and Projected region: Displays the job Required Quantity and Required Date, the Available Quantity (current on–hand quantity that is available to promise on the required date), and the Projected Transactable quantity (includes the current available quantity, minus reservations, plus all future sources of supply and less all future sources of demand up to the required date).

   ATP and Early ATP region: Displays the ATP Date (the first date on or after the required date that the required quantity is available), ATP Quantity (the projected on–hand quantity of the item at the ATP date), the Early ATP Date (the earliest date that the required quantity of the item is projected to be available), and the Early ATP Quantity (the quantity of the item available on the earliest ATP date. If the earliest ATP date is the date corresponding to infinite supply, the quantity is displayed as 10,000,000,000).

▶ **To view the supply, demand, and ATP item quantities for the periods that fall between the current date and the infinite supply time fence date:**

- Choose the Period ATP button. See: Viewing ATP by Period Detail, *Oracle Inventory User's Guide*.

▶ **To view the supply source and demand source used to calculate the ATP quantity for the item:**

- Choose the Supply/Demand button. See: Viewing ATP Supply/Demand Detail, *Oracle Inventory User's Guide*.

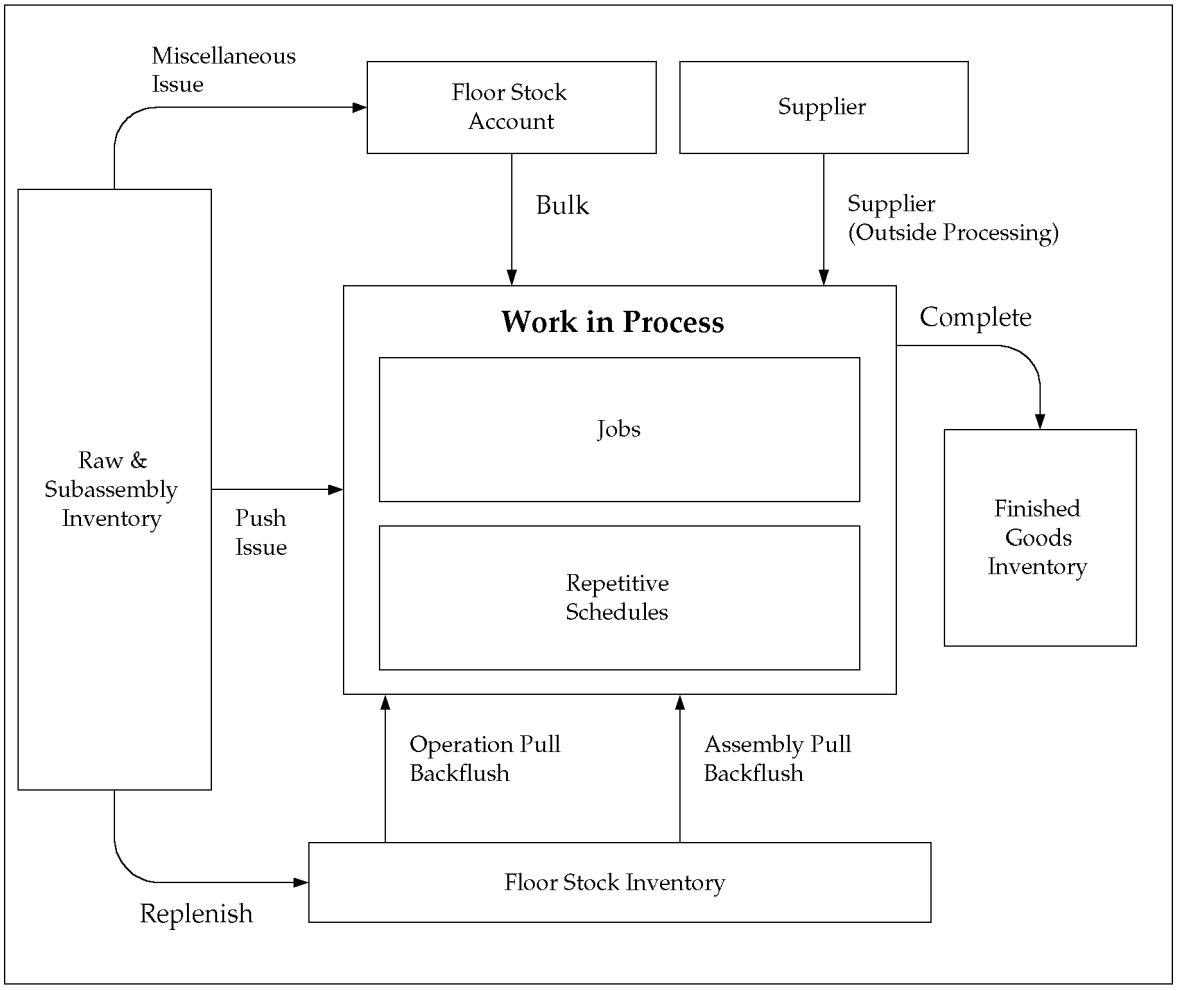
Attention: This option is not available if you are viewing ATP material availability for discrete jobs.

See Also

Entering ATP Criteria, *Oracle Inventory User's Guide*

Material Control Process Diagram

The following diagram illustrates the flow of materials in Work in Process.



Component Picking

Component picking, obtaining requirements for specific jobs and schedules, is the process of moving items from source locations and issuing them to work orders. In previous versions of Oracle Work in Process, items were issued from locations specified for each component on the bill of material. Now you can also use a rules based system to determine a recommended source location for each component. The features for component picking include:

- The Component Pick Release window is used to select requirements and create move orders for discrete jobs, lot based jobs, repetitive schedules, and flow schedules.
- Move orders are created for picked items. Move orders are requests for the movement of material within an organization. They enable the replenishment of material within a warehouse or manufacturing shop floor.
- There is a distinct and individual window for the manufacturing mode selected.
- The source for material picked is based on Oracle Inventory allocation rules entered on the Picking Rules window. Or, if Oracle Warehouse Management is installed, rules based picking recommendations.
- Rules based picking uses the Warehouse Management Rules engine. This employs user defined rules to recommend locations to pick from, and specific items to pick.
- Pick methodologies, or grouping rules, control how pick tasks are grouped to individual picking. All grouping rules, available during picking for shipment against a sales order, are supported for component picking. These grouping rules include order pick, bulk pick, cluster pick, and user defined grouping rules.
- The destination for picked material depends on the supply type. It can be a staging area, or directly to a job or schedule.
- You have the option to release picking tasks at the time of the pick release. Or you can choose another time to release. See: Component Pick Release Submit Requests Program: page 7 – 37

Job and Schedule Values for Picking

Depending on the job or schedule type, specific values control which records display on the Component Pick window, and how material issues are transacted:

- Discrete Jobs
  - Status must be Released or Complete – Charges Allowed
  - Material is defined at the operation and autocharge is enabled
  - Item status attribute in Oracle Inventory is Transactable
- Lot Based Jobs
  - Status must be Released or Complete – Charges Allowed
  - Components are picked based on the network routing
  - Item status attribute in Oracle Inventory is Transactable
  - Move order quantities are calculated as assemblies per operation multiplied by components per assembly, or:

    The sum of all the quantities in each intraoperation step (Queue, Run, To Move, Reject and Scrap)

    Multiplied by the component's quantity per assembly
- Flow Schedules
  - Material must be defined at a valid line operation
  - Status must be Open
  - Item status attribute in Oracle Inventory is Transactable
  - Move orders are generated when all quantities for the flow schedule components can be filled
  - Components must be a supply type of Push

    Note: In flow schedules, material and resources are specified in the events associated with the line operation. If components are not assigned to specific events, or events are not assigned to line operations – the value in the Line Operation field is 1. This indicates an unassigned line operation for that material requirement.
- Repetitive Schedules
  - Status must be Released or Complete – Charges Allowed
  - Material is defined at the operation and autocharge is enabled
  - Item status attribute in Oracle Inventory is Transactable

- The Days of Supply value is used to calculate the quantity of components to pick.

Setup

❑ Indicate if operation pull and assembly pull supply type components are included in picking.

Mark the Release Backflush Components check box on the WIP Parameter window. This check box is located on the Backflush Defaults tabbed region. See: Defining WIP Parameters: page 2 – 30

Material Destination

Material destination is automated with move orders in the component picking process; it depends on the supply type:

- Operation Pull and Assembly Pull

  Components are moved from the supply subinventory to a specific staging area. The staging area location is defined on the Bills of Material window, the Subinventory field (and applicable Locator) in the Material Control tabbed region. See: Creating a Bill of Material, *Oracle Bills of Material User's Guide*. If not defined, the default value on the Backflush Defaults tab of the WIP Parameters window is used. See: Defining WIP Parameters: page 2 – 30

- Push

  Push transactions are performed automatically by the system. Components are moved directly to the job or schedule. Specifically, the destination is defined as the department, job, and operation combination. The source of the material is the subinventory (and locator, if applicable) recommended by the sourcing rules. You can override this recommendation and enter another location as the source of the material.

- Push items with predefined staging subinventory

  You can define a staging subinventory on the bill of material if you do not want the push transaction automatically generated. If the staging subinventory is defined on the bill of material, the components are considered the same way as pull items – they are moved to that staging area. However, another step must be performed: you will have to manually move the parts to the job or schedule.

See Also

Defining Picking Rules, *Oracle Inventory User's Guide*

The WMS Rules Engine, *Oracle Warehouse Management User's Guide*

Overview of Move Orders *Oracle Inventory User's Guide*

Setting Up Move Orders *Oracle Inventory User's Guide*

Navigating on the Component Pick Release Window: page 7 – 28

Using the Component Pick Release Window: page 7 – 33

Using the Find Window for Component Picking: page 7 – 29

Navigating on the Component Pick Release Window

The Component Pick window is a graphical workbench that consists of two panes:

- The left pane is a navigation tree hierarchy containing three nodes. You can expand items on the navigation tree by left–clicking the plus sign (+) with your mouse to select a node detail. The associated subfields display below the node.

  The first node displays Discrete Jobs, Repetitive Schedules, Flow Schedules, or Lot Based Jobs–depending on the application you are using.

- The right pane displays field information associated with the applicable records meeting your search criteria.

  The initial view, or if you select the top job or schedule node, is a summary window. This displays rows with fields associated with the jobs or schedules meeting your search criteria.

  You can display a detail window by selecting a record on the hierarchy tree.

See Also

Using the Find Window for Component Picking: page 7 – 29

Using the Component Pick Release Window: page 7 – 33

Using the Find Window for Component Picking

▶ **To query jobs or schedules for component picking:**

1. Navigate to the Component Pick Release window.

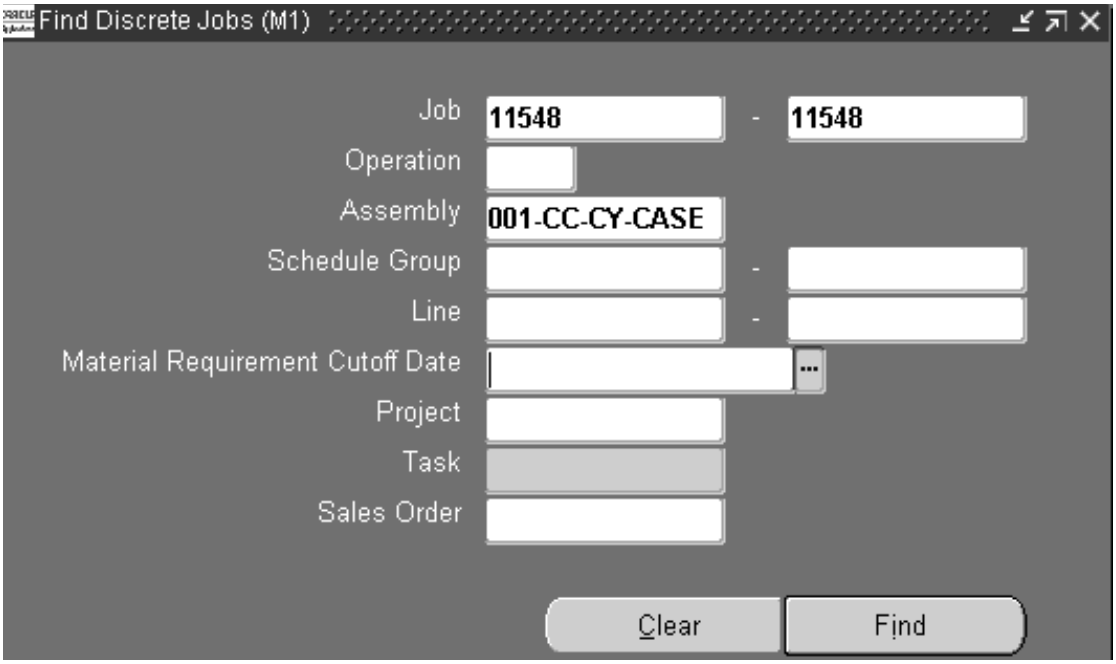
   The Find window displays fields pertaining to the specific job or schedule type. Select query criteria. You can combine or omit criteria as required.

- *Discrete Jobs*: You can query by Job name, Operation, Assembly, or Sales Order number. If you are using Oracle Projects or Project Manufacturing, you can search by Project Number and Task Number. See: Defining Discrete Jobs Manually: page 3 – 63,

  For discrete jobs only, you have the option to pick by a specific operation sequence in a single job – or across multiple jobs. All components up to the operation sequence selected are displayed on the Component Pick Release window. This feature is valuable in manufacturing environments where pick releases based on the timing of operations is not feasible, because operation start times are unpredictable.

  The Material Requirement Cutoff Date field is used to search requirements based on the Date Requirement value. This value is entered on the Material Requirements window.

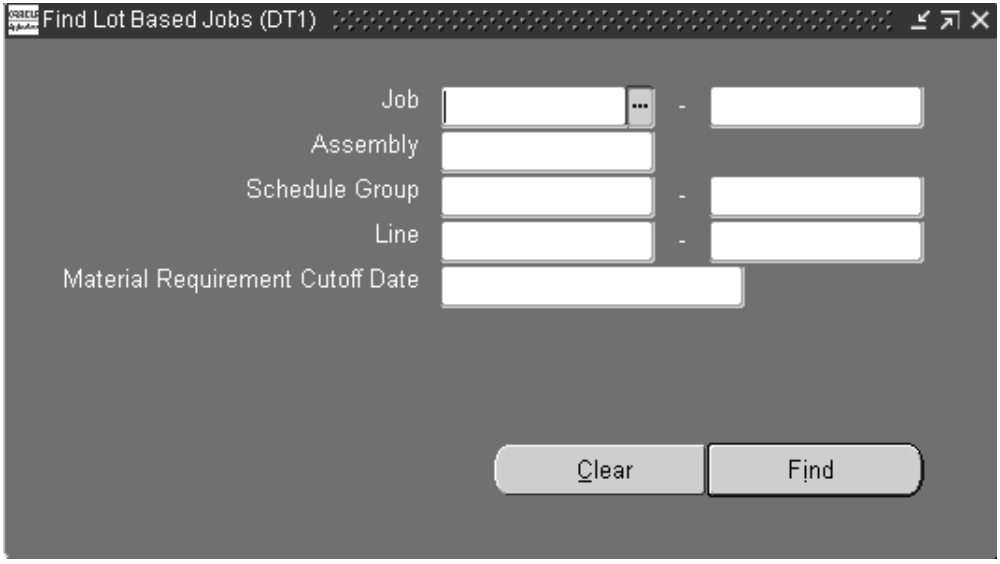
  > **Caution:** The material requirements cutoff date limits the date components are picked. For example, if you set this date for July 1, and you have requirements for June 1 and August 1 – the system will not consider the August 1 requirements. Set this date to consider material requirements and lead times.



- *Lot Based Jobs*: You can query by Job name, Assembly, Schedule Group, and production Line. See: Creating a Lot Based Job, *Oracle Shop Floor Management User's Guide*

  The Material Requirement Cutoff Date field is used to search for component records. The Date Requirement value entered on the Material Requirements window is used as the basis.

  Caution: The material requirements cutoff date limits the date components are picked. For example, if you set this date for July 1, and you have requirements for June 1 and August 1 – the system will not consider the August 1 requirements. Set this date to consider material requirements and lead times.

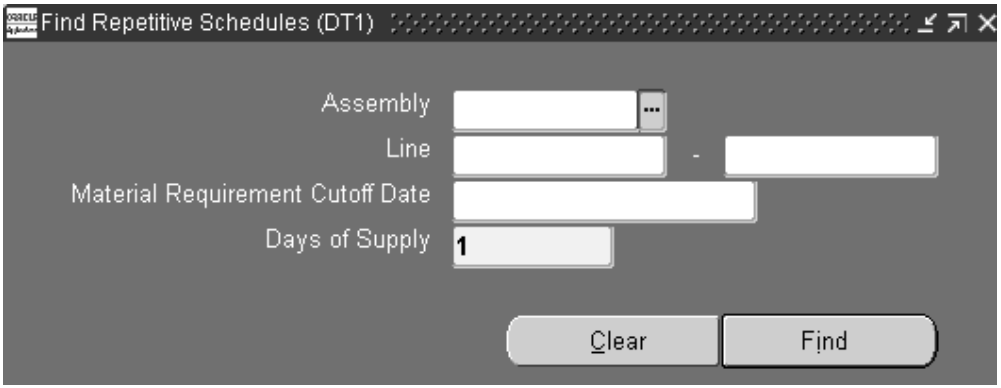


- *Repetitive Schedules*: You can query by Assembly, production Line, and Material Requirement Cutoff Date. See: Creating Repetitive Schedules: page 6 – 13

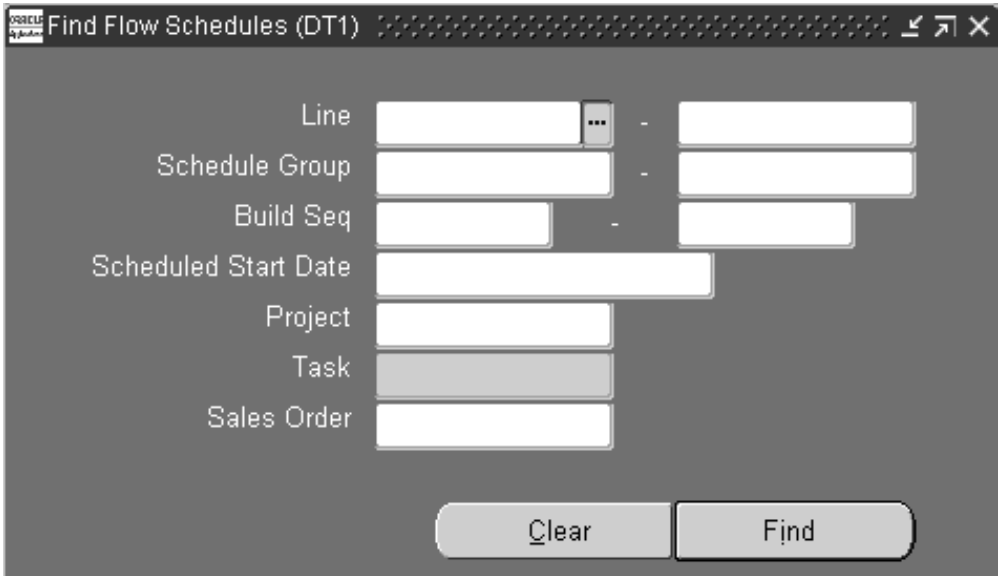
  The Material Requirement Cutoff Date field is used to search for component records. The Date Requirement value entered on the Material Requirements window is used as the basis.

  > **Caution:** The material requirements cutoff date limits the date components are picked. For example, if you set this date for July 1, and you have requirements for June 1 and August 1 – the system will not consider the August 1 requirements. Set this date to consider material requirements and lead times.

  The Days of Supply value is multiplied by the daily production rate and component quantity per assembly to calculate the pick quantity. If the open quantity is less than the value entered here, the open quantity is used instead.



- *Flow Schedules*: You can query by flow Line, Schedule Group, Build Sequence, or Sales Order. If you are using Oracle Projects or Project Manufacturing, you can search by Project Number and Task Number.. See: Line Scheduling Workbench Options Window, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*



2. Choose Find to display the Component Pick Release window.

See Also

Using the Component Pick Release Window: page 7 – 33

Using the Component Pick Release Window

When you navigate to the Component Pick Release window, a Find window initially displays with the criteria for the job or schedule type you select.

▶ **To select and pick items for component picking:**

1. Navigate to the Component Pick Release window.
2. Choose your search criteria on the Find window. See: Using the Find Window for Component Picking: page 7 – 29

   The Component Pick Release window displays in the summary view. Fields display applicable to the job or schedule type you choose.

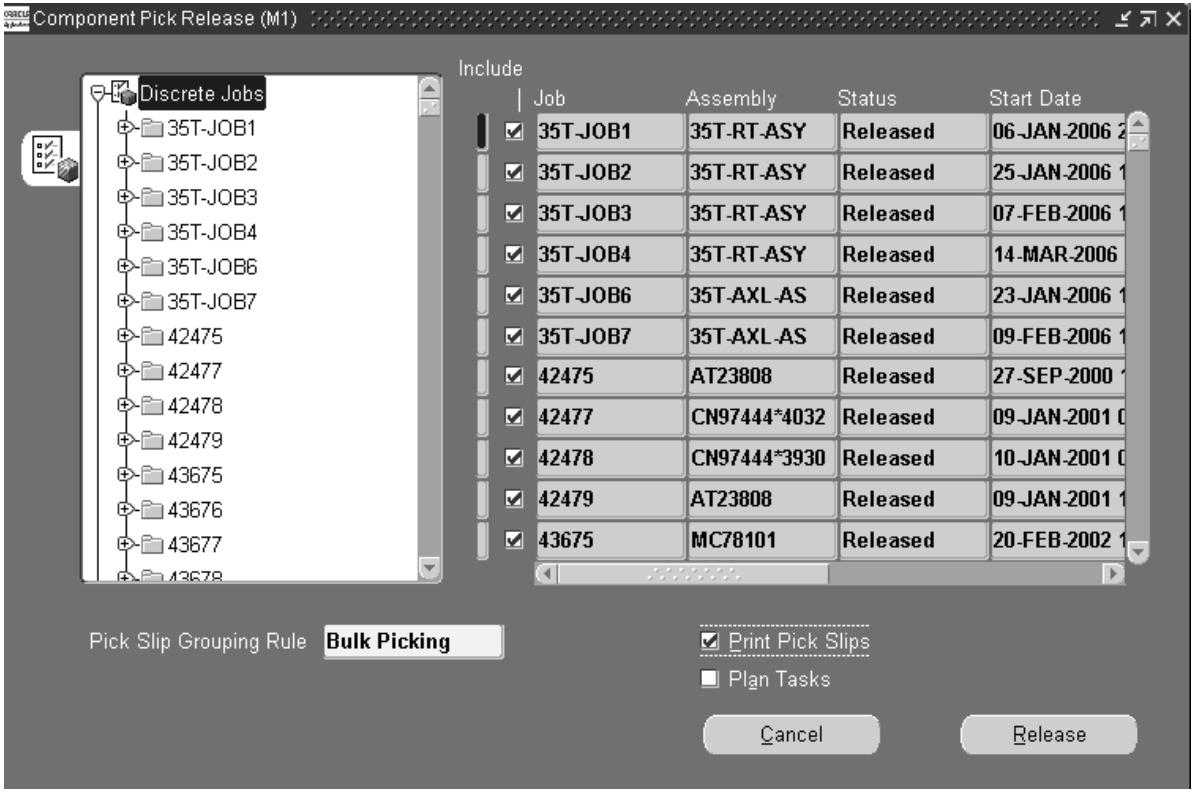
   See Also::

   Defining Discrete Jobs Manually: page 3 – 63

   Creating a Lot Based Job, *Oracle Shop Floor Management User's Guide*

   Creating Repetitive Schedules: page 6 – 13

   Line Scheduling Workbench Options Window, *Oracle Flow Manufacturing User's Guide*



3. The Include in Release check box defaults as marked for all the records. Uncheck records you do not want to release, or clear a record from the Edit menu.

4. The Pick Slip Grouping Rule field displays the organizational default selected on the Work in Process Parameters window. You can select another value for this pick release.

   The grouping rule is used to group tasks based on the pick method. For example, if you select the Bulk Picking rule, all pick tasks for the same component item– across multiple work orders and operations – are picked. Rules are defined on the Pick Slip Grouping Rules window in Oracle Inventory. See: Pick Slip Grouping Rules, *Oracle Inventory User's Guide*

5. The Print Pick Slips box is used to indicate if you want to print the Move Order Pick Slip Report, in Oracle Inventory as part of this component pick release. Check this box to enable printing, or deselect the box to disable it.

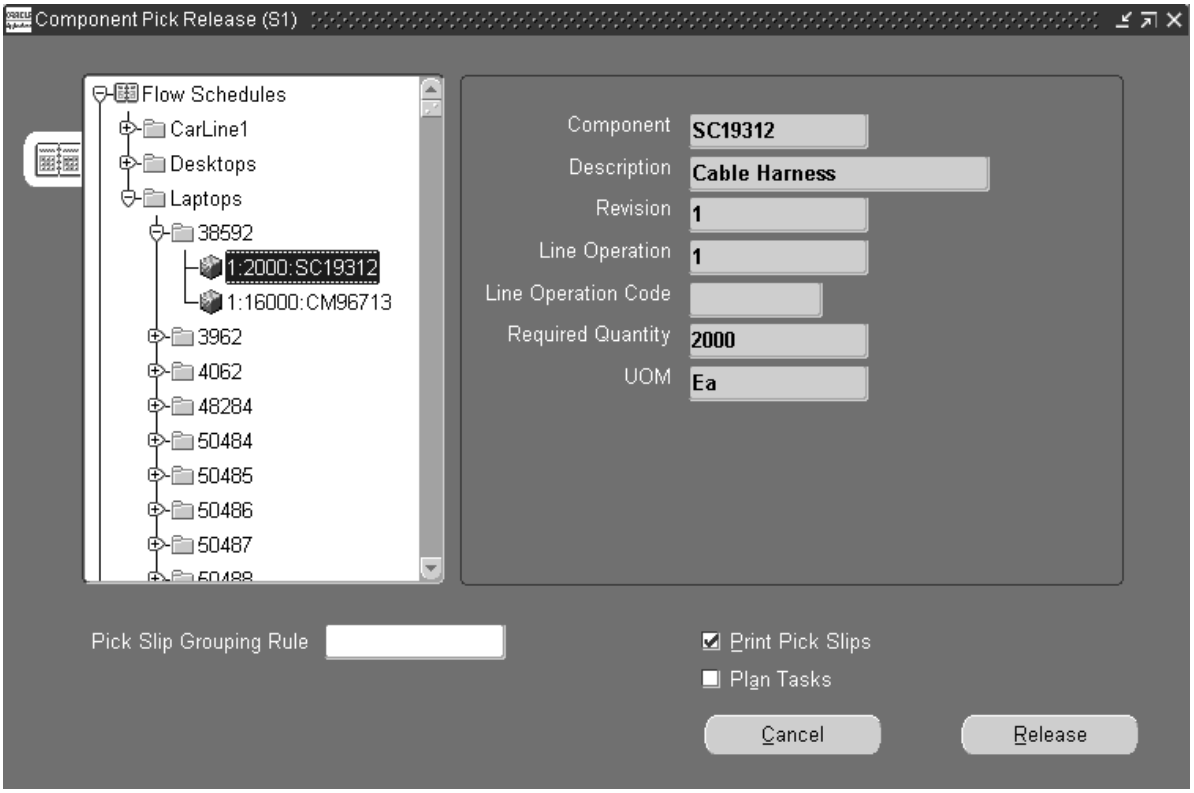
6. If you are using an Oracle Warehouse Management enabled organization, the Plan Tasks box displays the default on the Work in Process Parameters window. You can change this value.

   This flag provides the option to plan tasks automatically or manually at the time of pick release.

   - If this check box is enabled, the system creates pick tasks in an Unreleased status. This option is used if you want to create the allocations, but postpone the dispatching. You can later choose the time to release the task. See: Component Pick Release Submit Requests Program: page 7 – 37
   - If this check box is not checked, tasks are created in a Pending status and are immediately eligible for dispatching.

7. To display a detail window of one of the records–expand the job or schedule node in the navigation tree, and select a record.

   Information for top level records displays on the summary window. The detail window is the only way to view records below the top level. The summary and detail windows display fields specific to the manufacturing mode selected for component picking, meeting your search criteria.



8. Choose Release to perform the pick release process.

   All jobs or schedules displayed in the tree are released. Move orders are generated for ecords where the Include in Release check box is unchecked.

   Records are cleared using the Edit menu.

   All records on the tree are released regardless of whether you choose Release from the summary or detail window. When the transaction is complete, the pane is displayed as blank.

9. Choose Cancel to end this transaction. Records are not updated, and the Find window displays again.

Backordered Requirements

When you choose Release, the system creates move orders for the open component requirements. If the on–hand quantity does not meet requirements, or is already allocated, move orders are not created and an informational message displays. Backorders are created for these

components. Backorders are filled when items are received (from purchase orders, completions, LPNs, and so forth).

- If the allocation was partial, you can view the backorder quantity in the Component detail window.
- If you are using Rules Based Picking, and the warehouse is enabled for cross docking, the WMS Rules engine checks for backorders and creates move orders to put material directly into the staging area. See: Explaining LPN and Cross Docking Put Away, *Oracle Warehouse Management User's Guide*

  Note: Backorders are not generated for flow schedules. Move orders are only generated when all quantities for the flow schedule components can be filled.

Multiple Generation of Pick Release

If you generate the pick release program on the same records multiple times, only open requirements are selected each subsequent time.

- *Discrete jobs, Lot Based jobs, and Repetitive schedules*: New requirements are created only for items not moved to a job, or backordered.
- *Flow schedules*: Since move orders are not generated for flow schedules with component shortages, you can run the pick release multiple times until the requirement is filled.

Cancelling Jobs and Schedules

When jobs and schedules are cancelled; all untransacted tasks and move orders associated with those work orders are cancelled. An API, WIP_PICKING_PVT.CANCEL_ALLOCATIONS, is used to select all open move orders to update their allocated and backflushed quantities. This procedure calls INV_MO_Cancel_PVT.Cancel_Move_Order_Line to cancel the corresponding move order lines.

Component Pick Release Submit Requests Program

You can release picking tasks on the Component Pick Release window; or they can be submitted for another time using concurrent or scheduled processing.

▶ **To submit requests for component picking:**

1. Navigate to the Component Pick Release (SRS) window to display the Parameters window.

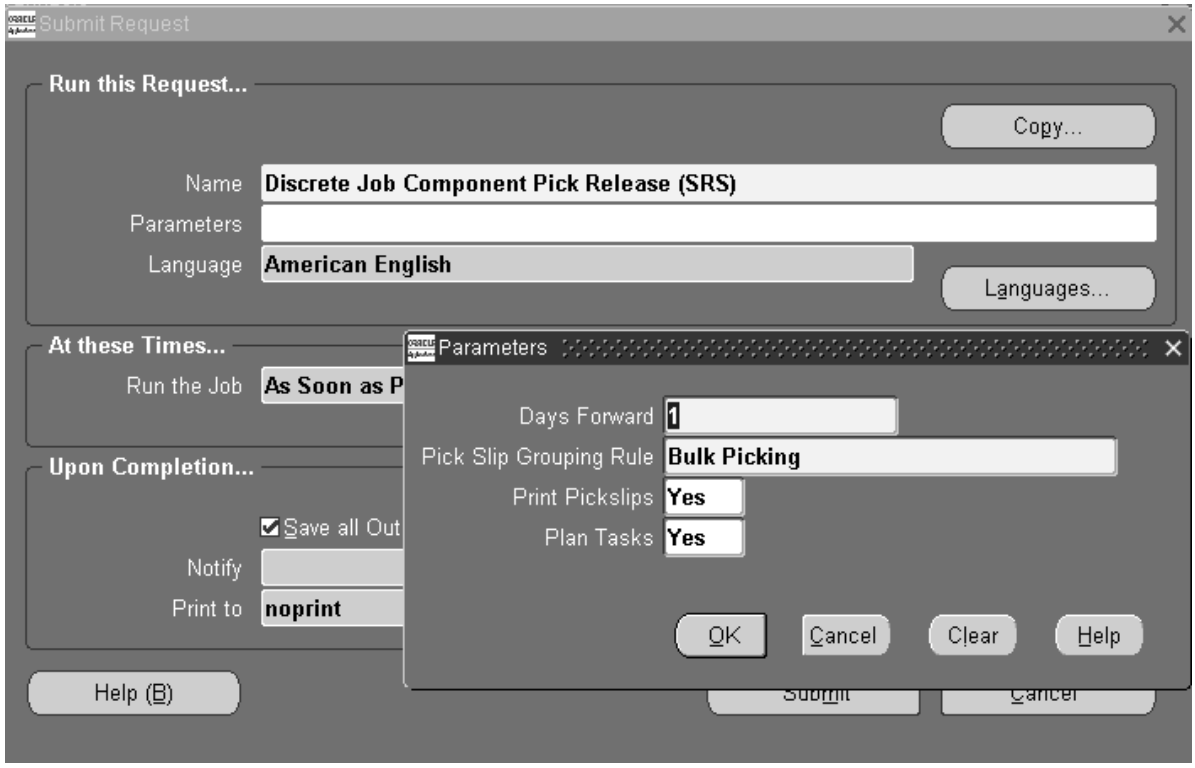
   There are three separate submit request programs, depending on the job or schedule type you are picking:

   - Discrete Job Component Pick Release (SRS)
   - Repetitive Schedule Component Pick Release (SRS)
   - Lot Based Job Component Pick Release (SRS)

     Note: This functionality is not currently available for flow schedule picking.

2. In the Days Forward field, enter the number of days in the future to consider requirements for this pick release.

   For example, if this value is 1, and your program is scheduled to run daily–it will pick up requirements for jobs and schedules up to one day forward. Any new material requirements added today are picked up by the concurrent program when it is scheduled to run next.



3. Select a rule in the Pick Slip Grouping Rule field.

   The grouping rule is used to group tasks based on the pick method. Rules are defined on the Pick Slip Grouping Rules window in Oracle Inventory. See: Pick Slip Grouping Rules, *Oracle Inventory User's Guide*

4. In the Print Pick Slips field, select a value of Yes or No to indicate if you want to print the Move Order Pick Slip Report as part of this component pick release.

5. If this is an Oracle Warehouse Management organization, in the Plan Tasks field, select a value of Yes or No to indicate if you want to release tasks at the time of the pick release.

   Yes indicates that the concurrent program will plan tasks and pass this data to the Inventory Pick Release API.

6. If this pick release is for repetitive schedules, enter a value in the Days of Supply field.

   The Days of Supply value is used to calculate the pick quantity. This value is multiplied by the daily production rate, and

component quantity per assembly. If the open quantity is less than the value entered here, the open quantity is used.

7. Choose OK to display the Submit Request window.
8. Choose Submit. See: Submitting a Request, *Oracle Applications User's Guide*.

   Jobs that meet the criteria entered are released when your request is run.

See Also

Overview of Concurrent Processing, *Oracle Applications User's Guide*

Overview of Standard Request Submission, *Oracle Applications User's Guide*.

Using the Component Pick Release Window: page 7 – 33

Component Issues and Returns

You can issue components from inventory to jobs and repetitive schedules and return issued components from jobs and schedules to inventory using the WIP Material Transactions window. There are two issue and return options available from this window: *All Material* and *Specific Component*.

Push and Pull Components

You can issue and return both push and pull components. You can 'push' components from inventory to specific job and repetitive schedule operations. A component's supply type determines how it is supplied to a job or schedule. See: Supply Types: page D – 2.

Negative Component Issues and Returns

You can issue components to satisfy negative job and schedule requirements. When you issue negative requirement components, the components are returned from the job or schedule to inventory.

You can reverse negative component issues with negative component returns. When you return components that have negative requirements, the components are issued from inventory to the job or repetitive schedule. See: WIP Material Transaction Types: page 7 – 48.

Negative Inventory Balances

You can set the Allow Negative Balances Parameter in Oracle Inventory so that the inventory balances of items can be driven negative. If this parameter is set, a warning message is displayed to notify you that balances are about to be driven negative. You can continue with the transaction or stop it and fix the condition.

Requirement Quantities

You can issue partial requirement quantities. You can also over–issue requirements. Material that is required, but not issued, is considered an open requirement.

Transaction Criteria

You can use the 'All Material' option to issue push components to specific departments or operations associated with jobs or schedules with routings. When you issue to a job, the assembly quantity specified determines how many push components are issued. When you issue to repetitive schedules, the component quantity is based on the specified start date and the number of days supply. The start date and days are

used to determine the number of days worth of requirements you want to fulfill on the schedule.

Ad Hoc Requirements

You can issue and return components that do not appear as job or schedule material requirements using the 'Specific Component' option. When you issue or return components using this option, the system determines if the item is a material requirement for the job or schedule. If the item is not a material requirement, is a backflush component, or is not required at the operation sequence a warning message is displayed, but you can continue with the transaction. Components added in this manner are commonly referred to as 'ad hoc' components.

Bulk, Supplier, and Phantom Components

You can issue Bulk, Supplier, and Phantom supply type items, which do not normally appear as requirements in the WIP Material Transactions window, using the 'Specific Component' option.

Alternate Unit of Measure

You can issue and return component items in their primary or alternate unit of measure. If you select an alternate unit of measure, the system converts the transaction quantity using the conversion factor you specified when you defined the unit of measure in Oracle Inventory. You can change this quantity. If the material is under serial number control, you can only change the transaction quantity to an integer when expressed in the primary unit of measure. For example, you can issue 0.5 dozen (DZ) if the primary unit of measure is each (EA).

Supply Subinventory and Locator

You can change default supply subinventories and locators by updating component requirements using the Material Requirements window. You can also change default supply subinventories and locators as you issue components. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

Serial Number Validations

You can issue and return component items that are under lot, serial number, or both lot and serial number control. Available serial number records are restricted for use when issuing a serialized item, returning it to stock, and then to a different job. At the time of completion, serialized components are available from stock if they have the

following values set in the Serial Numbers window in Oracle Inventory:

- Component Issues and Negative Component Returns

  State value: Resides in stores.

- Component Returns and Negative Component Issue

  State value: Defined but not used.

  This is restricted to serial numbers that were previously issued or negative returns–for the same job or schedule that you are performing the component return or negative component issue.

See: Serial Number Validations for Component Returns and Assembly Completions: page 7 – 83

Revision Control

You can issue and return component items that are under revision control. The system always defaults the component revision to the current revision as of the transaction date. You can select a different revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

See Also

Issuing and Returning Specific Components: page 7 – 49

Repetitive Component Issues and Returns: page 7 – 44

Backflush Supply Subinventories and Locators: page 7 – 76

Repetitive Component Issues and Returns

To issue components from inventory to repetitive schedules or to return components from repetitive schedules to inventory, you must select a repetitive assembly and line.

Repetitive Component Issues

When you issue to a repetitive schedule, the system determines which components must be issued based on the start date and number of schedule days entered.

Positive Requirements

For positive requirements, WIP component issue transactions are automatically allocated to specific repetitive schedules on a first in–first out basis based on the schedule's start date. If there is more than one open schedule, issues are allocated to each schedule until there are no more open schedules. If you over–issue, the entire over–issue quantity is allocated to the last open schedule.

For positive requirements, WIP component return transactions are allocated on a last in – first out basis, based on the schedule's start date.

Negative Requirements

For negative requirements, WIP negative component issue transactions are automatically allocated to specific schedules on a first in – first out basis. WIP negative component issue transactions supply the components to Oracle Inventory as a part of normal production. If there is more than one open repetitive schedule, negative component issues are allocated to each schedule until there are no open schedules to allocate to. If you over–issue a negative component, the entire over–issue quantity is allocated to the last open schedule.

Multiple Schedules

When you have more than one active schedule for an assembly on a line, material transactions automatically allocate the correct amount of material to each schedule. The system assumes that you work on older schedules first and charges the earliest schedule first followed by the next earliest schedule and so on.

For example, suppose a repetitive schedule has been released to produce 100 assemblies ABC on 10–JAN and 200 assemblies ABC on 11–JAN. If you issue 200 assemblies' worth of components on 11–JAN, then 100 assemblies' worth of components are charged to the first schedule and the remaining 100 assemblies worth of components to the second schedule.

Phantoms

Phantom assemblies can be used in repetitive schedules. At the time the schedule is defined, the phantom's requirements are exploded and added to the schedule at the operation where the phantom was assigned.

Repetitive Component Returns

When you return components from a repetitive schedule, you must enter a start date and number of schedule days to default the return quantities.

Positive Requirements

For positive requirements, WIP component return transactions are automatically allocated to specific repetitive schedules on a last in–first out basis. If there is more than one open repetitive schedule, each schedule is allocated until there are no more open repetitive schedules to allocate to. If you over–return, the entire over–return quantity is allocated to the first open repetitive schedule.

Negative Requirements

For negative requirements, WIP negative component return transactions are automatically allocated to specific repetitive schedules on a last in–first out basis. If there is more than one open repetitive schedule, negative component returns are allocated to each schedule until there are no more open repetitive schedules to allocate to. If you over–return, the entire over–return quantity is allocated to the last open repetitive schedule.

See Also

Issuing and Returning Specific Components: page 7 – 49

Issuing and Returning All Push Components: page 7 – 54

WIP Material Transaction Types: page 7 – 48

By–Product Recovery: page 7 – 8

Component Issue and Return Transaction Options

Component issue and return transactions can be launched by:

- Issuing and Returning Specific Components: page 7 – 49 and Issuing and Returning All Push Components: page 7 – 54
- Backflushing Pull Components while Completing and Returning Assemblies: page 7 – 91
- Backflushing Pull Components: page 8 – 44Backflushing Pull Components while Performing Move Transactions: page 8 – 37

- Backflushing Pull Components while Entering Receipts. See: Entering Receipt Header Information, *Oracle Purchasing User's Guide*

Issue, return, and backflush transactions can also be imported through the Oracle Inventory: Open Transaction Interface, *Oracle Manufacturing APIs and Open Interfaces Manual*

Viewing Material Transactions

You can search for all Work in Process–related material transactions using a variety of criteria, such as all transactions that you entered during a range of dates, on the View Material Transactions window. See: Viewing Material Transactions, *Oracle Inventory User's Guide*

▶ **To view your material transactions:**

- Navigate to the Work in Process menu, and select View Material Transactions. The View Material Transactions window opens.

WIP Material Transaction Types

When you enter material transactions in the WIP Material Transactions window you must select one of the following transaction types:

WIP component issue

Issues components from inventory to jobs and schedules to fulfill positive material requirements. If you issue components under lot, serial, or lot and serial number control, you must identify which lots and/or serial numbers to issue.

WIP negative component issue

Issues components from jobs and schedules to inventory to fulfill *negative* material requirements.

When you issue components that have *negative* requirements, components are returned from the job or schedule to inventory. If you return components under lot, serial, or lot and serial number control, you must identify the lots and/or serial numbers to return. Negative material requirements allow you to recover by–products from your manufacturing processes.

WIP component return

Returns components from jobs and schedules to inventory. WIP component returns reverse WIP component issues. If you return components under lot, serial, or serial number control, you must identify the lots and/or serial numbers to return.

WIP negative component return

Returns components to jobs and schedules from inventory to fulfill negative material requirements. WIP negative component returns reverse WIP negative component issues.

When you return components that have negative requirements, components are issued from inventory to the job or repetitive schedule. If you issue components that are under lot, serial, or lot and serial number control, you must identify the lots and/or serial numbers to issue. Negative material requirements allow you to recover by–products from your manufacturing processes.

Replenishment supply subinventory

Replenishes the supply subinventories of Operation Pull or Assembly Pull supply type components. You can transfer components from a 'source' subinventory/locator to the supply subinventory/locator associated with the

component specified. If you replenish components under lot, serial, or lot and serial number control, you must identify the lots and/or serial numbers that are used to replenish the supply subinventory/locator.

This transaction is similar to a subinventory transfer in Oracle Inventory.

See Also

Transaction Types, *Oracle Inventory User's Guide*

Defining and Updating Transaction Types, *Oracle Inventory User's Guide*

Issuing and Returning Specific Components: page 7 – 49

Issuing and Returning All Push Components: page 7 – 54

By–Product Recovery: page 7 – 8

Replenishing Supply Subinventories and Locators: page 7 – 68

Transferring Between Subinventories, *Oracle Inventory User's Guide*

Issuing and Returning Specific Components

You can use the *Specific Component* option to issue and return components of any supply type to and from jobs and schedules. If the job or schedule has a routing, components can be issued and returned to any operation.

Ad Hoc Material Requirements

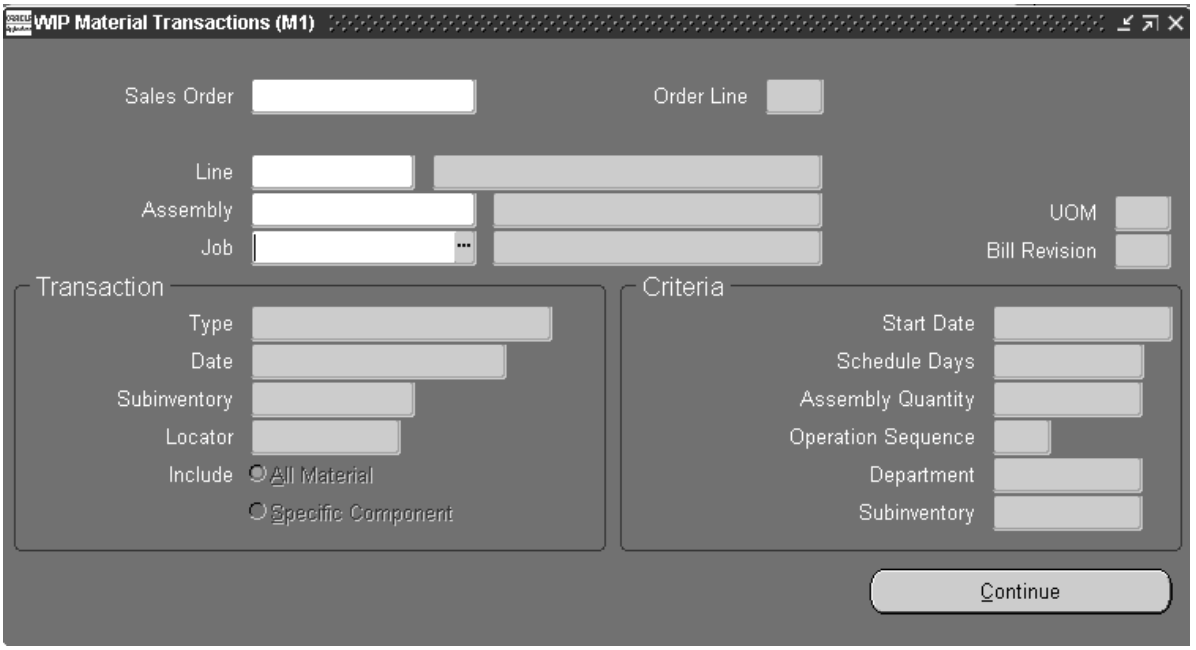
You can use the *Specific Component* option to issue and return components that are not required on the work in process bills of jobs and schedules. These *ad hoc* material requirements are created with a required quantity of 0.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.

▶ **To select sales orders, discrete jobs, or repetitive schedules:**

1. Navigate to the WIP Material Transactions window.



2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the *TP:WIP:Material Transactions First Field* profile option is set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

▶ **To define issue or return transaction header information:**

1. In the Transaction region, select the transaction Type: *WIP component issue*, *WIP component return*, *WIP negative component issue*, or *WIP negative component return*. See: WIP Material Transaction Types: page 7 – 48.
2. Enter the transaction Date and time.

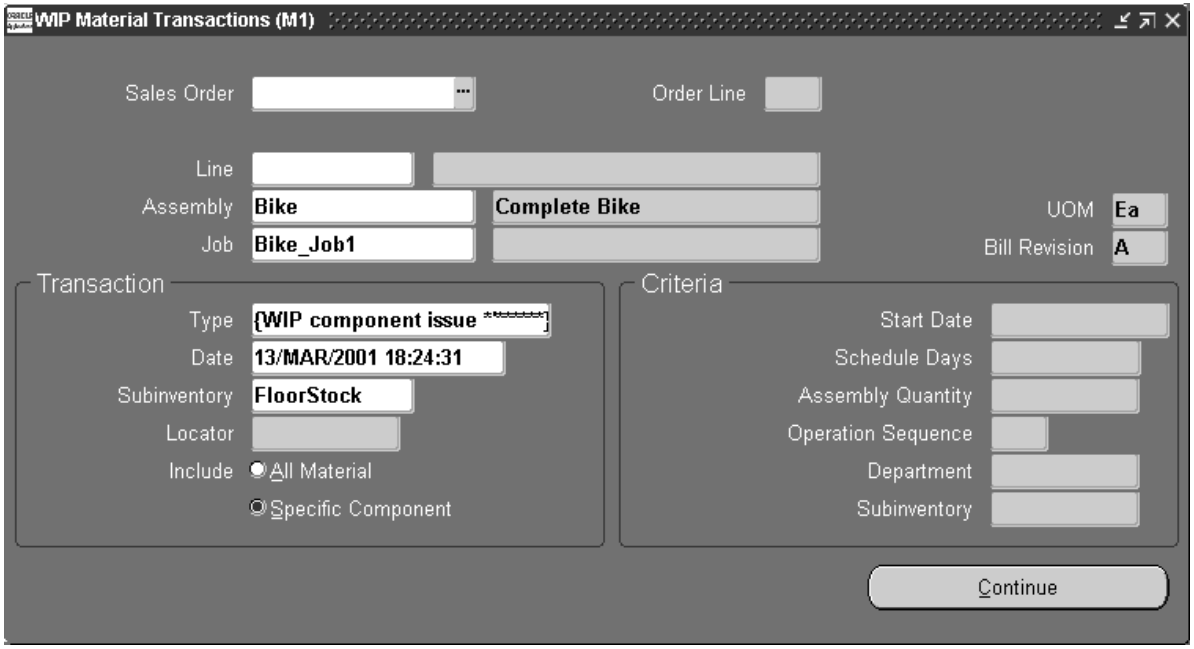
   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.

3. Optionally, select a default supply Subinventory and, if required by the supply subinventory, the supply Locator. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

   If a supply subinventory/locator is entered here, it is used in the transaction detail window as the default for those components that do not have a supply subinventory/locator defined at the component or item level.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

4. Choose the Include *Specific Component* option.



Attention: You cannot enter transaction criteria when issuing or returning specific components.

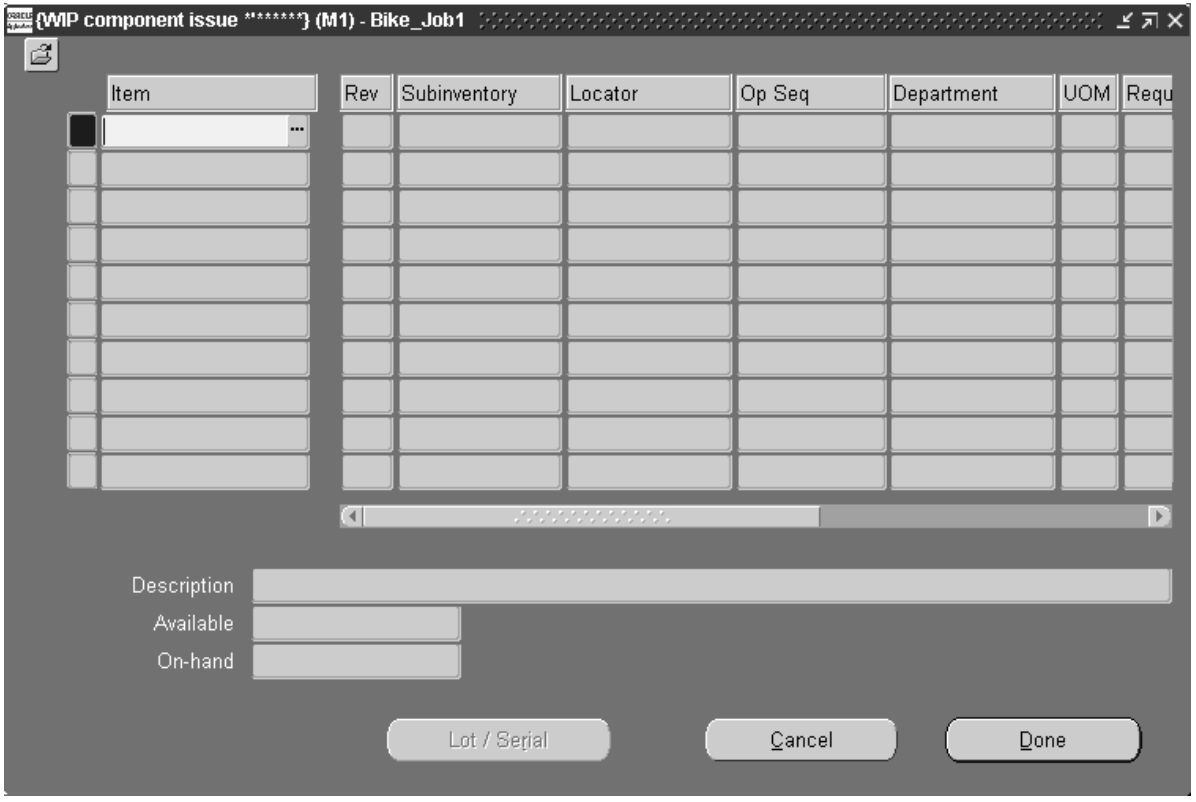
5. Choose the Continue button.

   Depending on the transaction type selected, the transaction detail folder window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return)* appears. See: Customizing the Presentation of Data in a Folder, *Oracle Applications User's Guide*.

▶ **To transact or add and transact 'ad hoc' component requirements:**

1. In transaction detail folder window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return)*, select the component Item.

   You can select Push, Assembly Pull, Operation Pull, Bulk, Supplier and Phantom supply type items. You can select lot, serial, or lot and serial controlled items. You can select components that are required by a job or schedule even though they are not automatically displayed.



2. If the component is under revision control, select the component's Revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   The item's current revision is defaulted.

3. Select the supply Subinventory and, if required by the subinventory, the supply Locator. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

   If the component does not have an assigned subinventory/locator, the subinventory/locator entered in the WIP Material Transaction window is defaulted. It can be overwritten.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

4. If the job or schedule has a routing, select the Operation Sequence.

   If no routing exists, the operation sequence defaults to 1.

Attention: Do not assign Assembly Pull items to operations that are non–count point/autocharge operations. This can result in over–issues at the operation if you do not transact all assemblies that you are completing through the operation.

5. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

6. Enter the transaction Quantity.

   You can enter any nonzero quantity including a quantity that result in an over–issue or over–return of a job or schedule's components requirements.

7. Optionally, select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

8. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

9. If the component is under lot, serial, or lot and serial control, choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

10. Choose the Done button to save your work.

See Also

Component Issues and Returns: page 7 – 42

Setting Up Material Control: page 7 – 6

By–Product Recovery: page 7 – 8

Issuing and Returning All Push Components: page 7 – 54

Adding and Updating Material Requirements: page 7 – 10

Issuing and Returning All Push Components

You can use the 'All Material' option to issue and return Push supply type components to discrete jobs and repetitive schedules. You can only issue and return Push components that already exist on the work in process bill or routing however.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.

▶ **To select a sales order, discrete job, or repetitive schedule:**

1. Navigate to the WIP Material Transactions window.
2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the *TP:WIP:Material Transactions First Field* profile option is set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

▶ **To define issue or return transaction header information for discrete jobs:**

1. In the Transaction region, select the transaction type: *WIP component issue*, *WIP component return*, *WIP negative component issue*, or *WIP negative component return*. See: WIP Material Transaction Types: page 7 – 48.
2. Enter the transaction Date and time.

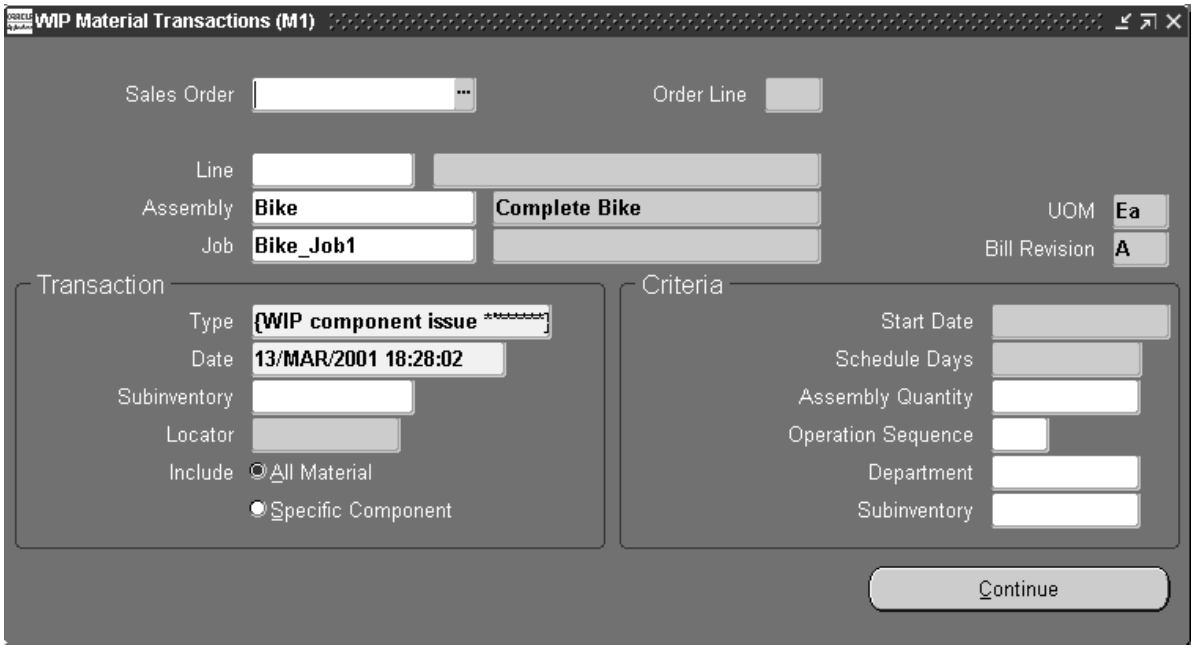
   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job.

3. Select the supply Subinventory and, if required by the subinventory, the supply Locator. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

   The supply subinventory/locator is optional. If it is entered here, it is used as the default in the transaction detail window for those components that do not have a supply subinventory/locator defined at the component or item level.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory.

4. Choose the Include *All Material* option.



5. In the Criteria region, optionally enter any criteria or combination of criteria that is valid for the job: Assembly Quantity, Operation Sequence, or Department.

   Assembly Quantity: If you enter an assembly quantity, it must be less than or equal to the job quantity. If the job has a routing and you do not enter an assembly quantity, required component quantities — original required quantity minus component quantities already issued — for all push components are calculated and displayed as defaults in the transaction detail folder window. You can change these defaulted quantities.

Operation Sequence: If the job has a routing, you can issue push components to or return push components from a specific operation.

If the job does not have a routing and you do not enter an assembly quantity, required component quantities are not automatically displayed in the transaction detail folder window.

Department: If the job has a routing, you can issue push components to or return push components from a specific department.

Supply Subinventory: If you select a supply Subinventory, only those components that have the same default supply Subinventory are displayed in the transaction detail folder window. This is convenient when assembly components have different subinventories and these subinventories are controlled by different users.

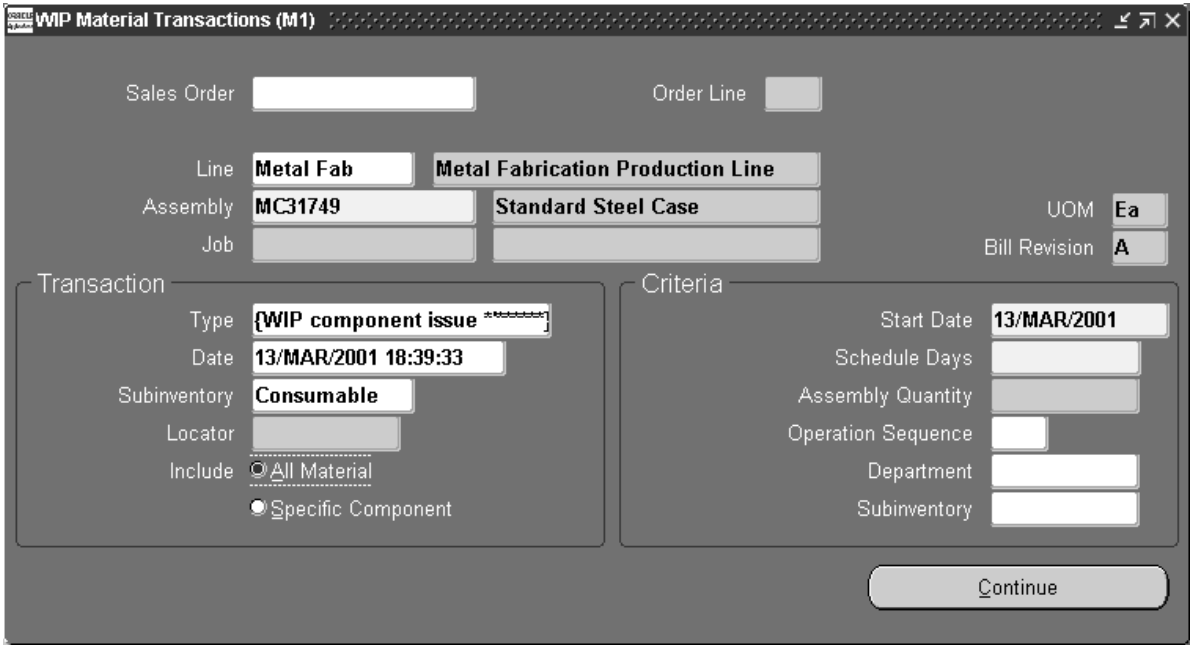
Attention: You can optionally use the 'All Material' option to add push components to the work in process bill. However, you can only add requirements that already exist on that bill. Conversely, you can return only components that already exist on the work in process bill when you return components.

6. Choose the Continue button.

   Depending on the transaction type selected, the transaction detail folder window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return)* appears.

▶ **To define issue or return header information for repetitive schedules:**

1. After selecting a repetitive schedule, repeat steps 1 through 3 above.
2. Choose the Include *All Material* option.



3. In the Criteria region, enter the Start Date and time and the number of Days.

   Push component requirements are issued or returned to repetitive schedules based on the schedule Start Date and number of Days. The component quantities required to support the number of days entered are calculated and displayed as defaults in the transaction details folder window. You can change these defaulted quantities.

   When you issue push components to repetitive schedules, all component requirements for the number of days and from the start date you specify — regardless of what you have already issued — are issued.

4. If the schedule has a routing, optionally select the Operation Sequence number, the Department, or both.

   Operation Sequence: You can issue push components to or return push components from a specific repetitive schedule operation.

   Department: You can issue push components to or return push components from a specific department of a repetitive schedule operation.

   Supply Subinventory: If you select a supply Subinventory, only those components that have the same default supply Subinventory are displayed in the transaction detail folder window. This is

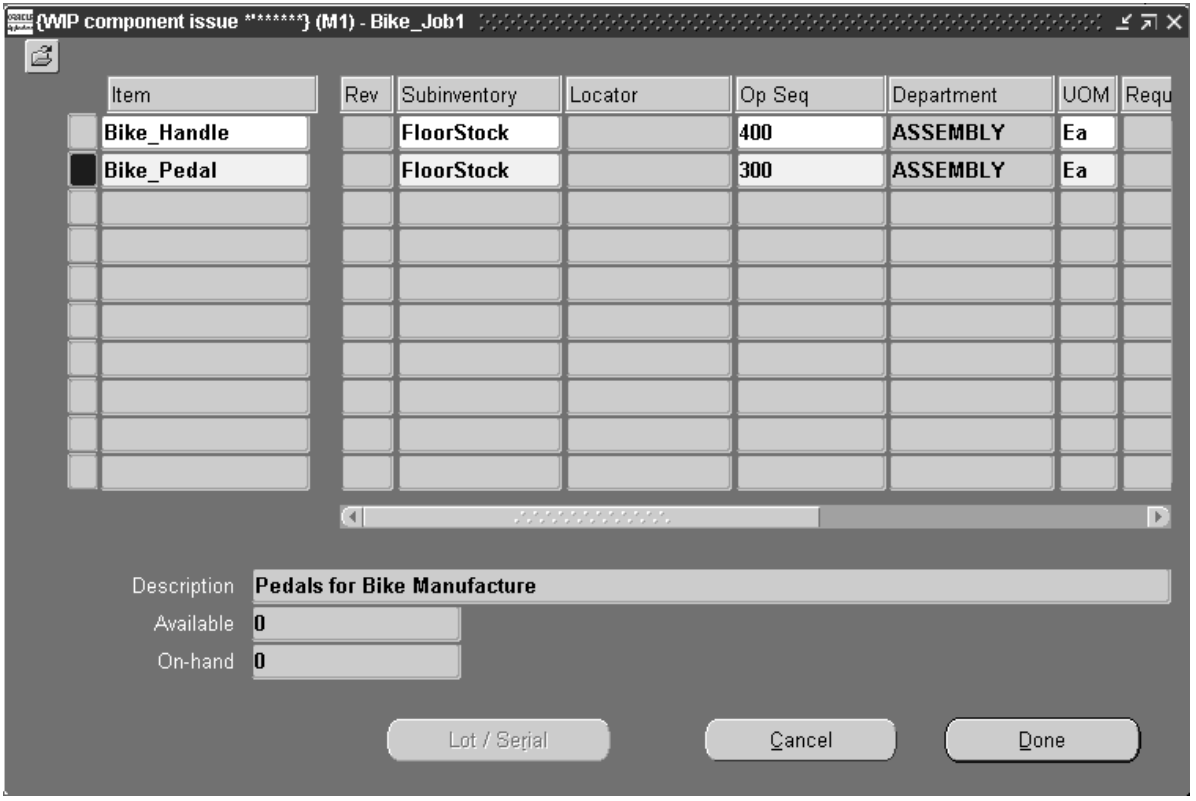
convenient when assembly components have different subinventories and these subinventories are controlled by different users.

5. Choose the Continue button.

   Depending on the transaction type selected, the transaction detail window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return)* appears.

▶ **To issue or return push components:**

1. From the transaction detail folder window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return)*, select the component Item.



2. If the item is under revision control, select the item Revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

   The item's current revision is defaulted.

3. Select the supply Subinventory and, if required by the subinventory, the supply Locator. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

4. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

   The available to transact quantity and the current on–hand quantity for the component are displayed in this unit of measure.

5. Enter the transaction Quantity.

   You can change the default quantity (original required quantity minus component quantities already issued). You can enter any nonzero quantity including a quantity that results in an over–issue or over–return of the job or schedule's components requirements. You can issue partial quantities or over–issue quantities.

   For repetitive schedules, if you over–issue or over–return components with positive or negative requirements, quantities are appropriately allocated to the first or last open repetitive schedule. See: Repetitive Component Issues and Returns: page 7 – 44

6. Optionally, select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

7. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

8. If the component is under lot, serial, or lot and serial control, choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

9. Choose the Done button to save your work.

▶ **To display details for components being added or issued:**

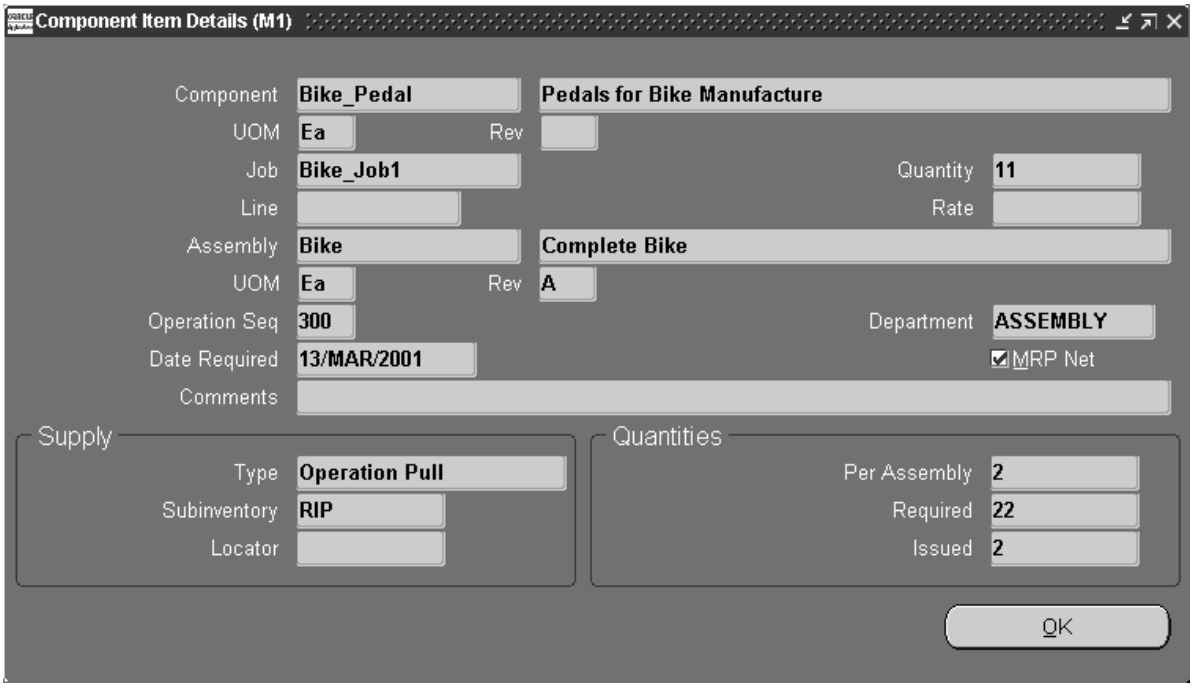
1. From the transaction detail folder window (*WIP component issue, WIP component return, WIP negative component issue*, or *WIP negative component return),* select or add the component Item

2. If you are adding a component, enter the transaction quantity. (See Above).

   You cannot view component item details until you enter a quantity.

3. Choose *Component Item Details* from the Tools menu. See: Tools menu: page F – 2.

   The Component Item Details window appears displaying complete information about the component in a single record format.



See Also

Component Issues and Returns: page 7 – 42

Setting Up Material Control: page 7 – 6

By–Product Recovery: page 7 – 8

Issuing and Returning Specific Components: page 7 – 49

Phantom Assemblies

Phantom assemblies are non–stocked items that group material needed to produce an assembly or a subassembly. You can specify how phantom components and routing resources and overheads are charged, as well as whether phantom subassemblies will have their own operation sequence numbers or inherit the operation sequence numbers of their parent assemblies.

In Work in Process, phantom parent and high level assemblies conform to the standard APICS defined behavior, however, phantom subassemblies do not have individual identities and become a collection of their components. Work in Process does not recognize the phantom subassembly itself, and only sees and lists the individual phantom components on the bills of material for Discrete jobs and Repetitive schedules (although the phantom subassembly is recognized and planned for in Master Planning and Scheduling (MRP).

Phantom subassembly component costs are included in the higher level phantom assembly cost, and the components automatically inherit the operation sequence number of the parent assembly. Resource costs and overhead for these components, however, are not considered in the parent or higher level assembly cost. You have the option to specify that phantom subassemblies and their resources are visible in Work in Process and are charged by Oracle Cost Management. You also can specify that phantom subassemblies maintain their own operation sequence numbers and that their resource and overhead costs are charged to the parent or higher level assembly by setting up two parameters in Oracle Bills of Material.

Bills of Material Parameters for Phantoms

If you want Work in Process to maintain the individual operation sequence numbers for phantom subassemblies, and to charge their resource and overhead costs to the parent or higher level assembly, you set the following two parameters in Oracle Bills of Material:

BOM:Use Phantom Routings

Set this parameter to specify whether or not phantom routing resources and overhead costs (including those for outside processing resources assigned to phantom routing operations) are charged to the parent or higher level assembly. Setting this parameter also implies department inheritance for resources; thus, phantom resources can be used by departments that they are not owned by or assigned to as a borrowed resource. You set the parameter at the inventory organization level and

it then applies to all phantoms within a single inventory organization. These are its two values:

- *Yes*: If you select this value, phantom routing components and resources and overheads are included in the cost of the higher level assembly. Routing resource costs are also included in capacity planning.
- *No:* This is the default. This value specifies that only components are included in the higher assembly's cost, not resources and overheads.

BOM:Inherit Phantom Op Seq

Set this parameter to specify whether phantom subassembly components inherit the operation sequence number of their parent or higher level assembly, or maintain their own operation sequence number. This parameter is set at the inventory organization level, and applies to all phantoms within a single inventory organization. The parameter has these two values:

- *Yes:* This is the default. This value specifies that phantom subassembly components inherit the operation sequence number of their parent or higher level assemblies.
- No: If you select this value, phantom subassembly components maintain their own operation sequence numbers.

  There are two exceptions when you select a value of No:

  – If the phantom component exists on an operation sequence that does not exist on the parent routing–then the components are added to the first operation sequence of the parent routing.

  – Also, if the phantom component exists on operation sequence 1 of the parent routing, the component is still added to the phantom operation sequence.

Routing and Routing Revision Numbers

Phantom subassembly routings for Discrete jobs and Repetitive schedules use the primary routing, and Flow schedules use the first priority routing. Phantoms with routing revisions use the routing revision number and date assigned when the job or schedule is defined. If these values are Null, the routing revision dates are defaulted to the job start date or the first unit start date.

Assemble To Order (ATO) Phantoms

Component, resource, and overhead costs for Assemble To Order items defined as model or option types are defined on the item's configured bill of material as phantoms. They differ from typical phantoms in that their component and routing costs are not charged to the parent or higher level assembly, and they are not affected by the setting of either of these two Bills of Material parameters.

Supply Subinventory and Locator Replenishment

You can replenish supply subinventories and locators to replace components that you have issued to jobs or repetitive schedules and to insure a source of material for backflush transactions. You can replenish components for an entire job or repetitive schedule, or for a specified number of days of repetitive production. Specifically you can do the following:

- Replenish supply subinventories and locators by transferring components from any subinventory and locator into the supply subinventory and locator for the job or repetitive schedule. See: Replenishing Supply Subinventories and Locators: page 7 – 68.

  This method works well if you stage the pull components one job or repetitive assembly at a time. For example, if you wanted to replenish the supply subinventory and locator for all the operation pull material requirements on a job, you would:

  – Generate the Discrete Job Pick List report for pull components. This report identifies material requirements, subinventories and locators with available inventory, and supply subinventories and locators where you backflush from. You would then pick the components using the pick list and transfer them into the appropriate supply subinventories and locators. Repetitive replenishment works the same way except you would replenish for an assembly for a number of days instead of for a job.

  – You can also use the Component Pick Release window to select material using rules based picking. See: Using the Component Pick Release Window: page 7 – 33

- Replenish supply subinventories and locators for higher level assemblies by completing lower level assemblies into the next level's supply subinventory and locator. See: Replenishing Higher Level Supply: page 7 – 72.

  This method works well if your plant is set up with feeder lines that physically flow to consuming lines. For example, assume you build a subassembly on a feeder line that ends at the consumption point of the subassembly into the higher level assembly. You can set the completion subinventory and locator on the subassembly to be the supply subinventory and locator of the subassembly on the next level bill of material. Then, as you complete the subassembly into its completion subinventory and locator using the Completion Transactions window, Move Transactions window, or the Inventory Transaction Interface, you

automatically replenish the supply subinventory and locator on the next level bill of material.

- Transfer components from any subinventory and locator into the supply subinventory and locator in Oracle Inventory using subinventory transfers to replenish supply subinventories and locators. See: Transferring Between Subinventories, *Oracle Inventory User's Guide*.

  This method works well when you are replenishing for more than one job or one assembly on a line. For example, you can run a Repetitive Pick List report for all assemblies on a line to identify all the operation and assembly pull requirements for all repetitive schedules on the line regardless of their parent assembly. You can then use this consolidated pick list to pick the components. Then you can transact the transfer of the components into the supply subinventories and locators. You can also use the Component Pick Release window to select material using rules based picking. See: Using the Component Pick Release Window: page 7 – 33

- Requisition material automatically to replenish supply subinventories in Oracle Inventory using internal requisitions. See: Sources of Replenishment, *Oracle Inventory User's Guide* and Overview of Inventory Planning and Replenishment, *Oracle Inventory User's Guide*.

  This method works well when you have consistent material flows within your plant and can estimate reasonable floor stock inventory levels. For example, you can set a minimum quantity for a component item in a supply subinventory. As you reduce the balance in the supply subinventory due to push issues or backflushes, Oracle Inventory automatically generates a requisition when the balance for the component reaches the minimum quantity. Then when you fulfill the internal requisition, you replenish the supply subinventory.

- Receive components directly from your supplier into supply subinventories and locators in Oracle Purchasing. See: Receipts, *Oracle Purchasing User's Guide*.

  This method works well if you have a smooth flow of raw materials from your suppliers and have space on the shop floor to inventory components you receive. For example, if you purchase a component that is consumed out of a supply subinventory, you could receive that component directly into that supply subinventory and locator using the Enter Receipts window in Oracle Purchasing. This method avoids a subsequent

subinventory transfer of the component thereby saving both time and a transaction.

Suggestion: You can simplify repetitive line replenishment by ensuring that the supply subinventory and locator for each item is consistent across the assemblies and across the alternate bills for an assembly. By sharing supply subinventories and locators, you can replenish the line with fewer transactions.

See Also

Supply Subinventory and Locator Replenishment Options: page 7 – 67

Supply Subinventory and Locator Replenishment Options

Replenishment transactions can be launched by:

- Replenishing Supply Subinventories and Locators: page 7 – 68
- Replenishing Higher Level Supply: page 7 – 72
- Transferring Between Subinventories, *Oracle Inventory User's Guide*
- Internal Requisitions in Oracle Inventory. See: Sources of Replenishment, *Oracle Inventory User's Guide* and Overview of Inventory Planning and Replenishment, *Oracle Inventory User's Guide*
- Receiving Transactions in Oracle Purchasing. See: Receipts, *Oracle Purchasing User's Guide*

See Also

Supply Subinventory and Locator Replenishment: page 7 – 65

Replenishing Supply Subinventories and Locators

You can replenish the supply subinventories and locators for push and pull components that are assigned to your jobs and repetitive schedule. You can replenish from any subinventory and locator.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.

▶ **To select a sales order, discrete job, or repetitive schedule to replenish:**

1. Navigate to the WIP Material Transactions window.
2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the *TP:WIP:Material Transactions First Field* profile option is set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

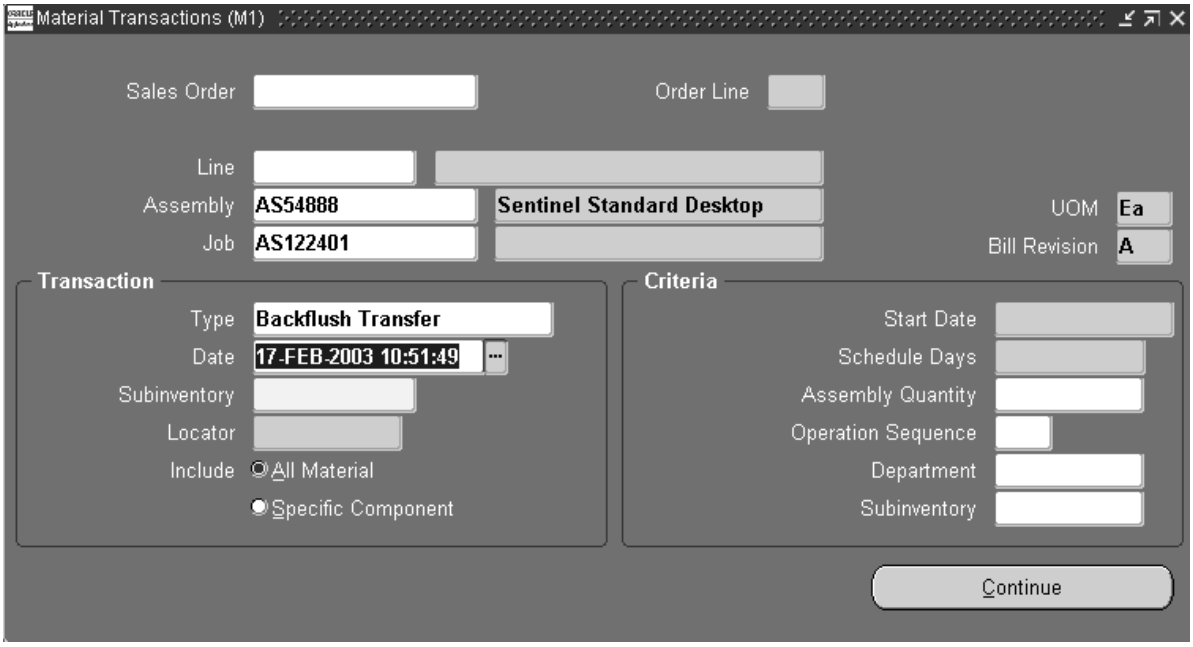
▶ **To define replenishment transaction header information:**

1. In the Transaction region, select Backflush Transfer as the transaction Type.
2. Enter a transaction Date and time.

   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.
3. Select the Subinventory and, if required by the subinventory, the Locator.

   This subinventory/locator becomes the default replenish from subinventory/locator in the Backflush Transfer window.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*



4. In the Criteria region, optionally enter any criteria or combination of criteria that is valid for the job: Assembly Quantity, Operation Sequence, or Department.

   Assembly Quantity: If you enter an assembly quantity, it must be less than or equal to the job quantity. If the job has a routing and you do not enter an assembly quantity, required component quantities — original required quantity minus component quantities already issued — for all push components are calculated and displayed as defaults in the transaction detail folder window. You can change these defaulted quantities.

   Operation Sequence: If the job has a routing, you can issue push components to or return push components from a specific operation.

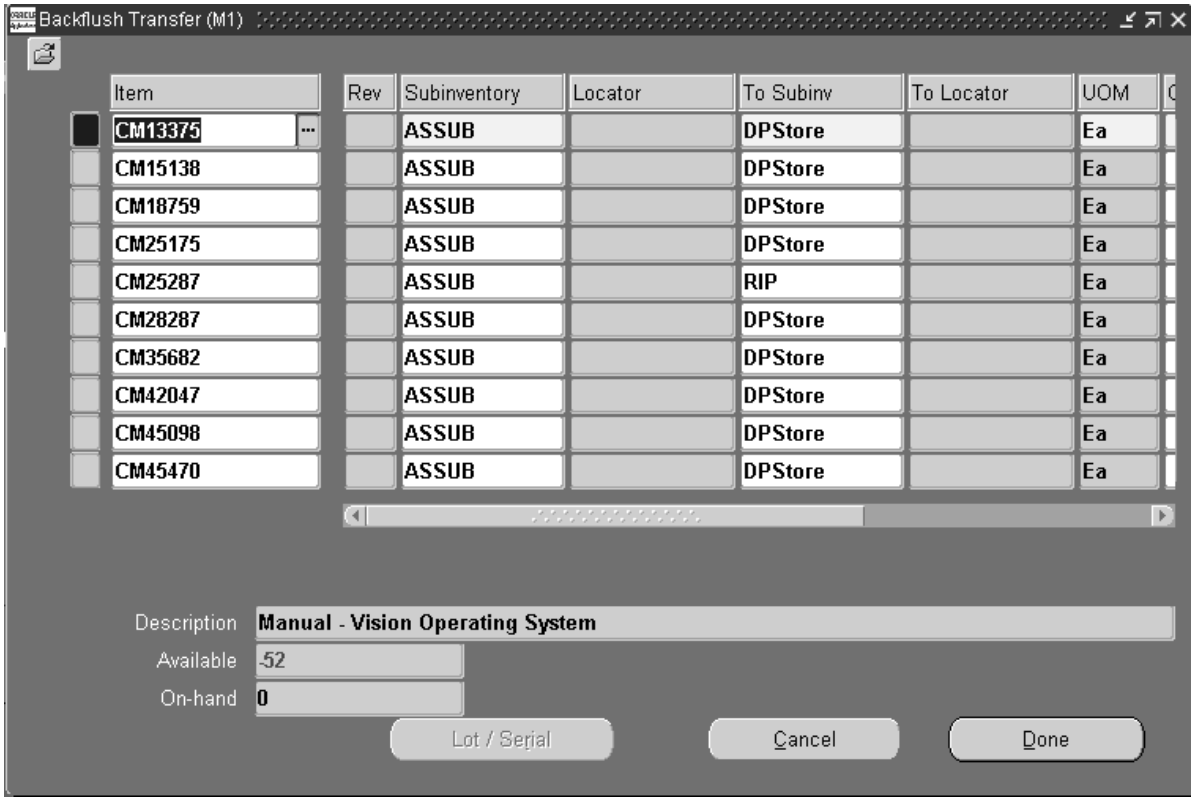
   If the job does not have a routing and you do not enter an assembly quantity, required component quantities are not automatically displayed in the transaction detail folder window.

