Oracle® Manufacturing Execution System for Discrete Manufacturing

User's Guide

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Oracle Manufacturing Execution System for Discrete Manufacturing User's Guide, Release 12.2

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Preface

Intended Audience

Welcome to Release 12.2 of the *Oracle Manufacturing Execution System for Discrete Manufacturing User's Guide*.

Oracle Manufacturing applications users

See Related Information Sources on page x for more Oracle E-Business Suite product information.

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Structure

1 Overview Oracle MES for Discrete Manufacturing

This chapter describes the features of the Oracle MES for Discrete Manufacturing, a manufacturing execution system used for discrete shop floor transactions.

2 MES Administrator

This chapter describes the features of the MES Administrator role, including parameter descriptions.

3 MES Workstation

This chapter describes the features of the MES Workstation and the Operator role, including the ability to view the work dispatch list and perform transactions.

4 MES Supervisor Workbench

This chapter describes the features of the MES Supervisor Workbench, including the ability to monitor shop floor progress on the Dashboard and to avoid potential problems through actions taken on the Supervisor Workstation.

5 Global Actions

This chapter describes global action views and tasks displayed in the MES Supervisor Workbench and the MES Workstation.

A Navigator Paths

This appendix lists navigation paths for pages in the Oracle MES for Discrete Manufacturing application.

B MES for Discrete Manufacturing Workflow

This appendix describes the features of the WIP Exception Notification Workflow.

C MES Client Extensions

This appendix describes the client extensions, functions procedures, and packages integrated into Oracle MES for Discrete Manufacturing.

D Document Attachment Setup

Related Information Sources

Oracle E-Business Suite User's Guide

This guide explains how to navigate, enter and query data, and run concurrent requests using the user interface (UI) of Oracle E-Business Suite. It includes information on setting preferences and customizing the UI. In addition, this guide describes accessibility features and keyboard shortcuts for Oracle E-Business Suite.

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 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.

Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide

This guide 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 windows.

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 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 Work in Process User's Guide This guide describes how Oracle Work in Process provides a complete production management system. Specifically this guide describes how discrete, repetitive, assemble-to-order, project, flow, and mixed manufacturing environments are supported.

Oracle Work in Process User's Guide

This guide describes how Oracle Work in Process provides a complete production management system. Specifically this guide describes how discrete, repetitive, assemble-to-order, project, flow, and mixed manufacturing environments are supported.

Integration Repository

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the Oracle E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

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Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite 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 E-Business Suite data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, 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 E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite 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.

1

Overview Oracle MES for Discrete Manufacturing

This chapter describes the features of the Oracle MES for Discrete Manufacturing, a manufacturing execution system used for discrete shop floor transactions.

This chapter covers the following topics:

- Overview of Oracle MES for Discrete Manufacturing

Overview of Oracle MES for Discrete Manufacturing

Oracle MES for Discrete Manufacturing, is comprised of the MES workstation and the MES Supervisor Workbench that can be used by shop floor operators and supervisors.

The MES Workstation for the operator provides a single interface to perform multiple shop floor functions, without navigating to a number of transaction windows. Shop floor operators can view the jobs assigned to specific work centers, view requirements and instructions for performing work. The Manufacturing Execution System can be configured for actions, display, security, and transactions for the operator and supervisor roles.

You can personalize application pages without modifying any underlying code. All personalizations are added on top of the base product, and do not overwrite the existing interface. Personalizations are reflected immediately on the page. The links for personalization display on your pages. See: Personalizing Your Pages and Portlets, *Oracle Application Framework Personalization Guide*, and Creating Admin Level Personalizations, *Oracle Application Framework Personalization Guide*

MES Workstation

- Configurable dispatch list driven execution
- Configurable work content and sequential display of instructions
- Clock In/Clock/Out and Shift In/Shift Out for time capture

- Enhanced shop floor transaction reporting
- Integration with Oracle Quality
- Streamlined material transactions with lot and serial entry
- Shop floor exception reporting
- Document printing including labels and job traveler

MES Supervisor Workbench

- Exceptions summary view with detail capabilities
- Exception impact assessment and resolution
- Anticipated capacity or resource shortages for bottleneck resources
- View of the current state of the shop floor
- Capabilities to expedite jobs
- View of job transaction history
- Access to job and resource workbenches
- Access to manufacturing management DBI

MES Administrator

- Parameters controlling the user interface layout, content, system behavior, and security
- Ability to configure parameters at several levels—site, role, organization, department

Dispatch Lists

A listing of all job operations in the queue for work is the workstation starting point. You have the flexibility to view dispatch lists for one particular resource or resource instance, across multiple resources or departments, or an entire organization. Viewing options and content are customized by the parameter settings in the Administrator mode. This includes the criteria for current or scheduled work, and the order presented on the list. See: Viewing Dispatch Lists, page 3-6

Electronic Signatures

The Oracle E-Records application supports Federal Food and Drug Administration's (FDA) code regulation 21 CFR Part 11. This regulation supports the creation of electronic records to monitor activities by regulated industries such as food, pharmaceuticals, and medical devices. These industries are subject to audit, retention of

records, and capture of legally binding signatures. Oracle MES for Discrete Manufacturing captures data and provides traceability for the operator or supervisor for move, completion, and material transactions. See: Electronic Signature Support, page 3-2

Exception Reporting

Exceptions are reported and displayed for occurrences preventing work on a job operation. Examples include material shortages, labor shortage, machine downtime, or quality problems. When you are notified about exceptions, you can view other job operations affected and take action in the resolution (such as utilizing an alternate resource). See: Viewing and Resolving Exceptions, page 4-36

Label Printing

Label printing is available from various pages while performing work on the shop floor. You can print labels for job related information and serial numbers for specific jobs See: Job Operation Actions, page 3-13

Labor Reporting

Labor reporting captures both the actual and scheduled time an employee works on a job operation. Four labor performance data elements are tracked including actual attendance, direct labor, scheduled available, and earned hours. You can have one or several employees working on a job operation. Shop floor labor resources are tracked using employee badge numbers and resource instances. Clock In flags the job operation as started, and records the start time for resource usage calculation. Clock In and Clock Out indicate the status of a specific operation and is displayed in the dispatch list. Shift In and Shift Out enables the recording of actual attendance hours entered.

Labor Skills Validation

Labor skills validation enables you to set up skilled employees to work on job operations to perform manufacturing activities. When the operator Clocks In for job operations—qualifications are checked. This helps you meet International Organization for Standardization (ISO) 9000 quality and regulatory standard. Labor skills validation is integrated with other Oracle applications including:

- Oracle Human Resources Management Systems to set employees at the appropriate skill levels.
- Oracle Bills of Material to specify skills required for operations and routings.
- Oracle Work in Process to define skills required for job operations.
- Oracle E-Records to display the details of skills validated during move transactions.

See: Moving and Completing Assemblies, page 3-21, and Operator Skills Validation, page 2-29

Resource Consumption

Resource consumption reporting is supported through direct entry of all hours worked

on a task—Clock In and Clock Out. The system captures the machine or person performing the work.

Reservation of Material

Component and material reservations for jobs can be initiated automatically at the time of job creation or job release using Work in Process parameters. You can enter Reservation Time Fence values driven by the Date Required field on the Work in Process Material Requirements window to determine if reservations are created. You can select Push and Pull supply types for automatic reservations.

> **Note:** Manual reservations support supply types Push, Assembly Pull, Operation Pull, Supplier, and Bulk. The Phantom type is not supported.

The Reserved quantity value on the Work Content and Work Order Component pages is the sum of all reservations for a particular component line. See:

- Material Reservations, *Oracle Work in Process User's Guide*
- Item Reservations, *Oracle Inventory User's Guide*

Serialized Manufacturing

Functionality is provided for creating both jobs with serial controlled components, and preassigned assembly serialized jobs. Lot and serial numbers can be manually assigned during operation and work order completion. The Search Serial Numbers page can be set as the initial starting page.

A serialized job is a discrete job that has predefined, associated assembly serial numbers. After the serialization start operation, the progress on the shop floor is tracked using the assembly serial numbers. You have the ability to enforce sequential moves for the operation up to the next count point operation.

Express Transact Components

Express Transact Components is primarily designed with a view to use scanners for component and component serial number data entry. This feature provides a page display defaulting to the next step, rather than the next operation and operation step; and alleviates the task of manually selecting or deselecting requirements when scanning large numbers of components. See: Creating Express Component Transactions for Serialized Assemblies, page 3-48

Related Topics

MES Administrator, page 2-1

Overview of the MES Workbench, page 3-2

Overview of the MES Supervisor Workbench, page 4-2

Distributed MES for Discrete Manufacturing

Oracle MES for Discrete Manufacturing can be deployed in an integrated mode in Enterprise Resource Planning (ERP), or in a distributed mode separate from the ERP instance. The distributed instance supports:

- 24-hour plant level manufacturing operations independent of ERP.
- Event driven manufacturing management.
- Control of manufacturing processes across multiple plants and applications.
- Ability to use MES functionality without upgrading the ERP system.

Oracle provides an implementation approach to deploy the Oracle MES in multiple instances, separately for plants and corporate levels. Operators carry out the manufacturing transactions through these plant level instances. Each group of plants or locations requiring manufacturing independent of the central ERP needs a separate instance of the application. Transactions can be synchronized between the central Oracle ERP and distributed MES instances using the Oracle Fusion Middleware and Oracle Data Integrator (ODI).

For more information, see: Distributed Oracle Manufacturing Execution System, Note Number 1051812.1 located at My Oracle Support (support.oracle.com).

2

MES Administrator

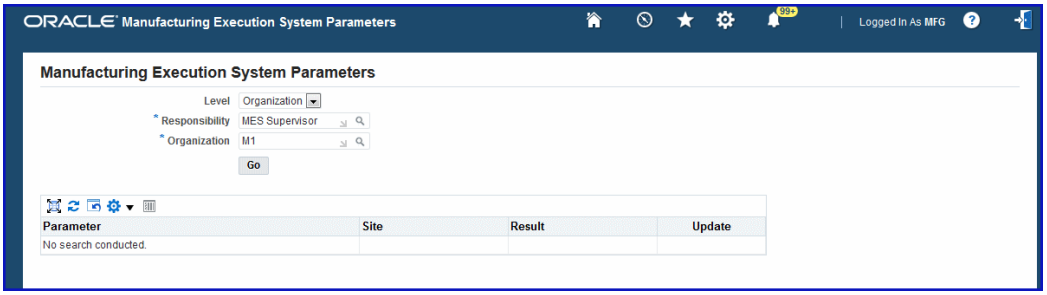
This chapter describes the features of the MES Administrator role, including parameter descriptions.

This chapter covers the following topics:

- MES Administrator
- Using Descriptive Flexfields

MES Administrator

The MES Workstation is configured with parameters controlling behavior at the organization or department level, and actions at the user level based on roles. When you access the Workstation Parameters page, definition for each parameter is specified for—or inherited from—the site, role, organization, or department. Parameters are used for the display of information, security, and actions. Based on user roles and level, predefined security and preferences control the types of functions and information accessed. Parameters related to actions can be configured as buttons or choice lists.



When creating new responsibilities for MES using the Responsibilities window, you must also associate the new responsibility to the MES Workstation Startup function in the Menus window. Otherwise, the new responsibility will not appear in the MES Administrator and Workstation Startup pages. See:

- Defining a Responsibility, *Oracle E-Business Suite System Administrator's Guide -*

Security

- Menus Window, *Oracle E-Business Suite System Administrator's Guide - Security*

Manufacturing Execution Workstation Parameters

To view or update Manufacturing Execution Workstation parameters:

1. Navigate to the Manufacturing Execution Workstation Parameters page.
2. Select a parameter level.

   Your choices are Site, Role, Organization, or Department.

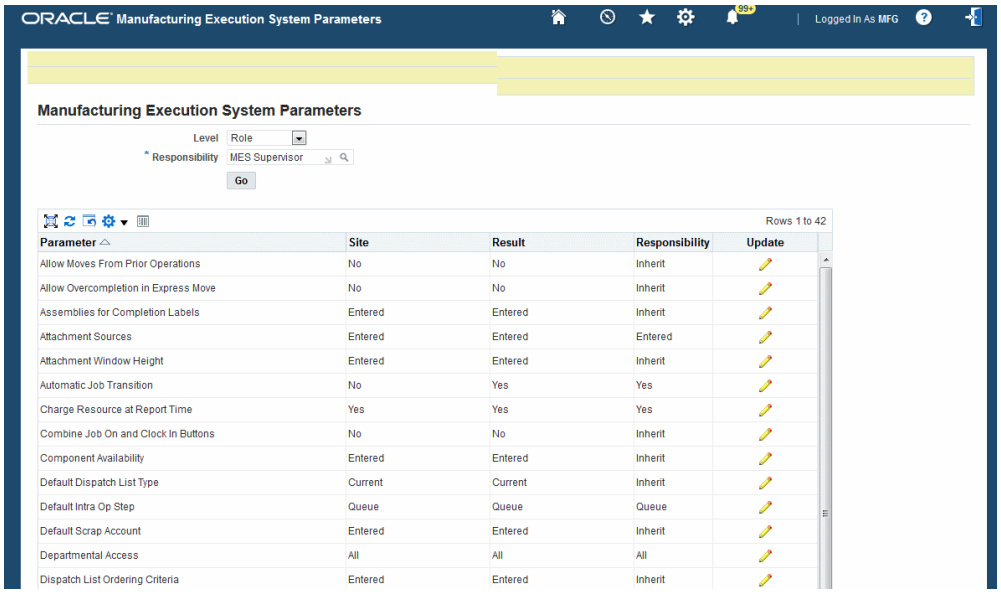
   Depending on the level selected, other level specific values are required. For example:

   - Site: No other related fields
   - Role: Responsibility, that is, MES Operator or MES Supervisor
   - Organization: Role and Organization fields
   - Department: Role, Organization, and Department fields

3. Select Go to display the Workstation Parameters page.

   The page displays a table format view of the list of parameters, and the values at the level you selected. There are several display options:

   - Parameters using only one value from a list of values, display the selected value—or Inherited if they are derived from the higher level.
   - Parameters using multiple values from a list of values display Entered—or Inherited if they are derived from the higher level.



4. Select the Update icon to display the individual parameter page.

5. You can view or change information on the parameter detail page. If you update the information, select Apply to save your work Otherwise, select Cancel to display the table view format.

The following table describes the MES Workstation parameters.

Parameter	Description
Allow Moves From Prior Operations, page 2-10	Enables flexibility in move transactions by providing a list of values at the From operation.
Assemblies for Completion Labels, page 2-10	Specifies which assemblies have labels automatically printed at the time of completion.
Attachment Sources, page 2-11	Defines the source and the order of documents displayed in the Attachments region.
Attachment Window Height	Sets the view size of attachments on the Work Content and Attachment pages. The width is always full screen. Choices are 100, 400, 600, or 800 pixels.

Parameter	Description
Automatic Job Transition	Controls the presentation of jobs on the Work Content page. Choices are: • *Yes:* Upon completion of one job operation, the next available job operation is automatically selected, if the entire quantity in the job operation is completed. • *No:* System returns to the work content page of the current operation, even after the entire quantity in the job operation is completed.
Charge Resource at Report Time	Indicates if resource transactions are created from reported times— through clock actions. Choices are Yes or No.
Combine Job On and Clock In Buttons	Enables you to combine the actions of Job On and Clock In, and Job Off and Clock Out time entry. The combination is used for environments where only one employee is working on a job. Choices are: • *Yes:* Job On and Clock In are the same action, therefore the Job On button does not appear on the page. • *No:* Job On is a separate action of Clock In, and required when multiple employees are working on a single job operation. Both buttons appear on the page. **Note:** This parameter is disabled if the Time Entry Mode parameter is set to Disable.
Component Availability, page 2-12	Defines components considered in the priority order of jobs allocated on the shop floor. You can set job inclusion criteria; the production scheduler can then review open component requirements and take actions.

Parameter	Description
Default Dispatch List Type	Determines the type of dispatch list to display when the workstation is initialized. Choices are • Current: Includes jobs running on the shop floor, having assembly quantity in any step except scrap • Scheduled: Includes all the current work plus other job operations scheduled
Default Intra Op Step, page 2-18	Specifies the default To intraoperation step for move transactions. Choices are Queue, Run, or To Move.
Default Scrap Account, page 2-19	Used when the organization requires a scrap account.
Departmental Access	Determines which records display in the Department list of values of the Startup page. Choices are: • All—All departments in a particular organization appear. • Assigned—Only departments where the employee is assigned as a resource instance appear on the Dispatch List; and move transactions can only be performed by those assigned employees.
Dispatch List Ordering Criteria, page 2-20	Specifies the fields and order displayed on the dispatch list.
Display Clock In Information	Determines whether shift time and clock in information is displayed. This parameter is only used in single user mode. Choices are Yes or No.
Dispatch List Working Order	Specifies the order for working on jobs as shown on the dispatch list. Choices are Any Order or First Ready.

Parameter	Description
Display Barcode on Work Content Page	Enables the ability to display scanned barcodes for work order number, assembly name, operation, and assembly serial number on the Work Content page. Choices are Yes or No (default value).
Enforce Sequential Move	Sets flag for sequential moves for assemblies. If set to: • Yes—the move transaction is restricted to the operation up to the next count point operation. This controls move transactions to particular departments. Backward moves are allowed if this parameter is set to Yes. • No—you can move to any operation. Sequential moves are applicable to both serialized and non-serialized jobs. Sequential move functionality is designed to prevent skipping of operations, but does not prevent moving back to a previous operation.
Global Actions, page 2-21	Specifies which global actions display in the MES Workstation and the MES Supervisor Workbench.
Include Complete Quantity in Dispatch List	Include or exclude job operations in the current and scheduled dispatch lists that have quantities in the To Move operation step. Choices are Yes or No.
Include Job Status, page 2-23	Specifies status of jobs displayed in dispatch lists and the Supervisor home page.
Job Operation Actions, page 2-24	Specifies actions available for job transactions. You can create the action in a list of values or button display.

Parameter	Description
Job Selection Mode	Sets your preference for job search display when initializing the workstation. Your choices are: • Dispatch List—search criteria is selected for and displayed in the dispatch list • Job or Sales Order—search criteria is selected by job or sales order record to display in the dispatch list • Assembly Serial Numbers—the Search Serial Numbers page is the initial page displayed for selecting records
Job Traveler Template Setup, page 2-25	Provides the ability to associate a template to a job traveler at the item, category, or organization level.
Labor Performance Metrics, page 2-27	Configures the labor performance metrics definitions displayed in the Labor Performance views on Supervisor Dashboard.
Move Option	On the Move Assembly page, this parameter enables you to combine a move transaction with scrap or reject transactions. Choices are Move, Move and Scrap, or Move and Reject.
Operator Skills Validation, page 2-29	Used to define and configure operator skills validation at Clock In and for move transactions for organizations.
Production to Plan KPI, page 2-32	Used to configure the key performance indicators displaying on the Supervisor Dashboard. These indicators are used to monitor progress on the shop floor.
Ready Status Criteria, page 2-34	Specifies when a released job is ready for work on the shop floor. Choices are No Exceptions, No Shop Floor Status Assigned, and Quantity in Queue or Run.

Parameter	Description
Reason Codes for Exception Types, page 2-35	Used to associate reason codes with the different exception types.
Relation for Operation Completions	Sets the relationship used in pulling in related job operations appearing on the page when performing express job operation completions. The options are: • Project • Project and Task • User Defined • Schedule Group See: Performing Express Completions for Related Job Operations, page 3-37
Require Badge Number for Move Transaction	Requires the employee to enter his badge number when reporting moves and completions. This parameter is not applicable for single users. Choices are Yes or No.
Resources for Capacity Shortages, page 2-36	Defines which resources to consider when calculating potential capacity shortages.
Retain Badge Number	Controls whether to retain the badge number on the dispatch list when entered by the employee. The badge number appears until cleared. Your choices are Yes or No.
Search Job/Serial Operation Actions, page 2-37	Specifies list of actions available on the Search Jobs and Search Serial Numbers pages.