   Department: If the job has a routing, you can issue push components to or return push components from a specific department.

   Supply Subinventory: If you select a supply Subinventory, only those components that have the same default supply Subinventory are displayed in the transaction detail folder window. This is

convenient when assembly components have different subinventories and these subinventories are controlled by different users.

5. Choose Continue. The Backflush Transfer window displays. See: Customizing the Presentation of Data in a Folder, *Oracle Applications User's Guide*.



▶ **To replenish component supply subinventories and locators:**

1. Select the component item.

   Assembly pull and operation pull components requirements that cannot be fulfilled from their default supply subinventories/locators are automatically displayed.

   Note: To determine where on–hand inventories exist see: Viewing On–hand Quantities, *Oracle Inventory User's Guide*.

2. If the component is under revision control, select the Revision. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

The current revision for the item is displayed as the default.

3. Select the Subinventory and, if required by the subinventory, the Locator from which to transfer replenishment quantities.

   The supply subinventory/locator selected in the WIP Material Transactions window is defaulted but can be overridden.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

4. Select the replenish To Subinventory and, if required by the subinventory, the To Locator.

   If defined, the component's default supply subinventory/locator is defaulted but can be overridden. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

   If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory.

5. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

6. Enter the replenishment Quantity.

   The component's open requirement quantity is displayed. You can enter a quantity greater or less than this quantity.

7. Optionally, select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

8. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

9. If the component that is being transferred is under lot, serial, or lot and serial control, choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

10. Choose the Done button to save your work.

See Also

Supply Subinventory and Locator Replenishment Options: page 7 – 67

Replenishing Higher Level Supply: page 7 – 72

Setting Up Material Control: page 7 – 6

Replenishing Higher Level Supply

You can complete lower level assemblies into the supply subinventory and locator of higher level assemblies to replenish the higher level supply subinventory and locator. This method works well if your plant is set up with feeder lines that physically flow to consuming lines.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.
- ❑ Move the quantity to be completed for replenishment into the To move intraoperation step of the last operation if you are completing a job or schedule with a routing. This step cannot have a status that prevents moves. See: Performing Move Transactions: page 8 – 37.

▶ **To enter higher level supply:**

1. Navigate to the Completion Transactions window.
2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the *TP:WIP:Completion Transactions First Field* profile option is set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.
3. Select the *WIP assembly completion* Transaction Type. See: Completion Transaction Types: page 7 – 90.
4. Enter a transaction Date and time.

   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.
5. Choose the Transact button. The *WIP assembly completion* transaction detail window appears.
6. In the *WIP assembly completion* transaction detail window, select the replenish to Subinventory and, if required by the subinventory, the Locator. See: Completion Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

The completion subinventory must be the supply subinventory for the assembly on the next level bill of material. See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.

If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

7. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.
8. Enter the completion Quantity.

   The quantity should be in the UOM you are transacting. You can receive partial quantities to different subinventories or locators.
9. Optionally, select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.
10. Optionally, enter the transaction Reference.

    References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.
11. If the assembly is under lot, serial, or lot and serial control, choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.
12. Choose the Done button to save your work.

See Also

Replenishing Supply Subinventories and Locators: page 7 – 68

Supply Subinventory and Locator Replenishment: page 7 – 65

Backflush Transactions

Backflush transactions 'pull' components with Operation Pull and Assembly Pull supply types from inventory onto jobs and repetitive schedules. Backflush transactions can be launched by:

- completing assemblies at operations using the Move Transactions window
- moving and completing assemblies into inventory using the Move Transactions window
- completing assemblies into inventory using the Completion Transactions window
- receiving assemblies from an outside processing operation using the Oracle Purchasing, Enter Receipts window

Move transactions imported through the Open Move Transaction Interface can also create backflush transactions. Transactions imported through the Oracle Inventory, Inventory Transactions Interface can also create backflush transactions.

> **Additional Information:** Backflushing reduces the number of manual material transactions required to process the discrete jobs and repetitive schedules.

Reverse Backflush Transactions

You can reverse backflush transactions and automatically return backflushed components back to inventory. For example, pull components that are backflushed as you move assemblies to the next intraoperation step in a routing are automatically returned to inventory if you move assemblies to a previous step in the routing. Reverse backflush transactions can be created as you do the following:

- reverse operation completion transactions using the Move Transactions window
- return completed assemblies from inventory to jobs and schedules using the Completion Transactions
- move and return assemblies from inventory to jobs and schedules using the Move Transactions window
- return or correct transaction receipts in the Enter Returns or Enter Corrections windows in Oracle Purchasing.

Move transactions imported through the Oracle Work in Process Open Move Transaction Interface can also reverse backflush transactions as

can return transactions imported through the Inventory Transaction Interface.

> **Note:** You can, if necessary, issue and return pull components to and from jobs and schedules to inventory using the 'Specific Component' option in WIP Material Transactions window

Revision Control

For component items under revision control, the system always defaults the revision based on the item's current revision as of the date of the transaction. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

Backflush Transaction Rules

The following rules are enforced when performing backflush transactions:

- an enabled default supply subinventory and, if required by the subinventory, locator must be defined for the component. See: Backflush Supply Subinventories and Locators: page 7 – 76.
- routing references must be specified for non–standard discrete jobs. See: Defining Discrete Jobs Manually: page 3 – 63.
- the component item must be transactable. See: Status Attributes and Item Status Control, *Oracle Inventory User's Guide*.
- the subinventory you are backflushing from must be an asset subinventory if the Oracle Inventory *Allow Expense to Asset Transfer* profile option is set to No. See: Oracle Inventory Profile Options, *Oracle Inventory User's Guide*.
- backflush quantities that are calculated as decimal values, must be at least five decimal places in order to create the backflush transaction
- yield calculations are based on exact requirements, rather than rounded values

See Also

Backflushing Pull Components: page 8 – 44

Backflush Transaction Options

Backflush transactions can be launched from the following windows:

- Completion Transactions window. See: Assembly Pull Backflush Transactions: page 7 – 79
- Move Transactions window. See: Operation Pull Backflush Transactions: page 8 – 43
- Enter Receipts window in Oracle Purchasing. See: Entering Receipt Header Information, *Oracle Purchasing User's Guide*

Transactions which reverse backflush transactions can be launched from the following windows:

- Completion Transactions window
- Move Transactions window
- Enter Corrections in Oracle Purchasing. See: Entering Corrections, *Oracle Purchasing User's Guide*
- Enter Returns in Oracle Purchasing. See: Entering Returns, *Oracle Purchasing User's Guide*

Assembly move completion and move return transactions imported through the Open Move Transaction Interface can also create and reverse backflush transactions. Similarly, assembly completion and return transaction imported through the Inventory Transaction Interface can create and reverse backflush transactions. See: Open Move Transaction Interface: page 8 – 33.

Backflush Supply Subinventories and Locators

Supply subinventories and locators can be defined at the item or bill of material component level. If they are not defined, the system uses the supply subinventory and locator specified by the WIP *Backflush Supply Subinventory and Locator Parameters* when components are backflushed. See: Backflush Default Parameters: page 2 – 21.

To ensure adequate supply for backflush transactions, you can replenish supply subinventories and locators as required. See: Supply Subinventory and Locator Replenishment Options: page 7 – 67.

Negative Inventory Balances during Backflushing

You can use the following two Oracle Inventory settings to determine whether or not inventory balances can be negative:

- *Allow Negative Balances parameter:* you use this parameter to specify whether or not negative inventory balances are allowed.
- *Override Negative for Backflush profile option:* you use this profile option to override a No setting on the Allow Negative Balances parameter during backflush transactions. This allows backflush transactions to drive the inventory negative even though the organization does not allow negative balances on any other types of transactions.

The only exception is when the component that you are backflushing is under lot, serial, or lot and serial number control. In this case, you will not be able to complete the backflush transaction unless you select a subinventory and locator that contains a sufficient quantity of valid lot and/or serial numbered items. See: Lot and Serial Number Backflushing: page 7 – 78, and See: Default Inventory Parameters, *Oracle Inventory User's Guide*.

See Also

Assembly Completions and Returns: page 7 – 80

Assembly Pull Backflush Transactions: page 7 – 79

Operation Pull Backflush Transactions: page 8 – 43

Completing and Returning Assemblies: page 7 – 91

Performing Move Completion Transactions: page 8 – 48

Backflush Transaction Options: page 7 – 76

Backflushing Pull Components: page 8 – 44

Supply Types: page D – 2

Resource Charge Types: page 9 – 7

Repetitive Production Line Backflushing

For repetitive manufacturing, all backflush assemblies are automatically allocated to the correct repetitive schedule using a FIFO algorithm. The algorithm is based on a first unit start date, and on the

assemblies moved or completed in the transaction that initiated the backflush.

Lot and Serial Number Backflushing

Assembly and Operation Pull components that are under lot, serial, or lot and serial number control can be backflushed. You can also backflush Push components that are requirements of work order–less schedules.

Lot Controlled Components

You can use WIP parameters to determine how lot numbers are assigned and verified during backflush transactions. You can use the WIP *Lot Selection Method* parameter to determines how lot controlled Assembly Pull and Component Pull component items are selected during backflush transactions. You can use the WIP *Lot Verification* parameter to determines how lots are verified during backflush transactions.

If you backflush lot controlled components and the *Lot Selection Method* parameter is set to Manual, you must specify a valid lot number. You must also manually specify lot numbers if there is not enough on–hand inventory.

Attention: If the *TP:WIP:Shop Floor Material Processing* or the *TP:WIP:Completion Material Processing* profile option is set to process transactions in the background, transactions for lot–controlled components that require manual entry of lot numbers fail. See: Profile Options: page 2 – 64.

Serial Number Controlled Components

You must always manually enter serial numbers when backflushing components under serial number control or under both lot and serial number control.

See Also

Backflush Transactions: page 7 – 74

Backflush Default Parameters: page 2 – 21

Backflush Supply Subinventories and Locators: page 7 – 76

Assembly Pull Backflush Transactions

When you complete an assembly that has Assembly Pull components, these components are automatically pulled (backflushed) from their assigned supply subinventories/locators.

If the components being backflushed are under manual lot control, serial control, or lot and serial control, you must enter lot and/or serial numbers. If the job is tied to one or more sales orders, the system automatically completes the assembly for those orders.

See Also

Operation Pull Backflush Transactions: page 8 – 43

Move Completion/Return Transactions: page 8 – 31

Backflush Transactions: page 7 – 74

Note: Purchasing transactions initiate backflushes only if they are tied to outside processing resources with an autocharge type of PO Move and only if requirements with a supply type of Operation Pull exist at the outside processing operation.

See Also

Backflush Transactions: page 7 – 74

Assembly Completions and Returns

You can complete assemblies from Discrete jobs and Repetitive schedules into inventory, and you can return completed assemblies from inventory to jobs and repetitive schedules. You also can complete a greater quantity than the job or schedule start quantity (over–complete) into inventory, as long as it is within the tolerance level set. Further, on Repetitive schedules and non–standard Discrete jobs, you also can return more assemblies than were completed. Assemblies can be completed and returned using the Completion Transactions and the Move Transactions windows. You can also import assembly completion and return transactions through the Inventory Transaction Interface in Oracle Inventory.

Completion Quantities

Completing assemblies from a job or schedule with a routing reduces the assembly quantity in the To move intraoperation step of the last operation sequence and increases the job or schedule completed quantity.

Return Quantities

Returning assemblies to a job or schedule with a routing, increases the assembly quantity in the To move intraoperation step of the last operation sequence and decreases the job or schedule complete quantity.

Alternate Units of Measure

You can complete and return assemblies in their alternate unit of measure. If you enter an alternate unit of measure for the item, the transaction quantity is converted using the conversion information you specified when you defined the unit of measure in Oracle Inventory. You can change this quantity if desired.

Lot and Serial Number Control

You must assign a lot or serial number if the assembly is under lot, serial number, or lot and serial number control. For discrete jobs, the lot number you specified when you defined the job as the default displays.

If you are completing assemblies that have lot controlled Assembly Pull components and the WIP *Backflush Lot Selection* parameter is set to Manual, you must manually select which lots to backflush. If you are completing assemblies that have serial controlled or lot and serial

controlled components, you must manually select which lots and/or serial numbers to backflush.

Revision Control

When you complete assemblies under revision control, the revision defaults based on the assembly revision of the job or repetitive schedule. For assemblies under revision control, the bill revision is completed from the job or the earliest released repetitive schedule. If there is no bill revision on the job or repetitive schedule, but the assembly is under revision control, the assemblies' current revision is completed as defined in Oracle Inventory.

Completion Subinventory and Locator

When you complete assemblies, the completion subinventory defaults from the job or repetitive line/assembly association. For subassemblies, the completion subinventory can be the supply subinventory for higher level assemblies, for final assemblies or finished goods the completion subinventory can be finished goods inventory. You can change the default completion subinventory as you complete assemblies.

If you have set your organization, subinventory, or item controls to require locators, you must also enter locator as you complete assemblies.

Final Assembly Orders Completion

Reservations are automatically transferred from the job to the subinventory and locator as you complete assemblies from final assembly orders. Reservations are automatically transferred based on sales order line delivery due dates. You can override the automatic transfer. When assemblies are returned to a final assembly order, you must enter the sales order line and delivery information so that the system knows which specific reservations to transfer back from inventory.

Repetitive Production Lines

When you complete repetitive assemblies into inventory from a repetitive production line, the completion transaction is automatically allocated to a specific repetitive schedule on a first in–first out basis. When you return assemblies from inventory to a repetitive schedule line, the transaction is automatically allocated to specific repetitive schedules on a last in–first out basis.

Kanban Replenishment

The supply status of a production kanban is updated to Full when the first assembly from replenishment job or repetitive schedule is completed.

Mobile Manufacturing

If Oracle Mobile Supply Chain Applications is installed, the Mobile Manufacturing component enables you to perform work in process material transactions using a mobile client device networked with a computer system. This includes issuing material from inventory, reversing component issues, filling negative requirements, lot and serial number control, and viewing transaction information. See: Mobile Manufacturing, *Oracle Mobile Supply Chain Applications User's Guide*

Completions into License Plate Numbers

If Oracle Warehouse Management is installed, you can use License Plate Number functionality for tracking completions. License plate numbers are unique identifiers for containers in the supply chain. You can perform assembly completions and work order–less completions into license plate numbers. Multi–level nesting enables containers to be packed within another container.. The container's genealogy provides content and transaction history for each license plate.Explaining License Plate Management, *Oracle Warehouse Management User's Guide*

> **Note:** LPN completions are supported only in standard cost organizations.

Label Printing at Completion

Label printing capabilities are available at the time of completion in the Completion Transactions and Work Order–less Completions windows. This functionality enables you to create labels for shipping, order management, manufacturing, and other types of information. Labels are created by selecting a format type and setup in Oracle Inventory – and using a third–party label printing system. If Oracle Warehouse Management is installed, you can set up compliance labeling using bar code specifications and symbol content. This creates customer specific labels to comply with your customer's requirements. See: Compliance Labeling Setup, *Oracle Warehouse Management User's Guide*

If collection plans exist for the line operation, you can enter quality data within the Flow Workstation, and print labels for the quality plan at the first operation or subsequent operations.

See: Compliance Labeling Setup, *Oracle Warehouse Management User's Guide*

Serial Number Validations for Component Returns and Assembly Completions

For a serialized item returned to stock, validations occur to prevent re–issuing to a different assembly or schedule. At the time of completion, serialized assemblies and components are available from stock if they have the following values set in the Serial Numbers window in Oracle Inventory:

Discrete Assembly Completions

State value: Defined but not used.

State value: Issued out of stores. This is restricted to serial numbers that were previously returned to the same job that you are completing.

Flow Schedule Work Order–less Completions

State value: Defined but not used.

State value: Issued out of stores. This is restricted to serial numbers that were previously returned to the same flow schedule that you are completing.

Unscheduled Work Order–less Completions

State value: Defined but not used.

State value: Issued out of stores. This is restricted to serial numbers that were previously transacted for an unscheduled work order–less return.

Assembly Returns

This includes discrete jobs, flow schedule work order–less completions, and unscheduled work order–less completions.

State value: Resides in stores.

Component Issues and Negative Component Returns

State value: Resides in stores.

Component Returns and Negative Component Issue

State value: Issued out of stores.

State value: Defined but not used.

This is restricted to serial numbers that were previously issued or negative returns–for the same job or schedule that you are performing the component return or negative component issue.

See Also

Serial Number Assignment, *Oracle Inventory User's Guide*

Completing and Returning Assemblies: page 7 – 91.

Work Order–less Completions: page 5 – 11,

Move Completion/Return Rules: page 8 – 47

Assembly Over–Completions and Over–Moves

You can complete an assembly quantity into inventory that is greater than the Discrete job or Repetitive schedule start quantity, whether or not the assemblies have a routing. This is referred to as an "over–completion," and it is useful when your production process yields more assemblies than planned. You also can move a quantity that is greater than the quantity at an interoperation step, whether or not the assemblies have a routing, and this is referred to as an "over–move."

You can over–complete and over–move assembly quantities on the Completion Transactions and Move Transaction windows. You also can over–complete assemblies using the Inventory Transaction Interface and the Open Move Transaction Interface, however, *you must explicitly specify the over–completion transaction quantity*, as it will not be derived by Work in Process. The over–completion quantity is the transaction quantity minus the available quantity.

To be able to over–complete assembly quantities on jobs or schedules, you must:

- First, set up a tolerance level to restrict the number of assemblies that can be over–completed.

- Then, enable the over–completion feature when completing assemblies by checking the Overcompletion check box on the Completion Transaction or Move Transaction windows.

All resources for over–completed assemblies are automatically charged and any backflush components are backflushed.

Over–Completion Tolerance

If you will be over–completing assembly quantities in your manufacturing process, you must set up a tolerance level for the quantity of assemblies that can be over–completed on a job or schedule. The tolerance level, which is either a number or a percent, is used to validate the quantity being over–completed. If the quantity is greater than the tolerance allows, the transaction will fail.

You can set up tolerances at these levels:

Organization Level

You can set up tolerances item by item, or you can set a parameter at the organization level that sets the default over–completion tolerance percent for all items. When you set the tolerance at the organization level, you also are setting the default that will be used to validate over–completion assembly quantities when no tolerance level has been set at either the item or job and schedule levels.

If you do not set a tolerance level, the default over–completion tolerance percent will be Null, which in effect is equal to zero percent or no tolerance. If you then try to over–complete assemblies, you will receive a message telling you that you cannot over–complete the assemblies because there is no tolerance.

You set the Default Overcompletion Tolerance Percent parameter on the Other tab of the WIP Parameters window. See: WIP Parameters: page 2 – 14

Item Level

You also can set up over–completion tolerances at the item level in Oracle Inventory. The tolerance that you set up at the item level overrides the tolerance that you set up at the organization level. To set the over–completion tolerance at the item level, you define the following two item attributes on the WIP tab of Inventory's Item Definition window. Their values are defaulted to the Discrete or Repetitive item when it is defined:

- *Overcompletion Tolerance Type:* the values for this attribute are: Percent or Amount. If you do not select an over–completion Tolerance Type, the tolerance defaults to the tolerance that you

set at the organization level. (If you did not set a tolerance at the organization level, the default is Null, which signifies that no over–completions are allowed.)

- *Overcompletion Tolerance Value:* the value for this attribute is the number value for the Overcompletion Tolerance Type that you selected. It determines the acceptable percent or quantity of assemblies that you will allow to be over–completed. For example, if you choose Percent as the Overcompletion Tolerance Type, and enter 100 as the Overcompletion Tolerance Value, you allow over–completions up to 100 percent of the original job or schedule quantity. If you did not select an Overcompletion Tolerance Type, you will not be able to enter a value in this field.

If you set tolerances at the item level, the item attributes default into the Overcompletion Tolerance Type and Overcompletion Tolerance Value fields on the Discrete Jobs and Repetitive Line/Assembly Associations windows, where you can manually modify them. Any modification to the tolerance is validated when the assemblies are completed to ensure that the value is not less than the already over–completed quantity.

Job or Schedule Level

You can set the over–completion tolerance at the job or schedule level when you define a Discrete job or Repetitive schedule. The tolerance then only applies to that particular job or schedule, and overrides any tolerance that you established at the organization or item levels. When you set a tolerance limit for a Repetitive item, it applies to all Repetitive schedules in which the item is used.

You set the tolerance by selecting the tolerance type and entering its value. For Discrete jobs, you set it on the More tab of the Discrete Jobs window. For Repetitive schedules, you set it on the Over–Completion block of the Repetitive Line/Assembly Associations window. See: Defining Discrete Jobs Manually: page 3 – 63 and Associating Lines and Assemblies: page 6 – 7

> **Note:** On Repetitive schedules, all over–completed quantities are allocated to the last open schedule, thus over–completion is subject to the tolerance limit of the last open schedule.

Over–Completions from the Move Transactions Window

To perform over–completions from the Move Transactions window, you select the transaction type (Move or Completion), which enables the Overcompletion check box. You must select the check box *before* you enter the over–completion quantity. Once you select the check box, you enter the transaction quantity, which must be greater than the quantity

at the “From” operation or the available quantity and within tolerance levels. The Overcompletion check box is disabled if you are performing a Return transaction or a reverse Move transaction, or if the From operation step is the Scrap or Reject step.

Over–Completions from the Completion Transactions window

To over–complete assembly quantities from the Completion Transactions window, you select the Overcompletion check box in the Transaction region. If the transaction type is a WIP Assembly Return transaction, however, the Overcompletion check box will be disabled.

Selecting the Overcompletion check box enables you to complete more assemblies than the quantity in the To Move step of the last operation. If the total completion quantity specified in the Completion Transactions window exceeds the available quantity to complete, then the excess assemblies are moved from the Queue step of the first operation to the To Move step of the last operation, and all completion transactions are performed. The total transaction quantity (which is the sum of the transaction quantities for all completion transactions entered and must exceed the available quantity) is validated against the tolerance levels defined.

Security Functions

The system administrator must set up user access privileges that identify who has permission to perform over–completion transactions. If a user does not have permission, the Overcompletion check box will not be accessible on the Assembly Completion, Move Transaction, and Pending Move Transaction forms.

Over–completion Quantities Reserved to Sales Orders

You can reserve over–completion quantities from jobs linked to sales orders when using the Completion Transactions and Move Transactions windows. The sales order number is entered for each completion line. This reserves the surplus amount, otherwise the over–completion is unreserved excess inventory. See: Linking Sales Orders and Discrete Jobs: page 3 – 74.

Assembly Over–returns

Discrete Jobs

You cannot return more assemblies than you have completed to *standard discrete jobs*. You can, however, return more assemblies than you have completed to *non–standard Discrete jobs*.

Repetitive Schedules

You can also return more assemblies than you have completed to repetitive schedules. Any excess quantity is allocated to the first open schedule.

See Also

Function Security: page 2 – 80

Completing and Returning Assemblies: page 7 – 91

Move Transactions: page 8 – 24

Kanban Completion Supply Statuses

In a pull–based system, inventory items for a particular part or assembly area are replenished as soon as they are needed. When the items are needed, kanban cards in Oracle Inventory change their Supply Status to Empty, and Inventory generates production kanban replenishment requests automatically.

When completing WIP entities (jobs, repetitive schedules, and flow schedules) that replenish production kanbans, you can override the defaulted kanban number with a supply status of *Empty* or *In process*.

You can also override the defaulted kanban number with a kanban that has supply status of *Full* (in other words it has been previously completed to*)* if previous completions from the WIP entity that you are completing set that kanban's status to *Full*, or if it has been *referenced*. Referenced in this context means that the WIP entity and Kanban are linked because the WIP entity was created to replenish the Kanban.

Supply Status of Full

The following example explains the logic used to determine whether a Kanban with a status of Full can be selected. The first column shows the relationship between the Kanban (Kanban1 and Kanban2) and the WIP entities (Job1 and Job2) created to replenish them. Note that in this example jobs are used as the WIP entity, but the same logic applies to repetitive schedules and flow schedules.

The second column shows the transactions and the order in which they are completed. Finally, the third column shows the transaction results and explains why the transaction was allowed or disallowed. The initial supply status of both Kanbans is Empty.

Original WIP Entity Kanban Relationship	Completion Transaction Relationship	Transaction Results
Job1 linked to Kanban1	Complete Job1 to Kanban2	Supply Status of Kanban2, which was Empty, is set to Full
Job1 linked to Kanban1	Complete Job1 to Kanban1	Supply Status of Kanban1, which was Empty, is set to Full
Job2 linked to Kanban2	Complete Job2 to Kanban2	Transaction is disallowed, Kanban2 is Full because it was replenished by Job1

Completion and move completion transactions can also be imported through the Open Transaction Interface, See: *Oracle Inventory: Open Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual* and through the Open Move Transaction Interface: page 8 – 33.

See Also

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Accessing the Planning Region, *Oracle Flow Manufacturing User's Guide*

Accessing the Production Region, *Oracle Flow Manufacturing User's Guide*

Completion Transaction Types

When you enter transactions in the Completion Transactions window you must select one of the following transaction types:

WIP Assembly Completion

Receives completed assemblies into inventory from discrete jobs and repetitive schedules. Components with a supply type of Assembly Pull are automatically backflushed as you complete assemblies. If backflushed components are under lot or serial number control, the lots and serial numbers to backflush must be identified.

Lots for backflush components under lot number control can be identified manually or automatically depending on how the WIP *Backflush Lot Selection Method Parameter* is set. For backflush components under s*erial number control*, you must manually identify which serial numbers to backflush using the Serial Number Entry window.

The completion quantity is limited to the quantity in the To move intraoperation step of the last operation when completing assemblies from discrete jobs and repetitive schedules with routings. When completing from discrete jobs and repetitive schedules without routings, you can complete more than the total quantity of the discrete job or repetitive schedule.

WIP Assembly Return

Returns completed assemblies from inventory back to discrete jobs and repetitive schedules. Components with a supply type of Assembly Pull are automatically unbackflushed. If the unbackflushed components are under lot or serial number control, the lots and serial numbers to unbackflush must be identified.

You can return more assemblies than you completed from inventory to a repetitive schedule or a non–standard discrete job without a routing. The returned assemblies are automatically moved to the To move intraoperation step of the last operation of the job or repetitive schedule routing. For sales orders, you cannot return more assemblies than you completed to that sales order.

See Also

Transaction Types, *Oracle Inventory user's Guide*

Defining and Updating Transaction Types, *Oracle Inventory user's Guide*

Backflush Default Parameters: page 2 – 21

Assembly Over–completions and Over–returns: page 7 – 84

Completing and Returning Assemblies: page 7 – 91

Replenishing Higher Level Supply: page 7 – 72

Completing and Returning Assemblies

You can complete and over–complete assemblies from jobs and repetitive schedules into inventory, and you can also reverse a completion transaction by returning completed assemblies from inventory back to jobs and repetitive schedules.

Attention: If Oracle Quality is installed and at least one qualified collection plan exists, you can collect quality data during completion transactions. When a Quality collection plan is available for the transaction, both the Enter Quality Results option on the Tools menu and the Quality tool on the toolbar are enabled. If the collection plan has been defined as mandatory, quality results data must be entered and saved before you can save the transaction. See: Using Oracle Quality with Oracle Work in Process, *Oracle Quality User's Guide*.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.
- ❑ If you are completing assemblies from a job or schedule with a routing, move the quantity to be completed into the To move intraoperation step of the last operation. This intraoperation step cannot have a status that prevents moves. See: Performing Move Transactions: page 8 – 37.
- ❑ For a serialized item returned to stock, validations occur to prevent re–issuing to a different assembly. At the time of completion, serialized assemblies and components are available from stock if they have the following values set in the Serial Numbers window in Oracle Inventory:

- Discrete Assembly Completions

  State value: Defined but not used.

  State value: Issued out of stores. This is restricted to serial numbers that were previously returned to the same job that you are completing.

- Assembly Returns

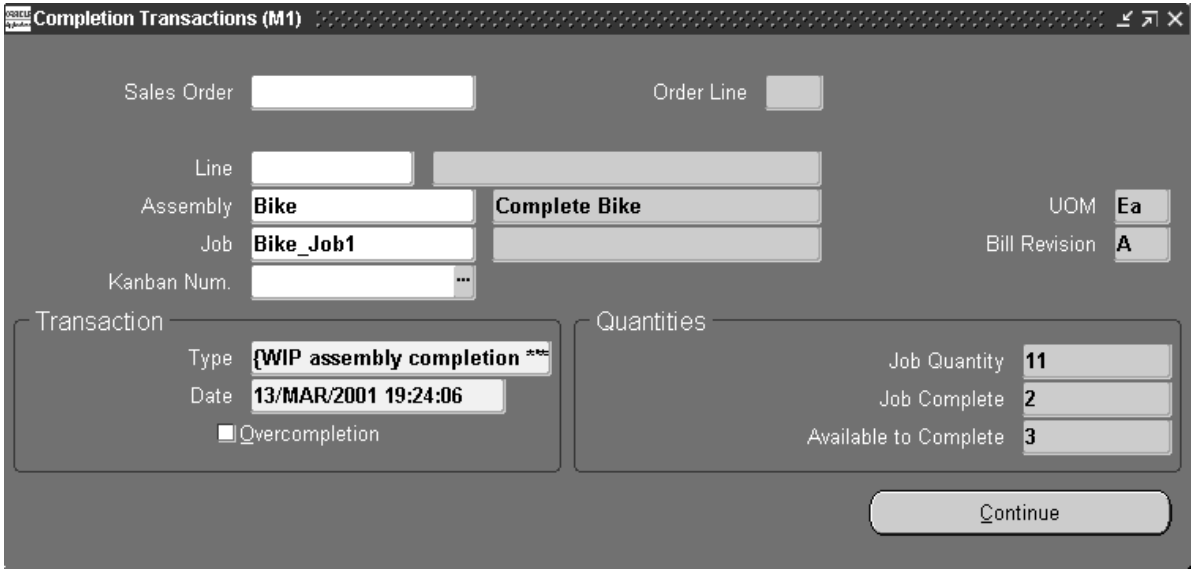
  This includes discrete jobs, flow schedule work order–less completions, and unscheduled work order–less completions.

  State value: Resides in stores.

See: Serial Number Assignment, *Oracle Inventory User's Guide*

▶ **To define complete transaction header information:**

1. Navigate to the Completion Transactions window.



2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the *TP:WIP:Completion Transactions First Field* profile option is set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

You can reserve over–completion quantities from jobs linked to sales orders. The sales order number must be entered to reserve the excess quantity. See: Linking Sales Orders and Discrete Jobs: page 3 – 74.

Note: If you are returning an ATO assembly, you can enter any sales order linked to the job and any sales order you have completed assemblies against. However, you must manually specify which sales order name, line, and delivery you are returning against.

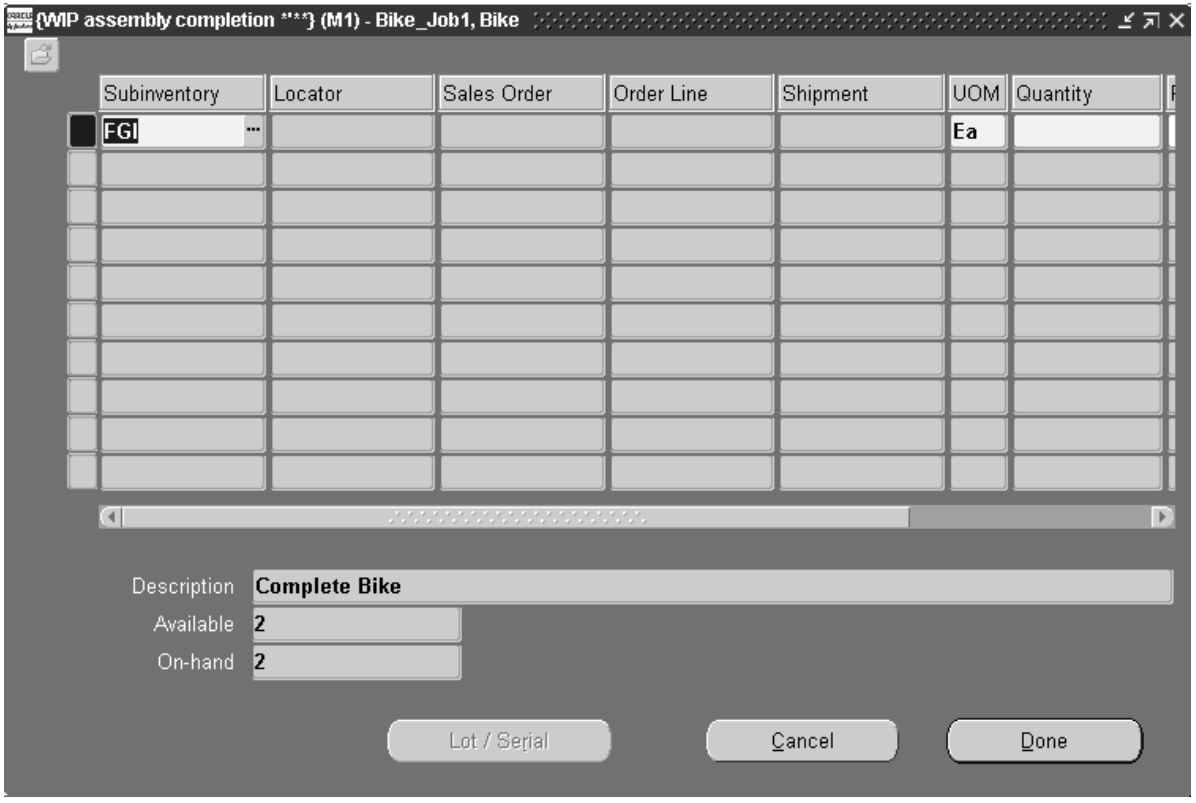
3. In the Transaction region, select the *WIP Assembly Completion* or *WIP Assembly Return* Transaction Type. See: Completion Transaction Types: page 7 – 90.
4. Enter the transaction Date and time.

   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.
5. If you are over–completing the assembly quantity, select the Overcompletion check box. If the transaction type is WIP Assembly Return, however, the check box will be disabled.
6. Choose the Continue button to navigate to the *WIP Assembly Completion* or *WIP Assembly Return* window.

▶ **To complete or return assemblies:**

1. In the *WIP Assembly Completion* or *WIP Assembly Return* window, select the Subinventory and, if required by the subinventory, the Locator.

   Assemblies are completed into or returned into or from this subinventory and locator. The completion subinventory and locator you specified for the job or the repetitive line/assembly association is defaulted but can be overwritten. See: Completion Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.



If the Oracle Inventory *INV:Allow Expense to Asset Transfer* profile option is set to Yes, you can select an expense subinventory. See: Inventory Profile Options, *Oracle Inventory User's Guide.*

2. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

3. Enter the completion or return Quantity.

   The quantity should be in the UOM you are transacting. You can complete or return partial job or schedule quantities to different subinventories and locators. You can over–complete from jobs and schedules, whether or not they have a routing. You can complete or return partial job or schedule quantities to different subinventories and locators.

   If you are completing a serial controlled assembly, you can only enter a quantity that is an integer when expressed in the primary unit of measure. For example, you can complete 0.5 dozen (DZ) if the primary unit of measure is each (EA).

4. Choose the Final Complete check box.

   If your current organization is an average costing organization, the Final Complete check box is displayed.

   The value of the Final Completion option (enabled/disabled) is defaulted based on how the WIP Autocompute Final Completions parameter is set. Using the default eliminates the need to manually choose the option. Final completions ensure that no residual balance is left in the job after the last assembly has been completed. Residual balances are handled as discussed below under WIP Job Closures.

5. Optionally, select the transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

6. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

7. If you are completing assemblies under lot, serial, or lot and serial control, choose the Lot/Serial button. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

8. Choose the Done button to save your work.

Attention: If you are completing assemblies that have Assembly Pull components, the system pulls (backflushes) these components from the supply subinventory/locator assigned to the component requirement. If no supply subinventory/locator is assigned to the component, the system pulls components from the default supply subinventory/locator specified by the WIP Supply Subinventory and Supply Locator Parameters. See: Backflush Default Parameters: page 2 – 21.

▶ **To backflush or return backflushed pull components under lot, serial, or lot and serial control:**

- See: Backflushing Pull Components: page 8 – 44.

See Also

Assembly Completions and Returns: page 7 – 80

Assembly Over–completions: page 7 – 84

Replenishing Higher Level Supply: page 7 – 72

Backflush Transactions: page 7 – 74
Setting Up Material Control: page 7 – 6

WIP Inventory Accuracy

You can maintain accurate inventory balances for components and assemblies. Oracle Work in Process and Oracle Inventory combine to provide a number of tools to help you monitor and maintain inventory accuracy.

Transactions and Balances

When components are issued to jobs and repetitive schedules, the system automatically updates the component inventory balances in Oracle Inventory and the component issued quantities in Work in Process. Similarly, when job and repetitive schedule assemblies are completed, the system updates the assembly inventory balances in Oracle Inventory and the job or schedule completed quantities in Work in Process. Component and assembly returns work the same way only in reverse.

As you move assemblies on the shop floor, the system also automatically decrements the balance in the From operation sequence and intraoperation step and increments the To operation sequence and intraoperation step.

If you enter inaccurate information or delay the entry of transactions, the inventory balances become inaccurate. Performing material and move transactions in a timely manner helps you maintain accurate inventory balances.

Cycle Counting WIP Inventories

You can use Oracle Inventory's cycle counting system to cycle count inventory balances in work in process supply and completion subinventories and locators to check that material is being moved in and out of work in process accurately.

Physically Inventorying WIP Inventories

You can use Oracle Inventory's physical inventory system to check inventory balances in work in process supply and completion subinventories and locators to check that material is being moved in and out of work in process accurately.

Component Reports

You can check the timeliness and accuracy of the component balances in jobs and repetitive schedules using the Discrete Job Data Report and the Repetitive Schedule Data Report. Each report provides a complete

list of material requirements including quantity required and quantity issued.

You can use these reports to randomly audit certain jobs or repetitive schedules in search of inaccurate balances. Whenever you find a problem, you can use Oracle Inventory's transaction reports and inquiries to identify its source. Once you know the source of the problem, you can take proactive steps to eliminate the causes and thereby improve the accuracy of work in process component balances.

Assembly Reporting

You can check the timeliness and accuracy of assembly balances in jobs and repetitive schedules using the WIP Location Report. This report provides a complete list of assembly balances by operation.

You can use this report to randomly audit certain jobs, repetitive schedules, assemblies, or work centers in search of inaccurate balances. Whenever you find a problem, you can use the Move Transaction Report and/or the View Move Transactions and View Resource Transactions windows to identify its source. Once you know the source of the problem, you can take proactive steps to eliminate the causes and thereby improve the accuracy of work in process assembly balances.

See Also

Overview of Cycle Counting, *Oracle Inventory User's Guide*

Overview of Physical Inventory, *Oracle Inventory User's Guide*

Viewing On–hand Quantities, *Oracle Inventory User's Guide*

CHAPTER

8

Shop Floor Control

This chapter explains how assemblies are moved, controlled, and tracked on the shop floor, including:

- Overview: page 8 – 2
- Setting Up: page 8 – 5
- Routings and Operations: page 8 – 6
- Operations: page 8 – 12
- Move Transactions: page 8 – 24
- Pending Move Transactions: page 8 – 54
- Shop Floor Statuses: page 8 – 65
- Shop Floor Management: page 8 – 68

Overview of Shop Floor Control

Shop floor control helps you manage the flow of production inside your plant. Effective shop floor control can lead to due date performance that ensures meeting your customer service goals. The purpose of this section is to help you understnad how Oracle Work in Process provides tools for shop floor control. In particular, it describes the complete life cycle of shop floor control from setup through execution.

Basic Business Needs

Oracle Work in Process provides you with the features you need to satisfy the following basic shop floor control needs. You can:

- Define work in process routings that model the manufacturing process
- Track assembly movements throughout the shop floor
- Track the status of assemblies within an operation
- Use transaction information from shop floor collection devices and other external systems
- Collect product and process quality information as you move assemblies
- Enter alternate units of measure and quantities in move transactions
- Dispatch assemblies by operation or within an operation
- Backflush components automatically based on transactions
- Charge resource time and overhead automatically
- Track and repair rejected assemblies separately from normal assemblies
- Scrap assemblies from the manufacturing process
- Create requisitions for operation outside resources
- Track assemblies at outside vendors
- If Oracle Shop Floor Management is installed, you can create network routings with primary and alternate paths

Major Features

Move Transactions

You can move assemblies within operations (intraoperation moves) and between operations (interoperation moves). You can also complete and return assemblies from and to jobs and schedules using move transactions. Move transactions automatically update operation completion quantities, charge appropriate resources and overheads, and backflush pull components. See: Move Transactions: page 8 – 24.

Open Move Transaction Interface

You can load move transaction information from external systems — such as barcode readers and manufacturing cell controllers — into the Open Move Transaction Interface table. When this data is processed, it is validated, and invalid records are marked so that you can correct and resubmit them. See: Open Move Transaction Interface: page 8 – 33.

Shop Floor Statuses

You define and assign shop floor statuses. You can control move transactions by assigning these statuses to intraoperation steps on the work in process routing. You can view these statuses during move transactions. See: Assigning and Viewing Shop Floor Statuses: page 8 – 65 and Defining Shop Floor Statuses: page 2 – 51.

Dispatch Reporting

You can use dispatch reports to help you prioritize work at specific operations, production on specific lines, and to locate assemblies on the shop floor. See: Dispatch Reports: page 8 – 74.

Outside Processing

You can automatically create purchase requisitions for resources assigned to outside processing operations. You can also control the movement of assemblies to and from your suppliers. See: and Resource Charge Types: page 9 – 7.

Managing Rework Production

You can use Reject intraoperation steps, rework operations, or non–standard discrete jobs to rework problem assemblies. You have complete control over the material requirements and operations you use to complete rework. See: Rework Production: page 8 – 68.

Managing Scrap

You can scrap assemblies at any point during the production process. See: Assembly Scrap: page 8 – 70.

Mobile ManufacturingMobile

If Oracle Mobile Supply Chain Applications is installed, the Mobile Manufacturing component enables you to perform work in process material transactions using a mobile client device networked with a computer system. This includes:

- Moving assemblies from one operation or intraoperation step to another.
- Completing assemblies and jobs
- Scrapping or rejecting assemblies, and reversing transactions
- Resource transactions enabling you to change or add resources
- Viewing transaction information including job status, completions, scrap quantities, and schedule dates
- If Oracle Warehouse Management is installed, you can use License Plate Number functionality for tracking completions

  Note: LPN completions are supported only in standard cost organizations.

See Also

Overview of Resource Management: page 9 – 12

Setting Up Shop Floor Control: page 8 – 5

Move Transaction Options: page 8 – 34

Mobile Manufacturing, *Oracle Mobile Supply Chain Applications User's Guide*

Explaining License Plate Management, *Oracle Warehouse Management User's Guide*

Setting Up

- For a listing of out–of–product setups that affect shop floor processing see: Setup Prerequisites: page 2 – 3.
- For a listing of setups within Work in Process that affect shop floor processing see: Setup Check List: page 2 – 7.
- For additional information about parameters that affect shop floor processing see: WIP Parameters: page 2 – 14.
  - Backflush Default Parameters: page 2 – 21
  - Intraoperation Steps Parameter: page 2 – 21
  - Move Transaction Parameters: page 2 – 20
- For a listing of profile options that affect shop floor processing see: Profile Options: page 2 – 64.

Routings and Operations

You can define operations and routings in Oracle Bills of Material. Operations and routings are the basis of shop floor control.

Operation Sequence

Routings define the step–by–step operations required to manufacture an assembly. Routing operations describe a specific portion of the manufacturing process. Work in process routing operations help you locate (through the assigned department) assemblies on the shop floor and identify the quantity complete or remaining at an operation. See: Operations, *Oracle Bills of Material User's Guide*.

Resource Requirements

You can associate multiple resources with a routing operation. For each resource, you can determine if you want to include that resource in scheduling calculations. Resources can be charged and scheduled on an item–by–item or lot basis. The system calculates the time required for all scheduled resources at an operation to get the operation start and end dates and times. The system then calculates the time required for all operations to get the job and repetitive schedule start and end dates and times. See: Overview of Resource Requirements: page NO TAG.

Resource Charge Types

You can determine how operation resources are charged. You can automatically charge resources as you move assemblies in Work in Process and as you enter purchase receipts for outside processing resources in Oracle Purchasing. You can also manually charge resources. See: Resource Charge Types: page 9 – 7.

Outside Processing

You can define outside processing resources and assign them to routing operations. See: Overview of Outside Processing: page 10 – 2.

Specify Where Material is Used

You can specify at what operations materials are required in the routing. Thus, you only issue (push) or backflush (pull) material where and when it is needed.

Backflush Operations

You can use the operation backflush option to specify at what point in the routing Operation Pull components are backflushed. Pull components at non–backflush operation are not backflushed when assemblies are completed at the operation. Instead, they are backflushed when a backflush operation later in the routing is completed. It is often useful to postpone backflushing at time–critical operations.

Autocharge/Count Point Operations

You can specify whether an operation is a count point and whether it should be automatically charged. The autocharge and count point options for an operation work together. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.

Minimum Transfer Quantities

You can define minimum transfer quantities for your operations. If you move fewer assemblies than the minimum quantity, a warning is displayed but you can complete the transaction.

Establish Standard Costs

You specify the resources required to build an assembly when you define a routing. Resources have costs associated with them. By defining the routing with specific resources, you establish standard resource costs for any item that uses the routing.

Alternate Routing

You can choose an alternate routing for an assembly when you define a discrete job or repetitive schedule. See: Primary and Alternate Routings, *Oracle Bills of Material User's Guide*.

Routing Revision

You can use routing revisions to control date effective revisions on a routing. You specify the routing revision and the revision date for the assembly when you define discrete jobs and repetitive schedules. See: Item and Routing Revisions, *Oracle Bills of Material User's Guide*.

Engineering Routing

You can set your *WIP:See Engineering Items* profile option to Yes so that you can use engineering routings. See: Engineering Bills of Material and Routings, *Oracle Engineering User's Guide*.

Network Routing

If Oracle Shop Floor Management is installed, you can create flexible or network routings. While discrete jobs use standard routings, lot based jobs use network routings. These comprise a collection of operations which include primary and alternate paths. The relationships established in a network routing provide all possible combinations of sequence and operations a job may follow.

See Also

Overview of Routings, *Oracle Bills of Material User's Guide*

Creating a Routing, *Oracle Bills of Material User's Guide*

Intraoperation Steps: page '8 – 9

Creating a Network Routing, *Oracle Shop Floor Management User's Guide*

Intraoperation Steps

Intraoperation steps are used to control move and resource transactions within and between operations and to track assemblies within operations. You can only move assemblies to intraoperation steps that are enabled. See: Interoperation Steps Parameter: page 2 – 23.

The five intraoperation steps — Queue, Run, Reject, To Move, and Scrap — are defined as follows:

Queue

Assemblies in the Queue intraoperation step of an operation are waiting for you to perform work on them. Queue is the default intraoperation step for every operation in a routing.

When you release jobs and repetitive schedules, the assembly quantity is automatically loaded into the Queue intraoperation step of the first operation. You can move assemblies from the Queue intraoperation step to any other enabled intraoperation step.

Run

Assemblies in the Run intraoperation step are ready to be worked on. You can move assemblies from the Run step to any other enabled intraoperation step in the routing.

To Move

Assemblies in the To move intraoperation step of an operation have been completed and are waiting to be moved to the next operation. You can move assemblies from the To Move intraoperation step to any other enabled intraoperation step in the routing.

Before you can use the Completion Transactions window to complete assembles from jobs and schedules with routings, you must move these assemblies into the To Move intraoperation step of the last operation. For this reason, the To Move intraoperation step is automatically enabled for all final routing operations. See: Assembly Pull Backflush Transactions: page 7 – 79.

Assemblies in the To Move step are considered complete for the operation.

Reject

Assemblies in the Reject intraoperation step of an operation have been rejected and are waiting to be repaired (reworked) or scrapped. You can move

assemblies from the Reject intraoperation step to any other enabled intraoperation step in the routing.

Assemblies in the Reject step may not be useable, but they are considered complete for the operation because components and resources have been consumed in their production.

Scrap

Assemblies in the Scrap intraoperation step are considered unusable. This step is for those assemblies whose yield loss you want to consider as a variance on the discrete job or repetitive schedule. (In some industries, scrap is considered yield loss.) You can incur this variance immediately by entering a scrap account as you move assemblies into this step. However, you can wait until the job is closed (standard and non–standard asset discrete jobs) or the period is closed (repetitive schedules and non–standard expense discrete jobs) to incur the variance. Oracle Master Scheduling/MRP and Oracle Supply Chain Planning does not consider assemblies that in Scrap steps in the MRP planning process.

Assemblies in the Scrap intraoperation step are usually not useable. They are considered complete for the operation because components and resources have been consumed in their production. They can be recovered from scrap by moving them to another intraoperation or operation step.

Complete/Incomplete Operation Steps

Assemblies are considered incomplete at an operation if they are in the Queue or Run intraoperation steps. Assemblies are considered complete at an operation if they are in the To Move, Reject, or Scrap intraoperation step. When assemblies are completed at an operation, the system automatically backflushes Operation Pull components and charges resources. See: Operation Completion Moves: page 8 – 29.

Using Intraoperation Steps

The intraoperation steps that you enable and use depend on your manufacturing environment and your information requirements.

Manufacturing Environment

For example, if you are a 'pull' manufacturer you might enable just the Run and To Move intraoperations. You would do this to simplify the process of pulling assemblies into the Run step of an operation from the To Move step of a prior operation.

Conversely, if you are a 'push' manufacturer you might enable just the Queue and Run intraoperation steps. You would do this to simplify the process of pushing (issuing) components to assemblies in the Queue intraoperation step of the operation before you moving them to the Run step of the same operation.

Processing Times

As you move assemblies from one intraoperation or interoperation step to another the dates and times of these transactions are recorded. For example, you can use this information to help you determine how long assemblies spend waiting to be worked on (Queue time) and how much time they are actually being worked on (Run time).

See Also

Open Move Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual

Performing Move Transactions: page 8 – 37

Rework Production: page 8 – 68

Assembly Scrap: page 8 – 70

Overview of Period Close, *Oracle Cost Management User's Guide*

Discrete Job Close: page 3 – 119

Operations

You can add, update, delete, reschedule, and view operations.

Adding and Updating Operations

You can add operations to discrete jobs with statuses of Unreleased, Released, Complete, or On Hold. You can add operations to repetitive schedules with statuses of Unreleased. You can add operations to jobs and repetitive schedules with or without routings.

You can create a routing for a job or schedule that does not have a routing by adding operations to it. When you add the first operation, the system automatically defaults an operation sequence of 1 for the new operation and assigns job or schedule material requirements to this operation. If the job or schedule is already released, the system also loads the job or schedule quantity into the Queue intraoperation step of the new operation.

> **Note:** If you add an operation to a job or repetitive schedule, you may want to reschedule the job or repetitive schedule to correctly reflect the start and completion dates.

You can update the operations of discrete jobs with statuses of Unreleased, Released, Complete, or On Hold. You can update the operations of repetitive schedules with statuses of Released, Complete, or On Hold as long as there are no other active schedules for the assembly on the line.

> **Note:** You *cannot* update operation dates for repetitive schedules of any status.

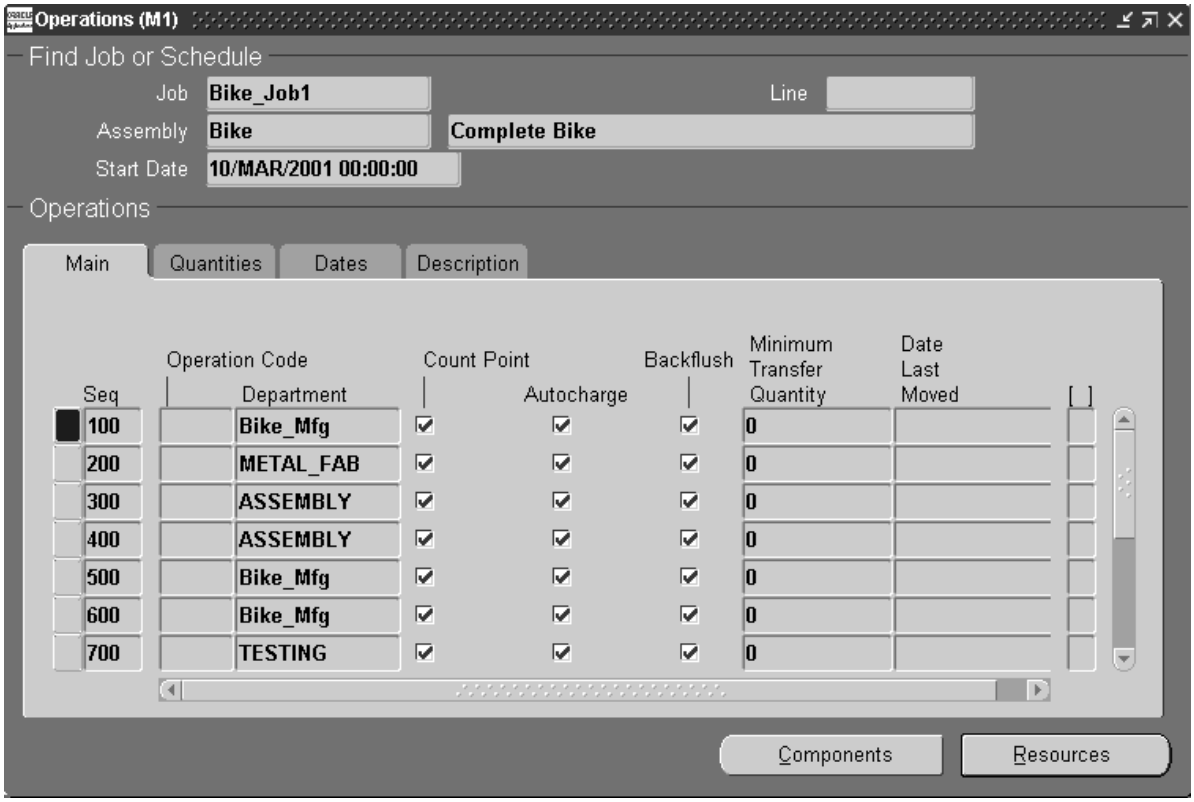
You can attach illustrative or explanatory files — in the form of text, images, word processing documents, spreadsheets, video, and so on — to operations. See: About Attachments, *Oracle Applications User's Guide*.

Prerequisites

- ❑ Define at least one standard discrete job, one non–standard discrete job or one repetitive schedule. See: Defining Discrete Jobs Manually: page 3 – 63 and Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To add or update an operation:**

1. Navigate to the Operations window.



2. Select the Job or Line and Assembly.
3. If you select a line and assembly, choose the repetitive schedule by selecting the first unit start date of that schedule. If you have selected a discrete job, the system displays the scheduled start date of the job.
4. Optionally, choose the Find button to populate the Operations region.
5. From the Main tabbed region of the Operation region, select the operation Sequence or enter an operation Sequence number to add an operation.
6. Select the Operation Code of a standard operation or leave the Operation Code blank.

   If you add a standard operation by selecting its Operation Code, the Department, Count point, Autocharge and Backflush options, Minimum Transfer Quantity, and Description are automatically defaulted. Resource requirements that are associated with the

standard operation are also defaulted. You can update these defaults at any time.

You can update the operation codes of unreleased discrete jobs. If you update the operation code by selecting the operation code of a standard operation, existing operation information is overridden.

If you leave the Operation Code blank, you must manually define the operation.

7. Select the Department.

   The Department identifies which group — people, machines, and/or suppliers — is performing the operation. Departments are also used for charging resources at an operation and are required even if there are no resources assigned to the operation.

   If you add a standard operation, the system displays the Department of that operation as the default. If there are resources assigned to the standard operation, you cannot update this field.

8. Check the Count Point check box to make the operation a count point operation. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.

   Operations you must always perform, for example, critical, time–sensitive, or bottleneck operations, should be made count point operations. Operations that are not always performed should be made non–count point operations.

   When you perform move transactions, the system defaults in the next count point operation as the To operation sequence. For example, suppose you have three operations at sequences 10, 20, and 30 defined as count point, non–count point, and count point respectively. When you select operation 10 as the From operation, the system automatically defaults operation 30, the next count point operation, as the To operation. You can override this default and choose operation 20, if required.

   If you add an operation that is not a standard operation, the system automatically makes the operation a count point operation. If you add a standard operation, the system displays the count point option of that operation as the default.

9. Check the Autocharge check box to make the operation an autocharge operation. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.

   Operations you must always charge resources to should be made autocharge operations. Operations that do not always require

resource charges should be made non–autocharge operations. See: WIP Move: page 9 – 7.

Autocharge operations automatically charge WIP Move resources when you move assemblies through or beyond them. For example, suppose you have three operations at sequences 10, 20, and 30 defined respectively as autocharge, non–autocharge, and autocharge operations. When you move assemblies from the Queue intraoperation step of operation 10 to an intraoperation step that completes assemblies at operation 30 (To Move, Scrap, or Reject), resources at operations 10 and 30 are charged, but those at operation 20 are not. To charge resources to operation 20, you must move assemblies into a completion intraoperation step (To Move, Scrap, or Reject) of that operation. See: Intraoperation Steps: page 8 – 9.

The count point and autocharge check boxes work together. Operations can be count point/autocharge, non–count point/non–autocharge operations, or non–count point/autocharge. They cannot be count point/non–autocharge. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.

If you add a standard operation, the system displays the autocharge option of that operation as the default. If you add an operation that is not a standard operation, the system makes the operation a count point operation.

10. Check the Backflush check box to make the operation a backflush operation.

    Operation Pull components that are assigned to backflush operations are automatically backflushed (pulled) from inventory when assemblies are moved and completed at that operation. Also backflushed are all Operation Pull components that have not been backflushed because they are assigned to non–backflush operations prior to the backflush operation.

    If you add an operation that is not a standard operation, the system automatically makes the operation a non–backflush operation.

    Caution: The last operation in a routing must always be a backflush operation. Materials are not backflushed from inventory if the last operation is a non–backflush operation and operations prior to it are non–backflush operations that have Operation Pull components that have not been backflushed.

11. Enter the Minimum Transfer Quantity.

    If you add a standard operation, the system displays the minimum transfer quantity of that operation as the default. If you add an

operation that is not a standard operation, the system displays 0 as the default. See: Creating a Standard Operation, *Oracle Bills of Material User's Guide*.

If you attempt to move fewer that the minimum transfer quantity, you receive a warning message but are allowed to continue.

12. In the Description tabbed region, enter the Description.

    If you add a standard operation, the system displays the description of that operation as the default.

13. Save your work.

▶ **To midpoint reschedule a discrete job:**

- See: Midpoint Rescheduling: page 8 – 18.

▶ **To manually schedule/reschedule a discrete job operation:**

- You can manually schedule/reschedule a discrete job operation by changing one or more of its dates. The job must have a status of Unreleased, Released, Complete, or On Hold.

  You can change the First Unit Start Date (FUSD), the First Unit Completion Date (FUCD), Last Unit Start Date (LUSD), and the Last Unit Completion Date (LUCD) to any date. Changing the date or dates of an operation does not affect the date or dates of the operations that precede or follow that operation.

  Note: If you change the LUCD of the last operation to a date that is greater than the job completion date, the job completion date is updated to the LUCD. If you change the FUSD of the first operation to a date earlier than the job start date, the job start date is updated to the FUSD.

▶ **To update operation resource requirements:**

- Choose the Resource button. See: Adding and Updating Resource Requirements: page 9 – 16.

See Also

Working with Attachments, *Oracle Application User's Guide*

Deleting Operations: page 8 – 17

Operations Control: page 8 – 6

Overview of Routings, *Oracle Bills of Material User's Guide*

Creating a Routing, *Oracle Bills of Material User's Guide*

Deleting Operations

You can delete operations from jobs and repetitive schedules regardless of the status of the job or schedule. However, you cannot delete an operation if any of the following conditions exist:

- assemblies have been completed for the operation
- resources have been charged at the operation
- pending move and resource transactions exist for the operation
- quantities exist in any intraoperation step of the operation
- purchase requisitions (either approved or unapproved) or purchase orders exist for outside processing resources assigned to the operation

You also cannot delete an operation from a repetitive schedule with a status of Released, Complete, or On Hold if there are other active schedules for the assembly on the line.

If you delete an operation, the system reassigns its material requirements to the first operation in the routing or to operation sequence 1 if there are no other operations in the routing.

> **Note:** If you delete an operation from a job or repetitive schedule, you may want to reschedule the job or repetitive schedule to correctly reflect the start and completion dates.

▶ **To delete an operation:**

1. Navigate to the Operations window.
2. Select the Job or Line and Assembly.
3. If you select a line and assembly, choose the repetitive schedule by selecting the first unit start date of that schedule. If you have selected a discrete job, the system displays the scheduled start date of the job.
4. Choose the Find button to populate the Operations region.
5. In the Operations region, select which operation to delete by selecting its operation Sequence.

6. Choose Delete Record from the Edit Menu.
7. Save your work.

Midpoint Rescheduling

You can use midpoint rescheduling to reschedule around a bottleneck job operation. When you midpoint reschedule jobs, job start and completion dates and times are automatically updated. The start and completion dates of all other job operations, including operations you added that are not part of the original routing, are also updated. Material and resource requirement dates are also updated.

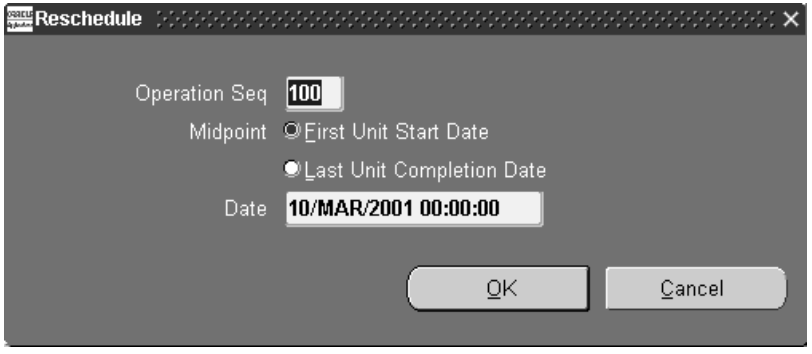
Prerequisites

- ❑ Define at least one discrete job. See: Defining Discrete Jobs Manually: page 3 – 63 and Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To midpoint reschedule operations:**

1. Navigate to the Operations window.
2. Select the discrete Job.
3. Choose the Find button to populate the Operations region with the job's operations.
4. Select the Operation.

   You can choose any operation since any operation can be a bottleneck operation.
5. Choose the Reschedule button. The Reschedule window appears.



6. Choose either of the following options:

   First Unit Start Date: Reschedules the operation from its first unit start date (FUSD) and time.

   Last Unit Completion Date: Reschedules the operation from its last unit completion date (LUCD) and time.

7. Enter the reschedule Date and time.

   The reschedule date and time becomes the new FUSD or LUCD and time of the operation. Operations that are before the operation being rescheduled are backward scheduled from this date and time. Operations that are after it are forward scheduled. Job start and completion dates and times as well as resource and material requirement dates and times are also updated.

8. Choose OK to save your work.

▶ **To manually reschedule a job or schedule operation:**

- See: Adding and Updating Operations: page 8 – 12.

See Also

Rescheduling Discrete Jobs: page 3 – 106

Detailed Scheduling: page 13 – 7

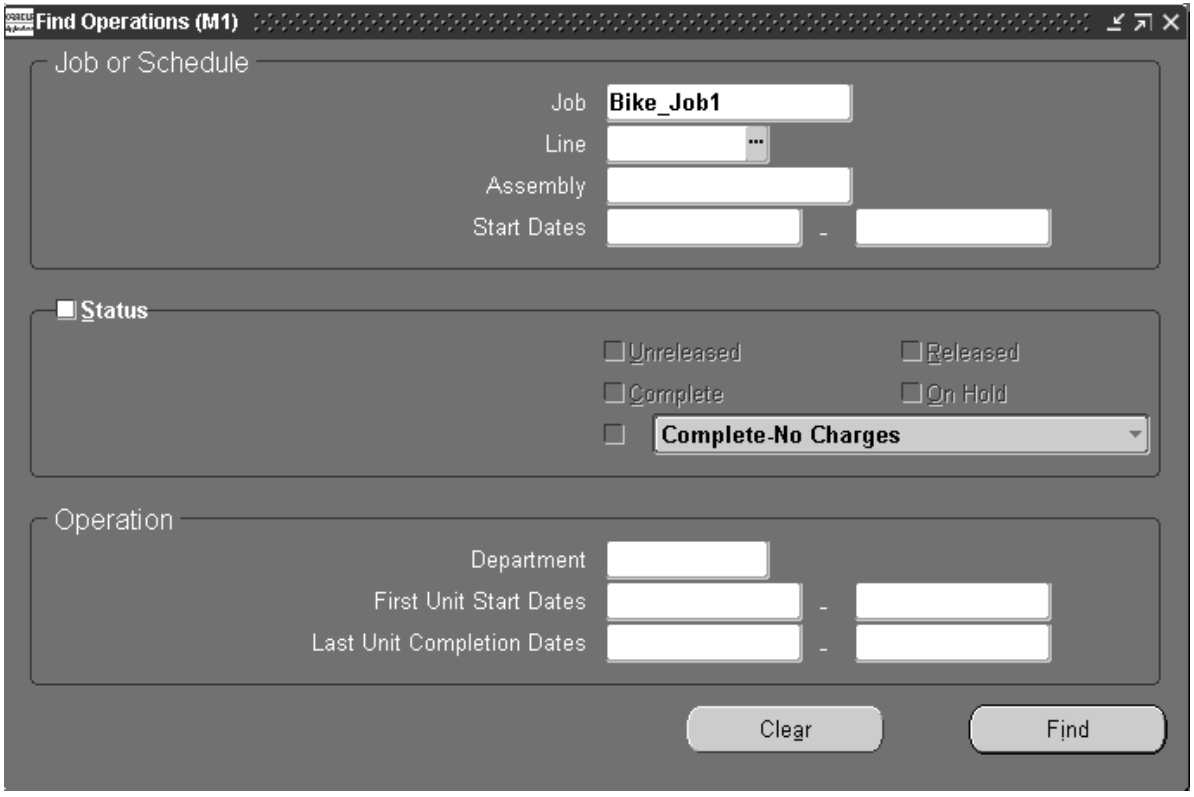
Discrete Rescheduling: page 13 – 12

Viewing Operations

You can view operation information in a variety of ways. You can view all operations associated with a specific job or repetitive line and assembly. You can also view operations across jobs and schedules.

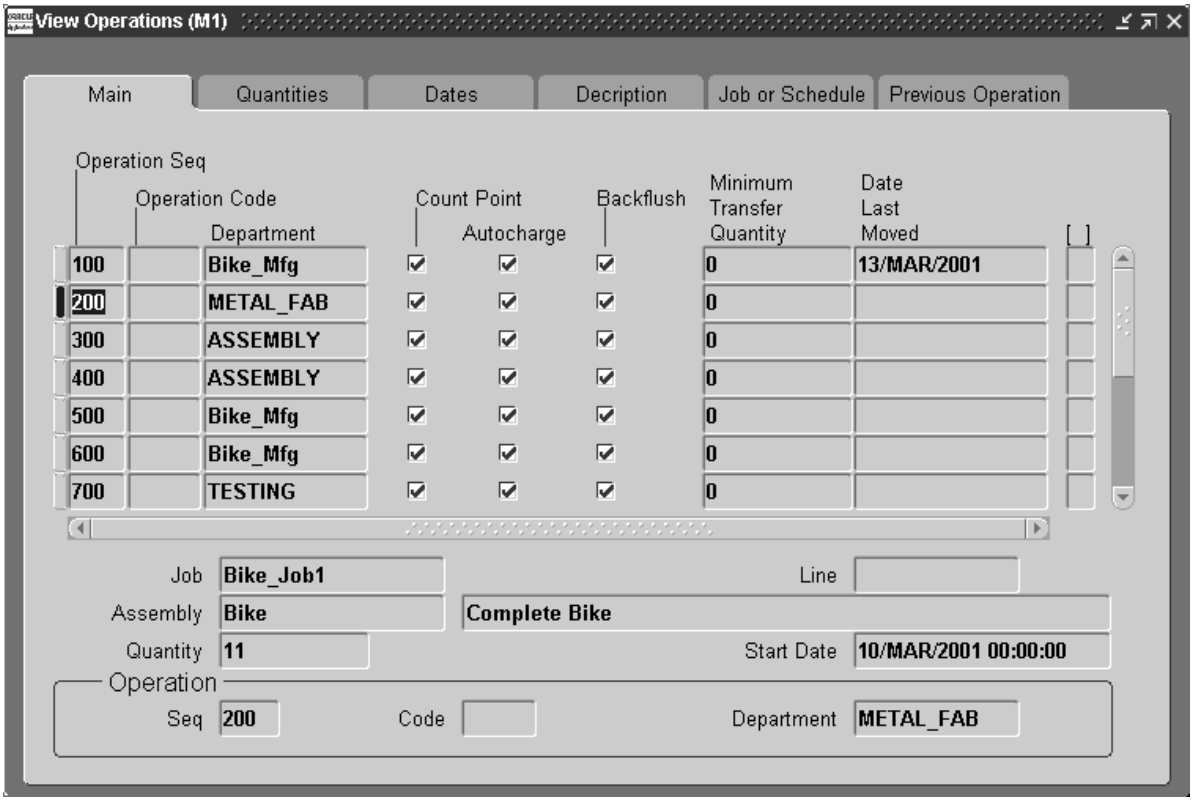
▶ **To find and view operations:**

1. Navigate to the View Operations window. The Find Operations window appears.



You can view operations for jobs and repetitive schedules that start on a specific date or within a range of start dates. You can view all operations for jobs and schedules of a specific status (Unreleased, Complete, Released, On Hold, Complete–No Charges). You can view all operations for a specific department. Lastly you can view all operations that have first unit start or last unit completion dates with specific dates or within a range of dates.

2. Enter any combination of search criteria and choose the Find button. The results display in the View Operations window.



You can view the following information in the View Operations window's tabbed regions:

Main: Operation Sequence, Operation Code and Department; Count Point, Autocharge and Backflush flags; Minimum Transfer Quantity and Date Last Moved

Quantities: In Queue, Running, To Move, Completed, Remaining, and for repetitive lines/assemblies the Quantity Ahead and the Days Ahead

Attention: The Completed quantity is the sum of assemblies in the Scrap, Reject, and To Move intraoperation steps. Remaining quantity is the sum of assemblies in the Queue and Run intraoperation steps. You can view Scrap and Reject quantities using the Operations window. See: Adding and Updating Operations: page 8 – 12.

Dates: First Unit Start Date, First Unit Completion Date, Last Unit Start Date, and Last Unit Completion Date

Description: Description

Job or Schedule: Job, Line, Assembly, Start Date, and Status

Previous Operation: Sequence, Department, Last Unit Completion Date, and Quantities In Queue, Running, To Move, and Completed Quantities

You can also view, if entered, descriptive flexfield information. See: Setting Up Descriptive Flexfields: page 14 – 4.

See Also

Searching for Information, *Oracle Applications User's Guide*

Operations Control: page 8 – 6

Viewing Job and Schedule Operations

As you do the following, you can view operations and operation material and resource requirements for the current discrete job or repetitive schedule by choosing the Operations button:

- Defining Discrete Jobs Manually: page 3 – 63
- Simulating Discrete Jobs: page 3 – 111
- Closing Discrete Jobs: page 3 – 121
- Viewing Discrete Job Information: page 3 – 95
- Purging Discrete Jobs: page 3 – 128
- Viewing Repetitive Schedule Information: page 6 – 25
- Purging Repetitive Schedules: page 6 – 42

▶ **To view the operations for the current job or schedule:**

- After choosing the Operations button, the Operations window (in View Only Mode) appears. You can view the following information for each operation using the window's tabbed regions:
  - *Main region:* Count Point option, Autocharge option, Backflush option, Minimum Transfer Quantity, Date Last Moved

- *Quantities region*: In Queue, Running, To Move, Rejected, Scrapped, and Completed
- *Dates region:* First Unit Start Date, Last Unit Start Date, First Unit Completion Date, and Last Unit Completion Date
- *Description region*: Description

Attention: You can also view operations across jobs and schedules. See: Viewing Operations: page 8 – 20.

▶ **To view operation specific material requirements:**

- From the Operations window, select an Operation sequence then choose the Components button.

  The component materials, if any, required at the selected operation are displayed.

▶ **To view the operation resource requirements:**

- From the Operations window, Choose the Resources button. The Resource Requirements window appears.

  The resources, if any, required at the selected operation are displayed.

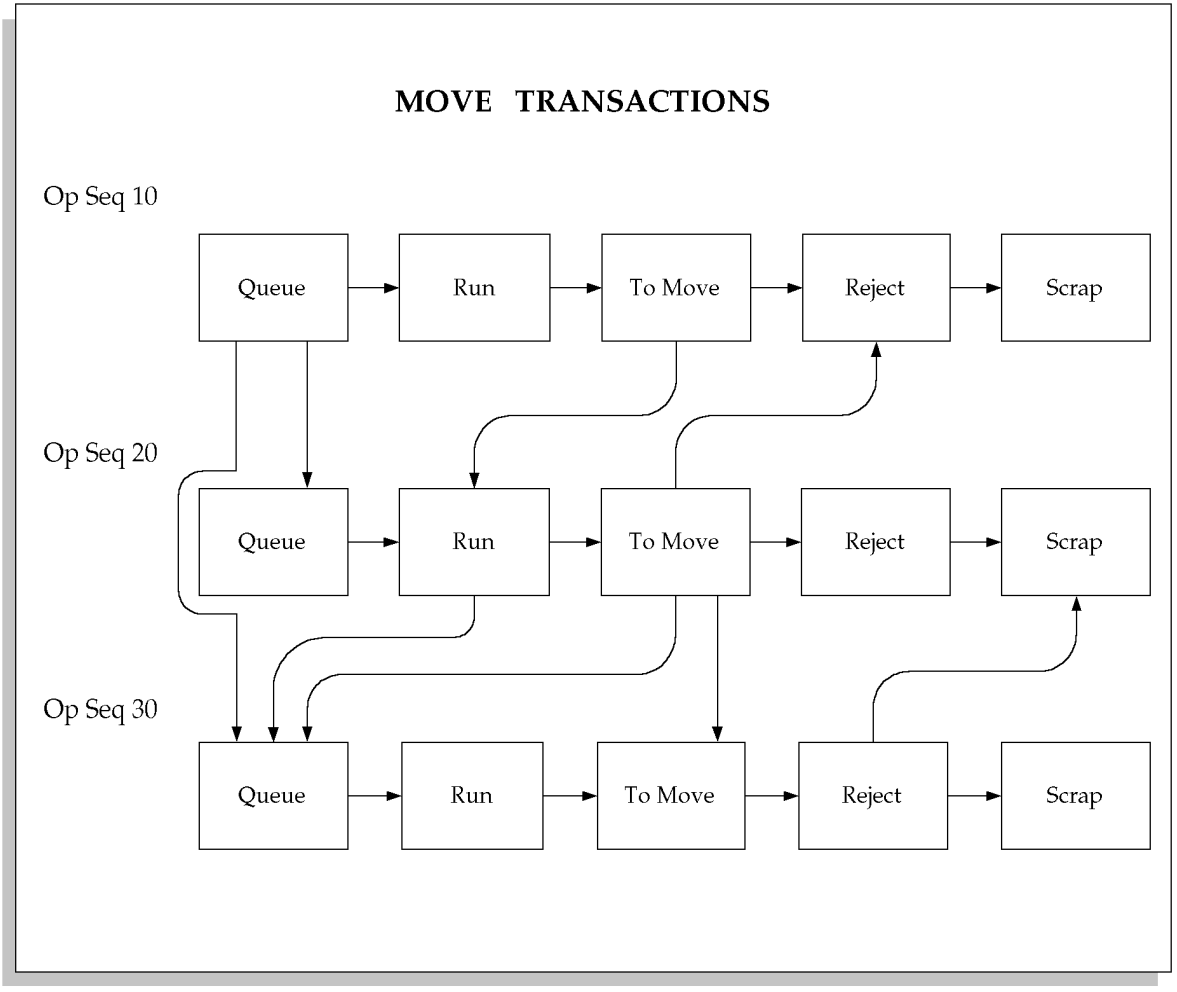
▶ **To close all open windows after viewing operations and material requirements:**

- See: Closing Multiple Windows, *Oracle Application User's Guide*.

Move Transactions

You can move assemblies within an operation (for example, from Queue to Run) or from one operation to the next. You can move assemblies backward and forward within the routing.

Move Transactions Process Diagram



You can move the assemblies that you are building from one operation and/or intraoperation step to another using the Move Transactions window (See: Interoperation Moves: page 8 – 26.) You can move assemblies forward and backward within and between operations.

(See: Intraoperation Moves: page 8 – 28). Moving assemblies into the To Move, Reject, or Scrap intraoperation step of an operations completes those assemblies at that operation. When assemblies are completed at an operation, the system automatically backflushes Operation Pull components and charges resources (See: Operation Completion Moves: page 8 – 29).

> **Note:** If Oracle Mobile Supply Chain Applications is installed, the Mobile Manufacturing component enables you to perform all work in process move transactions using a mobile client device networked with a computer system. See: Assembly Transactions, *Oracle Mobile Supply Chain Applications User's Guide.*

Assembly Move Completion and Move Return Transactions

If function security permits, you can complete assemblies from any routing operation into inventory or return completed assemblies from inventory to any routing operation from the Move Transactions window. See: Security Functions: page 2 – 78 and Assembly Move Completion and Move Return Transactions: page 8 – 31.

Resource Charges

Move transactions that complete assemblies at autocharge operations, automatically charge resources and overhead at that operation. If assemblies are completed at an operation, and *Manual* resources are assigned to that operation, the system notifies you that these resources exist. To charge these resources, use the Resources button to access the Resource Transactions window. See: Charging Resources with Move Transactions: page 9 – 36

Assembly Scrap

You can also scrap defective assemblies by moving them into a scrap intraoperation step. If you enter scrap account number or scrap account alias when you scrap assemblies, the cost of the scrapped assemblies is removed from the job or repetitive schedule. If you do not enter a scrap account or select an alias, the cost of the scrap remains in the job or schedule until job or period close. See: Scrapping Assemblies: page 8 – 72.

Outside Processing Resource Charges

When you move assemblies into the Queue intraoperation step of an operation that has either PO Move or PO Receipt resources assigned to it (or when the job is released, depending on your setup), the system automatically creates a purchase requisition in Oracle Purchasing.

When you receive assemblies back from an outside processing supplier in Oracle Purchasing, PO Receipt or PO Move resources are automatically charged at the standard or the actual rate. Purchase requisitions are also automatically created when you release a job or repetitive schedule if there are PO Move or PO Receipt resources at the first operation. See: Overview of Outside Processing: page 10 – 2.

Ad Hoc Operations

You can also add 'ad hoc' operations to discrete job using the Move Transactions window. However, you can only add operations if the *Allow Creation of New Operations* parameter is set and the *TP:WIP:Move Transactions* profile option is set to on–line processing. See: Move Transaction Parameters: page 2 – 20 and Profile Options: page 2 – 64.

Shop Floor Statuses

You can view shop floor statuses when performing move transactions. Statuses are removed from intraoperation steps when the quantities at those operations drop to zero.

See Also

Move Transaction Types: page 8 – 36

Production Line Moves: page 8 – 33

Interoperation Moves

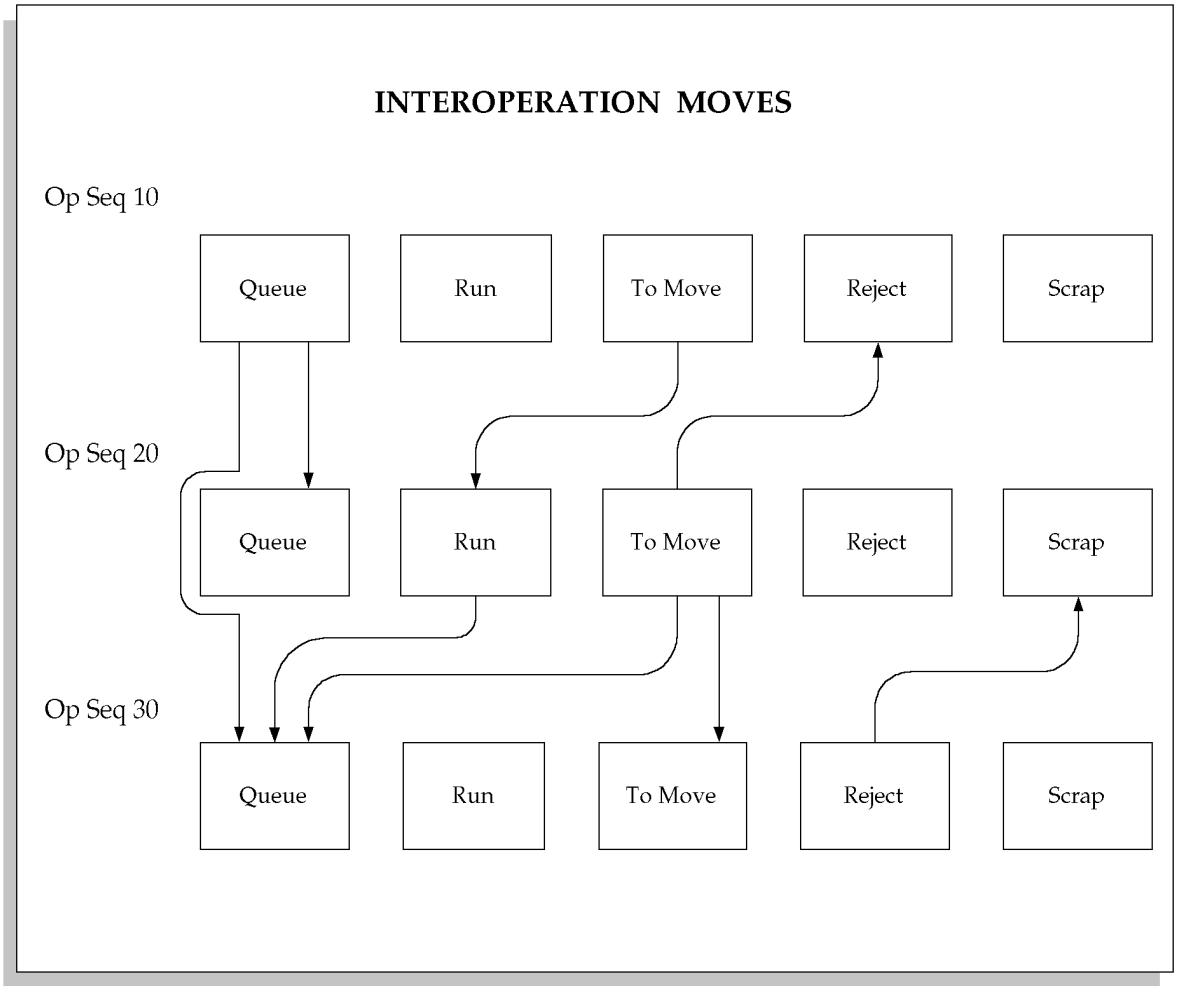
When you move assemblies from one operation to another you are performing an interoperation move. You can move assemblies from any enabled intraoperation step to another. For example, you can move assemblies from operation sequence 20 to operation sequence 30, or from operation sequence 50 back to operation sequence 30.

Normally, moves follow the forward sequence defined by the routing. You can, however, move assemblies from any operation to any other — even preceding operations. For example, if you intend to move 5 assemblies from operation 10 to 20, but you mistakenly 10, you can correct your mistake by moving 5 assemblies back from operation 20 to 10. The system automatically reverses resource and overhead charges, and component backflushes when you move assemblies backward in the routing.

You can add operations using the Operations window. You can also use the Move Transactions window to add 'ad hoc' operations to discrete jobs. However, you can only add operations as you move discrete assemblies if the WIP *Allow Creation of New Operations* parameter is set and the *TP:WIP:Move Transactions* profile option is set to on–line processing.

You can move assemblies to outside supplier operations. You receive these assemblies back using either the Enter Receipts window in Oracle Purchasing or the Move Transactions in Work in Process window.