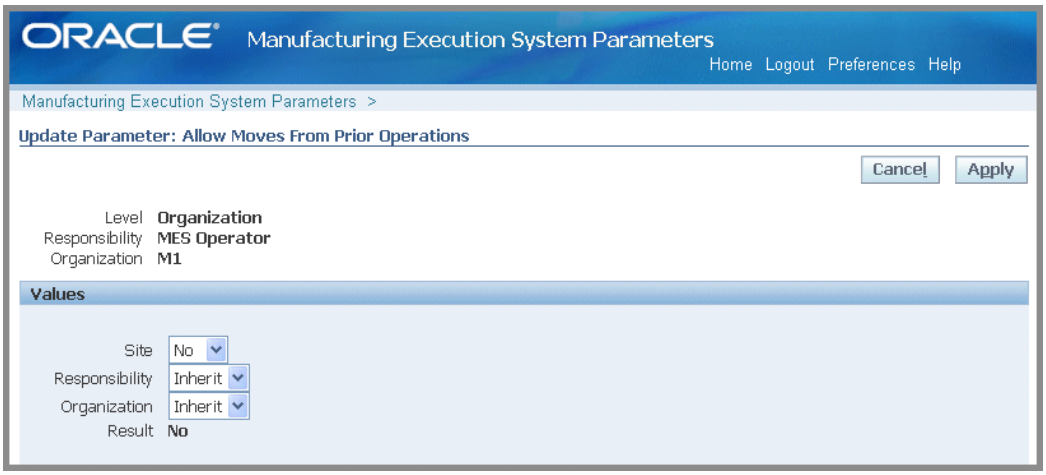
Parameter	Description
Simultaneous Clock In, page 3-71	Determines whether an operator can be restricted in clocking in to multiple job operations. This parameter is only used in single user mode. Choices are Yes, No, or Warning. • Yes, there are no restrictions on Clocking In to multiple job operations. • Warning, when Clocking In to a new job operation - you are given the option to Clock Out of other job operations. • No, this option is disabled.
Single User Mode	Specifies if only one operator is working on a job operation through a single login. Choices are Yes or No, if set to: • Yes—the employee Badge Number field is not shown but derived from the user login identification. • No—the employee Badge Number field must be manually entered for performing transactions and those values are shown on the MES pages.
Standard Operations for Move Labels, page 2-38	Defines the operations where labels are automatically printed when a move transaction is performed.
Supervisor Dashboard View, page 2-39	Controls which performance indicators display on the Supervisor Dashboard.
Time Entry Mode, page 2-40	Controls shift and clock functionality for time and labor reporting.
Work Content Actions, page 2-42	Specifies the list of actions available on the Work Content page.
Work Content Layout, page 2-43	Specifies how page and tab regions are displayed in the Work Content page.

Allow Moves From Prior Operations

Enables flexibility in move transactions by providing a list of values at the From operation to support out-of-order operation completion reporting. You can select any operation up to the current operation. If there is no quantity in the current operation, the From operation defaults to the previous operation, if the quantity is not split in multiple operations.

Values are Yes or No.

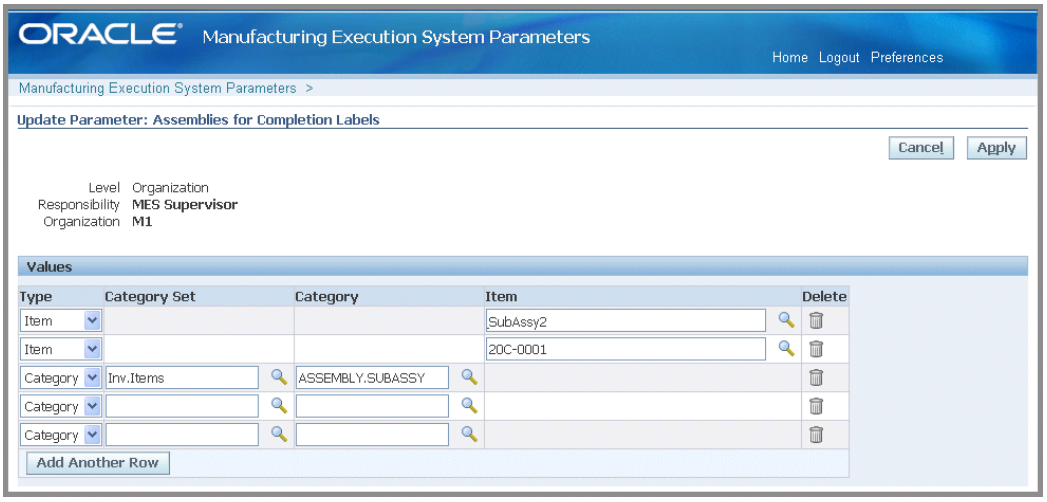
> **Note:** Express Move transactions are not supported when the value is set to Yes.



Assemblies for Completion Labels

Specifies which assemblies have labels automatically printed when the completion transaction is recorded. This parameter is set only at the organization level. Label printing can be defined for either the assembly item or category type. If choosing:

- Assembly level, select the assembly in the Item field
- Category level, select both the Category Set and Category values



See:

Defining Categories, *Oracle Inventory User's Guide*

Defining Category Sets, *Oracle Inventory User's Guide*

Job Operation Actions, page 3-13

Attachment Sources

The workstation provides the ability to display attached instructions and documents pertaining to your production. This can include procedures, diagrams, and assembly instructions. Attachments are viewable in the Instructions panel in the Work Content page and the Work Order details page in the Supervisor Workbench. The attachment displays in a frame, the size is set in the Workstation parameter Attachment Window Height. If more than one attachment exists, documents appear in a sequential format. You can specify the order of display in the table when you setup the attachment.

Instructions and documents are attached to entities in their specific product application. For example, an instruction for operations are attached in the Operation window in Oracle Bills of Material.

To setup attachments for viewing in the Work Content page:

1. In specific product applications, attach the instructions and documents.

   You can attach instructions to the following entities for display in the MES Workstation:

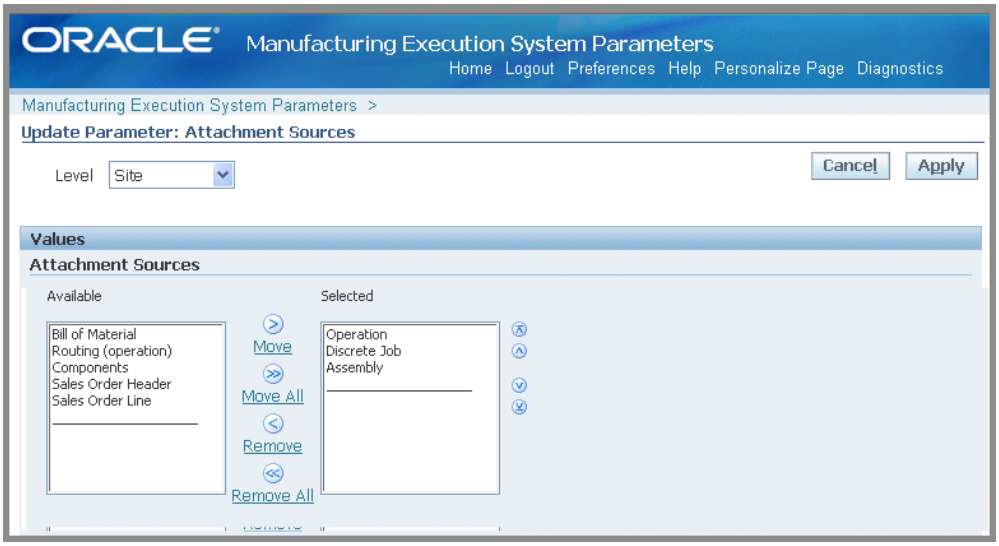
   - Assembly
   - Bill of Material
   - Components

- Discrete Job
- Operation
- Routing (operation)
- Sales Order Header
- Sales Order Line

2. Set the frame for viewing in the workstation parameter Attachment Window Height.

3. In the Attachment Sources boxes, select where to display the instructions and attachments.

   Select attachment source from the Available box—and move to the Selected box. The order listed in the Selected box, is the order displayed on the page. Use the Arrow tool to change the order. This enables you to prioritize the attachments.



4. Choose Apply to save your work.

You also have the ability to view attachments on the Dispatch List, Search Job, and Search Serial Number pages. The View Attachment icon, enabling you to select attachments, is hidden by default. You can reconfigure your view on these pages on the Personalization Structure page, see: Configuring Document Attachments, page D-1

Component Availability Calculations

This parameter is used to define component allocation rules for work orders used in the Component Availability Calculations concurrent request. program. Component

allocation data is viewable on the Component Availability page of the Supervisor Dashboard. You can review open component requirements on the Job View and Component View tabbed regions, and then make decisions such as releasing, unreleasing, canceling, or putting a jobs on hold. See: Viewing and Managing Component Availability, page 4-50

For each organization and calculation level record set in this parameter, define options in the following areas:

- Job priority rules
- Job inclusion criteria
- Component inclusion criteria
- Forced allocation rules

  You can also use the Reservation check box to reserve components for multiple work orders based on the job priority rules, job inclusion criteria, and the component inclusion criteria.

This parameter is set at the site level only.

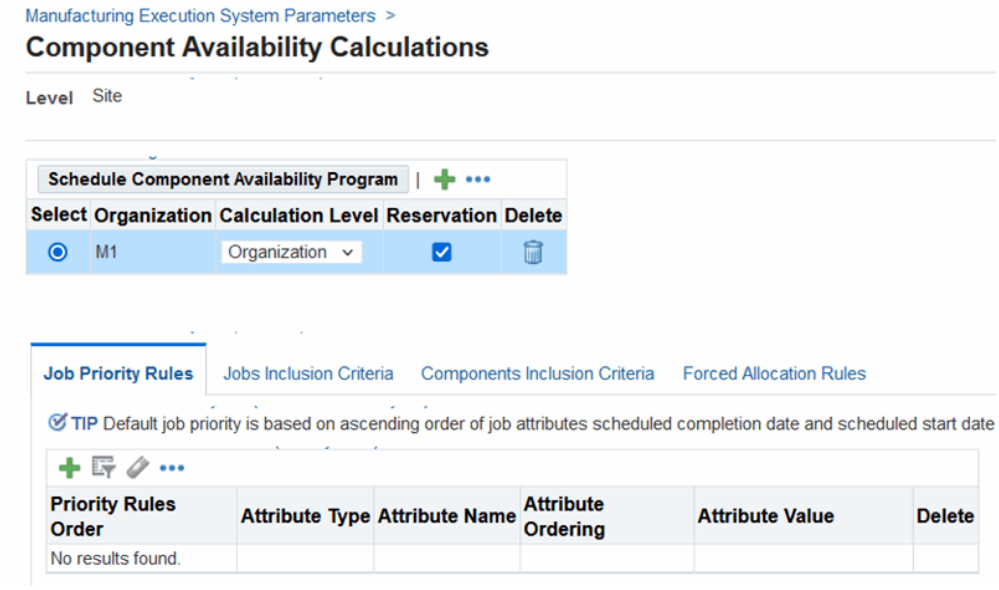
To define component availability calculations:

1. Navigate to the Component Availability Calculations parameter.
2. Select values for Organization and the associated Calculation Levels for each record.

   Calculation levels are either on one of two levels—an entire organization, or a subinventory within an organization.

   > **Note:** The Component Availability Calculation program allows only one record per organization.

Component Availability Calculations

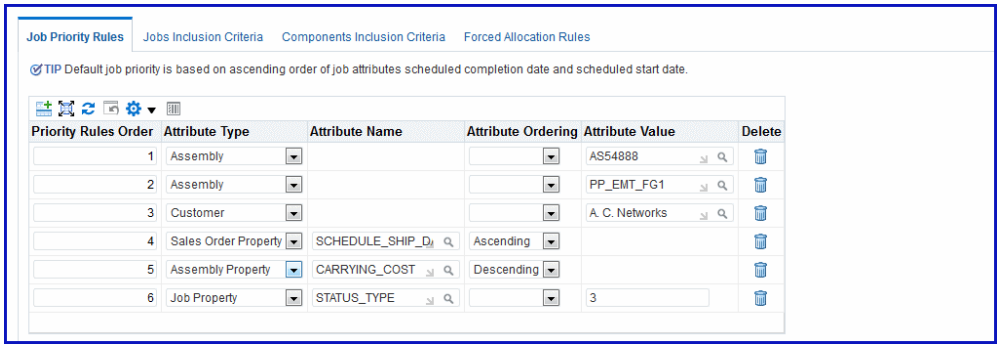


3. Select the Reservation check box to create reservations for components. If you select the Reservation check box, then during component availability calculations, component reservations are created or updated for multiple work orders based on the job priority rules, job inclusion criteria, and the components inclusion criteria that you define.

4. Use the Job Priority Rules tabbed region to enter the chronological priority order of job operation components considered for allocation.

   In the Priority Rules Order field, set the ascending order of the attribute to be considered from first to last.

Job Priority Rules



5. Select a value in either the Attribute Type or Attribute Name field. Attribute Type choices are:

   - Assembly
   - Assembly Category
   - Job
   - Customer
   - Assembly Property
   - Job Property
   - Sales Order Property

   Note: These are system seeded values, you cannot add or remove Attribute Type records.

6. For each attribute selected, select the Attribute Ordering type. Choices are Ascending or Descending.

7. Optionally, select a value in the Attribute Value field.

8. Use the Jobs Inclusion Criteria tabbed region to select values for various options to determine if a job is considered for the component availability calculation.

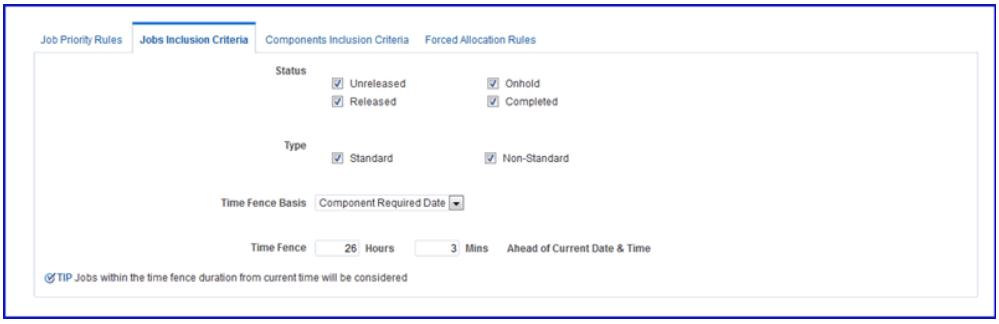
   In the Status region, select work order statuses to use. Status is not considered for calculation if these boxes are unchecked. Choices are:

   - Unreleased

- On Hold
- Released
- Completed

9. In the Type region, select the work order types considered in the calculation. Choices are Standard and Non-Standard.

Job Inclusion Criteria



10. Select the Time Fence Basis to use in the calculation. This is the point in time the work order is considered in the calculation. Choices are:
    - Job Start Date
    - Job Completion Date
    - Component Required Date

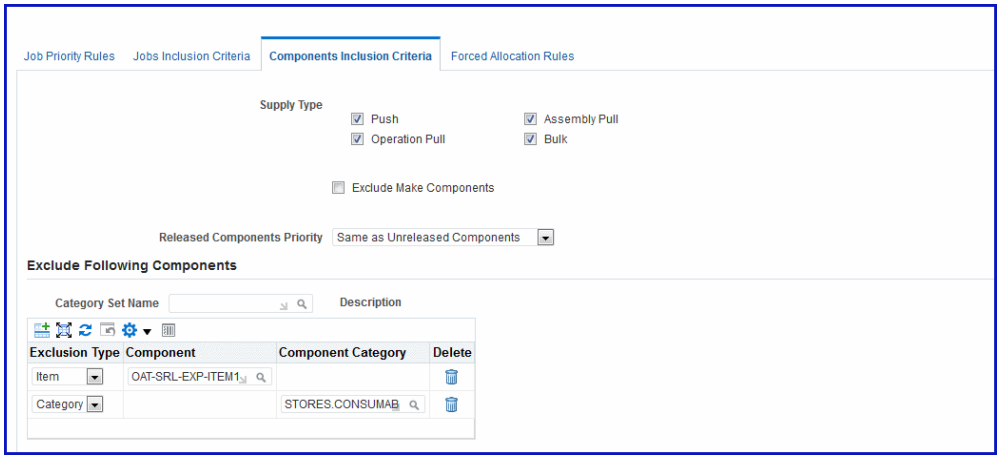
11. In the Time Fence fields, select the time range used for the basis. Enter values in the Hours and Minutes fields.

12. Use the Components Inclusion Criteria tabbed region to select components, supply types and category types considered for the component availability calculation.

    Select values in the Supply Type region–choices are Push, Assembly Pull, Operation Pull, and Bulk.

13. Enable the Exclude Make Components check box if you do not want components that are manufactured in your organization, and only Buy components (components purchased).

Components Inclusion Criteria



14. In the Released Components Priority field, select one of the priority levels for consideration. This setting determines if components already pick released are to be given higher priority in the allocation of material:

    - Higher than Unreleased Components: Setting it to high priority gives first priority of allocation to already picked components.

    - Same as Unreleased Components: The allocation priority will be the same priority definitions set in the Job Priority Rules tab

15. Use the Exclude Following Components region to list components excluded for component availability calculation. You have the option to select Category Set Name values to exclude.

    Category sets are used to assign items to category classifications that can be used in calculations for shortages. See: Defining Category Sets, *Oracle Inventory User's Guide*

16. In the table, select individual Categories or Items to exclude.

    - If Item is selected, select the Component to exclude.

    - If Category is selected, select the Component Category to exclude.

17. Use the Forced Allocation Rules tabbed region to set values for jobs exempted when you manually allocate records. The following rules are used:

    - Attribute exemptions listed are used to skip components in the forced allocation action.

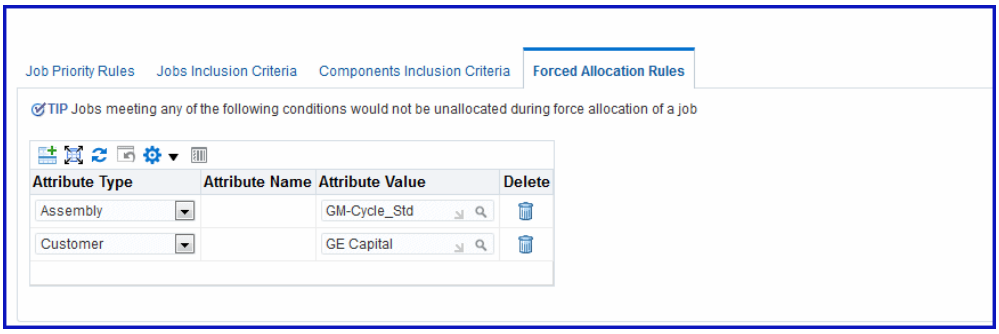
    - Priority Rules Order sequence sort order or value determines the priority order.

- Each record combination of Attribute Type, Attribute Name, and Attribute Value must be unique.

Select a value in the Attribute Type field. Choices are:

- Assembly
- Assembly Category
- Job
- Customer
- Assembly Property
- Job Property
- Sales Order Property

Forced Allocation Rules



18. Select a value for the attribute selected in the Attribute Value field.

19. Select Apply to save your work.

20. Select Schedule Component Availability Program to schedule the Component Availability Calculations concurrent request.

    The Schedule Request: Schedule page appears where you can select runtime details for this request. You can also access the concurrent request through the Global Actions box. See: Launch Component Availability Calculation, page 2-12

Default Intra Op Step

This parameter is used to specify the default To intraoperation step for move transactions. Each step has a value. You can choose one of the following:

- Queue
- Run
- To Move

> **Note:** Values of Reject and Scrap are not available as default move transactions.

The default logic for Intraoperation steps in the MES Workstation progresses in the following way:

- When the default step is greater than the From operation step, the To operation is used as the From operation default.

  For example, for Operation 10 Queue moves, if the default step is set to Run—the To operation is defaulted to Operation 10, and the To step default is Run.

- When the default step is less than or equal to the From step, the To operation is defaulted to the next count point operation.

  For example, for Operation 10 Queue moves, if the default step is set to Queue—the To operation is defaulted to Operation 20, and the To step default is Queue.

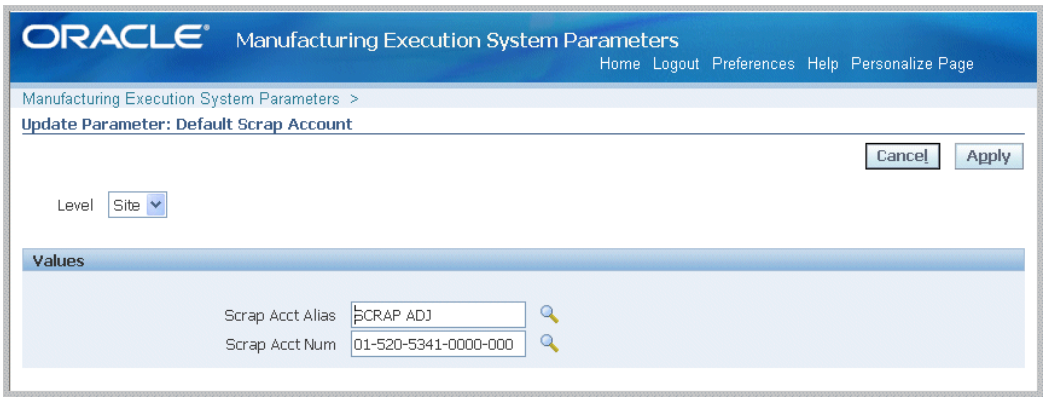
- When the From operation is the last operation in the routing, and the default step is less than or equal to the From step—the To step default is To Move.

  For example, for Operation 20 Queue moves, if this is the last operation and the default step is set to Queue—the To operation is defaulted to Operation 20, and To step default is To Move.

- When moving from To Move of the last operation—the To step is defaulted but not the To operation, because there are a number of possibilities for the backward moves.

Default Scrap Account

This parameter is used when the organization requires a scrap account, and there is a value in the Quantity to Scrap field for move transactions. Select a value in the Scrap Account field. Or select an alias value in the Scrap Account Alias field, the account number appears in the Scrap Account field.



Dispatch List Ordering Criteria

The Dispatch List Ordering Criteria page determines the order in which job operations are shown on the dispatch list on the workstation. Fields are specified in ascending or descending order, and you can set an Ignore Time flag. In the Values region, select ordering criteria including:

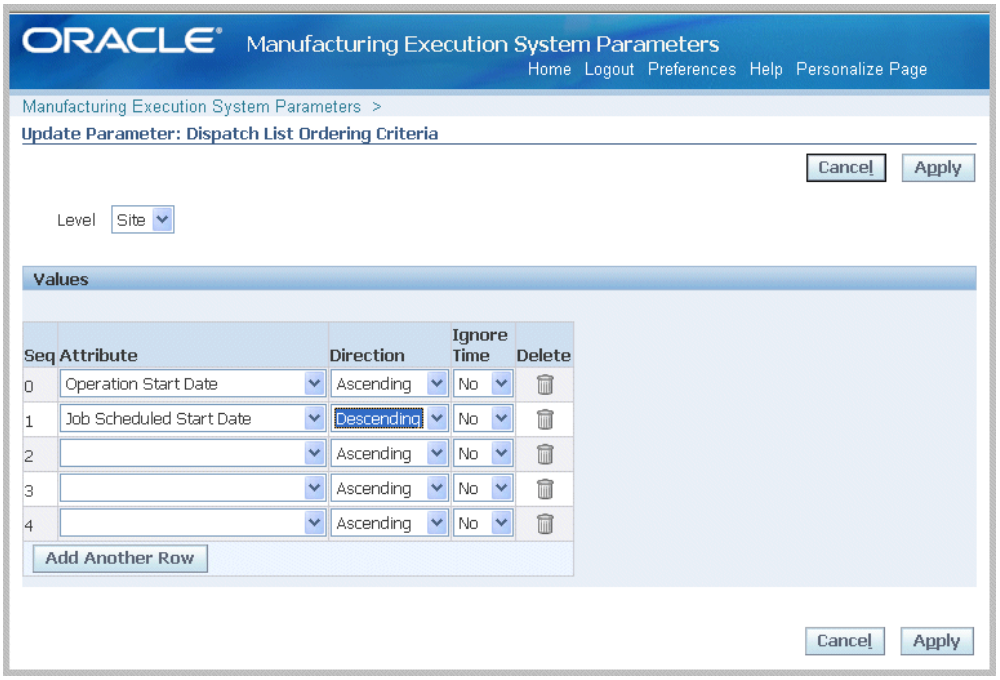
- Sequence Attribute

  You can choose from the following values:

  - Assembly
  - Build Sequence
  - Custom Order Attribute 1
  - Custom Order Attribute 2
  - Job Due Date
  - Job Scheduled Completion Date
  - Job Scheduled Start Date
  - Line
  - Operation Completion Date
  - Operation Start Date
  - Schedule Group

    Note: You can use the sequence attributes—Custom Order Attribute 1 and Custom Order Attribute 2—to order your dispatch

list using customized values. See: Ready Status, page C-19



- Direction

  Specify how you want sequence attributes ordered on the page. Select Ascending, in order of lowest to highest choice, or Descending, in order of highest to lowest choice.

- Ignore Time

  This flag is used if you do not want to display the time component of date and time values. When set to Yes, only the date displays, and not the time value.

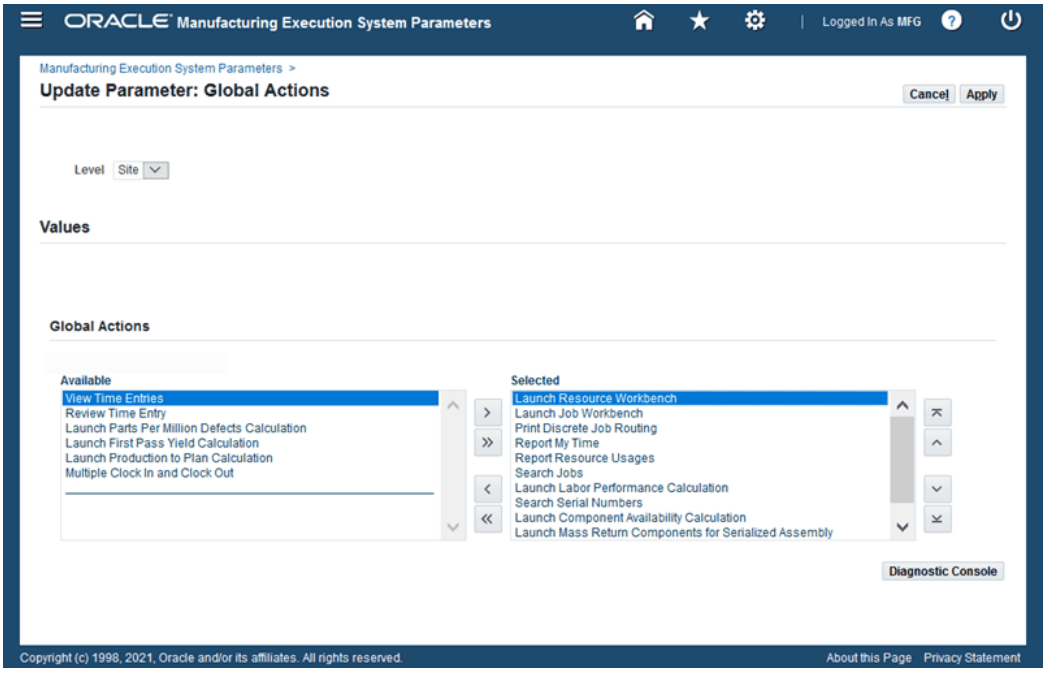
Global Actions Parameter

You can restrict access to the actions in the global list in the MES Workstation and MES Supervisor Workbench based on site, role, organization and department. These actions include:

- Launch Component Availability Calculation
- Launch Mass Return Components for Serialized Assembly
- Launch First Pass Yield Calculation
- Launch Labor Performance Calculation

- Launch Production to Plan Calculation
- Launch Resource Workbench
- Launch Job Workbench
- Launch Parts Per Million Defects Calculation
- Multiple Clock In and Clock Out
- Print Discrete Job Routing
- Report My Time
- Review Time Entry
- Report Resource Usages
- Search Jobs
- Search Serial Numbers
- View Time Entries

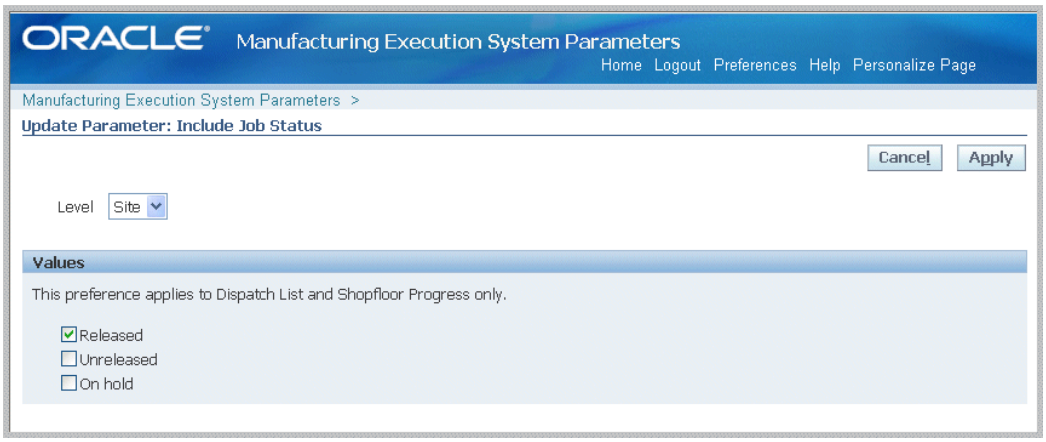
Select Global Actions from the Available box—and move to the Selected box. The order listed in the Selected box, is the order displayed on the page. Use the Arrow tool to change the order they appear in the pop-list. See Global Actions, page 5-1



You have the ability to add other reports and functions you use on a regular basis to these actions. This is accomplished by setting up these menu options in the Form Functions and Manufacturing Lookups windows, see: Customizing Global and Job Operation Actions, page 5-5 and Form Functions Window, *Oracle E-Business Suite System Administrator's Guide - Security*

Include Job Status

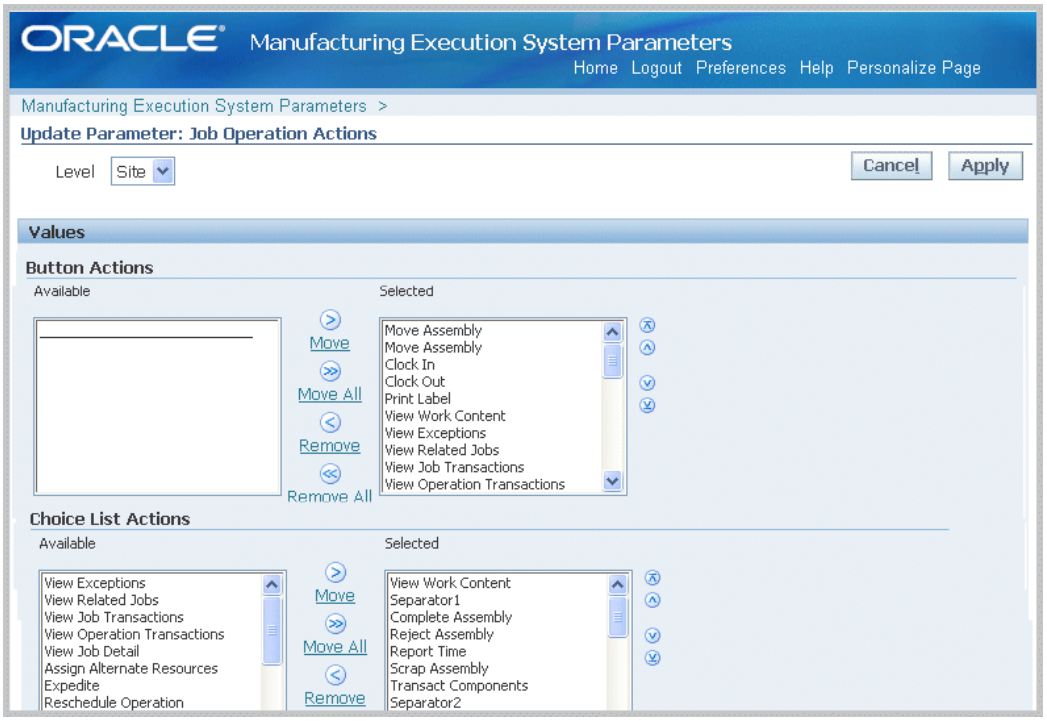
This parameter specifies job statuses displayed in dispatch lists, and in the Shop Floor Progress region on the Supervisor home page. Choices are Released, Unreleased, and On Hold.



Job Operation Actions

This parameter is used to list the actions available for job transactions. You have the option to specify if the listed actions are viewed on the page as buttons in the Button Actions region, or as a drop-down list of values in the Choice List Actions region. For the Choice List Actions, the order actions are listed in the Selected box, determines your order on the page.

Select categories from the Available box—and move to the Selected box. Actions are displayed only in one mode on a page, that is, a button or drop-down list. Choose Apply to save your work.



The available Job Operation Actions include: .Assign Alternate Resources, Assign Shop Floor Status, Clock In, Clock Out, Complete Assembly, Expedite, Job Off , Job On, Move Assembly, Move and Complete, Print Label, Reject Assembly, Report Exception, Express Complete Related Job Operations, Report Time, Reschedule Operation, Reserve Components, Return Assembly, Return and Move, Return From Reject, Return From Scrap, Separator1, Separator2, Separator3, Scrap Assembly, Transact Components, Undo Clock In, Undo Expedite, Update Exceptions, Update Note, View and Print Job Traveler, View Exceptions, View Job Detail, View Job Transactions, View Operation Detail, View Operation Transactions, View Related Jobs, and View Work Content.

See: Job Operation Actions, page 3-13

You have the ability to add other reports and functions you use on a regular basis to these actions. This is accomplished by setting up these menu options in the Form Functions and Manufacturing Lookups windows, see: Customizing Global and Job Operation Actions, page 5-5

Job Traveler Template Setup

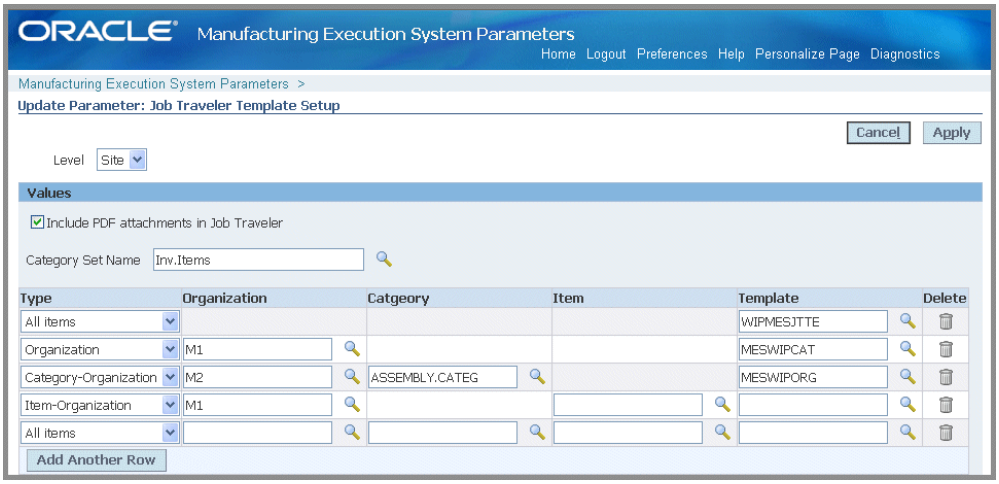
The Job Traveler Template Setup parameter provides the ability to associate a template to a job traveler. You can view and print a job traveler from the Dispatch List, Search Jobs, Work Content, and Shopfloor Progress pages. This parameter enables you to configure a template for job travelers at several different levels including item, category, or organization level—and also enables you to include separate PDF files as appendices to the traveler document. It is set at the site level only.

To setup a job traveler template:

1. Navigate to the Job Traveler Template Setup page.

2. Enable the Include PDF attachments in Job Traveler if you want to include separate PDF document file attachments.

   These documents are printed at the end of the traveler as appendices.



3. Select a value in the Category Set Name field to create a template for a category set.

   Categories and category sets are used to group items for reporting. See: Defining Categories, *Oracle Inventory User's Guide*, and Defining Category Sets, *Oracle Inventory User's Guide*

   > **Note:** Oracle recommends that you do not enable the feature, Allow Multiple Item Categories, for the category sets you assign to the template. The job traveler feature requires one item category per job traveler template record.

4. In the Type field, select the level or hierarchy of levels you want to configure for your template:

   - All Items: Associate the template to all items across all your site's organizations. If you choose this option—the Organization, Category, and Item fields are disabled.

   - Organization: Associate the template across the organization. Select an organization, the Category and Item fields are disabled.

   - Category-Organization: Associate the template across the organization for a particular category. Select an organization and category. The Item field is

disabled.

- Item-Organization: Associate the template across the organization for a specific item. Select values in the Organization and Item fields.

5. In the Template field, select a template record.

   A default template is provided, WIPMESJTTE. You can attach custom templates created using Oracle XML Publisher.

6. Select Apply to save your work.

See: Job Operation Actions, page 3-13

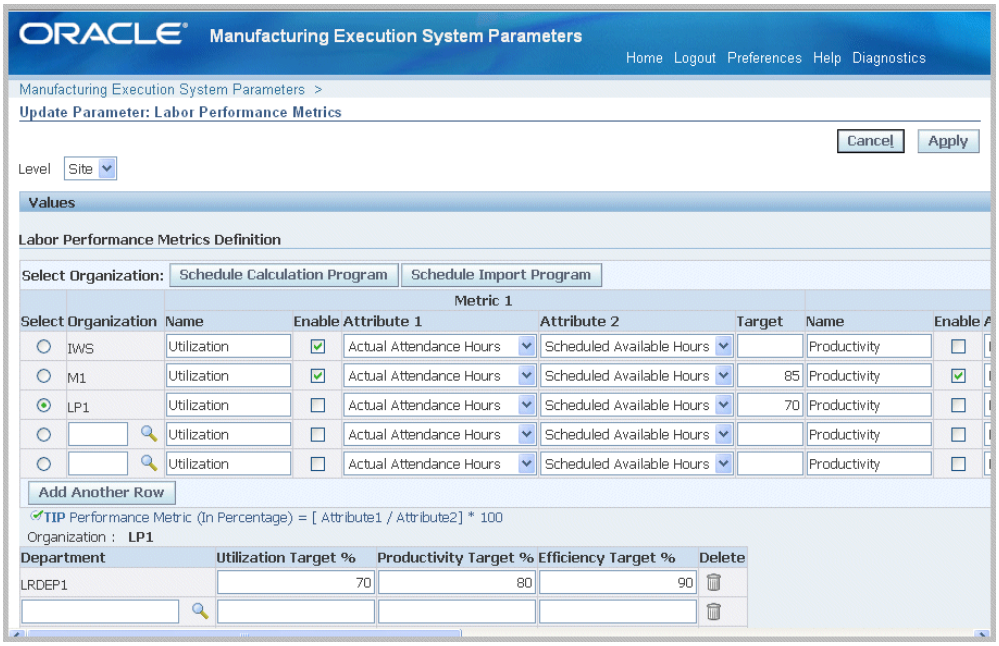
Labor Performance Metrics

This parameter defines the labor performance metrics displayed in the Labor Performance views on Supervisor Dashboard. These views include the Labor Performance chart, Labor Performance View, and Labor Performance Summary. This parameter is set at the site level only.

To define your labor performance metrics values:

1. Navigate to the update Labor Performance Metrics page.

2. In the Labor Performance Metrics region, select a value in the Organization field. You can create one record per organization.



3. For each organization enter values for Metrics 1 - 3.

   - Name—This name displays on the Labor Performance chart. Three labor performance metrics are system provided, and comprises the following calculations:

     - Efficiency—Earned Hours / Direct Labor Hours

     - Productivity—Direct Labor Hours / Actual Attendance Hours

     - Utilization—Actual Attendance Hours / Scheduled Available Hours

     You can customize the metric name to meet your site's specifications. For example, you can rename the a specific metric to something more specific to your site.

   - Attribute 1, Attribute 2—Choices are Actual Attendance Hours, Direct Labor Hours, Earned Hours, and Scheduled Available Hours.

   - Target—Enter a percentage value for the goal of this metric.

4. You have the option to define metrics, but choose not to use them in the calculations. Check the Enable box for the metrics you want defined in your calculation.

   Note: Metrics must be enabled to be considered in the calculation program.

5. You can also set a target for the metrics at department level. Specify the target for each department.

   If no value is entered here, the calculation program uses the organization level value.

   If you have customized the name of the metric, that customization displays here.

6. Select Apply to save your work.

7. Select an organization row, and choose Schedule Calculation Program to launch the Labor Performance Metrics concurrent request program. The Schedule Request: Schedule page appears where you can select runtime details for this request. The program considers the parameter values to calculate values for each organization. This information is displayed on the Labor Performance chart. You can also access the concurrent request through the Global Actions box.