The following figure illustrates the flow of interoperation move transactions:



See Also

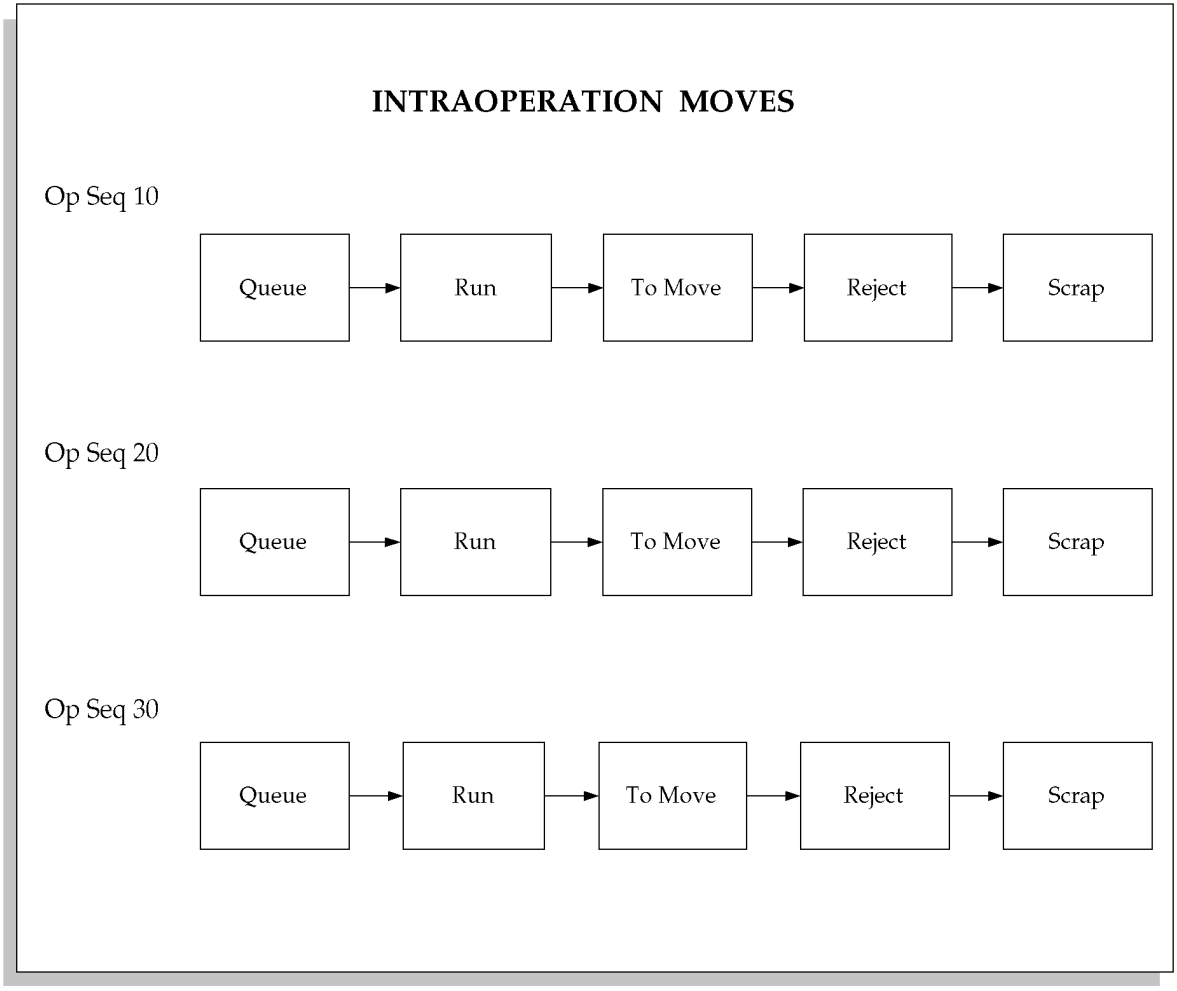
Performing Move Transactions: page 8 – 37

Intraoperation Steps: page 8 – 9

Intraoperation Moves

When you move assemblies from one intraoperation step of an operation to another intraoperation step of the same operation you are performing an intraoperation move. You can move assemblies from any enabled intraoperation step — Queue, Run, To move, Reject, or Scrap — as required. Intraoperation steps are enabled using the WIP *Enabled Intraoperation Steps* parameter.

The follow figure illustrates the flow of intraoperation move transactions:



See Also

Performing Move Transactions: page 8 – 37

Intraoperation Steps: page 8 – 9

Operation Completion Moves

You can complete assemblies at operations by:

- Moving assemblies from the Queue or Run intraoperation step of an operation to the To Move, Scrap or Reject intraoperation steps of the same operation
- Moving assemblies from the Queue or Run intraoperation steps of an operation to the To Move, Scrap or Reject intraoperation steps of a subsequent operation

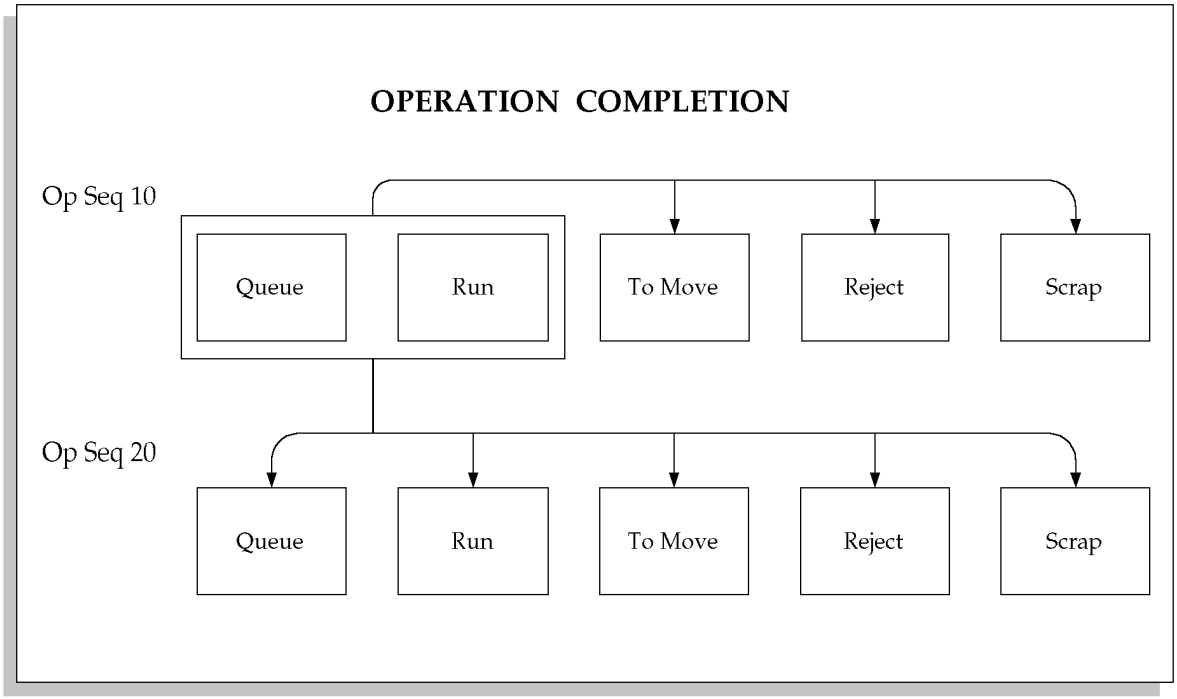
Assemblies are *not* completed at Operations by:

- Moving assemblies between the To Move, Scrap, and Reject intraoperation steps of the same operation
- Moving assemblies from the To Move, Scrap, or Reject intraoperation steps of the one operation to the Queue or Run intraoperation step of a subsequent operation

You can complete any number of assemblies from any operation in a routing. For example if you have 49 assemblies at operation 10, and 51 at operation 20 you can complete the assemblies at operation 10 before completing those at operaton 20 and vice versa. You also can over–complete assemblies

You also can over–complete assembly quantities if they are within the defined tolerance limit, if you have selected the Overcompletion check box on the Move Transaction window, which enables this functionality. See: Assembly Over–completions: page 7 – 84.

If there are WIP Move resources at an operation that is being completed, the system automatically charges these resources at their standard rate. If there are Operation Pull components at this operation, these components are automatically pulled from inventory. If there are Manual resources at the operation that is being completed, the system notifies you that *Manual* resources exist at the operation so that you can manually charge them. If you perform a move transaction that reverses an operation completion, the system automatically reverses any associated material and resource charges. See: Resource Charge Types: page 9 – 7.



See Also

Operation Pull Backflush Transactions: page 8 – 43

Intraoperation Steps: page 8 – 9

Performing Move Transactions: page 8 – 37

Move Completion/Return Transactions

If the WIP_WIPTXSFM_NO_CMP (*Move Transactions: No Completion Transactions)* form function parameter is set to allow completions, you can use the Move Transactions window to simultaneously move and complete assemblies from and return and move assemblies to discrete jobs and repetitive schedules. See: Form Function Parameters: page 2 – 78.

Assembly move completions automatically issue components with a supply type of Assembly Pull to the job or repetitive schedule, reduce the number of assemblies in the To move intraoperation step of the last

operation of the job or repetitive schedule routing, and increase the quantity completed on the job or repetitive schedule

Assembly move returns move the assemblies first to the To Move intraoperation step of the last operation then to the operation sequence and step that you specify.

Over–completions

If the *Allow Overcompletions* form function is included on your menu, you can move, but not return, more assemblies than exist at an operation. This allows you to over–complete more assemblies than are specified for the job or repetitive schedule.

The assemblies that are over–completed are moved through each of the job or schedule operations. This ensures that Operation and Assembly Pull components are backflushed and resources are properly charged. Push components associated with the assembly's routing must, however, be manually issued using the WIP Material Transactions window.

Completions into License Plate Numbers

If Oracle Warehouse Management is installed, you can perform assembly completions and work order–less completions into license plate numbers. License plate numbers identifiers for tracking the contents of containers in receiving, work in process, inventory, shipping, and in–transit. Information for each container can be tracked both inbound and outbound. The container's genealogy provides content and transaction history for each license plate. See: Explaining License Plate Management, *Oracle Warehouse Management User's Guide*

> **Note:** For work order–less return transactions, you must first unpack the LPN before performing the assembly return transaction.

Kanban Replenishment

The supply status of a production kanban is updated to Full when the first assembly from replenishment job or repetitive schedule is move completed.

See Also

Assembly Over–completions: page 7 – 84

Security Functions: page 2 – 78

Assembly Pull Backflush Transactions: page 7 – 79

Performing Move Transactions: page 8 – 37

Performing Move Completion and Move Return Transactions: page 8 – 48

Completing and Returning Assemblies: page 7 – 91

Kanban Planning and Execution, *Oracle Flow Manufacturing User's Guide*

Pull Sequence Window, *Oracle Flow Manufacturing User's Guide*

Accessing the Planning Region, *Oracle Flow Manufacturing User's Guide*

Accessing the Production Region, *Oracle Flow Manufacturing User's Guide*

Production Line Moves

You can track the production of repetitive assemblies by production line. When you move assemblies being built on a production line, the system groups all transactable repetitive schedules for that assembly on that line. In other words, you can move assemblies and charge resources across multiple schedules.

The system automatically allocates move and resource transaction quantities to schedules on a first in–first out basis. For example, if you have 2 released schedules for 100 assemblies each and you move 150 assemblies, the system automatically allocates 100 to the earliest schedule and 50 to the next. When you move repetitive assemblies backward, for example from operation 40 to 30, move quantities are allocated to the last schedule on a last in–first out basis.

Open Move Transaction Interface

You can load move transaction information into the Open Move Transaction Interface table from external sources such as bar code readers, factory floor machines such as cell controllers, and other manufacturing execution and quality control systems. The move transaction manager, launched in Oracle Inventory, processes and validates this information to ensure accuracy and compatibility with Oracle Applications information.

Warning: Move transaction records are automatically inserted into the Open Move transaction Interface when receipts that involve PO Move resources are entered in Oracle Purchasing. If the Move Transaction Manager has not been launched, these records are not processed.

Move transaction information that fails validation or processing is marked. You can use the Pending Move Transactions windows to view, update, and resubmit this information. If associated WIP Move resource transactions fail, they can be viewed, updated, and resubmitted using the Pending Resource Transactions window.

Note: If you are completing an assembly quantity that is greater than the job start quantity (over–completing quantities), you must explicitly specify the over–completion transaction quantities when you use the Open Move Transaction Interface, as they will not be derived by Work in Process.

See Also

Transaction Managers, *Oracle Inventory User's Guide*

Launching Transaction Managers, *Oracle Inventory User's Guide*

Open Move Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual

Processing Pending Move Transactions: page 8 – 54

Move Transaction Options

Move transactions can be launched from the following windows:

- Move Transactions. See: Performing Move Transactions: page 8 – 37 and Performing Move Completion and Move Return Transactions: page 8 – 48.
- Receipt Transactions. See: Entering Receipt Header Information, *Oracle Purchasing User's Guide*.

Move transactions can also be imported through the Open Move Transaction Interface. See: Open Move Transactions Interface: page 8 – 33.

See Also

Move Transactions: page 8 – 24

Move Transaction Types

When you enter move transactions in the Move Transactions window you must choose one of the following transaction types:

Move Moves assemblies within (intraoperation) and between (interoperation) routing operations. You can move assemblies forward or backward within and between routing operations.

Complete Completes assemblies from any routing operation and intraoperation step into inventory. Assembly move completions move assemblies from the current operation to the To Move intraoperation step of the last operation then complete them into inventory. Assemblies are completed into the default completion subinventory and locator specified for the discrete job or repetitive line/assembly. Where applicable, move completion transactions also charge move based resources and overheads and create backflush transactions for components with supply types of Assembly and Component Pull.

Return Returns assemblies from inventory to any routing operation and intraoperation step. Assembly move returns first return assemblies from the discrete job or repetitive line/assembly completion subinventory/locator to the To Move intraoperation step of the last operation then move them into the operation and intraoperation step you specify. Where applicable, move return transactions also create transactions that reverse charges to move based resources and reverse backflush transactions for components with supply types of Assembly and Component Pull.

You can specify which move transaction type is used as the default transaction type in the Move Transactions window using the *TP:WIP:Move Transactions* profile option. See: Profile Options: page 2 – 64.

Attention: You cannot complete or return lot controlled assemblies with move complete and move return transactions. You also cannot complete or return serial number controlled assemblies unless the Oracle Inventory Serial Generation

attribute for the assembly is set to Dynamic entry at sales order issue.

See Also

Assembly Completions and Returns: page 7 – 80

Performing Move Transactions

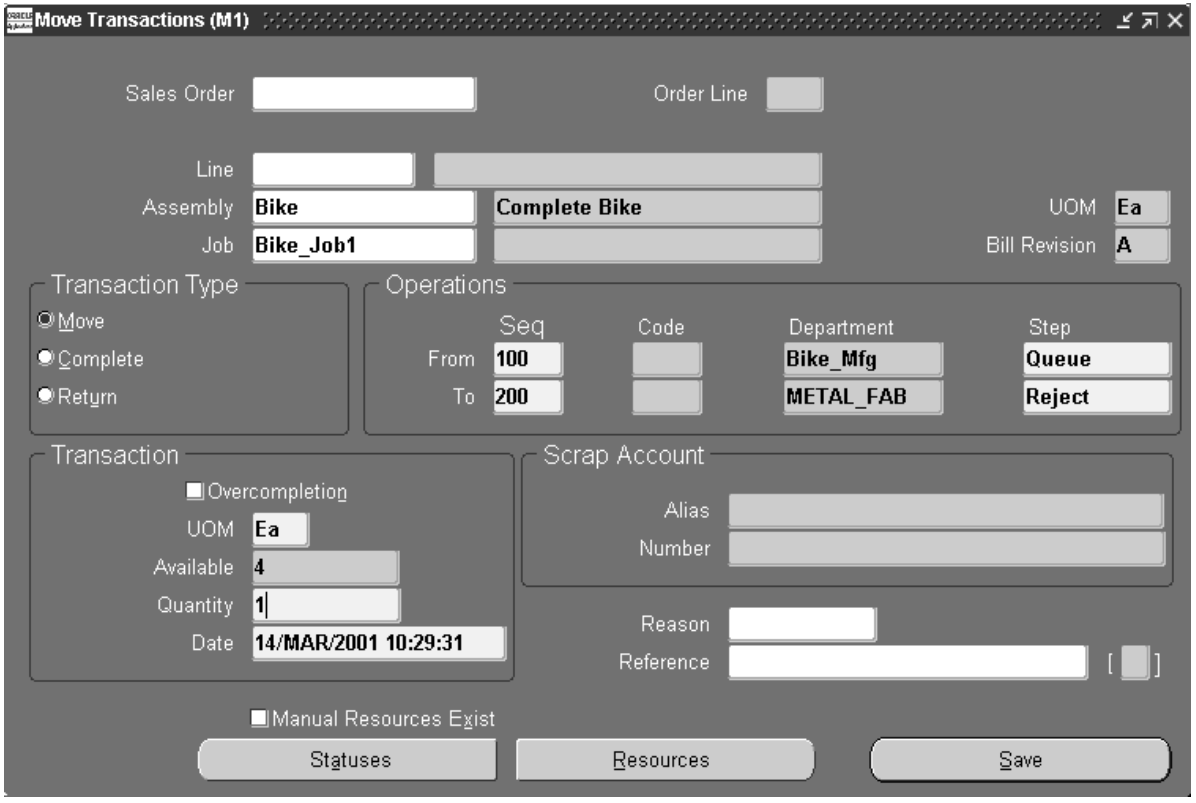
You can perform move transactions for discrete jobs and repetitive schedules with routings. You can also perform move transaction for non–standard discrete jobs that have assemblies and routing references. See: Move Transactions: page 8 – 24.

Prerequisites

- ❑ Release a discrete job or repetitive schedule with a routing or routing reference. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedules: page 6 – 22.
- ❑ Confirm that the From intraoperation step has a shop floor status that allows you to move assemblies from one intraoperation step to another. See: Assigning and Viewing Shop Floor Statuses: page 8 – 65.

▶ **To select a sales order, line/assembly or job to transact:**

1. Navigate to the Move Transactions window.



2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how you have the *TP:WIP:Move Transaction First Field* profile option set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

▶ **To perform an interoperation or intraoperation move:**

1. Select the *Move* Transaction Type. See: Move Transaction Types: page 8 – 36.
2. Select the From operation Sequence number.

   This is the operation sequence number from which you want to move assemblies.
3. Select the From operation Step.

This is the intraoperation step from which you want to move assemblies. You must enter a value in this field if you entered a value in the From Op Seq field. You can move assemblies only from intraoperation steps that contain assemblies. See: Intraoperation Steps: page 8 – 9.

You can enable or disable intraoperation steps using the *Interoperation Steps* parameter. See: Interoperation Steps Parameter: page 2 – 23.

You cannot move assemblies from an intraoperation step if it has been assigned a shop floor status that prevents moves. You can optionally prevent moves from an operation and intraoperation step to an operation and intraoperation step if a No Move intraoperation step exists between the two. This is done using the *Allow Moves Over No Move Shop Floor Statuses* parameter. See: Move Transaction Parameters: page 2 – 20.

Attention: You can view statuses by choosing the Statuses button.

4. Select the To operation Sequence number.

   The system defaults in the next count point operation as the To operation sequence. For example, suppose you have three operations at sequences 10, 20, and 30 defined as count point, non–count point, and count point respectively. When you select operation 10 as the From operation, the system automatically defaults operation 30, the next count point operation, as the To operation. You can override this default and choose operation 20, if required.

   If you move assemblies between operations (interoperation), the To operation sequence must be the different from the From operation sequence. You can select any operation on the routing including preceding operations.

   If you move assemblies within an operation(intraoperation), the To operation sequence must be the same as the From operation sequence. For example, you can move assemblies from the Queue to Reject intraoperation step of the same operation.

5. Select the To operation Step. This can be any operation step in any operation sequence.

   If you are entering an interoperation move, the To Operation step can be any intraoperation step in an operation before or after the current operation step.

If you are entering an intraoperation move, the To Operation step can be any intraoperation step before or after the current intraoperation step.

Moves into the To Move, Scrap, or Reject intraoperation steps of an operation, whether transacted as intraoperation or interoperation moves, complete assemblies at that operation.

6. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

   You can use any valid, alternate unit of measure for the assembly you are moving.

7. If you selected Move as the transaction type, the Overcompletion check box is enabled. Select the check box to specify over–completion.

   ☞ **Attention:** You must select the check box before you enter the over–completion quantity. The transaction quantity must be greater than the quantity at the From operation or the available quantity, and it must be within tolerance levels.

   The Overcompletion check box is disabled if you are performing a return transaction or a reverse move transaction, for example moving assembles from operation 30 to 20 or from the To Move intraoperation step to the Queue intraoperation step. It is also disabled if the From interoperation step is Scrap or Reject.

8. Enter the transaction Quantity.

   The transaction quantity defaults to either the minimum transfer quantity, the available quantity, or not at all depending on how the *TP:Move Transaction Default Quantity* profile option is set. See: Profile Options: page 2 – 64.

   If you enter a quantity that is less than the minimum transfer quantity, a warning is displayed but you are allowed to continue. If you selected an alternate unit of measure for the assemblies, you must enter the transaction quantity in the alternate unit of measure.

   If you have the *TP:WIP:Move Transaction* profile option set to Online processing, you cannot move more assemblies than exist in an operation step. If this option is set to Background processing, however, you can move any number of assemblies, but the quantity is validated in the background. You can correct any errors using the Pending Move Transactions window. See: Processing Pending Move Transactions: page 8 – 54.

   If you have more than one repetitive schedule released for a specified assembly, the system displays the aggregate quantity of

these schedules and allocates quantities across schedules using a FIFO (first in–first out) algorithm. Thus transactions against the oldest repetitive schedules are processed first.

9. Enter the transaction Date and time.

   The date and time must fall within an open accounting period and cannot be greater than the current date and time or less than the release date of the job or the release date of the earliest valid repetitive schedule. Valid repetitive schedules have statuses of Released or Complete.

10. Optionally, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

11. Optionally, enter the transaction Reference.

    References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

12. If Oracle Quality is installed and one or more qualified mandatory collection plans exist, Oracle Quality is invoked and the Find Collection Plans window appears. If no mandatory collection plans are found you can optionally invoke Oracle Quality by choosing the Quality button from the toolbar or the Enter Quality Results option from the Tools menu. See: Entering Quality Data for Move Transactions, *Oracle Quality User's Guide*.

13. Choose the Transact button.

▶ **To scrap assemblies:**

- See: Scrapping Assemblies: page 8 – 72.

▶ **To add an operation and move assemblies into this operation:**

1. Enter a From operation Sequence number.
2. Enter a From operation Step.
3. Enter a To operation Sequence number for the new operation.
4. Enter an operation Code or Department for the new operation sequence.
5. Enter a To operation Step for the new operation.
6. Follow steps 6 through 11 above.

▶ **To backflush pull components:**

- See: Backflushing Pull Components: page 8 – 44.

▶ **To charge manual resources:**

- Choose the Resources button. See: Charging Resources with Move Transactions: page 9 – 36.

▶ **To view shop floor statuses:**

- Choose the Statuses button. See: Assigning and Viewing Shop Floor Statuses: page 8 – 65.

See Also

Setting Up Shop Floor Control: page 8 – 5

Operation Completion Move Transactions: page 8 – 29

Performing Move Completion and Move Return Transactions: page 8 – 48

Intraoperation Steps: page 8 – 9

Resource Management: page 9 – 2

Operation Pull Backflush Transactions

Operation pull backflush transactions automatically pull inventory for all Operation Pull components defined at the operation. They also pulls components for all non–backflush operations between the current operation and the last completed backflush operation. Whether the backflush occurs automatically during a move transaction is determined by the whether the operation is or is not defined as a backflush operation. See: Operations, *Oracle Bills of Material User's Guide*. and Creating a Standard Operation, *Oracle Bills of Material User's Guide*.

Backflush Operations

You cannot backflush at operations that are specified as non–backflush operations. If you assign Operation Pull components to non–backflush operations these components are backflushed at a backflushing operation later in the routing. The last operation in the routing should always be defined as a backflush operation to ensure that all Operation Pull components are backflushed by the end of the routing.

Count Point and Autocharge Operations

When you define operations in Oracle Bills of Material, you can specify whether an operation is a count point and whether resources at that operation should be automatically charged during a move transaction. You can update this information in Work in Process using the Operations window. Operations that are non–count point/autocharge operations must be defined as backflush operations. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.

Negative Requirements Backflushes

When Operation Pull components that have negative requirement quantities are backflushed, they are returned to instead of supplied from inventory.

See Also

Backflush Transactions: page 7 – 74

Lot and Serial Number Backflushing: page 7 – 78

Supply Types: page D – 2

Backflushing Pull Components

As you perform move and completion transactions that complete assembles at an operation or complete assemblies into inventory, the system automatically backflushes pull components not under lot, serial number, or lot and serial control from their respective supply subinventories. Reversing these transactions returns backflushed components back to their subinventories. See: Backflush Transactions: page 7 – 74 and Reverse Backflush Transactions: page 7 – 74.

Pull components under lot, serial number, or lot and serial number control are handed somewhat differently. Lot controlled components can also be automatically backflushed but only if the WIP *Backflush Lot Selection Parameter* is set to auto–FIFO selection — by Receipt Date or Expiration Date — and there is sufficient inventory. Components under serial number or lot and serial control cannot however be backflushed without the manual entry of the applicable lot and/or serial numbers. See: Lot and Serial Number Backflushing: page 7 – 78.

Operation and Assembly Pull components are not automatically backflushed when you complete assemblies at an operation or complete job or schedule assemblies into inventory if the following conditions exist:

- the operation that assemblies are being completed at is not a backflush operation
- the components are under serial number or lot and serial number control
- the WIP *Backflush Lot Selection Parameter* requires manual entry of lot numbers
- there is insufficient inventory in the supply subinventory and locator for lot controlled components

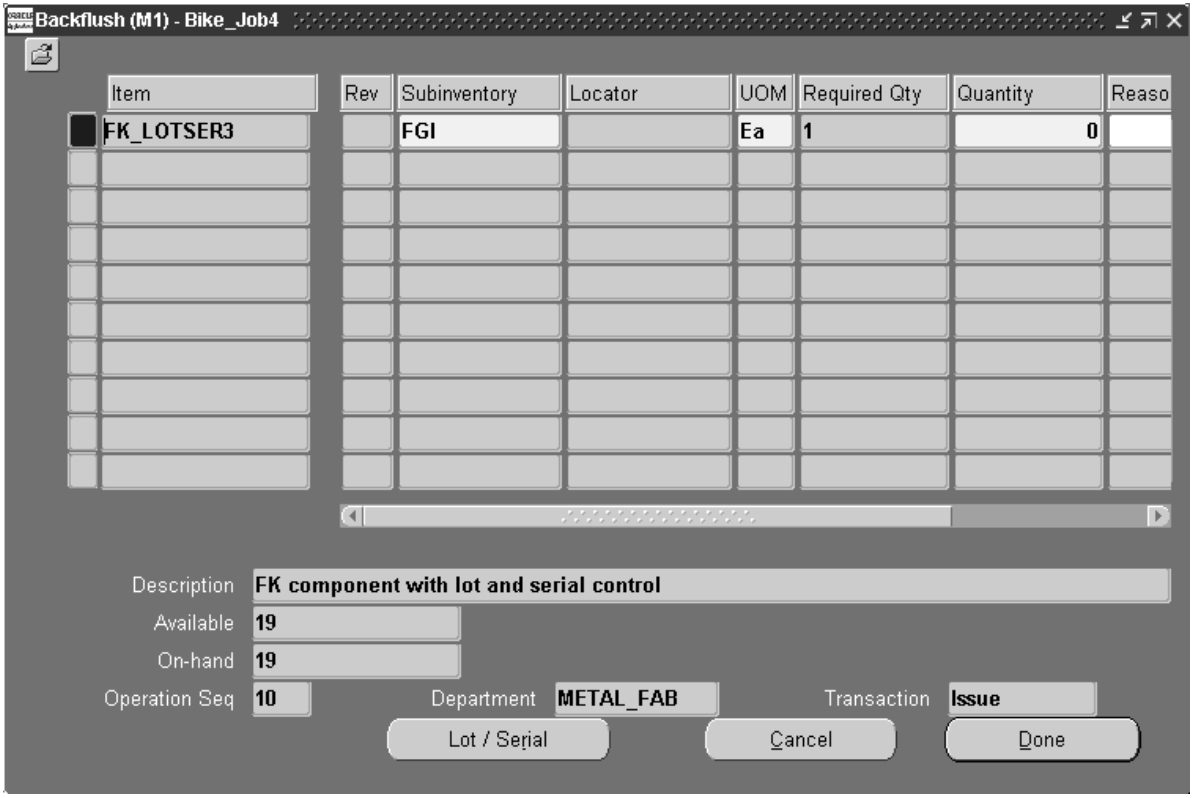
Attention: Backflush transactions that do not complete because there is insufficient inventory can be resubmitted using the Pending Transactions window in Oracle Inventory. See: Viewing Pending Transactions, *Oracle Inventory User's Guide*.

Pull components that are not backflushed can be manually issued using the WIP Material Transactions window. You can use the WIP Material Transaction window to issue these components that were not

backflushed because the backflush transaction was cancelled. See: Issuing and Returning Specific Components: page 7 – 49.

▶ **To backflush or return backflushed components under lot, serial, or lot and serial control:**

1. When the Backflush Transactions folder window appears, select the supply Subinventory and, if required by the subinventory, the supply Locator. See: Customizing the Presentation of Data in a Folder, *Oracle Applications User's Guide* and See: Supply Subinventory and Locator Fields, *Oracle Bills of Material User's Guide*.



Attention: The Backflush Transaction folder window automatically appears only if you are backflushing lot controlled pull components and the WIP *Lot Selection Method Parameter* is set to require manual lot entry. It also appears when you are backflushing serial only or lot and serial controlled components. See: Backflush Default Parameters: page 2 – 21.

2. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

   You can use any valid, alternate unit of measure for the component you are backflushing.

3. Enter the transaction Quantity.

   You must transact the the Quanity Required value. If you are transacting components in their primary unit of measure under lot control and the required quantity is a non–integer, you can only transact up to the largest integer. If you enter an alternate unit of measure for the assemblies, you must enter the transaction quantity in the alternate unit of measure.

4. Optionally, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

5. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

6. Choose the Lot/Serial button to assign lot and/or serial numbers. See: Assigning Lot Numbers, *Oracle Inventory User's Guide* and Assigning Serial Numbers, *Oracle Inventory User's Guide*.

7. Choose Done to save your work.

See Also

Backflush Transactions: page 7 – 74

Move Transaction Types: page 8 – 36

Performing Move Transactions: page 8 – 37

Performing Move Completion and Move Return Transactions: page 8 – 48

Move Completion/Return Rules

The following rules are enforced when performing assembly move completion and move return transactions:

- Discrete jobs and repetitive schedules must have routings.
- A non–standard discrete job must have an assembly and routing reference
- Default completion subinventories, and locators if required by the subinventory, must be specified for the following:
  - standard discrete jobs
  - the repetitive line/assemblies that are used to build Repetitive schedules
  - non–standard Discrete jobs with routing references
- Assemblies under lot control cannot be completed from or returned to repetitive schedules
- Assemblies under lot control can be completed from and returned to discrete jobs only if you have specified a lot number for the job. See: Defining Discrete Jobs Manually: page 3 – 63
- Assemblies under serial number control cannot be completed from or returned to discrete jobs or repetitive schedules unless the item's Serial Generation attribute in Oracle Inventory is set to dynamic entry –At sales order issue.
- Assemblies cannot be completed from or returned to the To Move intraoperation step of the last operation on the routing
- Assemblies cannot be completed from or returned to a discrete job or repetitive schedule if the To Move intraoperation step of the last operation on the routing has a shop floor status that disallows move transactions
- When a job or schedule with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.
- Changing a job or schedule status to completed, closed, or canceled is prevented if open reservations exist. You must unlink the sales order reserved to the assembly, or reduce the quantity to equal the completed quantity.

The following rules are enforced only when performing move return transactions:

- You cannot return more assemblies from inventory to a standard Discrete job than have been completed from that job
- You cannot return more assemblies to jobs or schedules than exist in inventory unless the Oracle Inventory Allow Negative Balances parameter is set. See: Default Inventory Parameters, *Oracle Inventory User's Guide*.
- Assemblies cannot be returned to Discrete jobs or Repetitive schedules if the assembly item or its subinventory is under reservation control.

Performing Move Completion/Return Transactions

You can complete assemblies into inventory from jobs and schedules using move completion transactions. You can also return completed assemblies back to jobs or repetitive schedules using move return transactions.

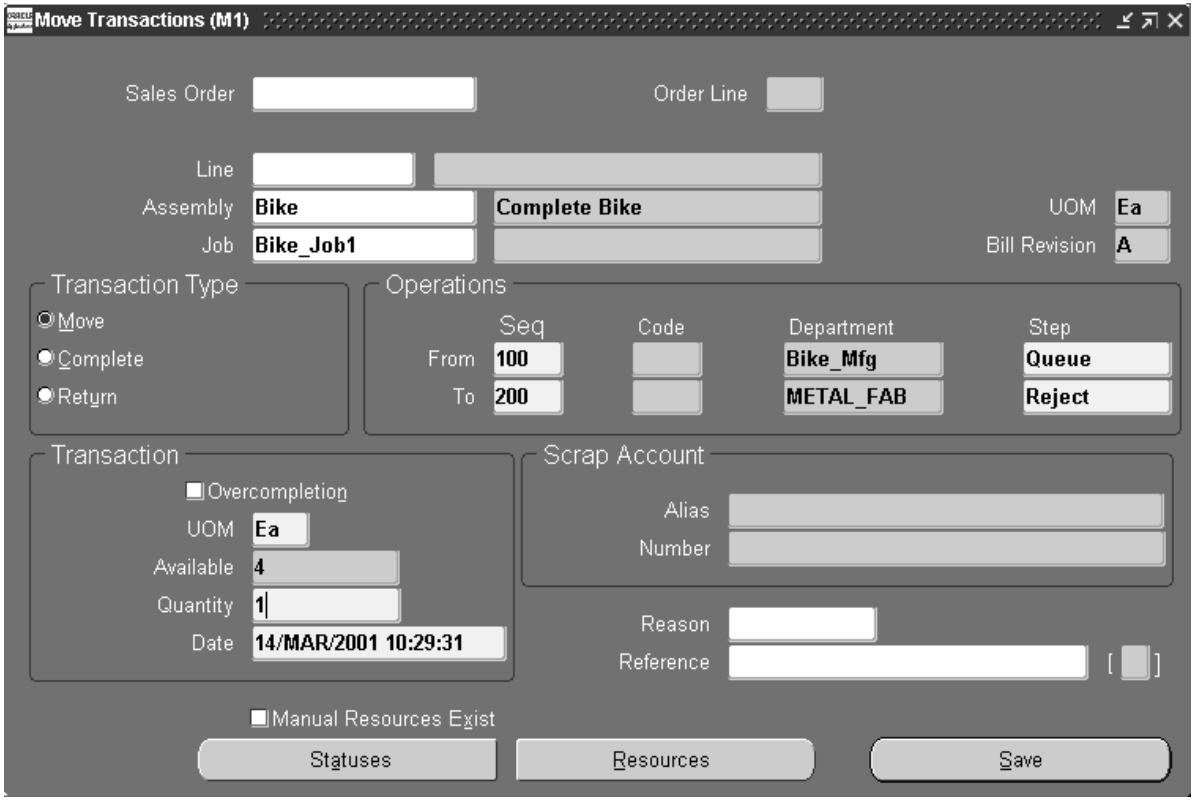
Attention: Function security controls whether assembly move completion and move return transactions are allowed. You can also control whether the Move Transaction Type defaults to Complete using the WIP:Move Completion Default. See: Profile Options: page 2 – 64 and Security Functions: page 2 – 78.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedule: page 6 – 22.
- ❑ Confirm that the From intraoperation step has a shop floor status that allows you to move assemblies from one intraoperation step to another. See: Assigning and Viewing Shop Floor Statuses: page 8 – 65.

▶ **To select a job, repetitive schedule, or sales order:**

1. Navigate to the Move Transactions window.



2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how you have the *TP:WIP:Move Transaction First Field* profile option set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

   You can reserve over–completion quantities from jobs linked to sales orders. Enter the sales order number, otherwise the over–completion is unreserved excess inventory. See: Linking Sales Orders and Discrete Jobs: page 3 – 74.

▶ **To move and complete assemblies or return and move assemblies:**

1. Choose the Complete or Return Transaction Type. See: Move Transaction Types: page 8 – 36.

If you are completing assemblies, information from the last operation of the job or schedule is automatically defaulted into the operation To fields — Sequence, Code, and Department — and the To Move intraoperation step is defaulted for the To Step.

If you are returning assemblies, information from the last operation of the job or schedule is automatically defaulted into the operation From fields — Sequence, Code, and Department — and the To Move intraoperation step is defaulted for the From Step.

2. If you are completing assemblies, select the complete From operation Sequence and intraoperation Step.
3. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

   You can use any valid, alternate unit of measure for the assembly you are moving.
4. Enter the transaction Quantity.

   If you are completing assemblies, you can complete a greater quantity than the job or schedule start quantity, subject to the tolerance level set. For example, if you have 49 assemblies at operation 10, and 51 at operation 20 you can complete the assemblies at operation 10 before completing those at operaton 20.

   If you are returning assemblies, you can return fewer but not more assemblies than the number of assemblies that have been completed from a standard Discrete job. You can return more assemblies than completed to non–standard Discrete jobs and to Repetitive schedules. You cannot return more assemblies than are in inventory unless the *Allow Negative Balances* parameter is set in Oracle Inventory. See: Organization Parameters Window, *Oracle Inventory User's Guide*.

   If you enter a quantity that is less than the minimum transfer quantity for the operation, a warning is displayed but you are allowed to continue.

   If you selected an alternate unit of measure, you must enter the quantity in the alternate unit of measure.
5. Enter the transaction Date and time.

   The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.
6. Optionally, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

7. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

8. Choose the Transact button.

▶ **To backflush pull components:**

- See: Backflushing Pull Components: page 8 – 44.

See Also

Setting Up Shop Floor Control: page 8 – 5

Assembly Move Completion Transactions: page 2 – 75

Move Completion/Return Rules: page 8 – 47

Intraoperation Steps: page 8 – 9

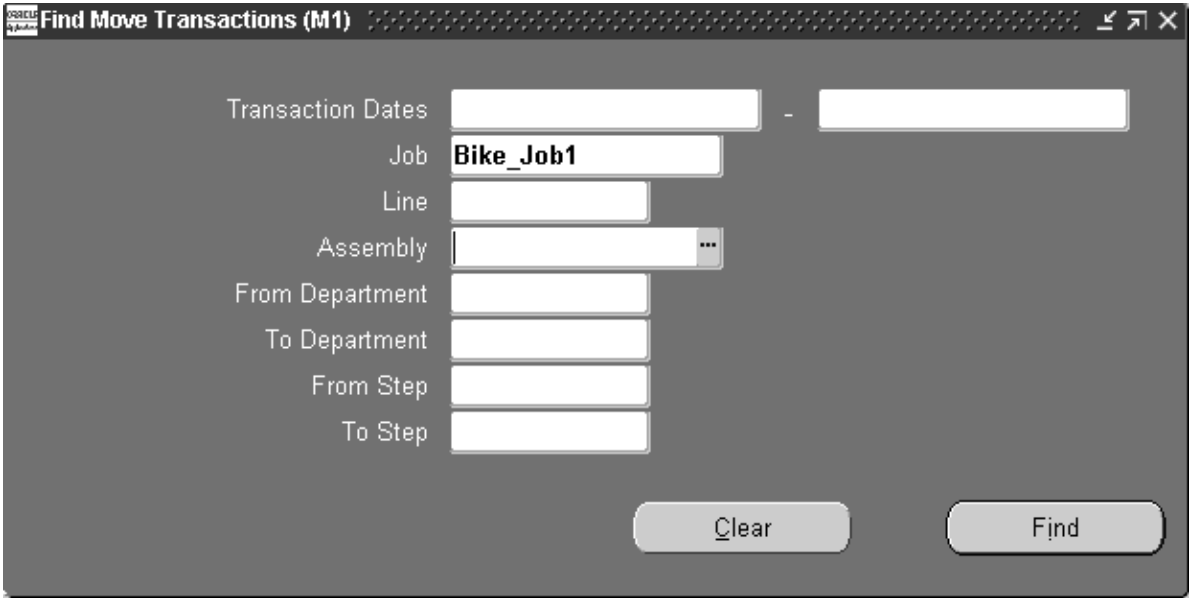
Resource Management: page 9 – 2

Viewing Move Transactions

You can view move transactions for an individual job or repetitive schedule (line/assembly). You can also view move transactions across jobs and schedules.

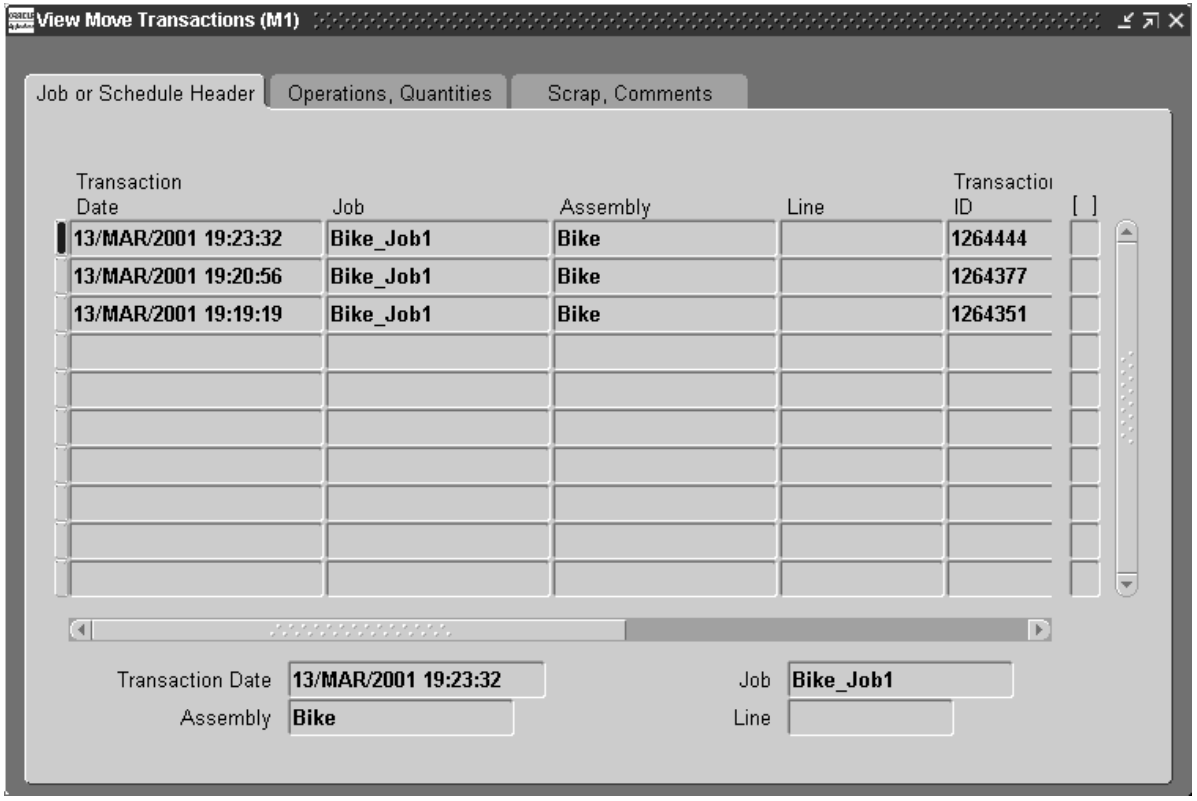
▶ **To find and view move transactions:**

1. Navigate to the View Move Transactions window. The Find Move Transactions window appears.



You can query to find move transactions by Transaction Date or date range, by Job, by production Line, by Assembly, by a range of Departments, and by a range of Steps. For example, you might query to find all move transactions that scrapped assemblies (To Step = Scrap).

2. Enter any combination of search criteria and choose the Find button. The results display in the View Move Transactions window.



You can view the following move transaction information in the Move Transaction window's tabbed regions:

Job or Schedule Header: Transaction Date, Job, Assembly, production Line, Transaction ID

Operations, Quantities: From Operation (Sequence, Department Step), To Operation (Sequence, Department, Step), Transaction (UOM, Quantity), Primary (UOM, Quantity), and Overcompletion (Transaction Quantity, Primary Quantity)

Scrap, Comments: Scrap Account, Reason, Reference

You can also view, if entered, descriptive flexfield information. See: Setting Up Descriptive Flexfields: page 14 – 4.

See Also

Searching for Information, *Oracle Applications User's Guide*

Move Transaction Options: page 8 – 34

Pending Move Transactions

You can view Move transactions awaiting processing. You can also view, update, delete, and resubmit Move transactions that have failed validation or processing.

Processing Pending Move Transactions

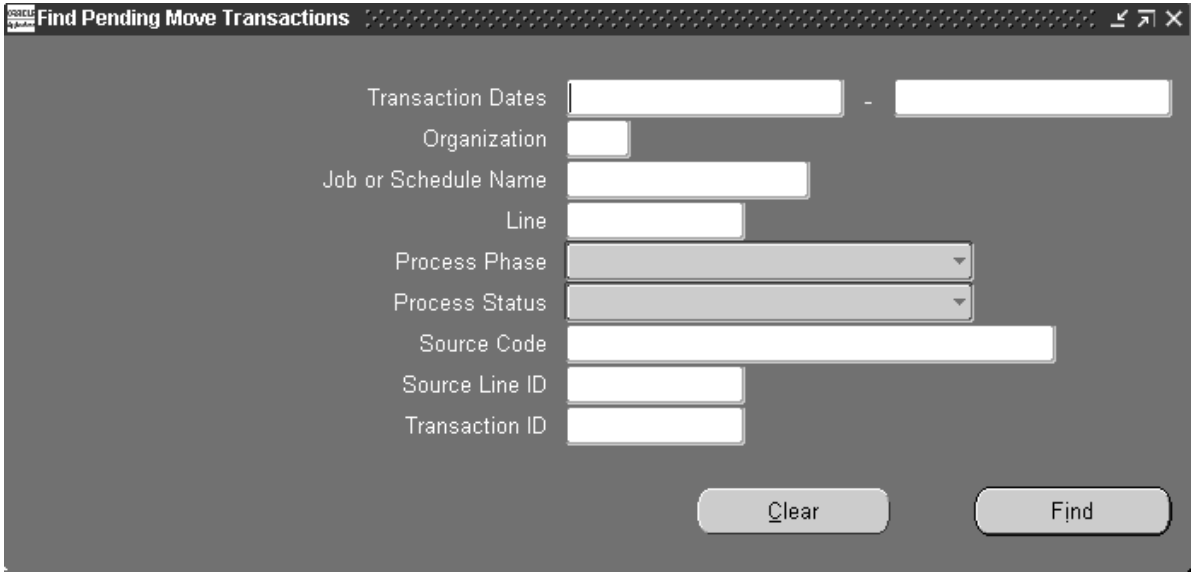
You can view, update, delete, and resubmit Move transaction records that have failed validation and remain in the Open Move Transaction Interface table (WIP_MOVE_TNX_INTERFACE). You can also resubmit transactions whose concurrent process has failed and have a processing phase of Complete and process status of Error. You can view error messages associated with failed records. Error messages can assist you in updating failed records before resubmission.

Prerequisites

- ❑ Launch the Move Transaction Manager. See: Transaction Managers, *Oracle Inventory User's Guide* and Launching Transaction Managers, *Oracle Inventory User's Guide*.

▶ **To view pending Move transaction records:**

1. Navigate to the Pending Move Transactions window. The Find Pending Move Transactions window appears.



You can search for records by Transaction Date range, by Organization, by Job or Schedule Name, and production Line. You can also search for records that have a specific Process Phase (Move validation, Move processing, or Backflush setup, Process Status (Pending, Running, or Error), Source Code, Source Line ID, or Transaction ID.

2. Enter any combination of search criteria and choose the Find button. The Pending Move Transactions window appears with the results of your query.

▶ **To view pending Move transaction records:**

- For each pending record displayed, you can view the following information using the Pending Move Transactions window's tabbed regions:

Processing: Group ID, processing Phase, processing Status

Source: Source Code, Source Line (if applicable), Created By

Concurrent Request: Request ID, Phase, Status, Message

Job or Schedule Name: Organization, Job or Schedule Name, Line

Operations: From Operation Sequence, Department, and Step and To Operation Sequence, Department, and Step

Transaction: Transaction ID, UOM, Quantity, Overcompletion Quantity, Date and Time, Type

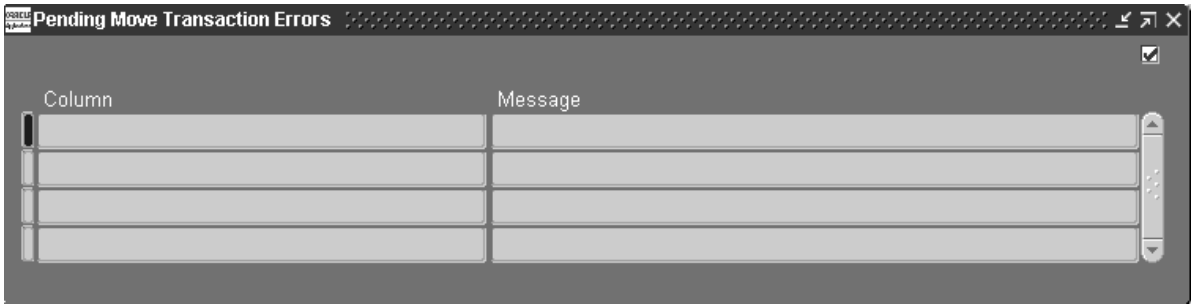
Comments and Scrap Account: Reason, Reference, and Scrap Account

You can also view the descriptive flexfield information entered for the transaction record. See: Setting Up Descriptive Flexfields: page 14 – 4.

▶ **To view error details for failed Move transactions:**

1. In the Pending Move Transactions window, select the failed record.

2. Choose the Errors button. The Pending Move Transactions Error window appears.



All errors for the selected record are displayed. *Column* indicates the name of the column in the Move interface table that failed validation. *Message* indicates why the transaction failed. Using these messages you can determine what fields need to be updated.

Messages that are not specific to a Column, for example processing errors, may also be displayed. In such cases, a *Message* but no *Column* is shown.

▶ **To update failed Move transaction records:**

1. Select the record to update.

   You can update records with a processing status of Error.

2. In the Source tabbed region, enter the Source Code, the Source Line, or both.

   When you insert records into the Open Move Transaction Interface table, you can optionally identity a record's source using the source code and source line. For example, you can enter a different source code and source line for records from a bar code reader versus those from a radio frequency device.

3. Select the Created By identifier.

   The name of the user that created the transaction is displayed. This field can be updated.

4. In the Job or Schedule Name tabbed region, select the Organization.

   You can only select enabled organizations. See: Creating an Organization, *Oracle Human Resources User's Guide*.

5. Select the Job or Schedule Name.

If you select a schedule name, you must enter a production line. If you select a Discrete job, and the line field contains a value the system prompts you to delete the line value.

6. In the Operations tabbed regions, select the From Operation Sequence.

   You can enter any operation defined for your job or schedule.

7. Select the From Operation Step.

   You can update this field with any intraoperation step currently enabled for your organization. See: Intraoperation Steps: page 8 – 9.

8. Select the To Operation Sequence. You can enter any operation sequence that has a valid department for your organization and job or Repetitive schedule.

9. Select the To Operation Step.

   You can select any operation step that is enabled for your organization. If you select the Scrap intraoperation step and the WIP *Require Scrap Account* parameter is set, you must enter a scrap account. If you update the To Operation step from Scrap to another, non–scrap step and the scrap account field has a value, you must clear the scrap account field.

10. Select the Move transaction Type: Move transaction, Move and Complete, Return and Move. See: Move Transaction Types: page 8 – 36.

11. In the Transaction tabbed region, select the UOM.

    You can use any valid, alternate UOM for the assembly you are moving. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

12. Enter the transaction Quantity.

    If you enter an alternate unit of measure for the assemblies, you must enter the quantity in the alternate unit of measure. You can update this field with any number.

13. If you are over–completing an assembly quantity, the over–completion quantity is displayed in the field. You can manually change it.

14. Enter the transaction Date and time.

    The date and time must fall within an open accounting period and cannot be greater than the current date or less than the release date of the job or the earliest valid Repetitive schedule.

15. In the Comments and Scrap Account tabbed region, select a transaction Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

16. Enter the transaction Reference.

    References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

17. If the To intraoperation step is Scrap and the WIP *Require Scrap Account* parameter is set, you must enter a scrap account Number or an account Alias. If you do not specify that a scrap account is required, it is optional. See: Move Transaction Parameters: page 2 – 20 and Defining Account Aliases, *Oracle Inventory User's Guide*.

    If you subsequently change the To intraoperation step from Scrap to an intraoperation step other than Scrap, you must clear the Scrap Account number or Account Alias.

18. Save your work.

▶ **To resubmit individual failed Move transaction records:**

1. In the Pending Move Transactions window, check the transaction's Resubmit check box.

   You can resubmit transactions of any processing status. If you leave the check box unchecked you can still update your transaction record but the transaction manager does not process it again when polling the Move interface table.

2. Save your work to resubmit the transaction.

   When you resubmit a record, the system nulls the Transaction ID, Group ID, and concurrent Request ID and changes the processing status to Pending. The resubmit level of the Move Transaction Manager determines at what specific start date and time or at what specific intervals transactions are processed.

▶ **To select and resubmit all failed Move transaction records:**

1. In the Pending Move Transactions window, chose *Select All for Resubmit* from the Tools menu. See: Tools menu: page F – 2.

You can deselect selected transactions as required.

2. Save your work to resubmit the transactions.

   When you resubmit transactions, the system nulls their Transaction IDs, Group IDs, and concurrent Request IDs and changes their processing Statuses to Pending. The resubmit level of the Move Transaction Manager determines at what specific start date and time or at what specific intervals transactions are processed.

▶ **To delete pending Move transaction records:**

1. In the Pending Move Transactions window, select the transaction.
2. Choose Delete from the Edit Menu

   You can delete failed records that have a processing status of Error regardless of their processing phase. When you delete transaction records, their corresponding error messages are also deleted.

See Also

Open Move Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual

Open Move Transaction Interface: page 8 – 33

Performing Move Transactions: page 8 – 37

Performing Move Completion Transactions: page 8 – 48

Profile Options: page 2 – 64

Searching for Information, *Oracle Applications User's Guide*

Finding Pending Move Transactions

You can find pending move transactions for jobs or schedules or repetitive lines and assemblies.

You can find pending move transactions by a range of Transaction Dates, Organization, Job or Schedule Name, production Line, Process Phase (Move validation, Move processing, or Backflush setup), Process Status (Pending, Running, or Error), Source Code, Source Line ID, and Transaction ID. You can limit or expand your selection by combining selection criteria.

▶ **To find pending move transactions:**

1. Navigate to the Pending Move Transactions window. The Find Pending Move Transactions window appears.
2. Enter any combination of search criteria and choose the Find button. The Pending Move Transactions window appears with the results of your query.

See Also

Processing Pending Move Transactions: page 8 – 54

Shop Floor Statuses

Shop floor statuses help you control assembly move transactions on the shop floor. You can define as many shop floor statuses as are required.

You can restrict moves transactions by assigning 'no move' shop floor statuses to intraoperation steps within job and repetitive schedule operations. Shop floor statuses can be used to restrict the movement of an assembly out of a 'no move' intraoperation step. For example, you can define a 'no move' shop floor status, such as QAHold, then assign this status to the applicable intraoperation step to prevent moves until the problems are resolved.

Shop floor statuses can also be used to restrict moves over 'no move' intraoperation steps and out of operations that have outside processing resources assigned to them. These two optional uses of shop floor statuses are controlled by WIP parameters and are described below.

Restricting Moves Over 'No Move' Intraoperation Steps

When the WIP *Allow Moves Over No Move Shop Floor Statuses* parameter is not set, the system checks all autocharge operations and To Move, Run and Queue intraoperation steps between the From and To operations and intraoperation steps for 'no move' statuses. The system also checks the statuses of intervening intraoperation steps at the From and To operations if those operations are direct charge. If a status that can prevent moves is found, the move is disallowed. Direct charge operations between the From and To Operations and statuses at Scrap and Reject intraoperation steps do not prevent moves.

> **Note:** The *Move Transactions: Allow Skipping Over No Move Statuses* security function can be set to override 'no move' shop floor statuses. See: Security Functions: page 2 – 78.

Parameter On

If the WIP *Allow Moves Over No Move Shop Floor Statuses* parameter is set, standard shop floor status logic is applied and only moves from intraoperation steps that have 'no move' statuses are prohibited. In this example, you cannot move assemblies from the To Move intraoperation step of operation 20, from the Scrap intraoperation step of operation 30, and from the Run and Reject intraoperation steps of operation 40.

> **Note:** You can move assemblies from these operations and intraoperation steps after disabling or deleting their 'no move' statuses.

Parameter Off

If the WIP *Allow Moves Over No Move Shop Floor Statuses* parameter is not set, both standard shop floor status and 'no move' logic are applied. Again, you cannot move assemblies from the To Move intraoperation step of operation 20, from the Scrap intraoperation step of operation 30, and from the Run and Reject intraoperation steps of operation 40. In addition, the following moves are also prohibited:

- You cannot move assemblies from the Queue intraoperation step of operation 10 to the Scrap intraoperation step of operation 20 because of the 'no move' shop floor status at the To Move intraoperation step of operation 20, a direct charge operation.
- You cannot move assemblies backward from the To Move intraoperation step of operation 40 to the Queue intraoperation step of operation 40 because of the intervening 'no move' at the Run intraoperation step.
- You cannot move assemblies from the Queue intraoperation step of operation 10 to the To Move intraoperation step of operation 40 because of the 'no move' status at the Run intraoperation step of operation 40.
- You cannot move and complete assemblies from the Queue intraoperation step of operation 10 to the To Move intraoperation step of the last operation, operation 40, because of the 'no move' status at the Run intraoperation step of operation 40.

The following move transactions, however, are not prohibited:

- You can move and complete assemblies from the To Move intraoperation step of operation 40 because the 'no move' status at the Reject intraoperation step of operation 40 is not considered.
- You can move assemblies from the Queue intraoperation step of operation 10 to the Queue intraoperation step of operation 30 Queue because 'no move' status at the To Move intraoperation step of operation 20 is on the intraoperation step of an intervening direct charge operation.
- You can move assemblies from the Queue intraoperation step of operation 10 to the Reject of operation 30 because the intervening 'no move' status at the Scrap intraoperation of operation 30 is not considered.
- You can move assemblies from the Queue intraoperation step at operation 10 into the Run intraoperation step of operation 40

because you can move into an operation and step with a 'no move' status without restrictions.

Additional Information: Move transactions loaded through the Open Move Transaction Interface are checked for 'no move' statuses as well.

Shop Floor Status for PO Move Resources Parameter

Selecting a 'no move' shop floor status sets the *Shop Floor Status for PO Move Resources* parameter. When this parameter is set, as you move assemblies into the Queue intraoperation step of an outside processing operation, the specified 'no move' shop floor status is automatically assigned to the To Move (Queue) intraoperation step. Assemblies are only moved out of this operation and step when a purchase order receipt transaction in Oracle Purchasing launches the move transaction.

Using this parameter ensures that the same number of assemblies are moved into and out of Queue at an outside processing step. Problems in tracking work in process and cost variances are thus avoided.

See Also

Defining Shop Floor Statuses: page 2 – 51

Assigning and Viewing Shop Floor Statuses: page 8 – 65

Shop Floor Statuses Report: page 15 – 68

Move Transaction Parameters: page 2 – 20

Assigning and Viewing Shop Floor Statuses

You can assign shop floor statuses to any intraoperation step associated with a job or repetitive line/assembly. Shop floor statuses that are assigned to a repetitive line/assembly are valid for all repetitive schedules being built on that production line.

You can assign multiple statuses to an intraoperation step. You cannot, however, assign the same shop floor status to more than one intraoperation step within the same operation. For example you could not assign the same status to the Queue and To Move intraoperation steps of operation sequence 30. You can update shop floor statuses at any time.

Statuses are removed from intraoperation steps when the quantities at those operations drop to zero.

Viewing Shop Floor Statuses

You can view the shop floor statuses that you have assigned to jobs and repetitive schedule operations. You can view statuses directly using this window or indirectly by choosing the Statuses button as you perform move transactions. Viewing statuses as you transact allows you to check the status of intraoperation steps before you attempt to move assemblies into or out of them.

Prerequisites

- ❑ Define shop floor statuses. See: Defining Shop Floor Statuses: page 2 – 51.
- ❑ Define at least one job or repetitive schedule that has a routing. See: Defining Discrete Jobs Manually: page 3 – 63 and Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To assign/update shop floor statuses:**

1. Navigate to the Assign Shop Floor Statuses window.

2. Select the discrete Job or the production Line and repetitive Assembly.

   You can assign shop floor statuses to jobs or repetitive schedules that have the following statuses: Unreleased, Released, Complete, or On Hold.

3. Choose Find to display all shop floor statuses you have previously assigned to the job or repetitive line/assembly.

4. Select the Operation Sequence of the job or repetitive schedule. You can assign shop floor statuses to any operation in the routing of the job or repetitive schedule. This includes operations you defined using the Operations window.

   The department associated with the operation sequence is displayed.

5. Select the intraoperation Step to which you want to assign or update a shop floor status. You can only choose an enabled intraoperation step. See: Intraoperation Steps Parameter: page 2 – 23.

6. Select the shop floor Status for the intraoperation step. You cannot enter a shop floor status with an inactive on date less than or equal to the current date.

7. Save your work.

Shop Floor Statuses Report: page 15 – 68

Shop Floor Management

You can use Work in Process to manage outside supplier processing, rework production, and perform assembly scrap. It also provides you with several reports that can help you manage the activities on the floor.

In this section, you will find overviews of each of these topics.

Outside Processing

You can use the closed loop system provided by Oracle Inventory, Oracle Purchasing, and Oracle Work in Process to do the following:

- Define outside processing resource requirements for your discrete job and repetitive schedule routings
- Automatically generate purchase requisitions, charge for outside resources, and complete assemblies
- Receive assembly items back from outside processing suppliers and automatically charge your outside processing resource costs
- Control and track progress at outside processing operations

Outside processing is described in detail in the Overview of Outside Processing: page 10 – 2.

See Also

PO Move and PO Receipt: page 9 – 8

Rework Production

Rework may be necessary when production problems arise. You can often rework or repair defective assemblies to make them usable. Work in Process provides several options for handling rework. The method you choose depends on the product you are building, your manufacturing process, and the nature of the problem.

The options available are as follows:

- Reject intraoperation steps
- Rework operations

- Non–standard discrete jobs

Reject Intraoperation Step

When it is possible to rework defective assemblies at their present routing operation, they can be moved into the Reject intraoperation step of that operation. This isolates them from known 'good' assemblies at that operation.

The system views assemblies moved into the Reject intraoperation step from the Queue or Run intraoperation step of the same operation as complete at that operation and updates operation completion information, backflushes pull components, and charges resource costs and overheads accordingly.

You can now perform the rework. When rework is complete you can move the repaired assemblies to the Queue, Run, or To move intraoperation step of the next operation.

If you do not want to rework defective assemblies at their present operation, you can alternatively move them to the Reject intraoperation step of a prior operation. This avoids recreating an operation completion (Queue or Run to Reject *and* Queue, Run, or To Move to the next operation) at the current operation.

If necessary, you can move irreparable assemblies into the Scrap intraoperation step of the current operation. Moves from the Reject to the Scrap intraoperation step, do not complete assemblies since rejected assemblies are already considered complete. See: Intraoperation Steps: page 8 – 9.

Rework Operations

When you regularly rework certain assemblies, you may find it convenient to add 'rework' operations to the primary routings of these assemblies. You can then move assemblies that need rework into these operations. Good assemblies bypass these operations.

Rework operations should be set to count point off/autocharge off so that when good assemblies bypass them, the system does not automatically transact operation completions for these operations. In other words, you only need to move assemblies into these operations if they require rework.

Non–Standard Discrete Jobs

You can also use non–standard jobs to perform rework activities. Before defining non–standard jobs for rework, you must first complete the defective assemblies by receiving them into a non–nettable rework

subinventory. This subinventory helps you to isolate these assemblies from the known good assemblies.

Once you determine the proper rework steps for these assemblies, you can define a non–standard discrete and add the operations and components required for the rework. You can also create a rework routing that specifically addresses this type of rework. See: Rework Assemblies: page 4 – 7.

Assembly Scrap

You can scrap unusable, partially completed assemblies from jobs and repetitive schedules by moving them into the Scrap intraoperation step of an operation.

Scrap Transactions

You scrap assemblies by moving them into the Scrap intraoperation step of an operation. You can, if necessary, recover scrapped assemblies by moving them out of the Scrap intraoperation step. You can also move assemblies back to the Scrap intraoperation step of the previous operation from the Queue or Run intraoperation step of the current operation if no work has been completed at the current operation. See: Intraoperation Steps: page 8 – 9.

The system views assemblies moved into the Scrap intraoperation step from the Queue or Run intraoperation step of the same operation as complete at that operation and updates operation completion information, backflushes pull components, and charges resource and overhead costs accordingly.

Costing Assembly Scrap

You can optionally specify whether Scrap transactions require a scrap account or alias using the WIP *Require Scrap Account* parameter. If you enter a scrap account or alias as you move assemblies into a Scrap intraoperation step, the scrap account is debited and the job or repetitive schedule elemental accounts, as determined by the accounting class, are credited for the cost of the assembly through the scrap operation. This removes the cost of the scrapped assemblies from the job or repetitive schedule. If you do not provide a scrap account, the cost of the scrap remains in the job or schedule until job or period close. If you recover assemblies from scrap, the scrap account is credited and the job or repetitive schedule elemental accounts for the cost of this assembly through this operation are debited. For more

information about how assembly cost transactions are costed see: Work in Process Average Cost Transactions, *Oracle Cost Management User's Guide* and Work in Process Standard Cost Transactions, *Oracle Cost Management User's Guide*.

Netting Assembly Scrap

For standard discrete jobs, the MRP planning process does not consider assemblies in Scrap intraoperation steps as scheduled receipts, nor does the planning process use these scrapped assemblies when calculating MPS relief. For standard discrete jobs, the planning process deducts scrapped assemblies from the MRP net quantity to determine the available supply. The planning process does not deduct scrapped assemblies from supply on non–standard discrete jobs or repetitive schedules.

Effect of Scrap on Backflush Components

When you move assemblies into the Scrap intraoperation step of an operation that has operation pull components assigned to it, the system backflushes these components, even if the operation is defined as a non–backflush operation. Operation pull components waiting at prior, non–backflush operations are also backflushed.

When you move assemblies into the Scrap intraoperation step of an operation that has assembly pull components assigned to it, the system backflushes these components and all assembly pull components at prior operations.

If you recover assemblies from scrap, by moving assemblies out of instead of into a Scrap intraoperation step, the backflush transactions described above are reversed.

Attention: When you scrap assemblies at an operation, the operation and assembly pull components that would have been consumed at subsequent operations are not backflushed.

See Also

Intraoperation Steps: page 8 – 9

Operation Pull Backflush Transactions: page 8 – 43

Move Transaction Parameters: page 2 – 20

Scrapping Assemblies: page 8 – 72

Scrapping Assemblies

You scrap assemblies by moving them into a scrap intraoperation step as part of an intraoperation or interoperation move transaction. If you enter a scrap account number or alias, the cost of the assembly through the scrap operation is removed from the job or schedule. See: Assembly Scrap: page 8 – 70.

Prerequisites

- ❑ Release a job or repetitive schedule. See: Releasing Discrete Jobs: page 3 – 92 and Releasing Repetitive Schedule: page 6 – 22.
- ❑ Confirm that the From intraoperation step has a shop floor status that allows you to move assemblies from one intraoperation step to another. See: Assigning and Viewing Shop Floor Statuses: page 8 – 65.

▶ **To select a sales order, line/assembly or job to transact:**

1. Navigate to the Move Transactions window.
2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how you have the *TP:WIP:Move Transaction First Field* profile option set. See: Profile Options: page 2 – 64.

   You can only select a discrete job or a repetitive line and assembly for a repetitive schedule if the job or schedule has a status of Released or Complete.

▶ **To perform an intraoperation scrap move:**

1. Select the From operation Sequence and intraoperation Step.
2. Select the To operation sequence and intraoperation step.

   The To intraoperation step must be Scrap. See: Intraoperation Steps: page 8 – 9.
3. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

   You can use any valid, alternate unit of measure for the assembly you are moving.
4. Enter the transaction Quantity.

   If you selected an alternate unit of measure, you must enter the quantity in the alternate unit of measure.

5. Enter the transaction Date and time.

   This date and time must fall within an open accounting period. It cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.

6. If the WIP *Require Scrap Account* parameter is set, you must enter a scrap account number or an account Alias. If you do not specify that a scrap account is required, it is optional. See: Move Transaction Parameters: page 2 – 20 and Defining Account Aliases, *Oracle Inventory User's Guide*.

   If you subsequently change the To intraoperation step from Scrap to an intraoperation step other than Scrap, you must clear the scrap account Number or Account Alias.

   For more information about how scrap transactions are costed see: Work in Process Average Cost Transactions, *Oracle Cost Management User's Guide* and Work in Process Standard Cost Transactions, *Oracle Cost Management User's Guide*.

7. Optionally, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

8. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

9. Choose the Transact button.

▶ **To backflush pull components:**

- See: Backflushing Pull Components: page 8 – 44.

See Also

Assigning Lot Numbers, *Oracle Inventory User's Guide*

Assigning Serial Numbers, *Oracle Inventory User's Guide*

Setting Up Shop Floor Control: page 8 – 5

Performing Move Transactions: page 8 – 37

Dispatch Reports

There are a number of reports that can help you prioritize your shop floor activity, including:

- Discrete Job Data Report: page 15 – 11
- Discrete Job Dispatch Report: page 15 – 13
- Discrete Job Listing Report: page 15 – 15
- Repetitive Line Report: page 15 – 51
- Repetitive Schedule Data Report: page 15 – 55
- WIP Location Report: page 15 – 74

CHAPTER

9 Resource Management

This chapter explains how to manage resources in Work in Process, including:

- Overviewof Resource Requirements: page 9 – 2
- Setting Up: page 9 – 6
- Resource Charge Types: page 9 – 7
- Resource Requirements: page 9 – 11
- Resource Transactions: page 9 – 30
- Pending Resource Transactions: page 9 – 45

Overview of Resource Management

In Work in Process, you can define and control resources (people, machines, and so on) during your production process using these features:

Resource Types

You can charge resources based upon their charge type: WIP Move, Manual, PO Move, and PO Receipt.

Manual Resource Transactions

You can manually charge resources associated with discrete job and repetitive schedule operations. Manual resources can be charged as you move assemblies. They can also be charged independent of move transactions resource transaction. You can correct erroneously entered Manual resource charges.

Automatic Resource Transactions

When you move job and schedule assemblies forward in their routing, pre–assigned WIP Move resources are automatically charged at their standard rate. If you move assemblies backward, WIP Move resource charges are reversed.

When you receive purchasing items that are associated with PO Move and PO Receipt resources back from an outside processing supplier, they are automatically charged. In the case of PO Move resources, the purchasing items are also completed at the operation. If you return assemblies to an outside processing supplier or enter correcting receipts for an outside processing supplier, resource charges and moves are reversed.

Resource Requirements

You can add resources to existing routing operations as well as to operations not on the original routing.

Phantom Resources

You can include phantom resources in your routings, however, when the phantom is the parent or higher level assembly, its component costs are included in the parent cost, they inherit the operation sequence number from the parent, and their resources and overheads are excluded from the parent or higher level assembly cost. If you want phantom components to maintain their own operation sequence numbers, and if you want their resource and overhead costs to be

included in the parent cost, you can set these two BOM:Use Phantom Routings and BOM:Inherit Phantom Operation Sequence parameters. See: Phantom Assemblies: page 7 – 62.

Outside Processing Resources

You can assign outside processing resources to job and schedule routing operations. You can move assemblies to and receive them back from these outside operations. The system automatically charges outside processing resources, tracks your supplier costs, and directly interfaces with Oracle Purchasing for closed loop control. See: Overview of Outside Processing: page 10 – 2.

Constraint–based Scheduling of Resources

If you have installed Oracle Manufacturing Scheduling, Constraint–based scheduling is enabled when you set the Scheduled field on the Resource Requirements window. The Scheduled field value flags the constraint–based scheduling engine to consider the capacity for the resource. See: Defining WIP Resource Definition, *Oracle Manufacturing Scheduling User's Guide*

Simultaneous and Alternate Resources

You can set up simultaneous and alternate resources. Simultaneous resources consist of two or more resources scheduled with the same start date and time. Alternate resources consist of other resources used instead of the primary resource. See: Defining Simultaneous and Alternate Resources, *Oracle Manufacturing Scheduling User's Guide*, and Adding and Updating Resource Requirements: page 9 – 16

Resource Instances

If you have installed Oracle Manufacturing Scheduling, you can define specific machines to any of your machine type resources. You can also define specific employees to labor type resources. Resource instances are defined on the Resource Instance window.

Open Resource Transaction Interface

You can load resource transaction information from external systems — such as bar code readers, payroll systems, time cards, routing sheets, and custom data entry forms — into the Open Resource Transaction Interface table. When this data is processed, it is validated, and invalid records are marked so that you can correct and resubmit them. See: Open Resource Transaction Interface: page 9 – 31.

Flexible Labor Transactions

You can charge person–type resources with or without entering an employee. If you enter an employee, the employee hourly rate is used to calculate the resource charge. Otherwise, the charge is calculated using the standard resource rate.

Actual Rate Resource Transactions

If you define a resource as costed at an actual rate, you can enter the actual rate during a manual resource transaction using the Open Resource Transaction Interface. If you do not enter an actual rate, the standard rate is used, but it is treated as an actual rate.

Automatic Overhead Charging

The appropriate overhead costs are automatically charged as you move assemblies through the shop floor. You can charge overheads directly based on move transactions or based on resource charges. You can base the material overhead charge on the number of units, or on the percentage of resource value. The overhead rate with the basis of resource value must be directly assigned to the resource's respective routing. Overhead charges are automatically reversed during a backward move transaction.

Mobile Manufacturing

If Oracle Mobile Supply Chain Applications is installed, the Mobile Manufacturing component enables you to perform resource transactions using a mobile client device networked with a computer system. You can charge resources defined to operation sequences. See: Resource Transactions, *Oracle Mobile Supply Chain Applications User's Guide.*

Resource Reporting

You can report on resource transactions, efficiencies, and costs by job, repetitive schedule, department, or resource to get a complete history of resource activities. See: Resource Performance Report: page 15 – 63 and Resource Transaction Report: page 15 – 65.

See Also

Overview of Outside Processing: page 10 – 2

Setting Up: page 9 – 6

Resource Transaction Options: page 9 – 31

Defining Overhead, *Oracle Cost Management User's Guide*

Setting Up

- For a listing of out–of–product setups that affect resource management see: Setup Prerequisites: page 2 – 3.
- For a listing of setups within Work in Process that affect resource management see: Setup Check List: page 2 – 7.
- For a listing of profile options that affect resource management see: Profile Options: page 2 – 64.

See Also

Resource Requirements: page 9 – 11

Cost Accounting Prerequisites, *Oracle Cost Management User's Guide*

Setting Up Manufacturing Standard Costing, *Oracle Cost Management User's Guide*

Resource Charge Types

You can specify how to charge resources when you assign resources to routing operations in Oracle Bills of Materials. You can also specify how to charge resources when you add resources to work in process routing operations. There are four resource charge types: WIP Move, Manual, PO Move, and PO Receipt.

See Also: Resource Charges, *Oracle Cost Management User's Guide*.

WIP Move

WIP Move resources are automatically charged at their standard rate as you move assemblies forward from the Queue or Run intraoperation step to the To move, Reject, or Scrap intraoperation step of the same operation, or to the next operation.

WIP Move resources with a basis of Item are charged upon completion of *each* assembly in the operation. *WIP Move* resources with a basis of Lot are charged upon completion of the *first* assembly at the operation. In both cases, the amount charged is based upon the resource's usage rate or amount multiplied by the resource's standard cost at the time of the transaction.

You can reverse a *WIP Move* resource charge by moving assemblies backward from Queue or Run of the current operation to Queue or Run of any prior operation, or by moving assemblies from the To move, Reject, or Scrap intraoperation steps backward to the Queue or Run intraoperation steps of the same operation, or to any intraoperation step of any prior operation.

WIP Move resource charges are applied on a first in–first out basis to multiple repetitive schedules on a line based on how the assemblies being moved are allocated. For example, if you have 2 released schedules for 100 assemblies each and you move 150 assemblies, the system automatically allocates 100 to the earliest schedule and 50 to the next.

See Also

Operation Completion Moves: page 8 – 29

Performing Move Transactions: page 8 – 37

Manual

Manual resources can be charged independent of move transactions using the Resource Transactions window. If you complete an operation with a move transaction, and there are *Manual* resources assigned to that operation, a message informing you that *Manual* resources exist at that operation is displayed. You can then charge these *Manual* resources by choosing the Resources button in the Move Transactions window.

> **Note:** You can control whether the Resources button appears in the Move Transactions window using function security. See: Security Functions: page 2 – 78.

When you charge *Manual* resources, you must enter the actual resource units applied rather than autocharging the resource's usage rate or amount based on the move quantity. You can charge *Manual* resources using that resources unit of measure or any valid alternate unit of measure. If the resource is a person–type resource, you can enter an employee number. *Manual* resources for repetitive schedules are charged to the first open repetitive schedule on the line.

You can create ad hoc resource requirements as you charge resources. Ad hoc resource requirements an be created for any resource that is defined for the department that is associated with the operation.

You can reverse *Manual* resource charges by entering negative resource units. For example, if you intend to charge 8 hours but mistakenly enter 10, you can correct the error by entering an additional resource charge transaction for –2 hours.

See Also

Operation Completion Moves: page 8 – 29

Charging Resources Manually: page 9 – 33

PO Move and PO Receipt

The WIP Requisition Creation Time parameter determines whether or not requisitions are created for resources assigned to outside processing operations, and when they will be created. You can set this parameter so that requisitions are created at job or schedule release, or at the outside processing operation. See: WIP Parameters: page 2 – 14.

When you receive assemblies back from an outside processing supplier in Oracle Purchasing, PO Receipt or PO Move resources, also known as outside processing resources, are automatically charged at the standard

or the actual rate. If the receipt involves a PO Move resource, the assemblies are also moved from the Queue intraoperation step of the outside processing operation into the Queue intraoperation step of the next operation. If the outside processing operation is the last operation in the routing, the assemblies are moved into the To move intraoperation step of that operation. The assemblies are then immediately completed into inventory if the following conditions are also met:

- For discrete jobs, a lot number must have been specified if the assemblies are under lot control. See: Defining Discrete Jobs Manually: page 3 – 63
- For repetitive schedules, the assemblies cannot be under lot control
- Available serial number records are restricted for use with another assembly once it has been issued from stock. Validations occur to prevent issuing a serialized item, returned to stock, and then to a different job. At the time of completion, serialized assemblies and components are available from stock if they have the specific values set for jobs and schedules in the Serial Numbers window in Oracle Inventory. See: Serial Number Validations for Component Returns and Assembly Completions: page 7 – 83
- For discrete jobs and repetitive schedules, the assemblies cannot be completed from or returned to the last operation on the routing if the To Move intraoperation step of that operation has a shop floor status that disallows move transactions
- For both discrete jobs and repetitive schedules, locators must be specified if required by the default completion subinventories

  Note: If the Move Transaction manager in Oracle Inventory has not been launched, the assemblies move transactions are not processed. See: Open Move Transactions Interface: page 8 – 33.

You can track the progress of outside processing assemblies that have been sent to a supplier by moving assemblies within the outside processing operation. You can optionally disallow move transactions from an outside processing step *unless* they are launched by a purchase order receipt. You can do this by using the Shop Floor Status for PO Move Resource parameter. See: Shop Floor Statuses: page 8 – 63.

If, in Oracle Purchasing, you return assemblies to an outside processing supplier using the Receiving Returns window, or enter correcting receipts for an outside processing supplier using the Receiving Corrections window, the system creates reversing charges for the PO Move and PO Receipt resources associated with the outside processing

operation. If you enter a return or correction that involves a PO Move resource, the assemblies are moved from the Queue intraoperation step of the operation immediately following the outside processing operation into the Queue intraoperation step of the outside processing operation. If the outside processing operation is the last operation on the routing, the assemblies automatically move from the To move intraoperation step to the Queue intraoperation step of the outside processing operation.

PO Move resource transactions are applied to multiple repetitive schedules on a line based on how the assemblies being moved are allocated. Moves are allocated across multiple repetitive schedules on a first–in–first–out (FIFO) basis. PO Receipt resource transactions are allocated across schedules on a first–in–first–out basis.

For example, if you have two released schedules for 100 assemblies each and you move 150 assemblies, the system automatically allocates 100 to the earliest schedule and 50 to the next.

See Also

Outside Processing: page 8 – 68

Resource Charges, *Oracle Cost Management User's Guide*

Detailed Scheduling: page 13 – 7

Resource Requirements

Resources can be assigned to routing operations. Resources are used to cost and schedule jobs and repetitive schedules.

Resources

A resource is anything of value, except material and cash, required to manufacture, cost, and schedule products. People, tools, machines, outside processing services, machines, and physical space are commonly used resources. See: Defining a Resource, *Oracle Bills of Material User's Guide*.

> **Note:** In order for resources to be viewable in the applications windows, Unit of Measure values in manufacturing must be consistent with the values in Oracle General Ledger Set of Books. Use the Unit of Measure Conversions window in Oracle Inventory to create UOM conversion values. See: Defining Unit of Measure Conversions, *Oracle Inventory User's Guide*

Standard versus Non–Standard

You can specify whether to charge resources at a standard or non–standard rate. Non–standard resources can be charged manually in Work in Process. If the resource is a non–standard, outside processing resource, its costs are derived from the purchase order it is associated with.

Outside Processing Resources

You can define a resource as an outside processing resource. Outside processing resources must be associated with the item that they are used to produce. See: Overview of Outside Processing: page 10 – 2.

Phantom Assembly Resources

Phantom assemblies are non–stocked items that group material needed to produce an assembly or a subassembly. When parent or high level assemblies are phantoms, resource costs, including overheads are not charged to the parent or higher level assembly cost. When phantoms arse used as subassemblies, however, you can set a parameter in Oracle Bills of Material to specify that its resource and overhead costs are charged to the parent or higher level assembly. See: Phantom Assemblies: page 7 – 62.

Charge Types

You must assign a charge type to each resource. Charge types determine how resources are charged in Work in Process.

Resource Activities

You can assign the activities you define in Oracle Cost Management to resources. Activities are processes or procedures that consume costs and time. The can be used to assign indirect costs.

Resource Basis

You can assign a resource basis type of Item to a resource if its per unit usage rate is dependent on the number of assembly items being produced. If the per unit usage rate is fixed, for example labor to setup a machine for a job, you can assign a resource basis of Lot. See: Resource Usage, *Oracle Bills of Material User's Guide*.

Departmental Resources

You can identify which resources are available to a department when you define departments. Departments can have multiple resources.

Operation Resources

You can define routing operations as you create routings in Oracle Bills of Material. You can also add and update job and schedule routing operations in Work in Process. When you define a routing operation you must identify the department at which the operation is performed. You can assign any resource that is defined for that department to the routing operation. See: Assigning Operation Resources, *Oracle Bills of Material User's Guide*.

Multiple Resources

You can assign multiple resources to routing operations. You can sequence these resources as required. If you assign multiple resources, they are scheduled sequentially based on their resource sequence number, or in parallel, based on their scheduled attribute

Costing Multiple Resources

You can assign multiple resources to charge labor, machine usage, and other activities performed within the operation. For example, if you have costs associated with running a machine and costs associated with the machine operator, you can define them as two resources at the

same operation. For each resource you can specify the sequence number of the resource, the usage rate, and the number of resources assigned to the operation working in parallel.

Scheduling Multiple Resources

Resource requirements are used for detailed scheduling. When multiple resources are assigned to an operation, operation start and end dates and times are scheduled based upon the sum of the times required for each resource. Job and repetitive schedule start and end dates and times are scheduled based upon sum of the time required for each operation.

You can assign but not schedule resources at an operation. You can also assign resources used solely for scheduling, even though these resources do not actually provide value added work. See: Detailed Scheduling: page 13 – 7

Simultaneous and Alternate Resources

Simultaneous resources consist of two or more resources scheduled with the same start date and time within a job operation. These resources have the same value in the Scheduled Seq field of the Routing window. Simultaneous resources must begin at the same time, but they may complete at different times depending the Usage Rate or Amount.

Alternate resources consist of other resources—or groups of resources—used instead of the primary resource in the job operation. Alternate resources are defined on the Alternate Resources window. They are invoked in one of two ways:

- During backward scheduling, when the use of alternate resources is the only means for a job to complete by the Requested Due Date
- When a resource for an operation is unavailable

Manufacturing Scheduling Resources

The Oracle Manufacturing Scheduling application provides additional resource capability with constraint–based scheduling of resources. See: Defining Manufacturing Scheduling Resources: page 9 – 22

Constraint–based Scheduling of Resources

The Constraint–based Scheduling engine provides the ability to schedule jobs based on available resources and material.

Constraint–based scheduling is enabled when you set the Schedule field on the Resources Requirements window. It must be one of the following values in order for the constraint–based scheduling engine to consider the capacity for the resource:

- Yes: Include this resource when scheduling an operation from a job and calculating manufacturing lead time for the assembly.
- Prior: Include this resource when scheduling a job, or schedule by backward scheduling the previous operation from the end of this resource.
- Next: Include this resource when scheduling a job, or schedule by forward scheduling the next operation from the start of this resource.

Adjusting Resource Capacity

You can adjust resource capacity from the Scheduler Workbench. This can be done manually or automatically:

- Reschedule the start and end dates of a resource
- Delete or add a day of capacity, adjusting for overtime shifts or shop closures
- Add or delete resource units when either extra resources are obtainable or resources are unavailable
- Adjust Assigned Units or Usage Rate for the resource on the job routing

Simulation sets are used to link resource changes for scheduling. Simulation sets are defined, associated to resources in Oracle Bills of Material, and linked to Work in Process scheduling parameters.. See: Defining WIP Parameters: page 2 – 30

Resource Instances

You can define specific machines to any of your machine type resources, and specific employees to labor type resources. All instances for a resource are viewable in the Resource Property window on the Scheduler Workbench.

See Also

Charging Resources Manually: page 9 – 33

Defining a Resource, *Oracle Bills of Material User's Guide*

Defining WIP Resource Definition, *Oracle Manufacturing Scheduling User's Guide*

Defining Simultaneous and Alternate Resources, *Oracle Manufacturing Scheduling User's Guide*

Resource Factors in Lead Time Calculation

Material and resource requirement lead times are calculated using the Calculate Manufacturing Lead Time concurrent program. This program determines the lead time for items and assemblies using information from the bill of material and routing setup. This includes lot size, item lead time attributes (such as processing and cumulative lead times), and fixed and variable components. The lead time calculation rollup program also includes resource usage features that can affect processing lead time.

> **Note:** Alternate resources are not considered in lead time calculation.

Resource Efficiency

Resource usage is divided by the efficiency percentage to capture the resource lead time. Values of less than 100 percent elongate the lead time.

Resource Utilization

You define a utilization percentage in order to capture true available–for–work time. Utilization represents the difference between the theoretical and actual production from a resource, For example, is the resource actually working 8 hours of productive time in an 8 hour shift. If the difference is expected to be significant, you can model utilization on that resource. Values of less than 100 percent elongate lead time.

Simultaneous Resources

When using two or more resources at the same time, the resource taking the most extended time is used in lead time calculation. This is the resource with the longest lead time within the same schedule number, for an operation. Simultaneous resources shorten lead time.

Assigned Units for 24 Hour Resources

For resources available 24 hours, the more resource units assigned to an operation in a routing – the less elapsed time for that operation to complete. This shortens the lead time.

See Also

Calculating Manufacturing Lead Times, *Oracle Bills of Material User's Guide*

Manufacturing Lead Time Computations, *Oracle Bills of Material User's Guide*

Adding and Updating Resource Requirements

You can add and update resources as you add and update operations. You can add resources that are not pre–assigned to job or repetitive schedule routing operations. You can add resources to jobs and schedules that do not have operations.

You can add resource requirements regardless of their charge type: Manual, PO move, PO receipt, or WIP move. When you add a resource with an charge type of PO move, PO receipt, or WIP move, the resource is added to the job or repetitive schedule as a *Manual* resource.

Prerequisites

- ❑ You must assign a resource to the department that is associated with the operation before you can add the resource as a requirement at that operation. See: Assigning Resources to a Department, *Oracle Bills of Material User's Guide*.

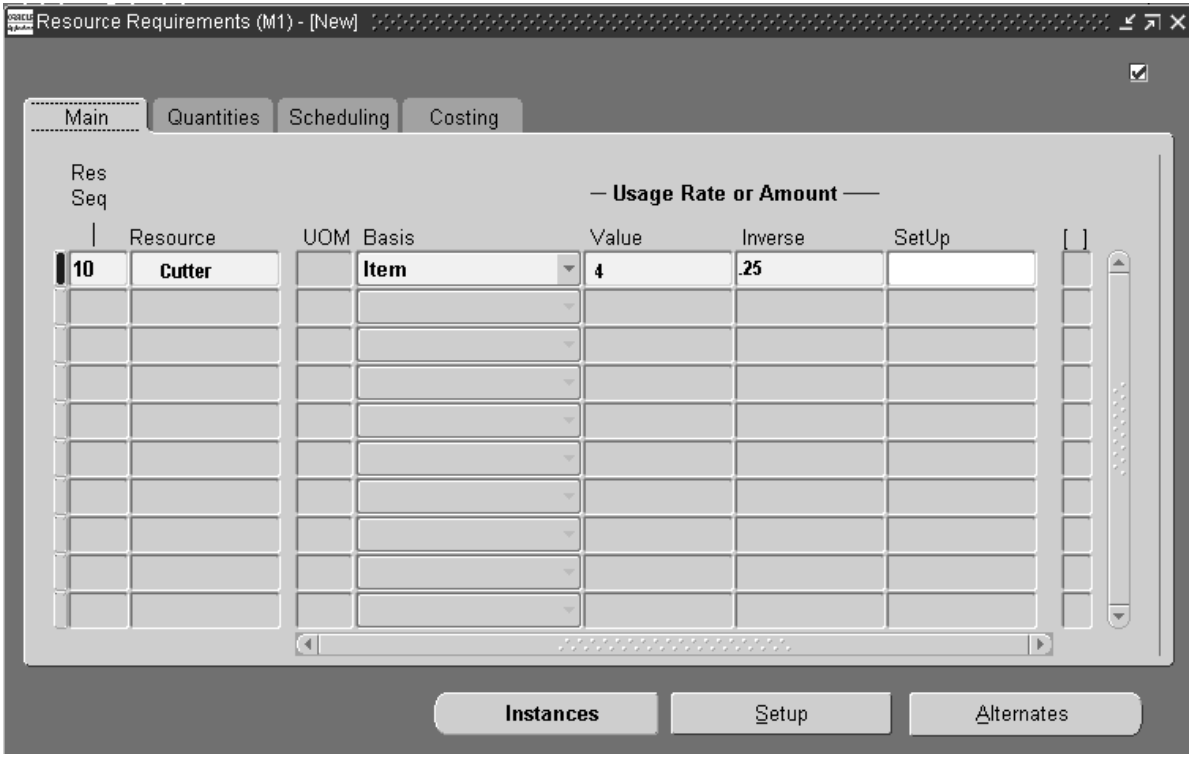
▶ **To add or update resource requirements:**

1. Navigate to the Operations from Job/Schedule Details in the menu.
2. Select the Job or repetitive Line and Assembly.

   If you select a line and assembly, choose the repetitive schedule by selecting the first unit start date of that schedule. If you have selected a discrete job, the system displays the scheduled start date of the job.
3. In the Main tabbed region, select the operation Sequence.

If you are adding a resource, the operation Sequence specifies at which operation to add the resource.

4. Choose the Resources button. The Resource Requirements window appears.



5. In the Main tabbed region of the Resource Requirements window, select or enter the resource Sequence number.

   Valid sequence numbers range from 1 to 9999 inclusive.

6. Select the resource Name.

   You can add any resource that is assigned to the department of the operation you have selected. You can also add any multi–departmental resource.

   When you add a resource, the UOM, basis, activity, charge type, and rate or amount that are associated with the resource are defaulted. See: Assigning Resources to a Department, *Oracle Bills of Material User's Guide* and Defining a Resource, *Oracle Bills of Material User's Guide*.

Note: You cannot update a resource if you have charged the resource to a job or schedule.

7. Select a resource Basis basis. See: Resource Usage, *Oracle Bills of Material User's Guide*.

   The options are as follows:

   Item: Charge and schedule the resource on an item–by–item basis. Select *Item* when resource times and costs are dependent on the job or schedule quantity, such as when charging per unit labor costs.

   Lot: Charge and schedule the resource on a *one per* job or schedule basis. Select *Lot* when resource times and costs are independent of quantity, such as when setting up a machine to run an entire job.

   You cannot update the resource basis if you have charged against the resource.

8. Enter the Usage Rate or Amount Value or Inverse.

   Value: Enter a *Value* if you know how much of the resource is consumed at the operation (per item or per lot) given the resource UOM. For example, if your manufacturing process consumes a mold (resource UOM=EA) for every 5 items produced, enter a Value of 0.2 (1/5). When you enter the Value of 0.2, the *Inverse* is automatically calculated as 5. In other words, producing one unit consumes 0.2 of the mold.

   Inverse: Enter an *inverse* amount if you know the number of units a resource can process given the resource UOM. For example, if you can process 10 units on a lathe (resource UOM = HR) in an hour, enter an inverse amount of 10. When you enter the inverse amount of 10, the *value* is automatically calculated as 0.1 (1/10). In other words, each unit takes 0.1 hours to process.

   You cannot enter a quantity less than zero for resources with time–based units of measure. When you enter the usage rate or amount, the inverse usage rate or amount is automatically supplied.

▶ **To schedule or reschedule a resource:**

1. In the Scheduling tabbed region, enter the number of Assigned Units. See: Resource Usage, *Oracle Bills of Material User's Guide*.

   When you add a resource, the number of assigned units default value of 1. The number of Assigned Units must be greater than zero.

The number of assigned units affects the scheduling of jobs and repetitive schedules. If you assign more than the default number of resource units, less elapsed time is scheduled for the operation.

For example, if you have an operation that normally takes a machine 10 hours to complete, and you assign 2 machines, then only 5 hours are scheduled for the resource at that operation. You should only assign multiple resource units if they work simultaneously at an operation.

Assigned units for 24 hour resources are also considered by the Calculate Manufacturing Lead Time concurrent program.

Attention: You should not assign multiple resource units unless each resource charges at the same rate. For example, if you have 2 person–type resources performing the same task at an operation, you can create 1 resource and assign 2 units if each person works at the same rate, charges at the same rate, and works in parallel on a job or schedule. If not, then you should create 2 separate resources at the operation.

2. Select the Scheduled option.

   Yes: The resource's start and completion dates and times are used to schedule the job or repetitive schedule operation.

   No: The resource's start and completion dates and times are not used to schedule the job or repetitive schedule operation.

   Prior: The resource's completion date and time are scheduled to overlap the completion date and time of the first scheduled resource (*Scheduled* option is Yes) of the previous operation which is earlier than a *Next* resource. This option is useful, for example, when applied to setup resources that can work in parallel with work in previous operations.

   Next: The resource's start date and time are scheduled to overlap the start date and time of the first scheduled resource (*Scheduled* option is Yes) of the next operation which is earlier than a *Prior* resource. This option is useful, for example, when applied to a teardown operation that can work in parallel with work in next operations.

   Note: Prior and Next resource scheduling options are not available for simultaneous resources. These resources are scheduled as Yes, that is, the resource start and completion dates are used to schedule the operation.

3. Enter the Start and Completion Dates and times for the resource operation.

▶ **To enter or update resource cost information:**

1. In the Costing tabbed region, select the Activity.

   Activities are processes and procedures that consume costs and time. See: Defining Activities and Activity Costs, *Oracle Cost Management User's Guide*.

2. Check the Standard Rate check box to charge the resource at its standard rate.

   If you choose the standard rate option, the resource is charged at its resource unit cost. If you charge an outside processing resources at the standard, Oracle Purchasing computes any purchase price variance and posts it to the variance account for the resource.

   If you choose non–standard, you can manually charge the resource at the employee rate or at actual cost. If the resource is a non–standard, outside processing resource, its costs are derived from the purchase order it is associated with.

   > **Note:** Non–standard is recommended if you import charges from an outside labor system and want to enter actual costs or an employee's labor rate.

   You cannot change the standard rate option if you have charged the resource to the job or repetitive schedule.

3. Select the Charge Type. See: Resource Charge Types: page 9 – 7.

   You can select any charge type if the resource is defined as an outside processing resource. You can only select *PO receipt* if the department of the current operation has a location assigned to it. You can only select *PO move* if the department of the next operation has a location assigned to it. Also, you can only assign one *PO move* resource to an operation.

   Charge types are defined as follows:

   WIP move: Resources with this charge type are automatically charged when you complete a job or repetitive schedule operation. See: Charging Resources with Move Transactions: page 9 – 36.

   Manual: Resources with this charge type must be manually charged. See: Charging Resources Manually: page 9 – 33

   PO receipt: Resources with this charge type are automatically charged when purchase orders are received. However, the assembly items associated with theses resources are not automatically moved to the next operation. They must be manually moved. See: Performing Move Transactions: page 8 – 37

PO move: Resources with this charge type are automatically charged upon receipt of a purchase order and the assembly items associated with theses resources are moved to the Queue intraoperation step of the next operation, or to the To move intraoperation step if there is no next operation.

4. Save your work.

▶ **To define simultaneous resources and designate to job routings:**

1. Navigate to the Operations Resources window in Oracle Bills of Material.
2. Enter your resource information in the Main tabbed regions. See: Assigning Resources to a Department, *Oracle Bills of Material User's Guide*.
3. In the Scheduling tabbed region, enter the same value in the Scheduled Seq field for all resources that are simultaneous for each sequence.

   The schedule sequence number indicates the sequence the resource is to be used – simultaneous resources have identical values.
4. In the Principal Flag check box, you have the option to designated the resource that is the primary resource in a group of simultaneous resources.
5. Save your work.
6. Navigate to the Resource Requirements window in Oracle Work in Process.
7. Enter resource information in the Main tabbed region.
8. In the Scheduling tabbed region, enter the same value in the Scheduled Seq field for all resources that are simultaneous for each sequence.

   The schedule sequence number indicates the sequence the resource is to be used – simultaneous resources have identical values
9. In the Scheduled field., select Yes.

   Prior and Next resource scheduling options are not available for simultaneous resources. These resources are scheduled as Yes, that is, the resource start and completion dates are used to schedule the operation.
10. Select the Start dates and times for the resources – these dates must be the same date for the resources to be considered simultaneous.

Simultaneous resources must begin at the same time, but they may complete at different times depending on the Usage Rate or Amount.

11. Save your work.

See Also

Overview of Work in Process Scheduling: page NO TAG

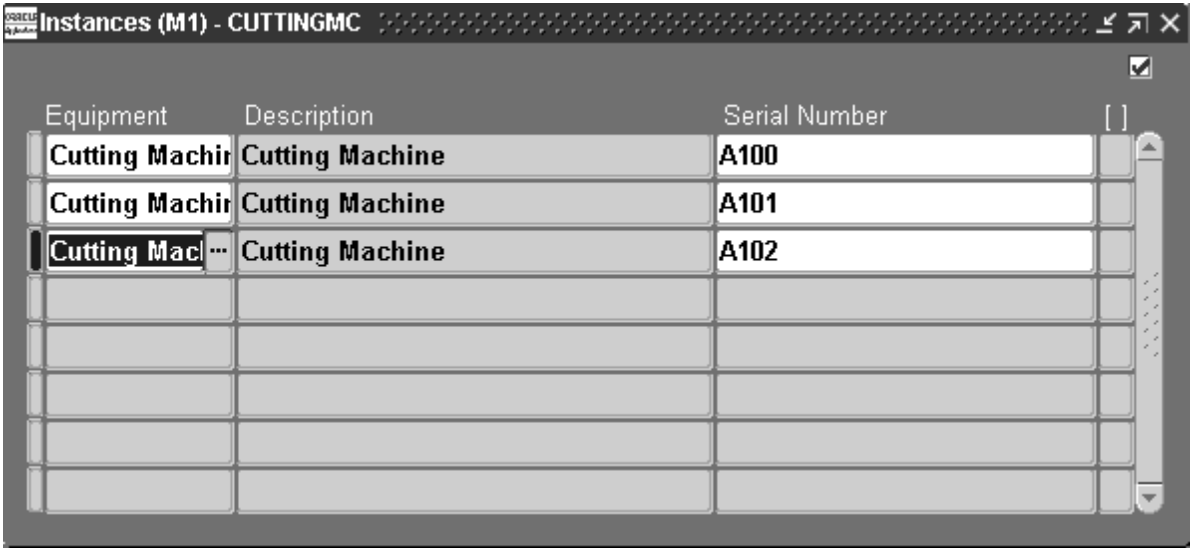
Adding and Updating Operations: page 8 – 12

Defining Manufacturing Scheduling Resources

If you have installed Oracle Manufacturing Scheduling, you can define resource instances, resource setups, and alternate resources to determine feasible schedules for jobs. See: Features, *Oracle Manufacturing Scheduling User's Guide*. If you are not using Manufacturing Scheduling, you can still define this data for informational purposes. This information is defined on windows accessed from the Resource Requirements window.

▶ **To enter resource instance information:**

❑ Choose Instances on the Resource Requirements window.

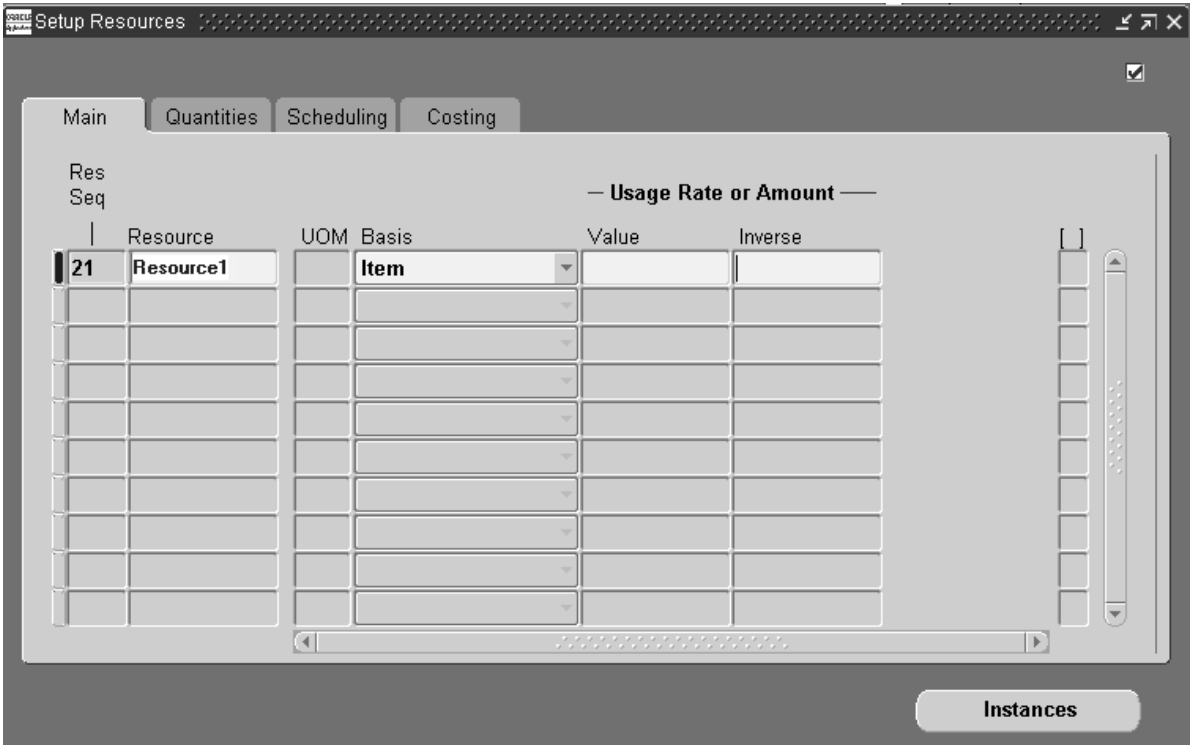


Enter the number for the employee, or equipment and serial number applicable to the resource type. All instances for a resource are viewable in the Resource Property window on the Scheduler Workbench. See: Resource Instances, *Oracle Manufacturing Scheduling User's Guide*

▶ **To enter resource setup information**

1. Choose Setup on the Resource Requirements window.

   You can create a performance model for machine and labor resource setups. The setups for a resource are independent of the department that the resource is defined in.



2. Enter a resource sequence in the Res Seq field.

   The resource sequence indicates the order of a resource relative to other resources.

3. Select a value in the Resource field.

4. Select the resource basis, indicating whether the usage required is by item or lot.
5. In the Usage Rate or Amount section, enter the amount the resource is consumed at an operation.
6. In the Setup field, select a setup that is specific to this resource.
7. Save your work.

▶ **To enter alternate resource information**

1. Choose Alternate on the Resource Requirements window.

   Alternate resources consist of other resources used instead of the primary resource. See: Defining Simultaneous and Alternate Resources, *Oracle Manufacturing Scheduling User's Guide*

   Note: The Alternates button is active when a value is entered in the Scheduling Sequence field on the resource record. When adding a new resource, this field uses the Resource Sequence value as a default. The Resource Sequence value can be changed, but you can not use duplicate values

2. In the Scheduling tabbed region, for each alternate resource, enter a Replacement Group value.

   This is used in grouping several resources together as an alternate resource group. The primary resource defaults to Replacement Group value of 0.

3. In the Scheduled Sequence field, enter a value.

   The schedule sequence number indicates the sequence the resource is to be used— this value defaults from the Resource Requirements window and is the same value as the resource it is replacing.

4. Save your work.

Deleting Resource Requirements

You can delete resource requirements as you update operations. You cannot delete resource requirement that have pending transactions. you cannot delete resource requirements that have been transacted even if

their due quantity is zero. If you delete an operation, the resources associated with it are automatically deleted.

▶ **To delete resource requirements:**

1. Navigate to the Operations window.
2. Select the operation Sequence.

   The operation Sequence specifies from which operation the resource is to be deleted.
3. Choose the Resources button. The Resource Requirements window appears.
4. In the Main tabbed region of the Resource Requirements window, select or enter the resource Sequence number.
5. Select the resource Name.

   You can delete a resource requirement regardless of the status of the job or repetitive schedule. You cannot delete a resource that has been charged at an operation (applied quantity exists) or that has pending resource transactions.

   If you delete an operation from a job or repetitive schedule, you may want to reschedule the job or repetitive schedule to correctly reflect the start and completion dates.

   You cannot delete a *PO move* or *PO receipt* resources or the operations they are assigned to if purchase requisitions (either approved or unapproved) or purchase orders exist for these resources.
6. Choose Delete Record from the Edit Menu.
7. Save your work.

See Also

Adding and Updating Operations: page 8 – 12

Deleting Operations: page 8 – 17

Adding and Updating Resource Requirements: page 9 – 16

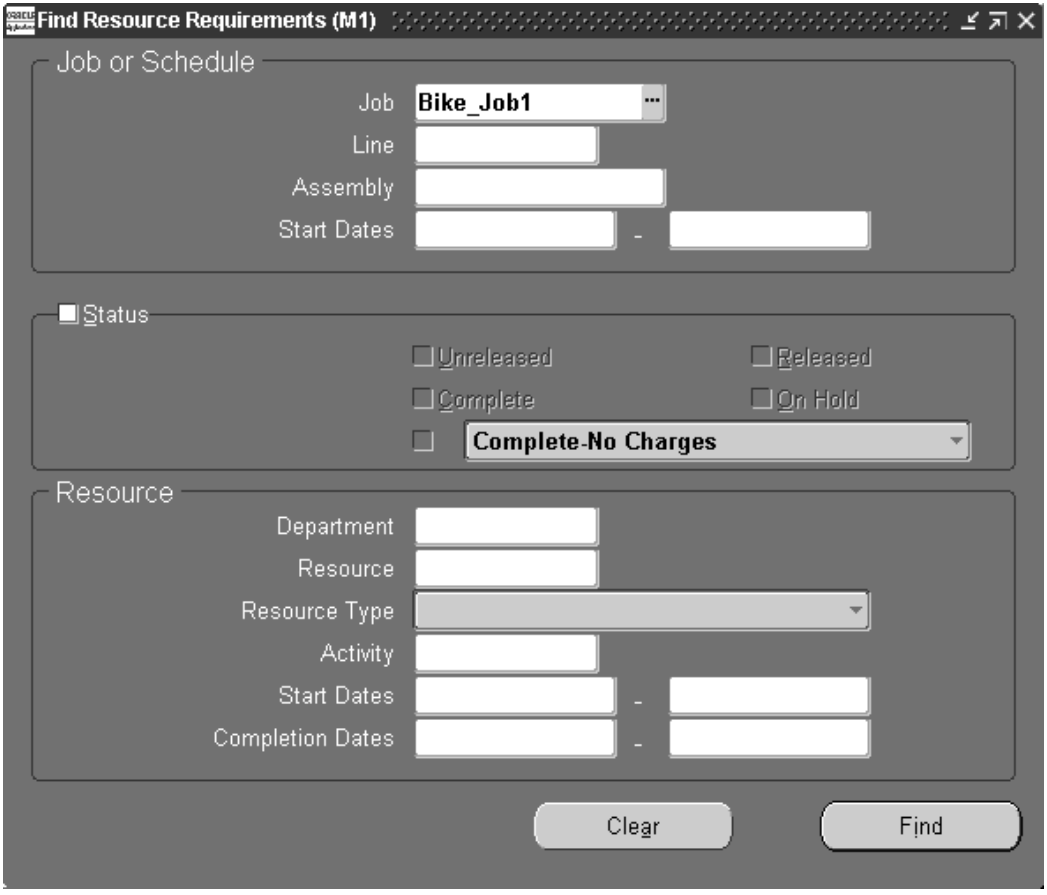
Resource Requirements: page 9 – 11

Viewing Resource Requirements

You can view resource requirements for a specific discrete job or repetitive line and assembly. You can also view resource requirements across jobs and schedules.

▶ **To find and view resource requirements:**

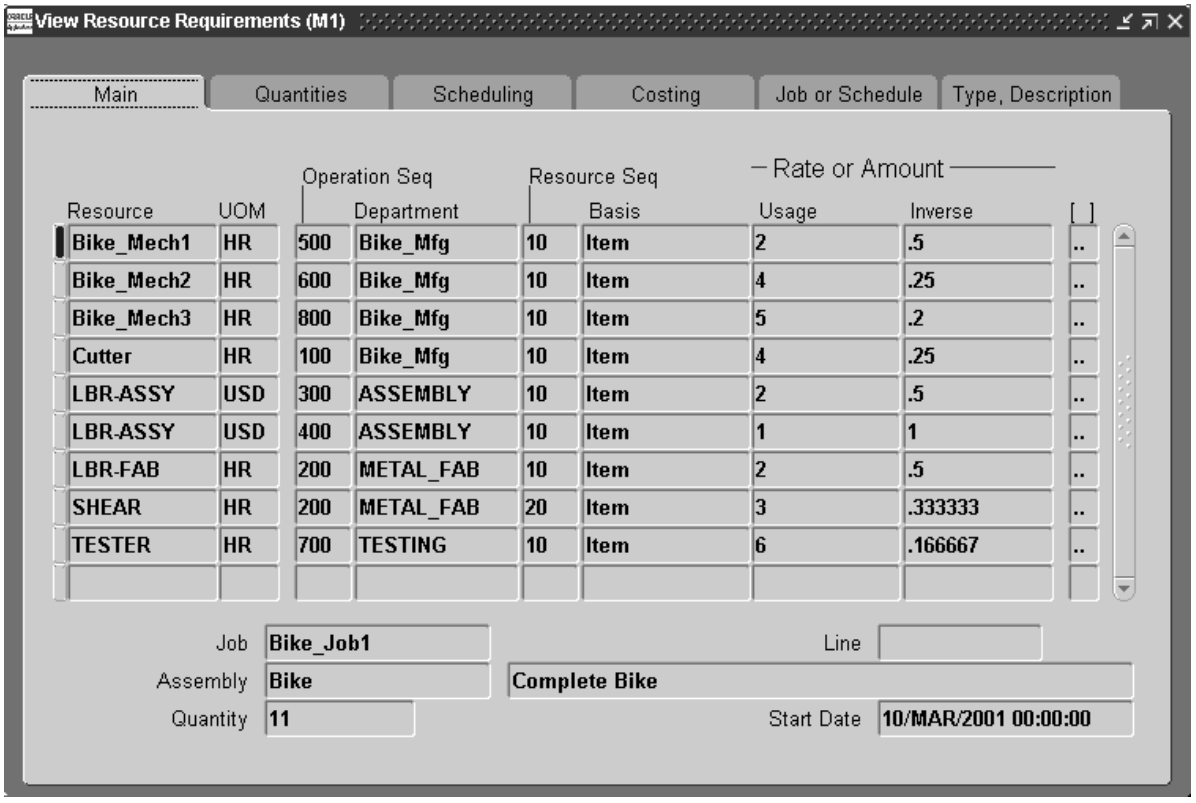
1. Navigate to the View Resource Requirements window. The Find Resource Requirements window appears.



You can query by Job or production Line and Assembly or a range of start dates. You can query to find resource requirements for jobs and schedules of a specific status. For example, you can query to find only resources for Released jobs and schedules

You can also query by Department, Resource, Resource Type, Activity, and/or a range of First Unit and Last Unit Start or Completion Dates.

2. Enter any combination of search criteria and choose the Find button. The results display in the View Resource Requirements window.



You can view the following information in View Resource Requirements window's tabbed regions:

Main: Resource, UOM, Operation Sequence number, Department, Resource Sequence number, Basis, Rate or Amount of Usage and Inverse Value

Quantities: Required, Applied, and Open quantities

Scheduling: Assigned Units, Scheduled, Start Date, and Completion Date

Costing: Activity, Standard Rate option, Charge Type

Job or Schedule: Job/Assembly or production Line/Assembly and Status

Type, Description: Resource Type and Description

You can also view, if entered, descriptive flexfield information. See: Setting Up Descriptive Flexfields: page 14 – 4.

See Also

Resource Requirements: page 9 – 11

Searching for Information, *Oracle Applications User's Guide*

Resource Transactions

Resource charges can be transacted manually, with move or purchase order transactions, or imported from outside data sources or data collection devices. Resources are charged based upon their charge type: Manual, WIP Move, PO Receipt and PO Move. See: Resource Charge Types: page 9 – 7.

For all resources you charge either manually or automatically, Oracle Work in Process also records the units applied to the job or repetitive schedule, expressed in the unit of measure of the resource, when you complete an operation.

Actual Resource Charges

You can charge resource charges at actual in two ways. You can enter an actual rate for the resource using the Open Resource Transaction Interface or you can use the Persons window. The system computes the resources variances accordingly.

Actual Outside Processing Charges

Outside processing resources can be charged at standard rate or actual. Oracle Purchasing computes purchase price variances accordingly.

Overhead Charging

Overhead costs are appropriately charged as you charge resources. You can define overheads to be charged based on Resource units or Resource value, Lot, or Item. Oracle Work in Process calculates the appropriate overhead charge as you charge the resource. Oracle Work Overhead charges are automatically reversed as you reverse underlying resource charges. See: Default Basis Types, *Oracle Cost Management User's Guide*.

Resource Costs and Overheads for Phantoms

You have the option to include resource and overhead charges in the cost of the parent or higher level assembly. This feature is enabled when you set up the Oracle Bills of Material BOM:Use Phantom Routings parameter to have "Yes" as its value. You set this parameter at the inventory organization level and it applies to all phantoms within a single inventory organization. Routing resources and their costs are then also included in capacity planning.

See Also

Overview of Resource Management: page 9 – 2

Setting Up Resource Management: page 9 – 6

Resource Transaction Options: page 9 – 31

Open Resource Transaction Interface

You can load resource transaction information into the Open Resource Transaction Interface table from external sources such as bar code readers and payroll systems. The resource cost transaction manager, launched in Oracle Inventory, processes and validates this information to ensure accuracy and compatibility with other Oracle Applications information.

Resource transaction information that fails validation or processing is marked. You can use the Pending Resource Transactions window to view, update, and resubmit this information.

See Also

Open Resource Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual

Transaction Managers, *Oracle Inventory User's Guide*

Processing Pending Resource Transactions: page 9 – 47

Resource Transaction Options

You can transact resources or reverse resource charges:

- In Work in Process by:
  - Charging Resources with Move Transactions: page 9 – 36
  - Charging Resources Manually: page 9 – 33
- Through open interfaces:
  - Open Move Transaction Interface: page 8 – 33

– Open Resource Transaction Interface: page 9 – 31

See Also

Resource Transactions: page 9 – 30

Charging Resources Manually

Manual resources can be charged to discrete jobs and repetitive schedules that have statuses of Released or Complete. Resources are charged based on how they are defined at the operation they are assigned.

Ad Hoc Resource Requirements

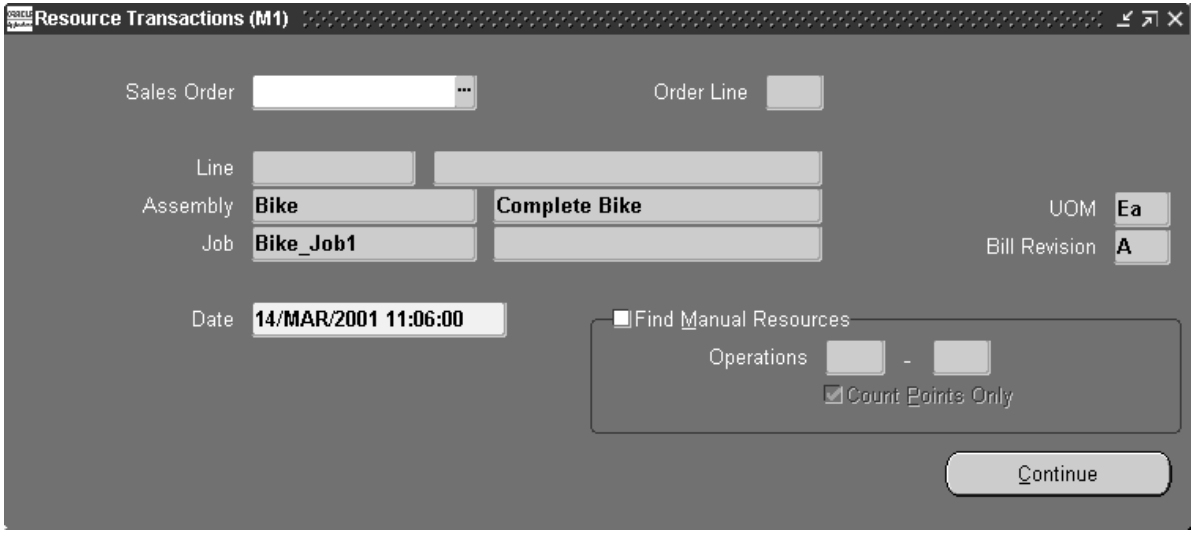
You can charge resources that are not assigned to job or repetitive schedule routing operations thus creating *ad hoc* resource requirements. You can choose to add *ad hoc* resources of any charge type — Manual, PO Move, PO Receipt, or WIP Move — however ad hoc resources are actually added as Manual resources and have with a required quantity of zero.

Prerequisites

- ❑ Define at least one job or repetitive schedule with a routing. See: Defining Discrete Jobs Manually: page 3 – 63 or Defining Repetitive Schedules Manually: page 6 – 14.

▶ **To add, charge, or add and charge a resource:**

1. Navigate to the Resource Transactions window.



2. Select a Sales Order, repetitive Line and Assembly, Assembly, or Job. The cursor defaults to one of these fields based on how the

TP:WIP:Resource Transactions First Field profile option is set. See: Profile Options: page 2 – 64.

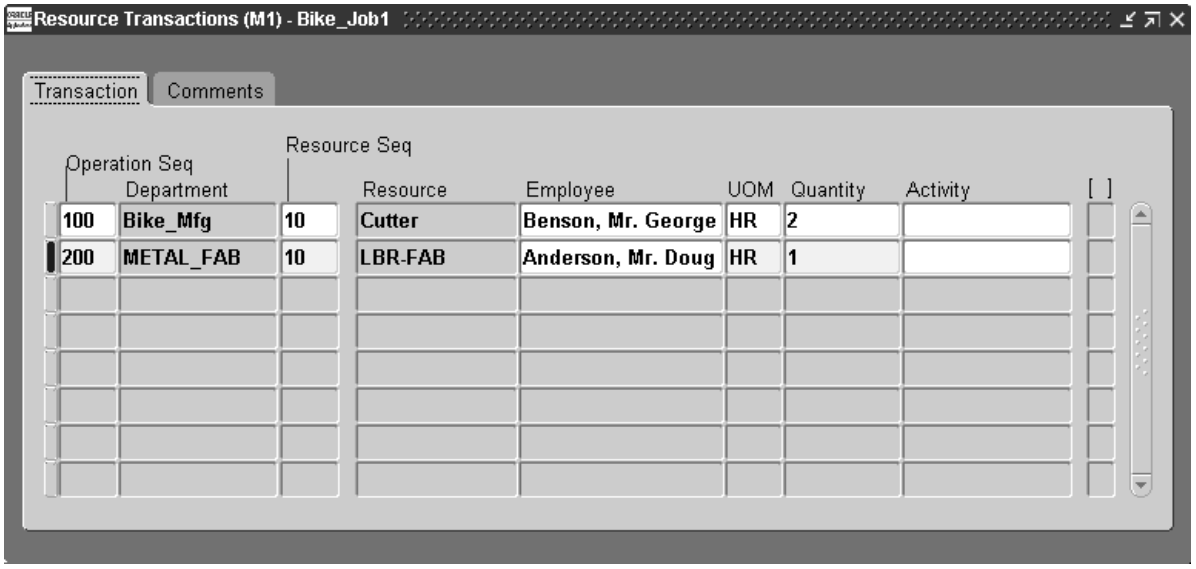
You must select a discrete job or repetitive line and assembly with a status of Released or Complete.

3. Enter the transaction Date and time.
4. Check the Find Manual Resources check box to find the manual resources operations for the Job or Line/Schedule.

Attention: Be aware that costed, manual resources on the manufacturing routing are part of the standard cost for the assembly you are building. If you do not apply the correct number of resource units, you may have a variance on the job or repetitive schedule.

5. Enter the range of Operation sequence numbers at which you want to transact manual resources.
6. Enter the range of Operation sequence numbers at which you want to transact manual resources.

   You cannot choose operations if you do not choose to find the manual resources for the Job or Line/Schedule.
7. Check theCount Points Only check box to find only the count point operations for the Job or Line/Schedule. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*.
8. Choose the Transact button. The Resource Transactions window appears.



9. Select the Operation Sequence.
10. Enter or select the Resource Sequence.
11. In the Transaction tabbed region, enter or select a resource.

    You can select any resource associated with the department of the operation or any multi–departmental resource.
12. Optionally, select the Employee.

    If you enter an employee, you can charge job or schedule resources at the employee's effective rate. If you do not specify an employee, the resource is charged at the standard rate for the person–type resource.
13. Select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

    You can use any valid, alternate unit of measure for the assembly you are moving.
14. Enter the transaction Quantity.

    Enter the number of units charged by the resource. If you enter an amount different from the standard for a resource that is part of your standard manufacturing routing, a cost variance is incurred. All charges for 'ad hoc' resources, represent a cost variance.

☞ **Attention:** If you add a manual resource, the transaction quantity is blank. The resource is not transacted unless you enter a transaction quantity.

15. Select the Activity. See: Defining Activities and Activity Costs, *Oracle Cost Management User's Guide*.

    The enabled activity, if any, associated with the resource is displayed.

▶ **To enter additional resource transaction information:**

1. In the Comments tabbed region, select the Operation sequence.
2. Optionally, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.
3. Optionally, enter the transaction Reference.

   References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

See Also

Resource Transactions: page 9 – 30

Overview of Work in Process Costing: page 12 – 2

Overview of Work in Process Scheduling: page NO TAG

Adding and Updating Operations: page 8 – 12

Resource Requirements: page 9 – 11

Adding and Updating Resource Requirements: page 9 – 16

Transaction Control by Status: page 11 – 17

Charging Resources with Move Transactions

You can charge manual resources as you move assemblies by choosing the Resources button. The system automatically displays the resources you should charge based upon the move. When you perform a move transaction across more than one repetitive schedule, only manual resources associated with the first schedule are displayed.

You can also add and charge resources not already associated with a job or repetitive schedule. You can add a resource regardless of the autocharge type. When you add a resource with an autocharge type of

PO move, PO receipt, or WIP move, the system adds the resource to the job or repetitive schedule as a manual resource.

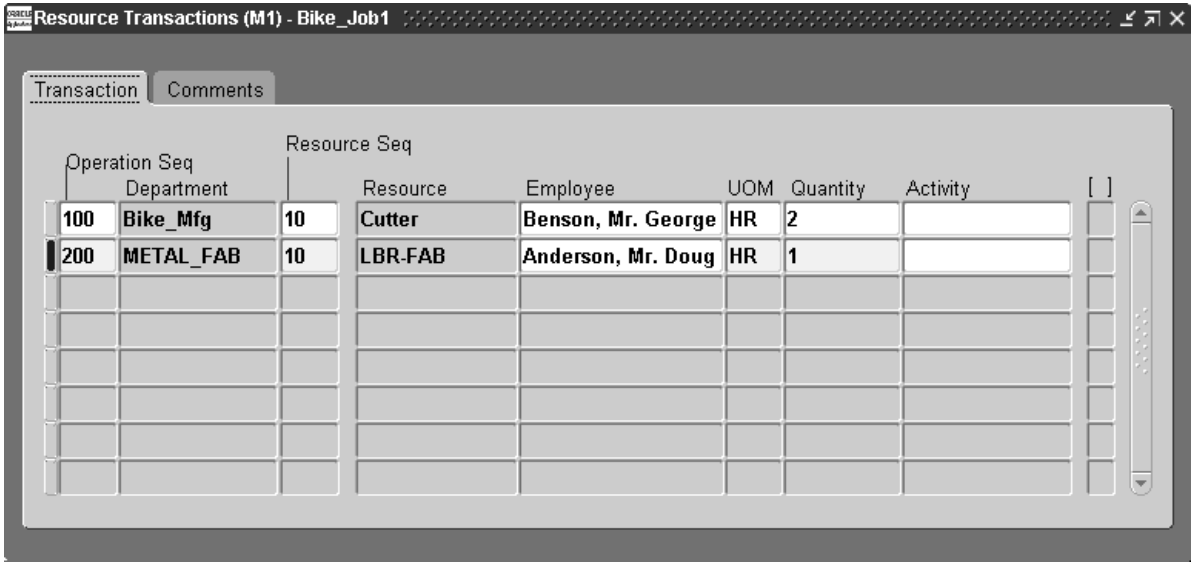
If you add a standard operation that has manual resources in the Move Transactions window, then complete assemblies at that operation, the system automatically displays the resources you should charge.

Prerequisites

- ❑ Set the *Move Transactions: No Resource Transactions* (RESOURCE_TXNS) security function to Y so that the Resources button appears in the Move Transactions window. See: Security Functions: page 2 – 78.

▶ **To manually transact a resource with a move:**

1. Perform a Move Transaction. See: Performing Move Transactions: page 8 – 37.
2. Choose the Resources button. The Resource Transactions window appears.



3. Perform a Resource Transaction. See: Charging Resources Manually: page 9 – 33.

☞ **Attention:** The Reason, if any, entered for the move transaction is displayed as the default.

See Also

Setting Up Resource Management: page 9 – 6

Resource Transactions: page 9 – 30

Viewing Resource Transactions

You can find and view resource transactions for an individual job or a repetitive line and assembly. You also can view resource transactions across jobs and schedules.

See Also

Searching for Information, *Oracle Applications User's Guide*

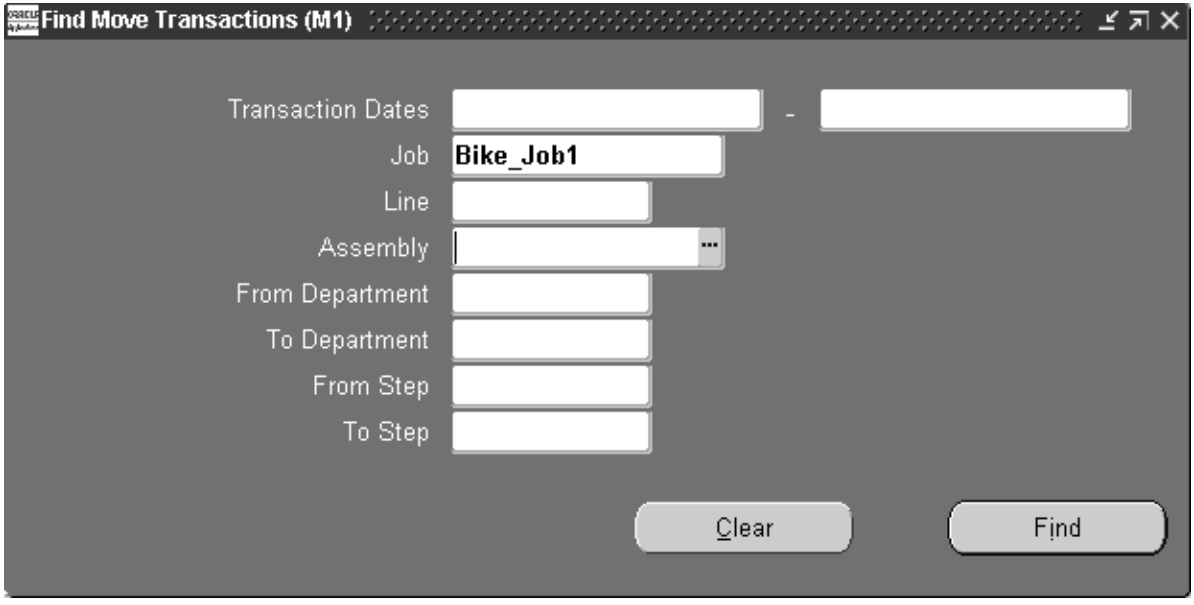
Resource Transactions Options: page 9 – 31

▶ **To find and view resource transactions:**

1. Navigate to the View Resource Transactions window. The Find Resource Transactions window first appears.

   You can query to find resource transactions by Transaction Date range, Job or Flow Schedule, Line, Department, Resource, Employee Number, Activity, and PO Number.

2. Enter any combination of search criteria and choose the Find button. The results display in the View Resource Transactions window.



You can view the following information in the View Resource Transactions window's tabbed regions:

Job or Schedule Header: Transaction Date, Job/Flow Schedule, Assembly, Line Transaction ID

Operation, Quantities: Operation Sequence, Department, Sequence, Name, Employee Number, UOM and Quantity in both the transaction and primary units of measure

Resource Information: Basis, Usage Rate or Amount, Activity, Autocharge Type, PO Number, Currency

Transaction Comments: Transaction Type, Reason, Reference

Project: Project Number, Project ID, Task Number, Task ID

You can also view, if entered, descriptive flexfield information. See: Setting Up Descriptive Flexfields: page 14 – 4.

▶ **To view resource transaction distributions:**

1. From the View Resource Transactions window, select the resource transaction.
2. Choose the Distributions button. The results display in the WIP Transactions Distributions window. See: Viewing WIP Transaction Distributions, *Oracle Cost Management User's Guide*.

Viewing Accounting Lines

When you query a resource transaction in Oracle Work in Process, you can choose to view the detail accounting lines for the queried transaction in the form of a balanced accounting entry (i.e., debits equal credits). You can also choose to view the detail accounting as t–accounts. Use these features to see how a transaction will affect the account balances in your general ledger.

▶ **To view accounting lines and t–accounts:**

1. Query the resource transaction for which you want to view accounting lines.
2. From the Tools menu, choose View Accounting.

   The View Resource Accounting window opens.

   See: View Accounting Windows, below

3. (Optional) To view the accounting detail as t–accounts, choose the T–Accounts button.

   See: Viewing T–Accounts, *Oracle General Ledger User's Guide*

View Accounting Windows

The first time you open the View Resource Accounting window, the following information will be displayed for the detailed accounting lines:

Account	Line
Accounting Date	Line Type
Assembly	Operation Sequence
Basis	Primary Quantity
Cost Element	Reference
Credit	Resource
Curr Conversion Rate	Resource Sequence
Debit	Set of Books Short Name
Department	Trans Reason
Entered Credit	Trans Source
Entered Curr	Transaction Class
Entered Debit	Transaction Date
Flow Schedule	Transaction Num
GL Batch	Transaction Type
Inventory Organization Code	Unit Cost
Job	UOM

When you select a detailed accounting line, the system displays the following information at the bottom of the View Resource Accounting window:

Account Desc	Line
Assembly	Quantity
Basis	Resource
Flow Schedule	Unit Cost
Job	UOM

Customizing the View Accounting Window

The View Resource Accounting window is a *folder*. You can easily customize the information that is displayed in the window, as described in the *Oracle Applications User's Guide*.

When customizing the View Resource Accounting window, you can hide the columns that normally appear in the window and you can choose to display any additional columns that are available.

Following is a list of all the hidden columns that you can choose to display:

Account Description	Line Reference
Curr Conversion Date	Trans ID
Curr Conversion Type	Transferred to GL

Drilling Down to Oracle Work in Process from Oracle General Ledger

From General Ledger, you can drill down to subledger details from the Account Inquiry, Journal Entry Inquiry, or Enter Journals windows for journals that have specific journal sources assigned to them. For example, if a journal source is WIP, you can drill down to the transaction details in Oracle Work in Process.

When you drill down from General Ledger, the WIP Accounting Lines window will open. The first time you open this window, the following information will be displayed:

Accounting Date	Line
Assembly	Line Type
Basis	Operation Sequence
Cost Element	Primary Quantity
Credit	Reference
Currency	Resource
Curr Conversion Rate	Resource Sequence
Debit	Trans Reason
Entered Credit	Trans Source
Entered Curr	Transaction Date
Entered Debit	Transaction ID
Flow Schedule	Transaction Type

GL Batch	Unit Cost
Job	UOM

When you select a detailed accounting line, the system displays the following information at the bottom of the window:

Assembly	Quantity
Basis	Resource
Flow Schedule	Unit Cost
Job	UOM
Line	

Customizing the Drilldown Window

The drilldown window is a *folder*. You can easily customize the information that is displayed in the window, as described in the *Oracle Applications User's Guide*.

When customizing the drilldown window, you can hide the columns that normally appear in the window and you can choose to display any additional columns that are available.

Following is a list of all the hidden columns that you can choose to display:

Account	Curr Conversion Type
Account Description	Line Reference
Curr Conversion Date	

Drilling Down Further

From the WIP Accounting Lines window, you can drill down even further to view detail transactions or you can choose to view the underlying transaction accounting.

▶ **To drill down to detail transactions or to view transaction accounting:**

1. From the WIP Accounting Lines window, select a detail accounting line.
2. Choose the Show Transaction button to view detail transactions.
3. Choose the Show Transaction Accounting button to view the transaction accounting.

See Also

Viewing Accounting Lines: page 9 – 40

Pending Resource Transactions

You can view resource transactions awaiting processing. You can also view, update, delete and resubmit resource transactions that have failed validation or processing.

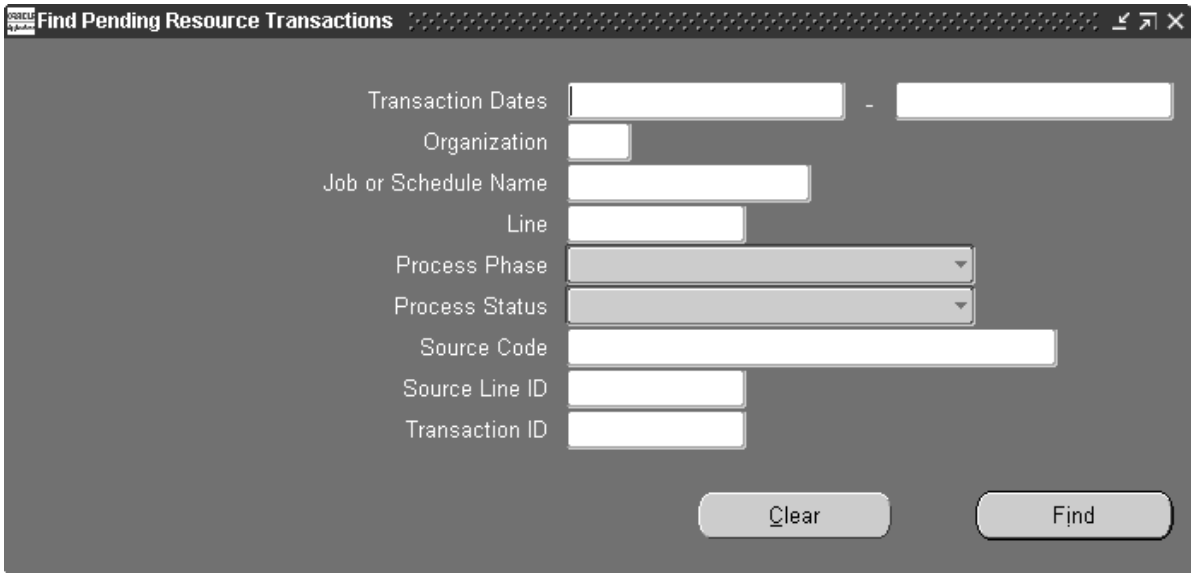
Finding Pending Resource Transactions

You can find pending resource transactions for an individual job or schedule name. You can also find pending resource transactions for multiple jobs and schedules simultaneously.

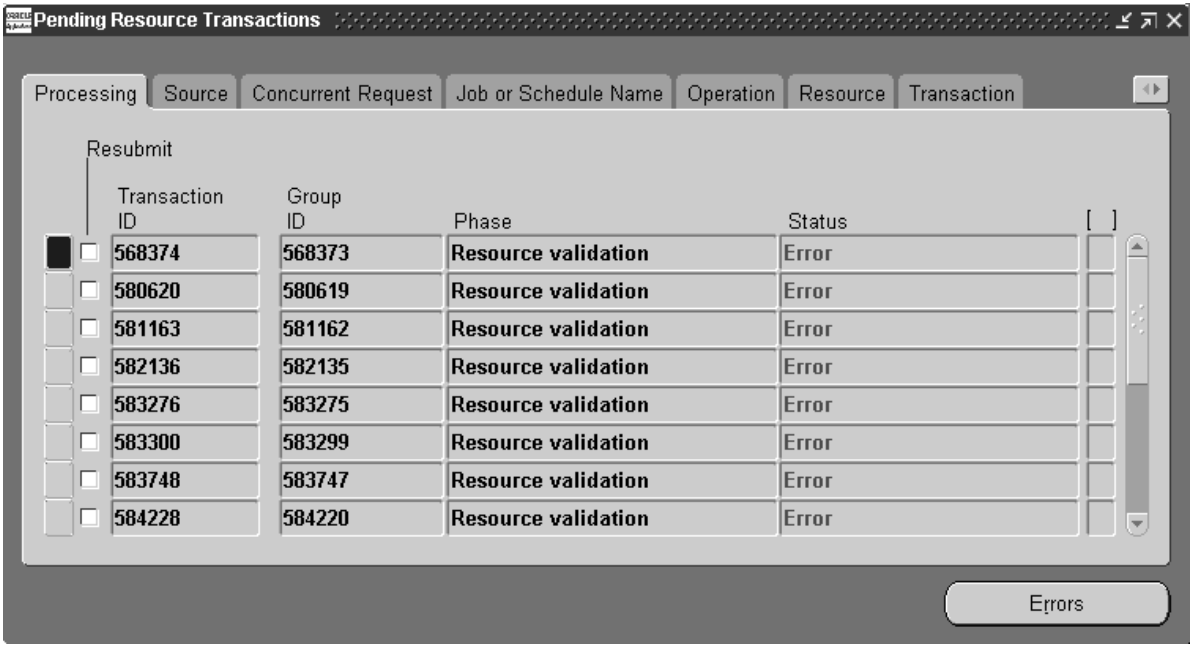
You can find pending resource transactions by a range of Transaction Dates, Organization, Job or Schedule Name, Line, Process Phase (Move validation, Move processing, or Backflush setup), Process Status (Pending, Running, or Error), Source Code, Source Line ID, and Transaction ID. You can limit or expand your selection by combining selection criteria.

▶ **To find pending resource transactions:**

1. Navigate to the Pending Resources Transactions window. The Find Pending Resources Transactions window appears.



2. Enter any combination of search criteria and choose the Find button. The Pending Resource Transactions window appears with the results of your query.



See Also

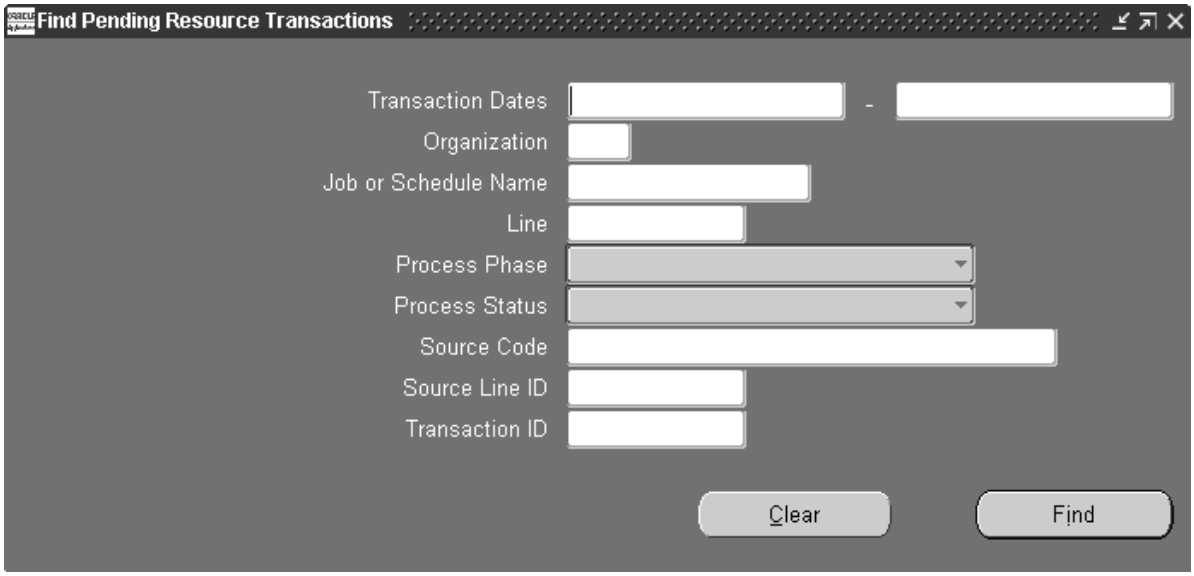
Processing Pending Resource Transactions: page 9 – 47

Processing Pending Resource Transactions

You can view, update, delete, and resubmit resource transactions that have failed validation and remain in the Open Resource Transaction Interface table (WIP_RESOURCE_TNX_INTERFACE). You can also resubmit transactions whose concurrent process has failed and have a processing phase of Complete and process status of Error. You can view error messages associated with failed records. Error messages can assist you in updating failed records before resubmission.

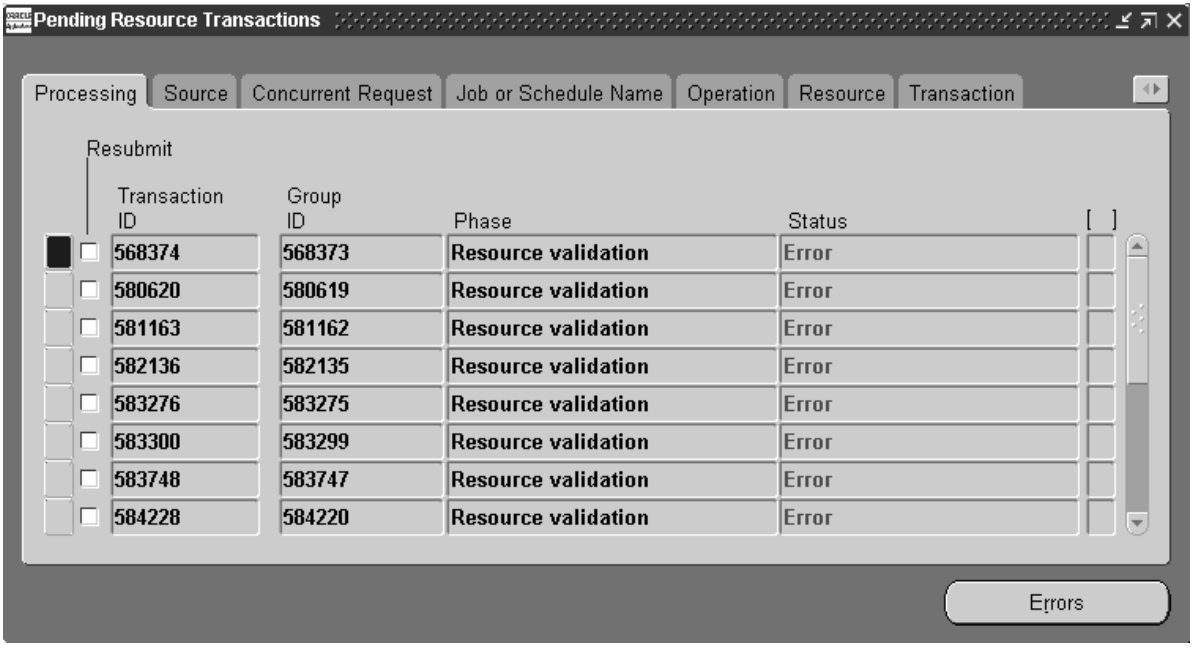
▶ **To view pending resource transaction records:**

1. Navigate to the Pending Resources Transactions window. The Find Pending Resource Transactions window appears.



You can find pending records by Transaction Date range, by Organization, by Job, Schedule Name, and production Line. You can also search for records that have a specific Process Phase (Move validation, Move processing, or Backflush setup, Process Status (Pending, Running, or Error), Source Code, Source Line ID, or Transaction ID.

2. Enter any combination of search criteria and choose the Find button. The Pending Resource Transactions window appears with the results of your query.



▶ **To view pending resource transaction records:**

- For each pending record displayed, you can view the following information using the Pending Resource Transactions window's tabbed regions:

  Processing: Group ID, processing Phase, processing Status

  Source: Source Code, Source Line (if applicable), Created By

  Concurrent Request: Request ID, Phase, Status, Message

  Job or Schedule Name: Organization, Job, Schedule Name, Line

  Operations: Operation Sequence, Department, resource Sequence, resource Name, resource Type, Employee Number

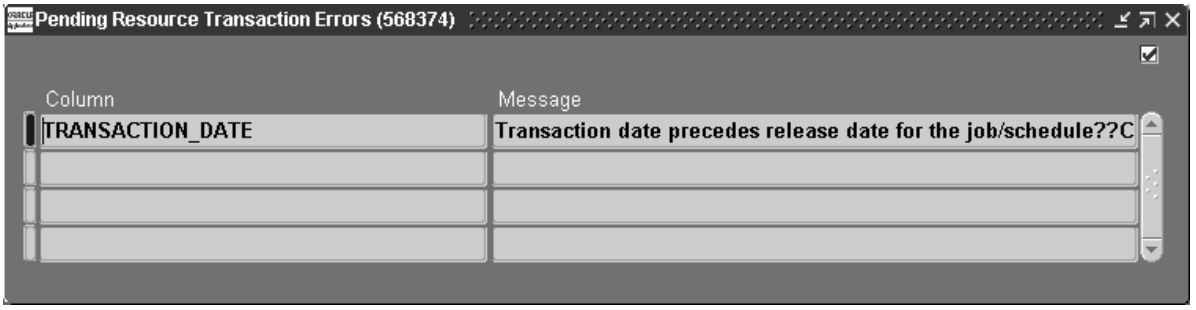
  Resource: Activity, Charge Type, PO Number, Currency, Actual Rate

  Transaction: UOM, Quantity, Date and Time, Type

  You can also view the descriptive flexfield information entered for the transaction record. See: Setting Up Descriptive Flexfields: page 14 – 4.

▶ **To view error details for failed resource transactions:**

1. In the Pending Resource Transactions window, select the failed record.
2. Choose the Errors button. The Pending Resource Transactions Error window appears.



All errors for the selected transaction are displayed. *Column* indicates the name of the column in the resource transaction interface table that failed validation. *Message* indicates why the transaction failed.

Messages that are not specific to a Column, for example processing errors, may also be displayed. In such cases, a *Message* but no *Column* is shown.

▶ **To update failed resource transaction records:**

1. Select the record to update.

   You can update records with a processing status of Error.
2. In the Source tabbed region, enter the Source Code and Source Line.

   When you insert records into the Open Resource Transaction Interface table, you can optionally identity a record's source using the source code and source line. For example, you can enter a different source code and source line for records from a bar code reader versus those from a radio frequency device.
3. Select the Created By identifier.

   The name of the user that created the transaction is displayed. This field can be updated.
4. In the Job or Schedule Name tabbed region, select the Organization.

You can only select enabled organizations. See: Creating an Organization, *Oracle Human Resources User's Guide*.

5. In the Operations tabbed regions, select the Operation Sequence for the resource.

   You can select any operation defined for the job or repetitive schedule.

6. Select or enter the resource Sequence.

   You can update this field with any resource sequence defined for your operation or you can add a resource ad hoc by entering a new resource sequence. If you choose a predefined resource sequence, all fields specific to that resource are automatically populated.

7. Select the Name.

   If you inserted an 'ad hoc' resource requirement into the Open Resource Transaction Interface table by entering a new resource sequence, you can select resources associated with the department of the operation or multi–departmental resources. All related fields are automatically populated based on your selection.

   If you choose a resource of type Person and the employee number has no value, you are prompted to enter an employee number.

   If you choose a resource type other than Person and the employee number has a value, you are prompted to clear the employee number.

8. Select the Employee Number.

   If you have entered a person–type resource, you can update this field with any valid employee number.

9. In the Resource tabbed region, select the Activity.

   You can select an activity defined for your organization or an activity that is not tied to any specific organization and is not inactive.

10. Select the Currency code. See: Currencies Window, *Oracle Applications System Administrators Guide*.

11. Enter the Actual Rate for your resource.

    This rate is used to determine the cost of a resource when the resource's standard rate option is set to No.

12. In the Transaction tabbed region, select the UOM. See: Overview of Units of Measure, *Oracle Inventory User's Guide*.

You can update this field with any resource alternate UOM that is not inactive.

13. Enter the transaction Quantity.

    This is a quantity of the UOM which you are charging to a job or schedule. The job/schedule is costed at the resource standard, the employee rate, or the actual rate. You can update this field with any number.

14. Enter the transaction Date and time.

    The date and time must fall within an open accounting period. It cannot be greater than the current date or less than the release date of the job or the earliest valid repetitive schedule.

15. In the Comments tabbed region, select the Reason code. See: Defining Transaction Reasons, *Oracle Inventory User's Guide*.

16. Enter the transaction Reference.

    References can be used to identify transactions on standard reports. They can be up to 240 characters of alpha numeric text.

17. Save your work.

▶ **To resubmit individual failed resource transaction records:**

1. In the Pending Resource Transactions window, check the transaction's Resubmit check box.

   You can resubmit transactions of any processing status. If you leave the check box unchecked you can still update your transaction record but the transaction manager does not process it again when polling the resource interface table.

2. Save your work to resubmit the transaction.

   When you resubmit a transaction, the system nulls the Transaction ID, Group ID, and concurrent Request ID and changes the processing status to Pending. The resubmit level of the Resource Cost Transaction Manager determines at what specific start date and time or at what specific intervals transactions are processed.

▶ **To select and resubmit all failed resource transactions:**

1. In the Pending Resource Transactions window, chose *Select All for Resubmit* from the Tools menu. See: Tools menu: page F – 2.

   You can deselect selected transactions as required.

2. Save your work to resubmit the transactions.

When you resubmit transactions, the system nulls their Transaction IDs, Group IDs, and concurrent Request IDs, and changes their processing Statuses to Pending. The resubmit level of the Resource Cost Transaction Manager determines at what specific start date and time or at what specific intervals transactions are processed.

▶ **To delete pending resource transaction records:**

1. In the Pending Resource Transactions window, select the transaction.
2. Choose Delete from the Edit Menu

   You can delete failed records that have a processing status of Error regardless of their processing phase. When you delete transaction records, their corresponding error messages are also deleted.

See Also

Open Resource Transaction Interface, Oracle Manufacturing APIs and Open Interfaces Manual

Open Resource Transaction Interface: page 9 – 31

Resource Transactions: page 9 – 30

Changing Resources Manually: page 9 – 33

Charging Resources with Move Transactions: page 9 – 36

Adding and Updating Resource Requirements: page 7 – 10

Searching for Information, *Oracle Applications User's Guide*

CHAPTER

10 Outside Processing

This chapter explains how you can manage your outside processed resources in Work in Process and includes the following topics:

- Overviewof Outside Processing: page 10 – 2
- Outside Processing Setup and Planning: page 10 – 18
- Managing Returns and Corrections: page 10 – 42
- Supplier Access to Outside Processing Purchase Orders: page 10 – 42
- Outside Processing Workflows: page 10 – 49

Overview of Outside Processing

Oracle Manufacturing allows you to include supplier–sourced components and resources in your manufacturing processes. This is referred to as outside processing, and its competitive advantages include:

- Using specialized supplier skills in your manufacturing process to help lower engineering and manufacturing costs and increase production quality
- Using supplier capacity to temporarily or permanently increase your overall production capacity

An overview of the life cycle of outside processing from setup through execution is described below.

Outside Processing Items and Outside Resources

You can define outside processing items that represent supplier–sourced items, resources, and services that you include in your build process. These items can be non–stocked items which represent the actual supplier contribution in your build process or you can define the assembly itself as an outside processing item. The outside processing item is the item on your requisition or purchase order and the item you receive in your purchase order receipts.

You also define outside resources and associate them with these outside processing items. The outside resources are included on your routings for scheduling and costing purposes. A job or repetitive schedule in Work in Process is charged for outside processing through these outside resources.

Work in Process automatically requisitions the outside processing items associated with outside resources on jobs or repetitive schedules. Purchasing charges outside resources to jobs or repetitive schedules when you receive the outside processing items.

Multiple Outside Resources per Operation

You can assign multiple outside resources to each operation on the routings of your outside processed assemblies.

Supplier–Sourced Components

You can define supplier–sourced components by selecting the Supplier supply type on your bills of material to identify components that are provided by suppliers. Supplier components provide information on the component materials that your suppliers provide, but the supplier

components need not be transacted. Supplier components are not backflushed.

Automatic Requisition Generation

Work in Process automatically generates a purchase requisition for outside processing operations, unless you specify that they be created manually. An outside processing operation is an operation that contains an outside resource linked to an outside processing item. The timing of the creation of the purchase requisition is based on the setting of the WIP parameter Requisition Creation Time. If you set the parameter to *At Job/Schedule Release*, a purchase requisition is created for all outside processing operations on a job or schedule when you release the job or schedule. If you set the parameter to *At Operation*, a purchase requisition is created when you move into the Queue intraoperation step of an outside processing operation. You then use Purchasing's Autocreate feature to convert these requisitions to purchase orders or releases against blanket agreements.

> **Note:** The Requisition Import process automatically runs when using PO Move and PO Receipt resource types. However, only PO Move initiates the Intermediate Shipment workflow.

When the purchase requisition is created, the revision of the outside processing item is determined and put on the requisition. If the outside processing item is an assembly component, the current revision of the item is used. If the outside processing item is the assembly being built, the bill of material revision on the job or schedule is used.

> **Note:** For lot based jobs in Oracle Shop Floor Management, set this is parameter to *At Operation*. Multiple paths are available in a network routing, and the outside processing operation can change for each manufacturing run.

Manual Outside Resource Requisitions and Purchase Orders

You can manually requisition and/or purchase outside resources that are not linked to outside processing items by requisitioning and/or purchasing an outside processing item and referencing a particular outside resource on a job or repetitive schedule.

Multiple Jobs or Repetitive Schedules per Purchase Order Line

You can define a purchase order with several lines; each line can be for a different outside processing item, and each outside processing item can refer to several discrete jobs or repetitive schedules.

View Jobs or Repetitive Schedules Included on a Purchase Order

You can view each of the jobs or repetitive schedules referenced on a purchase order. You can also report purchase order information associated with resources on jobs or repetitive schedules.

Automatic Resource Charging

Purchasing automatically charges jobs or repetitive schedules for outside resources when you receive the outside processing items linked to outside resources on those jobs or repetitive schedules.

Automatic Move Transactions

When you receive outside processing items linked to PO Move resources, Purchasing automatically moves the assemblies to Queue of the next operation or to To Move of the final operation (if you are at the final operation).

If you receive more assemblies than the quantity in the Queue of the outside processing operation, WIP automatically moves a quantity up to the over–completion tolerance limit on the assembly being built. If the quantity received is greater than the acceptable over–move quantity for the job, then the transaction will error and quantity will be included on the Pending Move Transaction window.

> **Note:** If Oracle Shop Floor Management is installed, and you are using lot based jobs with network routings, the PO Receipt transaction moves the items to the last operation–not the next operation. See: Creating a Network Routing, *Oracle Shop Floor Management User's Guide*.

Automatic Assembly and Work Order Completion

If the outside processing operation is the last operation on the routing, and the resource has a charge type of PO Move, Work in Process automatically completes both full and partial outside processing assembly quantities into Inventory when they are received back from the supplier. When quantities that account for the remaining uncompleted quantity of a work order are received, the status of the work order is updated to "complete–charges allowed."

Receiving Inspection Options

Oracle Manufacturing gives you several options to handle your receiving inspection flow: Supplier Inspection, Shop Floor Inspection, and Receiving Inspection.

Returns and Corrections

You can return outside processed assemblies to suppliers for rework, and you can reverse receiving transactions to correct over–receipts. Purchasing reverses accounting charges and move transactions associated with the initial transactions.

Introduction to Outside Processing

Oracle Manufacturing provides complete life cycle support for your outside processing business needs from setup through receipt. Although outside processing operations revolve around the shop floor, you must perform several setup steps in Oracle Inventory, Bills of Material, Cost Management, Purchasing, and Work in Process, in order to accurately track and cost outside processing assemblies. To understand the physical flow of outside processing operations, and the setup steps that must take place in other Oracle applications, see the following topics:

Understanding the Physical Flow of Outside Processed Assemblies

Oracle Manufacturing supports your physical outside processing flow by providing you with the tools necessary to record and charge each activity. Before you implement the system, you should understand your physical material flows to and from your suppliers and then tailor your implementation to match your physical model.

Setting Up Inventory

You define outside processing items in Inventory. These items can be non–stocked items which represent the actual supplier contribution in your build process or you can define the assembly itself as an outside processing item. When you create purchase requisitions and purchase orders, you enter outside processing items on the requisition and purchase order lines.

You must define all outside processing items in your purchasing organization. In addition, you must define and maintain these outside processing items in all your work in process organizations. You must maintain the outside processing item list price and lead time which are used when automatically creating a purchase requisition. You must maintain consistent item attributes for outside processing items you include in multiple organizations.

You also define outside processing item and outside resource units of measure in Inventory. You can receive an item in an alternate unit of

measure. When Purchasing charges the resource to the job or repetitive schedule, it converts the receiving unit of measure back to the resource unit of measure.

Setting Up Bills of Material and Cost Management

You define outside resources in Cost Management and define departments, routings, and bills of material in Bills of Material. Resources identify the item, resource, or service you are purchasing from a supplier. You must associate an outside resource with a manufacturing department so you can attach the resource to a routing operation.

When you define your bills of material, you can identify the components supplied by a supplier. You do this by choosing the Supplier supply type for these components on your bill of material.

Setting Up Purchasing

You can define supplier sourcing rules and Approved Supplier List entries to reference source documents such as blanket purchase agreements when you requisition outside processing items. On the requisition, the person that you enter as the preparer is the employee linked to the application user who entered the transaction that created the requisition.

You must also define ship–to and deliver–to locations, which Purchasing uses when receiving outside processing items. The Ship–To Location on the purchase order represents the delivery dock or the inspection location, and the Deliver–To Location represents the destination location, which is Work in Process. The destination location is the same location that you associate with the department of the outside operation.

You can also enable receiving tolerance percentages as well as receiving routing controls in Purchasing. Finally, you must specify several accounts which Purchasing uses when receiving outside processing items.

When a job or schedule with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Setting Up Work in Process

You define your standard discrete, non–standard, and repetitive assembly accounting classes in Work in Process. You must enter an outside processing account to charge when you receive outside

processing items linked to outside resources on jobs and repetitive schedules.

In addition, you just set these three WIP parameters on the WIP Parameters window Outside Processing tab: Requisition Creation Time, Production Scheduler, and Shipping Manager. You also must set the Enable Outside Processing Operation profile option to Yes. See: Defining WIP Accounting Classes: page 2 – 48

Planning Outside Resource Load

Capacity plans either rough–cut or detailed resource load for outside resources with time–based units of measure. For more information.

Requisitioning Outside Processing Items

You can create requisitions for outside processing automatically or manually depending on how you set the WIP Requisition Creation Time parameter:

- If you set the parameter to At Job/Schedule Release, a purchase requisition is created for all outside processing operations when you release the job or schedule. The requisition is for the entire job quantity, independent of the move transaction quantity.
- If you set the parameter to At Operation, a purchase requisition is created when you move into Queue of an outside processing operation (this is the default). If the move transaction is for a partial quantity, the requisition is created for each quantity moved. If you set the parameter to Manual, you must create the purchase requisition manually

Requisition Import runs as part of the requisition creation process. The workflow is automatically initiated for PO Move. If you set the parameter to At Operation, the workflow is initiated when you move into Queue.

Purchasing Outside Processing Items

You can automatically create a purchase order or blanket release from an outside processing purchase requisition. The purchase order or release contains lines referencing outside processing items, shipments referencing delivery information, and distributions referencing jobs or repetitive schedules and resources to charge. You can also manually define a purchase order for an outside processing item and link it to a job or repetitive schedule.

When a job or schedule is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Receiving Outside Processing Items

When you receive outside processing items linked to jobs or repetitive schedules, your job or repetitive schedule is automatically charged for the cost of the outside processing item at standard or at the purchase price, depending upon how you define the outside resource linked to the outside processing item you are receiving. Also, outside processed assemblies are automatically moved to the next operation on the shop floor if you defined the resource as PO Move.

> **Note:** If Oracle Shop Floor Management is installed, and you are using lot based jobs with network routings, the PO Receipt transaction moves the items to the last operation–not the next operation.

Automatically Completing Assemblies and Work Orders

If the outside processing operation is the last operation on the routing, and the resource has a charge type of PO Move, Work in Process automatically completes both full and partial outside processing assembly quantities into Inventory when they are received back from the supplier. When quantities that account for the remaining uncompleted quantity of a work order are received, the status of the work order is updated to "complete–charges allowed."

Managing Returns and Adjustments

You can return outside processed assemblies to suppliers for rework, and you can reverse over–receipts that you erroneously transacted. Purchasing reverses move transactions and accounting charges associated with the initial transactions.

Outside Processing Business Examples

In general, you use outside processing to facilitate the purchase and costing of supplier services included in your production activities. The following are three examples of how you can use outside processing in Oracle Manufacturing.

You are not required to manage your outside processing manufacturing activities exactly as described in the following examples. Rather, the

objective of these examples is to highlight the flexibility of outside processing across a variety of situations.

Oracle recommends that you experiment and review the results of different approaches to determine the best implementation of the outside processing functionality for your unique needs. You should use these examples as a starting point to better understand how you might use outside processing at your manufacturing facilities.

A Plating Service Example

You are a computer manufacturer who sends your frame assemblies to a supplier for plating. You have defined a primary routing for your assemblies that includes a supplier plating operation. Further, you have created a relationship, a contract, and even blanket purchase agreements with your plating supplier based on your production capabilities and capacity planning.

To support the purchase and costing of the supplier plating service, you define an outside resource called "Plating" with a charge type of PO Move, a UOM of EA for each, and a standard cost. Then you link this resource to an outside processing item called "Plating." This is the item that you purchase and receive from your supplier.

You set the WIP parameter Requisition Creation Time to *At Job/Schedule Release*. When you release the job, the requisition is created. You use AutoCreate to convert the requisition to a purchase release against the blanket order for the "Plating" outside processing item and send the release to the supplier.

When your assemblies are ready for plating, you ship them to your supplier and enter a move transaction recording the move to the supplier plating operation.

You receive the plated assemblies back from the supplier. The job or repetitive schedule you use to control your production is automatically charged for the "Plating" outside resource when you receive the assemblies. The assemblies are automatically moved to the next operation for inspection to match your physical flow.

You perform inspection of the assemblies at the following operation and either move them on or return them to the supplier for rework. If you return them for rework, Oracle Manufacturing automatically reverses the charges and performs a reversing move transaction to accurately track the physical flow of your assemblies.

A Plating Service Setup Charge Example

You are a computer manufacturer who sends your frame assemblies to a supplier for plating. As part of your contract, your supplier charges the same setup fee for each job or repetitive schedule, regardless of the number of assemblies on the job or repetitive schedule. You have defined a primary routing for your assemblies that includes a supplier plating operation with a Lot based outside resource for plating setup.

To support the purchase and costing of this setup charge, you define an outside resource called "Plating SU" with a charge type of PO Receipt, a UOM of EA for each, and a standard cost. Then you link this resource to an outside processing item called "Plating SU." The purchase quantity is always 1 on a job or repetitive schedule, unlike the "Plating" outside processing item, which was based on the number of assemblies you shipped. You set the WIP parameter Requisition Creation Time to At Operation.

When your assemblies are ready for plating, you ship them to your supplier and enter a move transaction recording the move to the supplier plating operation. The move automatically initiates a purchase requisition for a single "Plating SU" outside processing item associated with the "Plating SU" outside resource. You use AutoCreate to convert the requisition to a purchase order and send the purchase order to the supplier.

When you receive the assemblies back from the supplier, there is a separate line item for "Plating SU." The job or repetitive schedule you use to control your production is automatically charged for the setup charge when you receive that item. The assemblies are not moved after this receipt; rather they are moved when you receive the "Plating" item since the "Plating" resource's charge type is PO Move.

A Plating Service Labor Charge Example

You are a computer manufacturer who sends your frame assemblies to a supplier for plating. Your supplier charges a setup fee for each job or repetitive schedule and a plating service charge for each assembly he services. In addition, the supplier has a resource at his plant to perform periodic chemical analysis relating to the assembly plating process. Although this service is not a standard part of the plating process, you still include this outside resource on your routing so you can charge it as needed.

To support the purchase and costing of this chemical analysis resource, you define an outside resource called "Analysis" with a charge type of PO Receipt, a UOM of EA for each, and a standard cost of $1.