8. Select Schedule Import Program to use time and attendance data from another system.

See: Labor Performance View, page 4-11

Operator Skills Validation

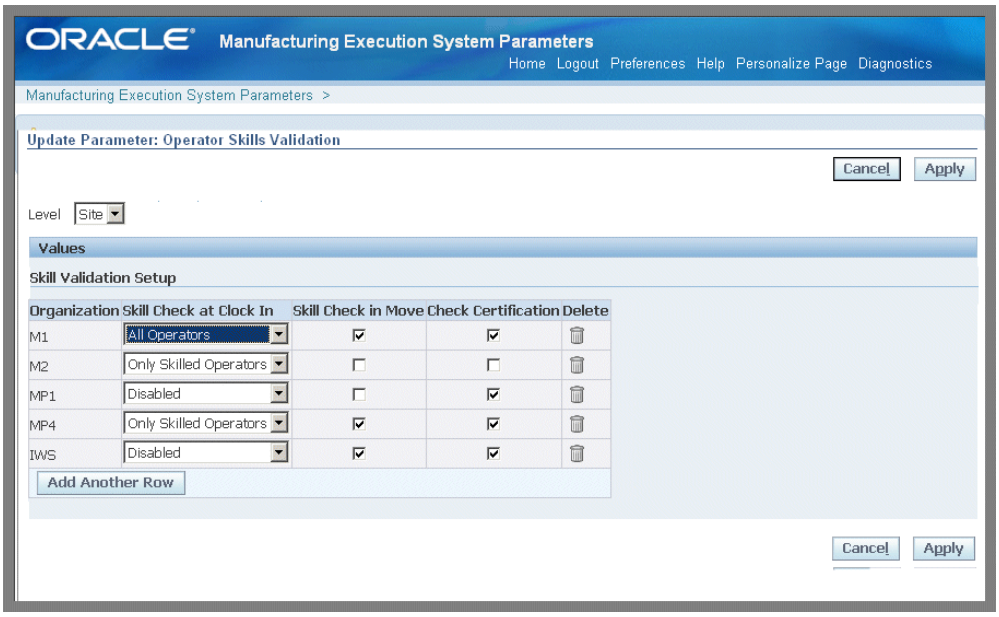
The Operator Skills Validation parameter defines and configures organizations to check for the skill requirements during Clock In and move transactions. Use this parameter to specify the organizations that require competencies and qualifications are confirmed before enabling move transactions. This feature is setup in several Oracle Applications, see: Labor Skills Validation Setup, page 2-31

To enable operator skills validation at the organization level:

1. Navigate to the Operator Skills Validation parameter.

   Note: This parameter is set at the Site level.

2. Select appropriate organizations in the Organization field.



3. In the Skill Check In at Clock In field, set the type of employee confirmation needed during operation Clock In. Your choices are:

   - All Operators

     All operators (resources) are permitted to Clock In to the job operation—both skilled and unskilled. This enables all resource transactions to be reported for the operation. However, at least one skilled resource is required for job transactions at Clock In for the job operation.

   - Only Skilled Operators

     Only skilled operators can Clock In to the job operation. The Clock In transaction will fail if the operator does not meet the skill requirements.

   - Disabled

     Skills validation is not required at Clock In for this organization.

4. Enable or disable the Skill Check in Move check box. This specifies if the skill check is required for move transactions.

   If this value is enabled, the operator performing the move transaction is required to have all the specified competencies at the appropriate skill levels, qualifications, and certifications to perform the job operation. If the move is across multiple operations, the skill check is effective for each performed operation where the skill check is enabled.

5. Enable or disable the Check Certification check box. This specifies if certification is required for move transactions.

6. Select Apply to save your work.

Labor Skills Validation Setup

Labor skills validation is used to certify the qualifications and required competencies for operators performing assigned manufacturing activities. This helps you meet International Organization for Standardization (ISO) 9000 standards, preventing potential errors during job transactions. Regulatory requirements for specific industries may mandate companies to execute and document employee competencies.

The setup for labor skills validation is integrated with other Oracle applications including Human Resources Management Systems, Bills of Material, Work in Process, and E-Records.

1. **Human Resources Management Systems**

   - Setup required competencies including certifications and skill levels.
   - Setup qualifications.
   - Associate competencies and qualifications to employees.

   For procedures on setting up Human Resources Management Systems functionality, see:

   - Competencies Overview, *Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide*
   - Competency Requirements, *Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide*
   - Defining Competencies, *Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide*
   - Creating a Competency Profile, *Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide*
   - Qualification Types, *Oracle HRMS Workforce Sourcing, Deployment, and Talent Management Guide*

2. **Bills of Material**

   - Define competencies for standard operations.
   - Define competencies for routing operations.

   For procedures on setting up Bills of Material functionality, see:

   - Creating a Standard Operation, *Oracle Bills of Material User's Guide*

- Creating a Routing, *Oracle Bills of Material User's Guide*

3. **Work in Process**

   Define competencies for the operations on jobs, see: Adding and Updating Operations, *Oracle Work in Process User's Guide*.

4. **E-Records**

   Setup e-records for capturing the competencies validated during move transactions, , see:

   - Evidence Store, *Oracle E-Records Implementation Guide*
   - Implementing E-Records, *Oracle E-Records Implementation Guide*

5. **MES for Discrete Manufacturing**

   Configure Operator Skills Validation parameter.

Production to Plan KPI

This parameter defines the key performance indicators on the Production to Plan graph on the Supervisor Dashboard. Supervisors use this graph to review shop floor progress and then take appropriate actions. The parameter is set at the site level only.

The page displays a table containing values used for the scheduling calculation method per organization record. You select a specific organization and launch the Production to Plan Calculation concurrent request.

To set Production to Plan key performance indicators:

1. Navigate to the Production to Plan KPI parameter page.
2. Select an Organization. You can create only one record per organization.
3. Select a calculation method, your choices are:
   - Quantity

     If this method is selected, then the calculation for both planned and production is only based on quantity. The calculation is:

     Calculation = [(Actual production quantity) / (Planned quantity)] * 100

     The progress percent calculated for each job operation is then summed up, and the average is calculated at the department or organization level.

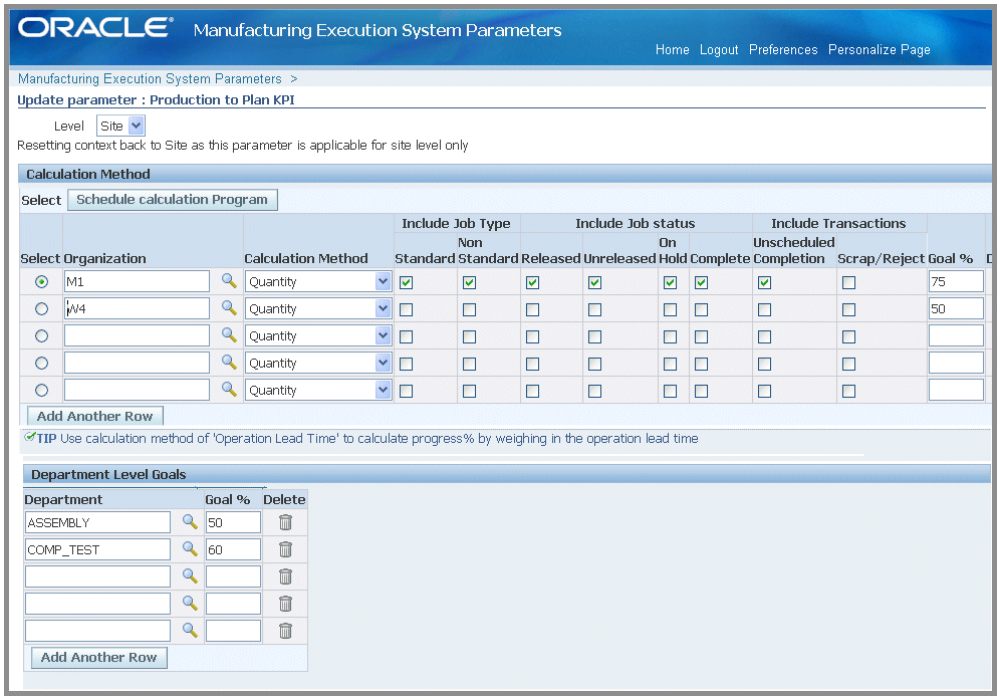
   - Operation Lead Time

     If this method is selected, then quantity for production and plan is adjusted

with operation lead time factored in. The calculation is:

Progress % = [{Sum (Actual production quantity * Operation Lead Time)} / {Sum (Planned quantity * Operation Lead Time)}] * 100

The progress percent calculated for each job operation is then summed up, and the average is calculated at the department or organization level.



4. In the Include Job Type field, your choices in the calculation are standard and non-standard jobs.

   If both standard and non-standard are unchecked, then jobs are not considered for calculation.

5. In the Include Job Status field, your choices in the calculation are Released, Unreleased, On Hold, and Complete.

   If no status is selected, then jobs are not considered for calculation.

6. In the Include Transactions field, your choices in the calculation are Unscheduled Completion and Scrap/Reject.

   Transactions on job operations which are not performed on the scheduled day and shift are considered as unscheduled completions. Scheduled day and shift is calculated based on the job operation completion time.

7. Enter a Goal % at the organization level for the production to plan. This value is user-defined.

8. In the Department Level Goals region, you can specify the objective of the percentage of parts completed for each department. Select a Department and enter a value in the Goal % field at the department level.

   If no value is entered here, the calculation program uses the organization level value.

9. Select Apply to save your work.

10. Select an organization row, and choose Schedule Calculation Program to launch the Production to Plan Calculation concurrent request program.

    The Schedule Request: Schedule page appears where you can select runtime details for this request. The program considers the parameter values to calculate values for each job operation rolled up to the department and organization. This information is displayed on the Production to Plan graph.

    You can also access the concurrent request through the Global Actions box.

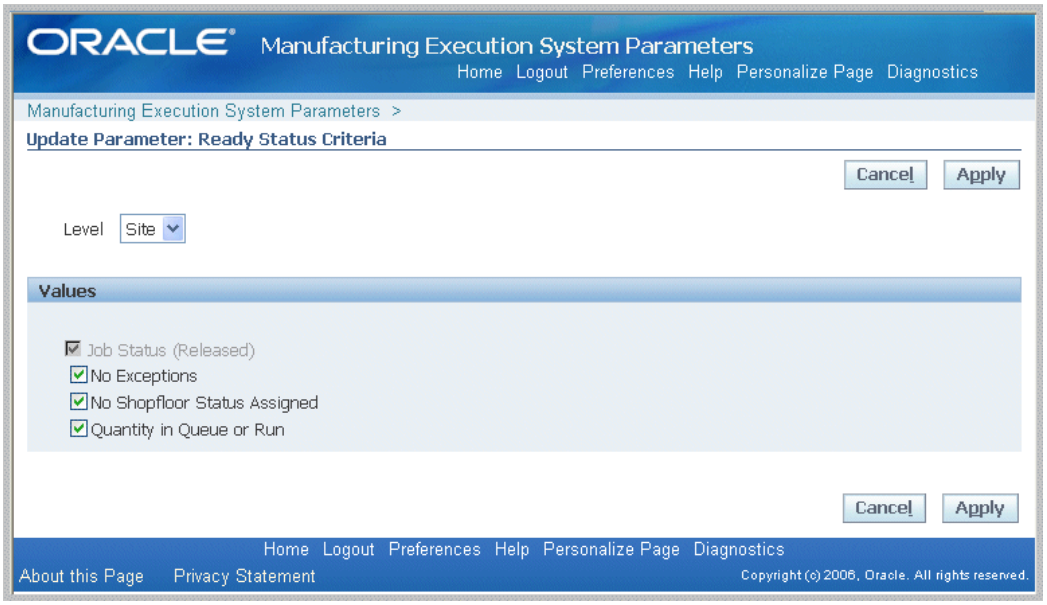
See: Production to Plan, page 4-9

Ready Status Criteria

This parameter specifies the criteria used to indicate if a released job is ready for work on the shop floor. When a job meets the conditions for work, the Ready check mark is automatically updated on the Dispatch List and Work Content page. Criteria includes:

- No Exceptions
- No Shop Floor Status Assigned
- Quantity in Queue or Run

Information on ready status details displays in the Status region of the Work Content page if set in the parameter Work Content Layout, page 2-43



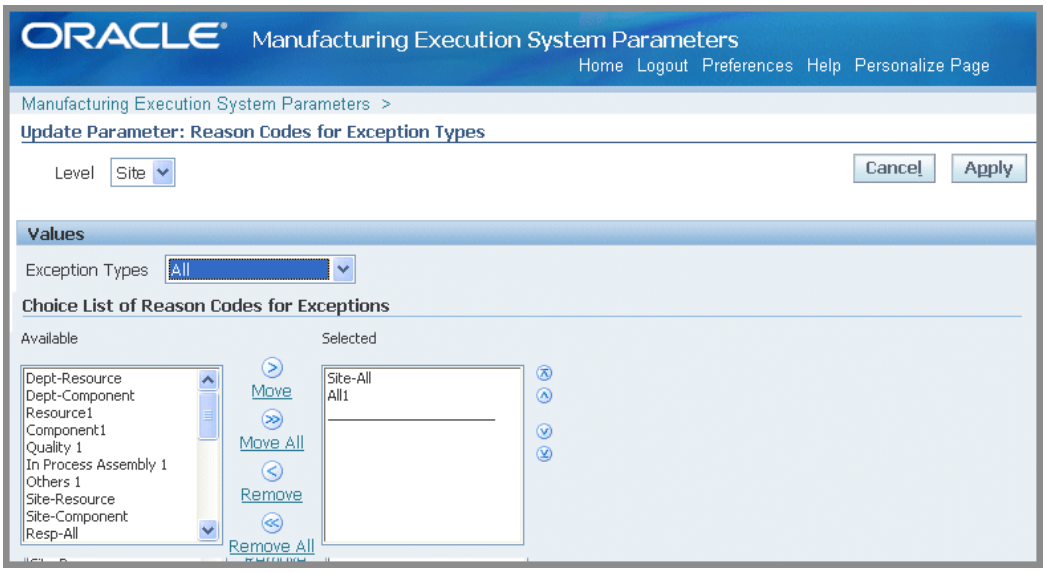
You can tailor the ready status calculation to meet your site's requirements using custom programming instructions to control job operation readiness. The Ready Status client extension is used to set your own criteria to determine if work can be performed on the job operation. See: Overview of MES Client Extensions and Packages, page C-1

Reason Codes for Exception Types

You can create relationships between reason codes and exception types. This information displays on the Exceptions, Add Exceptions to Impacted Jobs, and Closed Exceptions pages.

> **Note:** Reason codes are defined in the Work in Process Lookup, WIP_EXCEPTION_REASON_CODES.

Select reason codes from the Available box—and move to the Selected box. Select Apply to save your work



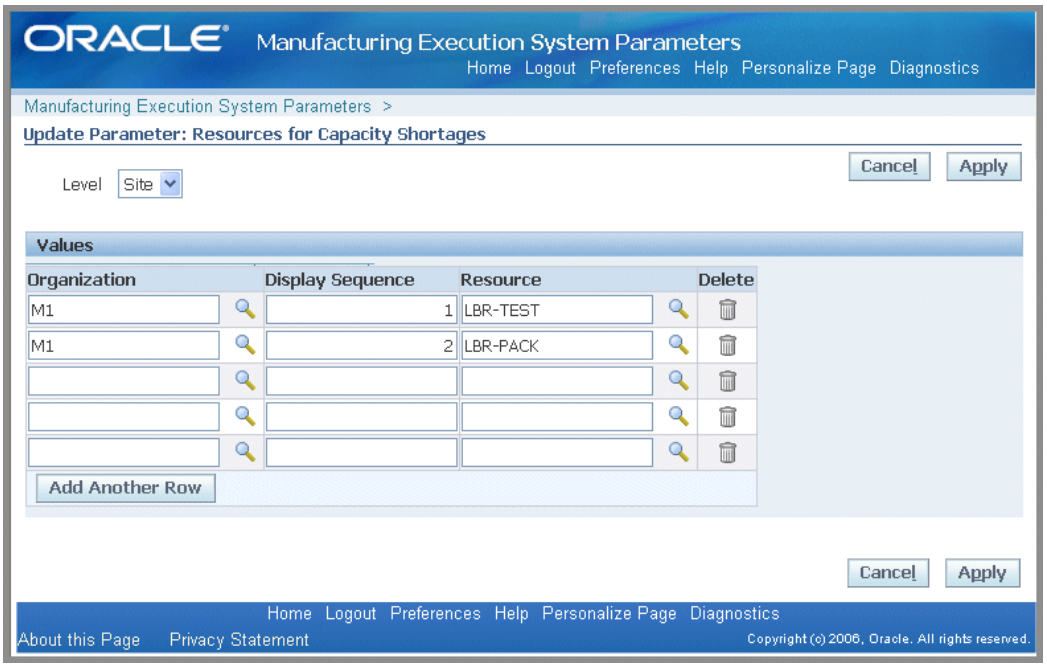
See: Job Operation Actions, page 3-13

Resources for Capacity Shortages

This parameter is used to specify resources considered in capacity shortage calculations.

Select the organization, enter a value in the Display Sequence field, and select a resource.

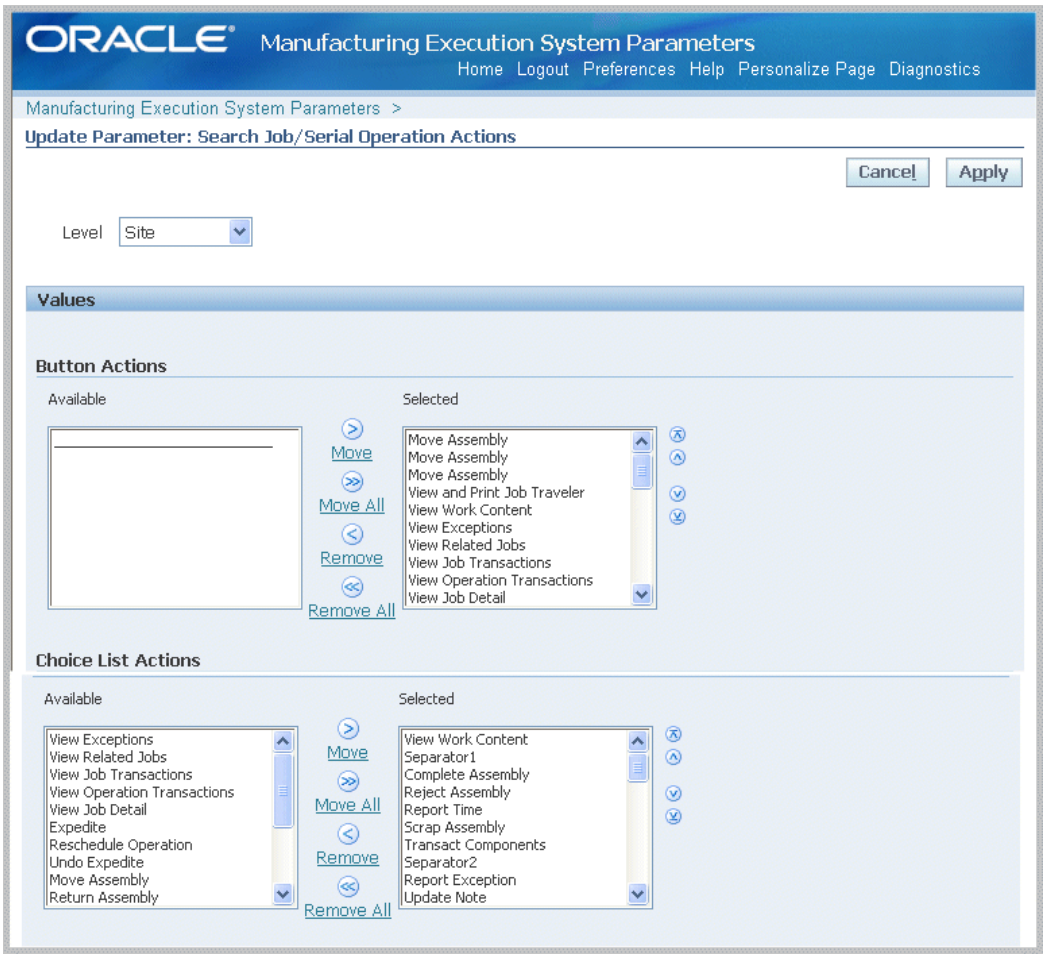
> **Note:** The lower the numerical value of the Display sequence rating, the higher the level in priority. Use positive numbers in this field.



Search Job/Serial Operation Actions

This parameter is used to list the actions available on the Search Jobs and Search Serial Numbers pages. You have the option to specify if the listed actions are viewed on the page as buttons in the Button Actions region, or as a drop-down list of values in the Choice List Actions region. For the Choice List Actions, the order actions are listed in the Selected box determines your order of preference on the page.

Select categories from the Available box—and move to the Selected box. Actions are displayed only in one mode on a page, that is, a button or drop-down list. Choose Apply to save your work.



This parameter has the same actions as the Job Operation Actions parameter, and the following additional tasks:

- Express Transact Components
- Mass Return Components
- View Assembly S/N

See:

- Job Operation Actions, page 2-24
- Searching for Serialized Jobs and Performing Express Moves, page 3-41

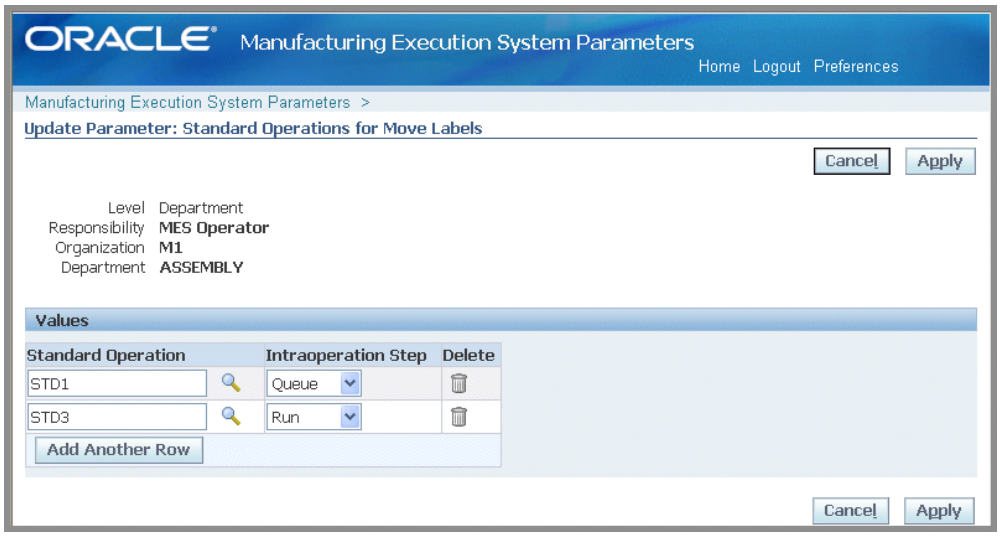
Standard Operations for Move Labels

This parameter defines the operations where labels are automatically printed when a move transaction is performed. This parameter is set only at the department level.

To set standard operations for move labels:

1. Navigate to the Standard Operations for Move Labels parameter.
2. In the Standard Operations field, select a valid standard operation code.
3. Select a value in the Interoperation Step field.

   Your choices are the steps enabled for your organization in the Work in Process Parameters file and can include Queue, Run, To Move, Reject, and Scrap.
4. Select Apply to save your work.



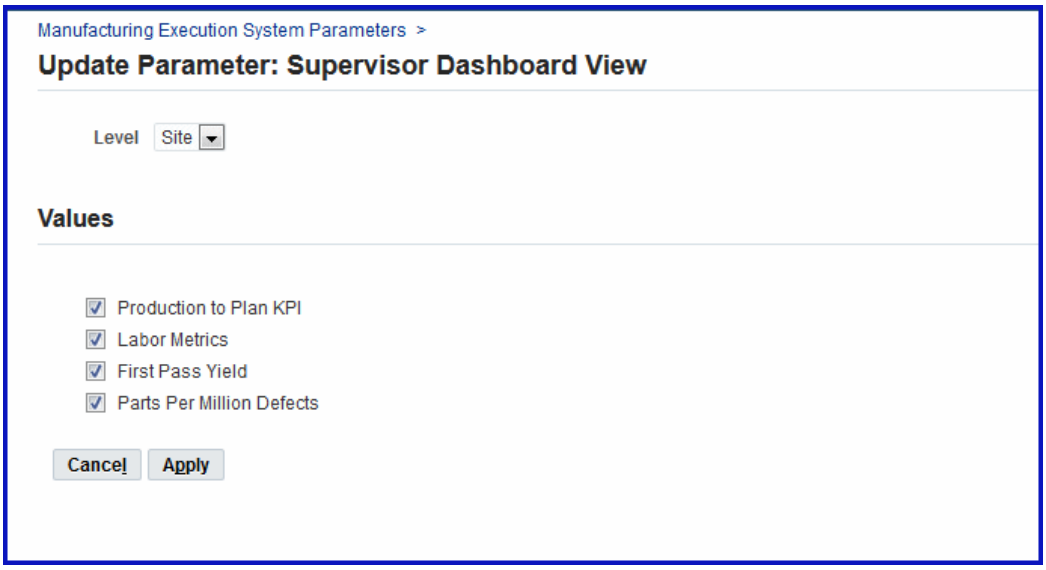
See: Job Operation Actions, page 2-24

Supervisor Dashboard View

This parameter sets the display on the Supervisor Dashboard for performance indicators. Enable the appropriate check boxes for the following views to display:

- Production to Plan KPI
- Labor Metrics
- First Pass Yield
- Parts Per Million Defects

See: Using the Supervisor Dashboard, page 4-8



Time Entry Mode

The Time Entry Mode parameter is used to distinguish between the time entry records entered through the Startup page, Dispatch List, and transaction pages. It enables the shift and clock button displays used in time and attendance calculations and labor reporting.

Clock In Machine Time with Labor

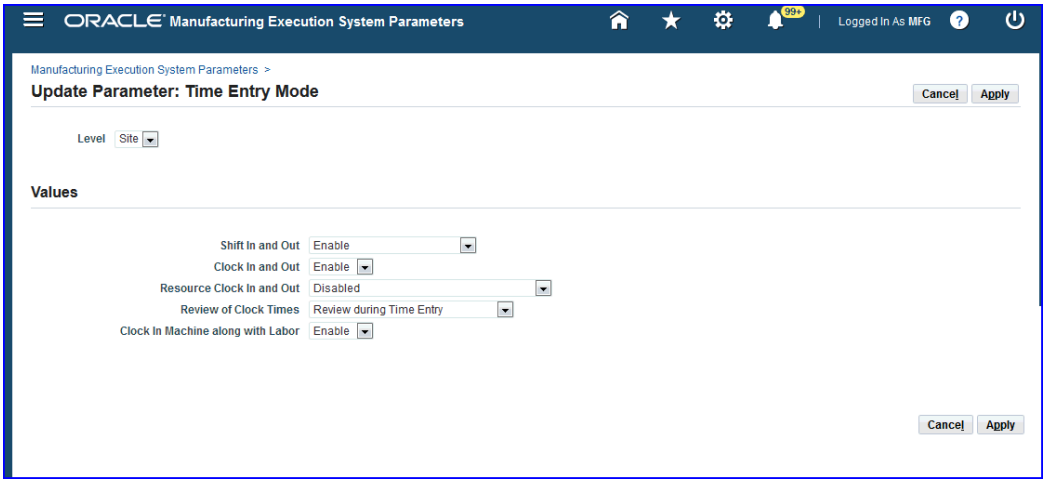
The feature for preventing the reporting of background times for machines is supported in the Resource Clock In and Clock Out values, and the Clock In Machine along with Labor value. When the parameters are set to Enable, the default setting, background machine times are reported. When set to Disable, machine times are not reported in the background.

The Time Entry Mode parameter has the following configuration choices:

- Shift In and Shift Out:
  - Disable—Shift In and Shift Out do not display
  - Enable—Shift In and Shift Out display on both the Dispatch List and Startup page
  - Enable Only In Startup Page
  - Enable Only In Dispatch List
- Clock In and Clock Out—choices are: Enabled or Disabled
- Review of Clock Times—If the Clock In and Clock Out parameter is enabled,

choices for when the resource is charged are:

- No Review—charged automatically. Resource time based on Clock In and Clock Out times are charged without an operator's review.
- Review during Time Entry—charged at time of entry. Resource timing based on Clock In and Clock Out times are charged when the times are reported through the Report Time page. Clock In and Clock Out times of the resources are defaulted in the Report time page, and the operator can review and update before submitting.
- Review during Time Entry and Move—charged during time entry and move transactions. Resource timings based on Clock In and Clock Out times are charged when the times are reported through the Report Time action; or in the Move Transaction Details page. You can review and update time information in the Report Time page.



- Resource Clock In and Out:
  - Enabled only for assigned instances

    This is the default setting to allow machines times to be reported in the background.
  - Disabled—In this setting machine times are not reported in the background.
  - Enabled for all instances in the department
- Clock In Machine along with Labor—This parameter covers situations where an operation has both an operator and machine resources working on it.
  - Enabled—Clock In actions of operators will trigger the background Clock In for the machines.

- Disabled—In this setting machine times are not reported in the background.

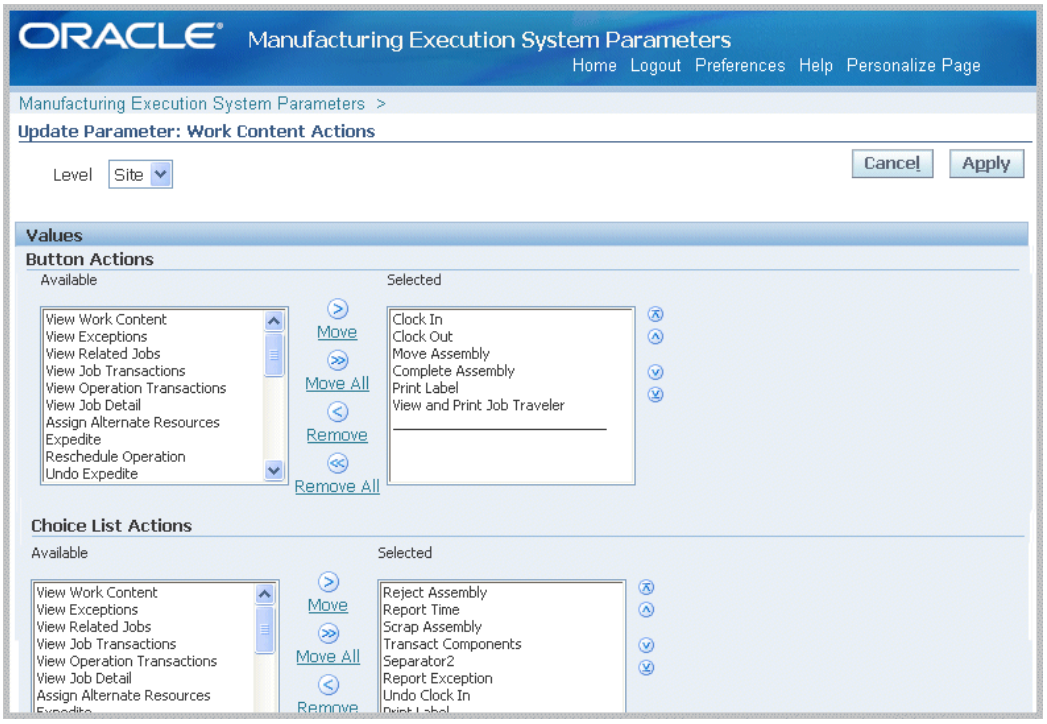
Work Content Actions

This parameter is used to list the actions available on the Work Content page. You have the option to specify if the listed actions are viewed on the page as buttons in the Button Actions region, or as a drop-down list of values in the Choice List Actions region. For the Choice List Actions, the order actions are listed in the Selected box determines your order of preference on the page.

The available Work Content Actions include: Assign Alternate Resources, Assign Shop Floor Status, Clock In, Clock Out, Complete Assembly, Dispatch Instances, Expedite, Express Complete Related Job Operations, Job On, Job Off, Move Assembly, Move and Complete, Print Label, Reject Assembly, Report Exception, Report Time, Reschedule Operation, Return Assembly, Return and Move, Return From Scrap, Return From Reject, Reserve Components, Separator1, Separator2, Separator3, Scrap Assembly, Transact Components, View Exceptions, View Job Detail, View Job Transactions, Undo Clock In, Undo Expedite, Update Note, View Operation Detail, View Operation Transactions, View Related Jobs, View and Print Job Traveler, and View Work Content.

Select categories from the Available box—and move to the Selected box. You have the option to display actions as buttons, on a drop-down list, or both modes. Choose Apply to save your work.

See: Viewing Work Content, page 3-11



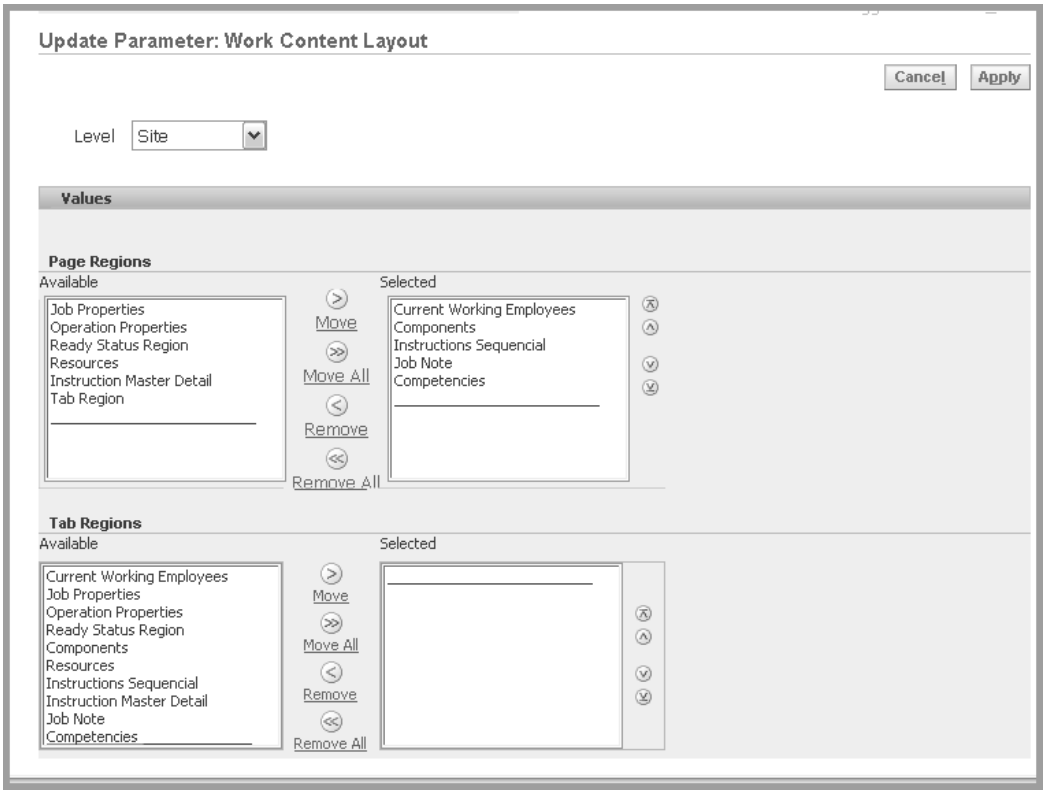
Work Content Layout

The Work Content Layout parameter is used to determine how to display page regions and tab regions on the Work Content page. Work Content Layout includes the following:

- Competencies
- Components
- Current Working Employees
- Instruction Master Detail
- Sequential Instructions
- Job Note
- Job Properties
- Operation Properties
- Ready Status Region
- Resources

Select categories from the Available box—and move to the Selected box. You have the option to display actions as buttons, on a drop-down list, or both modes. For the Choice List Actions, the order actions are listed in the Selected box determines your order of preference on the page. Choose Apply to save your work.

See: Viewing Work Content, page 3-11



Using Descriptive Flexfields

Descriptive flexfields enable you to customize your application to store information specific to your business needs. The Descriptive Flexfield Segments window, in the System Administrator responsibility, is used to define flexfield structures which can contain up to 15 segments. 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.

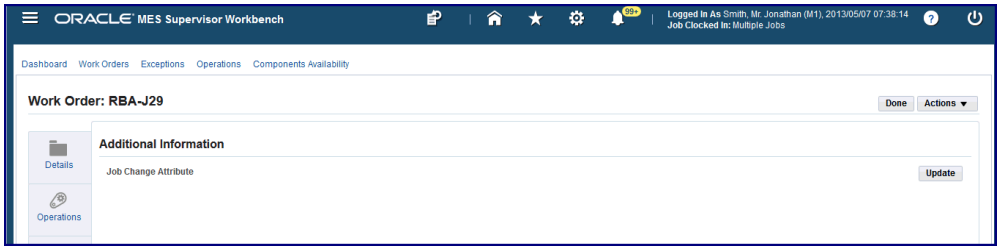
In Oracle MES for Discrete Manufacturing, flexfield information appears in the Additional Information region of the following pages: Work Content, Move Assembly: Transaction, Complete Assembly: Transaction, Reject Assembly: Transaction, Express Transact Components, and Work Order detail region.

> **Note:** If you are not using descriptive flexfields, this region does not appear.

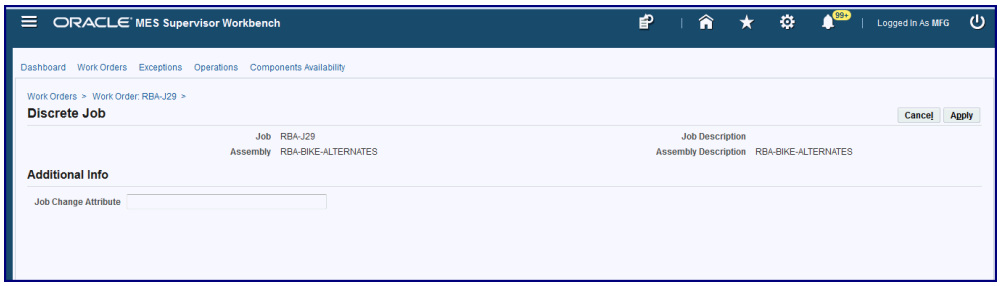
To view and change enabled flexfield structures in a work order:

1. Navigate to the Other or Additional Information regions for a work order, operations, or components associated with a job.

   The descriptive flexfield information appears.



2. Select Update to change the attributes enabled on the page and enter the new information.



3. Select Apply to save your work.

Related Topics

Overview of Descriptive Flexfields, *Oracle Work in Process User's Guide*

Setting Up Descriptive Flexfields, *Oracle Work in Process User's Guide*

Descriptive Flexfield Segments Window, *Oracle E-Business Suite Flexfields Guide*

Planning Your Descriptive Flexfield, *Oracle E-Business Suite Flexfields Guide*

3

MES Workstation

This chapter describes the features of the MES Workstation and the Operator role, including the ability to view the work dispatch list and perform transactions.

This chapter covers the following topics:

- Overview of the MES Workstation
- Workstation Startup and Initialization Modes
- Viewing Dispatch Lists
- Viewing Work Content
- Job Operation Actions
- Moving and Completing Assemblies
- Performing Express Completions for Related Job Operations
- Overview of Serialized Manufacturing Transactions
- Searching for Serialized Jobs and Performing Express Moves
- Creating Move Transactions for Serialized Jobs
- Creating Express Component Transactions for Serialized Assemblies
- Viewing Job Information
- Viewing Assembly Serial Number Detail Information
- Reporting Exceptions
- Returning Assemblies
- Returning Components from a Serialized Assembly
- Shop Floor Time Entry
- Reporting Time Pages

Overview of the MES Workstation

The MES Workstation for the operator includes one tabbed region that provides Manufacturing Execution System (MES) capabilities on top of Oracle Work in Process. It provides the ability to view the work dispatch list, and then navigate to a number of transaction windows.