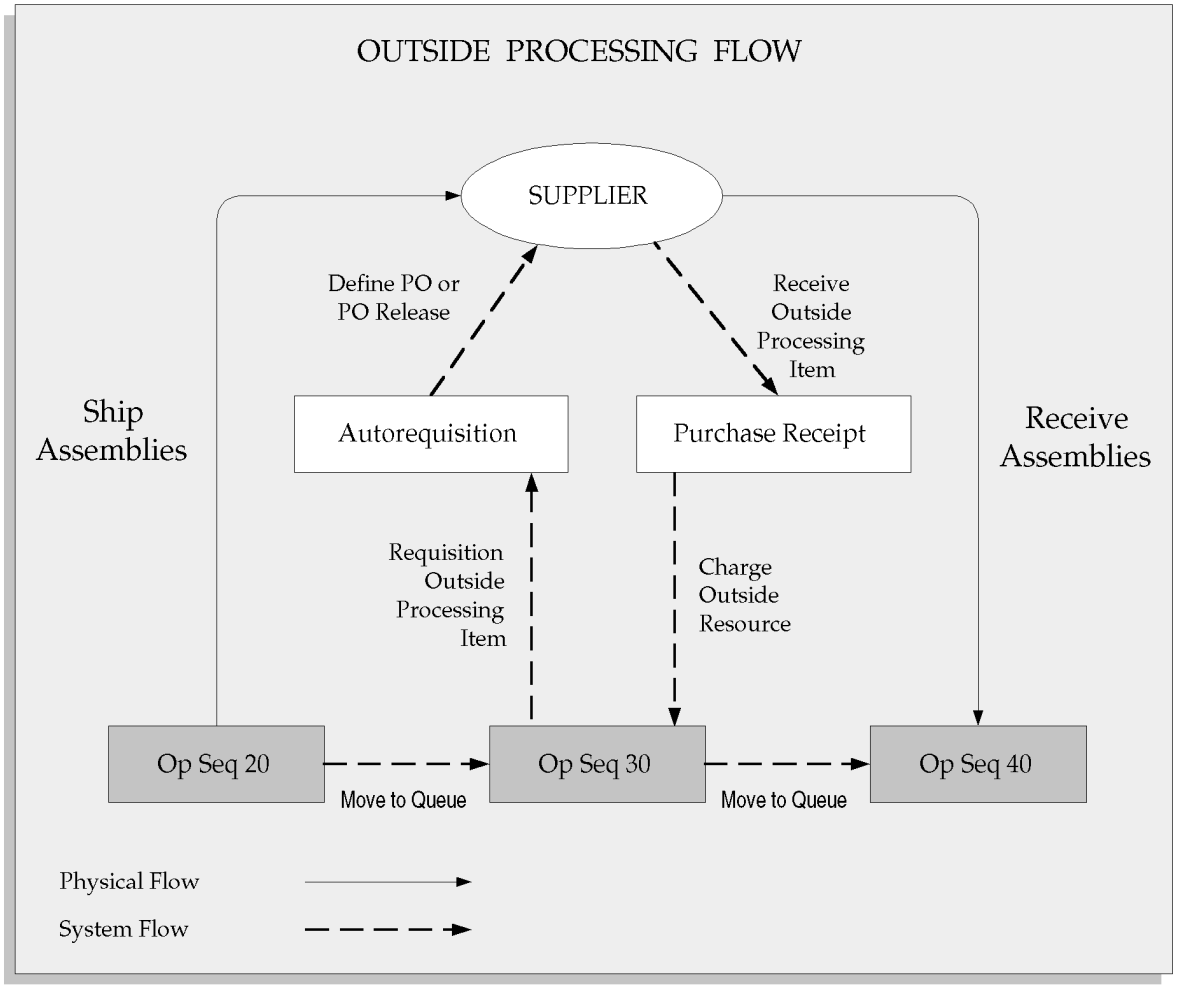
However, you do *not* link this resource to the "Analysis" outside processing item.

Since the "Analysis" resource is not linked to the "Analysis" outside processing item, this resource is never automatically requisitioned. However, your buyer includes this item on purchase orders as necessary to authorize this periodic chemical analysis service. The buyer includes the amount he authorizes (such as 100 EA @ $1 = $100) and the job or repetitive schedule to charge.

When you receive assemblies back from the supplier, there is a separate line item for "Analysis" charges. The job or repetitive schedule the buyer referenced on the purchase order line is automatically charged for the chemical analysis service charges when you receive that item. The assemblies are not moved after this receipt.

Understanding the Physical Flow of Outside Processed Assemblies

Oracle Manufacturing gives you the flexibility you need to control your outside processing flows. This essay highlights some basic outside processing scenarios and discusses all of the options you have to manage your particular outside processing flows. Before you learn the transaction flows of Oracle Manufacturing, you should understand the physical flow assumptions on which they are based. This section covers areas such as consuming material requirements, shipping assemblies to suppliers, tracking assemblies at suppliers, and inspecting outside processed assemblies.



Kitting Options

An outside operation may have material requirements in addition to labor or machine requirements. Further, you may have different methods for satisfying material requirements at an outside operation. For example, you may kit and ship components to your supplier for assembly. Or, you may let your supplier provide the components himself. Regardless, Oracle Manufacturing lets you model and transact to match the way you perform outside processing.

You can use the supply type on your bill to indicate who supplies components and when you record the material transactions in the system. For example, if your supplier provides components in addition

to labor, you can include the components on your bill with a Supplier supply type. You can charge a job or repetitive schedule for these components by including their cost in the standard cost of the outside resource on your routing. Or, if your supplier charges you separately for these components, you can add another outside resource specifically for these costs. Master Scheduling/MRP does *not* plan supplier–sourced components.

If you kit components to send to a supplier for assembly, you can include these components on your bill with a Push supply type. Before kitting and sending the assembly components to the supplier, you can run the Discrete Job or Repetitive Pick List Report to list the component requirements, then issue these components to the job or repetitive schedule using the WIP Material Transactions window in Work in Process. The material cost is charged to the job or repetitive schedule when you issue the components. You can ship the components along with the assemblies to the supplier. Master Scheduling/MRP *does* recognize this component demand.

If you want to backflush the components at an outside operation, you can identify the components on your bill with either an Operation Pull or Assembly Pull supply type. You must still get the components out of inventory and to the supplier, even if you are delaying the backflush until later in your process. You would typically run a pick list to identify the necessary components and ship these components along with the assemblies to the supplier. You would then backflush the components and charge the material cost to a job or repetitive schedule when you complete the outside operation or complete the assemblies to inventory. Master Scheduling/MRP also recognizes this component demand.

Shipping Options

You have several options for shipping your outside processed assemblies to your supplier. Your supplier may pick up assemblies at your plant based on a regular schedule, or you may ship assemblies to your supplier on an as needed basis. In some cases, you may want your supplier to drop ship assemblies directly to another supplier for additional outside processing.

You can use move transactions in Work in Process to record outside processing shipments to your supplier. You can include the specific costs of shipping as separate resources on your routing. In addition, Purchasing lets you record the FOB point on your purchase orders.

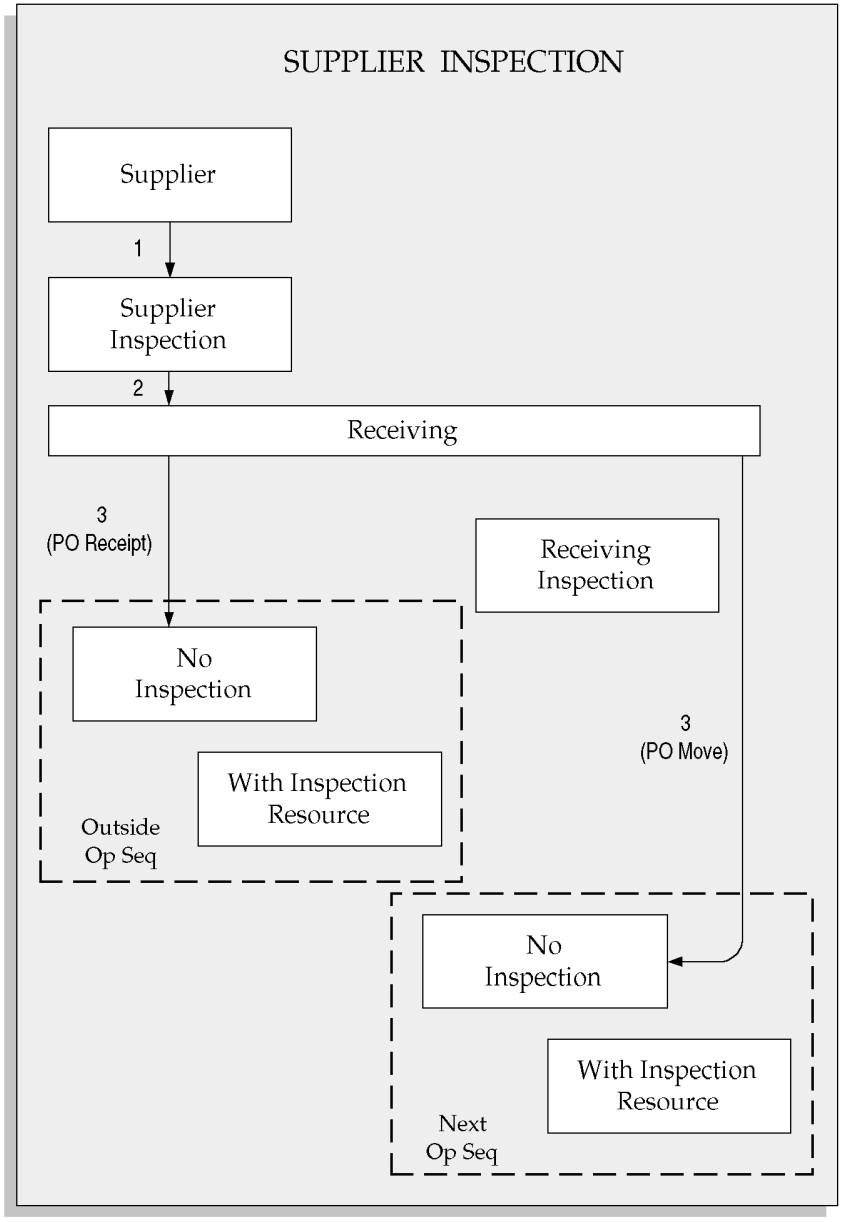
If you have sequential outside processing operations and you have worked out the physical flows between your suppliers, you can use PO

Move resources to automatically move outside processed assemblies from one outside operation to the next one on your routing. You must first set up the supplier locations by entering them in the Shipping Network Location field on Oracle Payables' Supplier Sites window. The locations then appear on the list of values for the Ship–To Location on the Purchase Order. When the assemblies are completed and shipped from the first outside processing supplier to the second, you must enter a receiving transaction in Purchasing confirming completion by the first supplier and receipt by the second supplier.

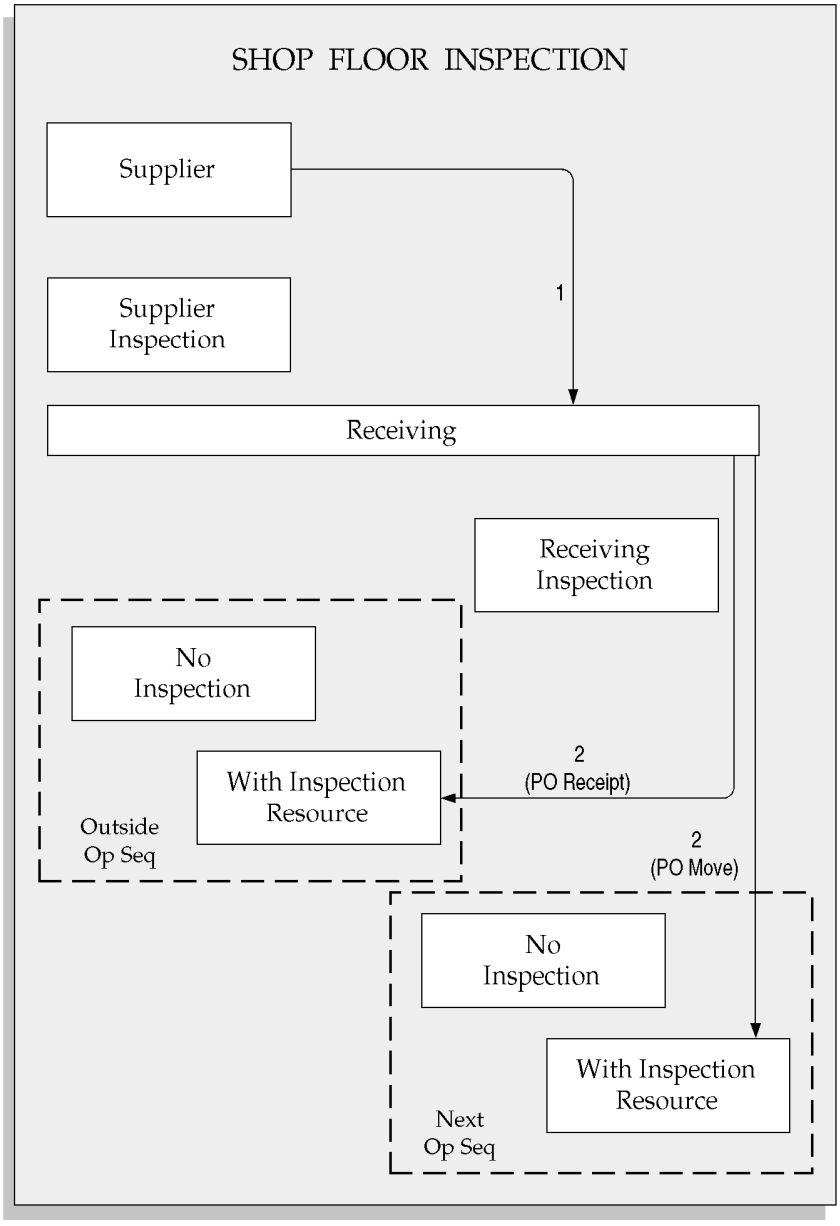
Inspection Options

Oracle Manufacturing provides you with several options for inspecting your supplier work. In general, either you or your supplier can perform inspections.

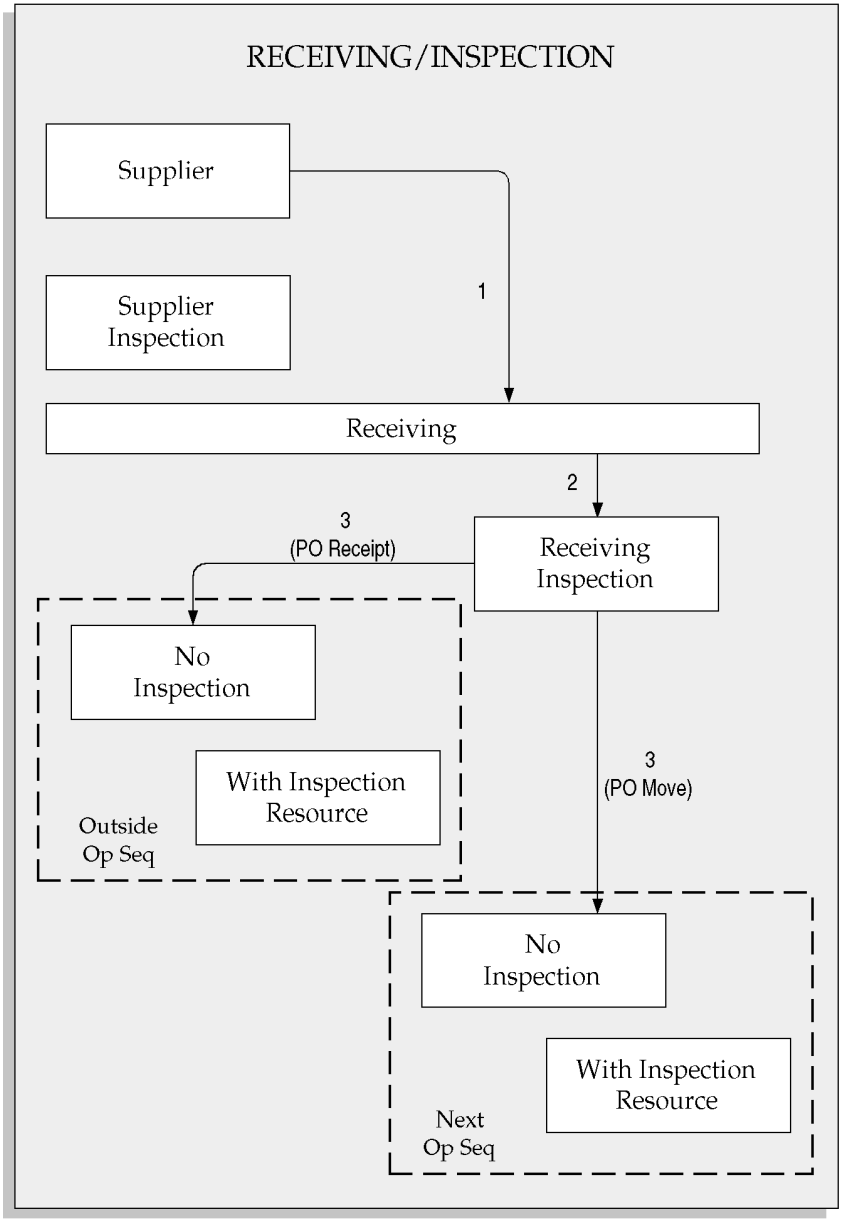
If your suppliers perform inspections (to your specifications), they can then ship the assemblies directly to the next operation on your routing. Suppliers can include the inspection fee either in the overall fee or as a separate line item. If they charge you separately, you must define a separate outside resource on your routing for the inspection.



If you perform the inspection internally, you can define an internal inspection resource either at the outside operation or at a separate inspection operation with an inspection resource.



You can also receive the outside processed assemblies into a receiving inspection location in Purchasing and perform your inspection activities in receiving inspection. Then, you can deliver the assemblies to the shop floor and charge the job or repetitive schedule for the outside processing services.



Outside Processing Setup and Planning

Although outside processing revolves around your shop floor, the only required setup steps in Work in Process are to define the outside processing valuation and variance accounts in each of your WIP accounting classes, set up shop floor statuses, and set up the requisition creation time parameter and workflow notification parameters. All other required setup steps are completed in Oracle Applications, Inventory, Bills of material, Cost Management, and Purchasing. The following table lists the setup steps that must be completed in each of these applications.

Product	Setup Functions
Oracle Applications (see: Oracle Applications System Administrator's Guide)	Set up site level profile that enables outside processing workflows.
Inventory (see: Setting Up Inventory: page 10 – 19)	Define outside processing items, item list prices and lead times, and units of measure.
Bills of Material (see: Setting Up Bills of Material and Cost Management: page 10 – 22)	Define departments and routings. Link outside resources to operations. Include supplier–sourced components on bills of material.
Cost Management (see: Setting Up Bills of Material and Cost Management: page 10 – 22)	Define outside resources, perform cost rollup
Purchasing (see: Setting Up Purchasing: page 10 – 28)	Define supplier sourcing rules. outside processing line types, quantity received tolerances, receiving routing controls, ship to, deliver to locations, and receiving, PPV, IPV, and AP accrual accounts. Link employees to application users. Assign supplier sourcing rules.
Work in Process (see: Setting Up Work in Process: page 10 – 32)	Define WIP accounting classes, WIP parameters. Set up shop floor statuse.

Once you complete the above setup steps for outside processing, you then perform the following steps:

- Plan your outside resource load

- Determine whether you want purchasing requisitions to be created automatically or manually. If requisitions are created automatically, you must set up the parameters that determine the timing
- Create outside processing purchase order lines
- Set up receipt transactions for outside processing items
- Determine how you will manage returns and corrections

Detailed information on each of these steps is provided in the sections that follow.

Setting Up Inventory

Use the Items window to define and maintain outside processing items. These items can be non–stocked items which represent the actual supplier contribution in your build process, or you can define the assembly itself as an outside processing item. You must define and maintain outside processing items across all organizations that use them, including the inventory organization you define in Purchasing. See: Defining Items, *Oracle Inventory User's Guide*.

Define Outside Processing Items

When you define outside processing items for outside processing, you must define certain item attributes in the Items window. (See: Purchasing Attribute Group, *Oracle Inventory User's Guide*.) These attributes let you link outside resources to the outside processing items and then include the items on outside processing requisition and purchase order lines. For each outside processing item, you must define the following:

Outside Processing Item

Set this attribute to Yes to link an outside processing item with an outside resource and to include an item on an outside processing purchase order line.

Purchasable

Set this attribute to Yes to include an item on a purchase order line.

Outside Processing Unit Type

You can requisition outside processing items from Work in Process in two ways. You can requisition them based on the number of assemblies, or you can requisition them based on the extension of the number of assemblies times the usage rate or amount of the resource.

In either case, you always charge the job or repetitive schedule using the extended quantity for the associated outside resource.

If you want to requisition one outside processing item for each assembly you ship to a supplier, then you should set the Outside Processing Unit Type to Assembly.

For example, suppose your frame assemblies each require one plating service. You would set up a "Plating" outside resource and a corresponding "Plating" outside processing item to represent this outside service. You should also set the unit of measure of the frame assembly and the "Plating" outside processing item to be EA for each. Finally, you need to assign the "Plating" outside resource to the frame assembly routing and enter the appropriate usage rate or amount and a basis of Item.

When the requisition is automatically created for the "Plating" outside processing item, the unit of measure EA is used. The quantity of the requisition depends on the WIP parameter Requisition Creation Time. If the parameter is set to At Operation, when you move one EA of the frame assembly into the outside processing operation, Work in Process automatically requisitions one EA of the "Plating" outside processing item. If the parameter is set to At Job Release, when the job for 10 EA is released, Work in Process automatically requisitions 10 EA of the "Plating" outside processing item. When you later move one EA of the frame assembly into the outside processing operation, the requisition quantity is not changed and may need to be modified manually.

> **Note:** If you set the parameter to At Operation, and the move transaction is for a partial quantity, the requisition is created for each quantity moved. If you set the parameter to At Job/Schedule Release, the requisition is created for the entire job quantity – independent of the move transaction quantity..

When you receive one EA of the plated assembly back from the supplier, Purchasing relieves the purchase order for one "Plating" item. Purchasing charges the job or repetitive schedule one frame assembly times the usage rate or amount of the "Plating" outside resource using the outside resource's unit of measure.

If you want to requisition the usage rate or amount of the outside resource, you should set the Outside Processing Unit Type to Resource.

For example, suppose your frame assemblies each require three hours of plating machine time. You would set up a "Plating" outside resource and a corresponding "Plating" outside processing item to represent this outside machine time service. You should also set the unit of measure of the outside resource and the outside processing item to HR for hours. Finally, when you assign the "Plating" outside resource to the

frame assembly routing, you should set the usage rate or amount to three for three HR of plating machine time per assembly.

When the requisition is automatically created for the "Plating" outside processing item, the unit of measure HR is used. The quantity of the requisition depends on the WIP parameter Requisition Creation Time. If the parameter is set to At Operation, when you move one EA of the frame assembly into the outside processing operation, Work in Process automatically requisitions three HR of the "Plating" outside processing item. If the parameter is set to At Job Release, when the job for 10 EA is released, Work in Process automatically requisitions 30 HR of the "Plating" outside processing item. When you later move one EA of the frame assembly into the outside processing operation, the requisition quantity is not changed and may need to be modified manually.

Later when you receive the plated frame assembly back from the supplier, Purchasing relieves the purchase order for three "Plating" outside processing item HR and charges the job or repetitive schedule for three "Plating" outside resource HR.

Outside Processing UOM Type = Assembly	**Outside Processing UOM Type = Resource**
Equals the job or repetitive schedule assembly UOM.	Equals the outside resource UOM.
Equals the assembly move quantity using the outside processing item UOM.	Equals the assembly move quantity times the outside resource usage rate or amount using the outside processing item UOM.
Charge the receipt quantity times the outside resource usage rate or amount using the outside resource UOM.	Charge the receipt quantity using the outside resource UOM.

* Assumes the outside resource associated with the item has a basis of Item

Maintain Outside Processing Items in Multiple Organizations

You must maintain each outside processing item you define across all organizations that use the item in outside processing. This includes the Purchasing inventory organization that you establish in the Financials Options window (See: About Financials Options, *Oracle Payables User's Guide*.) as well as each of the work in process organizations you use for building your assemblies. Each of these organizations should be part of the same master organization for ease of maintenance.

When you requisition and purchase an outside processing item, Purchasing validates the item attributes for the item definition in the inventory organization. For example, purchasing makes sure the item is an outside processing item and that it is purchasable. Purchasing then enters the work in process organization for the job or repetitive schedule as the Ship–To organization on the purchase order line shipment. When you receive against the purchase order line shipment you must be logged into the Ship–To organization.

Define Units of Measure (UOM)

When you define outside resources in Bills of Material and outside processing items in Inventory, you must also define a primary UOM for each entity. See: Defining Units of Measure, *Oracle Inventory User's Guide*.

Purchasing always purchases an outside processing item in the item's UOM and charges the job or repetitive schedule in the resource's UOM. Purchasing can optionally receive an item in an alternate UOM. See: Creating a Routing, *Oracle Bills of Material User's Guide*.

Processing Lead Time Attributes

When Work in Process requisitions an outside processing item, the start date of the operation, following the outside processing operation determines the Need By Date. If the outside processing operation is the last operation, then the Need By Date is the last unit complete date of that operation. Processing lead times are defined in Oracle Inventory Item Attributes and include:

- Preprocessing lead time specifies the number of days you must add to purchasing or manufacturing lead time to place an order..
- Processing is the days required to procure or manufacture an item. For manufactured assemblies, processing days equals manufacturing lead time.
- Post processing is the days required to receive a purchased item into inventory from the initial supplier receipt.

See: Lead Times Attribute Group, *Oracle Inventory User's Guide*.

Setting Up Bills of Material and Cost Management

Much of the setup required for outside processing occurs in Cost Management and Bills of Material. You must first define outside resources in Cost Management. Then, in Bills of Material, you assign

the outside resources to departments and shifts. You must also define routings that include operations with outside resources. You can also include supplier–sourced components on your bills of material.

Define Outside Resources

You must define outside resources and link them to outside processing items in order to automatically generate purchase requisitions for outside processing. When you assign outside resources to a routing, you also specify a usage rate or amount that determines the quantity you are requisitioning and/or charging to work in process jobs or repetitive schedules. You must define the following resource attributes for outside resources: See: Defining a Routing, *Oracle Bills of Material User's Guide*. See: Defining a Standard Operation, *Oracle Bills of Material User's Guide* and Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*

Charge Type

Use this attribute to determine how you charge a resource to a job or repetitive schedule. For outside resources that you want to automatically requisition, you choose either PO Move or PO Receipt. These resources are charged to jobs and repetitive schedules when you receive against purchase order lines linked to the resources.

In addition, move transactions are performed automatically when you receive against purchase order lines linked to PO Move resources. The outside processed assemblies are moved to Queue of the next operation unless the outside processing operation is the final operation. In this case, the assemblies are moved to the To Move step of the last operation and automatically moved to the designated subinventory location. You should choose PO Move or PO Receipt based on your physical flow. You can have only one PO move resource per operation. You can override the autocharge of a resource when you assign the resource to a routing.

You can manually link a purchase order line to a job or repetitive schedule and charge any PO Move or PO Receipt resource on the routing.

> **Note:** If Oracle Shop Floor Management is installed, and you are using lot based jobs with network routings, the PO Receipt transaction moves the items to the last operation–not the next operation.

Outside Processing Item

Use this attribute to associate an outside resource with the outside processing item you are buying from a supplier. When you enter a

move into Queue of an operation with an outside resource, Work in Process automatically requisitions the outside processing item associated with the outside resource.

You may not necessarily want to link an outside processing item with every outside resource. As discussed earlier in the "Chemical Analysis" resource example, you might want to charge a resource to a job or repetitive schedule but not create requisitions with each move transaction.

UOM

Use this attribute to specify the UOM associated with a resource. In general, the UOM of the resource would be quantity based such as EA for each plated item since this is the likely unit of measure for items on purchase orders. However, you can use a time based UOM if you purchase a quantity of time, such as plating machine hours. If your resource UOM is time based, you can also schedule the resource and include the resource in capacity plans. If the UOM is quantity based, you can define a separate resource for scheduling your jobs or repetitive schedules and for including outside resource load in capacity plans.

Purchasing always purchases items linked to outside resources using the outside processing item's UOM. Purchasing always charges items to jobs or repetitive schedules using the resource's UOM.

Standard Rate

Use this attribute to control whether you charge an outside resource to a job or repetitive schedule at the standard rate of the resource or whether you charge the job or repetitive schedule at the actual purchase order line price. See: Work in Process Resource and Move Transactions in Receiving Outside Processing Items: page 10 – 38. You can override whether you charge a resource at standard or actual when you assign the resource to a routing.

Absorption and Variance Accounts

You must define a purchase price variance account for each outside resource you define. This account defaults from the organization's purchase price variance account. You must also define an absorption account for each outside resource. The absorption account defaults from the organization's receiving account, which is debited when an outside processing item is received and which is subsequently credited when the item is delivered to work in process. The debit goes to the outside processing account associated with the accounting class of the job or repetitive schedule when the item is delivered to work in process.

Cost Element

When you define a resource with a charge type of either PO Move or PO Receipt, Cost Management automatically defaults Outside Processing as the cost element. However, you can also charge PO Move and PO Receipt resources to any of the other cost elements, including Material, Material Overhead, Resource, and Resource Overhead.

Assuming you use the Outside Processing cost element, the assembly cost rollup inserts the outside resource standard cost into the outside processing cost element for the assembly. The outside processing cost element is charged when you receive against purchase orders. Work in Process credits the outside processing cost element at standard or average when you complete assemblies. See: Overview of Work in Process Costing: page NO TAG.

Costed

Enter Yes to include an outside resources in your cost rollup. You can enter No if you want to use a resource for other purposes such as scheduling. You cannot override this attribute on the routing.

Default Basis

You can define a default basis of either Lot or Item, which you can then override on the routing. Enter Lot if you schedule or charge the resource once for each job or repetitive schedule. Enter Item if you schedule or charge a resource based upon the job or repetitive schedule's assembly quantity.

You might enter Lot for outside resources that represent services such as setup and teardown. Other services for which a supplier charges based on the assembly quantity should have a basis of Item.

Resource Unit Cost

Use the resource unit cost to define the standard cost per UOM for a resource. Cost Management uses this standard along with the standard lot size, usage rate or amount, and basis on the routing when it calculates the outside processing elemental standard during an assembly cost rollup. Also, jobs and repetitive schedules are charged using this cost when you receive outside processing items linked to outside resources that charge at standard.

As your buyer negotiates price changes with your suppliers, he maintains the List Price attribute in the Items window. Purchasing defaults this price when it creates requisitions and purchase orders (except if you set up a blanket, in which case Purchasing defaults the price on the blanket.). As the actual purchase price varies from the

standard resource cost, you create variances. You can reduce these variances by keeping the resource's unit cost in line with the list price for the outside processing item in the Items window. See: Defining Items, *Oracle Inventory User's Guide* and Defining a Resource, *Oracle Bills of Material User's Guide*.

Define Departments with Delivery Locations

You must define departments with outside resources and valid delivery locations before you can include outside operations in your routings. You cannot associate an outside resource with an operation on a routing unless the resource is assigned to the operation's department and the department has a location associated with it.

Work in Process passes the department location to Purchasing as the Deliver–To location when requisitioning outside processing items. Purchasing requires a Deliver–To location when you receive outside processing items and deliver them to the shop floor. See: Defining a Department, *Oracle Bills of Material User's Guide*

Define Routings

Use the Routing window in Bills of Material to associate outside resources with assemblies requiring outside processing. You can define a routing with one or more outside operations that each include one or more outside resources. When you associate an outside resource with an operation on a routing, you set the usage rate or amount for that resource. Work in Process uses the routing to calculate the requisition quantities and to schedule jobs and repetitive schedules. Cost Management uses the routing to calculate the assembly's standard cost. See: Creating a Routing, *Oracle Bills of Material User's Guide*.

Calculating Requisition Quantities for Outside Processing Unit Type of Resource

When Work in Process requisitions an outside processing item with a Outside Processing Unit Type of Resource**,** it uses the outside resource's usage rate or amount and basis to calculate the requisition quantity.

If the basis is Item**,** Work in Process requisitions the usage rate or amount times the move quantity, or the usage rate or amount times the job quantity depending on the WIP parameter Requisition Creation Time. For example, if you have an outside resource with a UOM of HR and a usage rate or amount of 10, and you move five assemblies into the outside operation, Work in Process requisitions 50 HR of the outside processing item linked to the outside resource.

For outside resources with a basis of Lot, Work in Process requisitions the usage rate or amount of the resource when you move the first assembly on the job or repetitive schedule into Queue of the outside operation or when you release the job, depending on your Work in Process setup.

Calculating Requisition Quantities for Outside Processing Unit Type of Assembly

When requisitioning items with an Outside Processing Unit Type of Assembly, Work in Process does not extend the assembly move quantity by the usage rate or amount.

If you set the parameter to At Operation, and the move transaction is for a partial quantity, the requisition is created for each quantity moved. If you set the parameter to At Job/Schedule Release, the requisition is created for the entire job quantity – independent of the move transaction quantity.

For outside resources with a basis of Item, when the WIP parameter Requisition Creation Time is set to At Operation, Work in Process requisitions the move quantity each time you move into Queue of the outside operation.

For outside resources with a basis of Lot, Work in Process requisitions a quantity of 1 when you move the first assembly on the job or repetitive schedule into Queue of the outside operation or when you release the job or schedule, depending on your Work in Process setup.

Move Qty.	Item Price and Unit	Required?	Transaction Quantities and Charges
50	Assembly: $1 each	Item: 10 at $1 each	50 at (50 x 10) @ $1 = $500
50	Assembly: $1 each	Lot: 10 at $1 each	1 at (1 x 10) @ $1 = $10
50	Resource: $1 per hour	Item: 10 at $1 per hour	500 hrs. at (500 HR @ $1) = $500
50	Resource: $1 per hour	Lot 10 at $1 per hour	10 hrs. at (10 HR @ $1) = $10

Work in Process Scheduling

Work in Process schedules all resources in a routing with Scheduling set to Yes and with a time based unit of measure. If you are requisitioning outside processing items for outside operations with

units of measure that are not time based, you may want to add resources with time based units of measure to the routing to accurately schedule the outside processing work. You can also include time based outside resources in capacity planning. See: Overview of Work in Process Scheduling: page 13 – 2 and Creating a Routing, *Oracle Bills of Material User's Guide*.

Define Supplier–Sourced Components

You can define supplier–sourced components on bills of material by choosing a supply type of Supplier. Work in Process prints the supply type on several reports including the Pick Lists and the Routing Sheets. This information signals to your supplier the components that he is responsible for supplying. Master Scheduling/MRP does not plan these components.

Whether you associate a unit cost with these supplier–sourced components in the item master depends on how your supplier charges you for the item. If your supplier includes the component costs in the price of his service (the outside resource), then you would *not* want to also include the cost in the assembly's bill. For example, if your plating supplier provides zinc as part of his plating service, then you might include zinc on your bill at the outside operation but include the cost of zinc in the plating resource. See: Creating a Bill of Material, *Oracle Bills of Material User's Guide*.

Cost Rollup

The cost rollup uses the outside resource's usage rate or amount, unit cost, and basis to calculate the outside processing costs for the primary routing of each assembly. Lot based resources are allocated across the assembly's standard lot size in calculating the assembly's standard cost. Assuming you associate the outside processing cost element with your outside resources, the assembly cost rollup inserts the outside resource costs into the outside processing cost element. See: Rolling Up Assembly Costs, *Oracle Cost Management User's Guide*.

Setting Up Purchasing

There are several setup steps for outside processing that you must perform in Purchasing. Some of these steps are optional and can be performed to help facilitate your outside processing flow. Other steps are required to be able to link requisitions and purchase orders to jobs or repetitive schedules as well as to receive purchase order shipments.

Define Outside Processing Line Types

Purchasing requires you to enter a line type when you enter a requisition or purchase order line. Purchasing is installed with a predefined line type called Outside Processing, and Work in Process uses this line type when it creates pending requisitions. You can define additional line types for outside processing. You may want to use a user defined line type if you manually requisition and purchase an outside processing item. See: Defining Line Types, *Oracle Purchasing User's Guide*.

Enter Employee and Link to Applications Users

Purchasing requires an employee for all requisitions. When Work in Process requisitions outside processing items, it includes an employee name for Purchasing to put on the requisition as the preparer. This employee name is the one linked to the applications user who performs the move transaction that initiates the requisition.

To support this functionality, you must define employees and link them to the applications users who enter move transactions. This includes users who enter move transactions on–line as well as users associated with bar code transactions and other moves you insert into the move transaction open interface. See: Employee Management, *Oracle Human Resource Management Systems User's Guide* and Users Window, *Oracle Applications User's Guide*.

Define Sourcing Rules

You can define rules for each outside processing item to help you determine from which supplier to source the item. When Work in Process requisitions an outside processing item, it checks whether a sourcing rule exists for that item. If so, then that supplier is defaulted on the requisition. You can override the supplier default on the purchase order. See: Automatic Sourcing, *Oracle Purchasing User's Guide*.

Define Outside Processing Item List Prices

When you requisition an outside processing item, Purchasing enters a default price for the item. If there is a blanket purchase agreement, Purchasing uses this price. Otherwise, Purchasing defaults the list price from the Items window for the outside processing item. See: Defining Items, *Oracle Inventory User's Guide*.

If you have defined source documents in the Approved Supplier List, Purchasing uses the highest ranking document to determine the price.

Define Outside Processing Item Lead Times

When Work in Process requisitions an outside processing item, the start date of the operation following the outside processing operation determines the Need By Date. If the outside processing operation is the last operation, then the Need By Date is the last unit complete date of that operation (Lot based jobs use a different logic to derive the need by date because network routings have changing first and last operations.). See: Setting Up Inventory: page 10 – 19

Define Overreceipt Tolerance and Control

You can specify a quantity received tolerance percent to limit the quantity you can over receive on a purchase order shipment. You can also control whether you provide a warning for over–receipts or whether you prevent over–receipts beyond the percentage you specify. For outside processing, you may want to prevent any over–receipts by specifying a 0% tolerance. For example, if you purchase assembly plating for 10 assemblies and receive 11 from the supplier, you are unable to automatically move the assemblies to the next operation. Work in Process prevents move transactions for quantities greater than what exists in an operation. Also, you are adding more costs to a job or repetitive schedule than you relieve which causes a variance at job or period close.

You can define your receiving tolerance in the Receiving Options window in Purchasing and override it at the supplier, item, and purchase order shipment levels. See: Defining Receiving Options, *Oracle Purchasing User's Guide*.

Control Your Receipt Routing

You can control your receiving routing by specifying one of three options. The first option lets you receive an outside processing item directly into work in process. The second option requires you to receive to the Ship–To Location before you can deliver to work in process. The third option requires you to deliver to the Ship–To Location, inspect the outside processing items, and then deliver to work in process.

You can define your receiving routing in the Receiving Options window in Purchasing and override it at the supplier, item, and purchase order shipment levels. You can also override the receiving routing at receipt time if the RCV: Allow Routing Override profile option is set to Yes. See: Defining Receiving Options, *Oracle Purchasing User's Guide* and Profile Options, *Oracle Purchasing User's Guide*.

Define Ship To and Deliver–To Locations

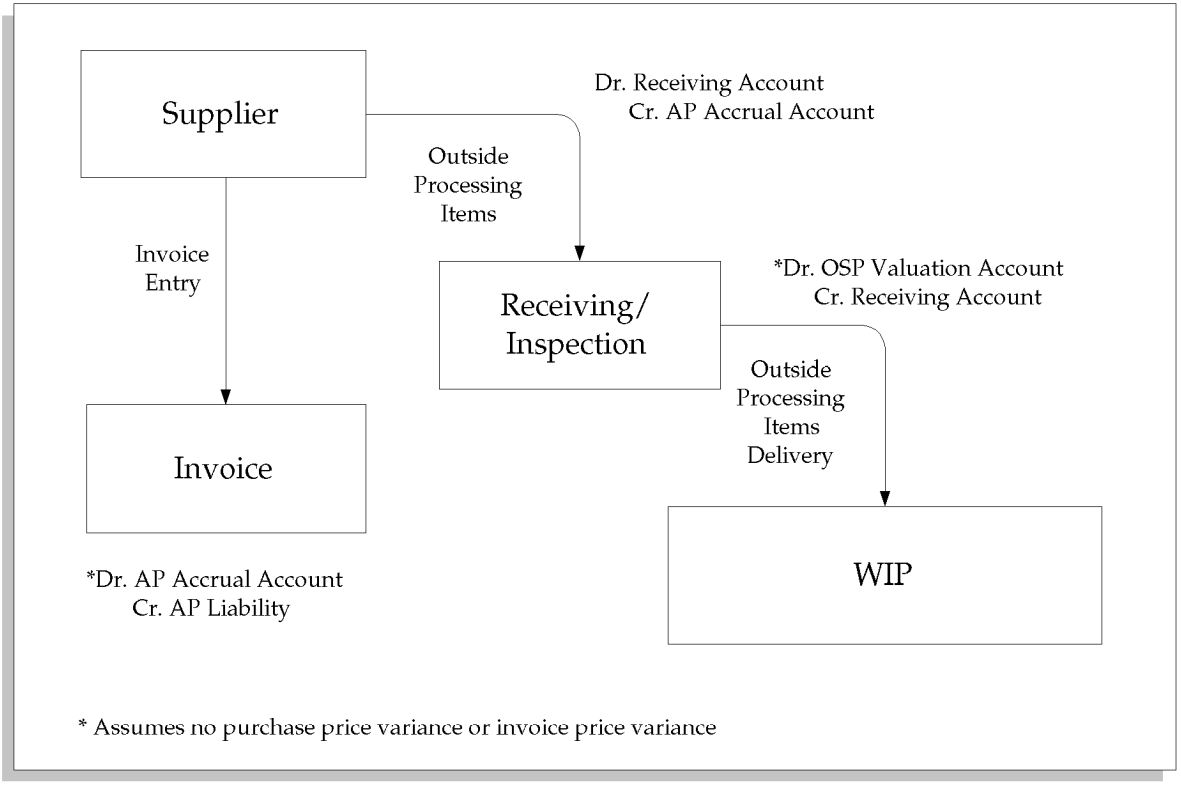
You must define Ship To and Deliver–To Locations to include on your requisitions and purchase orders. See: Site Locations, *Oracle Human Resource Management Systems User's Guide*.

- The *Ship–To* Location represents the delivery dock or inspection location. When you receive an outside processing item from a supplier, you receive to the Ship–To Location specified on the purchase order shipment. You set up the Ship–To Location by entering the location in the Shipping Network Location field on Oracle Payables' Supplier Sites window. It then becomes available on the list of values for the Ship–To Location field in Purchasing's Purchase Order window.
- The *Deliver–To Location* represents the destination location. When you deliver outside processed items to Work in Process, you deliver to the purchase order destination associated with your purchase order distribution. The destination location is the same as the location associated with the department of the outside operation.

Define Accounting Information

You must define a Receiving Account in the Receiving Options window. See: Defining Receiving Options, *Oracle Purchasing User's Guide* Purchasing debits this account when you receive outside processing items and credits this account when you deliver outside processing items to work in process. Bills of Material defaults this account into the Absorption Account when you define an outside resource.

In the Organization Parameters window you must define the Purchase Price and Invoice Price Variance accounts and the Inventory AP Accrual account. Bills of Material defaults the Purchase Price Variance account into the Resource Variance Account when you define an outside resource. Purchasing charges this account when you receive an outside processing item at a purchase price which differs from the standard cost of the resource associated with the item and when you charge the resource at standard. Purchasing credits the Inventory AP Accrual Account when you receive outside processing items (and Payables reverses the accrual when you enter the supplier invoice). The Invoice Price Variance account is charged when you enter an invoice for an amount different from the purchase order price. See: Organization Parameters Window, *Oracle Inventory User's Guide*.



Setting Up Work in Process for Outside Processing

Though outside processing revolves around your shop floor, the only required setup steps that you must perform in Work in Process are to define the outside processing valuation and variance accounts in each of your WIP accounting classes, and to set up the WIP parameters that enable automatic requisition creation and workflow notifications.

Define WIP Accounting Classes

For each accounting class you define, you must enter an outside processing valuation and variance accounting flexfield. This includes standard discrete, non–standard asset, non–standard expense, and repetitive assembly accounting classes. See: Defining WIP Accounting Classes: page 2 – 48.

The outside processing valuation account is debited when you receive outside processing items. The debited cost is either standard or

purchase order actual, depending on whether the Standard Rate for the outside resource is set to Yes for standard or No for actual.

Master Scheduling/MRP and Capacity require no additional setup steps to support outside processing.

Set up WIP Parameters

You must set up the following parameters to enable the automatic creation of purchasing requisitions for outside processing items when jobs or schedules are released, and to determine the recipients of outside processing workflow notifications:

Requisition Creation Time

This parameter determines whether purchasing requisitions are created for outside processing items automatically or manually. There are three values for this parameter: *At Job/Schedule Release, At Operation* (these two values determine the timing of automatic requisition creation), and *Manual.* The default value is At Operation. See: Requisitioning Outside Processing Items: page 10 – 34.

> **Note:** If you set the parameter to At Operation, and the move transaction is for a partial quantity, the requisition is created for each quantity moved. If you set the parameter to At Job/Schedule Release, the requisition is created for the entire job quantity – independent of the move transaction quantity.

Production Scheduler

This parameter defines the employee for the Production Scheduler role, who will receive all outside processing workflow notifications for that role.

Shipping Manager

This parameter defines the employee for the Shipping Manager role. This employee organizes the shipping of intermediate assemblies to outside suppliers, and also receives all shipping–related outside processing workflow notifications.

For more information on these parameters see: WIP Parameters: page 2 – 14 and Outside Processing Workflows: page 10 – 49.

Planning Outside Resource Load

Capacity performs rough–cut and detailed capacity planning for time based outside resources. As such, you can analyze your capacity plans

for your outside resources and use these to set load expectations for your supplier. You can also use capacity planning to help you negotiate prices and volume discounts for outside services.

Capacity does not include resources with non–time based units of measure in its capacity plans. All capacity plans are displayed in hours. So, even resources which have time based units of measure other than hours must have unit of measure conversions defined for hours. For outside resources in units of measure such as EA for each, you can define another resource on your routing to use for scheduling purposes and to include in your capacity plans.

Requisitioning Outside Processing Items

You can create purchasing requisitions for outside processing items automatically or manually depending on how you set the WIP parameter Requisition Creation Time.

If you set the parameter to *At Job/Schedule Release*, a purchase requisition is created for all outside processing operations on a job or schedule when you release the job or schedule. If you set the parameter to *At Operation*, a purchase requisition is created when you move into Queue of an outside processing operation. If you set the parameter to *Manual*, you must create purchase requisitions manually. You also must manually create purchase requisitions for work orders with a resource charge type of PO Move or PO Receipt that are added to the work order after it is released.

The Requisition Import process automatically runs when using PO Move and PO Receipt resource types. However, only PO Move initiates the Intermediate Shipment workflow.

If Oracle Shop Floor Management is installed, and you are using lot based jobs with network routings, the PO Receipt transaction moves the items to the last operation–not the next operation. Network routings define different paths for the next operation according to the results of the last operation. The next operation cannot be determined before receiving because the routing is dynamic. See: Creating a Network Routing, *Oracle Shop Floor Management User's Guide*.

Work in Process Move Transactions

When a requisition is automatically triggered by a move transaction into an outside processing operation, Work in Process creates a pending requisition in the PO_REQUISITIONS_INTERFACE table for the outside processing item linked to the outside resource. If you define

several outside resources in an operation, Work in Process creates a separate pending requisition for each outside processing item linked to each resource.

If you move into any intraoperation step other than Queue, Work in Process does not create a pending requisition. Also, if you move backwards into Queue, Work in Process does not create a pending requisition.

Submitting Requisition Import

You can submit the Requisition Import process through the Submit Requests window in Purchasing to generate approved requisitions created by Work in Process. You must specify WIP as the Import Source when you submit the process. You have several choices for grouping your requisitions including All, Buyer, Category, Item, Location, and Supplier. For example, you can group your requisitions by Item to create a separate requisition for each item. Or, you can group your requisitions by All to include multiple items on a single requisition. Purchasing creates a separate requisition line for each line in the interface table. See: Requisition Import Process, *Oracle Purchasing User's Guide*.

You can specify a default Group By option for Requisition Import in the Purchasing Options window. You can also automate the approval of pending requisitions by using the resubmit functionality of the Submit Requests window to automatically submit the Requisition Import process at pre–specified intervals. See: Defining Default Options, *Oracle Purchasing User's Guide* and Submitting a Request, *Oracle Applications System Administrator's Guide*.

Creating Approved Purchasing Requisitions

Purchasing automatically checks for supplier sourcing rules when it creates a requisition line for an outside processing item. If you defined a supplier sourcing rule, Purchasing defaults the primary supplier you specified. If you have a blanket purchase agreement active for the item/supplier combination in the Approved Supplier List, then Purchasing also defaults the price associated with the outside processing item on the blanket. If no price exists, then Purchasing defaults the List Price from the item master.

The Need By Date on the requisition is based on the start date of the operation following the outside processing operation. If the outside processing operation is the last operation, then the Need By Date is determined using the last unit complete date of that operation.

Note: Lot based jobs use a different logic to derive the need by date because network routings have changing first and last operations.

The preparer for a requisition is the employee associated with the applications user who entered the move transaction in Work in Process.

For each requisition line, Purchasing automatically enters account information. The Charge Account for a requisition line comes from the outside processing valuation account on the accounting class associated with the job or repetitive schedule you are charging. The Budget Account is left null unless you use encumbrance accounting. The Accrual Account comes from the organization Inventory AP Accrual Account. And, the Variance Account comes from the organization Invoice Price Variance Account.

Manually Creating Requisitions

You can manually define a purchase requisition that includes one or more outside processing items. For each requisition line, you must specify a job or repetitive schedule to charge. You can charge any resource on a job or repetitive schedule that has a charge type of PO Move or PO Receipt**.** See: Entering Outside Processing Information, *Oracle Purchasing User's Guide*.

Approving Requisitions

Purchasing automatically approves requisitions created by the Requisition Import program. You must approve any requisitions you define manually. Only approved requisitions become part of the requisition pool from which AutoCreate Documents creates purchase orders. See: Autocreate Purchase Order Options, *Oracle Purchasing User's Guide*.

Creating Outside Processing Purchase Orders

You must create a purchase order line for each of the outside processing items you are buying. You can modify purchase order lines to reference jobs or repetitive schedules other than those referenced in the requisition. You can also add a purchase order line and reference a job or repetitive schedule. You can even charge multiple jobs or repetitive schedules for a single purchase order line.

Automatically Generating Purchase Orders from Requisitions

Use the AutoCreate Documents window in Purchasing to generate purchase orders from approved requisitions. You can specify search criteria to locate the requisition lines you want to include on a purchase order, and you can choose whether to create a new purchase order or add to an existing purchase order. See: Autocreate Purchase Order Options, *Oracle Purchasing User's Guide*

You can optionally combine multiple requisition lines onto a single purchase order line. In this case, Purchasing takes the lowest price of all the requisition lines for the purchase order line, but you can edit this price after you complete the autocreation process.

Manually Creating Purchase Orders and Lines

You can manually define a purchase order which includes one or more outside processing items. For each purchase order line, you must specify a job or repetitive schedule to charge. You can charge any resource on a job or repetitive schedule which has a charge type of PO Move or PO Receipt**.** You can even charge multiple jobs or repetitive schedules by including several distributions for a purchase order line. See: Entering Purchase Order Distributions, *Oracle Purchasing User's Guide*.

Approving Purchase Orders

You must approve a purchase order before you can send it to a supplier to authorize work and before you can receive against it. See: Submitting a Document for Approval, *Oracle Purchasing User's Guide*.

Viewing Purchase Orders

You can view purchase order information including which jobs and/or repetitive schedules you are charging in the Purchase Orders window. You can view all purchase orders linked to a job or repetitive schedule by submitting the WIP Outside Processing report. See: WIP Outside Processing Report: page 15 – 77.

Foreign Currency Purchases

You can manually requisition and purchase outside processing items in foreign currencies. When you receive against purchase order shipments, Purchasing automatically enters the purchase price in the foreign currency with an exchange rate, and Work in Process converts this and charges the job or repetitive schedule in the functional currency of the work in process organization.

Receiving Outside Processing Items

You receive outside processing items using the receiving functions in Purchasing. From a physical flow point of view, you receive the outside processed assemblies and move them to the next manufacturing operation or into inventory. From a transaction point of view, you actually receive the outside processing items against purchase order lines. The receipt transaction relieves the purchase order, creates the appropriate Payables accrual, charges the job or repetitive schedule for the outside resource, and optionally moves the outside processed assembly to the next operation. See: Receiving Transactions, *Oracle Purchasing User's Guide*.

Direct vs. Standard Receipts

When you receive outside processing items from suppliers, you can optionally receive them directly into work in process or into a receiving/inspection location before delivering them to work in process. If you inspect your assemblies in work in process, for example, you can enter a direct receipt in the Receipts window to immediately charge a job or repetitive schedule for the outside processing. A direct receipt also moves the assemblies to the next operation in work in process if the outside processing item you are receiving is linked to a PO Move resource.

> **Note:** The move transactions are processed only if the Move Transaction Manager is running. See: Transaction Managers and Launching Transaction Managers, *Oracle Inventory User's Guide*.

If you enter a standard receipt in the Receipts window, you must specify a Ship–To Location. You then use the Receiving Transactions window to deliver the outside processing items to work in process. In this case, you do not charge and move assemblies in work in process until you enter the delivery transaction in the Receiving Transactions window. See: Receiving Transactions, *Oracle Purchasing User's Guide*.

Receiving Partial vs. Full Quantities

When you receive outside processing items you can receive full or partial quantities against a particular purchase order shipment. If you want to receive a complete shipment, you can use the express option on either the Receipts or Receiving Transactions windows. If not, you can enter the quantity you want to receive. Purchasing charges work in process only for the quantity you receive. For items linked to PO Move resources, the quantity of assemblies moved equals the quantity you receive.

For partial receipts of purchase order shipments linked to multiple jobs or repetitive schedules, you must specify the quantity to receive against each job or repetitive schedule. Purchasing does not automatically allocate receipt quantities for you.

If you receive more assemblies than the quantity in the Queue of the outside processing operation, WIP will automatically move a quantity up to the over–completion tolerance limit on the assembly being built. If the quantity received is greater than the acceptable over–move quantity for the job, then the transaction will error and quantity will be included on the Pending Move Transaction window. See: Assembly Over–Completions: page 7 – 84.

Receiving Assembly vs. Resource Outside Processing Unit Type Items

The quantity of outside processing items you receive can relate to the assembly quantity on the job or repetitive schedule in several ways depending on the outside processing item's Outside Processing Unit Type and the outside resource's basis.

If the outside processing item has an Outside Processing Unit Type of Assembly and the outside resource has a basis of Item, you receive one outside processing item for each assembly you receive. If the outside resource has a basis of Lot, you receive one outside processing item for each job or repetitive schedule.

If the outside processing item has an Outside Processing Unit Type of Resource and the outside resource has a basis of Item, you receive the extended quantity (using the outside resource usage rate or amount) of the outside processing item for each assembly you receive. For example, if you purchase 3 hours of plating service for each assembly, (usage rate or amount is 3), then you receive a quantity of 3 hours for each assembly you receive from the supplier. If the outside resource has a basis of Lot, you receive 1 outside processing item extended by the outside resource usage rate or amount for each job or repetitive schedule.

In all cases, the job or repetitive schedule is charged using the extended quantity of the associated outside resource.

Work in Process Resource and Move Transactions

When you receive an outside processing item linked to an outside resource, the job or repetitive schedule associated with the resource is charged at either the standard cost of the resource or the actual purchase order line price.

If you charge an outside resource at standard, any variance between the resource standard cost and the actual purchase price is written to the variance account associated with the outside resource. If you charge at actual and use standard costing, any variance is charged to the outside processing variance account for the accounting class associated with the job or repetitive schedule. This outside processing variance is recognized at job or period close. If you charge at actual and use average costing, you may or may not have a variance depending on how the cost of completed assemblies is calculated.

When you receive an outside processing item linked to a resource with a charge type of PO Move, Purchasing enters a move transaction for the assembly on the job or repetitive schedule you charge. Purchasing enters a move for the assembly quantity you are receiving. As such, you should use outside processing items with Assembly unit types and PO move resources with a basis of Item. It moves the assemblies to Queue of the next operation or to To Move if the resource is in the final operation. You can have only one PO Move resource per operation on a routing.

When assemblies move, the outside operation is being completed for the quantity that moves. These operation completions automatically backflush any material associated with the outside operation that has an Operation Pull supply type, and charge any WIP Move resources associated with the outside operation. See: Overview of Material Control: page NO TAG.

You cannot backflush any serial controlled components at an outside operation with a PO Move resource since the Receipts window does not allow entry of component serial numbers. You can, however, backflush lot controlled components as long as you set your Backflush Lot Entry setup option to one of the automatic FIFO options in the Parameters window in Work in Process. You must enter move transactions online using the Move Transactions window in Work in Process, if you want to manually record serial and lot numbers for components you backflush. See: Defining WIP Parameters: page 2 – 30 and Performing Move Transactions: page 8 – 37.

If you receive outside processing items linked to a job or repetitive schedule with an non–transactable status, such as On Hold or Cancelled, Work in Process gives these transactions an error status. You can use the Pending Move Transactions window in Work in Process to view the errors and resubmit the transactions. Processing Pending Move Transactions: page 8 – 54.

If Oracle Shop Floor Management is installed, and you are using lot based jobs with network routings, the PO Receipt transaction moves

the items to the last operation–not the next operation. Network routings define different paths for the next operation according to the results of the last operation. The next operation cannot be determined before receiving because the routing is dynamic. See: Creating a Network Routing, *Oracle Shop Floor Management User's Guide*.

Autocompleting Assemblies and Work Orders

If the outside processing operation is the last operation on the routing, and the resource has a charge type of PO Move, Work in Process automatically completes both full and partial outside processing assembly quantities into Inventory when they are received back from the supplier. When quantities that account for the remaining uncompleted quantity of a work order are received, the status of the work order is updated to "complete–charges allowed."

> **Note:** When a job or schedule with outside processing operations is changed to complete, closed, or canceled status – an informational warning message displays if open purchase orders or requisitions exist for any of the operations.

Assemblies cannot be completed from discrete jobs or repetitive schedules if the To Move intraoperation step of the outside processing operation has a status that disallows a move. If you want to disable autocomplete, however, you can assign a No Move status to the To Move intraoperation step of the outside processing operation, if it is the last operation on the routing.

Autocompletion Validation

When outside processing items are received back from the supplier, Work in Process validates the items before completing them into Inventory. If the assemblies fail validation, the quantities in Queue are moved to the To Move intraoperation step of the outside processing operation, rather than being completed into Inventory. For autocomplete to succeed, you must ensure that all Move Completion and Return rules are followed. The validation process also checks the following:

- **Default subinventories and locators:** default subinventories and locators must be specified, if they are required by the subinventory.
- **Lot number controlled assemblies:** a lot number must be specified on the discrete job subinventory. Since you cannot specify a lot number on a repetitive schedule, assemblies under

lot control on repetitive schedules will NOT be completed automatically.

- **Serial number controlled assemblies:** assemblies under serial number control must have their Serial Generation attribute in Oracle Inventory set to *dynamic entry at sales order issue.* If this attribute is not set, you will be unable to complete and return these assemblies to discrete jobs or repetitive schedules.
- **No Move Status:** the To Move intraoperation step of the outside processing operation cannot have any status that disallows a move, such as No Move status. If a status that disallows a move is assigned, you will be unable to complete assemblies from discrete jobs or repetitive schedules.
- **BOM Revision Number:** the item revision number must be the BOM revision number. When you use the assembly being built as the outside processing item, Work in Process automatically passes the BOM revision number of the assembly on the job to the Purchase requisition.
- **Assembly item over–completion tolerance:** Quantities received must be less than or equal to the quantity in the Queue of the outside processing operation plus the user–defined over–completion allowance of the assembly being built on the job.

Managing Returns and Corrections

Oracle Manufacturing gives you the tools necessary to correct over–receipts and to return to suppliers outside processed assemblies that fail your inspection processes.

Correcting Errors in Receiving

If you receive an outside processing item and enter an incorrect quantity, you can easily adjust the receipt using the Corrections window in Purchasing. Purchasing automatically reverses the charges made to a job or repetitive schedule based on the corrected quantity you enter. Purchasing enters a reversing move transaction if you enter a correction for an outside processing item linked to a PO Move resource. Before correcting a receipt for a PO Move resource, you should make sure that a sufficient quantity of assemblies exists in Queue of the operation immediately following the outside operation. See: Corrections, *Oracle Purchasing User's Guide*.

In general, you may want to prevent the possibility of incorrect receipts by defining a 0% tolerance on outside processing purchase order lines.

Returning Assemblies to Suppliers

If you want to return to a supplier outside processed assemblies that fail your internal inspection, you can enter a return to supplier transaction in the Returns window in Purchasing. Outside resource charges made to a job or repetitive schedule are automatically reversed based on the return quantity you enter. Purchasing enters a reversing move transaction if you enter a return quantity for an outside processing item linked to a PO Move resource. Before entering a return quantity for a PO Move resource, you should make sure that a sufficient quantity of assemblies exists in Queue of the operation immediately following the outside operation. See: Returns, *Oracle Purchasing User's Guide*.

Consecutive Outside Processing Operations

If you have set up consecutive outside processing operations in your routing, using two different suppliers – after the first supplier has completed work, the assembly is shipped directly to the second supplier. There are two ways you can set up your routing. One method is to create a PO Move resource and a PO Receipt resource, and associate them with the same operation. In the second method, you associate outside processing resources to two consecutive operations. The method launches the worklfow to notify the second supplier. When setting up the method, the following model is recommended:

- Use the Ship–To Location to specify that the supplier for the first outside processing operation, ships the completed assemblies directly to the supplier for the second outside processing operation.
- Perform a PO Move resource rather than a PO Receipt from the first outside processing operation to the second outside processing operation.

  This eliminates an unnecessary transaction since material is not actually received at your site.

  The Oracle Internet Supplier Portal application provides the framework to enable buyers and suppliers to communicate business transactions used for outside processing operations. This includes acknowledging purchase orders, rescheduling purchase orders, submitting advanced shipment notices, and

notifying buyers and suppliers of shipments. See: Oracle Internet Supplier Portal Implementation Guide.

The Notify Second Buyer and Supplier workflow is used to notify the buyer, and the next supplier, when the supplier for the first outside processing operation has completed the assemblies. See: Outside Processing Workflows: page 10 – 49

- When creating consecutive outside processing operations, define only one outside processing resource for each consecutive operation.

  When the supplier completes and submits the Advance Shipment Notice, Oracle Purchasing automatically creates a shipment in the system and sends a notification to the buyer. The Notify Second Buyer and Supplier workflow notifies the buyer and production scheduler that assemblies have been shipped to the second supplier. When the second supplier receives the assemblies from the first supplier, and responds to the workflow – this response triggers a logical receipt in the manufacturer's system. This action causes the assemblies to move into Queue of the second outside processing operation, if the first outside processing resource is PO Move.

Supplier Access to Outside Processing Purchase Orders

If you have Oracle *i*Supplier Portal installed on your system, you can provide your outside processing suppliers with access to all of their current purchase orders. You must set up an Oracle Applications user ID for the supplier (generally this is set up by the system administrator), enabling them to access specific purchase orders viewable through a browser. They can obtain detailed information on all of their purchase orders, including components, component attachments, associated operations, and operating instructions.

When you log on to Oracle Self–Service Web Applications, you choose Oracle *i*Supplier Portal's Supplier Services. This opens a menu linking to the Orders tabbed window. From here you can query outside processing order information through the Manufacturing Orders tab.. Shipment and distribution information is also displayed.

Viewing Outside Processing Orders

The information for outside processing orders displays standard and blanket outside processing purchase orders listed by purchase order number. Suppliers can view:

- Purchase order approval status
- Item number and description
- Job or schedule number
- Quantity ordered and delivered
- Date information

In addition to being able to view outside processing and shipping information, you also can obtain additional, or more detailed information:

Access to purchase order details

Each purchase number is linked to Purchasing's *Purchase Order Detail* page displaying purchase order revision number, purchase order type (standard or blanket), order date, order total amount, ship–to location, carrier, currency, bill–to location, payment terms, freight terms, and status.

In addition, you can select the Invoice and Receipt buttons on the Purchase Order Detail page to see related invoices (displays the PO Matched Invoices page) and receipt transactions (displays the PO Receipt Transactions page).

Download Component and Operation Attachments and Instructions

If components have attachments, and if operating instructions are available, you can link to download the attachments and instructions, view them online, and print them.

Selecting the Available link in a purchase order's Components column opens the *OSP Operation Components* page, displaying the components required for that operation. If a component has an attachment or instructions, there also will be an Available link in the Component Instructions column.

Selecting the Available link in the purchase order's Operating Instructions column opens a list of operating instructions and/or attachments. Selecting the instructions or attachment displays it in the lower half of the page.

Update the Promised Date

Suppliers can change the promise date through the Update Promise Date link In the Promise Date column, you select the new promise date, enter a reason for the date change in the Reason column, then select Submit enter the change. This automatically changes the promise date on the purchase order and notifies the buyer and production scheduler.

Download Quality Collection Plans and Collect and Submit Quality Results

You can provide your supplier with access to Quality collection plans. You must first create the collection plan in Oracle Quality and associate it with the Self–Service Quality for Outside Processing transaction. A link then is displayed in the QA Plans column. Selecting this link displays a list of the collection plans that are associated with that purchase order. You can choose to enter Quality results, to view Quality results that have been submitted, or to view attachments for any purchase order listed.

Selecting Enter Results opens the *Enter Quality Results* page. This page displays a table whose columns contain the collection elements that you defined for that collection plan, plus any context collection elements defaulted from the parent page. You can enter up to 25 rows of quality data at a time. When you have finished entering the data, you select the Save Results button, and the data are automatically saved to the database. Once you have saved and submitted all of the quality results, you then choose the Send Notification button to notify the buyer, or whomever you designate, that Quality results have been submitted.

When you want to view the results that you submitted, you select the View Results link, and the *View Quality Results* page opens. The results are displayed in a table. If any attachments are associated with the collection plan an "Available" link is displayed in the View Attachments column. You can download and view the attachments online, or print them to a local printer.

The Outside Processing Orders page contains these columns of information:

- PO (Purchase Order) Number
- Item Number
- Supplier Item Number
- Description
- Need By Date
- Promise Date
- Components
- Operating Instructions
- Qty (Quantity) Ordered
- Qty (Quantity) Delivered
- UOM (Unit of Measure)
- Approval Status
- Status
- WIP Job/Schedule
- Repetitive Line
- Operation Number

The OSP Workbench page contains these columns of information:

- PO (Purchase Order) Number
- Item Number
- Supplier Item Number
- Item Description
- Need By Date
- Promise Date
- Components

- Operating Instructions
- Qty (Quantity) Ordered
- Qty (Quantity) Delivered
- UOM (Unit of Measure)
- WIP Entity Name
- WIP Line
- Operation Sequence
- QA Plan
- Update Promise Date

Outside Processing Workflows

To enable you to track your outside processing assemblies from the shop floor to the supplier, Work in Process provides the following four workflows, which automatically send notifications and activate processes during specific points in the outside processing process:

- *Intermediate Shipment*: this workflow tracks outside processing assemblies from the shop floor to the supplier.
- *Ship and Receive Intermediates:* this workflow notifies the shipping manager and the supplier that outside processing assemblies are ready to ship.
- *Notify Second Buyer and Supplier:* this workflow is used when you have two consecutive outside processing operations. It notifies the buyer when the supplier for the first outside processing operation has completed the outside processing assemblies, then notifies the second supplier that the assemblies have been shipped.
- *Update Outside Processing Need By Date:* when you change the Need By date on the purchase order, you can activate the Update Outside Processing Need By Date workflow to notify the buyer, the requestor, and the supplier that the date has changed. If the supplier approves the change, the need by date and the promise date are updated on the requisition and the purchase order, and a notification is sent to the buyer, requestor, and supplier.

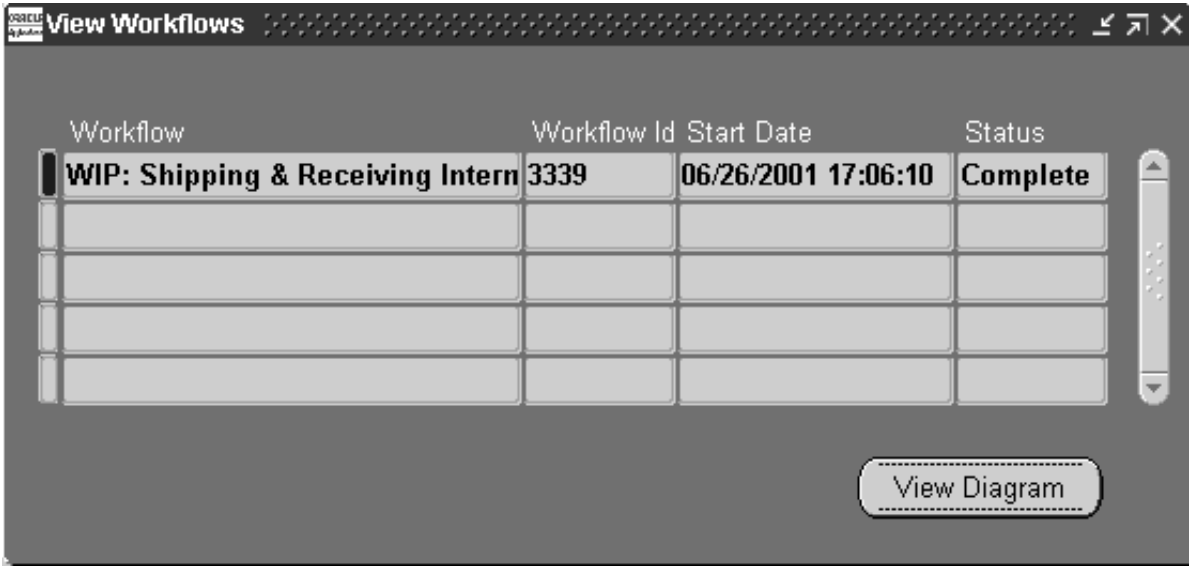
▶ **To view outside processing workflows:**

1. Navigate to one of the windows where you can access outside processing workflows.

   You can view the progression and status of the workflows from the Discrete Jobs, View Discrete Jobs, Repetitive Schedules, and View Repetitive schedules windows.

2. From the Tools menu, select View Workflows.

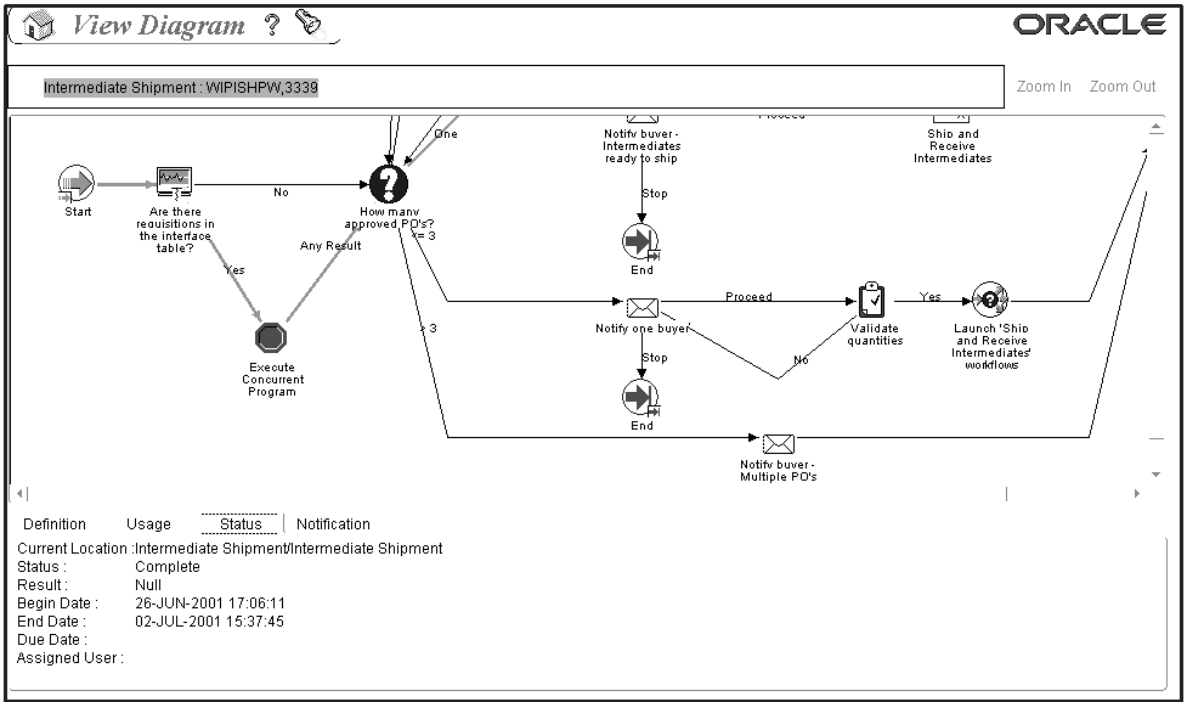
   The View Workflows window displays.



3. Select one of the workflows listed on this window and choose View Diagram.

   This action launches your browser and the View Diagram appears with the graphical display of the workflow selected.

4. When you are finished viewing the workflow, close your browser.



The following sections describe each of the workflow processes:

Intermediate Shipment Workflow

The purpose of this workflow is to track outside processing assemblies from the shop floor to the shipping dock, and then to the supplier. The workflow is activated when you move assemblies into the Queue intraoperation step of an outside processing operation that has a PO Move resource charge type. It first imports pending requisitions, checks to see how many approved (non–cancelled) purchase orders exist for the outside processing supplier, then notifies the buyer.

Note: Only PO Move initiates the workflow.

If there are from one to three approved purchase orders for that supplier and the buyer wants to proceed with the order(s), the quantities are validated, and a second workflow, the Ship and Receive Intermediates workflow, is initiated. The second workflow notifies the shipping manager and the supplier that the outside processing items are ready to ship.

The workflow initiates the following actions, based on the number of approved purchase orders that it finds:

- If there are *no* approved purchase orders, the default buyer (or alternatively, the production scheduler) is notified, and the search for approved purchase orders continues. If no default buyer or production scheduler has been defined, the workflow ends.
- If there is only *one* approved purchase order (the norm), a notification is sent to the buyer, and if the buyer decides to proceed with the order, the Ship and Receive Intermediates workflow is activated, and the first workflow ends.
- If there are from *one to three* approved purchase orders, a notification is sent to the buyer so that the buyer can decide the quantity to be shipped to each supplier. The total allocated quantity, which must equal the move quantity, is then validated. If the quantity is valid, the Ship and Receive Intermediates workflow is activated for each purchase order.
- If there are *more than three* approved purchase orders for that supplier, the buyer is notified that there are multiple purchase orders, and the workflow ends.

Ship and Receive Intermediates Workflow

The purpose of this workflow is to notify the shipping manager and the supplier that assemblies are ready to ship to outside processing suppliers for further processing. The workflow is activated during the Intermediate Shipment workflow when the buyer decides to proceed with the order and selects the Proceed button on the notification window.

To enable this workflow, you must first define the Shipping Manager parameter in the WIP Parameters window, and the employee assigned to this role must have a valid user ID (this is set up by the system administrator). The workflow first searches for the shipping manager, and if found, then searches for the supplier's shipping address. It then notifies the shipping manager that the assemblies are ready to ship and relays the shipping address. If the shipping manager decides to proceed with the shipment, the system searches for the supplier contact. If a contact is found, he or she is notified that the assemblies have been shipped (if the supplier contact is not found, the buyer is then notified). The system also searches for the purchase order's Internet address or URL and includes it as a link on the notification so that the supplier has immediate access to the purchase order information. The supplier can use the same notification to send a reply

stating how many assemblies were received and whether or not any assemblies were damaged.

If the shipping manager decides not to ship the assemblies, a search is conducted for the production scheduler, and if found, the production scheduler is notified that the assemblies were not shipped. The same notification is also sent to the buyer.

Notify Second Buyer and Supplier Workflow

When suppliers complete outside processing assemblies, they can notify you through Purchasing's Advance Shipment Notice. The Advance Shipment Notice is available through a link on the Supplier Management Portal Supplier Service menu. When the supplier completes the Advance Shipment Notice and submits it, Oracle Purchasing automatically creates a shipment in the system and sends a notification to the buyer.

To enable the workflow notification for this functionality, you must set up the Production Scheduler parameter, which associates an employee with the production scheduler role. The employee must have a valid user ID, which is set up by the system administrator. In addition, if you have two consecutive outside processing operations on a routing, and you want the supplier for the first operation to ship the completed assemblies directly to the supplier for the second operation, you must specify the second supplier's address in the Ship–To Location field on the purchase order.

> **Note:** In order for the supplier's address to be available on the list of values for Purchasing's Ship–To Location field, you must first set up the supplier's address in the Shipping Network Location field on Oracle Payables' Supplier Sites Window. See: Supplier Sites window, *Oracle Payables User's Guide*.

When the supplier completes the Advance Shipment Notice, a receipt is automatically created and sent to the first supplier, and the *Notify Second Buyer and Supplier* workflow is activated to notify the second supplier that the assemblies have been shipped.

The system searches for an approved purchase order for the second outside processing supplier, and if it finds the purchase order, it then searches for the production scheduler. If the production scheduler is found, it sends the production scheduler a notification that the assemblies have been shipped from the first supplier. The same notification is also sent to the buyer, and if the buyer decides to proceed with the order, the *Ship and Receive Intermediates* workflow is activated to notify the shipping manager and the supplier that the assemblies have been shipped.

Update Outside Processing Need By Date Workflow

When you change the scheduled need by date for outside processing operations, you can activate a workflow process that updates the need by date on the purchase order (whether or not it has been approved), then notifies the requestor, supplier, and buyer that the need by date has changed. You activate the workflow from the Update Need By Date window, which you open from the Tools menu on the Work in Process Operations window (see: Updating the Need By Date: page 10 – 54). You enter the new need by date, select the check box for the purchase order, and select OK, and the workflow begins.

The workflow first searches for the buyer, and if found, sends the notification to the buyer and the requestor. If the buyer decides to proceed with the date change, the workflow searches for the supplier contact. If the supplier contact is found, it sends a notification to the contact. If the supplier contact accepts the date change, the need by date and the promise date are updated on the purchase order. A notification is then sent to the buyer and the requestor that the dates were approved and changed. If the new need by date is not approved, you can manually change it.

Outside Processing Workflow Setup

In order to use workflow functionality, you must have Oracle Workflow installed. To enable outside processing workflows, your system administrator must set up the profile option WIP:Enable Outside Processing Workflow. You also must set up the Production Scheduler and Shipping Manager parameters. See: WIP Parameters: page 2 – 14 and Profile Options: page 2 – 64

Changing the Need By Date

The need by date is the date on the purchase order that tells the supplier when you expect the completed assemblies to be delivered. The need by date is the first unit start date of the operation following the outside processing operation. If the outside processing operation is the last operation, then the need by date is the last unit complete date of that operation.

> **Note:** Lot based jobs use a different logic to derive the need by date because network routings have changing first and last operations.

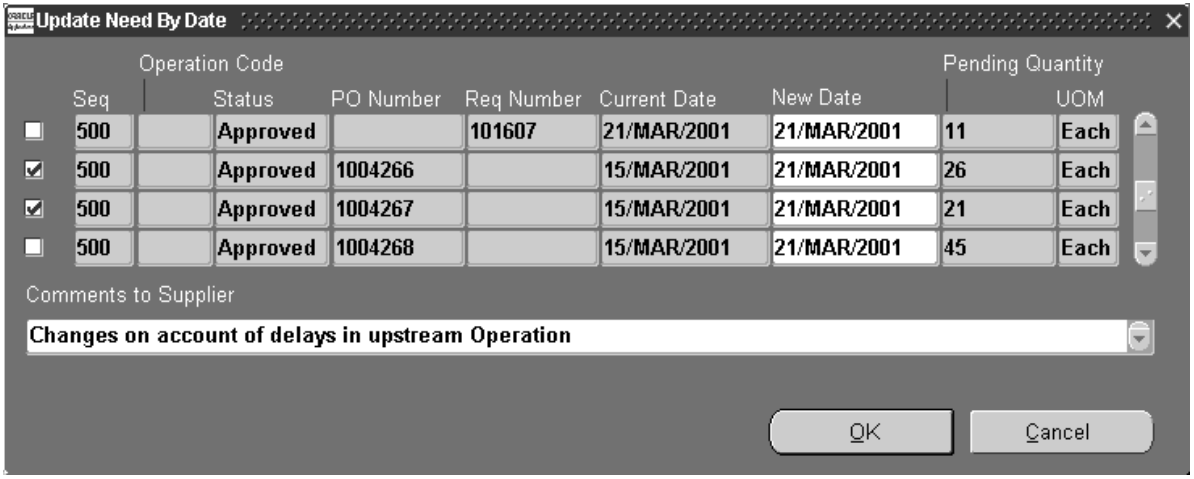
When changes in the schedule occur, you may need to update the need by date and notify the supplier. You can activate a workflow process that will update the need by date on the purchase order and obtain the approval of the buyer and supplier. If the supplier approves the date change, both the Need By and Promise dates are updated and the buyer and requestor are notified. If the changed need by date is not approved, you can manually change it.

Update Need By Date Workflow

You activate the workflow from the *Update Need By Date window*, which you open from the Tools menu on the Work in Process Operations window. Once you change the date, the Update Need By Date workflow is automatically activated. For detailed information on the workflow, see: Outside Processing Workflows: page 10 – 49.

Update Need By Date Window

When the Update Need By Date window opens, it displays the previous need by date (Current Date) and the new need by date (New Date) for all of the requisitions and purchase orders associated with that operation. To change the need by date, you enter the date in the New Date column, select the check box to the left of the row, then choose OK. The check box is automatically checked if there are requisitions and purchase orders in the database with at least one day's difference between the dates.



CHAPTER

11

Job and Repetitive Schedule Statuses

This chapter describes how discrete job and repetitive schedules statuses can be used to control production activities, including:

- Overview: page 11 – 2
- Discrete Job Status Control: page 11 – 4
- Discrete Job Statuses: page 11 – 7
- Repetitive Schedule Status Control: page 11 – 10
- Repetitive Schedule Statuses: page 11 – 12
- Job and Repetitive Schedule Status Changes: page 11 – 15
- Transaction and Process Control By Status: page 11 – 17
- Business Scenarios: page 11 – 22

Overview

Job and repetitive schedule statuses can help you manage manufacturing operations.

Job

Job statuses describe various stages the life cycle of a job and control job activities. See: Discrete Job Statuses: page 11 – 7.

Repetitive Schedule

Repetitive schedule statuses describe stages in the life cycle of a repetitive schedule and control schedule activities. See: Repetitive Schedule Statuses: page 11 – 12.

Transaction Control

Job and repetitive schedule statuses control issue, move, resource, overhead, completion, scrap, job close, period close, and purge transactions. See: Transaction Control by Status: page 11 – 17.

Status Control

Job and repetitive schedule statuses are automatically updated after certain activities. For example, the status of a job is updated to Complete when you complete all the assemblies on the job. Statuses can also be manually changed although there are some restrictions. See: Discrete Job Status Control: page 11 – 4, and Repetitive Schedule Status Control: page 11 – 10

ECO Control

Job and repetitive schedule statuses control engineering change order (ECO) implementation. See: ECO Implementation by Status: page 11 – 18.

Planning Control

Oracle Master Scheduling/MRP and Oracle Supply Chain Planning includes supplies and demands from jobs based on their status. See: Planning Control by Status: page 11 – 19.

Release Control

When you release —by changing the status from Unreleased to Released — a job or schedule with a routing, the release date is automatically set and the Queue intraoperation step of the first routing operation is updated with the job or schedule quantity. You can

'unrelease' jobs and schedules if there are no net issue, move, resource, completion, or scrap charges against them.

Hold Control

Putting jobs and schedules on hold allows you to respond to changes and to control production by temporarily preventing transactions. You can manually change jobs and repetitive schedules to On Hold. You also set the WIP *Respond to Sales Order Changes* parameter so that Unreleased jobs are automatically changed from Unreleased to On Hold when configuration items are unassigned in Oracle Order Management. See: Discrete Parameters: page 2 – 17.

Status Based Reporting

Job and repetitive schedule statuses control what information is displayed in various reports and inquiries. See: Reporting by Status: page 11 – 19.

Information Management

Closed jobs and Complete – No Charges and Cancelled repetitive schedules cannot be updated. Job and schedules with these statuses can be purged. You can change the status of a job or schedule so that it can be updated.

Concurrent Processing Support

When you define discrete jobs, the *WIP:Define Discrete Job form* profile option determines whether job bills of material and routings, if any, are created (loaded) concurrently or interactively. The status of the job tracks the progress and outcome of the concurrent load process (e.g., Pending Bill Load, Pending Routing Load, Failed Bill Load, and Failed Routing Load). See: Profile Options: page 2 – 64.

Statuses also track the progress of the job close process (e.g., Pending Close and Failed Close).