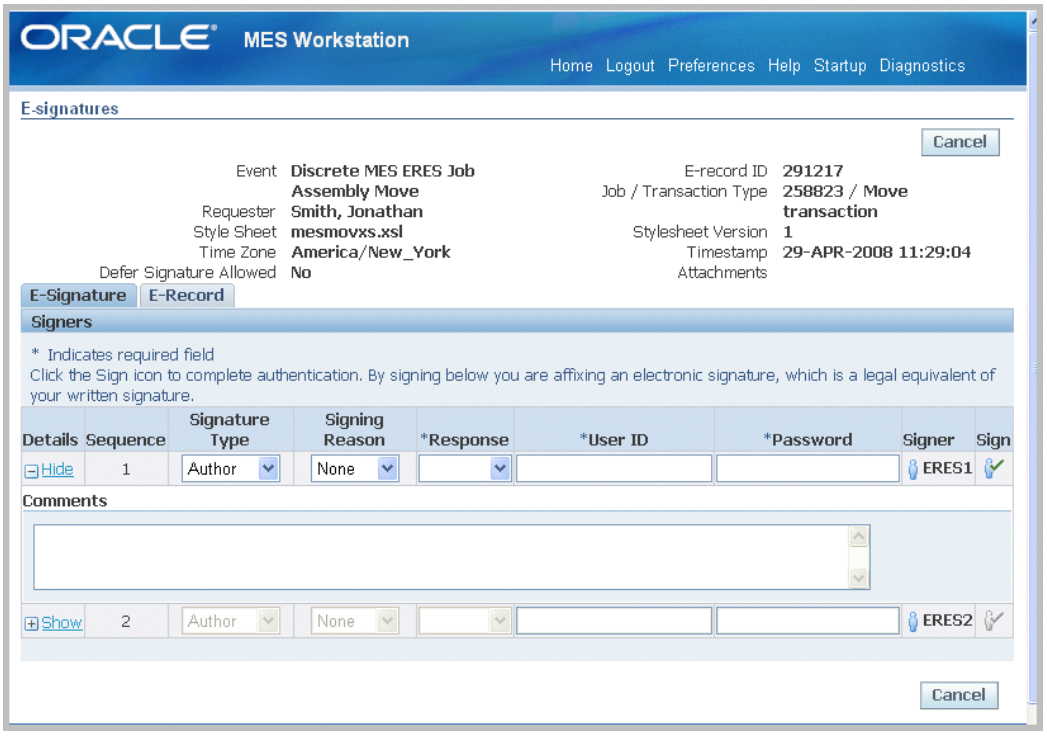
MES Operator responsibilities include:

- Viewing dispatch lists for jobs in the work queue
- Viewing job components and instructions
- Performing work in process transactions including move, completion, and assembly scrap
- Recording quality results and material transactions
- Reporting exceptions if unable to perform job transactions
- Reporting time and labor information
- Assigning lot and serial numbers (including serial tagging) during move and work order completions
- Searching and performing transactions for serialized jobs
- Creating electronic signatures for audit capability

Electronic Signature Support

MES for Discrete Manufacturing supports Federal Food and Drug Administration's (FDA) code regulation 21 CFR Part 11 through the Oracle E-Records application. This provides traceability for move, completion, and material transactions. In these transactions the operator or supervisor can first certify or acknowledge instructions to successfully process the transaction:

- If a signature is required for a transaction, a signature page displays
- Transaction pages display a check box, enabling you to indicate if instructions were acknowledged



Oracle Approval Management contains transaction types for e-sginatures in MES for Discrete including Discrete MES ERES Job Assembly Completion, Discrete MES ERES Job Material Transaction, and Discrete MES ERES Job Assembly Move. The MES for Discrete transactions creating electronic signatures include the following:

- **Material Transactions**
  - WIP Component issue
  - WIP Component return
  - WIP Negative component issue
  - WIP Negative component return
- **Move Transactions:** Quality results are included in the e–record.
  - Move
  - Move and Scrap
  - Move and Reject
  - Move and Complete
  - Return and Move

- **Completion Transactions:** Quality results are included in the e–record.
  - Assembly completion
  - Assembly return

Setup

The e-records and e-signatures (ERES) framework uses Oracle Workflow business events and Oracle XML Gateway. Oracle Workflow is required to initiate the e-signatures (EDRPSIGF) workflow for sending notifications. The Workflow Business Event system is used to define an e-signature event and associate synchronous e-signature subscription to the event.

If e-signature capability is setup, combination transactions generate records depending on parameter configurations. If the Move Option parameter is enabled, two records are generated in e-signatures for combination transactions.

The Oracle E–Records Implementation Guide and the Oracle E–Records Developer's Guide contains setup information. See:

- Evidence Store, *Oracle E-Records Implementation Guide*
- Implementing E-Records, *Oracle E-Records Implementation Guide*
- *Oracle Manufacturing: Implementing Oracle E-Records in Discrete Manufacturing Guide*
- *Oracle Approvals Management Implementation Guide*

Workstation Startup and Initialization Modes

The details displayed on both the MES Workstation and the MES Supervisor Workbench are determined by the specifics of your login information. The Startup page is used to enter your information to view the entire organization and a particular department; you can also specify a resource, employee, or machine. You can set parameters and integrate other Oracle Application functions for different login and Workbench initialization modes.

Job Selection Modes

The Job Selection Mode parameter is used to set a job search page when initializing the workstation. Each page type returns records within the login parameter values entered. Choices include:

- Dispatch Lists to display job operation records according to your configuration including operation schedule times, job type, working order, and a number of other parameter settings. See: Viewing Dispatch Lists, page 3-6
- Search page enabling search by job number or sales order number for records. See:

Searching for Jobs, page 5-4

- Search Serial Numbers page enabling search according to serialized job records. See: Searching for Serialized Jobs and Performing Express Moves, page 3-41

Assigned Resources

In Oracle Bills of Material, departments are assigned to each operation, and available employee labor resources instances are assigned to departments. For a specific login:

- If the employee is assigned to one organization, department, and resource instance combination—the search mode page appears automatically for that login parameter combination. The employee can perform transactions only within those parameters, and values cannot be changed.

- If the employee has several assigned organizations, departments, or resources associated to his login—the information can be changed to the assigned values.

See: Defining a Resource, *Oracle Bills of Material User's Guide*, and Assigning Resources to a Department, *Oracle Bills of Material User's Guide*

Departmental Access

The Departmental Access parameter determines which records display, in the list of values, in the Department parameter of the Startup page. If the parameter is set to:

- All—All departments in a particular organization appear.

- Assigned—Only departments where the employee is assigned as a resource instance appear on the Dispatch List; and move transactions can only be performed by those assigned employees.

Save Startup Parameters

Your job selection mode page displays automatically when you save startup parameters from a prior login. Enable the Save Startup Parameters check box to save parameters for future logins. This reduces navigation for repeated combinations of organization, department, and resource. To change saved login information, access the Startup page again by selecting Startup in the MES Workstation.

To log on to the MES Workstation:

1. Navigate to the Startup page.

2. If Shift In and Shift Out is configured on the page, you can enable or disable employee time and labor reporting. These flags are configured in the Time Entry Mode parameter, page 2-40.

    - Shift In enables the recording of actual attendance hours entered

    - Shift Out stops actual attendance hours

- Undo Shift clears actual attendance hours entered

See: Labor Performance Views, page 4-11 for information on employee shift calculations.

3. If the employee login has an associated Badge Number, this field appears. Optionally, you can enter an appropriate value in this field.

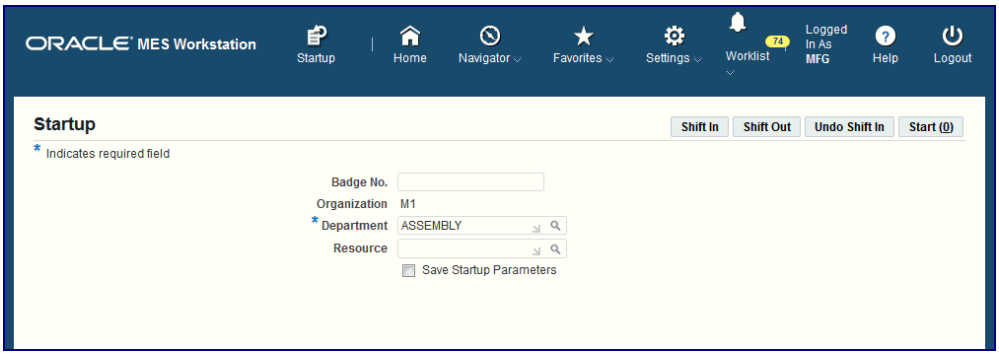
   Badge numbers are created as Employee Numbers in the Oracle Human Resources application. Shop floor labor resources are tracked using employee badge numbers.

4. Select values in the Organization and Department fields.

5. Optionally, you can select a value in the Resource field.

   - Equipment and Serial Number fields appear if the resource value is a machine type, select appropriate values.

   - The Employee field appears if the resource value is a labor type. You can select an employee name.



6. Enable the Save Startup Parameters check box to save these parameters for future logins.

7. Select Start to display the job search mode page selected.

   On the job search page you can record transactions, or access other pages for shop floor work.

Viewing Dispatch Lists

Dispatch lists are a listing of all job operations to be worked on—according to specific department, resource, resource instance, or a combination of these values. The Dispatch List enables you to perform express move transactions and access other pages for performing and viewing transactions. This list is based on operation schedule times within the specified time range. This includes:

- Current: Job operations with assembly quantities in all steps except Scrap and Reject.

- Scheduled: Job operations with assembly quantities in all steps except Scrap and Reject, plus all other job operations having schedule times within time range.

- Upstream: Job operations that have quantities in Queue, Run and To Move steps in their immediate preceding count point operation within the time range.

The display is modifiable—providing filtering, ordering, and grouping. Several parameters are used to control information displayed on the dispatch list. See: MES Administrator, page 2-1

- **Default Dispatch List Type** determines the job type initially displayed on the list when the workstation opens. Choices are to display current work on the shop floor, or current work and any scheduled job operations.

- **Dispatch List Ordering Criteria** specifies the attribute fields shown on the list. See: Dispatch List Ordering Criteria, page 2-20

- **Dispatch List Working Order** determines the order of jobs displayed on the list—that is, any order or first ready.

- **Include Complete Quantity in Dispatch List** provides the ability to include job operations with quantities in the To Move step.

- **Include Job Status** specifies the status types of jobs displayed. See: Include Job Status, page 2-23

The list is formatted in a table view, columns in the list display information about each job. This includes scheduled start and end times, assembly name, customer, job readiness, and component and resource availability. If the Dispatch list Ordering Criteria parameter is not set, and The Dispatch List Working Order parameters is set to Any Order— you can sort the dispatch list on the columns by clicking on the column header. You can print a hardcopy version of the document by choosing Printable Page, and reorder the records on the list. See: Reordering Job Operations on the Dispatch List, page 4-46. In addition, you can hide or show columns on the dispatch list, by using the personalization capability.

> **Note:** If Oracle Endeca is installed and licensed in your environment, then refer to the *Oracle E-Business Suite Information Discovery Integration and System Administration Guide* for detailed information about the Endeca enhancements to your product.

Ready Status

The Ready column on Dispatch List page indicates if the job operation is ready for

work. Use the Ready Status Criteria parameter to define your qualifications for readiness. This includes if a job is released, has no exceptions, status is not assigned, and a quantity is in Queue or Run. When a job meets the criteria set, a check mark appears in this column. See: Ready Status Criteria, page 2-34

The design of this setting leaves the decision to the supervisor to determine whether or not the job operation is ready for work. If the supervisor decides the job is not ready, a job hold or exception can be issued.

Resource and component shortages as displayed on the Shopfloor Progress region of the Dashboard are not used in calculating the Ready Status definition. If you want to modify this design function, you can create a customized interface in the Ready Status client extension to enable custom logic to determine specific readiness definitions. See: Overview of MES Client Extensions and Packages, page C-1

To view and update Dispatch List information:

1. Navigate to the Dispatch List.

   The default dispatch list appears, displaying default details determined by the specifics of login values, along with a region to select filtering criteria.

2. If Shift In and Shift Out is configured on the page, you can enable or disable employee time and labor reporting. These flags are configured in the Time Entry Mode, page 2-40 parameter.

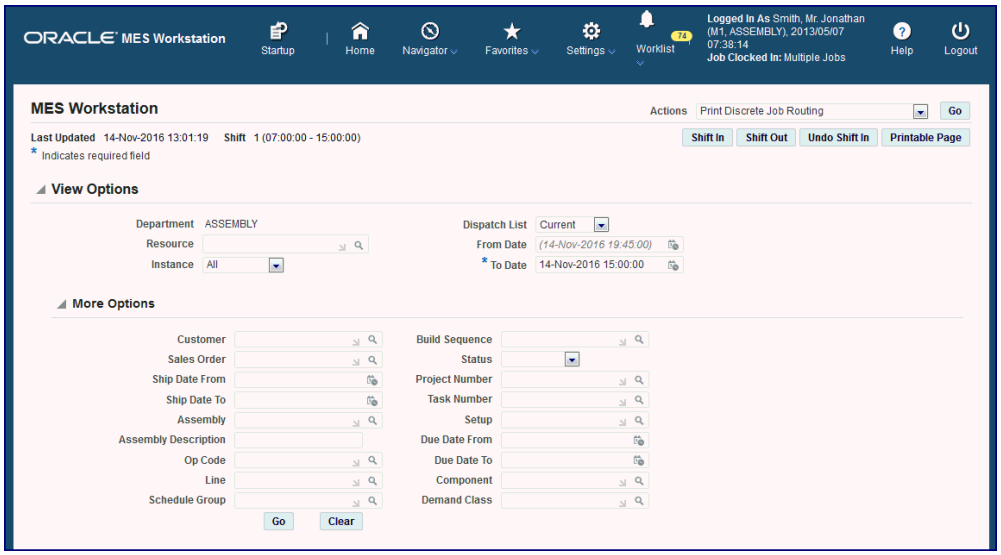
   - Shift In enables the recording of actual attendance hours entered
   - Shift Out stops actual attendance hours
   - Undo Shift clears actual attendance hours entered

   See: Labor Performance Views, page 4-11 for information on employee shift calculations.

3. Optionally, you can select filter information in the View Options region. Select filtering criteria from the following fields:

   - Department
   - Resource
   - Instance
   - Dispatch List type
   - From Date and time
   - To Date and time

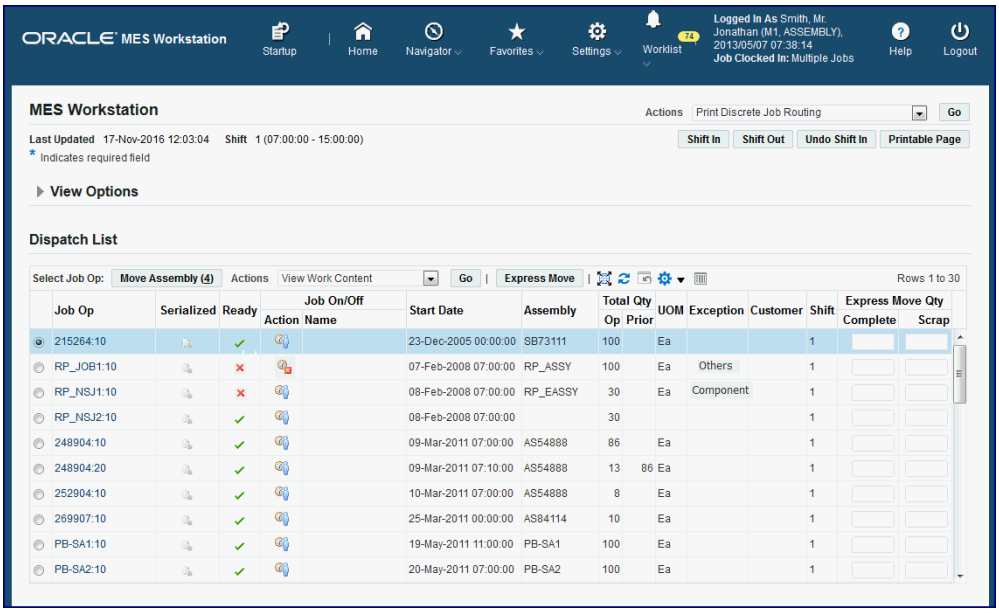
4. You can select additional filter criteria in the More Options region.



The following fields are available: Customer, Sales Order, Assembly, Line, Schedule Group, Build Sequence, Status, Project Number, Task Number, Setup, Due Date From, Due Date To, and Component.

5. Select Go to display the dispatch list with the filtering results.

   The setup and layout of the dispatch list is configured in the Manufacturing Execution System Parameters page. The header displays available actions. These actions can be configured as both buttons or choice lists.



The Dispatch List Ordering Criteria parameter determines the fields displayed on the dispatch list. See: Dispatch List Ordering Criteria, page 2-20. Fields that appear can include:

- Assembly
- Customer
- Exceptions
- Dispatch list type
- Job's ready status
- Expedited status
- Employees working on the job
- Shift
- Start Date

6. Select the Job Operation you want to work on to display the Work Content page, see Viewing Work Content, page 3-11

7. If you are using clock functionality, select the Clock or Job actions to record the time worked on a job operation:
   - The display for this action depends on your parameter configuration.

- Set clock actions in the Action column for the specific job. When you select the Clock and Worker icon, the job is clocked on and the icon displays a red colored box with a cross out indicating the job is locked.

- The operator name displays in the Name column. To end this action, select the icon again, and the lock display disappears.

- You can work on multiple job operations if the Simultaneous Clock In parameter has been set to Yes.

- Set the Display Clock In Information parameter to show all job operations you are working on. This information displays on your pages in the login context.

See: Clock In and Clock Out, page 3-71

8. Select the job operation actions you want to display in the Actions list of values for the Dispatch List. You can then perform the following from the Dispatch List actions menu::

   - Job operation transactions such as view operation details, reserve components at the operation level, and so on. See:Job Operation Actions, page 3-13 and Global Actions, page 5-1

   - Perform express move transactions that enable you to move the quantity in one action, and create move transactions for a number of job operations performed in one action. See: Moving and Completing Assemblies, page 3-21

Viewing Work Content

The Work Content page displays the information needed to perform work on an operation. It includes component and resource requirements, work instructions, attachments and other job property information. You can navigate to action pages and view employees currently working. Clocked in time of the employees currently working displays.

The actions available and the page layout and display are determined by parameter settings:

- Work Content Actions, page 2-42
- Work Content Layout, page 2-43
- Display Barcode on Work Content Page, see: MES Administrator, page 2-1

To view and update work content:

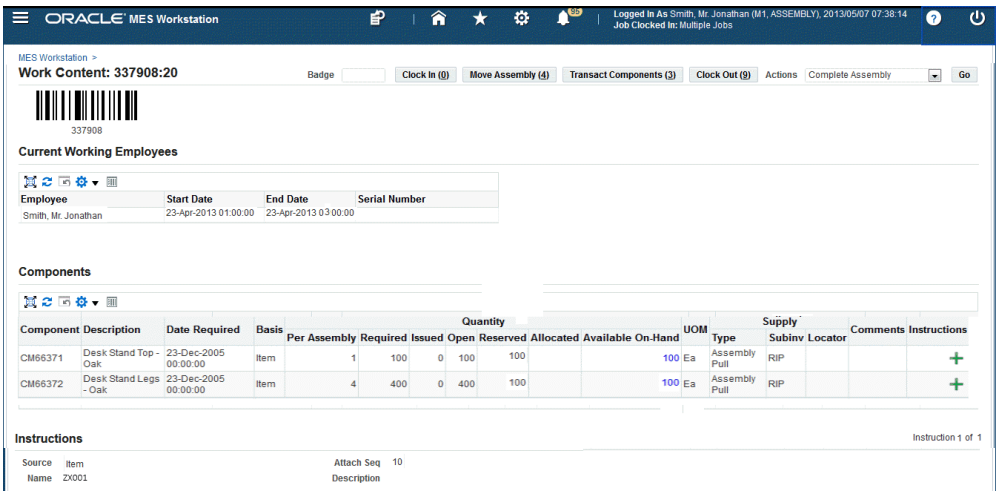
1. Navigate to the Work Content page. Information appears in the following sections:

- Barcode: If the Display Barcode on Work Content Page parameter is enabled; the barcode appears for work order number, assembly name, operation, assembly serial number, and other information scanned.

- Current Working Employees: Displays employees working on a job operation; this is used in labor reporting.

- Components: View the component details such as Component number, Description, Date Required, Basis, Quantities (Per Assembly Required, Issued, Open, Reserved, Allocated, Available On-Hand), Unit of Measure, and Supply.

2. Select the quantity link in the Available On-Hand column to view on-hand components across subinventories. When you select a value in this column, you navigate to the Material Workbench in Oracle Inventory. See: Material Workbench Window and HTML Page, *Oracle Inventory User's Guide*



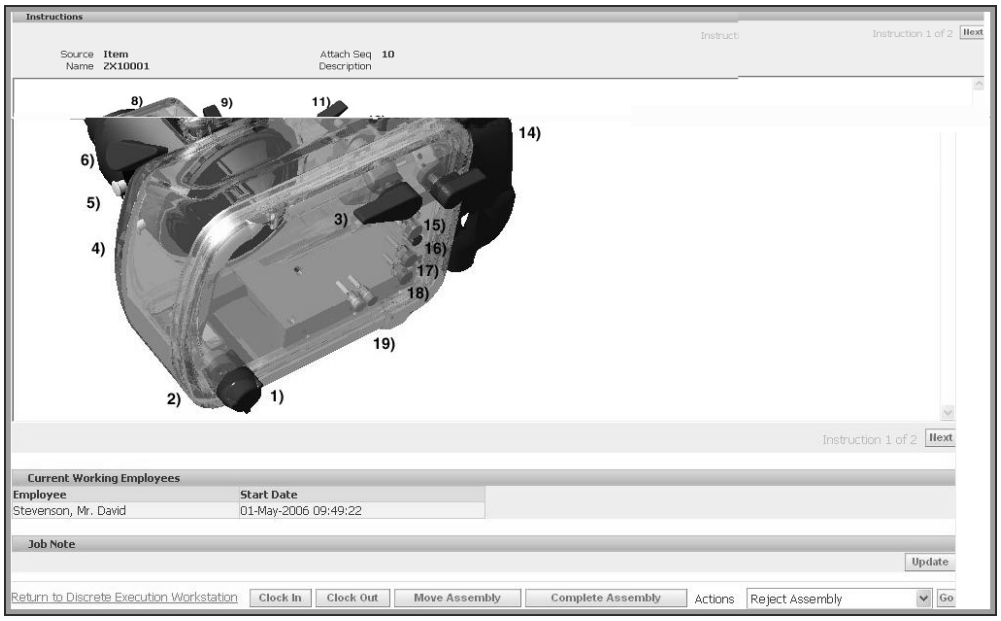
- Sales Order: If this job is linked to a sales order, the sales order and customer information displays in the Sales Order region.

- Additional Information: This region appears for customized information entered in flexfield records.

- Competencies: If labor skills validation is set up to certify the qualifications of operators performing transactions, the Competencies region lists all competency requirements for the job operation.

- Job Note: Information about assemblies. and other job details.

- Instructions: You can setup a sequential display of instructions needed to perform the operation.



3. Select the actions available on this page to access the pages for job transactions including Move Assembly, Complete Assembly, Clock In, and Clock Out.

   You can also select to perform job operation transactions such as view operation details and perform material reservations for a job operation. See: Job Operation Actions, page 3-13

Job Operation Actions

Job operation actions are the job transactions and actions used in your environment. The list of actions available to you is set in a parameter. See: Job Operation Actions, page 2-24. These actions are also set on the Search Jobs page using the Search Job Operation Actions Parameter, page 2-37. Available actions include the following:

Assign Alternate Resources

You can substitute alternate resources and resource groups to balance your resource load and resolve exception conditions. See: Assigning Alternate Resources, page 4-59

Assign Resource Instances

You can assign resource instances, such as people or machines, to discrete jobs and serialized jobs. See: Assigning Resource Instances, page 3-16

Assign Shop Floor Status

You can assign shop floor statuses to any intraoperation step associated with a job. See: Assigning Shop Floor Status, page 3-17

Clock In, Clock Out, and Undo Clock In

Clocks flag the job operation as started or ended, enabling you to record resource charges for time entry. See: Clock In and Clock Out, page 3-71

Expedite and Undo Expedite

Any job operation can be moved to top priority on the dispatch list. Scheduled operation start and end times are not changed—the operation is moved on the display to make it prominent. The Ready column displays an arrow indicating that the operation is expedited. Since expediting is performed at the job level, all operations are affected and are moved and marked on the dispatch list.

Express Complete Related Job Operations,

You can perform express job operation completions and use specific search criteria to pull in the related operations. See: Performing Express Completions for Related Job Operations, page 3-37

Job On and Job Off

Job On and Job Off actions are required when multiple employees are working on a single job operation. This action flags the job operation as picked and ready, enabling the recording of resource charges for time entry. See: Clock In and Clock Out, page 3-71

Move Assembly, Move and Complete, Express Move, and Complete Assembly

You can move assemblies within an operation, from one operation to another, backward and forward within the routing, and onto completion of the job. You can also create express moves, enabling simultaneous completion and scrap or completion and reject for the entire quantity in one action. See: Moving and Completing Assemblies, page 3-21

Print Label

While performing work on the shop floor, you can print labels from various pages. The Print Label action is defined in the Job Operation Actions and Work Content Actions parameters. You can print labels for:

- Job related information
- Serialized numbers in specific jobs
- Move and completion transactions
- Multiple labels for a range of jobs—one label for the entire job quantity, and individual labels are printed for each serial number in the job

Two parameters are used to specify at what point in the transaction labels are printed:

- Assemblies for Completion Labels, page 2-10 specifies which assemblies or categories have labels printed at completion.
- Standard Operations for Move Labels, page 2-38 defines the operations for which

labels are automatically printed when a move transaction is performed.

See: Labeling Overview, *Oracle Warehouse Management User's Guide* and Label Printing Integration Kit, *Oracle Warehouse Management Implementation Guide*

Reject Assembly and Scrap Assembly

You can reject and disposition assemblies on the production floor that do not meet standards. The Reject and Scrap process isolates problem assemblies by moving the assemblies into a scrap or reject intraoperation step. If these assemblies are reworked, they can be returned to their routing operation. See: Rejecting and Scrapping Assemblies, page 3-33

Reschedule Operation and Undo Reschedule Operation

You can reschedule operations to balance the work load. See: Rescheduling Operations, page 4-60

Reserve Components

You can reserve components at the job operation level by selecting the Reserve Components action from the Dispatch List's actions menu. See: Reserving Components for Operations, page 4-49

Return Assembly, Return and Move, Return From Scrap, and Return From Reject

You can return assemblies to production from the supply subinventory, or from reworked parts that were originally scrapped or rejected. See: Returning Assemblies, page 3-63

Separator1, Separator2, Separator3

Separators are not actions; they are used to group actions together.

Transact Components

You can create component transactions for a job. See: Job Component Transactions, page 3-19

View Exceptions, Report Exception, and Update Exceptions

Exceptions are reported when work is stopped on the production line. When you are notified about an exception you can view other job operations that are affected and take action. See: Viewing and Resolving Exceptions, page 4-36

Viewing Job Information

Detailed information about job and operation transactions is available in the following pages: View Job Detail, View Job Transactions, View Operation Transactions, View Related Jobs, and View Work Content. See: Viewing Job Information, page 3-51 and Viewing Work Content, page 3-11

View and Print Job Traveler

You can view and print a job traveler in the Dispatch List, Work Content, Search Jobs, and Shopfloor Progress pages. The traveler is displayed as a PDF file in a separate

window.

The job traveler can contain associated attachments, such as instructions for the job, in the body of the traveler or at the end as an appendix. You can:

- Configure the job traveler template at several levels including category set, item, category, or organization. See: Job Traveler Template Setup, page 2-25
- Customize the traveler, including enabling bar code scans, if Oracle XML Publisher is installed.
- Attach files types such as images, short text, long text, and PDF.

  Note: All attachments are displayed on the traveler. However, you can use Oracle XML Publisher to customize the template if you want to delete certain sections.

- Print the job traveler in batch mode. For example, you can print the job traveler for all the jobs for a shift before starting the shift. In the Shopfloor Progress region of the Dashboard page, you can select multiple jobs that are scheduled to start in a shift, and then select View Job Traveler.

See: Attaching Files to Jobs, Schedules, and Operations, *Oracle Work in Process User's Guide*

View Operation Detail

You can open the Operation Details page by selecting View Operation Detail from the actions list of values available in the Dispatch List and the Work Content page. See: Viewing Operation Details, page 4-47

Update Note

Notes created during job transactions can be updated on the Update Note page. See: Updating Job Notes, page 3-18

Assigning Resource Instances

As a supervisor, you can assign a resource instance, such as a person or a machine, to a discrete job or serialized job using the Assign Instance page in the MES Workstation.

1. In the MES Workstation, in the Instance criteria for a department, select Unassigned from the list of values and then click Go.

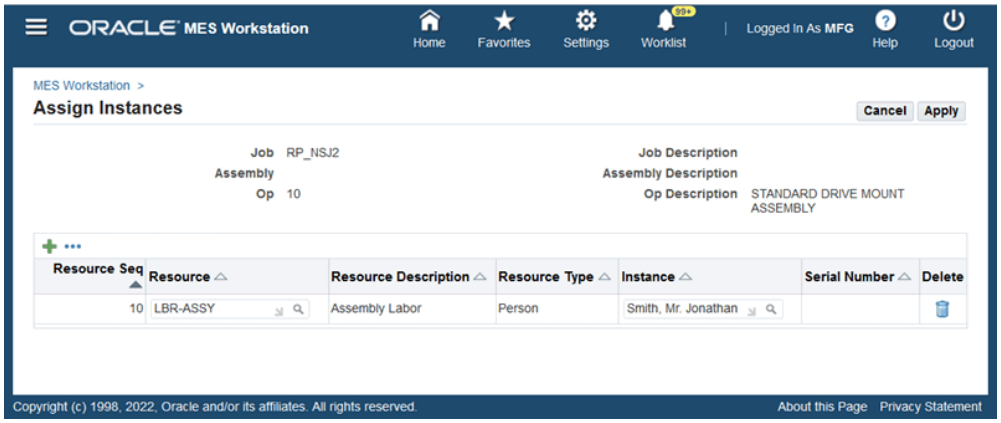
   The Dispatch List shows the unassigned job operations (job ops).

2. Select an unassigned job op.

3. From the Actions list of values, select Assign Instances and click Go.

4. The Assign Instance page shows details of the job, job description, assembly, assembly description, operation, and operation description.

   You can also view the existing assigned instances for the discrete job operation.



5. In the Assign Instances table, click the Add Another Row icon.

6. In the new row, in the Resources field, select a resource. You must choose a resource before you select an instance.

   Default values fill the Resource Seq, Resource Description, and Resource Type fields based on the resource that you select.

7. In the Instance field, select an instance from the list of values.

   If you assign a machine, the value in the Serial Number field defaults from the instance that you select. If you assign a person, the values in the Effective Start Date and Effective End Date fields default from the instance that you select.

8. Click Apply to assign the selected resource and instance to the job.

9. From the Dispatch List, you can review the job operation for which you assigned a resource and instance. To edit or delete the assigned resource and instance for the job, select the Assign Instances action and navigate to the Assign Instances page.

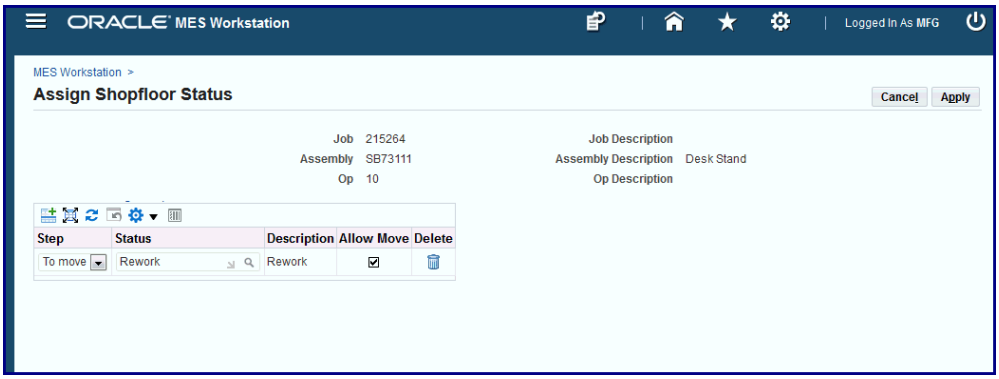
Assigning Shop Floor Status

Shop floor statuses are used to control the movement of transactions on the shop floor. Statuses can be assigned to the intraoperation steps of job routing operations.

To define shop floor statuses:

1. Select a job operation and navigate to the Assign Shop Floor Status page.

   The Step column shows the current operation step.



2. (Optional) Choose a different step from the list. The choices are Queue, Run, To Move, Reject, and Scrap.

3. Select a status for this step. For example, Hold or Rework.

   The Description column shows the description of your selection.

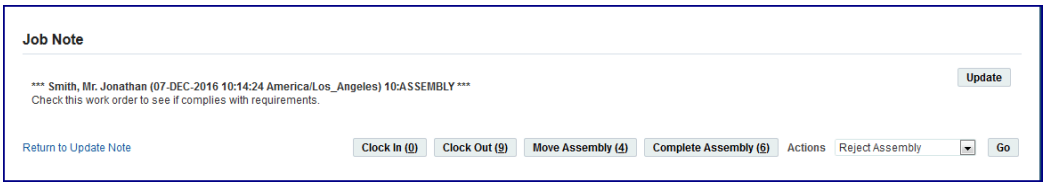
4. Use the Allow Move check box to control move transactions. The default for this value is set by the Allow Moves From Prior Operations parameter and your choice in the Status field.

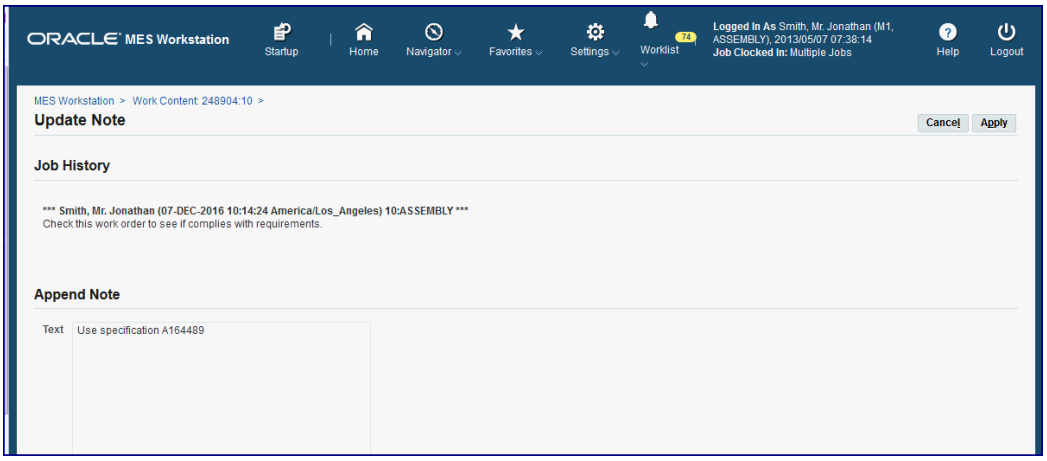
5. Click Apply.

Updating Job Notes

Information about assemblies is added in the Note region of the various transaction pages. The Update Note page is used to add or append new information. The new text is appended to the existing note for each update.

Enter your comments in the Append Note region. Select Apply to save your work.





Job Component Transactions

The Transact Components page enables you to create a number of component transactions for your job, including

- Issuing and returning components
- Entering subinventory and locator information
- Entering applicable lot and serial number data

The Transact Components page display defaults the open quantity (quantity required/quantity issued) of supply type push components as defined on the assembly's bill of material. You can also scan or enter component serial numbers.

Serial Number Tagging

Serial number tagging is a method for assigning and tracking serial numbers when components are issued and received at the organization level. Serial numbers are not tagged for material that is transacted within the organization from one subinventory to another. This tagging function provides the ability to:

- Assign serial numbers for component Issues and returns.
- Create serial numbers at the time of the transaction.

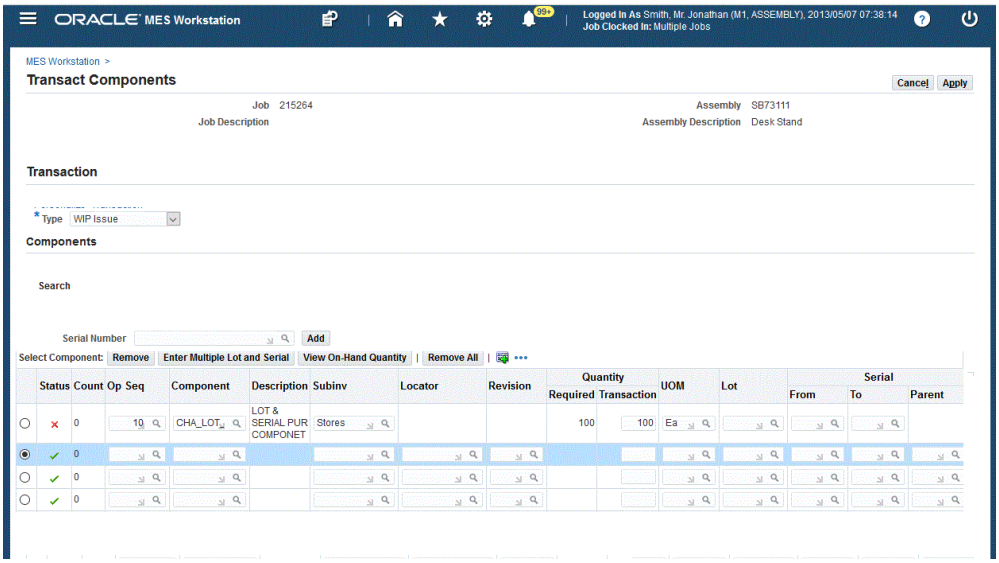
Serial tagging is set up in the Serial Tagging Assignments window in Oracle Inventory, see: Overview of Serial Tagging Assignments, *Oracle Inventory User's Guide*, and Setting Up Serial Tagging Assignments for an Item, *Oracle Inventory User's Guide*

To create component transactions for a job:

1. Navigate to the Transact Components page.

2. In the Transaction region, select a transaction type. Your choices are Issue, Return, Negative Issue, and Negative Return.

3. In the Search region, you can search for component serial numbers in the Serial Number field. Select Add to populate the component transaction table with the information from the serial number record.



The page display defaults supply type push components as defined on the job. You can edit these records or remove them.

4. Select the View On-Hand Quantity action to identify on-hand components across subinventories. Select this action to navigate to the Material Workbench in Oracle Inventory. See: Material Workbench Window and HTML Page, *Oracle Inventory User's Guide*

5. To add individual component records, select information in the Components table for applicable fields:

   - Operation Sequence
   - Component
   - Subinventory

- Locator
- Revision
- Transaction Quantity
- Unit of Measure

6. You can enter information for components under both lot and serial number control.

   This page enables you to access the Serial Detail or Lot Detail pages, and generate lot and serial numbers, and assign lot and serial numbers.

   - For individual components, in the Serial region of this table, select from applicable generated lot serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.
   - If serial numbers have not been generated, select Enter Multiple Lot and Serial to access the Add Lot and Serial page in Oracle Inventory.

7. Select Apply to save your work.

Related Topics

Overview of Serialized Manufacturing Transactions, page 3-39

Lot Control, *Oracle Inventory User's Guide*

Setting Up Lot Control, *Oracle Inventory User's Guide*

Maintaining Item Lot Information, *Oracle Inventory User's Guide*

Setting Up Serial Number Control, *Oracle Inventory User's Guide*

Assigning Serial Numbers, *Oracle Inventory User's Guide*

Moving and Completing Assemblies

Assemblies can be moved from one operation and intraoperation step to another, and backward and forward within the routing. The following features are available:

- When assemblies are completed at an operation, the system automatically backflushes operation pull components and charges resources.
- The ability to combine transactions such as move and scrap, and move and reject. This enables you to complete the transaction in a single step. This option is set in the Move Option parameter. See: MES Administrator, page 2-1
- Custom flexfield information can be set up to meet your site's needs.

- Applicable quality plans display for entering collection data.
- Lot and serial number information can be assigned during move and completion transactions.
- The ability to stop completion transactions if all the push type components have not been issued to the job can be set in a profile option, see: WIP:Validate Push Components at WIP Completion, *Oracle Work in Process User's Guide*
- Custom programming instructions can be inserted to control job operation readiness and transaction movements according to your site's specifications. See: Overview of MES Client Extensions and Packages, page C-1
- You can set a profile option to raise the business event oracle.apps.wip.job.AssyCompletion on completion, move and complete, and move and scrap transactions. See: WIP:Raise Completion Business Event, *Oracle Work in Process User's Guide*
- You can confirm instructions, and also capture move related transactions in e-records if using electronic signature functionality.

> **Additional Information:** The Work in Process Move Transaction parameter, Allow Creation of New Operations, is not supported in MES for Discrete Manufacturing. This parameter enables you to add a job operation during a move transaction. For MES for Discrete Manufacturing transactions, the functionality works as if the parameter is not enabled.

See: Move Transactions Process Diagram, *Oracle Work in Process User's Guide*

Express Moves

Express moves enable you to move the quantity in one action, defaulting all required values. It also provides a way to move several job operations in one transaction. For express move options:

- The setting of the Default Intra Op Step parameter determines the intraoperation step of the next operation where the assembles are moved. See: Default Intra Op Step, page 2-18
- The Enforce Sequential Move parameter is used to determine the next operation where the assembles are moved.
- The assembly quantity in the current operation cannot be in more than one intraoperation step of Queue, Run, or To Move.

- Completion and scrap transactions require a default scrap account defined if the organization requires a scrap account. This is set in the Default Scrap Account parameter. See: Default Scrap Account, page 2-19

- Mandatory quality collection plans are not applicable for express moves.

- Functionality is supported for preassigned assembly serial number jobs if the qualifying criteria is met, see: Overview of Serialized Manufacturing Transactions, page 3-39

- Express moves for partial quantities is dependent on the method the Search Serial Numbers page is accessed. If the page is accessed from the Dispatch List Serialized icon, you cannot move partial quantities of serialized jobs. If the page is accessed directly from startup or from global actions, you can perform express moves for any quantity at the operation.

To perform express moves on job operations:

1. Navigate to the Dispatch List page.
2. Select the job operation record you want to complete. You can select multiple records.
3. In the Express Move Quantity columns, enter a value in the Complete field.
4. If there is a quantity to scrap, enter a value in the Scrap field.
5. Select Express Move to complete your transaction.

Labor Skills Validation

Labor skills validation is used to certify the qualifications and required competencies needed to perform assigned manufacturing activities. This help you meet International Organization for Standardization (ISO) 9000 requirements, preventing potential errors and issues during job transactions. Regulatory requirements for specific industries may mandate companies to execute and document employee competencies. The labor skills validation process includes:

- When the operator Clocks In for job operation move transactions—such as move, scrap, reject, and return—levels of qualifications are checked.