Discrete Job Status Control

You cannot update jobs with statuses of Closed, Complete – No Charges, Cancelled, or any processing status (Pending Bill Load, Pending Routing Load, Failed Bill Load, Failed Routing Load, Pending Close, and Failed Close). You can update jobs with statuses of Unreleased, Released, On Hold, or Complete although you may not be able to update all fields. The fields you can update, based on the job's status, are listed in the following tabls:

Discrete Job

Status Field	Unreleased	Released	On hold	Complete
Job Name	✓	✓	✓	✓
Type				
Assembly				
UOM				
Class	✓			
Status	✓	✓	✓	✓
Firm	✓	✓	✓	✓
Start Quantity	✓	✓	✓	✓
MRP Net Quantity	✓	✓	✓	✓
Start Date/Time	✓	✓	✓	✓
Completion Date/Time	✓	✓	✓	✓
Descriptive Flexfield	✓	✓	✓	✓
Attachments	✓	✓	✓	✓

Bill Information

Status Field	Unreleased	Released	On hold	Complete
Reference	✓			
Alternate	✓			

Status Field	Unreleased	Released	On hold	Complete
Revision	✓			
Revision Date	✓			
Supply Type	✓			

Routing Information

Status Field	Unreleased	Released	On hold	Complete
Reference (for non–standard jobs)	✓			
Alternate	✓			
Revision	✓			
Revision Date	✓			
Completion Subinventory	✓	✓	✓	✓
Completion Locator	✓	✓	✓	✓

More Information

Status Field	Unreleased	Released	On hold	Complete
Demand Class	✓	✓	✓	✓
Kanban				
Lot Number	✓	✓	✓	✓
Description	✓	✓	✓	✓
Tolerance Type				
Tolerance Value				

Schedule Group, Project

Status Field	Unreleased	Released	On hold	Complete
Schedule Group	✓	✓	✓	✓
Build Sequence	✓	✓	✓	✓
Line	✓	✓	✓	✓
Project	✓	✓	✓	✓
Task	✓	✓	✓	✓

Table 11 – 1 Discrete Job (Page 1 of 1)

Sales Order

Status Field	Unreleased	Released	On hold	Complete
Sales Order				
Line				
Shipment Number				
Demand Class				
Quantity Allocated	✓	✓	✓	
Quantity Completed				

See Also

Overview of Job and Repetitive Schedule Statuses: page 11 – 2

Overview of Discrete Manufacturing: page 3 – 2

Updating Discrete Jobs: page 3 – 104

Defining Discrete Jobs Manually: page 3 – 63

Discrete Job Statuses: page 11 – 7

Discrete Job Statuses

Discrete job statuses describe the various stages in the life cycle of a job and control the activities that you can perform on it.

User Controlled Statuses

You can manually change user–controlled statuses. For example, you can change a job's status to Released to initiate the production cycle. Some user–controlled statuses are automatically changed based on other events. For example, when you complete a job, its status is changed to Complete.

Released

The job is available for production and can be transacted against. When a job is changed to this status, the date released is automatically set to the current date and, if a routing exists, the job quantity is moved to the Queue intraoperation step of the first routing operation.

You can change jobs to this status as you define them.

Unreleased

The job is not released for transaction activity. You can update but cannot transact against it.

You can assign a status of Unreleased if there are no net issue, move, resource, completion, or scrap charges associated with the job and no purchase orders or purchase requisitions linked to the job.

Complete

The job is completed but accepting transactions and charges. Jobs are automatically updated to this status when the quantity completed into inventory equals the job quantity.

You can manually assign this status only when you update the job, not when you define it.

Complete–No Charges

The job is complete and accepting no further activity. You cannot update or transact against it, but you can change its status to Complete**.** You can assign this status only when you update the job.

On Hold

You can update the job but cannot transact against it. You can assign this status to a job when you define it.

Cancelled The job was cancelled before completion. You cannot update the job or transact against it, but you can change its status. You can assign this status only when you update the job.

Closed The job is closed and accepting no further activity. Job are automatically updated to this status upon successful completion of the job close process. You can change jobs with this status to another status if the accounting period that the job was completed in is still open and if your functional security setup permits.

Processing Statuses

Some job statuses are automatically updated by a process. For example, if you have the *WIP:Define Discrete Job Form* profile option set to concurrent definition, the job status is used to track the progress of the bill of material and routing load process. When you close a job, its status is used to track the progress of the concurrent close process.

Pending Bill Load The concurrent process is loading the bill of material for the job. You cannot update the job nor transact against it.

For non–standard discrete jobs, this is applicable only if you specified a bill reference.

Pending Routing Load The bill of material load was successful and the concurrent process is now loading the routing for the job. You cannot update the job nor transact against it.

For non–standard discrete jobs, this option is applicable only if you specified a routing reference.

Failed Bill Load The concurrent process was unable to load the bill of material for the job. The load may have failed for a number of reasons. For example, the job start date may be outside the last open accounting period at the time of job creation. You can close the failed job with the Close Discrete Jobs window and open another job for the assembly. Or you can resubmit the job once you change the status to Unreleased, Released, or On Hold.

For non–standard discrete jobs, this option is applicable only if you specified a bill reference.

Failed routing load	The concurrent process was unable to load the routing for the job. The load may have failed for a number of reasons. For example, the job start or completion date may be outside the organization workday calendar at the time of job creation. You can close the failed job and open another job for the assembly, or you can resubmit the job after changing its status to Unreleased, Released, or On Hold. For non–standard discrete jobs, this option is available only if you specified a routing reference.
Pending Close	The concurrent process is closing the job. You cannot transact against or update it. If the close process terminates abnormally, you can change the status of the job and resubmit it.
Failed Close	The concurrent process was unable to close the job. The close may have failed for a number of reasons. For example, there may be pending transactions against the job. You must fix the problems before you can close the job. You cannot transact against it.

See Also

Overview of Job and Repetitive Schedule Statuses: page 11 – 2

Discrete Job Status Control: page 11 – 4

Mass Changing Discrete Job Statuses: page 3 – 109

Discrete Job Close: page 3 – 119

Defining Discrete Jobs Manually: page 3 – 63

Repetitive Schedule Status Control

You cannot update repetitive schedules with user controlled statuses of Cancelled, Complete – No Charges or with the Pending – Mass Loaded processing status. You can update repetitive schedules with statuses of Unreleased, Released, On Hold, or Complete although you may not be able to update all fields. The fields you can update, based on the schedule's status, are listed in the following table:

Status and Quantity Information

Status Field	Unreleased	Released	On hold	Complete
Line	✓	✓	✓	✓
Assembly	✓	✓	✓	✓
Status	✓	✓	✓	✓
Date Released				
Daily Quantity	✓	✓	✓	✓
Days	✓	✓	✓	✓
Total Quantity	✓	✓	✓	✓
Quantity Completed				
Descriptive Flexfield	✓	✓	✓	✓

Scheduling Information

Status Field	Unreleased	Released	On hold	Complete
First Unit Start Date	✓	✓	✓	✓
Last Unit Start Date	✓	✓	✓	✓
First Unit Completion Date	✓	✓	✓	✓
Last Unit Completion Date	✓	✓	✓	✓

Bill and Routing Information

Status Field	Unreleased	Released	On hold	Complete
Alternate Bill				
Bill Revision	✓			
Bill Revision Date	✓			
Alternate Routing				
Routing Revision	✓			
Routing Revision Date	✓			

Planning Information and Description

Status Field	Unreleased	Released	On hold	Complete
Firm	✓	✓	✓	✓
Demand Class	✓	✓	✓	✓
Description	✓	✓	✓	✓
Descriptive Flexfield	✓	✓	✓	✓

See Also

Overview of Job and Repetitive Schedule Statuses: page 11 – 2

Repetitive Manufacturing: page 6 – 2

Updating Repetitive Schedules: page 6 – 28

Defining Repetitive Schedules Manually: page 6 – 14

Repetitive Schedule Statuses: page 11 – 12

Repetitive Schedule Statuses

Repetitive schedule statuses describe the various stages the life cycle of a repetitive schedule and control the activities that you can perform on it.

User Controlled Statuses

You can manually change user–controlled statuses. For example, you can change a repetitive schedule's status to Released to initiate the production cycle. Some user–controlled statuses are automatically updated based on other events. For example, when you complete all the assemblies on a schedule, its status is changed to Complete or Complete–No Charges.

Released The schedule is available for production and can be transacted against. When a schedule is changed to this status and a routing exists, the total number of assemblies to be built are moved to the Queue intraoperation step of the first routing operation.

You can change schedules to this status as you define them.

Unreleased The schedule is not released for transaction activity. You can update but cannot transact against it.

You can change a schedule's status to Unreleased if it is not the only open schedule on a line, if there are no net issue, move, resource, completion, or scrap charges associated with the schedule, and if there are no purchase orders or purchase requisitions linked to it.

Complete The schedule is completed but accepting transactions and charges.

The schedule is automatically updated to this status when the number of completed assemblies equals the total quantity of the schedule and there are no subsequent schedules for the assembly on the production line. If there is a subsequent schedule with a status of Unreleased within the autorelease days time fence, or a schedule with a status of Released, Complete, or On Hold, then the status of the current schedule changes to

Complete–No Charges. If there is no subsequent schedule that meets this requirement, the status of the current schedule changes to Complete. This keeps the current schedule active, so that you can transact any unused or excess material and perform delayed resource and material transactions.

You can manually assign this status only when you update the schedule, not when you define it.

Complete–No Charges

The schedule is completed and accepting no further activity. You cannot update or transact against it.

The schedule is updated to this status when the number of completed assemblies equals the total quantity of the schedule and another schedule of this assembly on this line is available. If there is a subsequent schedule with a status of Unreleased and within the autorelease days time fence, or a schedule with a status of Released, Complete, or On Hold, the status of the current schedule changes to Complete–No Charges. If there is no subsequent schedule that meets this requirement, the status of the current schedule changes to Complete. This keeps the current schedule active so that you can transact unused or excess material and perform delayed resource and material transactions. Any excess material in the schedule is automatically rolled forward, that is, it is issued to the following schedule.

You can manually assign this status only when you update the schedule. If you are changing to this status manually, and there are subsequent schedules, you can choose to roll forward excess material, or you can leave it in the current schedule and write it off as a variance.

On Hold

You can update the schedule but cannot transact against it. You can assign this status to a schedule when you define it.

Cancelled

The schedule was cancelled before completion. You cannot update the schedule or transact against it, but you can change its status. You can assign this status only when you update the schedule.

You can return all remaining material back to inventory before you cancel the schedule or roll it forward to the next available schedule for the repetitive assembly on the line. The next schedule must have a status of Unreleased and be within the autorelease days time fence or have a status of Released, Complete, or On Hold. If there is no such schedule, or if you choose not to roll forward to the next schedule, the excess material is recognized as a variance at period close.

Processing Status

There is one repetitive schedule status this is automatically updated by a process.

Pending–mass loaded Schedule implemented from the Open Job/Schedule Interface or Planner Workbench in Oracle Master Scheduling/MRP and Supply Chain Planning. You can update pending repetitive schedules as if they were unreleased schedules but cannot transact against. You can update schedules with this status to Unreleased, Released, or On Hold when you decide to implement a repetitive schedule.

See Also

Overview of Job and Repetitive Schedule Statuses: page 11 – 2

Repetitive Schedule Status Control: page 11 – 10

Mass Changing Repetitive Schedule Statuses: page 6 – 32

Defining Repetitive Schedules Manually: page 6 – 14

Job and Repetitive Schedule Status Changes

Statuses describe the various stages in the life cycle of a job or repetitive schedule. Statuses are either user or processing controlled. Processing controlled statuses are updated based on the progress and outcome of concurrent processes. User controlled statuses can be updated by the user or are changed based on events such as job or schedule completion.

Some status changes are allowed while others are not. Some status changes are conditional. For example, you cannot change jobs and schedules from Released to Unreleased if there are net issue, move, resource, completion, or scrap charges associated with them. You also cannot unclose a job that is linked to a sales order or that was closed in a now closed accounting period.

Change To USER status From USER Status	Unreleased	Released	Complete	Complete –No Charges	On Hold	Cancelled	Closed
Unreleased	N/A	Yes	Yes	No	Yes	Yes	Yes
Released	Cond	N/A	Yes	No	Yes	Yes	Yes
Complete	Cond	Yes	N/A	Yes	Yes	Yes	Yes
Complete – No Charges (DIS)	No	No	Yes	N/A	No	No	Yes
Complete – No charges (REP)	No	No	No	N/A	No	No	N/A
On Hold (DIS)	Cond	Yes	Yes	No	N/A	Yes	Yes
On Hold (REP)	Cond	Yes	Yes	No	N/A	Yes	Yes
Cancelled (REP)	No	No	No	No	No	N/A	N/A
Cancelled (DIS)	Cond	Yes	Yes	Yes	Yes	N/A	Yes
Pending – Mass Loaded (REP)	Yes	Yes	Yes	No	Yes	Yes	N/A
Pending Bill Load (DIS)	No	No	No	No	No	No	No
Failed Bill Load (DIS)	Yes	Yes	No	No	Yes	No	Yes
Pending Routing Load (DIS)	No	No	No	No	No	No	No
Failed Routing Load (DIS)	Yes	Yes	No	No	Yes	No	Yes
Pending Close (DIS)	Cond	Yes	Yes	Yes	Yes	Yes	Yes
Failed Close (DIS)	Yes	Yes	Yes	No	Yes	Yes	Yes
Closed (DIS)	Yes	Yes	Yes	No	No	No	N/A

Change To PROCESSING status From PROCESSING Status	Pending Bill Load	Pending Routing Load	Failed Bill Load	Failed Routing Load	Pending Close	Failed Close
Unreleased	No	No	No	No	Yes	Yes
Released	No	No	No	No	Yes	Yes
Complete	No	No	No	No	Yes	Yes
Complete – No Charges	No	No	No	No	Yes	Yes
On Hold	No	No	No	No	Yes	Yes
Cancelled	No	No	No	No	Yes	Yes
Pending Bill Load	N/A	No	Yes	Yes	No	No
Failed Bill Load	No	No	N/A	No	Yes	Yes
Pending Routing Load	Yes	N/A	Yes	Yes	No	No
Failed Routing Load	No	No	Yes	N/A	Yes	Yes
Failed Close	No	No	No	No	Yes	N/A
Pending Close	No	No	No	No	N/A	Yes
Closed (DIS)	No	No	No	No	No	No

See Also

Discrete Job Close: page 3 – 119

Discrete Job Statuses: page 11 – 7

Repetitive Schedule Statuses: page 11 – 12

Changing Discrete Jobs: page 3 – 105

Changing Repetitive Schedules: page 6 – 28

Mass Changing Discrete Job Statuses: page 3 – 109

Mass Changing Repetitive Schedule Statuses: page 6 – 32

Transaction and Process Control By Status

Statuses control what transactions can be performed on discrete jobs and repetitive schedules. Discrete job statuses also help you control whether you can close and purge jobs. Statuses can also be used to control ECO implementation and the MRP planning process.

Transaction Control By Status

Material, Move, and Resource Transactions

You can perform issue, completion, move, scrap, and resource transactions for jobs and schedules with Released or Complete statuses. Backflush transactions and overhead charges are indirectly controlled by status since their source move or completion transactions are directly controlled by status.

Cost Update Transactions

Cost update transactions are created for standard discrete jobs and non–standard asset jobs with the following statuses: Unreleased, Released, Complete, Complete–No Charges, and On Hold.

Period Close Transactions

When you close an accounting period, accounting transactions for repetitive schedules with statuses of Released, Complete**,** Complete–No Charges, and On Hold —or just Complete and Complete–No Charges depending on how you set the WIP *Recognize Period Variances Parameter* — are automatically created.

When you close an accounting period, accounting transactions for non–standard expense jobs with statuses of Unreleased, Released, Complete, Complete–No Charges, and On Hold are also automatically created.

Job Close Transactions

You can close jobs of any status except jobs that are Closed**,** Pending Close**,** Pending Bill Load, and Pending Routing Load**.**

Purge Transactions

You can purge jobs that were closed in a now closed period. You can also purge repetitive schedules that were changed to statuses of Complete–No Charges and Cancelled in closed periods.

See Also

Discrete Job Statuses: page 11 – 7

Repetitive Schedule Statuses: page 11 – 12

Discrete Job Purge: page 3 – 127

Repetitive Schedule Purge: page 6 – 41

Job and Repetitive Schedule Status Changes: page 11 – 15

Overview of Period Close, *Oracle Cost Management User's Guide*

ECO Implementation By Status

Oracle Engineering automatically implements engineering change orders (ECOs) with Release, Schedule, and Implement statuses for jobs with statuses of Unreleased and schedules with statuses of Unreleased, Released, and On Hold. You can optionally choose to implement Open status ECOs using the WIP:Exclude ECOs profile option. See: ECO Statuses, *Oracle Engineering User's Guide*.

Oracle Engineering does not implement ECOs on non–standard discrete jobs.

Unreleased Standard Discrete Jobs and Repetitive Schedules

When an ECO is implemented in Oracle Engineering, the system automatically regenerates the bills of material for unreleased jobs and schedules to reflect the impact of the ECO.

Released, Complete, or On Hold Repetitive Schedules

The impact of an ECO implementation on Released, Complete, or On Hold repetitive schedules depends on whether repetitive assemblies have been moved beyond the Queue intraoperation step of the first routing operation.

See Also

Overview of Engineering Change Orders, *Oracle Engineering User's Guide*

Planning Control by Status

Oracle Master Scheduling/MRP and Oracle Supply Chain Planning includes the assembly supply and component demand of jobs with statuses of Unreleased, Released, Complete, and On Hold. Because Master Scheduling/MRP and Supply Chain Planning uses different planning algorithms for repetitive manufacturing, repetitive statuses do not impact how repetitive schedule supply and demand is viewed.

See Also

Overview of Material Requirements Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Overview of Planner Workbench, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Reporting by Status

Job and repetitive schedule statuses determine what information is listed on reports. For example, if a job has a status of Closed, Compete–No Charges, or Cancelled, information about that job and its component requirements is not listed on the Discrete Job Shortage Report since shortages on jobs with these statuses do not need to be filled.

You can view discrete job and repetitive schedule information regardless of status. For example, you could view the component material requirements for a closed job using the View Discrete Jobs window.

Status Report	Unreleased	Released	Complete	Complete No Charges	On Hold	Cancelled	Closed	Pending Mass Loaded (Rep)
Discrete Job Data Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Discrete Dispatch Report	Opt	Yes	Yes	No	Yes	No	No	N/A
Discrete Job Listing Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Discrete Job Pick List Report	Yes	Yes	Yes	No	No	No	No	N/A
Discrete Job Routing Sheet	Yes	Yes	Yes	No	Yes	No	No	N/A

Status Report	Unreleased	Released	Complete	Complete No Charges	On Hold	Cancelled	Closed	Pending Mass Loaded (Rep)
Discrete Job Shortage Report	Yes	Yes	Yes	No	Yes	No	No	N/A
Discrete Job Value Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Expense Job Value Report	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Job Lot Composition Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Move Transaction Report	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Repetitive Line Report	Yes	Yes	Yes	No	Yes	No	N/A	Yes
Repetitive Pick List Report	Yes	Yes	Yes	No	No	No	N/A	N/A
Repetitive Routing Sheet	Yes	Yes	Yes	No	Yes	No	N/A	N/A
Repetitive Schedule Data Report	Yes	Yes	Yes	Yes	Yes	Yes	N/A	Yes
Repetitive Schedule Shortage Report	Yes	Yes	Yes	No	No	No	N/A	N/A
Repetitive Value Report	No	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Resource Performance Report	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Resource Transaction Report	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
WIP Account Distribution Report	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
WIP Account Summary Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
WIP Location Report	No	Yes	Yes	Yes	Yes	Yes	No	N/A
WIP Outside Processing Report	No	Yes	Yes	Yes	Yes	Yes	No	N/A
WIP Offsetting Account Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
WIP Value Report	No	Yes	Yes	Yes	Yes	Yes	No	N/A

Note: Reports that are printed with processes, such as importing and purging jobs and schedules, are not included in the above table.

See Also

Viewing Discrete Job Information: page 3 – 95

Discrete Job Statuses: page 11 – 7

Repetitive Schedule Statuses: page 11 – 12

Business Scenarios

The following business cases illustrate how statuses can be used to manage manufacturing production.

Production Start

You are ready to define jobs. However, you do not want to kit and assemble these jobs until you have confirmed material availability and production capacity.

In this case, you can begin by defining your jobs with a status of Unreleased. Once you are certain that everything is ready, you can change the status of the jobs to Released and print your shop paperwork. See: Changing Discrete Job: page 3 – 105, Mass Changing Discrete Job Statuses: page 3 – 109, Discrete Shop Packet: page 15 – 29, and Discrete Job Dispatch Report: page 15 – 13.

To identify which jobs to kit, the stockroom staff can run a report for all jobs with a status of Released. See: Discrete Job Listing Report: page 15 – 15.

To identify which assemblies to build, the shop floor staff can run a report that lists assemblies with quantities in the Queue intraoperation step of the first routing operation. See: WIP Location Report: page 15 – 74.

Production Stop

You need to stop a group of jobs temporarily because a quality problem has developed. You also need to stop a job that is building a configure–to–order item because the customer has just changed the configuration.

In the first instance, stopping production on the group of jobs makes it possible for you to address the quality problem. In the second instance, stopping production allows you to evaluate how the customer's change affects material requirements and operations. You can temporarily stop production on the jobs involved by changing their statuses to On Hold. See: Changing Discrete Jobs: page 3 – 105 and Mass Changing Discrete Job Statuses: page 3 – 109.

Jobs can be defined in sequential order using the automatic sequence generator. Sequentially ordered jobs are easier to query and mass change than non–sequential jobs.

Once the quality problem is resolved and the impact of the changes to the configure–to–order job have been determined, you can change the statuses of the jobs from On Hold to Unreleased or Released.

Close Discrete Jobs

You are preparing to close your accounting period and must review all jobs that can be closed. You can find and view all Complete, Complete–No Charges, and Cancelled jobs using the View Discrete Jobs window. Using this window, you can also check the disposition of component materials and the status of shop floor operations. See: Viewing Discrete Job Information: page 3 – 95.

If all the jobs are in order, you can view job costs either on–line or using reports. See: Viewing WIP Value Summaries, *Oracle Cost Management User's Guide* and Discrete Job Value Report: page 15 – 25.

Once you are satisfied that your job cost information is correct, you can close your jobs individually or as a group based on their status. See: Discrete Job Close: page 3 – 119.

Repetitive Schedule First In – First Out Sequencing

You have implemented an ECO on a repetitive schedule in production, and the schedule has automatically split into two repetitive schedules. The first schedule uses the original bill of material and the second uses the new bill with the ECO. See: ECO Implementation by Status: page 11 – 18.

Because of the production rates and lead times being used, the schedule split results in having the same assembly with two different bills on the same line at the same time. Since the first in–first out allocations are used when two schedules are released on the line at the same time, you must maintain first in–first out order when moving assemblies. Unfortunately several of the assemblies with the original bill are being may be held for repair at a Reject intraoperation step and assemblies using the new bill are beginning to pass them. This could result in the lose of physical first in–first out (FIFO) flow and improper backflushing.

To correct this problem you must separate the assemblies by changing the status of the first schedule to On Hold. This freezes the first schedule removing it from the FIFO algorithm. Later, when the rejected assemblies are ready to go, you can change the status on the first schedule to Released so that assemblies on the first schedule take precedence in the FIFO algorithm. See: Defining Repetitive Schedules Manually: page 6 – 14.

See Also

Discrete Job Statuses: page 11 – 7

Repetitive Schedule Statuses: page 11 – 12
Job and Repetitive Schedule Status Changes: page 11 – 15

CHAPTER

12

Work in Process Costing

This chapter explains how costs are calculated and controlled in Work in Process, including:

- Overview: page 12 – 2
- Setting Up: page 12 – 5
- Work in Process Costs: page 12 – 6
- Work in Process Valuation and Variances: page 12 – 8

Overview

Oracle Work in Process provides a complete cost system to track and report your production costs.

WIP Accounting Classes

You use WIP accounting classes to establish your valuation and variance accounts. You can enter different accounts for each cost element within a WIP accounting class for maximum elemental account visibility. You can also enter the same account for more than one cost element. If you are assign the same account to more than one cost element, you can choose to have the values of these cost elements summarized before being transferred to General Ledger.

Multiple Cost Elements

Through the multiple cost elements (material, material overhead, resource, outside processing, and overhead) that you assign to your accounting classes, the system can track all your production costs to the correct valuation and variance accounts.

Costing Methods

All Oracle costing methods support Oracle Work in Process. However, you can only cost repetitive schedules using standard costs.

Job Costs

You can cost standard and non–standard asset discrete production by job. You can report job costs on a period–to–date and cumulative–to–date basis.

Project Costs

If you are using Oracle Project Manufacturing Costing, you can cost jobs by project. Project jobs can be specific to a single contract or a group of contracts for a specific customer.

Period Costs

You can cost and report your repetitive and non–standard expense production by period.

Repetitive Assembly and Line Costs

You can track your repetitive production costs by assembly on a line so you do not have to review your costs by individual repetitive schedule.

You can also track repetitive costs by assembly across lines or by line so you can compare costs for your production lines.

Transaction Based Costs

You can track and report costs through the various stages of production. The system calculates all costs and reports move, issue, resource, overhead, completion, scrap, period close, and job close transaction costs.

Resource Charging

You can charge resources automatically or manually.

Overhead Charging

You can charge overhead automatically based on resource value charges, resource charges, or operation completions.

Fixed and Variable Resource, Outside Processing and Overhead Charging

You can set up resources, outside processing, and overheads with a basis of Lot for fixed charges per job or schedule, such as setup and teardown. You can use a basis of Item for resources, outside processing, and overheads that vary based on the job or repetitive schedule quantity.

Flexible Resource, Outside Processing, and Overhead Absorption

You can assign separate absorption accounts by sub–element, such as individual resources, outside processing resources, and overheads. As you charge resources, outside processing, and overheads, work in process valuation automatically absorbs your payroll, accounts payable accruals, and overhead cost pools. At period end, you can compare absorbed amounts with actual costs incurred in your general ledger cost pools and accounts.

Actual Labor Charging

You can charge resources at standard resource rates, standard employee rates, or actual rates.

Actual Purchase Price Charging

You can charge outside resources at predefined or actual purchase prices.

Period Close

When you close an accounting period, period close costs are calculated. The system costs and transfers all production costs by account to Oracle Financial products. You can transfer in summary and detail depending on your Oracle Inventory option.

Variances

You can track and report previous level usage variances for materials and this level efficiency variances for resources and overheads. The system calculates standard cost adjustment variances when the standard cost update is run.

Valuation Reporting

The system can provides complete valuation reporting including current balances, period to date charges, and cumulative to date charges. You can also report your work in process balances by cost element and level.

See Also

Work in Process Valuation: page 12 – 8

Work in Process Cost Variances: page 12 – 10

Overview of Standard Costing, *Oracle Cost Management User's Guide*

Overview of Average Costing, *Oracle Cost Management User's Guide*

Flow Manufacturing Costing, *Oracle Cost Management User's Guide*

Overview of eAM Costing, *Oracle Enterprise Asset Management User's Guide*

Overview of Lot Based Job Costing, *Oracle Shopfloor Management User's Guide*

Setting Up

Based on your manufacturing and accounting requirements, refer to the appropriate manufacturing (Inventory and Work in Process) section:

- Setting Up Standard Costing for Manufacturing, *Oracle Cost Management User's Guide*
- Setting Up Average Costing for Manufacturing, *Oracle Cost Management User's Guide*
- Setting Up Layer Costing for Manufacturing, *Oracle Cost Management User's Guide*

Check your WIP *Require Scrap Account Parameter* and *Recognize Period Variance Parameter*. See: Work in Process Parameters: page 2 – 14. If you are using average costing, also check your Average Costing Parameters: page 2 – 19.

See Also

Defining WIP Parameters: page 2 – 30

Defining WIP Accounting Classes: page 2 – 48

Defining Labor Rates: page 2 – 56

Work in Process Costs

You use standard and non–standard discrete jobs, project jobs, repetitive schedules, and flow schedules to collect the costs of production. For standard and non–standard discrete jobs, you value and report work in process costs based on jobs. For project jobs, you value work in process costs based on the projects that jobs are associated with. For repetitive schedules, you value and report work in process costs based on assemblies on a line in a period, not on specific repetitive schedules.

Costing Methods and Work in Process

You can cost standard discrete jobs, non standard discrete jobs, project jobs, and flow schedules in average costing organizations. You can cost repetitive schedules in standard costing organizations only. Costing methods are assigned in the Organization Parameters window in Oracle Inventory. See: Organization Parameters Window, *Oracle Inventory User's Guide* and Defining Costing Information, *Oracle Inventory User's Guide*.

The following table summarize which costing methods can be used with which manufacturing methods.

Manufacturing Method	Standard Costing Organization	Average. FIFO, LIFO Costing Organization,
Standard Discrete Jobs	Yes	Yes
Non–standard Expense Job	Yes	Yes
Non–standard Asset Jobs	Yes	Yes
Project Jobs	Yes	Yes
Repetitive Schedules	Yes	No
Flow Schedules	Yes	Yes
Project Flow Schedules	No	Yes

See Also

Work in Process Standard Cost Transactions, *Oracle Cost Management User's Guide*

Work in Process Average Cost Transactions, *Oracle Cost Management User's Guide*

FIFO/LIFO Costing, *Oracle Cost Management User's Guide*

Work in Process Valuation and Variances

The value of work in process is maintained as transactions are processed. Work in process values include usage, efficiency, and standard cost adjustment variances.

Work in Process Valuation

Work in Process continually maintains the value of work in process, updating it with each transaction. This means that you can report work in process costs quickly and accurately.

Cost Elements

Work in Process maintains and reports work in process values by distinct cost element (material, resource, and so on) even if you assign the same general ledger account to each cost element. You can also report work in process value by cost element within specific WIP accounting classes.

Accounting Classes and Cost Elements

Note: The following discussion provides an overview of how discrete and repetitive costs are calculated and posted. For additional information on these topics and complete descriptions of the resulting accounting entries see the following topics:

Standard Discrete Job Costs

The WIP accounting class that you assign to a standard discrete job determines which valuation and variance accounts are charged. Valuation accounts are charged when material is issued to a job. When the job is closed, final costs and variances are calculated and posted to the variance and valuation accounts associated with the job. Standard jobs that have not been closed are automatically revalued by the standard cost update. Average cost updates and layer cost updates not not revalue jobs.

Non–Standard Discrete Job Costs

The WIP accounting class that you assign to a non–standard discrete job determines which valuation and variance accounts are charged. There are two types of accounting classes that can be assigned to

non–standard discrete jobs: expense non–standard and asset non–standard.

Non–standard expense jobs are costed using period–based costing. Non–standard expense jobs are not revalued by cost updates. Conversely, non–standard asset jobs are costed much like standard discrete jobs and are revalued by cost updates. Non–standard expense and non–standard asset jobs do not earn material overhead when you complete assemblies. Instead material overhead at completion is posted directly to the subinventory material overhead account.

Repetitive Costs

When you enter a repetitive transaction, costs are charged to the assembly and line rather than to a specific schedule. This is known as flow charging and applies to all repetitive material, resource, and move transactions. Repetitive transactions are allocated to open schedules based upon date the first unit start date (FUSD) starting with the oldest schedule first.

Repetitive assemblies are costed using period–based costing. Period costs for a repetitive assembly are calculated by totalling the charges made to an assembly and line during the period and dividing by the number of assemblies you produced on that line during the period. Valuations and variances are calculated when you close a period. You do not need to close repetitive schedules.

Repetitive variances are calculated by comparing an assembly's period cost with its standard cost. Variances can occur due to scrap, additional resource and overhead charges, and changes in daily quantities.

The period close process writes the variance values to the variance accounts associated with the WIP accounting class you assigned to the repetitive line/assembly association. You can specify which repetitive schedule variances to post to the general ledger when you close an accounting period using the WIP *Recognize Period Variances* parameter. See: Repetitive Parameters: page 2 – 18.

Journal Entries

Whenever a job or schedule is changed, relieved, or closed, journal entries are created. When transactions are transferred to the general ledger or the accounting period is closed, these journal entries are transferred to the general ledger. See: General Ledger Transfer, *Oracle Inventory User's Guide* and Overview of Period Close, *Oracle Cost Management User's Guide.*

See Also

WIP Accounting Classes: page 2 – 42

WIP Accounting Class Elemental Costs: page 2 – 44

WIP Value Report: page 15 – 79

Discrete Job Value Report: page 15 – 25

Repetitive Value Report: page 15 – 60

Viewing WIP Value Summaries: page NO TAG

Work in Process Cost Variances

Work in Process provides usage, efficiency, and standard cost adjustment variances. Usage and efficiency variances result when the total costs charged to a job or schedule do not equal the total costs relieved from a job or schedule at standard. You can transact the following types of variances:

- Material Usage Variance
- Resource and Outside Processing Efficiency Variance
- Move Based Overhead Efficiency Variance
- Resource Based Overhead Efficiency Variance
- Standard Cost Adjustment Variance

See Also

Work in Process Standard Cost Variances: page NO TAG

Viewing WIP Value Summaries: page NO TAG

Cost Reports

The following reports can be used to assist you in identifying your discrete and repetitive manufacturing costs:

- Discrete Job Value Report: page 15 – 25

  (includes costs for standard discrete and non–standard asset jobs)
- Expense Job Value Report: page 15 – 32
- Repetitive Value Report: page 15 – 60
- WIP Value Report: page 15 – 79

CHAPTER

13

Work in Process Scheduling

This chapter explains how discrete jobs and repetitive schedules are scheduled, including:

- Overview of Work in Process Scheduling: page NO TAG
- Discrete Scheduling: page 13 – 5
- Detailed Scheduling: page 13 – 7
- Discrete Rescheduling: page 13 – 12
- Repetitive Line Scheduling: page 13 – 14
- Repetitive Line Rescheduling: page 13 – 19
- Repetitive Line Capacity Changes: page 13 – 21

Overview of Work in Process Scheduling

You can use Oracle Work in Process to schedule production resources and materials, customer delivery requirements, and maintain a smooth production flow. Scheduling establishes expected dates and times for material and resource requirements. Scheduling also establishes expected dates and time for the supply availability of assemblies built on the jobs and repetitive schedules.

Oracle Work in Process uses two scheduling modes: infinite and constraint–based. The infinite scheduling engine assumes infinite capacity. If you have Oracle Manufacturing Scheduling installed, you can enable the constraint–based scheduler which considers resource and material constraints. All scheduling is based on the calendars, shifts, departments, resources, routing, and planning you define in Oracle Bills of Material – and jobs and production lines defined in Work in Process.

Scheduling for both the infinite and constraint–based scheduler consider resource usage features such as simultaneous resources, 24 hour resources, and utilization and efficiency factors.

You can choose to include either or both resource efficiency and resource utilization in scheduler calculations. Efficiency effects your production load, and utilization effects capacity. These resource factors are always considered in lead time calculations, and influence resource elapsed time calculated during scheduling. Both the infinite scheduler and the constraint based scheduler use the efficiency and utilization settings in the Work in Process Parameter window when scheduling jobs. See: Defining WIP Parameters: page 2 – 30

Date and Time Scheduling

You can define the start and completion dates and times for jobs and repetitive schedules. Start and completion dates and times for the operations within these jobs and schedules are scheduled automatically.

Forward vs. Backward Scheduling Options

If you enter a job or repetitive schedule start date and time, the completion date and time is automatically determined using forward scheduling. Conversely, if you enter a job or repetitive schedule completion date and time, the start date and time is determined using backward scheduling.

Fixed and Variable Rate Production Lines

You can specify all the assemblies on a repetitive production line to run at the same production rate on your fixed rate lines. You can specify the production rate by assembly for your variable rate lines.

Fixed vs. Routing Based Line Lead Time Options

You can schedule your repetitive production lead time based on routing or line attributes to best simulate your repetitive production process.

Planning Based Rescheduling

You can automatically implement discrete reschedule recommendations from Oracle Master Scheduling/MRP and Supply Chain Planning or import them from other sources through the Open Job and Schedule Interface.

Midpoint Scheduling

You can schedule discrete jobs around bottleneck operations using midpoint scheduling. By setting the midpoint operation start or completion date and time you can automatically forward and backward schedule from that midpoint.

Multiple Resources per Operation Scheduling

You can define multiple resources at an operation to account for labor, machine, and other activities. Resources are automatically scheduled based on their sequence.

Simultaneous Resources

When a group of multiple resources are defined as simultaneous resources, the scheduler uses the one resource having the longest duration to calculate start and end dates for the group. See: Resource Factors in Lead Time Calculation: page 9 – 15

Prior and Next resource scheduling options are not available for simultaneous resources. These resources are scheduled as Yes, that is, the resource start and completion dates are used to schedule the operation. For example, if you have two operations, and the first operation has simultaneous resources assigned, both resources are scheduled with a value of Yes. The resources in the operation following this resource are scheduled as Prior or Next.

Fixed and Variable Resource Scheduling

You can define resource usage based on job and repetitive schedule quantity for variable resources or for a fixed amount for fixed resources such as setup and teardown. Scheduling is based on resource usage.

Resource Availability Scheduling

You can assign as many resources to an operation as are available. Further, you can make any resource available by shift or around the clock. Scheduling is based on resource availability.

Operation Resource Overlap Scheduling

You can schedule resource operations to overlap to account for simultaneous processing of the same job or repetitive schedule in concurrent operations. For example, you can schedule external setup on the next operation to take place while you complete processing at the prior operation.

Constraint–based Scheduling

If you have installed Oracle Manufacturing Scheduling; the Constraint–based Scheduling engine enables you to schedule discrete jobs and operations based on priorities, resources, and material availability. The Scheduler Workbench, a graphical interface, is used to schedule and reschedule discrete jobs on the shop floor..

Dispatch Reporting

You can monitor and prioritize your shop floor activity to meet customer demands using a variety of standard Work in Process reports.

See Also

Overview of Oracle Bills of Material, *Oracle Bills of Material User's Guide*

Overview of Rough Cut Capacity Planning, *Oracle Capacity User's Guide*

Overview of Capacity Requirements Planning, *Oracle Capacity User's Guide*

Overview of Material Requirements Planning, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Scheduling Single Discrete Jobs, *Oracle Manufacturing Scheduling User's Guide*

Rescheduling All Job or Pending Scheduling Jobs, *Oracle Manufacturing Scheduling User's Guide*

Discrete Scheduling

When you define a job, you must enter either a start or completion date and time. If the job assembly has a routing, dates and times are automatically scheduled for the operations, resources, and material requirements for the job using detailed scheduling.

If the job assembly does not have a routing, it can be scheduled in one of two ways. You can manually schedule the jobs by entering both the start and completion dates. You can also enter either a start or completion date and allow the system to calculate the missing date based on the item lead time.

Start Date

This is the date and time that you plan to start the job. You can choose start dates and times earlier than the current date to maintain relative date priorities for department schedules and material requirements. You can choose start dates that are not on the manufacturing calendar. In this case, the system plans for work to start on the next valid date.

When you specify the start date and time, the system forward schedules the job and automatically calculates the job completion date and time using detailed scheduling based on the assembly's routing. If no routing exists, the system forward schedules using the fixed and variable lead times for the assembly from the item master. If no routing and no lead time exist, you must enter both the start and completion dates.

Completion Date

This is the date and time on which you plan to complete the job. You can choose completion dates and times earlier than the current date to maintain relative date priorities for department schedules and material requirements. If you choose completion dates that are not on the manufacturing calendar, the system plans for work to complete on the next valid date.

When you specify the job completion date and time, the system backward schedules the job and automatically calculates the job start date and time using detailed scheduling based on the assembly's routing. If no routing exists, the system backward schedules using the fixed and variable lead times for the assembly from the item master. If no routing and no lead time exist, you must enter both the start and completion dates.

When you import jobs and schedules or automatically create discrete jobs from planned orders, the system uses the due date from the

planned order as the scheduled completion date and uses backward scheduling to determine the start date. When the system automatically creates final assembly orders, it also uses backward scheduling from the order due date to determine the job start date.

> **Note:** The start date that Oracle Master Scheduling/MRP and Supply Chain Planning recommends may not exactly match with the start date of the actual job. Differences between the planning and work in process lead times can arise due to more precise scheduling of shifts and resources by Work in Process.

Operations Dates

Each operation in the routing is scheduled using detailed scheduling. The start date and time of the first operation generally equals the start date and time for the job. The scheduled completion date and time for the job generally equals the scheduled completion date and time of the last operation in the routing. If the resource is not active on a shift at the start or completion dates and times of the job, the first and last operation dates and times do not match the start and completion dates of the job. In addition, you can manually schedule the first and last operation dates and times to differ from the job start and completion dates and times.

Material Requirements Dates

The system schedules material requirements so that they are required on the start date and time of the operation where they are consumed. For example, if you use component A in operation sequence 30 and operation sequence 30 is scheduled to start on 01–JAN at 12:15, then the component is required on 01–JAN at 12:15 regardless of the start and completion dates and times of the job. If there is no routing, all material requirements are required on the job start date and time.

See Also

Detailed Scheduling: page 13 – 7

Discrete Rescheduling: page 13 – 12

Rescheduling Discrete Jobs: page 3 – 106

Importing Jobs and Schedules: page 15 – 35

Final Assembly Orders: page 3 – 56

Planned Discrete Jobs: page 3 – 55

Detailed Scheduling

The system uses detailed scheduling to schedule discrete production. The lead time rollup process in Oracle Bills of Material also uses detailed scheduling to calculate lead times used by Oracle Master Scheduling/MRP and Supply Chain Planning.

Detailed scheduling applies resource usage defined by routings and resources to resource availability defined by the calendar shifts and exceptions on a minute by minute basis to determine job start and end times (calculated to the minute) and operation start and end times.

You provide resource usage information used by detailed scheduling when you assign resources to a routing in Oracle Bills of Material.

For example, assume you have defined the following routing and you want to use it to schedule a discrete job for a quantity of 1000 assemblies:

Routing to Schedule Discrete Job

Op Seq	Res Seq	Resource	Basis	Usage Rate or Amount	Activity	Scheduled	Assigned Units	Scheduled Units
10	1	Punch press	Item	0.1	Run	Yes	1	100
10	2	Punch press	Lot	1	Teardown	Next	1	1
20	1	Queue	Lot	4	Queue	Yes	1	4
20	2	Machinist	Item	0.05	Labor	No	3	0
20	3	Drill press	Item	0.05	Run	Yes	3	50
20	4	Inspector	Item	0.01	Quality	Yes	1	10
30	1	Plating preparation	Lot	1	Setup	Prior	1	1
30	2	Plating	Item	0.01	Run	Yes	1	10

Note: All units of measure are in hours.

Multiple Resources

You can assign multiple resources per operation to schedule labor, machine, and other activities you perform within an operation. Detailed scheduling schedules multiple resources sequentially based on their resource sequence number.

In the Routing to Schedule Discrete Job table, operation sequence 30 has two resources: Plating and Plating preparation. Detailed

scheduling schedules these resources sequentially based on their resource sequence number.

Constraint–based Scheduling of Resources

If you have installed Oracle Manufacturing Scheduling, the constraint–based scheduling engine considers the capacity for the resource. You can also set up simultaneous and alternate resources. Simultaneous resources consist of two or more resources scheduled with the same start date and time. Alternate resources are used instead of the primary resource. See: Defining WIP Resource Definition, *Oracle Manufacturing Scheduling User's Guide*, and Defining Simultaneous and Alternate Resources, *Oracle Manufacturing Scheduling User's Guide*

The Scheduler Workbench, a graphical interface, provides access to areas where you can adjust resource capacity including:

- Reschedule the start and end dates of a resource
- Delete or add a day of capacity, adjusting for overtime shifts or shop closures
- Add or delete resource units when either extra resources are obtainable or resources are unavailable
- Adjust Assigned Units or Usage Rate for the resource on the job routing

Lot or Item Basis

You can use a resource basis of Lot to schedule fixed resource requirements such as setup or teardown. You can use a resource basis of Item to schedule resources whose requirements change in proportion to the number of assemblies being built.

In the Routing to Schedule Discrete Job table, operation sequence 10 has resource sequence 2, Punch press, with a basis of Lot to schedule one hour of teardown activity for each job.

Operation sequence 10, resource sequence 1 has 1 hours of runtime activity for each assembly unit on the job. Therefore, a job for an assembly quantity of 1000 requires 100 hours of runtime activity.

Assigned Units

You can assign multiple units of a resource to work concurrently at an operation. In the Routing to Schedule Discrete Job table, for operation sequence 20, resource sequence 3, you have three drill press resources in your plant that you have assigned to the routing. Detailed scheduling schedules assuming all three are applied to the job. In other

words, if your job has 50 hours of drill press resource required, detailed scheduling would schedule 16.67 elapsed hours (50 resource hours required/3 resources available).

Scheduled Options

You can assign resources to an operation, but not have them scheduled. In the Routing to Schedule Discrete Job table, you might have a machinist resource who periodically checks the progress of the drill press resource. Since the machinist resource is not on the critical path you would not schedule, but you would likely want to cost, the machinist resource.

You can assign resources used solely for scheduling, even though these resources do not actually provide value added work. In the Routing to Schedule Discrete Job table, at operation sequence 20, resource sequence 1, you can simulate 4 hours of queue time to schedule the time assemblies wait before the drill press resource frees up from other scheduled work.

Attention: Detailed scheduling is not a finite scheduling algorithm. However, you schedule resources to simulate load that other jobs place on a department and resource and thus achieve scheduling results similar to those created by finite scheduling algorithms.

You can schedule operations to overlap to account for simultaneous processing of the same job in concurrent operations. For example, you can schedule setup resources of the next operation to overlap with processing resources of the current operation. Or, you can schedule teardown resources at the prior operation to overlap with processing resources at the current operation.

In the Routing to Schedule Discrete Job table, operation sequence 10, resource sequence 2 has one hour of teardown that can be performed after the assemblies have moved to the next operation. As such, the Scheduled field is set to Next.

Operation sequence 30, resource sequence 1 has one hour of setup activity that can begin before the assemblies arriving at operation sequence. As such, the Scheduled field is set to Prior.

Shift Calendar

Detailed scheduling uses the shift calendar to determine resource availability. Therefore, resources can only be scheduled when they are available. If you assume round the clock resource availability, the job for 1000 assemblies, using the routing in the Routing to Schedule

Discrete Job table, would require 141.67 processing hours or approximately 5.6 workdays.

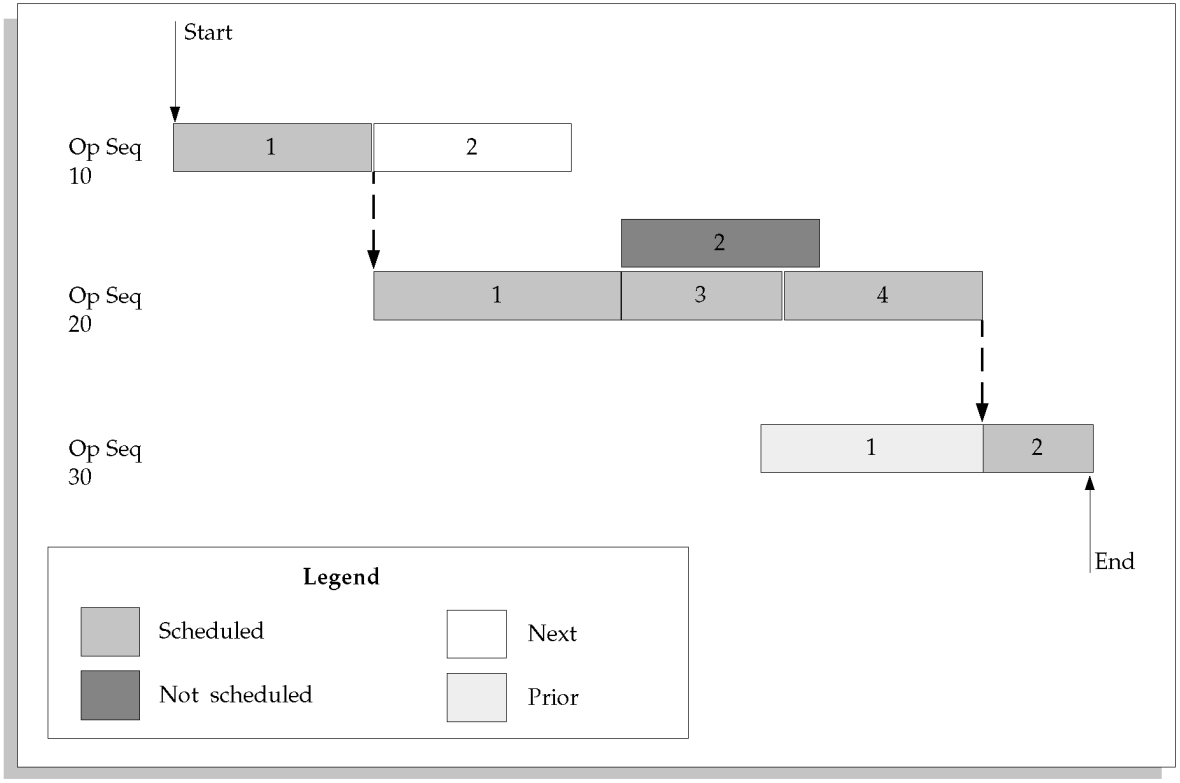
On the other hand, if you assume a single 8 hour day, single shift calendar for all resources, the processing hours would remain 141.67 hours, but the workdays would stretch to approximately 17.7.

Forward and Backward Scheduling

When you forward schedule, detailed scheduling starts at the job start date and time and computes the job completion date and time. When you backward schedule, detailed scheduling ends at the job completion date and time and computes the job start date and time.

If the job start date and time is before the first scheduled resource in the first operation becomes available, no work can take place until that resource becomes available. Likewise for backward scheduling, if the completion date and time for the job conflict with the availability of the last scheduled resource in the last operation, the job cannot be completed until the last operation is complete. Resources may or may not be available depending on their shift availability.

The following diagram depicts how the detailed scheduler would schedule the routing from the Routing to Schedule Discrete Job table, assuming round the clock resource availability:



Note: Not to scale.

See Also

Overview of Routings, *Oracle Bills of Material User's Guide*

Creating a Routing, *Oracle Bills of Material User's Guide*

Overview of Rough Cut Capacity Planning (RCCP), *Oracle Capacity User's Guide*

Overview of Capacity Requirements Planning, *Oracle Capacity User's Guide*

Overview of Implementing Planning Recommendations, *Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*

Discrete Rescheduling

You can reschedule discrete jobs by modifying discrete job operations, by importing modified jobs and schedules, and by replanning planned orders using Oracle Master Scheduling/MRP and Supply Chain Planning.

Operation Dates

You can reschedule any existing job. You can reschedule around the start or completion date of any discrete job operation. For example, you can do midpoint rescheduling to schedule both forward and backward from any operation within the routing. You can also manually reschedule operation start and completion dates. See: Adding and Updating Operations: page 8 – 12.

Discrete Job Changes

You can change start and completion dates and times of discrete jobs. The operations and material requirements of the job are automatically forward or backward scheduled depending on the date you changed. This rescheduling is based on the operation and requirements of the job, not the bill and routing you define in Oracle Bills of Material.

If you increase or decrease the job quantity, the job is automatically rescheduled based on the revised quantity. If you change the alternate routing, the routing revision, or revision date and time or routing reference (for non–standard jobs only) of a job with a status of Unreleased, the job is rescheduled based on the new routing.

Planned Orders

You can automatically implement reschedule recommendations from Oracle Master Scheduling/MRP and Supply Chain Planning. You can choose the specific jobs you want to reschedule based on the criteria you enter in the Planner Workbench. The system then automatically reschedules job operation and material requirement start and completion dates and times.

Job Import

You can import suggested repetitive schedules from other planning system into Work in Process. You can choose the specific jobs you want to reschedule based on the criteria you enter in the planning system. Job operation and material requirement start and completion dates and times are automatically rescheduled. See: Work Order Interface: page 3 – 57 and Importing Jobs and Schedules: page 15 – 35.

Capacity Modifications

For each resource on a shift, you can override the number of resource units available (such as number of machines) and specify additions or reductions to the amount of time the resource is available on that shift. And, you can group capacity modifications into sets that you can use when you generate a capacity plan to simulate capacity changes. In Work in Process, these capacity modifications are considered when you define new jobs and/or reschedule existing jobs.

Workday Calendar and Shifts

You can change the workday calendar and modify shifts at any time. The system takes these changes into account when you define new jobs and/or reschedule existing jobs. You can transact on non–workdays as long as they occur in a valid period. See: Overview of Workday Calendar, *Oracle Bills of Material user's Guide*.

Constraint–based Rescheduling

If you have installed Oracle Manufacturing Scheduling, the Constraint–based Scheduling engine enables you to reschedule jobs based on date constraints or available resources and material. When you reschedule all jobs or pending scheduling jobs from the Schedule Discrete Jobs window, the constraint–based scheduling engine uses the requested due date and scheduling priority:

- The highest priority jobs are scheduled first
- Jobs with the same priority are scheduled based on the earliest requested due date
- Firm jobs and any associated operations are not rescheduled

See: Rescheduling All Job or Pending Scheduling Jobs, *Oracle Manufacturing Scheduling User's Guide*

See Also

Overview of Capacity Requirements Planning, *Oracle Capacity User's Guide*

Rescheduling Discrete Jobs: page 3 – 106

Repetitive Line Scheduling

Repetitive line scheduling is used to schedule repetitive production. When you define repetitive schedules you must specify the line on which you plan to produce the repetitive assembly and the quantity you plan to build. Then, repetitive line scheduling uses the line start and stop times, production rate, and lead time, along with the workday calendar to schedule your repetitive schedules.

Production Lines

When you define lines you must specify the start and stop times of the line. You must also specify the minimum and maximum hourly rate on the line.

The repetitive line scheduling method uses line start and stop times to calculate how long the line runs each day. For example, if you run the line from 8:00 am to 5:00 pm, you would enter a start time of 08:00 and a stop time of 17:00. The repetitive line scheduling method does not use the shift calendar dates and times you defined in Oracle Bills of Material. The repetitive line scheduling method does use the days on and days off from the workday calendar.

Production Rate

When you associate a line and assembly you must set the hourly production rate. In other words, you define the hourly production run rate used to schedule that assembly on that line. For line/assembly associations with a fixed lead time rate line, all assemblies should use the same production rate. For variable rate lines, you need to specify different rates for each assembly. The production rate cannot be greater than the maximum rate on the line.

Lead Times

For lines with a lead time basis of Fixed, you must enter a fixed lead time for the line. For lines with a lead time basis of Routing–based, the lead time is calculated by applying the detailed scheduling algorithm to the routing of the assembly. The lead time for a repetitive schedule is the amount of time it takes to complete the first unit.

Repetitive Schedule Quantities

You define the daily production quantity, processing days, and total production quantity when you manually define a schedule.

Daily Quantity

The daily quantity is the number of completed assemblies you plan to produce on the schedule each day. The daily quantity can only be a positive number including decimals, such as 1.25. A warning message displays if you define a daily quantity for a schedule that is greater than the line's maximum hourly rate times the production hours.

You can choose a daily quantity that is less than or equal to the daily line capacity:

production rate X (line stop time – line start time)

In that case, you build the entire daily quantity for that schedule in less than a full day. For example, if the production rate is 100 per hour for 10 hours and the daily quantity for a schedule is 500 per day, you can build the 500 in half a day. The remaining line capacity of 500 is then free for other production.

Over–schedule Line By Daily Quantity

You can temporarily over–schedule a production line to simulate overtime or a production rate increase. You can choose a daily quantity greater than the daily line capacity. For example, if the production rate is 100 units per hour for 10 hours, the daily line capacity is 1000 units. You can define a schedule for 1200 units, thereby over–scheduling the line. The system warns you that you are over–scheduling the line and interprets this over–schedule as an increase in the production rate, not a change in start and stop times. In this example, the system would assume a production rate of 120 units per hour for 10 hours to get 1200 units per day.

Processing Days

Processing days are the number of days you plan to work on the repetitive schedule. Processing days can be any positive number including decimal (partial) days. A full processing day for the schedule on a line may not require the entire capacity of the line if the daily quantity is less than the daily line capacity. For example, a full processing day on a schedule at a daily quantity of 500 on a line with a production rate of 100 per hour and 10 available hours can be built with a half day of line capacity.

The total quantity is the number of completed assemblies you plan to produce on the repetitive schedule. The total quantity equals the daily quantity multiplied by the processing days. The total quantity can only be a positive number including decimal quantities.

When you manually define a repetitive schedule, you can enter either the daily quantity or the total quantity. You can enter both if you choose. If you enter either quantity and processing days information, the system automatically calculates the other quantity for you.

Lead Times

Lead time is the amount of time that it takes to complete the first assembly on a repetitive schedule from start to finish. Lead time equals the difference between the FUSD and the FUCD. The system calculates lead time based on the routing for lines with a lead time basis of Routing based**.** The system defaults the lead time from the production line for repetitive schedules on production lines with a lead time basis of Fixed**.**

Repetitive Schedule Dates and Days

You enter dates First Unit/Last Unit Start and First Unit/Last Unit Completion Dates and times, and processing days when you manually define a repetitive schedule.

First Unit/Last Unit Start and First Unit/Last Unit Completion Dates

The first unit start date (FUSD) is the date and time you plan to begin production on the first assembly on a repetitive schedule. You can enter a start date and time earlier than the current date to maintain relative priorities.

The LUSD (last unit start date) is the date and time you plan to begin production of the last assembly on a repetitive schedule.

The FUCD (first unit completion date) is the date and time you plan to complete production of the first assembly on a repetitive schedule. This date equals the FUSD plus the lead time.

The LUCD (last unit completion date) is the date and time you plan to complete production of the last assembly on a repetitive schedule.

Forward Scheduling

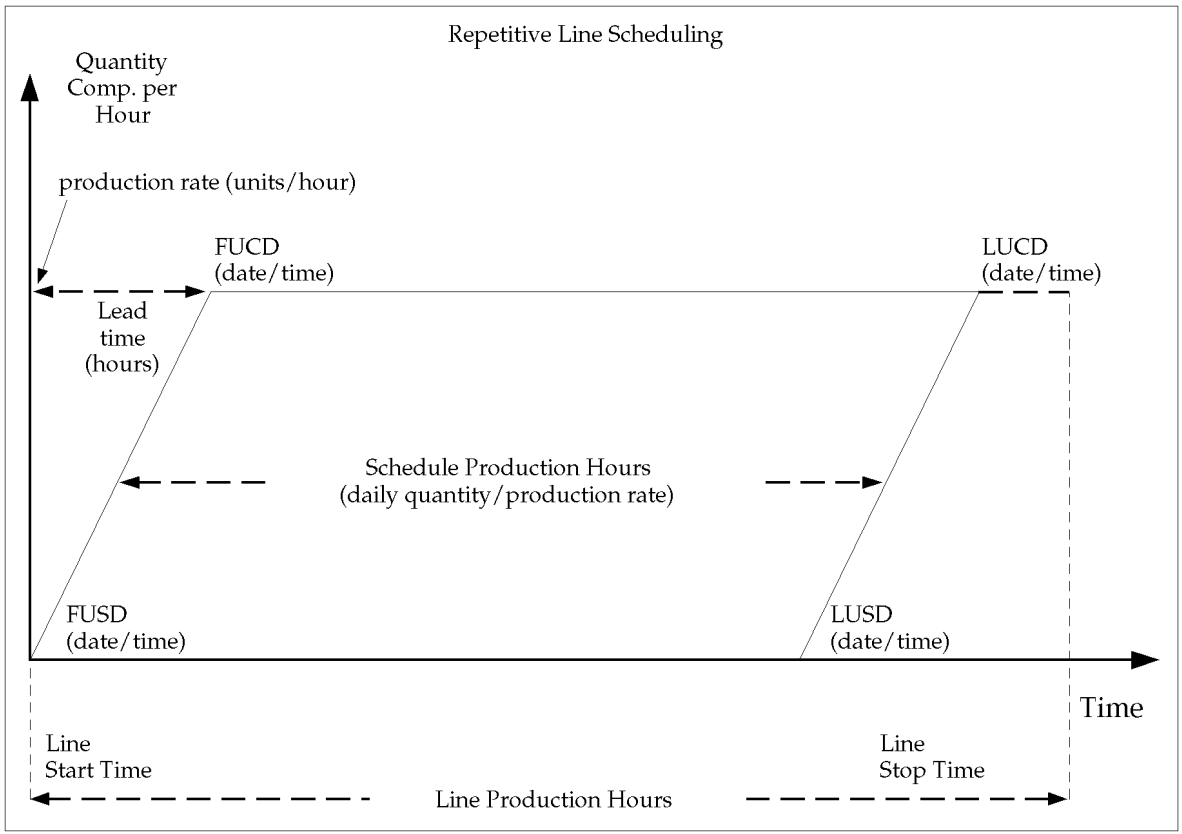
For repetitive schedules with routings, if you enter FUSD or FUCD and times, the system uses forward scheduling to calculate the other dates. If you enter FUCD or LUCD and time, the system uses backward scheduling to calculate the other dates. If you do not have a routing for an assembly on a line with a lead time basis of Routing based, you must manually schedule the lead time. In other words, if you enter the FUSD and time, you must enter the FUCD and time to set the lead time for the schedule.

If you do not have a routing for an assembly on a line with a lead time basis of Routing based, you must manually schedule the lead time. In other words, if you enter the FUSD and time, you must enter the FUCD and time to set the lead time for the schedule.

You can also forward or backward schedule a schedule if its assembly has either a fixed or variable lead time or both. If the assembly has both a fixed and variable lead time, the lead time for the repetitive schedule is calculated as follows:

(job or schedule quantity x variable lead time) + fixed lead time

The following diagram illustrates repetitive schedule dates.



You cannot overlap repetitive schedules for the same assembly on the same line. In other words, you cannot have the FUSD of one schedule fall between the FUSD and LUSD of a prior schedule. For example, if

the LUSD on the prior schedule is 24–MAY at 12:00, then the FUSD of the next schedule for that assembly on that line must be at least 24–MAY at 12:01.

If you do not have a routing for an assembly on a line with a lead time basis of Routing based, you must manually schedule the lead time. In other words, if you enter the FUSD and time, you must enter the FUCD and time to set the lead time for the schedule.

Sequencing Repetitive Assemblies on a Line

If you build multiple repetitive assemblies on a single production line, you can sequence production to maximize efficiency and customer service. You can then query all schedules defined for an assembly on the line and check the sequencing based on the schedule dates. You can then reschedule the schedules.

To further assist you with sequencing, the system provides several additional features. For example, you can define all schedules for an assembly on a single line.

Furthermore, because the system uses both dates and times to schedule repetitive production, you can decide the proper scheduling sequence then schedule production to the minute to match your sequence.

Lastly, you can use the Open Job and Schedule Interface to import sequence optimized repetitive planning suggestions. For example, if you have an automated sequencing program, you can insert output records from this program into the Open Job and Schedule Interface table. These records can then be imported into Work in Process.

See Also

Open Job and Schedule Interface: page 3 – 57

Associating Lines and Assemblies: page 6 – 7

Production Line Report: page 15 – 43

Repetitive Line Report: page 15 – 51

Repetitive Line Rescheduling

You can reschedule repetitive schedules by changing quantities, dates, and routing revisions.

Repetitive Schedule Changes

You can change the daily production quantity, processing days, and total quantity of a repetitive schedule. You can change any quantity and the system reschedules all other dates and quantities on that schedule accordingly. For example:

- Changing the daily production rate on a repetitive schedule causes the total quantity to change accordingly based on the processing days.
- Changing the processing days causes the total quantity to change according to the daily quantity.
- Changing the total quantity on a schedule does not impact the daily quantity. Instead increasing the total quantity causes the processing days to increase. Conversely, reducing the total quantity decreases the processing days.

If you change repetitive schedule quantities, you must select a date around which to reschedule. The system then keeps this date constant while automatically changing the other dates accordingly. For instance, if you increase the processing days on a repetitive schedule and choose to keep the first unit start and completion dates constant, the system pushes out the last unit start date and last unit completion date and increases the total quantity.

Repetitive Schedule Dates

You can change the dates and times on a repetitive schedule. When you change dates and times, the system reschedules unreleased and released schedules the same way. If you change the first unit start date, first unit completion date, last unit start date, or last unit completion date, the system reschedules the repetitive schedule to adjust the remaining start and completion dates. Changing any of the four start and completion dates does not impact the processing days, total quantity, daily quantity, or lead time. You cannot change dates and times so that schedules for the same assembly on the same line overlap.

You cannot change the lead time on a schedule. For fixed rate lines, the line determines the lead time. For routing–based lines, the routing determines the lead time. When you change dates on a repetitive schedule, all the other attributes of that schedule, such as bill revision, remain the same.

Bill Revisions and Dates

You can change the bill revision and dates for any unreleased or pending repetitive schedule.

Routing Revisions and Dates

If you change the routing revision or revision date for any repetitive schedule with a status of Unreleased or Pending – Mass loaded, the system automatically reschedules based on the new routing. For routing–based lines this may impact the dates. For fixed rate lines, changing the routing does not impact the dates.

See Also

Creating Repetitive Schedules: page 6 – 13

Production Line Report: page 15 – 43

Repetitive Line Report: page 15 – 51

Repetitive Line Capacity Changes

You can make repetitive schedule adjustments to your repetitive production capacity to reflect short term issues in matching your repetitive production supply and demand. You can also change line attributes such as start and stop time, and production rate to reflect ongoing changes in your repetitive line capabilities.

Temporary Increase in Capacity

You have several options for temporarily increasing repetitive production output. You can increase the production hours on a line by working overtime. You can also increase the production rate by adding workers to a line, or you can increase the load on an underutilized line.

The system lets you temporarily over–schedule a production to simulate overtime or production rate increase. You can choose a daily quantity greater than the daily line capacity when you define a repetitive schedule. Over–scheduling is interpreted as an increase in the production rate between the defined line start and stop times, not as an increase in the line's production hours.

You can also increase the load on an underutilized line by simply associating the line with the assembly then manually defining a repetitive schedule for the assembly on that line.

Temporary Decrease in Capacity

You have several options for temporarily decreasing repetitive production output. You can decrease production hours on a line temporarily by shutting down the line earlier than usual. You can also temporarily decrease the production rate by reassigning workers to other lines or by temporarily shutting down the underutilized line.

The system lets you under–schedule a line any time you define a repetitive schedule. You can choose a daily quantity less than the daily line capacity. Under–scheduling is interpreted as running for a shorter interval at the defined production rate and within the line start and stop time.

You can choose not to define schedules on a line if you do not need the supply. As such, the line would likely be underutilized.

Permanent Increase in Capacity

You have several options for permanently increasing your repetitive production outputs. In real life, you can run existing lines longer, you can speed up production on the line, or you can add lines.

To run lines longer or faster, you can change the start and stop times on a line, add days to the workday calendar, or increase the production rate. All new schedules planned and defined after this change reflect these new attributes. Existing repetitive schedules are not impacted.

You can define new lines and associate them with existing repetitive assemblies to increase your repetitive capacity as well.

Permanent Decrease in Capacity

To permanently decrease your repetitive production capacity, you can shorten your production hours, decrease your production rate, or shut down underutilized lines.

The system lets you shorten your production hours by changing line start and stop times or by removing days from the workday calendar. You can also decrease the production rate for a line and all the repetitive assemblies that use the line. All new repetitive schedules planned and defined after this change reflect this new rate. Finally, you can remove a line from production by removing its association to any repetitive assemblies.

See Also

Creating Repetitive Schedules: page 6 – 13

Production Line Report: page 15 – 43

Repetitive Line Report: page 15 – 51

CHAPTER

14 Descriptive Flexfields

This chapter explains how descriptive flexfields are used in Work in Process, including:

- Overview: page 14 – 2
- Setting Up: page 14 – 4
- Using Descriptive Flexfield Information: page 14 – 6
- Business Scenarios: page 14 – 12

Overview

Descriptive flexfields allow you to customize your application to store information specific to your business needs.

The following discussion highlights where you can define and view descriptive flexfields and provides business examples of how you might use them.

Defining Descriptive Flexfields

You can use descriptive flexfields to enter information that is unique to your business. For each descriptive flexfield, you can enter up to 15 segments. For each segment, you can use value sets to control the information you are able to enter. You can also make your descriptive flexfields context–sensitive to control when to enter specific information. You can update descriptive flexfield information at any time.

Updating Descriptive Flexfields

You can update descriptive flexfield information as you use Work in Process. For example, if you add a descriptive flexfield to a production line that you later associate with an assembly, you can update the production line descriptive flexfield without modifying the original production line flexfield information.

Transferring Descriptive Flexfields From Oracle Bills of Material to Work in Process

You can enter descriptive flexfield information when you define bill of material components, routing operations, and operation resources in Oracle Bills of Material. The system automatically transfers this information when you use these components, operations, and operation resources in Work in Process. For example, if you add an operation to a job, the system automatically transfers the descriptive flexfield information for that operation from Oracle Bills of Material.

Transferring Descriptive Flexfields Within Work in Process

You can enter descriptive flexfield information when you define production lines and shop floor statuses. The system automatically transfers this information when you use these lines and statuses within Work in Process. For example, if you assign a shop floor status to the intraoperation step of a job, the system automatically transfers the descriptive flexfield information for that shop floor status to the job.

Upgrading Descriptive Flexfields

The system upgrades descriptive flexfield definitions and data when you install new releases.

See Also

Descriptive Flexfield Concepts, *Oracle Applications Flexfields Manual*

Planning Your Descriptive Flexfield, *Oracle Applications Flexfields Manual*

Setting Up Descriptive Flexfields

You use the Descriptive Flexfield Segments window to define descriptive flexfield structures. Flexfield structure can contain up to 15 segments. You can customize descriptive flexfields by entering values and value sets for each segment. Values and value sets are used to determine what data can and cannot be entered in descriptive flexfields.

The following table lists the *source windows* where you can enter descriptive flexfields information as well as the *where used windows* that display this information.

> **Note:** Many *where used windows* are accessed using gateway windows and buttons. These *where used windows* are documented by giving their navigational path which includes both the gateway window and the button. For example you can access the Material Requirements (*where used*) window from the View Discrete Jobs window by choosing the Components button. In this case the *where used window* is documented as View Discrete Jobs [Components]. Also, unless otherwise noted, all source windows are Work in Process windows. Windows are listed in alphabetical order.

- Bills of Material (Oracle Bills of Material/components flexfield)
  - Material Requirements
  - View Material Requirements
  - Simulate Discrete Jobs (Components)
  - Close Discrete Jobs (Components)
  - View Discrete Jobs (Components)
  - View Repetitive Schedules (Components)
- Discrete Jobs
  - Close Discrete Jobs
  - Pending Jobs and Schedules
  - Purge Discrete Jobs
  - View Discrete Jobs
- Labor Rates: no where used window
- Parameters: no where used window
- Pending Move Transactions
  - View Move Transactions

- Pending Production Lines
  - Associate Lines and Schedules
- Repetitive Schedules
  - View Repetitive Schedules
  - Pending Jobs and Schedules
  - Purge Repetitive Schedules
- Resources (Oracle Bills of Material /resources)
  - Routings
  - Operations
  - View Resource Requirements
  - Close Discrete Jobs
  - View Discrete Jobs
  - View Repetitive Schedules
- Resource Transactions
  - View Resource Transactions
- Schedule Groups: no where used window
- Shop Floor Statuses
- Standard Operations (Oracle Bills of Material)
  - Routings
  - Operations
  - Simulate Discrete Jobs
  - Close Discrete Jobs
  - View Discrete Jobs
  - View Repetitive Schedules
- WIP Accounting Classes: no where used window
- WIP Material Transactions
  - View Transactions

Using Descriptive Flexfield Information

You can insert, update, and view information using descriptive flexfield structures.

Descriptive Flexfield Relationships

The following table illustrates the relationships between windows that display descriptive flexfields. It is composed of groups of windows that contain the same descriptive flexfield information. For each window, the base database table containing the descriptive flexfield is shown as well as information on whether you can insert, update, or simply view descriptive flexfields in the window.

Windows that are accessed using gateway windows and buttons are documented by giving their navigational path which includes both the gateway window and the button. For example you can access the Material Requirements (Where Used) window from Discrete Jobs window by choosing the Components button. In this case the Where used window is documented as View Discrete Jobs [Components]. Also, unless otherwise noted, all source windows are Work in Process windows.

Window Name for Move Transactions	Base Table	Insert	Update	View
Move Transactions	N/A*	✓		
Pending Move Transactions	wip_move_txn_interface		✓	✓
View Move Transactions	wip_move_transactions			✓

Window Name for Resource Transactions	Base Table	Insert	Update	View
Resource Transactions	wip_cost_txn_interface	✓		
Pending Resource Transactions	wip_cost_txn_interface		✓	✓
View Resource Transactions	wip_transactions			✓

Window Name for Move Transactions	Base Table	Insert	Update	View
WIP Material Transactions	mtl_material_transac-tions_temp	✓	✓	✓
View Transactions (Oracle Inventory)	mtl_material_transactions			✓

Window Name for Completion Transactions	Base Table	Insert	Update	View
Completion Transactions	mtl_material_transac-tions_temp	✓		
View Transactions (Oracle Inventory)	mtl_material_transactions			✓

Window Name for Discrete and Repetitve Requirements	Base Table	Insert	Update	View
Bills of Materials (Oracle Bills of Material/components flexfield)	bom_inventory_components	✓	✓	✓
Material Requirements	wip_requirement_operations	✓	✓	✓
View Material Requirements	wip_requirement_operations			✓
Material Requirements Simulate Discrete Jobs [Components] Close Discrete Jobs [Components] Purge Discrete Jobs [Components] View Discrete Jobs [Components] Purge Repetitive Schedules [Components] View Repetitive Schedules [Components]	wip_requirement_operations			✓

Window Name for Discrete and Repetitive Operations	Base Table	Insert	Update	View
Standard Operations (Oracle Bills of Material/ operations flexfield)	bom_standard_operations	✓	✓	✓
Routings (Oracle Bills of Material/sequences flexfield)	bom_operation_sequences	✓	✓	✓
Operations	wip_operations	✓	✓	✓
View Operations	wip_operations			✓
Simulate Discrete Jobs [Operations] Close Discrete Jobs [Operations] Purge Discrete Jobs [Operations] View Discrete Jobs [Operations] Purge Repetitive Schedules [Operations] View Repetitive Schedules [Operations]	wip_operations			✓
Standard Operations (Oracle Bills of Material/ resources flexfield)	bom_std_op_resources	✓	✓	
Routings (Oracle Bills of Material/resources flexfield)	bom_operation_resources	✓	✓	
Operations [Resources]	wip_operation_resources	✓	✓	✓
View Resource Requirements	wip_operation_resources			✓
Resource Requirements Simulate Discrete Jobs [Operations][Resources] Close Discrete Jobs [Operations][Resources] View Discrete Jobs [Operations][Resources] View Repetitive Schedules [Operations][Resources]	wip_operation_resources			✓

Window Name for Discrete Job Information	Base Table	Insert	Update	View
Discrete Jobs	wip_discrete_jobs	✓	✓	
View Discrete Jobs	wip_discrete_jobs			✓

Window Name for Repetitive Schedule Information	Base Table	Insert	Update	View
Repetitive Schedules	wip_repetitive_schedules	✓	✓	
View Repetitive Schedules	wip_repetitive_schedules			✓

Window Name for Production Lines	Base Table	Insert	Update	View
Production Lines	wip_lines	✓	✓	
Associate Lines and Assemblies	wip_repetitive_items	✓	✓	✓

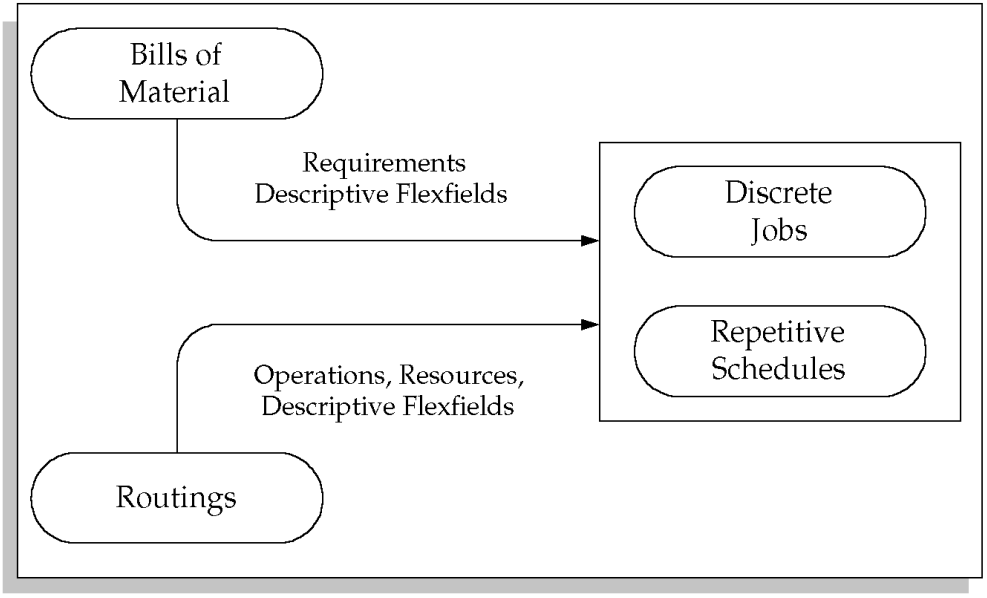
Window Name for Shop Floor Statuses	Base Table	Insert	Update	View
Shop Floor Statuses	wip_shop_floor_status_codes	✓	✓	
Assign Shop Floor Statuses	wip_shop_floor_statuses	✓	✓	✓

Window Name for Discrete Jobs and Repetitive Schedules (Miscellaneous)	Base Table	Insert	Update	View
Work in Process Parameters	wip_parameters	✓	✓	✓
Work in Process Parameters	wip_valid_intraoperation_steps	✓	✓	✓
Persons (Oracle Human Resources/employee flexfield)	per_people_f	✓	✓	✓
Persons (Oracle Human Resources/address flexfield)	per_addresses	✓	✓	✓
Persons (Oracle Human Resources/assignment flexfield)	per_assignments_f	✓	✓	✓
WIP Accounting Classes	wip_accounting_classes	✓	✓	✓
Labor Rates	wip_employee_labor_rates	✓	✓	✓

Transferring Descriptive Flexfields From Oracle Bills of Material to Work in Process

You can transfer the descriptive flexfield information defined in Oracle Bills of Material to Work in Process as you create discrete jobs and repetitive schedules. Work in Process takes a snapshot of the bill of material requirement, operation, and resource descriptive flexfield information as you create jobs and schedules with bills and routings and as those bills and routings are exploded. You can modify this information in Work in Process without affecting the original bill of materials or routing.

The following diagram illustrates how descriptive flexfield information is transferred from Oracle Bills of Material to Work in Process.



Transferring Descriptive Flexfields Within Work in Process

Work in Process allows you to transfer descriptive flexfield information on production lines, and shop floor statuses when you use these lines and statuses.

For example, as you associate a production line with a repetitive assembly in the Associate Lines and Assemblies window, Work in Process takes a snapshot of the production line definition from the Production Lines window and carries it over to the Associate Lines and Assemblies window. The descriptive flexfield that you defined for the production line defaults to the descriptive flexfield in the Associate

Lines and Assemblies window. If you change the original descriptive flexfield in the Production Lines window, the descriptive flexfield in the Associate Lines and Assemblies window is not affected. You can change the descriptive flexfield information in the Associate Lines and Assemblies window at any time.

Business Scenarios

Descriptive flexfields allow you to easily extend the standard functionality of Oracle Work in Process. The following business examples demonstrate ways that you can use descriptive flexfields to support specific business needs:

- Management of Quality Information: page 14 – 12
- Management of Outside Processor Sterilization: page 14 – 14

Attention: Descriptive flexfields are not required. The objective of these business scenarios is to highlight the flexibility of descriptive flexfields. You should experiment and review the results of different approaches to determine how best to use them.

Management of Quality Information

Suppose you are an electronics manufacturer that tests printed circuit boards in a plant. You want to use descriptive flexfields to collect test results and failure information.

You measure four test results during room temperature testing and two different test results during high temperature testing. You use this information to verify the performance of each board against specifications and collect product and process trend information.

If a board fails any of these tests, it is sent to the central debugging department for analysis to determine the cause of the failure and suggested repairs. You perform Pareto analysis on the failure information collected during the debugging process as the basis of your continuous process improvement efforts on the board line.

Approach 1 – Using Standard Operation and Move Transaction Flexfields

Setup

Use the descriptive flexfield in the Standard Operations window in Oracle Bills of Material to set up the fields for each of the pieces of test information you wish to collect at the test and debug operations. For the test operations, you should create a value set that specifies acceptable limits on test results. For the debug operations, you should create a value set that comprises all causes included in the Pareto analysis and one that includes all possible repairs. As such, whenever you use any of

these operations in a routing, Work in Process includes these descriptive flexfields.

Next, you must set up your quality data collection method. You can modify a copy of the Move Transactions window or create your own move transactions window (taking advantage of the Open Move Transaction Interface) to require entry of test results on moves out of a test operation and failure and suggested repair information on moves out of a debug operation.

Execution

Use the descriptive flexfields on move transactions to store the data you collect. You can validate your test results against acceptable limits to force moves to a debug operation if required. For the failure information, set up the descriptive flexfield to require use of one of the predefined failure reasons, and entry of predefined repairs.

Once you have collected the actual test results and failure information, you can use a number of Oracle tools to analyze and report the information.

Approach 2 – Using Shop Floor Transaction Flexfield Only

Setup

Use the descriptive flexfield in the Move Transactions window to set up segments for each of the pieces of test information you wish to collect at the test and debug operations. For the test operations, you should set up a segment with a value set that specifies acceptable limits on test results. For the debug operations, you should set up one segment with a value set that comprises all causes included in the Pareto analysis and another segment that allows entry of suggested repair information.

Execution

You can use the context–sensitive capabilities of descriptive flexfields to require entry of test results on moves out of a test operation, and failure and suggested repair information on moves out of a debug operation.

Once you have collected the actual test results and failure information, you can use a number of Oracle tools to analyze and report the information.

Management of Outside Processor Sterilization

Suppose you are a medical device manufacturer that uses a vendor to perform sterilization outside processing. You want to use descriptive flexfields to create labels that indicate whether assemblies have been sterilized.

Setup

Modify the descriptive flexfield on the Operations window to indicate the need for and number of sterilization labels. Create a value set that specifies an acceptable range of values you can enter for your sterilization labels.

Execution

When you receive sterilized assemblies from your vendor, use the Move Transactions window to move the assemblies to the next operation and require entry of the number of sterilization labels to be printed. You can use a number of Oracle tools to create a report that prints your actual labels. You can further modify the Move Transactions window to launch that report upon recording the label information. Next, you can set up a printer close to your receipt area to immediately apply the labels to your sterilized material.

CHAPTER

15

Reports and Processes

This chapter explains how to submit report and process requests and briefly describes each Work in Process report:

- AutoCreating Final Assembly Orders: page 15 – 3
- Closing Jobs Using Submit Requests: page 15 – 7
- Discrete Job Data Report: page 15 – 11
- Discrete Job Dispatch Report: page 15 – 13
- Discrete Job Listing Report: page 15 – 15
- Discrete Job Pick List Report: page 15 – 17
- Discrete Job Routing Sheet: page 15 – 19
- Discrete Job Shortage Report: page 15 – 21
- Discrete Job Value Report: page 15 – 25
- Discrete Shop Packet: page 15 – 29
- Employee Rates Listing: page 15 – 30
- Expense Job Value Report: page 15 – 32
- Importing Jobs and Schedules: page 15 – 35
- Job Lot Composition Report: page 15 – 38
- Job and Schedule Interface Report: page 15 – 40
- Move Transaction Report: page 15 – 41

- Production Line Report: page 15 – 43
- Purging Jobs and Schedules: page 15 – 44
- Purge Report: page 15 – 50
- Repetitive Line Report: page 15 – 51
- Repetitive Pick List Report: page 15 – 52
- Repetitive Routing Sheet: page 15 – 54
- Repetitive Schedule Data Report: page 15 – 55
- Repetitive Schedule Shortage Report: page 15 – 56
- Repetitive Shop Packet: page 15 – 59
- Repetitive Value Report: page 15 – 60
- Resource Performance Report: page 15 – 63
- Resource Transaction Report: page 15 – 65
- Schedule Group Listing: page 15 – 67
- Shop Floor Statuses Report: page 15 – 68
- WIP Account Distribution Report: page 15 – 69
- WIP Account Summary Report: page 15 – 72
- WIP Accounting Classes Report: page 15 – 73
- WIP Location Report: page 15 – 74
- WIP Offsetting Account Report: page 15 – 76
- WIP Outside Processing Report: page 15 – 77
- WIP Parameters Report: page 15 – 78
- WIP Value Report: page 15 – 79

AutoCreating Final Assembly Orders

The AutoCreate Final Assembly Orders load program creates final assembly orders (discrete jobs) from sales order demand, and links each sales order to the final assembly order supplying it. You can create final assembly orders for ATO configuration items, or standard ATO items.

You can submit the program in specified intervals. For example, to submit the program each day at midnight, specify midnight in the Run Options.

You have the option to create supply for lower level configurations when running the AutoCreate Final Assembly Orders program. This is based on the setting for the Create Lower Level Supply parameter in Oracle Bills of Material. See:Parameters, *Oracle Configure to Order Implementation Manua*l. You have three options:

- No – Creates supply only to the top level ATO item or configuration
- Auto Created Configuration Items only – Creates supply for any lower level configuration generated because of the specific sales order generation.
- Auto Created Configuration Items and ATO Items – Creates supply for all lower level ATO, preconfigured, and autocreated configured items.

The Assemble To Order Mass Load Report is automatically printed after submiting the AutoCreate Final Assembly Orders program. This report lists sales orders, by sales order number, that the system was unable to create final assembly orders for.

> **Note:** When you autocreate a final assembly order, the sales order line delivery quantity becomes the default quantity for the discrete job and the assembly's primary bill and routing are used.

▶ **To autocreate final assembly orders:**

1. Navigate to the AutoCreate Final Assembly Orders window. The Parameters window appears.

2. Optionally, select the Sales Order number.

   A discrete job is created for each sales order shipment number associated with the sales order number. If you enter an order number, you cannot enter Offset Days, Load Type, or Organization. If you do not enter an order number, you must enter Offset Days and Load Type.

3. If you have not selected a sales order, enter the number of Offset Days.

   The number of offset days is added to the current date to determine when final assembly orders must be released to the shop floor to be completed by the sales order due date. The final assembly order release date is backwards scheduled using the order from the sales order due date. For example, if the current date is 01–JAN–2004 and you specify 7 offset days, final assembly orders are created that must be released between 01–JAN–2004 and 08–JAN–2004 to meet the due dates of the sales orders they are supplying. Orders that should have been released before the current date are also included.

4. If you have not selected a sales order, select one of the following Load Type options. The Create Lower Level Supply parameter in Oracle Bills of Material must be set correctly to specify the option selected here. See:Parameters, *Oracle Configure to Order Implementation Manua*l.

   Configured Orders only: Final assembly orders created from configured sales orders. A configured order begins with a model and options, and then generates or links a configured item using the AutoCreate Configuration Items program in Oracle Bills of Material.

Non–configured Orders only: Final assembly orders created from sales orders placed directly for ATO items.

Both configured and non–configured Orders: Final assembly orders created from both configured and non–configured items.

5. If you have not selected a sales order, select one of the following job Statuses: Unreleased, Released, or On Hold. See: Discrete Job Statuses: page 11 – 7.

6. If you have not selected a sales order, select an Organization.

   If you do not select an Organization, sales order demand across all organizations is examined.

7. Select an accounting Class. This accounting class is the default for the jobs that are created.

   Default accounting classes may be displayed but can be overwritten. See: Product Line Accounting Setup, *Oracle Cost Management User's Guide*, Discrete Parameters: page 2 – 17, and Discrete Accounting Classes: page 2 – 42.

8. Choose OK to display the request window.

9. Submit the autocreate request. See: Submitting a Request, *Oracle Applications User's Guide*.

See Also

Creating Discrete Jobs: page 3 – 55

Overview to Supplying Unique Configurations, *Oracle Configure To Order Implementation Manual*.

Closing Discrete Jobs Using Submit Requests

Job close requests can be submitted using concurrent or scheduled processing. See: Overview of Concurrent Processing, *Oracle Applications User's Guide* and Overview of Standard Request Submission, *Oracle Applications User's Guide*.

The close requirements for the concurrent program are the same as when using the Close Discrete Jobs window. See: Discrete Job Close: page 3 – 119. In the concurrent program, you can also use criteria for closing jobs based on a range of accounting classes, job numbers, and dates – including release, scheduled start, and completion dates. You can also close jobs as of a specific date, rather than the date the program is executed.

▶ **To close Discrete jobs using Submit Requests:**

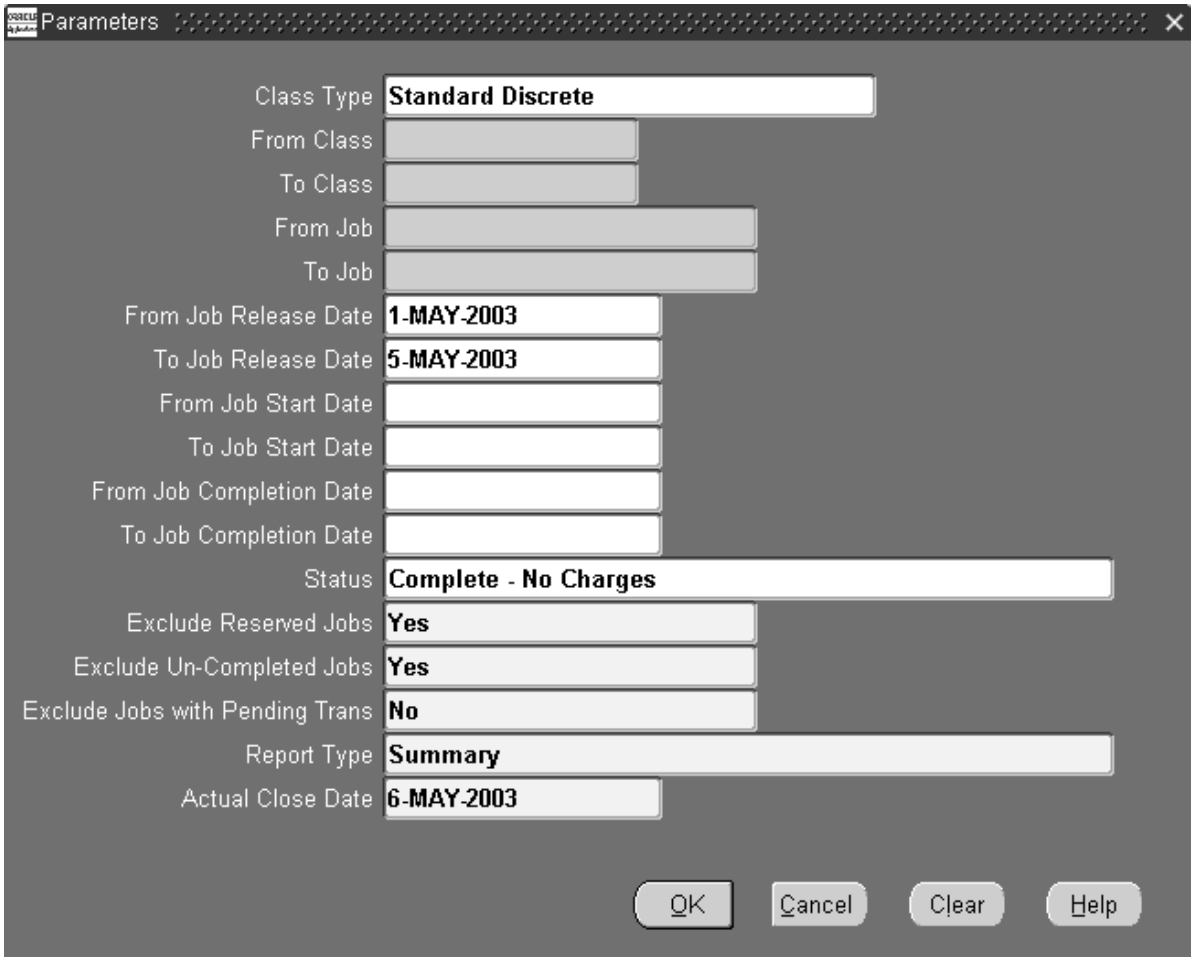
1. Navigate to the Close Discrete Jobs window using the Close Discrete Jobs (SRS) menu option. The Parameters window appears.
2. Select an accounting Class Type.

   The options are Standard Discrete, Repetitive Assembly, Asset Non–standard, Expense Non–standard, Standard Lot Based, Maintenance, and Expense Non–standard Lot Based.

   If you do not select a class type, the system closes job for all class types. If you select a class type, you can only select accounting classes of that class type.
3. To select a range of accounting classes, select values in the From and To Class fields.

   If you do not select a To Class, all jobs from the From Class forward are closed. If you do not select a From Class, all jobs through the To Class are closed.
4. To select a range of jobs, select values in the From and To Job fields.

   To close a single job, use the same From and To Job value. The From Job value defaults into the To Job field, eliminating accidentally closing all jobs forward from the one selected.
5. To select a range of job release dates, select values in the From and To Job Release Date fields. Use the same value in the From and To fields if you only want one date.
6. To select a range of scheduled job start dates, select values in the From and To Job Start Date fields. Use the same value in the From and To fields if you only want one date.



7. To select a range of scheduled job completion dates, select values in the From and To Job Completion Date fields. Use the same value in the From and To fields if you only want one date.
8. Select a job Status.

   You can only close jobs with one with the following statuses: Cancelled, Complete, Complete – No Charges, Failed Bill Load, Failed Close, Failed Routing Load, On Hold, Release, or Unreleased. See: Discrete Job Statuses: page 11 – 7.
9. Exclude Reserved Jobs parameter provides the option to exclude or include jobs linked to sales orders from the processing. The default value is Yes.

10. Exclude Un–Completed Jobs parameter provides the option to exclude or include jobs having a status other than Complete from the processing.

    If the value selected is Yes – jobs in this submission with a status other than Complete are ignored and will not process.

    If the value selected is No – jobs with a status other than Complete are processed, and the job status changes to Failed Close. See: Viewing Pending Job Transactions: page 3 – 97.

11. Exclude Jobs with Pending Trans parameter provides the option to exclude or include jobs with pending transactions during the close process.

    If the value selected is Yes – jobs in this submission with pending material, resource, move, or uncosted material transactions are ignored and will not process.

    If the value is set to No – jobs in this submission with pending material, resource, move, or uncosted material transactions are included in the process. The job status changes to Failed Close.

12. Select a Report Type.

    Reports are printed after the close process computes job close variances. The Discrete Job Value Report is printed when standard discrete jobs and non–standard asset jobs are closed – in summary or detail based on the Report Type option specified. The Expense Job Value Report is printed when expense non–standard jobs are closed and is always printed in detail format regardless of the Report Type option specified. See: Discrete Job Value Report: page 15 – 25 and Expense Job Value Report: page 15 – 32.

    Report Type options and formats are as follows:

    Summary: Lists each job and includes job header, period–to–date summary, and cumulative–to–date summary information. The system also lists summary elemental account values for each job.

    Detail using planned start quantity: Lists each job using the planned start quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information.

    Detail using actual completion quantity: Lists each job using the actual completion quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead

costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information

No Report: Does not print a report.

13. In the Actual Close Date field, you have the option to enter a date other than today's date. This enables you to close jobs as of a specific date, rather than the date the program is executed.
14. Choose OK.
15. Submit the close request. See: Submitting a Request, *Oracle Applications User's Guide*.

    Jobs that meet the criteria entered are closed when your request is run.

    You can check the status of close requests using the Concurrent Requests window. See: Concurrent Requests, *Oracle Applications User's Guide.*

See Also

Discrete Job Close: page 3 – 119

Overview of Period Close, *Oracle Cost Management User's Guide*

Defining Discrete Jobs Manually: page 3 – 63

Closing Discrete Jobs: page 3 – 121

Discrete Accounting Classes: page 2 – 42

Discrete Job Data Report

The Discrete Job Data Report lists complete information on discrete jobs. You can use this report to review all details about a job, such as quantities, dates, routing operations, material requirements, resources, instructions, sales orders, comments and accounts. You can sort the report by job name or schedule group and build sequence.

Report Submission

In the Submit Requests window, select Discrete Job Data Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Job	Sort by job.
Schedule Group, Build Sequence	Sort by schedule group, then by build sequence.

Job From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Assembly From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Start Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

Class

Select a WIP accounting class. See: WIP Accounting Classes: page 2 – 42

Status

Choose a status. The available options are Unreleased, Released, Complete, Complete–No Charges, and On Hold. See: Discrete Job Statuses: page 11 – 7 and Reporting by Status: page 11 – 19.

Schedule Groups From/To

To restrict the report to a range of schedule groups, select a beginning and an ending schedule group.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Dispatch Reports: page 8 – 74

Submitting a Request, *Oracle Applications User's Guide*

Discrete Job Dispatch Report

The Discrete Job Dispatch Report lists jobs that must be completed. You can use this report to prioritize the work in each of your manufacturing departments. You can sort this report by operation start date or operation completion date within the department. You can restrict the output by department, date, and schedule group. Information is listed only for jobs with statuses of Released, Complete, and On Hold.

Report Submission

In the Submit Requests window, select Discrete Job Dispatch Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Operation start date	Sort by operation start date within the department.
Operation completion date	Sort by operation completion date within the department.

Include Unreleased Jobs

Select Yes or No to indicate whether to include jobs with a status of Unreleased on the report.

Departments From/To

To restrict the report to a range of departments, select a beginning and an ending department.

Dates From/To

To restrict the report to a date range, enter a beginning and an ending date.

Schedule Group

Select a schedule group.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Dispatch Reports: page 8 – 74

Reporting by Status: page 11 – 19

Submitting a Request, *Oracle Applications User's Guide*

Discrete Job Listing Report

The Discrete Job Listing Report lists discrete jobs regardless of their status. You can sort the report by assembly, job, scheduled start date, or schedule group and build sequence. You can restrict the output of the report by job, assembly, start date, status, and schedule group. For example, you can use this report to determine which jobs need to be released by restricting it to jobs with a status of Unreleased.

Report Submission

In the Submit Requests window, select Discrete Job Listing Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Assembly	Sort by assembly.
Job	Sort by job. This is the default option.
Scheduled start date	Sort by scheduled start date.
Schedule Group, Build Sequence	Sort by schedule group, then by build sequence.

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Start Dates From/To

To restrict the report to a date range, enter a beginning and an ending date.

Status

Choose a status. You can choose any status. See: Discrete Job Statuses: page 11 – 7.

Schedule Group From/To

To restrict the report to a range of schedule groups, select a beginning and an ending schedule group.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Reporting by Status: page 11 – 19

Submitting a Request, *Oracle Applications User's Guide*

Discrete Job Pick List Report

The Discrete Job Pick List Report lists open component requirements for jobs with statuses of Unreleased, Released, Complete, or On Hold. You can use this report when you pick material from stock to issue to discrete jobs. This report lists component requirements in supply type order; push components first followed by pull, bulk, then vendor components. This report can be sorted by component, date required, item sequence, supply subinventory/locator, or WIP material transaction.

If the report is sorted by component, requirements that are common across jobs are consolidated. This can be particularly useful if you are replenishing backflush subinventories which supply several jobs.

Report Submission

In the Submit Requests window, select Discrete Job Pick List Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Component	Sort by component. Requirements are consolidated across jobs. Use this option to help you replenish backflush subinventories which supply multiple jobs. You can use the Subinventory Transfer form in Oracle Inventory to transfer the consolidated quantity of each requirement from your warehouse to the backflush subinventories that supply your jobs.
Date required	Sort by requirement date.
Item Sequence	Sort by item sequence. The item sequence is established while defining a component on the bill of material. If a job includes phantom components, the item sequence is derived from the phantom component, not the parent assembly.
Supply sub–inventory, locator	Sort by supply subinventory and locator.

WIP material transaction	Sort component requirements in WIP Material Transaction order. The system lists components in the order presented in the WIP Material Transactions window. This assists data entry when you use the pick list as hard copy for issuing the components.

Transactable Only

Select Yes or No to indicate whether to exclude discrete jobs with statuses of Unreleased or On Hold.

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Start Dates From/To

To restrict the report to a date range, select a starting and an ending date.

Schedule Groups From/To

To restrict the report to a range of schedule groups, select a beginning and an ending schedule group.

Supply Type

Choose a Supply Type. The available options are Push, Pull, Bulk, and Vendor. See: Supply Types: page D – 2.

Supply Subinventory

Select the supply subinventory to include as available material in the Discrete Job Pick List. If you do not enter a value, the system lists requirements of any supply subinventory.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Overview of Material Control: page 7 – 2

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Discrete Job Routing Sheet

The Discrete Job Routing Sheet lists the operations and associated resources and material requirements for jobs with statuses of Unreleased, Released, Complete, and On Hold. You can use the report output as a traveler for the discrete job on the shop floor. Jobs can be sorted by job or schedule group and build sequence. Header information is followed by job details including job operations, resources, operation instructions and material requirements.

Report Submission

In the Submit Requests window, select Discrete Job Routing Sheet Report in the Name field.

Report Options

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Scheduled Start Dates From/To

To restrict the report to a range of scheduled start dates, select a beginning and an ending date.

Schedule Groups From/To

To restrict the report to a range of schedule groups, enter a beginning and an ending schedule group.

Sort By

Choose one of the following options:

Job	Sort by job.
Schedule Group, Build Sequence	Sort by schedule group, then by build sequence within the schedule group.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Viewing Discrete Job Information: page 3 – 95

Viewing Operations: page 8 – 20

Reporting by Status: page 11 – 19

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Discrete Job Shortage Report

The Discrete Job Shortage report lists either jobs with open requirements or jobs with component requirements for which there is a shortage. Shortage component requirements can be listed based on the quantities available in all subinventories or based only on the quantities available in the component's supply subinventory. You can also list shortage components based on all subinventories or only those subinventories that are nettable. Only discrete jobs with statuses of Unreleased, Released, Complete, and On Hold are listed on this report. See: Reporting by Status: page 11 – 19.

You can format your report to print:

- A job's open requirements to identify components you need to issue or have not yet backflushed
- Components you need to highlight for expediting
- You can sort either report by component, date required, department, job, or by make/ buy option, buyer, and planner:
- When you sort by component, make/ buy option,or planner–the components are listed in order of the corresponding jobs
- When you print report type Shortage based on supply sub/loc–the components are not listed by corresponding jobs

Report Submission

In the Submit Requests window, select Discrete Job Shortage Report in the Name field.

Report Parameters

Report Type

Choose one of the following options:

Open requirement	Lists open material requirements for all jobs. This is the default option. These values are calculated using only the Include Nettable Only and Requirement End Date parameters, and not any of the other parameters.
Shortage based on QOH	Lists requirements with insufficient quantities as based on all subinventories. If you select Yes in the Include Nettable Only option, then you may see

more shortages depending on how much quantity you have available for each requirement in your non–nettable subinventories. These values are calculated using only the Include Nettable Only and Requirement End Date parameters, and not any of the other parameters.

Shortage based on supply sub/loc — Lists requirements with insufficient quantities as based on each requirement's supply subinventory and locator.

Sort By

Choose one of the following options:

Component — Sort the shortages or open requirements by component, and then by job within the component.

Date required — Sort the shortages or open requirements by requirement date, and then by job within the requirement date.

Department — Sort the shortages or open requirements by department, and then by job within the department.

Job — Sort the open requirements by job. This is the default option.

Make or Buy, Buyer, Planner — Sort the shortages or open requirements by component, and then by job within the component. Order the components by the make or buy code, and then by the buyer, and then by the planner.

Include Nettable Only

Select Yes to include only nettable subinventories when calculating subinventory quantities and printing shortages. Select No to include nettable and non–nettable subinventories when calculating subinventory quantities and printing shortages. The system determines the quantity onhand for each requirement using this value.

Include Bulk

Select Yes to indicate whether to include bulk–supplied material requirements.

Include Supplier

Select Yes to indicate whether to include supplier–provided material requirements.

Jobs From/To

To restrict the report to range of jobs, select a beginning and an ending job.

Components From/To

To restrict the report to range of components, select a beginning and an ending component.

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

Departments From/To

To restrict the report to a range of departments, select a beginning and an ending department.

Planners From/To

To restrict the report to a range of planners, select a beginning and an ending planner name.

Buyers From/To

To restrict the report to a range of buyers, select a beginning and an ending buyer name.

Make or Buy

Select Make or Buy to indicate whether to report on shortages for components that are made or purchased.

Requirement End Date

Select a date to limit netting the requirements for open jobs. The system nets the requirements required on or before this date.

Schedule Group

Select a schedule group.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Overview of Material Control: page 7 – 2

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Discrete Job Value Report – Standard Costing

The Discrete Job Value Report – Standard Costing assists you in analyzing your standard discrete jobs and non–standard asset jobs in a standard costing organzation. You can submit the WIP Value Report before submitting this report to review total variances and charges for your jobs. Then, you can submit this report to analyze a summary of the transactions behind the charges and variances for each job.

This report includes summarized information on all cost transactions including material, resource, move and resource–based overheads, scraps, completions, and job close variances. The report also lists period–to–date and cumulative–to–date summary information, as well as complete job header information.

You can list information for a group of jobs by specifying a job name range, an accounting class range, an assembly range, and/or a particular job status. Costs are grouped and subtotalled by transaction type.

This report provides you with all the information you need to reconcile your standard and non–standard asset jobs before closing them.

Attention: This report does not include expense non–standard jobs. Use the Expense Job Value Report to analyze expense non–standard jobs.

Report Submission

In the Submit Requests window, select Discrete Job Value Report – Standard Costing in the Name field.

You can optionally print this report when you close asset non–standard and standard discrete jobs using the Close Discrete Jobs (Form) or Close Discrete Jobs (SRS) window. This is done by choosing any Report Type option other than No Report. The report is printed after the close process computes job close variances.

See: Closing Discrete Jobs: page 3 – 121 and Closing Discrete Jobs Using Submit Requests: page 15 – 7.

Report Parameters

Sort By

Choose one of the following options:

Assembly, Job — Sort by assembly and then by job within the assembly.

Class, Assembly, Job — Sort by WIP accounting class, then by assembly within the WIP accounting class, and then by job within the assembly.

Job — Sort by job. This is the default.

Report Type

Choose one of the following options:

Detail using actual completion quantity — Lists each job using the actual completion quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information.

If you push material to a job or backflush material at operation completion and have not completed the assemblies that consumed the material, your material usage variance is overstated. If you backflush material at assembly completion, or you have completed all of the assemblies, any material usage variance is accurate.

Use this option if you backflush your requirements at assembly completion, or if you have already completed most of your assemblies.

Detail using planned start quantity — Lists each job using the planned start quantity of the job to calculate the material usage variance. A detail report includes the following: job header, material, resource, resource–based and move–based overhead costs, completion, scrap, and job close variance transactions. It also includes period–to–date and cumulative–to–date summary information.

If you have not transacted each of the items and resources required to produce your assemblies, your variances are understated (you have a favorable variance). You can use this option to analyze the total cost requirements for a job by cost

element, based on your planned assembly completions.

Summary Lists each job and includes job header, period–to–date summary, and cumulative–to–date summary information. The system also lists summary elemental account values for each job.

Class Type

Choose one of the following options:

Asset non–standard Report costs for jobs with a WIP accounting class type of asset non–standard.

Standard discrete Report costs for jobs with a WIP accounting class type of standard discrete. This is the default.

Include Bulk

Select Yes to indicate whether to include bulk–supplied material requirements. If you have already issued to a particular bulk requirement, the system lists the requirement, regardless of what you select here. Yes is the default.

Include Supplier

Select Yes to indicate whether to include supplier–provided material requirements. If you have already issued to a particular supplier requirement, the system lists the requirement, regardless of what you select here. Yes is the default.

Classes From/To

To restrict the report to a range of accounting classes, select a beginning and an ending accounting class.

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Status

Select a status. The available options are Unreleased, Released, Complete, Complete–No Charges, On Hold, Cancelled, Closed,

Pending Close, and Failed Close jobs. See: Discrete Job Statuses: page 11 – 7.

> **Note:** If you run the Discrete Job Value Report for closed jobs and have changed your standard costs, the transaction summary information uses the latest standard cost and does not balance to the period or cumulative–to–date summaries.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

> **Note:** For discrete jobs, any difference between the cumulative single level variances and the material usage or efficiency variance subtotals is from configuration or method variances. The cumulative–to–date summary compares the costs incurred for the job with the standard bill/routing requirements for completions out of the job. Therefore, the difference between the cumulative variances and the usage/efficiency variance is due to the difference between the standard bill/routing requirements and the work in process bill/routing requirements.
>
> To find the configuration variance, you should compare the material usage variance with the single level material variance. To find the methods variance, you should compare the efficiency variance with its corresponding single level variance. For example, you would compare the resource efficiency variance with the single level; resource and outside processing variance added together. You would add the resource–based and move–based overhead efficiency variances and compare it with the single level overhead variance.

See Also

Discrete Job Close: page 3 – 119

Overview of Discrete Manufacturing: page 3 – 2

Expense Job Value Report: page 15 – 32

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Discrete Shop Packet

The discrete shop packet consists of three reports:

- Discrete Job Pick List Report: page 15 – 17
- Discrete Job Routing Sheet: page 15 – 19
- Discrete Job Shortage Report: page 15 – 21

See Also

Submitting a Request, *Oracle Applications User's Guide*

Submitting a Request Set, *Oracle Applications User's Guide*

Employee Rates Listing

The Employee Rates Listing lists employees and their hourly labor rates. Employees are listed in alphabetical order with their employee number, current labor rate and effective date.

You can charge an employee labor rate to a job or repetitive schedule by charging a resource that does not charge at standard and by referencing the employee whose rate you want to charge. The system uses the rate effective on the resource transaction date.

Report Submission

In the Submit Requests window, select Employee Rates Listing in the Name field.

Report Parameters

Display in Detail

Select Yes or No to indicate whether to print any additional labor rate information. If you select Yes, the system lists any past or future labor rates defined for your employees.

Current Only

Select Yes or No to indicate whether to print current employees only or all employees.

Employees From/To

To restrict the report to a range or employees, select a beginning and an ending employee.

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

See Also

Overview of Shop Floor Control: page 8 – 2

Overview of Resource Management: page 9 – 2

Defining Labor Rates: page 2 – 56

Submitting a Request, *Oracle Applications User's Guide*

Expense Job Value Report

The Expense Job Value Report assists you in analyzing your non–standard expense jobs. You can submit the WIP Value Report before submitting this report to review total charges for your jobs. Then, you can submit this report to analyze a summary of the transactions behind the charges for each job.

This report includes summarized information on all cost transactions including, material, resource, move and resource based overheads, scraps, completions, and period close variances. The report also prints period–to–date summary information as well as complete job header information.

You can list a particular group of jobs by specifying a job name range, an accounting class range, an assembly range, and/or a particular job status. The system groups and subtotals your cost transactions by transaction type.

Attention: Unlike the Discrete Job Value Report, this report prints no standard or variance information. Expense non–standard jobs typically have no standards and are used only to collect and charge costs. See: Discrete Job Value Report: page 15 – 25.

Report Submission

In the Submit Requests window, select Expense Job Value Report in the Name field.

You can optionally print this report when you close expense non–standard discrete jobs using the Close Discrete Jobs (Form) or Close Discrete Jobs (SRS) window. This is done by choosing any Report Type option other than No Report. When printed in conjunction with the close process, this report automatically prints in *detailed* format. The report is printed after the close process computes job close variances.

See: Closing Discrete Jobs: page 3 – 121 and Closing Discrete Jobs Using Submit Requests: page 15 – 7.

Report Parameters

Sort By

Choose one of the following options:

Assembly, Job	Sort by assembly and then by job within the assembly.
Class, Assembly, Job	Sort by WIP accounting class, then by assembly within the WIP accounting class, and then by job within the assembly.
Job	Sort by job. This is the default.

Report Type

Choose one of the following options:

Detailed	In addition to summary information, the system prints detail cost transaction information on material, resource, move and resource based overheads, completions, scrap, and period close variances.
Summary	List only summary information, including job header and period–to–date summary information.

Period Start Date

Select a period start date. The system prints non–standard expense jobs with cost transactions against them that are dated on or after this date.

Period Close Date

Select a period close date. The system prints non–standard expense jobs with cost transactions against them that are dated on or before this date.

Classes From/To

To restrict the report to a range of WIP accounting classes, select a beginning and an ending class.

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Status

Choose a status. You can print this report for Unreleased, Released, Complete, Complete–No Charges, On Hold, Cancelled, Closed, Pending Close, and Failed Close jobs. See: Discrete Job Statuses: page 11 – 7.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and ending assembly.

See Also

Overview of Non–Standard Discrete Jobs: page 4 – 2

Submitting a Request, *Oracle Applications User's Guide*

Importing Jobs and Schedules

You can use the Import Jobs and Schedules window to submit the WIP Mass Load program. See: Overview of Reports and Programs, *Oracle Applications User's Guide*

When the WIP Mass Load program is submitted, the system searches the Open Job and Schedule Interface (WIP_JOB_SCHEDULE_ INTERFACE) table for rows with the specified Group ID. It then creates standard and non–standard discrete jobs, updates existing jobs, and creates pending repetitive schedules for all valid rows. If a row fails validation, an error message is generated. You can view these errors and update failed rows using the Pending Jobs and Schedules window.

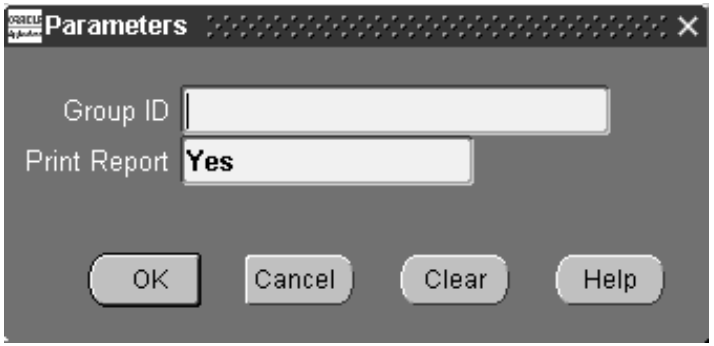
The assembly unit number can be changed through WIP Mass Load for discrete jobs that are unreleased, project related, and use unit effectivity. You can change job status is from Unreleased to Released in the same process.

You can also use Oracle Advanced Planning to submit the WIP Mass Load program and perform the same actions on planned orders, reschedule recommendations, or suggested schedules sourced for Oracle Advanced Planning.

The Job and Schedule Interface Report is automatically printed when the WIP Mass Load program is submitted. This report lists the standard and non–standard jobs that were created, the jobs that were updated, and the repetitive schedules that were created. It also lists the jobs and repetitive schedules rows that failed to process. If you resubmit the Job and Schedule Interface Report after the WIP Mass Load program has cleared the Open Job and Schedule Interface table of successfully processed records, only records for failed rows are listed.

▶ **To import jobs and schedules:**

1. Navigate to the Import Jobs and Schedules window. The Parameters window appears.



2. Enter a Group ID number.

   The system polls the WIP_JOB_SCHEDULE_INTERFACE table for rows with this group identification number. When rows with this number are found, the system validates the data and either creates a job or repetitive schedule, reschedules an existing job, or enters an error message. Rows with errors in them remain in the table and can be updated and resubmitted. See: Processing Pending Jobs and Schedules: page 3 – 133

3. Choose OK.

4. Submit the import request. See: Submitting a Request, *Oracle Applications User's Guide*.

See Also

Open Job and Schedule Interface: page 3 – 57

Job Lot Composition Report

The Job Lot Composition Report lists assembly and component lot numbers used on discrete jobs of any status. You assign component lot numbers when you issue or backflush lot controlled components to the job. You assign assembly lot numbers when you complete lot controlled assemblies from the job. The system lists all components under lot control consumed by a discrete job as well as lot numbers if you complete assemblies under lot control. You can sort this report by job or lot.

Since the system uses the material transaction history to create compositions, you should not purge any material transactions which contribute to genealogies you need to retain.

Report Submission

In the Submit Requests window, select Job Lot Composition Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Job — Sort by job. The system lists jobs in alphanumeric order.

Lot — Sort by lot. The system lists jobs by lot number and job name.

Assembly

Select an assembly. The system lists the lot composition of all jobs that are building this assembly. If you do not select a value, the system lists the lot composition for all assemblies.

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

Jobs From/To

To restrict the report to a range of jobs, select a beginning and an ending job.

Lots From/To

To restrict the report to a range of lots, select a beginning and an ending lot.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Discrete Job Purge: page 3 – 127

Submitting a Request, *Oracle Applications User's Guide*

Job and Schedule Interface Report

The Job and Schedule Interface Report is submitted when the Mass Load program is launched.

This report lists the following information for jobs and schedules that are created and/or updated as well as for those that fail to process.

Created Jobs	Job, Job Type, Assembly, Quantity, Start Date, Completion Date, Process Phase, and Process Status
Created Schedules	Line, Assembly, Line, Daily Quantity, Days, First Unit Start Date, Last Unit Completion Date. Process Phase, and Process Status
Updated Discrete Jobs	Job, Assembly, Status, Quantity, Start Date, Completion Date, Process Phase, and Process Status

The report is sorted by source code and, where applicable, by organization within that source code.

See Also

Open Job and Schedule Interface: page 3 – 57

Processing Pending Jobs and Schedules: page 3 – 133

Importing Jobs and Schedules: page 15 – 35

Submitting a Request, *Oracle Applications User's Guide*

Move Transaction Report

The Move Transaction Report lists move transaction information for discrete jobs and repetitive schedules. You can choose to display transaction details such as reason codes and references. You can also sort this report by date or assembly.

Report Submission

In the Submit Requests window, select Move Transaction Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Date — Sort by date, then by job or repetitive schedule within the date, and then by operation sequence number within the job or repetitive schedule.

Assembly — Sort by assembly, then by date within the assembly, then by job or repetitive schedule within the assembly, and then by operation sequence number within the job or repetitive schedule.

Show Details

Select Yes or No to indicate whether to print the reason and reference for the move transaction. If you select Date in the Sort By field and you choose Yes in this field, the system lists the assembly along with the reason and reference for each move transaction.

Jobs /Schedules From and To

To restrict the report to a range of jobs or repetitive schedules, select a beginning and an ending job/repetitive schedule.

Lines From/To

To restrict the report to a range of lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

Reasons From/To

To restrict the report to a range of reasons, select a beginning and an ending reason.

See Also

Move Transactions: page 8 – 24

Submitting a Request, *Oracle Applications User's Guide*

Production Line Report

The Production Line Report lists production lines in alphabetical order. The system prints the line attributes as well as the assemblies that you can build on each line.

A production line describes a unique set of operations, departments, and/or manufacturing cells that produce one or more of your assemblies. You use production lines to build repetitive assemblies.

You can build different repetitive assemblies on the same production line. This means that you can use production lines to aggregate material requirements for a number of assemblies. You can also use lines to define separate area1s of your shop floor for greater management control.

Report Submission

In the Submit Requests window, select Production Line Report in the Name field.

Report Parameters

Line From/To

To restrict the report to a range of lines, select a beginning and an ending line.

See Also

Overview of Repetitive Manufacturing: page 6 – 2

Defining Production Lines: page 2 – 58

Associating Lines and Assemblies: page 6 – 7

Submitting a Request, *Oracle Applications User's Guide*

Purging Jobs and Schedules

You can purge discrete jobs that were closed in accounting periods that are now closed. You can also purge repetitive schedules that were cancelled or complete with no charges in a closed accounting period. You can purge all detail information — material requirements, resource requirements, and operations — associated with jobs and schedules. You can also purge move and/or resource transactions associated with jobs and repetitive schedules. For quality and customer service tracking purposes, you can choose to retain as–built configuration histories for discrete jobs that build assemble to order items. You can purge all discrete job and repetitive schedule information (details, transactions and headers) by choosing to purge headers.

Attention: Although all purge Yes/No parameters default to No, you should exercise extreme caution when purging. Once you submit a purge request with a *Purge Only* or *Purge and Report* action type, all related information is removed from the database.

Purge requests can be submitted using concurrent or scheduled processing. See: Overview of Concurrent Processing, *Oracle Applications User's Guide* and Overview of Standard Request Submission, *Oracle Applications User's Guide*.

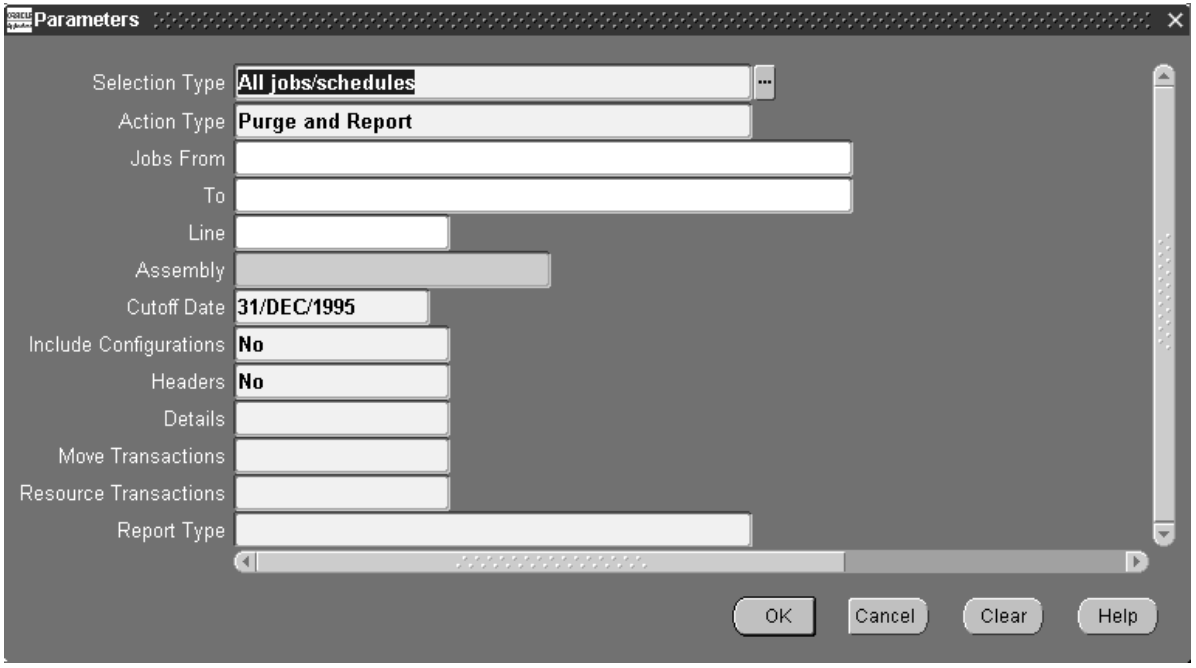
You can check the status of purge requests using the Concurrent Requests window.

Prerequisites

- ❑ You must have at least one closed period for your organization. See: Overview of Period Close, *Oracle Cost Management User's Guide*.

▶ **To purge jobs and schedules:**

1. Navigate to the Purge Jobs and Schedules window. The Parameters window appears.



2. Select a Job Type.

   All Jobs/schedules: Purge information for discrete jobs with statuses of Closed and repetitive schedules with statuses of Cancelled and Complete–No Charges. All Jobs/schedules is the default.

   Discrete jobs: Purge information for discrete jobs with a status of Closed.

   Repetitive Schedules: Purge information for repetitive schedules with statuses of Cancelled or Complete–No Charges.

3. Select an Action Type.

   You can choose from the following:

   Purge and Report: Purge the selected jobs/schedules and print a report. You can print the report in Full, Summary, or Detail format. If you select Purge and Report, you must select a Report Type.

   Report Only: Print a report listing the selected jobs/schedules but do not purge them. You can print the report in Full, Summary, or Detail format. If you select Report Only, you must select a Report Type.

Purge Only: Purge the selected jobs/schedules but do not print a report. If you choose Purge Only, you must specify that the Report Type is None.

Note: Printing a report before submitting a purge request allows you to view the exceptions that might arise and determine how many records are to be deleted from related tables as a result of the purge.

4. Specify which discrete jobs, repetitive schedules, or discrete jobs and repetitive schedules to purge by selecting one or more of the following:

   Jobs From/To: Purge all jobs in this range that have a close date before the purge cutoff date.

   Line: Purge all repetitive schedules produced on this line that have been closed or cancelled before the purge cutoff date.

   Assembly: Purge all jobs and repetitive schedules that produce this assembly. If a job range is also specified, only jobs that produce this assembly that are within that range are purged. Similarly, if a production line is specified, only repetitive schedules that produce this assembly on that line are purged.

   > **Note:** When purging discrete jobs, you can enter a production line, however this information is ignored when the purge is submitted. If you enter a job range, when purging repetitive schedules, this information is also ignored.

5. Enter a Cutoff Date.

   This date must be less than or equal to the close date of the most recently closed accounting period.

   If you choose to purge details in the Purge Options window, the system purges the details (material requirements, resource requirements, and operations) of Closed jobs and Cancelled and Complete–No Charges repetitive schedules with closed, completed, or cancelled dates less than or equal to this date. If you choose to purge Move, Resource, or Move and Resource Cost Transactions, the system purges transactions with dates less than or equal to this date for Closed jobs and Cancelled and Complete–No Charges schedules.

Attention: If you enter a date that is earlier than the closed, cancelled or completed date of a selected job or repetitive schedule, the system only purges job and repetitive schedule detail and transaction information up to the date you enter.

6. Select Yes for Include Configurations to include discrete jobs that build either configured items or models in the purge. Select No to exclude configured items.

   If Oracle Bills of Materials purges the configured item that you build in Work in Process, then Oracle Bills of Material replaces the configured item on the job with the model the configuration was based on. You do not want to include configurations if you need this information for customer support. For example, if a customer complains that you did not build the configuration he ordered.

   If you do include configurations, you still have access to lot and serial information using the Lot Genealogy window or the lot and serial transactions in Oracle Inventory.

7. Select whether to purge or not purge Headers.

   If you purge Headers, all information associated with the parent record and all associated details (material requirements, resource requirements, and operations) and transactions (move and resource transactions) are automatically purged. Shop floor statuses associated with jobs and/or repetitive schedules are also purged. Sales order allocations associated with discrete jobs are also purged.

   > **Note:** When you choose to purge headers, the options to include details, move transactions, and resource transactions are automatically selected. You cannot choose to purge header and choose not to purge details are purged even if you choose not to purge details, move transactions, and resource transactions.

8. Select whether to purge Details.

   You can selectively purge Details — material requirements, resource requirements, and operations — without purging headers. Selective purging allows you to retain pertinent historical information. For example, you can retain operation information but purge move transactions associated with these operations.

9. Select whether to purge or not purge Move Transactions

   You can selectively purge Move Transactions associated with the selected discrete jobs, repetitive schedules, or both. If the move transaction date is less than or equal to the cutoff date you entered, move transactions for repetitive schedules with Cancelled and Complete–No Charges statuses or discrete jobs with Closed statuses are purged.

10. Select whether to purge or not purge Resource Transactions associated with jobs and/or repetitive schedules.

    You can selectively purge Resource Transactions associated with the selected discrete jobs, repetitive schedules, or both. Only resource transactions for repetitive schedules with Cancelled and Complete–No Charges statuses are purged, regardless of whether the transaction date is less than or equal to the cutoff date you entered.

11. Select one of the following Report Types:

    Full: The report lists all job and/or schedule records selected for the purge, the table and number of rows affected as well as those records that cannot be purged because of purge rule violations. *Full* is the default option.

    Summary: The report lists all job and/or schedule records selected for the purge but in a tabular form. The table and row detail is omitted although exception information is included.

    Exception: The report lists only those job and/or schedule records that cannot be purged because of purge violation rules. Exception information is included.

    None: The report lists only the purge options selected (e.g. Headers, Schedule Details, Move Transactions, Resource Transactions), but does not list tables affected and records purged.

12. Choose OK.

13. Submit your purge request. See: Submitting a Request, *Oracle Applications User's Guide*.

See Also

Discrete Job Purge: page 3 – 127

Repetitive Schedule Purge: page 6 – 41

Transaction Control by Status: page 11 – 17

Purge Report

The Purge Report can be printed as you purge discrete jobs, repetitive schedules, or both jobs and repetitive schedules using the following windows:

- Purge Discrete Jobs (Form)
- Purge Repetitive Schedules (Form)
- Purge Discrete Jobs/Repetitive Schedules (SRS)

When you choose to print a report as part of the purge process, the report option selected in the Purge Options window is defaulted and determines the format of the report. Report options are as follows:

Full	Lists all job and/or schedule records, the table and number of rows affected as well as those records that cannot be purged because of purge rule violations. *Full* is the default option.
Summary	Lists all job and/or schedule records but in a tabular form. The table and row detail is omitted although exception information is included.
Exception	Lists only those job and/or schedule records that cannot be purged because of purge violation rules. Exception information is included.
None	Lists only the purge options selected (e.g. Headers, Schedule Details, Move Transactions, Resource Transactions), but does not list which tables are affected and which records purged.

Attention: You can only select the *None* option when submitting a purge request from the Purge Jobs and Schedules window. It is available only if you select the Purge Only action type in the Purge Options window. Furthermore, you must select this report option if the Purge Only option is selected as no other report option selections are allowed.

See Also

Submitting a Request, *Oracle Applications User's Guide*

Purging Discrete Jobs: page 3 – 128

Purging Repetitive Schedules: page 6 – 42

Specifying Purge Options: page 3 – 130

Repetitive Line Report

The Repetitive Line Report lists repetitive schedules defined for a production line. The system lists effective and pending repetitive schedules separately so you can easily identify which ones to cancel or implement. You can use this report to help you see the overall load on the line.

The system lists the production line header followed by all schedules defined on that line. Schedules are listed by assembly and first unit start date.

Report Submission

In the Submit Requests window, select Repetitive Line Report in the Name field.

Report Parameters

Lines From/To

To restrict the report to a range of lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of lines, select a beginning and an ending assembly.

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

See Also

Overview of Repetitive Manufacturing: page 6 – 2

Dispatch Reports: page 8 – 74

Submitting a Request, *Oracle Applications User's Guide*

Repetitive Pick List Report

The Repetitive Pick List Report lists component requirements for a range of repetitive schedules in your organization with statuses of Unreleased, Released, Complete, or On Hold. You can use this report to pick material from stock to issue to work in process for a schedule. The report lists production lines in alphanumeric order with all their requirements ordered by supply type, including push, pull, bulk and vendor items. This report can be sorted by component, date required, supply subinventory/locator, or WIP material transaction.

Report Submission

In the Submit Requests window, select Repetitive Pick List Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Component	Sort by component.
Supply sub–inventory, locator	Sort by supply subinventory and locator.
WIP material transaction	Sort component requirements in WIP Material Transaction order. The system lists components in the order presented in the WIP Material Transaction window. This assists data entry when you use the pick list as hard copy for issuing the components.

Transactable Only

Select Yes or No to indicate whether to exclude repetitive schedules with statuses of Unreleased or On Hold.

Start Date

Select the start date. The system calculates requirements for your repetitive schedules from this date for the number of days you specified in the Days of Supply report option.

Days of Supply

Select the number of days of supply that you want to calculate requirements for.

Lines From/To

To restrict the report to a range of lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Supply Type

Choose a Supply Type. The available options are Push, Pull, Bulk, and Vendor. See: Supply Types: page D – 2.

Supply Subinventory

Select the supply subinventory to include as available material in the pick list. If you do not select a value, the system lists requirements of any supply subinventory.

See Also

Overview of Repetitive Manufacturing: page 6 – 2

Overview of Material Control: page 7 – 2

Submitting a Request, *Oracle Applications User's Guide*

Repetitive Routing Sheet

The Repetitive Routing Sheet lists operations and associated resources and material requirements for schedules with a status of Unreleased, Released, On Hold, or Complete. You can use the report as a traveler to report production against repetitive schedules on the shop floor. The system displays repetitive assemblies and production lines in alphanumeric order. For each repetitive assembly/line, the system prints schedules ordered by first unit start date and followed by their operations, resources, instructions and requirements.

Report Submission

In the Submit Requests window, select Repetitive Routing Sheet in the Name field.

Report Parameters

Assembly

Select a repetitive assembly. If you do not select an assembly, the system lists routing information for all schedules defined for the line selected.

Line

Select a production line. If you do not select a line, the system displays routing information for all schedules defined for the assembly selected.

First Unit Start Dates From/To

To restrict the report to a range of first unit start dates, select a beginning and an ending date.

See Also

Overview of Repetitive Manufacturing: page 6 – 2

Submitting a Request, *Oracle Applications User's Guide*

Repetitive Schedule Data Report

The Repetitive Schedule Data Report lists repetitive assemblies and production lines in alphanumeric order, and their schedules ordered by first unit start date. You can use this report to review all details about a repetitive schedule, such as quantities, dates, routing operations, material requirements, resources, instructions, comments and accounts.

Report Submission

In the Submit Requests window, select Repetitive Schedule Data Report in the Name field.

Report Parameters

Effective Only

Select Yes or No. No means list all schedules in the report. Yes means list only the schedules with the following statuses: Unreleased, Released, On Hold, Complete and Pending – Mass Loaded. See: Reporting by Status: page 11 – 19.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Lines From/To

To restrict the report to a range of lines, select a beginning and an ending line.

Start Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

See Also

Overview of Repetitive Manufacturing: page 6 – 2

Dispatch Reports: page 8 – 74

Submitting a Request, *Oracle Applications User's Guide*

Repetitive Schedule Shortage Report

The Repetitive Schedule Shortage Report lists either open requirements or requirements with inventory shortages for repetitive schedules. You can list requirement shortages based on the quantities available in all subinventories or based on the quantities available in the supply subinventories only. You can also determine shortages using all subinventories or only nettable subinventories. The system lists repetitive schedules with statuses of Unreleased, Released, On Hold, or Complete.

You can print a repetitive schedule's open requirements to identify components you need to issue or have not yet backflushed. You can print the shortage report to highlight components you need to expedite.

Report Submission

In the Submit Requests window, select Repetitive Schedule Shortage Report in the Name field.

Report Parameters

Report Type

Choose one of the following options:

Open requirement	List open material requirements for all repetitive schedules. This is the default option.
Shortage based on QOH	Lists requirements with insufficient quantities as based on all subinventories. If you select Yes in the Include Nettable Only option, then you may see more shortages depending on how much quantity you have available for each requirement in your non–nettable subinventories.
Shortage based on supply sub/loc	Lists requirements with insufficient quantities as based on each requirement's supply subinventory and locator.

Include Nettable Only

Select Yes to include only nettable subinventories when calculating subinventory quantities and printing shortages. Select No to include nettable and non–nettable subinventories when calculating

subinventory quantities and printing shortages. The system determines the quantity onhand for each requirement using this value.

Include Qty Ahead/Behind

Select Yes or No to indicate whether to include requirements fulfilled in the past when calculating open requirements and shortages. If you select Yes, the system includes requirements already issued or to be issued in its calculation of open requirements and shortages. If you select No, the system only takes into account today's quantities in its calculation of open requirements and shortages.

Include Bulk

Select Yes to indicate whether to include bulk–provided material requirements.

Include Supplier

Select Yes to indicate whether to include supplier–supplied material requirements.

Supply Days

Select the number of supply days ahead of today that the system uses to calculate open requirements and shortages for your repetitive schedules.

Lines From/To

To restrict the report to a range of lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Components From/To

To restrict the report to a range of component, select a beginning and an ending component.

See Also

Overview of Material Control: page 7 – 2

Submitting a Request, *Oracle Applications User's Guide*

Repetitive Shop Packet

The repetitive shop packet consists of four reports:

- Repetitive Pick List Report: page 15 – 52
- Repetitive Routing Sheet: page 15 – 54
- Repetitive Schedule Shortage Report: page 15 – 56
- Repetitive Line Report: page 15 – 51

See Also

Submitting a Request, *Oracle Applications User's Guide*

Submitting a Request Set, *Oracle Applications User's Guide*

Repetitive Value Report

The Repetitive Value Report can be used to analyze your repetitive schedules. You can submit the WIP Value Report before submitting this report to review total variances and charges for your repetitive schedules. Then, you can submit this report to analyze a summary of the transactions behind the charges and variances for each repetitive schedule.

This report includes information on all cost transactions including material, resource, outside processing, move and resource–based overhead charges and variances. Relief charges, such as completion, assembly scrap, and period close transactions, are summarized across all schedules building an assembly on a line. The report also lists account summary information as well as repetitive schedule header information. The system groups and subtotals cost transactions by transaction type.

Report Submission

In the Submit Requests window, select Repetitive Value Report in the Name field.

Report Parameters

Report Type

Choose one of the following options:

Detail with requirements based on actual quantity completion

Lists each assembly and line using the actual completion quantity of the assembly and line in to calculate all the variances. A detail report includes the following: header, material, resource, resource–based and move–based overhead costs, completion, scrap, and close variance transactions. It also includes account period–to–date and cumulative–to–date summary information.

Use this option if you backflush your material requirements at assembly completion or if you have already completed most of your assemblies.

Detail with requirements based on planned start quantity

Lists each assembly and line using the planned start quantity of the assembly and line to calculate all the variances. A detail report includes the following: header, material, resource,

resource–based and move–based overhead costs, completion, scrap, and close variance transactions. It also includes account summary information.

Use this option to compare your total requirements against your existing transactions for all cost elements using your planned completion quantity.

Summary — Lists each assembly and line and includes repetitive schedule header and account information. The system also lists summary elemental account values for each repetitive schedule.

Include Bulk

Select Yes to indicate whether to include bulk–supplied material requirements. If you have already issued to a particular bulk requirement, the system lists the requirement, regardless of what you select here.

Include Supplier

Select Yes to indicate whether to include supplier–provided material requirements. If you have already issued to a particular supplier requirement, the system lists the requirement, regardless of what you select here.

Period Start Date

Select a period start date. The system lists the value of repetitive schedules that are dated on or after this date, or that were transacted between the period start date and the period close date.

Period Close Date

Select a period close date. The system lists the value of repetitive schedules that are dated on or before this date, or that were transacted between the period start date and the period close date.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Lines From/To

To restrict the report to a range of production lines, select a beginning and an ending line.

Classes From/To

To restrict the report to a range of WIP accounting classes, select a beginning and an ending class.

For repetitive schedules, any difference between the cumulative single level variances and the material usage or efficiency variance subtotals is from configuration or methods variances. The cumulative–to–date summary compares the costs incurred for the schedule with the standard bill/routing requirements for completions out of the schedule. Therefore, the difference between the cumulative variances and the usage/efficiency variance is due to the difference between the standard bill/routing requirements and the work in process bill/routing requirements. To find the configuration variance, you should compare the material usage variance with the single level material variance. To find the methods variance, you should compare the efficiency variance with its corresponding single level variance. For example, you would compare the resource efficiency variance with the single level; resource and outside processing variance added together. You would add the resource–based and move–based overhead efficiency variances and compare it with the single level overhead variance.

Since repetitive schedules are not revalued by the cost update, these variances also include any standard cost adjustments. The Standard Requirements columns use the latest standards. The Applied Cost columns use the transaction cost without cost update adjustments.

See Also

Overview of Work in Process Costing: page 12 – 2

Submitting a Request, *Oracle Applications User's Guide*

Resource Performance Report

The Resource Performance Report details resource efficiency by department. The system lists all resources within a department with the jobs/schedules charging these resources in alphanumeric order. The system lists the efficiency percentage of each resource as applied to a specific job or schedule and the departmental efficiency of each resource.

Report Submission

In the Submit Requests window, select Resource Performance Report in the Name field.

Report Parameters

Resources From/To

To restrict the report to a range of resources, select a beginning and an ending resource.

Departments From/To

To restrict the report to a range of departments, select a beginning and an ending department.

Job/Schedule Active Dates From

Select a beginning date.

To

Select an ending date.

Minimum Efficiency

Select a minimum efficiency percentage. The system lists the resources for which the departmental efficiency is equal to or greater than this value. If you also select a maximum efficiency percentage, displays resources for which the departmental efficiency is equal to or greater than the minimum efficiency percentage and less than or equal to the maximum efficiency percentage.

Maximum Efficiency

Select a maximum efficiency percentage. The system lists the resources for which the departmental efficiency is less than or equal to this value. If you also select a minimum efficiency percentage, the system lists resources for which the departmental efficiency is equal to or greater than the minimum efficiency percentage and less than or equal to the maximum efficiency percentage.

See Also

Overview of Resource Management: page 9 – 2

Submitting a Request, *Oracle Applications User's Guide*

Resource Transaction Report

The Resource Transaction Report lists resource transaction information for discrete jobs and repetitive schedules. You can list transaction details such as reason codes and references. You can sort this report by assembly, date, or employee.

Report Submission

In the Submit Requests window, select Resource Transaction Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Assembly	Sort by assembly, then by date within assembly, then by job or repetitive schedule within the assembly, and then by operation sequence number within the job or repetitive schedule.
Date	Sort by date, then by job or repetitive schedule within the date, and then by operation sequence number within the job or repetitive schedule.
Employee	Sort by employee, then by date within the employee, then by job or repetitive schedule within the date, and then by operation sequence number within the job or repetitive schedule.

Show Details

Select Yes or No to indicate whether to list reason and reference for the resource transaction. If you select Date or Employee in the Sort By field, and you choose Yes in this field, the system also lists the assembly along with the reason and reference for each resource transaction.

Jobs /Schedules From and To

To restrict the report to a range of jobs/schedules, select a beginning and an ending job or repetitive schedule.

Resources From/To

To restrict the report to a range of resources, select a beginning and an ending resource.

Lines From/To

To restrict the report to a range of production lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Dates From/To

To restrict the report to a date range, select a beginning and an ending date.

Employees From/To

To restrict the report to a range of employees, select a beginning and an ending employee.

Reasons From/To

To restrict the report to a range of employees, select a beginning and an ending reason.

Activities From/To

To restrict the report to a range of Activities, select a beginning and an ending activity.

See Also

Resource Transactions: page 9 – 30

Submitting a Request, *Oracle Applications User's Guide*

Schedule Group Listing

The Schedule Group Listing lists all information about schedule groups.

Report Submission

In the Submit Requests window, select Schedule Group Listing in the Name field.

Report Parameters

Schedule Group From/To

To restrict the report to a range of schedule groups, select a beginning and an ending schedule group.

See Also

Defining Schedule Groups: page 2 – 53

Shop Floor Statuses Report

The Shop Floor Statuses Report lists shop floor statuses in alphabetical order. The system also lists status descriptions and disable dates and identifies which statuses prevents you from moving assemblies.

Shop floor statuses give you control of your shop floor movement by limiting when you can make moves. Once you have released a job or repetitive schedule, you can assign and modify these statuses at the operations on the work in process routing using the Shop Floor Statuses window. You can view these statuses during shop floor moves and report them using job or repetitive schedule data reports.

Report Submission

In the Submit Requests window, select Shop Floor Statuses Report in the Name field.

See Also

Assigning and Viewing Shop Floor Statuses: page 8 – 65

Defining Shop Floor Statuses: page 2 – 51

Submitting a Request, *Oracle Applications User's Guide*

WIP Account Distribution Report

The WIP Account Distribution Report details account information for work in process cost transactions, including resource, overhead and outside processing charges, cost updates, and period close and job close variances. The system groups your transactions by job or schedule, by transaction type, and orders your transactions by earliest transaction date. You can list detailed account information for specific accounts, general ledger batches, or both to help you reconcile your general ledger.

This report does not list material cost transactions such as issues, completions, and scrap. You can list this information using the Material Account Distribution reports in Oracle Inventory.

Report Submission

In the Submit Requests window, select WIP Account Distribution Report in the Name field.

Report Parameters

Dates From/To

To restrict the report to a range of transaction dates, enter a beginning and ending date.

Account

Select a specific general ledger accounting flexfield.

GL Batch

Select a general ledger batch number. The system lists information by account for each account in the selected batch.

Job/Schedule

Select a specific job or repetitive assembly.

Line

Select a production line.

Assembly

Select an assembly.

Transaction Type

Choose one of the following options to print work in process cost transaction details for a specific transaction type:

Resource transaction	Lists resource transaction details.
Overhead transaction	Lists overhead transaction details.
Outside processing	Lists outside processing transaction details.
Cost update	Lists cost update transaction details.
Period close variance	Lists transaction details for period close variance transactions for expense jobs and certain instances of repetitive schedules.
Job close variance	Lists job close variance transaction details.

Department

Select a department name.

Activity

Select an activity.

Class

Select a WIP accounting class name.

Currency

Select a currency. You can run this report for any defined currency. When you select a currency other than the functional currency, item costs are converted to the selected currency. Your functional currency is the default.

Exchange Rate

The system displays the most recent End of period rate but you can choose another period. The rate type used, either period average or the period end, is determine by how the *CST:Exchange Rate Type* profile option is set. See: Profile Options, *Oracle Cost Management*.

See Also

Overview of Period Close, *Oracle Cost Management User's Guide*

Submitting a Request, *Oracle Applications User's Guide*

WIP Account Summary Report

The WIP Account Summary Report summarizes account information for work in process cost transactions, including resource, overhead and outside processing charges, cost updates, and period close and job close variances. The system lists debit, credit and net activity by account for each type of cost transaction. You can list information by date. You can also list information for specific accounts, general ledger batches, or both to help you reconcile your general ledger. You can use this report during your pre–close monthly review process.

The system does not list material cost transactions, such as issues, completions, and scraps, in this report. You can report this information using the Inventory Account Distribution report in Oracle Inventory.

Report Submission

In the Submit Requests window, select WIP Account Summary Report in the Name field.

Report Parameters

Dates From/To

To restrict the report to a range of transaction dates, select a beginning and an ending date.

Account

Select a general ledger accounting flexfield.

GL Batch

Select a general ledger batch. The system lists information by account for each account in the selected batch.

See Also

Overview of Period Close, *Oracle Cost Management User's Guide*

Submitting a Request, *Oracle Applications User's Guide*

WIP Accounting Classes Report

The WIP Accounting Classes Report lists the WIP accounting classes you have defined. The class type, disable date and description for each accounting class, as well as the elemental valuation and variance accounts, are listed.

You must define separate accounting classes for standard discrete jobs, non–standard expense jobs, non–standard asset jobs, repetitive assemblies, maintenance jobs, and lot based jobs. Each accounting class includes the elemental valuation and variance accounts you use to cost discrete and repetitive production. You must enter an accounting class when you define a discrete job and when you associate production lines with repetitive assemblies.

Report Submission

In the Submit Requests window, select WIP Accounting Classes Report in the Name field.

See Also

WIP Accounting Classes: page 2 – 42

Submitting a Request, *Oracle Applications User's Guide*

WIP Location Report

The WIP Location Report details the locations of the assemblies within the routings of the jobs and repetitive schedules. This includes job and repetitive schedules with statuses of Released**,** Complete, and On Hold. The system lists only operations that contain assemblies.

Report Submission

In the Submit Requests window, select WIP Location Report in the Name field.

Report Parameters

Sort By

Choose one of the following options:

Assembly, Job/Schedule, Line, Op seq	Sort by assembly, then by job or repetitive schedule within the assembly, then by line within the job or repetitive schedule, and then by operation sequence number within the line.
Department, Assembly, Job/Schedule, Op seq	Sort by department number, then by assembly within the department, then by job or repetitive schedule within the assembly, and then by operation sequence number within the job or repetitive schedule.
Job/Schedule, Assembly, Line, Op seq	Sort by job or repetitive schedule, then by assembly within the job or repetitive schedule, then by line within the assembly, and then by operation sequence number within the line.
Line, Assembly, Job/Schedule, Op seq	Sort the report by line, then by assembly within the line, then by job or repetitive schedule within the assembly, and then by operation sequence number within the job or repetitive schedule.

Jobs/Schedules From and To

To restrict the report to a range of jobs or repetitive schedules, select a beginning and ending job/schedule.

Lines From/To

To restrict the report to a range of production lines, select a beginning and an ending line.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Departments From/To

To restrict the report to a range of departments, select a beginning and an ending department.

See Also

Dispatch Reports: page 8 – 74

Viewing Operations: page 8 – 20

Submitting a Request, *Oracle Applications User's Guide*

WIP Offsetting Account Report

The WIP Offsetting Account Report lists detailed account information for work in process cost transactions, including resource, overhead and outside processing charges; cost updates; and period close and job close variances. Transaction information is grouped by offsetting account, by transaction type, from the earliest transaction date.

The system does not list material cost transactions — issues, completions, and scrap transactions — on this report. You can report this information using the Inventory Account Distribution report in Oracle Inventory.

Report Submission

In the Submit Requests window, select WIP Offsetting Account Report in the Name field.

Report Parameters

Accounts From/To

To restrict the report to a range of accounts, select a beginning and an ending accounting flexfield.

Dates From/To

To restrict the report to a range of transaction dates, select a beginning and an ending date.

See Also

Submitting a Request, *Oracle Applications User's Guide*

WIP Outside Processing Report

The WIP Outside Processing Report lists outside processing information for jobs or repetitive schedules. The system lists all purchase orders associated outside processing resources.

Report Submission

In the Submit Requests window, select WIP Outside Processing Report in the Name field.

Report Parameters

Jobs/Schedules From and To

To restrict the report to a range of jobs or repetitive schedules, select a beginning and ending job/schedule.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly.

Lines From/To

To restrict the report to a range of production lines, select a beginning and an ending line.

Status

Choose a status. See: Discrete Job Statuses: page 11 – 7 or Repetitive Schedule Statuses: page 11 – 12.

Open POs Only

Select Yes or No to indicate whether to print all purchase orders except ones that are closed and cancelled.

See Also

Submitting a Request, *Oracle Applications User's Guide*

WIP Parameters Report

The WIP Parameters Report lists the Work in Process parameters you have defined.

WIP parameters define modes of operation and assign default values that affect other functions in Work in Process, such as backflushing and lot number entry.

Report Submission

In the Submit Requests window, select WIP Parameters Report in the Name field.

See Also

WIP Parameters: page 2 – 14

Submitting a Request, *Oracle Applications User's Guide*

WIP Value Report

The WIP Value Report details work in process inventory as of a particular accounting period. The system lists the value of discrete jobs and repetitive schedules for the period specified, lists the ending balance for each discrete job and repetitive schedule in a particular accounting class, and subtotals by the accounting class. In addition, the system summarizes each accounting class by cost element and lists a subtotal for each type of accounting class. For example, your can view your WIP inventory value for all standard discrete jobs.

For Oracle Shop Floor Management lot based jobs, if Estimated Scrap Accounting is enabled, you can view estimated scrap calculations. This includes estimated scrap incurred, relieved, and variances.

You can submit the report using several options to determine your output. You can list the output in a foreign currency using a particular exchange rate.

To ensure accurate ending inventory values for discrete jobs, you must close any open periods before the one you are using for this report.

> **Note:** The system overstates WIP value by the value in your expense non–standard jobs and repetitive schedules. If you have not closed the period you are reporting, you have not yet written off the balances in your expense non–standard jobs and repetitive schedules. The system automatically writes these values off to the variance accounts at period close.
>
> You can optionally set the WIP Recognize Period Variances Parameter so that only variances for repetitive schedules with statuses of Cancelled or Complete–No Charges are posted at period close. See: Repetitive Parameters: page 2 – 18.

Report Submission

In the Submit Requests window, select WIP Value Report in the Name field.

Report Parameters

Report Type

Choose one of the following options:

Cumulative to Date List WIP inventory values based on transactions entered for all periods, including those Selected before the current period.

For standard discrete jobs and non–standard asset jobs, the system accumulates job costs over the life of the job, which may cover more than one period. This option may be appropriate for these types of jobs

Period to Date Lists WIP inventory values based only on transactions entered for a particular period.

Optionally for repetitive schedules and always for non–standard expense jobs, the system automatically creates journal entries for valuation costs when you close your accounting period each month. This option may be appropriate for this type of job and repetitive schedules.

Period

Select an accounting period. Depending on the report type selected, the WIP values may be cumulative or may include only values transacted during this period.

Closed Jobs

Select Yes to include discrete jobs that were closed during the accounting period you specify. If you select No, the system includes only those jobs that were open at the end of the specified period.

Class Type

Choose one of the following accounting class options:

Asset non–standard List costs for asset non–standard jobs.

Expense non–standard List costs for expense non–standard jobs.

Repetitive assembly List costs for repetitive assemblies.

Standard discrete List costs for standard discrete jobs.

Classes From/To

To restrict the report to a range of WIP accounting classes, select a beginning and ending class. You cannot specify a class range unless you first select a value in the Class Type field.

Jobs/Schedules From and To

To restrict the report to a range of jobs or repetitive schedules, select a beginning and ending job/repetitive schedule. You cannot specify a job/schedule range unless you first select a value in the Class Type field.

For repetitive schedules, you are actually selecting a repetitive assembly value, such as an item number. For discrete jobs, you are selecting a job name.

Assemblies From/To

To restrict the report to a range of assemblies, select a beginning and an ending assembly. You cannot specify an assembly range unless you first select a value in the Class Type field.

If you are reporting values for repetitive schedules, you do not need to select both a job/schedule and assembly range unless you changed a repetitive assembly item number since you defined your repetitive assembly.

Currency Code

Select a currency code in which you want to report your WIP inventory values. The system defaults the functional currency from the set of books associated with your organization.

Exchange Rate

Select an exchange rate when you report your WIP inventory values in a foreign currency. You can choose from any valid exchange rates defined for the currency you selected in the previous field.

See Also

WIP Accounting Classes: page 2 – 42

Submitting a Request, *Oracle Applications User's Guide*

APPENDIX

A

Windows and Navigator Paths

This appendix shows you the default navigator path for each Oracle Work in Process window. Refer to this appendix when you do not already know the navigator path for a window that you want to use.

Further, as a supplement to the *Windows and Navigator Paths*, this appendix also provides a table that matches character mode forms with their corresponding GUI windows or processes.

Work in Process Windows and Navigator Paths

For forms described in other manuals:

See...	Refer to this manual for a complete form description
CST	*Oracle Cost Management User's Guide*
HR	*Oracle Human Resources User's Guide*
MRP	*Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide*
User	*Oracle Applications User's Guide*

Brackets ([ ]) indicate a button.

Window Name	Navigation Path
Assign Shop Floor Statuses: page 8 – 65	Move Transactions > Shop Floor Statuses > Assign Shop Floor Statuses
	Move Transactions > Move Transactions > [Statuses]
Associate Lines and Assemblies: page 6 – 7	Repetitive > Associate Lines and Assemblies
Autocreate: page 15 – 3	Discrete > Autocreate Orders
Backflush Transactions: page 8 – 44	Move Transactions > [Conditionally invoked]
	Completion Transactions > [Conditionally invoked]
Change Organization (see **MRP**)	Other > Change Organization
Change Repetitive Schedule Status: page 6 – 32	Repetitive > Repetitive Schedule > Tools menu > Change Status
Changing Statuses: page 3 – 109	Discrete > Discrete Jobs > Tools menu > Change Status
Close Discrete Jobs: page 3 – 121	Discrete > Close Discrete Jobs > Close Discrete Jobs (Form)
Close Discrete Jobs: page 15 – 7	Discrete > Close Discrete Jobs > Close Discrete Jobs (SRS)
Close Discrete Jobs Request: page 3 – 121	Discrete > Close Discrete Jobs > Close Discrete Jobs (Forms) > Tools menu > Close
Concurrent Requests (see **User**)	Other > Request

Window Name	Navigation Path
Completion Transactions: page 7 – 91	Material Transactions > Completion Transactions
Component Item Details: page 7 – 54	Material Transactions > WIP Material Transactions > Tools menu > Component Item Details
Component Pick Release: page 7 – 33	WIP > Discrete or Repetitive > Component Pick Release > Find
Component Pick Release: page 7 – 33	SHOP > Component Pick Release > Find
Component Pick Release: page 7 – 33	FLOW > Production > Component Pick Release > Find
Components: page 5 – 16	Material Transactions > Work Order–less Completions > [Components]
Discrete Jobs: page 3 – 63	Discrete > Discrete Jobs
Distribution (see **CST)**	Resource Transactions > View Resource Transactions > [Distributions]
Import Jobs and Schedules: page 15 – 35	Discrete > Import Jobs and Schedules
	Repetitive > Import Jobs and Schedules
Job and Schedule Documents: page 1 – 6	Setup > Job and Schedule Documents
Labor Rates: page 2 – 56	Setup > Employees > Labor Rates
Material Requirements: page 7 – 10	Job/Schedule Details > Material Requirements
Move Transactions: page 8 – 37	Move Transactions > Move Transactions
Operations: page 8 – 12	Job/Schedule Details > Operations
Operation Documents: page 1 – 7	Setup > Operation Documents
Pending Jobs and Schedules: page 3 – 133	Discrete > Pending Jobs and Schedules
	Repetitive > Pending Jobs and Schedules
Pending Job and Schedule Errors: page 3 – 133	Discrete > Pending Jobs and Schedules > [Errors]
	Repetitive > Pending Jobs and Schedules > [Errors]
Pending Move Transactions: page 8 – 54	Move Transactions > Pending Move Transactions
Pending Resource Transactions: page 9 – 47	Resource Transactions > Pending Resource Transactions
Personal Profile Values (see **User**)	Other > Profile
Persons (see **HR**)	Setup > Employees > Persons

Window Name	Navigation Path
Print: page 3 – 93	Discrete > Discrete Jobs > Tools menu > Print Reports
	Discrete > Close Discrete Jobs > Tools menu > Print Reports
	Discrete > Purge Discrete Jobs > Tools menu > Print Reports
Print: page 6 – 23	Repetitive > Repetitive Schedules > Tools menu > Print Reports
	Repetitive > Repetitive Schedules > Tools menu > Print Reports
Production Lines: page 2 – 58	Setup > Production Lines
Purge Discrete Jobs: page 3 – 128	Discrete > Purge Discrete Jobs > Purge Discrete Jobs (Form)
Purge Jobs and Schedules: page 15 – 44	Discrete > Purge Discrete Jobs > Purge Discrete Jobs (SRS)
	Repetitive > Purge Repetitive Schedules > Purge Repetitive Schedules (SRS)
Purge Options: page 3 – 130	Discrete > Purge Discrete Jobs > Purge Discrete Jobs (Form) > Tools menu > Purge
	Repetitive > Purge Repetitive Schedules > Purge Repetitive Schedules (Form) > Tools menu > Purge
Purge Repetitive Schedules: page 6 – 42	Repetitive > Purge Repetitive Schedules > Purge Repetitive Schedules (Form)
Repetitive Schedules: page 6 – 14	Repetitive > Repetitive Schedules
Reschedule: page 8 – 18	Job/Schedule Details > Operations > [Reschedule]
Resource Requirements: page 9 – 16	Job/Schedule Details > Operations > [Resources]
Resource Transactions: page 9 – 33	Resource Transactions > Resource Transactions
Sales Orders: page 3 – 74	Discrete > Discrete Jobs [Sales Orders]
Save Simulated Job: page 3 – 111	Discrete > Simulate Discrete Jobs > Tools menu > Save Simulated Job
Schedule Groups: page 2 – 53	Setup > Schedule Groups
Shop Floor Statuses: page 2 – 51	Move Transactions > Shop Floor Statuses > Shop Floor Statuses
Simulate Discrete Jobs: page 3 – 111	Discrete > Simulate Discrete Jobs
Tolerance Fences: page 2 – 61	Setup > Production Lines > Tolerance Fences
Submit Requests (see **User**)	Report > Submit Requests
Transaction Summary: page 3 – 97	Discrete > Discrete Jobs > Tools menu > Transaction Summary

Window Name	Navigation Path
	Discrete > View Discrete Jobs > Tools menu > Transaction Summary
	Discrete > Close Discrete Jobs > Tools menu > Transaction Summary
	Discrete > Purge Discrete Jobs > Tools menu > Transaction Summary
View Discrete Jobs: page 3 – 95	Discrete > View Discrete Jobs
View Material Requirements: page 7 – 14	Job/Schedule Details > View Material Requirements
View Move Transactions: page 8 – 52	Move Transactions > View Move Transactions
View Operations: page 8 – 20	Job/Schedule Details > View Operations
View Repetitive Schedules: page 6 – 25	Repetitive > View Repetitive Schedules
View Resource Requirements: page 9 – 27	Job/Schedule Details > View Resource Requirements
View Resource Transactions: page 9 – 39	Resource Transactions > View Resource Transactions
WIP Accounting Classes: page 2 – 48	Setup > WIP Accounting Classes
WIP Material Transactions: page 7 – 49	Material Transactions > WIP Material Transactions
WIP Value Summary (see **CST**)	Discrete >WIP Value Summary
	Repetitive > WIP Value Summary
Work in Process Parameters: page 2 – 30	Setup > Parameters
Work Order–less Completions: page 5 – 16	Material Transactions > Work Order–less Completions

APPENDIX

B

Character Mode Forms and Corresponding GUI Windows

This appendix describes character mode forms with their corresponding GUI windows or processes.

Oracle Work in Process Character Mode Forms and Corresponding GUI Windows

The following table matches character mode forms with their corresponding GUI windows or processes. This information supplements *Windows and Navigator Paths* in the product online documentation. Text in brackets ([ ]) indicates a button.

The GUI Navigator paths are based on the WIP Manager GUI US1 responsibility.

For more information on any window, navigate to the window and choose the help icon.

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Assign Descriptive Security Rules \Navigate Setup Flexfields Descriptive Security Assign	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Assign Key Flexfield Security Rules \Navigate Setup Flexfields Key Security Assign	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Assign Security Rules \Navigate Setup Flexfields Validation Security Assign	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
AutoCreate Final Assembly Orders \Navigate Discrete AutoCreate	AutoCreate Final Assembly Orders Navigator: Discrete > AutoCreate Orders
Change Organization \Navigate Other ChangeOrg	Change Organization Navigator: Other > Change Organization
Close Discrete Jobs \Navigate Discrete Close	Close Discrete Jobs Navigator: Discrete > Close Discrete Jobs > Close Discrete Jobs (SRS) or Navigator: Discrete > Close Discrete Jobs > Close Discrete Jobs (Forms)
Define Cross–Validation Rule \Navigate Setup Flexfields Key Rules	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Define Descriptive Flexfield Segments \Navigate Setup Flexfields Descriptive Segments	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Descriptive Security Rule \Navigate Setup Flexfields Descriptive Security Define	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Descriptive Segment Values \Navigate Setup Flexfields Descriptive Values	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Discrete Job \Navigate Discrete Define	Discrete Jobs Navigator: Discrete > Discrete Jobs
Define Employee Labor Rate \Navigate Setup Employee Rates	Labor Rates Navigator: Setup > Employees > Labor Rates
Define Key Flexfield Security Rule \Navigate Setup Flexfield Key Security Define	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Key Flexfield Segments \Navigate Setup Flexfields Key Segments	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Key Segment Values \Navigate Setup Flexfields Key Values	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Production Line \Navigate Setup Line	Production Lines Navigator: Repetitive > Production Lines
Define Repetitive Assembly \Navigate Repetitive Assembly	Associate Lines and Assemblies Navigator: Repetitive > Associate Lines and Assemblies
Define Repetitive Schedules \Navigate Repetitive Schedule	Repetitive Schedules Navigator: Repetitive > Repetitive Schedules
Define Report Set \Navigate Report Set	Request Set Use the System Administrator responsibility Navigator: Concurrent > Set
Define Rollup Groups \Navigate Setup Flexfields Key Groups	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Define Security Rule \Navigate Setup Flexfields Validation Security Define	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Segment Values \Navigate Setup Flexfields Validation Values	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Shop Floor Statuses \Navigate Setup Status	Shop Floor Statuses Navigator: Move Transactions > Shop Floor Statuses > Shop Floor Statuses
Define Shorthand Aliases \Navigate Setup Flexfields Key Aliases	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define Standard WIP Comments \Navigate Setup Comments	Job and Schedule Documents Navigator: Setup > Job and Schedule Documents
Define Value Set \Navigate Setup Flexfields Validation Sets	Use the System Administrator responsibility and See: System Administrator Character Mode Forms and Corresponding GUI Windows.
Define WIP Accounting Class \Navigate Setup Class	WIP Accounting Classes Navigator: Setup > WIP Accounting Classes
Define WIP Parameters \Navigate Setup Parameters	Parameters Navigator: Setup > Parameters
Enter Employees \Navigate Setup Employee Enter	Enter Person Navigator: Setup > Employees > Persons
Import Job/Schedules \Navigate Transact Import	Import Jobs and Schedules Navigator: Discrete > Import Jobs and Schedules or Navigator: Repetitive > Import Jobs and Schedules
Purge Job/Schedule Information \Navigate Transact Purge	Purge Jobs and Schedules Navigator: Repetitive > Purge Repetitive Schedules > Purge Repetitive Schedules (SRS) or Navigator: Discrete > Purge Discrete Jobs > Purge Discrete Jobs (SRS)

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
Reschedule Discrete Job \Navigate Discrete Reschedule Job	Reschedule Navigator: Job/Schedule Details > Operations > [Reschedule]
Run Reports \Navigate Report	Submit Request See: Submit Requests *(Oracle Applications User's Guide)* Navigator: Report > Run
Shop Floor Transactions \Navigate Transact ShopFloor	Move Transactions Navigator: Move Transactions > Move Transactions
Simulate Discrete Job \Navigate Discrete Test	Simulate Discrete Jobs Navigator: Discrete > Simulate Discrete Jobs
Update Personal Profile Options \Navigate Other Profile	Personal Profile Values Navigator: Other > Profile
Update Shop Floor Statuses \Navigate Transact Update Status	Assign Shop Floor Statuses Navigator: Move Transactions > Shop Floor Statuses > Assign Shop Floor Statuses
Update WIP Operations \Navigate Transact Update Operations	Operations Navigator: Job/Schedule Details > Operations
Update WIP Requirements \Navigate Transact Update Requirements	Material Requirements Navigator: Job/Schedule Details > Material Requirements
Update WIP Transaction Interface \Navigate Transact Update Interface	Pending Move Transactions Navigator: Move Transactions > Pending Move Transactions and Pending Resource Transactions Navigator: Resource Transactions > Pending Resource Transactions
View Component Item Requirements \Navigate Inquiry ShopFloor Requirements Component	View Material Requirements Navigator: Job/Schedule Details > View Material Requirements

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
View Concurrent Requests \Navigate Other Request	Requests See: Viewing Requests *(Oracle Applications User's Guide)* Navigator: Other > Request Choose: View Output button – to view Request Output View Log button – to view Request Log Use the Menu to choose: Special > Managers – to view Manager Log
View Department Dispatch List \Navigate Inquiry Operations Dispatch	View Operations Navigator: Job/Schedule Details > View Operations (by Dept)
View Discrete Job \Navigate Inquiry Discrete Job	View Discrete Jobs Navigator: Discrete > View Discrete Jobs
View Job/Schedules by Status \Navigate Inquiry ShopFloor Status	View Discrete Jobs Navigator: Discrete > View Discrete Jobs (by Status) and View Repetitive Schedules Navigator: Repetitive Schedules >View Repetitive Schedules (by Status)
View Jobs by Assembly \Navigate Inquiry Discrete	View Discrete Jobs Navigator: Discrete > View Discrete Jobs (by Assembly)
View Repetitive Schedules by Assembly \Navigate Inquiry Repetitive	View Repetitive Schedules Navigator: Repetitive > View Repetitive Schedules (by Assembly)
View WIP Operations \Navigate Inquiry Operations WIP	View Operations Navigator: Job/Schedule Details > View Operations

Character Mode Form and Menu Path	GUI Window or Process, and Navigation Path
View WIP Transactions \Navigate Inquiry Transact WIP	View Move Transactions Navigator: Move Transactions > View Move Transactions and View Resource Transactions Navigator: Resource Transactions > View Resource Transactions
View WIP Value \Navigate Inquiry Value	WIP Value Summary Navigator: Discrete > WIP Value Summary or Navigator: Repetitive > WIP Value Summary
WIP Completion Transaction \Navigate Transact Completion	Completion Transactions Navigator: Material Transactions > Completion Transactions
WIP Material Transaction \Navigate Transact Issue	WIP Material Transactions Navigator: Material Transactions > WIP Material Transactions

APPENDIX

C

Comparison of Manufacturing Methods

This appendix explains the differences between manufacturing methods in Oracle Applications.

Comparison of Manufacturing Methods

Oracle Applications supports discrete, project, repetitive, assemble–to–order, and flow (work order–less) manufacturing methods.

Discrete Manufacturing

You use discrete manufacturing for assemblies that you make in groups or batches. You define jobs with a job name, a job type, assembly, a job quantity, a start date, and an end date. For non–standard discrete jobs, you have the option of entering an assembly and job quantity.

You can use assembly bills of material to create job material requirements. You can also use routings to schedule job production activities and create operation specific material and resource requirements.

In discrete manufacturing, production costs are normally charged to a job. This is called job costing. You open jobs, collect charges, close jobs, and analyze and report costs and variances by job.

Project Manufacturing

You can use project manufacturing to meet demand driven production requirements for large contracts or projects. Project manufacturing allows you to plan, schedule, process, and cost against a specific contract or a group of contracts for a specific customer.

If Oracle Projects is installed and the *Project References Enabled* and *Project Control Level* parameters are set in the Organization Parameters window in Oracle Inventory, you can assign project and, if required, task references to planned orders, jobs, purchase orders, sales orders, miscellaneous transaction and other entities within Oracle Manufacturing.

If the *Project Cost Collection Enabled* parameter is also set, you can optionally collect and transfer manufacturing cost to Oracle Projects. Project costs are tracked by project/task and expenditure type.

Assemble–to–Order (ATO) Manufacturing

You can define available options for unique product configurations. You can master schedule models and options then create work orders to build these unique configurations.

Repetitive Manufacturing

You use repetitive manufacturing for assemblies you make on a continuous or semi continuous basis over a predefined interval. You identify which assemblies are built on which production lines in advance. You can build assemblies on dedicated lines (one assembly per line) or on mixed model lines (many assemblies per line). You can build an assembly on multiple lines.

You define repetitive schedules by the assembly, its daily quantity and its production lines, no job or work order exists. You can schedule production of a single assembly continuously for just a few hours or for any number of days.

You can schedule repetitive production based on the fixed lead time of your production line if the lead time does not vary from one assembly to another assembly. If the lead time varies by assembly, you can schedule the repetitive production time based on the routing of the assembly the line is building.

In repetitive manufacturing, you charge the cost of production directly to the assembly and line. You analyze and report costs by assembly and line during the period close. At period close, all charges to a repetitive assembly for that period are totalled and divided by the number of assemblies produced during that period. Period close also calculates assembly costs and usage variances.

Repetitive schedules and discrete jobs can coexist. Oracle Master Scheduling/MRP and Oracle Supply Chain Planning plans production using repetitive or discrete planning techniques based on the planning type you specify for the item in Oracle Inventory.

Flow Manufacturing

Flow Manufacturing is an innovative manufacturing approach that aligns production with customer demand. Flow manufacturing employs Just–In–Time (JIT) concepts such as manufacturing to demand (vs. forecast), production lines for families of products (vs. process layout), pull material using kanbans (vs. push material), backflush material and costs upon completion (vs. at each operation), and so on. This in turn helps decrease inventories, optimize machine utilization, reduce response time to customer needs, and simplify shop floor activities.

To prepare for flow manufacturing, you design production lines and production processes so that each line can produce a constantly changing mix of products within a family at a steady rate. Flow

manufacturing production lines are designed to support the inter–mixed production of multiple products within a family on the same line. Line design includes grouping products into families, defining the processes and events required to produce each product, and grouping events into operations. By specifying demand rates for each product you can predict line capacities. As a part of line design, you can specify demand forecasts for the products, derive TAKT times (also called Operational Cycle Time), and calculate optimal kanban quantities.

Flow manufacturing can be used in Oracle Inventory to replenish kanbans and in Oracle Work in Process to complete assemblies without having to created a job or a schedule. See: Performing Work Order–less Completions: page 5 – 16.

Manufacturing Costing

The costing method of the organization you are operating in determines whether you can used mixed manufacturing methods. See: Work in Process Costs: page 12 – 6.

See Also

Overview of Discrete Manufacturing: page 3 – 2

Overview of Repetitive Manufacturing: page 6 – 2

Oracle Flow Manufacturing, *Oracle Bills of Material User's Guide*

Overview of Kanban Replenishment, *Oracle Inventory User's Guide*

APPENDIX

D

Supply Types

This appendix describes supply types and how they are used in Oracle Work in Process and other Oracle Manufacturing Applications.

Supply Types

Supply types control how component materials are supplied to discrete jobs and repetitive schedules in Oracle Work in Process, how materials are planned in Oracle Master Scheduling/MRP and Supply Chain Planning, and how materials are costed in Oracle Cost Management.

You can assign supply types to the items you define in Oracle Inventory. You can also assign supply types to components when you create bills of material in Oracle Bills of Material and Oracle Engineering. See: Defining Items, *Oracle Inventory User's Guide*, Work In Process Attribute Group, *Oracle Inventory User's Guide*, and Creating a Bill of Material, *Oracle Bills of Material User's Guide*.

In Oracle Work in Process, you can change the defaulted Based on Bill (see below) supply type that is assigned as you define jobs and schedules.

Below is a list of the supply types and their uses:

Assembly Pull

Assembly Pull components are issued to discrete jobs and repetitive schedules when you complete assemblies in Work in Process. They are pulled from the supply subinventory assigned to the component requirement.

If you must assign pull components to a bill of material or job that is not associated with a routing, you must assign an Assembly Pull, rather than operation pull, supply type.

You cannot assign this supply type to a non–standard discrete job if you have not specified an assembly or bill of material reference for that job.

Based on Bill

The Based on Bill supply type is Work in Process specific. When you define a discrete job or a repetitive line/assembly association in Oracle Work in Process, the supply type for the assembly defaults to *Based on Bill* and assembly components are supplied based upon their bill of material supply types. See: Creating a Bill of Material, *Oracle Bills of Material User's Guide*.

If the supply type for a job or line/assembly association is changed, the new supply type is applied to all component material requirements. For example, if you change the supply type of a job assembly from Based on Bill to Assembly Pull, the supply types of all assembly components are

changed to Assembly pull. You can update the supply types of individual material requirements using the Material Requirements window in Oracle Work in Process. See: Adding and Updating Material Requirements: page 7 – 10.

The system automatically changes components with a supply type of Operation Pull to Assembly Pull, when the Based on Bill supply type is applied to a job or repetitive schedule that has a bill of material but lacks a routing or operations.

Bulk

Bulk component requirements can be viewed and are displayed on reports. They can be used to communicate to the shop floor that bulk components must be used but need not be transacted.

Bulk components are not backflushed nor do they default when issuing *all* components for an assembly. You can, however, manually issue s*pecific* bulk components to a discrete job or repetitive schedule.

Operation Pull

Operation pull components are issued to discrete jobs and repetitive schedules when you complete backflush operations. Components are pulled the supply subinventory assigned to the component.

You cannot assign this supply type to an assembly without a routing or a non–standard discrete job without a routing.

You can assign this supply type to assemblies that have routings with no operations or when the routing has disabled operations. However, all components with a supply type of operation pull are automatically changed to assembly pull**.**

Phantom

Phantom components can be assigned to bill of material component subassemblies and subassembly items in Oracle Bills of Material and Oracle Engineering. Components of phantom subassemblies are used as if they were tied directly to the parent assembly. Phantom supply types cannot be assigned to jobs and repetitive lines/assembly associations in Work in Process. See: Phantoms, *Oracle Bills of Material User's Guide*.

Phantoms behave normally when they are top level assemblies, such as when master scheduled or manufactured on a discrete job. As subassemblies, they lose their distinct identity and become a collection

of their components. Phantom components (not the phantom itself) are included on discrete jobs and repetitive schedules and are listed on the Discrete Job and Repetitive Schedule Pick List Reports.

Oracle Master Scheduling/MRP and Supply Chain Planning plans phantom subassemblies with lot–for–lot lot sizing. Otherwise, phantoms are planned like other assemblies. You must set the lead time of a phantom to zero to avoid lead time offset during the planning process. Oracle Master Scheduling/MRP and Supply Chain Planning ignores demand time fences, planning time fences, and order modifiers when planning phantom subassemblies.

When assembly costs are rolled up in Oracle Cost Management, the material costs, but not the routing costs, of phantom assemblies are included in the cost of the higher level assemblies that include those phantoms.

Push

Push components can be issued directly to discrete jobs and repetitive schedule as required. You can specify the subinventory from which to issue push components, though Work in Process defaults the supply subinventory associated with the component.

Supplier

Supplier component requirements can be included on bills of material. Requirements for supplier components are created when you define discrete jobs and repetitive schedules in Work in Process.

Supplier component requirements can be viewed and are displayed on reports. They provide information on the component materials that your suppliers provide but need not be transacted.

Supplier components are not backflushed nor do they default when issuing *all* components for an assembly. You can, however, manually issue *specific* supplier components to discrete jobs and repetitive schedules.

See Also

Overview of Bills of Material, *Oracle Bills of Material User's Guide*

Bills of Material Profile Options, *Oracle Bills of Material User's Guide*

APPENDIX

E

Attachments

This appendix describes the purpose and process of creating job, schedule, and operation attachments.

Attaching Files to Jobs, Schedules, and Operations

You can attach illustrative or explanatory files — in the form of text, images, word processing documents, spreadsheets, video, and so on— to discrete jobs, repetitive schedules, and job/schedule operations. For example, you can attach a text message, such as "source inspection required," to a job to indicate that completed assemblies must be inspected before they can be shipped to customers.

> **Note:** For Oracle Work in Process reports that print attachments, only the Short Text datatypes print. However, you can view Long Text datatype attachments in the Document block. See: Defining Operation Documents: page 1 – 7

Routing operation attachments defined in Oracle Bills of Material are automatically copied to your work in process routing operations. You can delete them and add new ones as required. Deleting an attachment to an image or OLE object deletes the link to the file not the file itself.

▶ **To attach files to discrete jobs or repetitive schedules:**

1. Navigate to the Discrete Jobs or Repetitive Schedules window and select a discrete job or repetitive schedule.

   You can only define attachments for discrete jobs and repetitive schedules that have been saved. See: Defining Discrete Jobs Manually: page 3 – 63 and Defining Repetitive Schedules Manually: page 6 – 14.

2. Choose *Attachments* from the Edit Menu.

▶ **To attach files to operations:**

1. Navigate to the Operations window then select an operation in the Operations region.

   You can only define attachments for operations that have been saved. See: Adding and Updating Operations: page 8 – 12.

2. Choose the *Attachments* from the Edit menu.

See Also

Working with Attachments, *Oracle Application User's Guide*

Defining Job and Schedule Documents: page 1 – 6

Defining Operation Documents: page 1 – 7

APPENDIX

F

Tools Menu Options

This appendix explains the various options that are available from the Tools Menu.

Work in Process Tools menu

Depending on the currently active window and conditions applying to that window, functions available from the Tools menu can include:

Discrete Jobs window

Change Status Changes the statuses of discrete jobs you select. See: Mass Changing Discrete Job Statuses: page 3 – 109.

Apply Default Job Name Generates a default Job name, based upon the prefix specified for the *WIP:Discrete Job Prefix* profile option, using the automatic sequence generator. See: Defining Discrete Jobs Manually: page 3 – 63.

View Workflows Accesses the View Workflows window where you can display the progression and status of workflows. From here you can select a workflow and view a graphical display of the workflow.

Transaction Summary Allows you to view pending job transactions for the 'active' or current job. Pending transaction prohibit you from closing, purging, and in some instances, changing the status of a job. See: and Viewing Pending Job Transactions: page 3 – 97Current Record Indicator, *Oracle Applications User's Guide*.

Print Reports Allows you to print the Discrete Job Routing Sheet, Discrete Job Pick List Report, or the Discrete Job Shortage Report for the 'active' or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93 and Current Record Indicator, *Oracle Applications User's Guide*.

Close Discrete Jobs window

Close Closes selected jobs. See: Closing Discrete Jobs: page 3 – 121.

Check Request Resubmits jobs that have failed to close and have a Pending Close status.

View Workflows Accesses the View Workflows window where you can display the progression and status of workflows. From here you can select a workflow and view a graphical display of the workflow.

Transaction Summary	Allows you to view pending job transactions for the 'active' or current job. Pending transaction prohibit you from closing, purging, and in some instances, changing the status of a job. See: Current Record Indicator, *Oracle Applications User's Guide* and Viewing Pending Job Transactions: page 3 – 97.
Print Reports	Allows you to print the Discrete Job Routing Sheet, Discrete Job Pick List Report, or the Discrete Job Shortage Report for the 'active' or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93 and Current Record Indicator, *Oracle Applications User's Guide*.

Purge Discrete Jobs window

Purge 1	Invokes the Purge Options window. See: Specifying Purge Options: page 3 – 130.
View Workflows	Accesses the View Workflows window where you can display the progression and status of workflows. From here you can select a workflow and view a graphical display of the workflow.
Transaction Summary	Allows you to view pending job transactions for the 'active' or current job. Pending transaction prohibit you from closing, purging, and in some instances, changing the status of a job. See: Current Record Indicator, *Oracle Applications User's Guide*and Viewing Pending Job Transactions: page 3 – 97.
Print Reports	Allows you to print the Discrete Job Routing Sheet, Discrete Job Pick List Report, or the Discrete Job Shortage Report for the 'active' or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93 and Current Record Indicator, *Oracle Applications User's Guide*.

Simulate Discrete Jobs window

Save Simulated Job	Invokes the Save Simulated Job window. See: Simulating and Saving Simulated Discrete Jobs: page 3 – 111.

Viewing Discrete Jobs window

View Workflows	Accesses the View Workflows window where you can display the progression and status of

workflows. From here you can select a workflow and view a graphical display of the workflow.

Transaction Summary Allows you to view pending job transactions for the 'active' or current job. Pending transaction prohibit you from closing, purging, and in some instances, changing the status of a job. See: Current Record Indicator, *Oracle Applications User's Guide* and Viewing Pending Job Transactions: page 3 – 97.

Print Reports Allows you to print the Discrete Job Routing Sheet, Discrete Job Pick List Report, or the Discrete Job Shortage Report for the 'active' or current job. See: Printing Reports for Current Discrete Jobs: page 3 – 93 and Current Record Indicator, *Oracle Applications User's Guide*.

Repetitive Schedules window

Change Status Changes the statuses of the repetitive schedules you select. See: Mass Changing Repetitive Schedule Statuses: page 6 – 32.

Print Reports Allows you to print the Repetitive Routing Sheet, Repetitive Pick List Report, Repetitive Line Report, Repetitive Schedule Shortage Report or Repetitive Schedule Data Report for the 'active' or current repetitive schedule. See: Printing Reports for Current Repetitive Schedules: page 6 – 23 and Current Record Indicator, *Oracle Applications User's Guide*Current Record Indicator, *Oracle Applications User's Guide*.

Purge Repetitive Schedules window

Purge 1 Invokes the Purge Options window appears. See: Specifying Purge Options: page 3 – 130.

Print Reports Allows you to print the Repetitive Routing Sheet, Repetitive Pick List Report, Repetitive Line Report, Repetitive Schedule Shortage Report or Repetitive Schedule Data Report for the 'active' or current repetitive schedule. See: Printing Reports for Current Repetitive Schedules: page 6 – 23 and Current Record Indicator, *Oracle Applications User's Guide*.Current Record Indicator, *Oracle Applications User's Guide*

View Workflows	Accesses the View Workflows window where you can display the progression and status of workflows. From here you can select a workflow and view a graphical display of the workflow.

Pending Jobs and Schedules window

Concurrent Requests	Resubmits job and schedule records that have failed the load process. See: Processing Pending Jobs and Schedules: page 3 – 133.

WIP Material Transactions

Component Item Details	Displays details for push component items issued or added as you issue and return components using the 'All material' option. See: Issuing and Returning All Push Components: page 7 – 54.

Move Transactions

Enter Quality Results	Navigates to the Enter Quality Results window in Oracle Quality. See: Entering Quality Results Associated with Move Transactions, Oracle Quality User's Guide.

Pending Move Transactions

Select All for Resubmit	Resubmits move transactions that have failed validation and remain in the Open Move Transaction Interface table. See: Processing Pending Move Transactions: page 8 – 54.

Pending Resource Transactions

Select All for Resubmit	Resubmits resource transactions that have failed validation and remain in the Open Resource Transaction Interface table. See: Processing Pending Resource Transactions: page 9 – 47.

APPENDIX

G

Work in Process Workflows

This appendix provides detailed information about the workflow process in Oracle Work in Process.

- Intermediate Shipment: page G – 2
- Customizing the Intermediate Shipment Process: page G – 2
- Summary of Intermediate Shipment Activities: page G – 4
- Intermediate Shipment Activities: page G – 5
- Summary of Ship and Receive Intermediates: page G – 7
- Ship and Receive Intermediate Activities: page G – 8
- Summary of Notify 2nd Buyer & Subcontractor: page G – 9
- Notify 2nd Buyer & Subcontractor Activities: page G – 10
- Change PO Need By Date: page G – 13
- Customizing the Change PO Need By Date Process: page G – 13
- Summary of Change PO Need By Date: page G – 14
- Change PO Need By Date Activities: page G – 15

Intermediate Shipment

The Intermediate Shipment workflow allows you to track the outside processing assemblies from the shop floor to the shipping dock, and then to the supplier.

The workflow is activated when you move assemblies into the Queue intraoperation step of an Outside Processing operation that has a PO Move resource charge type or if the outside processing operation is the first operation.

Customizing the Intermediate Shipment Process

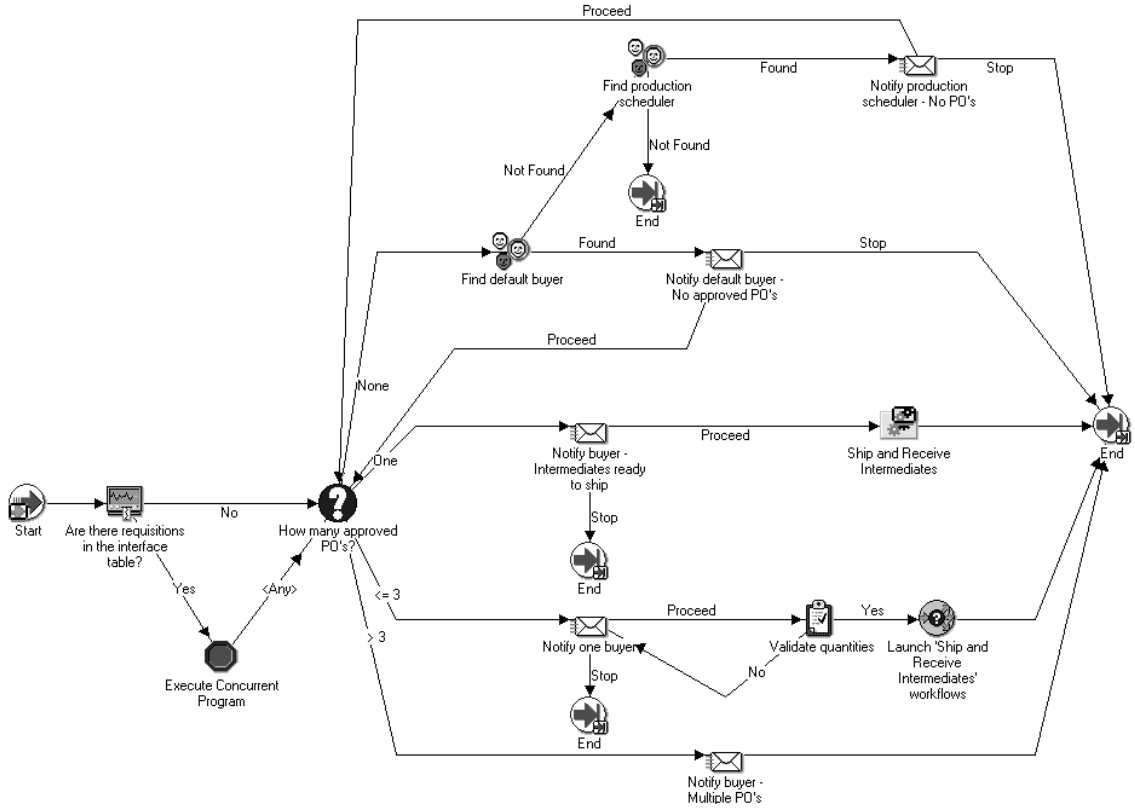
Use the Oracle Workflow Builder to customize workflows. You can also use the Workflow Builder to create unique planning exception messages workflows for different parts of your organization and associate particular workflows with certain activities.

▶ **To display the process in Oracle Workflow Builder:**

1. Choose Open from the File menu, and connect to the database.

   See: Opening and Saving Item Types, *Oracle Workflow Guide*.

   The display name of the Intermediate Shipment workflow is *WIP: Shipping & Receiving Intermediate*. The name of its Workflow definition file is *wipishpw.wft*.



2. Expand the data source, the WIP Intermediate Shipment branch within the data source.
3. Expand the Processes branch, then choose the Intermediate Shipment branch activity to display the diagram.

Creating a New Custom Process

Customize the default (original) workflow that Oracle Work in Process provides after creating a backup. This allows you to have your backup while testing customizations.

Summary of Intermediate Shipment Activities

The process begins at Node 1.

The process first checks to see if there are requisitions pending at Node 2, then executes the concurrent program *Requisition Import* at Node 3. At Node 4 the process checks to see how many approved (non–cancelled) purchase orders exist for the outside processing supplier.

At Node 5 the process searches for the default buyer for the outside processing item. If the buyer is found, the process notifies the buyer that there are no approved purchase orders at Node 6, and the buyer can again query for them.

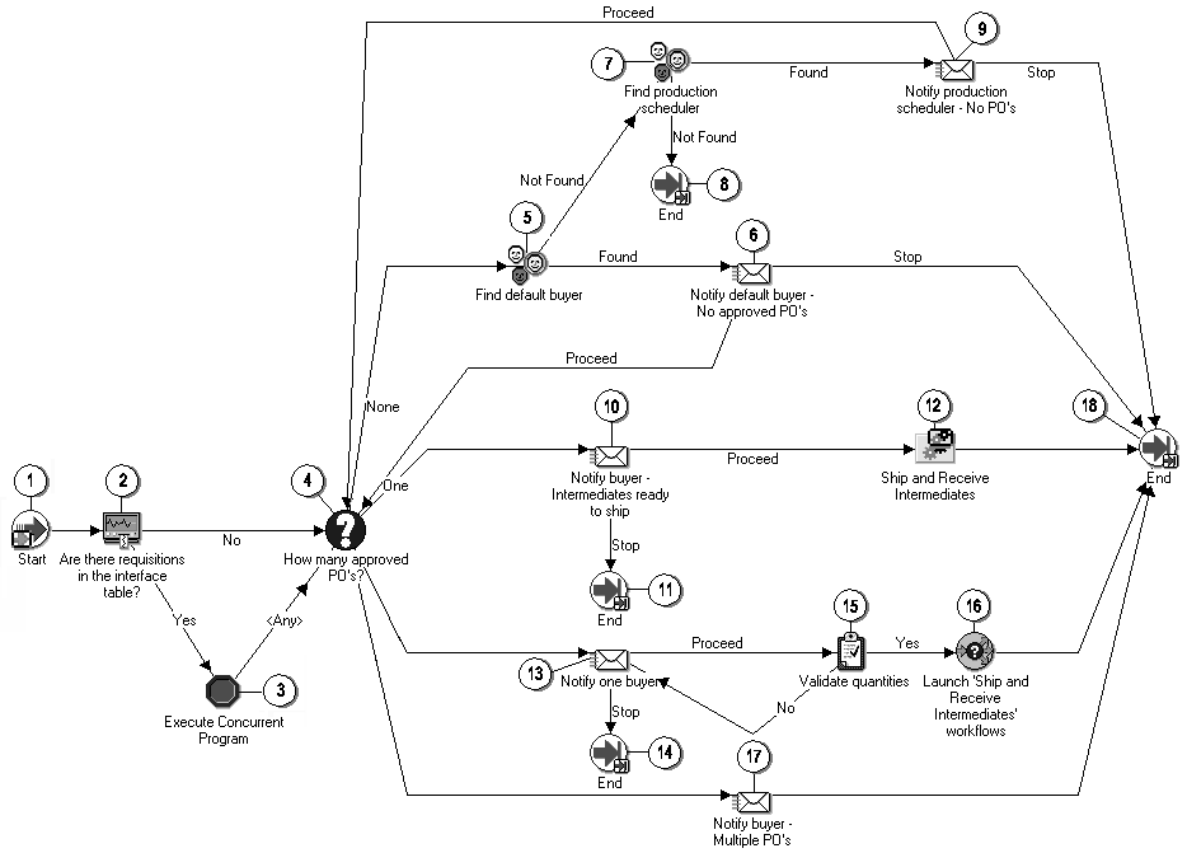
If a buyer is not found,the process attempts to locate the production scheduler at Node 7.

If the production scheduler is not found, the activity is complete and the process ends at Node 8. If the production scheduler is found, the process notifies the production scheduler if there are no purchase orders at Node 9. The process then ends at Node 18

If there is one approved purchase order, the buyer is notified that the Intermediates are ready to ship at Node 10, and the Ship and Receive Intermediates workflow is initiated at Node 12. The process ends at Node 18.

If there are from one to three approved purchase orders, the buyer is notified at Node 13. If the buyer does not proceed with the transaction, the process ends at Node 14. If the buyer proceeds with the transaction, the quantities are validated at Node 15, and the Ship and Receive Intermediates workflow is initiated at Node 16. If quantities are not validated, the buyer is notified at Node 15. The process ends at Node 18.

To examine the activities of the process in more detail, the nodes on the following diagram are numbered for easy referencing. The numbers themselves are not part of the process diagram.



Intermediate Shipment Activities

The following is a description of each activity in the Intermediate Shipment workflow, listed by the activity's display name.

Start (Node 1)

This is a standard function activity that simply marks the start of the process.

Are there any requisitions to import? (Node 2)

This function determines if there are any requisitions to be imported from the Requisitions Table.

Execute Concurrent Program (Node 3)

This function processes the current program.

How many approved purchase orders? (Node 4)

This function activity determines how many approved purchase orders there are for the same job and operation. The possible values are none, one, multiple.

Find default buyer (Node 5)

This function activity locates the buyer responsible for the PO information.

Notify default buyer – No approved purchase orders (Node 6)

If there are no approved purchase orders, this function activity sends a notification to the default buyer.

Find production scheduler (Node 7)

The function activity attempts to locate the production scheduler.

Notify production scheduler – No purchase orders (Node 9)

If there are no purchase orders, this function activity sends a notification to the production scheduler.

Notify buyer – Intermediates ready to ship (Node 10)

When the Intermediates are ready to ship, this function activity sends a notification to the buyer.

Ship and Receive Intermediates (Node 12)

This function calls the workflow Ship and Receive Intermediates which will notify the 2nd subcontractor. .See: Ship and Receive Intermediates: page G – 7.

Notify one buyer (Node 13)

This function sums QTY1, QTY2, QTY3 and validates that it equals the TXN_QTY. If it does, then it returns a Yes. If does not it returns a No.

Validate quantities (Node 15)

The function validates qualities on purchase orders.

Launch 'Ship and Receive Intermediates' workflows (Node 16)

This function starts the second(child) process of the workflow (Ship Intermediate) for each subcontractor. It will also populate common data (WIP_ENTITY_NAME, LINE_NAME,$) to the child process.

Notify buyer – Multiple purchase orders (Node 17)

If there are multiple purchase orders, this function activity sends a notification to the default buyer.

End (Node 8, 11, 14, 18)

This is a standard function activity that marks the end of the process.

Summary of Ship and Receive Intermediates

The Ship and Receive Intermediates workflow allows you to notify the shipping manager and the supplier that outside processing assemblies are ready to ship. The workflow is activated during the Intermediate Shipment workflow, when the buyer decides to proceed with the order and selects the Proceed button on the notification window.

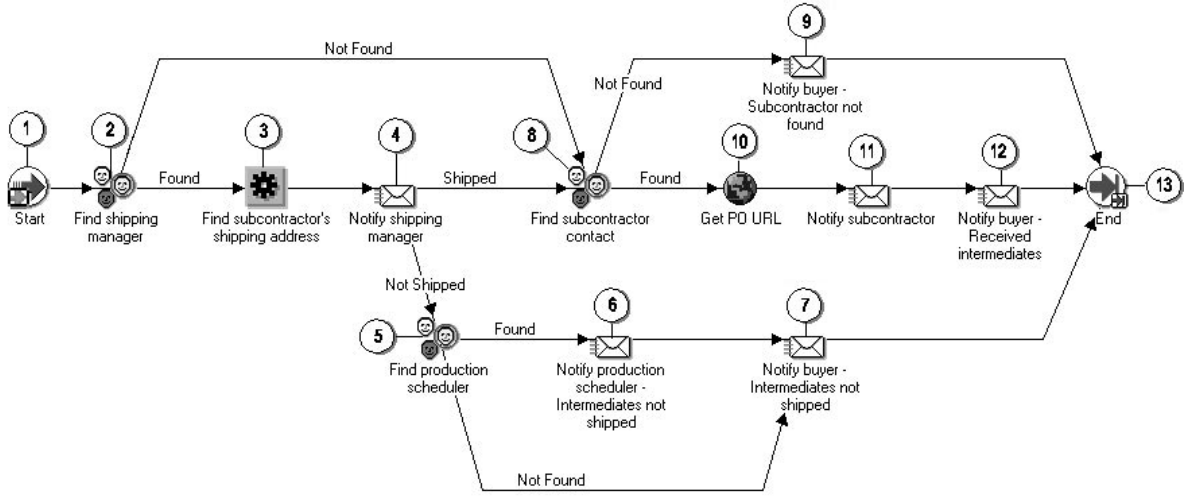
To enable this workflow, you can optionally define the Shipping Manager parameter in the WIP Parameters window. The workflow first searches for the shipping manager, and if found, then searches for the supplier's shipping address. It then notifies the shipping manager that the assemblies are ready to ship and relays the shipping address. If the shipping manager decides to proceed with the shipment, the system searches for the supplier contact. If a contact is found, he or she is notified that the assemblies have been shipped (if the supplier contact is not found, the buyer is then notified). The system also searches for the purchase order's Internet address or URL and includes it as a link on the notification so that the supplier has immediate access to the purchase order information. The supplier can use the same notification to send a reply stating how many assemblies were received and whether or not any assemblies were damaged.

If the shipping manager decides not to ship the assemblies, a search is conducted for the production scheduler, and if found, the production scheduler is notified that the assemblies were not shipped. The same notification is also sent to the buyer.

Ship and Receive Intermediates Activities

The following is a description of each activity in the Ship and Receive Intermediate workflow, listed by the activity's display name.

To examine the activities of the process in more detail, the nodes on the following diagram are numbered for easy referencing. The numbers themselves are not part of the process diagram.



Start (Node 1)

This is a standard function activity that simply marks the start of the process.

Find shipping manager (Node 2)

This function activity attempts to locate the shipping manager.

Find subcontractor's shipping address (Node 3)

This function gets the ship–to address of the subcontractor.

Notify shipping manager (Node 4)

When the Intermediates are ready to ship, this function activity sends a notification to the shipping manager.

Find production scheduler (Node 5)

The function activity attempts to locate the production scheduler.

Notify production scheduler – Intermediates not shipped (Node 6)

If the intermediates are not shipped, this function activity sends a notification to the production scheduler.

Notify buyer – Intermediates not shipped (Node 7)

If the intermediates are not shipped, this function activity sends a notification to the buyer.

Find subcontractor contact (Node 8)

This function activity attempts to locate the subcontractor contact.

Notify buyer – Subcontractor not found (Node 9)

If the subcontractor is not found, this function activity sends a notification to the buyer.

Gets PO URL (Node 10)

This function activity retrieves the URL for the PO.

Notify subcontractor (Node 11)

After the PO is received, this function activity sends a notification to the subcontractor.

Notify buyer – Received intermediates (Node 12)

If intermediates are received, this function activity sends a notification to the buyer.

End (Node 13)

This is a standard function activity that marks the end of the process.

Summary of Notify 2nd Buyer & Subcontractor

When suppliers complete outside processing assemblies, they can notify you through Purchasing's Advance Shipment Notice. The

Advance Shipment Notice is available through a link on the Supply Management Portal Supplier Service menu. When the supplier completes the Advance Shipment Notice and submits it, Oracle Purchasing automatically sends a notification to the buyer, and a shipment is created in the system.

If you have two consecutive outside processing operations on a routing, and you want the supplier for the first operation to ship the completed assemblies directly to the supplier for the second operation, you specify the second supplier's address in the Ship–To Location field on the purchase order before you fill out the Advance Shipment Notice.

> **Note:** In order for the supplier's address to be available on the list of values for Purchasing's Ship–To Location field, you must first must set up the supplier's address in the Shipping Network Location field on Oracle Payables' Supplier Sites Window. See: Supplier Sites window, *Oracle Payables User's Guide*.

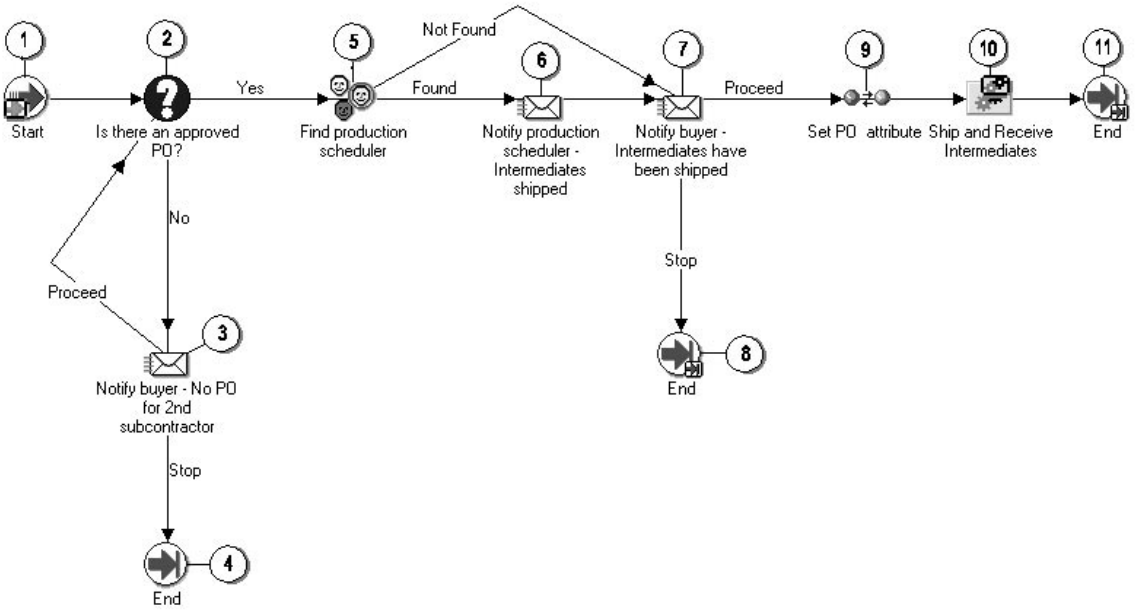
When the supplier completes the Advance Shipment Notice, a receipt is automatically created and sent to the first supplier, and the *Notify Second Buyer and Supplier* workflow is activated to notify the second supplier that the assemblies have been shipped.

It first searches for an approved purchase order for the second outside processing supplier, and if it finds the purchase order, it then searches for the production scheduler. If the production scheduler is found, it sends the production scheduler a notification that the assemblies have been shipped from the first supplier. The same notification is also sent to the buyer for the second supplier, and if the buyer decides to proceed with the order, the *Ship and Receive Intermediates* workflow is activated to notify the shipping manager and the supplier that the assemblies have been shipped.

Notify 2nd Buyer & Subcontractor Activities

The following is a description of each activity in the Notify 2nd Buyer & Subcontractor workflow listed by the activity's display name.

To examine the activities of the process in more detail, the nodes on the following diagram are numbered for easy referencing. The numbers themselves are not part of the process diagram.



Start (Node 1)

This is a standard function activity that simply marks the start of the process.

Is there an approved PO? (Node 2)

This function activity determines if there is an approved PO.

Notify buyer – No PO for 2nd subcontractor (Node 3)

If no PO is found for second subcontractor, this function activity sends a notification to the buyer.

Find production scheduler (Node 5)

The function activity attempts to locate the production scheduler.

Notify production scheduler – Intermediates shipped (Node 6)

If the intermediates are shipped, this function activity sends a notification to the production scheduler.

Notify buyer – Intermediates have been shipped (Node 7)

If the intermediates are shipped, this function activity sends a notification to the buyer.

Set PO attribute (Node 9)

Buyer sets PO attribute.

Ship and Receive Intermediates (Node 10)

This function calls the workflow Ship and Receive Intermediates and notifies workflow that the intermediates shipped. .See: Ship and Receive Intermediates: page G – 7.

End (Node 4, 8, 11)

This is a standard function activity that marks the end of the process.

Change PO Need By Date

When you reschedule outside processing operations, you can activate a workflow process that updates the need by date on the purchase order, and notifies the buyer and supplier that the need by date requires approval for the change. You can manually change the date if it is not approved.

You activate the workflow from the Update PO Need–By–Date window, which you open from the Tools menu on the Work in Process Operations window. To activate the workflow, you select the check box for the purchase order, and select OK, and the workflow begins.

Customizing the Change PO Need By Date Process

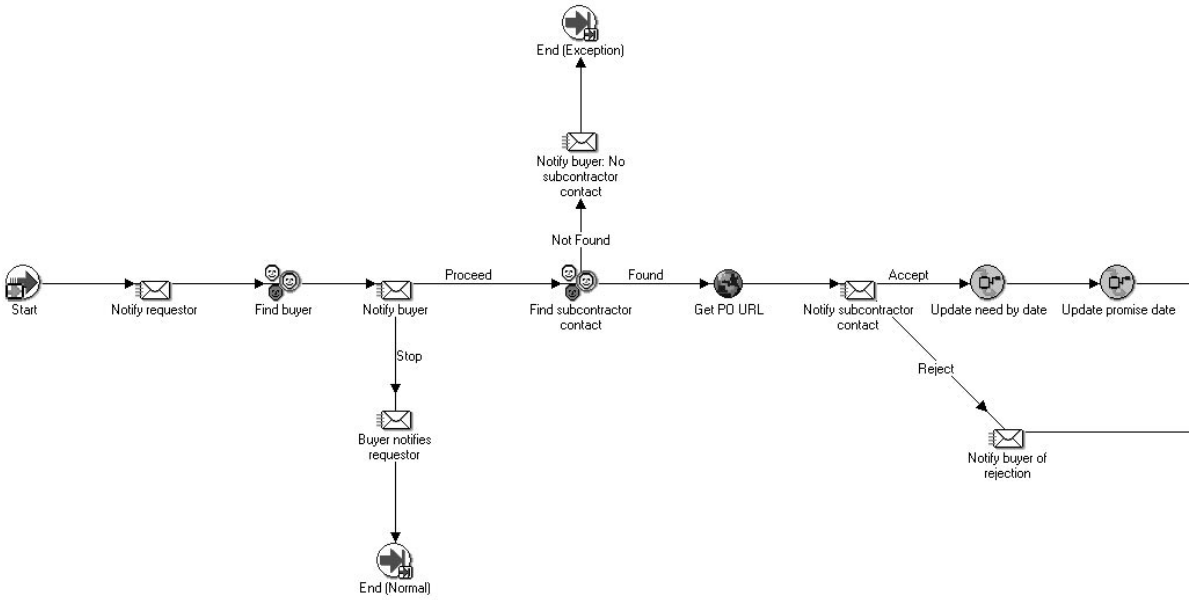
Use the Oracle Workflow Builder to customize workflows. You can also use the Workflow Builder to create unique planning exception messages workflows for different parts of your organization and associate particular workflows with certain activities.

▶ **To display the process in Oracle Workflow Builder:**

1. Choose Open from the File menu, and connect to the database.

   See: Opening and Saving Item Types, *Oracle Workflow Guide*.

   The display name of the Change PO Need By Date workflow is *WIP: Change PO Need By Date*. The name of its Workflow definition file is *wipupnbd.wft*.



2. Expand the data source, the WIP: Change PO Need By Date branch within the data source.
3. Expand the Processes branch, then choose the Update OSP Need By Date branch activity to display the diagram.

Creating a New Custom Process

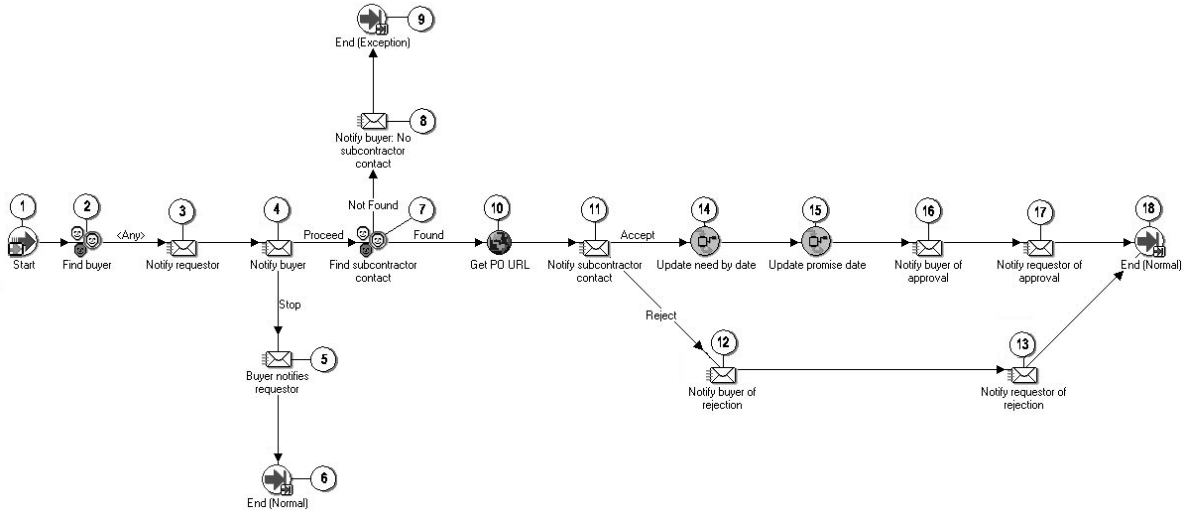
Customize the default (original) workflow that Oracle Work in Process provides after creating a backup. This allows you to have your backup while testing customizations.

Summary of Change PO Need By Date

The workflow first searches for the requestor at Node 2 and the buyer at Node 3. When the buyer is found, the requestor and the buyer are notified that approval is required for the change of date. If the buyer decides to proceed with the date change, the workflow searches for the supplier contact at Node 7. If the subcontractor contact is not found at

Node 7, the buyer is notified at Node 8, and the workflow ends at Node 9. If the subcontractor contact is found, the workflow obtains the Internet address or URL (Uniform Resource Locator) for the purchase order and at Node 11, sends it in a notification to the contact that approval for the change of date is required. If the subcontractor accepts the date change, the need by date and the promise date are updated on the purchase order at Node 14 and Node 15. A notification is then sent to the buyer and the requestor at Node 16 and Node 17 that the dates were approved and changed.

To examine the activities of the process in more detail, the nodes on the following diagram are numbered for easy referencing. The numbers themselves are not part of the process diagram.



Change PO Need By Date Activities

The following is a description of each activity in the WIP:Change PO Need By Date workflow listed by the activity's display name.

Start (Node 1)

This is a standard function activity that simply marks the start of the process.

Notify requestor (Node 2)

This function notifies the requestor that the need–by–date on the PO has been required.

Find buyer (Node 3)

This function activity finds the buyer.

Notify buyer (Node 4)

When the buyer is found, this function activity notifies the buyer that the need–by–date on the PO needs to be changed.

Notify requestor (Node 5)

If the buyer does not proceed with the change, this function activity notifies requestor.

Find subcontractor contact (Node 7)

If the buyer proceeds with the change, this function activity attempts to locate the subcontractor contact.

Notify buyer (Node 8)

If no subcontractor is found, this function activity sends a notification to the buyer.

Gets PO URL (Node 10)

This function activity retrieves the URL for the purchase order so that it can be passed to the supplier in the notification.

Notify subcontractor (Node 11)

After the PO URL is received, this function activity sends a notification to the subcontractor.

Notify buyer of rejection (Node 12)

If subcontractor rejects the need–by–date request, this function activity sends a notification to the buyer.

Update need by date (Node 14)

If subcontractor accepts the request, this function activity updates the need–by–date on the PO.

Update promise date (Node 15)

If subcontractor accepts the request, this function activity updates the promise date on the PO.

Notify buyer of approval (Node 16)

When all appropriate changes are made, this function activity notifies buyer of approval.

Notify requestor of approval (Node 17)

When all appropriate changes are made, this function activity notifies requestor of approval.

End (Normal) (Node 6, 18)

This is a standard function activity that marks the end of the process.

End (Exception) (Node 9)

This is a standard function activity that marks the end of the process with exceptions.

APPENDIX

H

Flow Workstation Customized Display

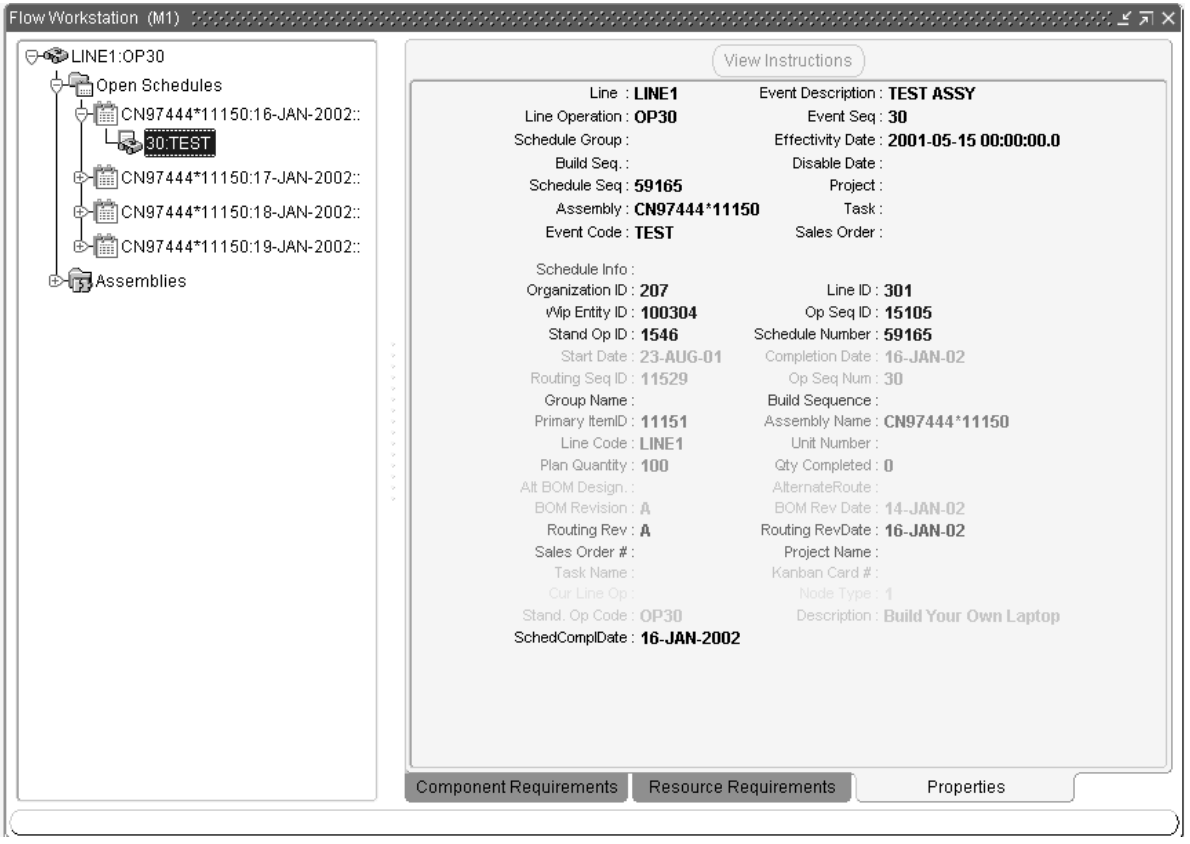
This appendix describes a package enabling customized attributes to display on the Flow Workstation.

Customized Display for Properties Tabbed Region

Oracle Work in Process provides a package for customizing the Properties tabbed region of the Flow Workstation. You can modify the parameters to display particular fields, of a specific value, and highlight these fields on your window. The name of the package is WIP_SF_CUSTOM_API. It includes two APIs used to modify attributes specific to your organization. The APIs you are dependent on view, – either the Schedule or Event node view. These APIs are:

- schedule_custom_api
- event_custom_api

This API does not change existing parameters displaying in the Properties tabbed region. It enables you to add additional attributes and highlight those fields in color.



Schedule_custom_api

The following parameters are listed for modifying the Schedule node view on the Properties tab.

Parameter	Usage	Type
scheduleNumber	IN	VARCHAR2
orgCode	IN	VARCHAR2
lineCode	IN	VARCHAR2
opSeqID	IN	NUMBER
salesOrderNumber	IN	VARCHAR2
assemblyName	IN	VARCHAR2
scheduleGroup	IN	VARCHAR2
buildSequence	IN	NUMBER
completionDate	IN	DATE
projectName	IN	VARCHAR2
taskName	IN	VARCHAR2
x_num_attr	OUT	NUMBER
x_labels	OUT	system.wip_attr_labels
x_values	OUT	system.wip_attr_value
x_colors	OUT	system.wip_attr_colors

Event_custom_api

The following parameters are listed for modifying the Event node view on the Properties tab.

Parameter	Usage	Type
scheduleNumber	IN	VARCHAR2
orgCode	IN	VARCHAR2
lineCode	IN	VARCHAR2
lineopSeqID	IN	NUMBER

Parameter	Usage	Type
opSeqNum	IN	NUMBER
opCode	IN	VARCHAR2
deptCode	IN	VARCHAR2
x_num_attr	OUT	NUMBER
x_labels	OUT	system.wip_attr_labels
x_values	OUT	system.wip_attr_value
x_colors	OUT	system.wip_attr_colors

Customizing the Package

The OUT parameters are modified to create a display on the Properties tabbed region customized to your organization. In the following table, two additional fields are added. You first specify the number of attributes with the x_num_attr parameters. The arrays x_labels, x_values, and x_colors are modified to contain the corresponding field names, values, and text colors.

Parameter	Modified Parameter
x_num_attr	2
x_labels	Organization Name, Qty Completed
x_values	Cleveland Manufacturing, 3
x_colors	red, blue

The IN parameters are passed to the API based on the particular node context (Schedule or Event). You need to modify the OUT parameters to return the requested attributes.

In the package body, you first extend the three arrays to the needed size, then fill them either manually or using SQL statements using the following rules:

- The number of attributes returned must match the length of the return arrays:

- The number of labels used must match the number of values
- The number of colors used must match each label and value combination
- The valid values for colors are blue, cyan, darkGray, gray, green, lightGray, magenta, orange, pink, red, white, yellow.

See Also

Flow Workstation Window: page 5 – 28.

Properties Tab: page 5 – 44.

GLOSSARY

absorption account The offset or contra account for any cost charged to your inventory or work in process value. For example, when you perform a purchase order receipt and the item has a material overhead rate, you debit your inventory valuation account and credit your material overhead absorption account for the material overhead cost. You have "absorbed" expenses from your general ledger accounts into your inventory. At the month–end, you compare your absorption accounts against expenses incurred in your general ledger and write the difference off to your income statements.

accounting class *See* **WIP accounting class**

active schedule A schedule currently running on a production line. A schedule can be active past its scheduled completion date or before its scheduled start date.

acquisition cost The cost necessary to obtain inventory and prepare it for its intended use. It includes material costs and various costs associated with procurement and shipping of items, such as duty, freight, drayage, customs charges, storage charges, other supplier's charges, and so on.

activity A business action or task which uses a resource or incurs a cost.

alternate bill of material An alternate list of component items you can use to produce an assembly.

alternate routing An alternate manufacturing process you can use to produce an assembly.

assemble–to–order (ATO) An environment where you open a final assembly order to assemble items that customers order. Assemble–to–order is also an item attribute that you can apply to standard, model, and option class items.

assemble–to–order (ATO) model A configuration you make in response to a customer order that includes optional items.

assembly An item that has a bill of material. You can purchase or manufacture an assembly item. *See also* **assemble–to–order, bill of material.**

assembly completion pull transaction A material transaction where you backflush components from inventory to work in process as you complete the operation where the component is consumed. *See* **operation completion pull transaction.**

assembly completion transaction A material transaction where you receive assemblies into inventory from a job or schedule upon completion of the manufacture of the assembly.

assembly move completion transaction A move transaction that completes assemblies into inventory.

assembly scrap transaction A move transaction where you charge a scrap account as you move assemblies into a Scrap intraoperation step. This reduces the value of your discrete job.

assembly UOM item A purchasing item associated with an outside resource that you purchase using the assembly's unit of measure. The assembly's unit of measure should be the same as the purchasing item's unit of measure.

asset item Anything you make, purchase, or sell including components, subassemblies, finished products, or supplies which carries a cost and is valued in your asset subinventories.

asset subinventory Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom where quantity balances are maintained for all items and values are maintained for asset items.

assigned units The number of resource units assigned to work at an operation in a routing. For example, if you have 10 units of machine resource available at a department, you can assign up to 10 of these units to an operation in a routing. The more units you assign, the less elapsed time Work in Process schedules for the operation.

ATP *See* **available to promise.**

ATT *See* **available to transact.**

autocharge A method of charging a discrete job or repetitive schedule for the resources consumed at an operation.

automatic sourcing A Purchasing feature which allows you to specify for predefined items a list of approved suppliers and to associate source documents for these suppliers. When you create a requisition or purchase order line for the item, Purchasing automatically provides appropriate pricing for the specified quantity based on the top–ranked open source document for the supplier with the highest percentage allocation.

autorelease To automatically release the next available repetitive schedule upon completion of the current repetitive schedule.

Available To Transact (ATT) Quantity on hand less all reservations for the item which may be transferred within or out of inventory.

backflush operation A routing operation where you backflush component items.

backflush transaction A material transaction that automatically issues component items into work in process from inventory when you move or complete the assembly. Also known as post–deduct or pull**.** *See* **pull transaction**

backward scheduling A scheduling technique where you specify a production end date and Oracle Manufacturing calculates a production start date based on detailed scheduling or repetitive line scheduling.

bill revision A specific version of an item which specifies the components that are active for a date range.

bill/routing reference A bill or routing you assign to non–standard discrete jobs. You use the bill reference to create the material requirements for the job. You use the routing reference to create the routing for the job.

blanket purchase agreement A type of purchase order you issue before you request actual delivery of goods or services. You normally create a blanket purchase agreement to document a long–term supplier agreement. A blanket purchase agreement may contain an effective date and an expiration date, a committed amount, or quantity. You use a blanket purchase agreement as a tool for specifying agreed prices and delivery dates for goods and services before ordering them.

blanket purchase order *See* **blanket purchase agreement**

blanket release An actual order of goods and services against a blanket purchase agreement. The blanket purchase agreement

determines the characteristics and prices of the items. The blanket release specifies actual quantities and dates ordered for the items. You identify a blanket release by the combination of the blanket purchase agreement number and the release number.

bucket days The number of workdays within a repetitive planning period.

build sequence The sequence of jobs within a schedule group. For example, you can use sequences to prioritize all jobs on a specific production line by customer. Similarly, you can use sequences to insure that jobs are built in reverse departure order thus facilitating truck loading. *See also* **schedule group**

bulk items Component items on a bill of material not usually transacted directly to the job or repetitive schedule. Bulk items are usually charged to the work in process department where the item is consumed.

bulk requirement *See* **bulk items**

buyer Person responsible for placing item resupply orders with suppliers and negotiating supplier contracts.

by–product Material produced as a residual of a production process. Represented by negative usage in the bill of material for an assembly.

cancelled job A discrete job you no longer want to work on. You cannot make transactions, move assemblies, or apply or update costs.

cancelled schedule A repetitive schedule you no longer want to work on. You cannot make transactions, move assemblies, or apply costs.

capital project A project in which you build one or more depreciable fixed assets.

charge type *See* **autocharge**

closed job A discrete job that is unavailable for charges or any type of transaction. Closing a job calculates final costs and variances and creates history for the job.

common bill of material An assembly that uses the bill of material of another assembly as its bill. This enables you to reduce your maintenance effort by sharing the same bill structure among two or more assemblies. For example, if you have identical bills of material that produce the same product in two different organizations, you can define common bills of material for the identical structures.

common locator .A locator without a project or project and task reference. *See also* **project locator**

common routing A routing that uses the routing of another assembly as its routing. This enables you to reduce your maintenance effort by sharing the same routing and operations for two or more assemblies.

common subinventory Subinventory that does not have a project reference into which items can be delivered and out of which items can be issued and transferred.

completed assembly An assembly you built on a discrete job or repetitive schedule and received into inventory.

completed job A discrete job whose quantity planned equals the number of assemblies actually completed.

completed schedule A repetitive schedule whose number of assemblies planned equals the number of assemblies actually completed.

completion date The date you plan to complete production of the assemblies in a discrete job.

completion locator An inventory location within a completion subinventory where you receive completed assemblies from work in process.

completion subinventory An inventory location at the end of your production line where you receive completed assemblies from work in process. Often this is the supply subinventory for subassemblies or finished goods inventories for final assemblies.

component demand Demand passed down from a parent assembly to a component.

component item An item associated with a parent item on a bill of material.

component yield The percent of the amount of a component you want to issue to build an assembly that actually becomes part of that assembly. Or, the amount of a component you require to build plus the amount of the component you lose or waste while building an assembly. For example, a yield factor of 0.90 means that only 90% of the usage quantity of the component on a bill actually becomes part of the finished assembly.

configuration bill of material The bill of material for a configuration item.

configuration variance For Work in Process, this quantity variance is the difference between the standard components required per the standard bill of material and the standard components required per the work in process bill of material. Currently, this variance is included with the material usage variance.

constraint–based scheduling The constraint–based scheduling engine, in Oracle Manufacturing Scheduling, offers enabling you to schedule discrete jobs and operations based on user–defined priorities, resources, and material availability.

cost element A classification for the cost of an item. Oracle Manufacturing supports five cost elements: material, material overhead, resource, outside processing, and overhead.

cost group An attribute of a project which allows the system to hold item unit costs at a level below the inventory organization. Within an organization, an item may have more than one cost if it belongs to multiple cost groups. Item costing can be specific to a single project if each project has a distinct cost group, or specific to a group of projects if all projects in that group are assigned to the same cost group.

cost transaction The financial effect of your material, resource, overhead, job and period close, and cost update activities. For example, each material quantity transaction may have several cost accounting entries, and each accounting entry is a cost transaction.

cost type A set of costs for items, activities, resources, outside processing, and overheads. You may have unlimited cost types for each organization, but only one is used to record cost transactions. The Frozen Standard cost type is used for standard costing; the Average Costs type is used for Average costing. Others could be defined for simulation or temporary purposes.

count point operation A default operation to move to and from where you record move and charge resource transactions. Also known as **pay point**.

critical path The series of operation start and completion dates and times that result from the detailed scheduling algorithm.

current average cost The current weighted average cost per unit of an item before a transaction is processed. *See* **new average cost**.

current on–hand quantity Total quantity of the item on–hand before a transaction is processed.

daily line capacity The daily production rate of assemblies on a production line. This is equal to the line speed (in hours) times the line production hours.

daily quantity *See* **daily rate**

daily rate The number of completed assemblies a repetitive schedule plans to produce per day. Also known as production rate. *See* **repetitive rate**

demand class A classification of demand to allow the master scheduler to track and consume different types of demand. A demand class may represent a particular grouping of customers, such as government and commercial customers. Demand classes may also represent different sources of demand, such as retail, mail order, and wholesale.

department An area within your organization that consists of one or more people, machines, or suppliers. You can also assign and update resources to a department.

departure order The order of jobs within a schedule group. Jobs are normally sequenced within a schedule group in the order that they must be loaded onto the truck for shipment. *See also* **schedule group** and

detailed scheduling A method of scheduling production that considers minute to minute resource availability information as well as exact resource requirements from routings.

disable date A date when an Oracle Manufacturing function is no longer available for use. For example, this could be the date on which a bill of material component or routing operation is no longer active, or the date a forecast or master schedule is no longer valid.

discrete job A production order for the manufacture of a specific (discrete) quantity of an assembly, using specific materials and resources, in a limited time. A discrete job collects the costs of production and allows you to report those costs—including variances—by job. Also known as **work order** or **assembly order.**

discrete manufacturing A manufacturing environment where you build assemblies in discrete jobs or batches. Different from a repetitive production environment where you build assemblies on production or assembly lines at a daily rate.

dispatch report A report that prioritizes planned production work based on operation schedule dates and times.

distribution account An account where you record material, material overhead, resource, outside processing, and overhead charges incurred by a discrete job or repetitive assembly. In a standard costing system, this is where you record your standard costs.

efficiency A productivity measure that focuses on actual performance against a standard. Expressed in a percentage figure, it is calculated by dividing actual resource time charged to a task by the standard resource requirements for the same task.

efficiency variance A quantity variance defined as the difference between the amount of a resource (typically in hours) required at standard and the actual amount used to manufacture an assembly.

elemental variance A work in process variance between the standard of an assembly and the actual charges to a

standard job or repetitive schedule distributed by cost element.

engineering change order (ECO) A record of revisions to one or more items usually released by engineering.

engineering item A prototype part, material, subassembly, assembly, or product you have not yet released to production. You can order, stock, and build engineering items.

expenditure type An implementation–defined classification of cost you assign to each expenditure item. Expenditure types are grouped into cost groups (expenditure categories) and revenue groups (revenue categories).

expense item Anything you make, purchase, or sell including components, subassemblies, finished products, or supplies and that does not carry a cost. Also known as a non–asset item.

expense subinventory Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom where no value exists but the quantities may be tracked.

express receipt A site option that lets you receive an entire purchase order or blanket purchase agreement release with one keystroke.

FIFO (first–in–first–out) costing method A cost flow methodused for inventory valuation. Inventory balances and values are updated perpetually after each transaction is sequentially costed. It assumes that the earliest inventory units received or produced are the first units used or shipped. The ending inventory therefore consists of the most recently acquired goods. FIFO cost flow does not have to match the physical flow of inventory.

final assembly order A discrete job created from a configuration or an assemble to order item and linked to a sales order. Also known as final assembly schedule.

first unit completion date The date and time you plan to complete production of the first assembly on a repetitive schedule. This date equals the first unit start date plus the lead time.

first unit start date The date and time you plan to begin production of the first assembly on a repetitive schedule. This date equates to the start of your lead time.

flow charging A repetitive transaction method where you charge material, move, resource, and overhead transactions to a specific assembly on a line rather than a specific repetitive schedule. *See* **repetitive allocation**

flow manufacturing Manufacturing philosophy utilizing production lines and schedules instead of work orders to drive production. Mixed models are grouped into families and produced on lines balanced to the TAKT time.

folder A flexible entry and display window in which you can choose the fields you want to see and where each appears in the window.

forward scheduling A scheduling technique where you specify a production start date and Oracle Manufacturing calculates a production end date using either detailed scheduling or repetitive line scheduling.

intraoperation steps The particular phases within an operation. There are five intraoperation steps in Work in Process: Queue, Run, To Move, Reject, and Scrap.

issue transaction A material transaction to issue component items from inventory to work in process.

item–based resource A resource whose usage quantity is the amount required per assembly unit you make.

job costing A method of collecting and reporting costs for each individual discrete job. Includes costs in due to material, resource and overhead transactions, and costs out due to completions, scrap and variances. Used for standard and non–standard asset discrete jobs.

job status An Oracle Manufacturing function that lets you describe various stages in the life cycle of a discrete job and control activities that you can perform on the job.

LIFO (last–in–first–out) costing method A cost flow methodused for inventory valuation. Inventory balances and values are updated perpetually after each transaction is sequentially costed. It assumes that the most recent inventory units received or produced are the first units used or shipped. The ending inventory consists of old goods acquired in the earliest purchases or completions.

labor efficiency variance The difference between actual and standard man–hours of work.

last unit completion date The date and time you plan to complete production of the last assembly on a repetitive schedule. This date equates to the first unit completion date plus processing days.

last unit start date The date and time you plan to begin production of the last assembly on a repetitive schedule. This date is the first unit start date plus processing days.

lead time line The production line Bills of Material uses to calculate the processing lead time for a particular repetitive assembly, since lead times may vary on different production lines.

lead time rollup A Bill of Material program that computes cumulative lead times for items.

license plate number (LPN) LPNs are unique identifiers used to store and transact inventory throughout the supply chain. They store a container's contents, including item, revision, lot and serial numbers, and quantity.

line lead time The time required to complete the first assembly on a production line.

line lead time basis A repetitive scheduling technique that uses a fixed line lead time for all production on a repetitive line or calculates the line lead time based on each assembly's routing.

line priority The line priority indicates which production line to use to build assemblies. You create repetitive schedules on the highest priority line first, then, if the line capacity is less than demand, additional repetitive schedules are created on other lines in decreasing order of their line priority. For example, if demand is for 1000 units per day on two lines with a daily capacity of 750, the line with the highest priority is loaded with 750 and the lower priority line with 250. For lines of equal priority, the load is allocated evenly across lines.

line production hours The number of hours per day that production line operates. This is equal to the difference between the line start time and line stop time.

line start time The time a production line starts running every day. The line start time is used to schedule repetitive schedules on a line.

line stop time The time a production line stops running every day. The line stop time is used to schedule repetitive schedules on a line.

locator Physical area within a subinventory where you store material, such as a row, aisle, bin, or shelf.

locator control An Oracle Manufacturing technique for enforcing use of locators during a material transaction.

lot A specific batch of an item identified by a number.

lot based jobs If you have Oracle Shop Floor Management installed, you can use lot based jobs in your manufacturing. A lot based job follows a network routing. Network routings provide flexibility in choosing the next operation which, in turn, determines the series of operations the job moves through

lot based resource A resource whose usage quantity is the amount required per job or schedule.

lot control An Oracle Manufacturing technique for enforcing use of lot numbers during material transactions thus enabling the tracking of batches of items throughout their movement in and out of inventory.

manual resource A resource manually charged to a discrete job or repetitive schedule.

mass loading An Oracle Manufacturing function to create one or more discrete jobs or repetitive schedules based on planned orders or schedules in your MRP or master production schedule.

mass rescheduling An Oracle Manufacturing function where you can reschedule or change the status of one or more discrete jobs based on your planned reschedule recommendations in your MRP or MPS.

material overhead rate A percentage of an item cost you apply to the item for the purposes of allocating material overhead costs. For example, you may want to allocate the indirect labor costs of your manufacturing facility to items based on a percentage of the item's value and usage.

material requirement An inventory item and quantity needed to build an assembly on a job or repetitive schedule. Discrete job and repetitive schedule material requirements are created based on the component items defined on the assembly's bill of materials. Issue transactions fulfill material requirements.

material transaction Transfer between, issue from, receipt to, or adjustment to an inventory organization, subinventory, or locator. Receipt of completed assemblies into inventory from a job or repetitive schedule. Issue of component items from inventory to work in process.

maximum rate The maximum number of completed assemblies a production line can produce per hour.

methods variance For Work in Process, this quantity variance is defined as the difference between the standard resources required per the standard bill of material and the standard resources required per the work in process bill of material. This variance is included with the resource efficiency variance.

midpoint scheduling A scheduling technique where you specify an operation start or end date and Oracle Manufacturing

automatically calculates production start and end dates.

minimum rate The minimum number of completed assemblies a production line can produce per hour.

mobile devices Oracle Mobile Supply Chain Applications uses equipment with the ability to communicate to an application server by the Internet or local area networks. This equipment includes hand–held Radio Frequency (RF) devices, wearable computing and ring scanner systems, lift truck mounted RF computers, and personal digital assistants. (PDA

mobile manufacturing A component of Oracle Mobile Supply Chain Applications, enabling you to perform all work in process material transactions using a mobile client device networked with a computer system.

model bill of material A bill of material for a model item. A model bill lists option classes and options available when you place an order for the model item.

move transaction A transaction to move assemblies from operation to operation or within an operation on a discrete job or repetitive schedule.

MPS–planned item An item controlled by the master scheduler and placed on a master production schedule. The item is critical in terms of its impact on lower–level components and/or resources, such as skilled labor, key machines, or dollars. The master scheduler maintains control for these items.

MRP net quantity The quantity planning views as supply coming from a discrete job on the scheduled completion date.

negative requirement A requirement supplied to a discrete job or repetitive schedule instead of being consumed by it. Negative requirements can be created to support by–products or other reusable components.

nettable control An Oracle Manufacturing function that lets you specify whether the MRP planning process considers the requirements of the job or schedule in its netting calculations.

network routing Network routings in Oracle Shop Floor Management comprise a collection of operations which include primary paths and alternate paths. You are able to define a separate routing for each item, at each sector. When you create routings in the Routings window, you define all possible paths.

new average cost Cost of an item after a transaction that affects the average cost is processed. *See* **current average cost**.

new on–hand quantity The quantity on–hand immediately after the transaction is performed and saved. Equal to current on–hand quantity plus total quantity. *See* **current on–hand quantity**, **total quantity**.

non–standard asset job A type of non–standard job carried as an asset during the life of the job.

non–standard discrete job A type of discrete job that controls material and resources and collects costs for a wide variety of miscellaneous manufacturing activities. These activities can include rework, field service repair, upgrade, disassembly, maintenance, engineering prototypes, and other projects. Non–standard jobs do not earn material overhead upon assembly completion.

non–standard expense job A type of non–standard job expensed at the close of each accounting period. Typical expense jobs include maintenance and repair.

offsetting account The source or opposite side of an accounting entry. For example, when you charge resources in Work in Process you debit a resource to your work in process resource valuation account; the offset account is the credit to the resource absorption account.

on hold job/schedule A job or repetitive schedule not accepting further activity and is therefore untransactable.

open interface A Manufacturing function that lets you import or export data from other systems through an open interface. An example is a bar code reader device accumulating data you later import into your manufacturing system for further processing.

open requirement A WIP material requirement you have not yet transacted to a discrete job or repetitive schedule. It equates to the component quantity required less any quantity issued.

operation A step in a manufacturing process where you perform work on, add value to, and consume department resources for an assembly.

operation code A label that identifies a standard operation.

operation completion pull transaction A material transaction where you backflush components from inventory to work in process as you complete the operation where the component is consumed. *See also* **backflush transaction**

operation completion transaction A move transaction from one operation to the next where you have completed building the assembly at that operation. In this process, you can also charge resources and overheads and backflush component items.

operation overlap scheduling A scheduling technique that allows you to schedule resource activities in the prior and next operations to overlap with the current operation.

operation sequence A number that orders operations in a routing relative to each other.

organization A business unit such as a plant, warehouse, division, department, and so on. Order Management refers to organizations as warehouses on all Order Management windows and reports.

outside operation An operation that contains outside resources and possibly internal resources as well.

outside processing Performing work on a discrete job or repetitive schedule using resources provided by a supplier.

outside processing operation Any operation that has an outside processing resource. *See* **outside resource**

outside processing item An item you include on a purchase order line to purchase supplier services as part of your assembly build process. This item can be the assembly itself or a non–stocked item which represents the service performed on the assembly.

outside resource A resource provided by a supplier that you include in your routings, such as supplier sourced labor or services. This includes both **PO move** and **PO receipt** resources.

over–completions Completing an assembly quantity into inventory that is greater than the Discrete job or Repetitive schedule start quantity, whether or not the assemblies have a routing.

over–completion quantity The transaction quantity minus the available quantity.

over–moves Moving a quantity from one interoperation step to another that is greater than the quantity at the interoperation step, whether or not the assemblies have a routing.

overhead The indirect expenses allocated in your budgeting process and assigned to your resources or departments. You charge overhead costs based on resource value, resource units, or operation completions. You typically include administration, facility, depreciation activity, and other costs you cannot directly charge to your manufactured items. Does not include material overhead.

overhead transaction A work in process transaction that automatically charges overhead costs to a job or repetitive schedule as you perform moves or charge resources.

pending A status where a process or transaction is waiting to be completed.

period–based costing A method of collecting and reporting costs by period rather than by some other method such as by discrete jobs. Used primarily in costing repetitive schedules and non–standard expense discrete jobs.

phantom assembly An assembly Work in Process explodes through when it creates the bill of material for a job or schedule. A particular assembly can be a phantom assembly on one bill and a subassembly on another.

pick list A report that lists all component requirements sorted by supply type for a particular discrete job, repetitive schedule or production line.

pick–to–order A configure–to–order environment where the options and included items in a model appear on pick slips and order pickers gather the options when they ship the order. Alternative to manufacturing the parent item on a work order and then shipping it. Pick–to–order is also an item attribute that you can apply to standard, model, and option class items.

planned order A suggested quantity, release date, and due date that satisfies net item requirements. MRP owns planned orders, and may change or delete the orders during subsequent MRP processing if conditions change. MRP explodes planned orders at one level into gross requirements for components at the next lower level (dependent demand). Planned orders along with existing discrete jobs also serve as input to capacity requirements planning, describing the total capacity requirements throughout the planning horizon.

PO move resource An outside resource that is automatically charged upon receipt of a purchase order. PO move resources also automatically initiate shop floor move transactions upon receipt.

PO receipt resource An outside resource that is automatically charged upon receipt of a purchase order.

previous level costs The material, material overhead, outside processing, resource and overhead costs of the components used in the manufacture of an assembly.

primary bill of material A list of the components you most frequently use to build a product. The primary bill is the default bill for rolling up costs, defining a job, and calculating cumulative item lead times. Master Scheduling/MRP uses this bill to plan your material.

primary routing A list of the operations you most frequently perform to build a product. The primary routing is the default routing

for defining a job and calculating manufacturing lead times.

processing days *See* **repetitive processing days.**

processing status The processing state of a row (record) in an open interface table. Common statuses include, but are not restricted to, Pending, Running, and Error. *See* **repetitive processing days**.

production line The physical location where you manufacture a repetitive assembly, usually associated with a routing. You can build many different assemblies on the same line at the same time. Also known as assembly line.

production rate Hourly rate of assemblies manufactured on a production line.

project A unit of work broken down into one or more tasks, for which you specify revenue and billing methods, invoice formats, a managing organization, and project manager and bill rates schedules. You can charge costs to a project, as well as generate and maintain revenue, invoice, unbilled receivable and unearned revenue information for a project.

project inventory Any and all items and costs in both project subinventories and project work in process jobs.

project job A standard or non–standard WIP job with a project reference. The valuation accounts associated with this type of job will be project work in process. Any balance remaining in such a job when it is closed will be reported as a variance.

project locator A locator with a project or project and task reference. *See also* **common locator**.

project manufacturing The type of project that uses Projects with Manufacturing to track the costs of a manufacturing–related project against a project budget.

project subinventory A subinventory with a project reference into which terms can be delivered and out of which items can be issued and transferred.

project task A subdivision of Project Work. Each project can have a set of top level tasks and a hierarchy of subtasks below each top level task. You can charge costs to tasks at the lowest level only. *See also* **Work Breakdown Structure**.

pull transaction A material transaction that automatically issues component items into work in process from inventory when you move or complete the assembly. Also known as post–deduct or backflush**.** *See* **backflush transaction.**

purge A technique for deleting data in Oracle Manufacturing that you no longer need to run your business.

push transaction A material transaction to issue component items from inventory to work in process before you manufacture the assembly.

quantity completed For an operation on a discrete job or repetitive schedule, the quantity of the assembly that you transacted beyond the Run intraoperation step. For a discrete job or repetitive schedule, the quantity of the assembly that you received into inventory.

quantity in operation The quantity of an assembly in an operation on a discrete job or repetitive schedule. This includes the quantities in each of the intraoperation steps.

quantity issued The quantity of a component item issued from inventory to a discrete job r repetitive schedule to fulfill a WIP material requirement.

quantity on hand Current quantity of an item in inventory.

quantity remaining The quantity of an assembly remaining to be completed at an operation in a discrete job or repetitive schedule. This is the sum of the quantities in all intraoperation steps at all operations before the current operation, plus the quantities in the Queue and Run intraoperation steps at the current operation.

quantity required The total quantity of a component item required to produce all the assemblies in a discrete job or repetitive schedule as determined by the usage quantity on the bill of materials, the production quantity, and the component yield.

queue An intraoperation step in an operation where assemblies are waiting to be worked on. The default intraoperation step for every operation in a routing.

rate variance For resources charged to work in process, this variance is the difference between the actual resource rate and the standard resource rate times the resource quantity charged to the job or repetitive schedule. You create rate variance entries if you charge resources using an actual rate and you chose **Yes** for the Standard Rate field in the Resources window.

release date The date when you release a discrete job or repetitive schedule to the shop floor signifying that work can begin and the discrete job or repetitive schedule becomes transactable.

released job/schedule A discrete job or repetitive schedule that you have signified available to be worked on and transactable.

repetitive allocation An Oracle Manufacturing technique for applying transaction quantities and costs across several repetitive schedules that are building the same repetitive assembly on the same line. *See* **flow charging.**

repetitive assembly An assembly that you build in a repetitive manufacturing environment (for example on a production line). You can also build a repetitive assembly in discrete jobs if you operate in a hybrid manufacturing environment.

repetitive line scheduling A method of scheduling repetitive production on a line that considers line speed, line start and stop times, lead time, and workday calendar.

repetitive manufacturing A manufacturing environment where you build assemblies repetitively, on production lines, rather than in discrete jobs or batches.

repetitive planning period A period, defined as a number of days, that smooths the production rate over time. With repetitive planning periods, you can prevent your planned repetitive production rate from fluctuating too frequently.

repetitive processing days The number of days you plan to work on a repetitive schedule, from the first unit start date to the last unit start date.

repetitive rate The daily rate for a repetitive schedule. *See* **daily rate.**

repetitive schedule The process of dividing suggested aggregate repetitive schedules and allocating them across individual production lines, based on predefined line priorities and **production rates**.

repetitive schedule allocation The process of dividing suggested aggregate repetitive schedules and allocating them across individual production lines, based on predefined line priorities and production rates.

repetitive schedule status An Oracle Manufacturing function that lets you describe various stages in the life cycle of a repetitive schedule and control activities that you can perform on the schedule.

replenish to order *See* **assemble–to–order (ATO).**

requirement *See* **material requirement**

requirement date The date when the requirement needed by the discrete job or repetitive schedule is to be consumed. Requirement dates are defaulted to the start date of the operation where a requirement is consumed.

reschedule To modify the schedule of a discrete job. You can reschedule a discrete job by changing the start date, completion date, job quantity or any operation date on the routing. Planning can automatically reschedule jobs that are not firm based on planning requirement changes.

resource Anything of value, except material and cash, required to manufacture, cost, and schedule products. Resources include people, tools, machines, labor purchased from a supplier, and physical space.

resource basis The basis for resource usage quantity that indicates whether that quantity is required per item or per lot.

resource charge *See* **resource transaction.**

resource requirement A resource and quantity needed to build an assembly on a job or repetitive schedule. Discrete job and repetitive schedule resource requirements are created based on the resource requirements specified on the assembly's routing. Resource transactions fulfill resource requirements.

resource sequence The number that indicates the order of a resource in an operation relative to other resources.

resource transaction A transaction where you automatically or manually charge resource costs to a discrete job or repetitive schedule.

resource units applied A quantity you charge to a job or repetitive schedule for work performed by a resource. The quantity is expressed in the unit of measure of the resource. For example, if the unit of measure of a resource is hours and the resource works 10 hours, you apply 10 resource units to the job or repetitive schedule.

resource UOM item A purchasing item associated with an outside resource that you purchase using the resource's unit of measure.

return to supplier A transaction that allows you to return to the supplier items from a fully or partially received purchase order and receive credit for them.

reversing transaction A transaction that reverses a previously processed material, move, resource, or overhead transaction.

revision A particular version of an item, bill of material, or routing.

revision control An inventory control option that tracks inventory by item revision and forces you to specify a revision for each material transaction.

roll forward An Oracle Manufacturing technique where you can automatically take the material you over issued to a particular repetitive schedule and move it forward into the next available repetitive schedule.

route sheet A report that provides full routing, operation, resource, and material requirement details for jobs and repetitive schedules. Typically used to know how, when, where, and who builds an assembly. Also known as traveler.

routing revision A specific version of a routing that specifies the operations that are active for a date range.

run An intraoperation step where you move assemblies that you are working on at an operation.

schedule group An identifier used to group jobs for scheduling and releasing purposes. For example, you might group together all jobs that must be completed on a specific date and are being built on the same production line. Jobs within a schedule group can be sequenced. *See also* **build sequence**

scheduled resource A resource on a routing that is scheduled by Work in Process.

scrap An intraoperation step where you move assemblies that cannot be reworked or completed.

scrap account An account that you may use to charge scrap transactions.

serial number A number assigned to each unit of an item and used to track the item.

serial number control A manufacturing technique for enforcing use of serial numbers during a material transaction.

shift A scheduled period of work for a department within an organization.

shop floor status An Oracle Manufacturing function that lets you restrict movement of assemblies at an operation and intraoperation step within a discrete job or repetitive schedule.

shortage An open requirement with no inventory in the organization to support the requirement.

shrinkage rate The percentage on a parent assembly expected to be scrapped in work in process.

simulated job Job used to evaluate the availability of material and resources required for a potential discrete job based on the job quantity and need date for the assembly.

single level variance A work in process variance that is the difference between the standard cost of an assembly and the actual charges to a standard jobs or repetitive schedules distributed by structure level. This variance looks at the assembly cost for the resource and overhead standard cost at the top level and compares them to the actual resource and overhead costs charged to the standard job or repetitive schedule. All other costs material, material overhead, outside processing, resource and overhead costs from lower level assemblies are included in the material usage variance calculation.

standard comments Standard text you can assign to discrete jobs or repetitive schedules. Special instructions or details specific to a particular job or circumstance.

standard costing A costing method where a predetermined standard cost is used for charging material, resource, overhead, period close, job close, and cost update transactions and valuing inventory. Any deviation in actual costs from the predetermined standard is recorded as a variance.

standard discrete job A type of discrete job that controls material and resources for standard production assemblies.

standard operation A commonly used operation you can define as a template for use in defining future routing operations.

start date The date you plan to begin production of assemblies in a discrete job.

subassembly An assembly used as a component in a higher level assembly.

subinventory Subdivision of an organization, representing either a physical area or a logical grouping of items, such as a storeroom or receiving dock.

suggested repetitive schedule The schedule for an individual production line for a specific item that is derived from the Suggested aggregate schedule. MRP divides the suggested aggregate schedule for a specific line and item based on the production line attributes: priority, minimum and maximum rates.

supplier Provider of goods or services.

supplier requirement *See* **supplier sourced component**

supplier sourced component A component item on a bill of material supplied to work in process directly by a supplier.

supply A quantity of materials available for use. Supply is replenished in response to demand or anticipated demand.

supply locator The specific location, such as shelves or containers, within a supply subinventory that you use as the default locator in a material transaction.

supply subinventory The subinventory you use as a primary source of supply to meet a specific material requirement in a discrete job or repetitive schedule. In Release 9, this is the backflush subinventory for pull material or the primary issue subinventory for push material.

supply type A bill of material component field that controls issue transactions from inventory to work in process. Supply types supported by Work in Process include: **Push**, **Assembly pull**, **Operation pull**, **Bulk**, **Supplier**, **Phantom**, and **Based on bill**.

this level costs The cost or value added at the current level of an assembly. Resource, outside processing and overhead costs are examples of this level costs. Material is always a previous level cost.

to move An intraoperation step where assemblies can either be completed to a subinventory or wait to be moved to another operation.

transaction cost The cost per unit at which the transaction quantity is valued.

transaction date The date you enter and Oracle Manufacturing maintains for any manufacturing transaction. The date must fall within an open accounting period and be greater than the release date for transactions on a discrete job or repetitive schedule.

transaction interface An open interface table through which you can import transactions. *See* **open interface**.

transaction manager A concurrent program that controls your manufacturing transactions.

transaction quantity The quantity of a transaction.

transaction worker An independent concurrent process launched by a transaction manager to validate and process your manufacturing transactions.

traveler *See* **route sheet**.

unit of measure The unit that the quantity of an item is expressed.

unreleased job/schedule A discrete job or repetitive schedule planned but not released for work to begin and not yet transactable.

UOM *See* **unit of measure**.

usage quantity The quantity of a component, including component yield required to produce one assembly in a discrete job or repetitive schedule as stated on the bill of materials.

usage rate The amount of a resource consumed at an operation.

usage variance A quantity variance defined as the difference between the amount of material required at standard and the actual amount you use to manufacture an assembly.

valuation account Your inventory and work in process asset accounts set up in Inventory, Work in Process, and Purchasing.

value added *See* **outside processing.**

variance An accounting term used to express the difference between an expected cost and an actual cost. A variance can be favorable or unfavorable. Variances are usually written directly to the income statement as a period expense.

variance account An account where you record your variance charges. You can maintain several variance accounts in your work in process system, depending on what you are charging and which class you use.

vendor *See* **supplier**.

WIP accounting class A set of accounts that you use to charge the production of an assembly. You assign accounting classes to discrete jobs and repetitive schedules. Each accounting class includes distribution accounts and variance accounts. Also used in cost reporting.

WIP move resource A resource automatically charged to a discrete job or repetitive schedule by a move transaction. Resources are automatically charged when a forward move occurs, or uncharged when a backward move occurs.

work in process An item in various phases of production in a manufacturing plant. This includes raw material awaiting processing up to final assemblies ready to be received into inventory.

workday calendar A calendar that identifies available workdays for one or more organizations. Master Scheduling/MRP, Inventory, Work in Process, and Capacity plan and schedule activities based on a calendar's available workdays.

worker An independent concurrent process that executes specific tasks. Programs using workers to break large tasks into smaller ones must coordinate the actions of the workers.

yield *See* **component yield.**

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