- The View Content and Job Details pages contain Competencies regions listing all competency requirements for the job operation.

- E-records can be setup to capture the competencies validated for move transactions.

The setup for labor skills validation is integrated with other Oracle applications

including Human Resources Management Systems, Bills of Material, Work in Process, and E-Records. This includes:

- Defining competencies and qualifications, and associating to employees at the appropriate skill levels.
- Defining competencies for standard operations and routing operations.
- Defining competencies for job operations.
- Configuring the Operator Skills Validation parameter for specific organizations.

See: Operator Skills Validation, page 2-29

Quality Display Modes

There are several methods for entering collection plan data in the Quality Plans region of the MES move transaction pages. You can:

- Access the Enter Quality Results page in Oracle Quality if any parent-child, or multi-level, relationship plans exist for the associated transaction.
- Enter quality results in the same page as the transaction detail pages without navigating to another page. If the collection plan for the move transaction in MES does not have a child plan, then the collection plan can be rendered in the Quality region of the Move Assembly Detail page. This simplifies navigation across pages.
  - This display mode only appears if single level plans exist.
  - If any applicable parent and child relationship plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench.
  - If both exist, you can enter the data in the inline region first—and then navigate to the parent child region. If you choose to enter data in the parent-child mode first, you cannot return to the inline mode.
- Enter quality plan results using the inline mode using the device integration feature, if enabled in Oracle Quality.

You have the option to enter the results for any plan by navigating directly to the Quality Workbench.

Device Integration

Device integration provides the ability to capture data directly into the application using programmable logic controller devices. In MES for Discrete Manufacturing, you can move collection plan transactions directly from the move transaction pages into the Quality Workbench.

See:

Parent-Child Collection Plans, *Oracle Quality User's Guide*

Entering Quality Results, *Oracle Quality User's Guide*

Device Integration Setup, *Oracle Quality User's Guide*

Creating Collection Plans, *Oracle Quality User's Guide*

Defining Collection Plan Elements, *Oracle Quality User's Guide*

Moving Assemblies

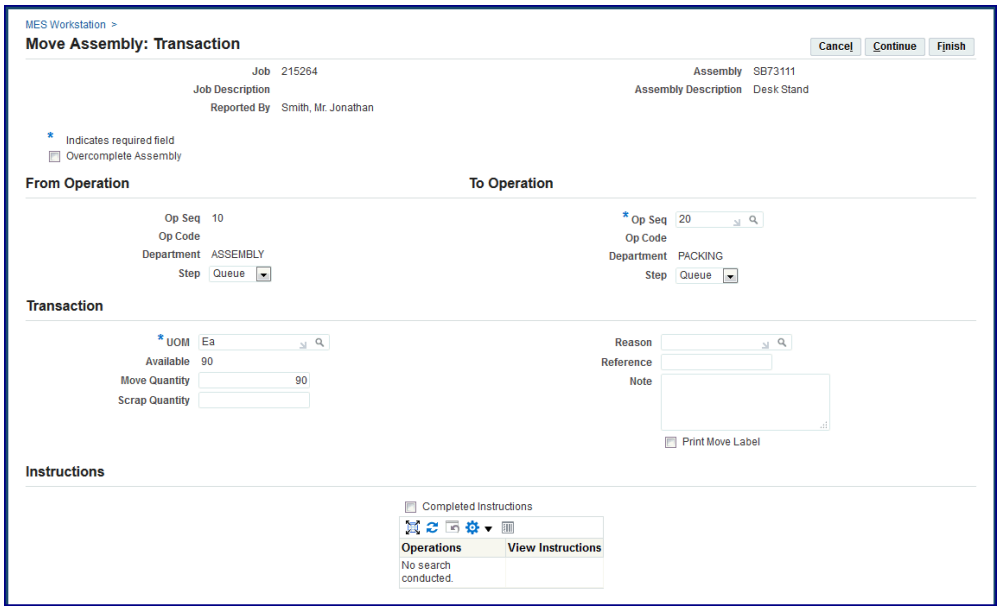
To move assemblies through job operations:

1. Navigate to the Move Assembly: Transaction page.

   This page displays job information including job number and description, operator, and assembly number and description.

2. You have the choice to select Finish to save your record using the values displayed on this page. You can also change the defaulted values before saving the record.

3. Enable the Overcomplete Assembly check box if the transaction quantity is greater than the job quantity. See: Assembly Over-Completions and Over-Moves, *Oracle Work in Process User's Guide*



4. In the From Operation region, select values in the From Operation Step, To Operation Sequence, and To Operation Step fields.

   Depending on how the following parameters are set, certain fields display in this region:

- Allow Moves From Prior Operations, page 2-10
- Default Intra Op Step, page 2-18
- Enforce Sequential Move
- Move Option

See: MES Administrator, page 2-1

5. In the Transaction region, select a value in the Move Quantity field. Optionally, you can enter a transaction Reason, Reference, and descriptive text in the Note region.

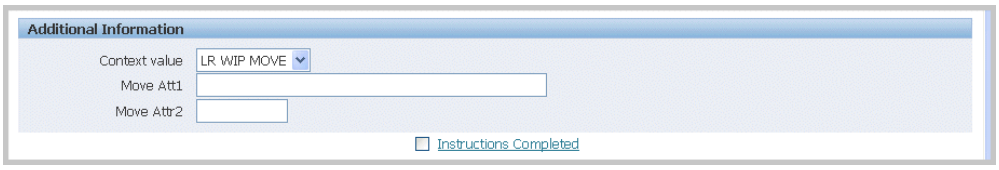
   Notes can be updated, see: Updating Job Notes, page 3-18

   > **Note:** The Move Option parameter enables you to combine a move transaction with scrap or reject transactions.

6. If you have a quantity to scrap, enter a value in the Scrap Quantity field.

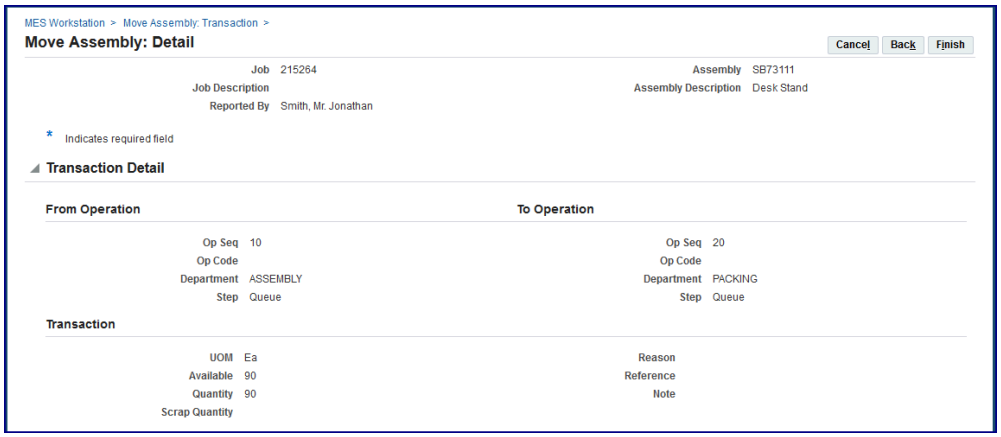
7. When a value is entered in the Scrap Quantity field, the fields for Scrap Operation Sequence, Scrap Account Alias, and Scrap Account Number display. Enter the applicable values in these fields.

8. If a customized descriptive flexfield is used in your environment, the Additional Information region displays. Enter your information in this region. If you are not using customized information, this region does not appear.



9. Select Finish to complete your move transaction, or select Continue to enter information about manual resources and quality plans.
   - If you select Finish, the transaction is saved.
   - If you select Continue, the Move Assembly: Detail page displays.

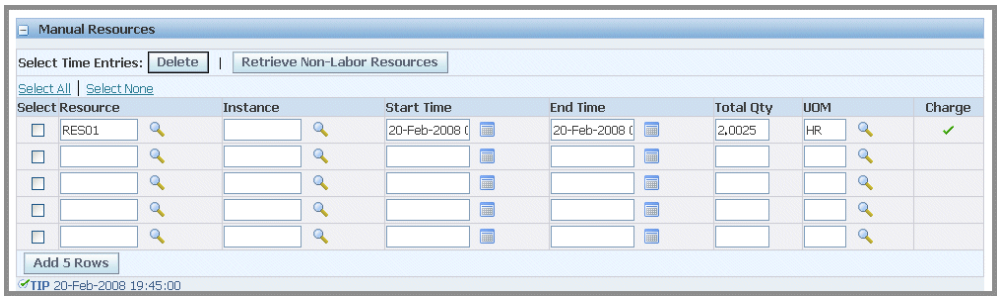
   On the Move Assembly: Detail page, the specifics of the data entered on the Move Assembly: Transaction page display in the Transaction Detail region.



10. In the Manual Resources region, you have the option to add machine resources by selecting Retrieve Non-Labor Resources—or individually adding records.

    - When you select Retrieve Non-Labor Resources, applicable machine resources populate the fields for Resource, Instance, and Start Time and End Time. You can edit or delete these records.

    - For individual records you are manually entering, select values in the Resource, Instance, and Start Time and End Time fields.



11. Quality collection plan information displays in the Quality Plans region. Several different modes may appear, For collection plans with a parent-child relationship only, the Quality Plans region displays fields for Plan Name, Information, Mandatory flag, Completed status, and Attachments. Select Add Child Data to navigate to the Enter Quality Results page in Oracle Quality.

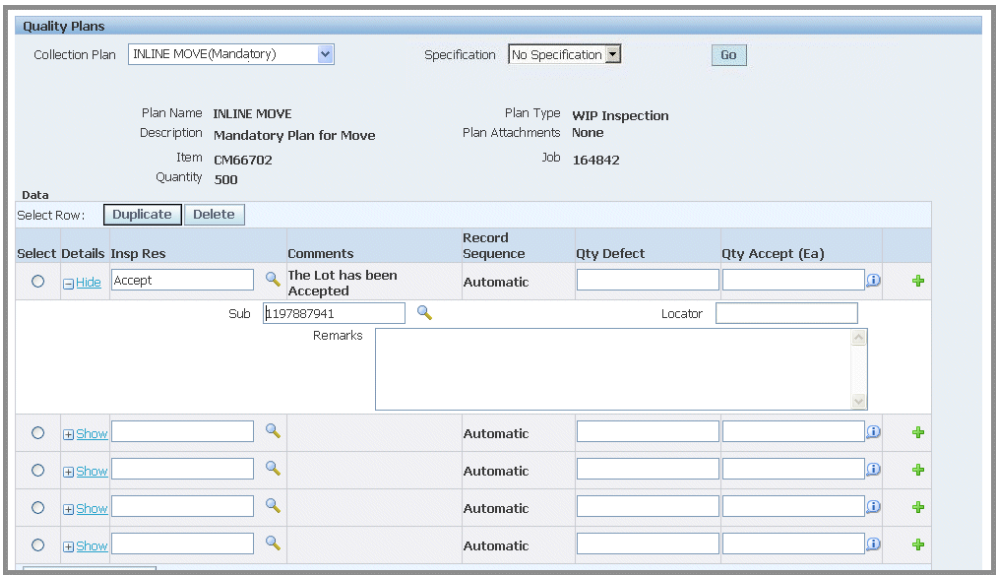
    See: Quality Display Modes, page 3-24

    The Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

    After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

12. If single level plans exist, enter quality results directly in the MES transaction pages

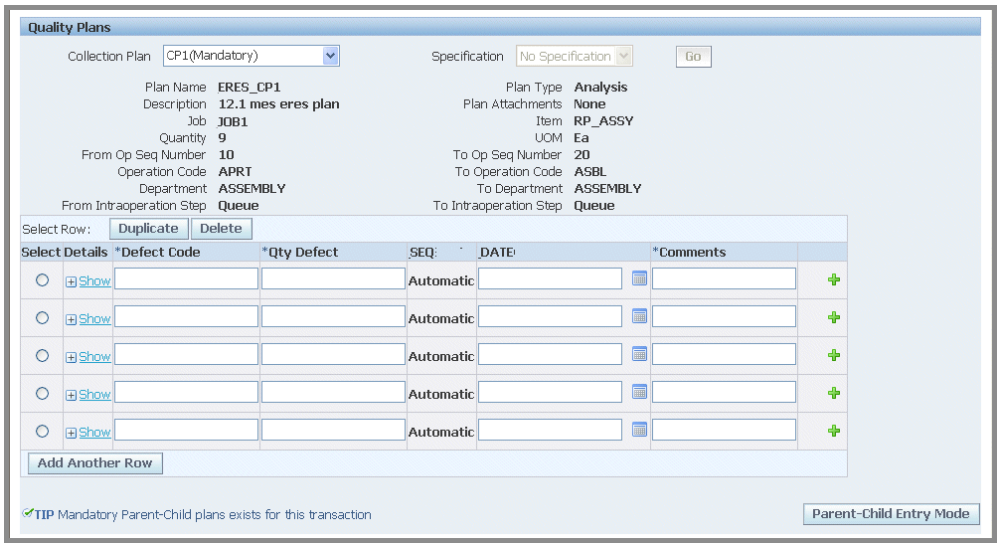
. Select information in the following fields: Inspection Resolution, Quantity Defects, Subinventory and Locator, and Remarks.



If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench. If you choose to enter data in the parent-child mode, you cannot return to the inline mode. However, you can enter data first in the inline region, and then navigate to the parent-child region.

13. Oracle Applications also provides the ability to enter collection plan transactions using integrated devices. Scan your data into the fields for Defect Code, Quantity Defect, Date, and Comments.

    If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench.



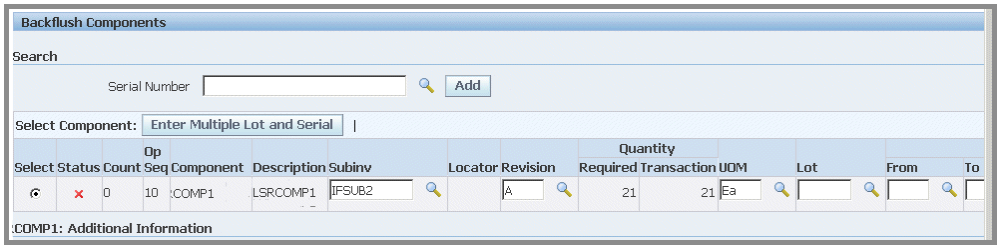
14. Use the Backflush Components region to manually backflush components under lot and serial control. Search for preassigned assembly component serial numbers in the Serial Number field. Select Add to populate the component transaction table with the information from the serial number record.

    If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components. See:

    Overview of Backflush Transactions, *Oracle Work in Process User's Guide*

    Backflush Transactions, *Oracle Work in Process User's Guide*

    Backflushing Pull Components, *Oracle Work in Process User's Guide*



15. For component lot and serial number assignments—select applicable values in the Subinventory, Locator, Revision, and Lot fields:

    - Select from applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.

    - If lot and serial numbers have not been generated, select Enter Multiple Lot and Serial to access the Add Lot and Serial page in Oracle Inventory.

Note: When entering multiple lots, for dual unit of measure controlled items, you can enter the secondary quantity for a lot.

See:

- Assigning Lot Numbers Within Transactions, *Oracle Inventory User's Guide*
- Assigning Serial Numbers, *Oracle Inventory User's Guide*

16. Select Finish to save your work.

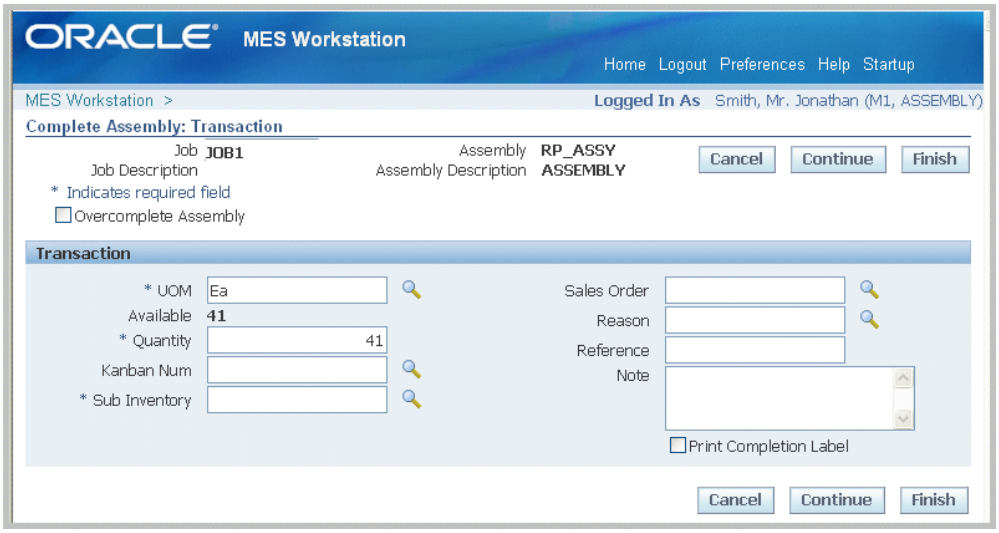
Completing Assemblies

You complete job assemblies into inventory using both the Move Assembly and Complete Assembly pages. In cases where your production process may yield more assemblies, you have the ability to overcomplete assemblies into inventory.

To complete an assembly:

1. Navigate to the Complete Assembly: Transaction page.

   This page displays job information including job number and description, operator, assembly number, and description.



2. Enable the Overcomplete Assembly check box if the completions transaction quantity is greater than the job quantity.

   See:Assembly Over-completions, *Oracle Work in Process User's Guide*, and Completing and Returning Assemblies, *Oracle Work in Process User's Guide*

3. Select Finish to use the defaults displayed to create a completion transaction. Or select values for fields displayed on this page for this completion transaction.

4. In the Transaction region, you can select applicable values for the following fields:

   - Unit of Measure
   - Quantity
   - Kanban Number
   - Subinventory
   - Sales Order
   - Reason
   - Reference
   - Note

   Notes can be updated, see: Updating Job Notes, page 3-18

5. If a customized descriptive flexfield is used in your environment, the Additional Information region displays. Enter your information in this region. If you are not using customized information, this region does not appear.

6. Select Finish to complete this transaction, or select Continue to enter information for quality plans, component backflush, and lot and serial assignments.

   - If you select Finish, the transaction is saved.
   - If you select Continue, the Complete Assembly: Detail page displays.

7. In the Manual Resources region, you have the option to add machine resources by selecting Retrieve Non-Labor Resources—or individually adding records.

   - When you select Retrieve Non-Labor Resources, applicable machine resources populate the fields for Resource, Instance, and Start Time and End Time. You can edit or delete these records.
   - For individual records you are manually entering, select values in the Resource, Instance, and Start Time and End Time fields.

8. Quality collection plan information displays in the Quality Plans region. Several different modes may appear, For collection plans with a parent-child relationship only, the Quality Plans region displays fields for Plan Name, Information, Mandatory flag, Completed status, and Attachments. Select Add Child Data to

navigate to the Enter Quality Results page in Oracle Quality.

See: Quality Display Modes, page 3-24

The Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

9. If single level plans exist, enter quality results directly in the MES transaction pages . Select information in the following fields: Inspection Resolution, Quantity Defects, Subinvenvory and Locator, and Remarks.

   If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench. If you choose to enter data in the parent-child mode, you cannot return to the inline mode. However, you can enter data first in the inline region, and then navigate to the parent-child region.

10. Oracle Applications also provides the ability to enter collection plan transactions using integrated devices. Scan your data into the fields for Defect Code, Quantity Defect, Date, and Comments.

    If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench.

11. Use the Backflush Components region to manually backflush components under lot and serial control. Search for preassigned assembly serial numbers in the Serial Number field. Select Add to populate the component transaction table with the information from the serial number record.

    If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components. See:

    Overview of Backflush Transactions, *Oracle Work in Process User's Guide*

    Backflush Transactions, *Oracle Work in Process User's Guide*

    Backflushing Pull Components, *Oracle Work in Process User's Guide*

12. For component lot and serial number assignments—select applicable values in the Subinventory, Locator, Revision, and Lot fields:

    - Select from applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.

    - If lot and serial numbers have not been generated, select Enter Multiple Lot and Serial to access the Add Lot and Serial page in Oracle Inventory.

      Note: When entering multiple lots, for dual unit of measure

controlled items, you can enter the secondary quantity for a lot.

See:

- Assigning Lot Numbers Within Transactions, *Oracle Inventory User's Guide*
- Assigning Serial Numbers, *Oracle Inventory User's Guide*

13. Select Finish to save your work.

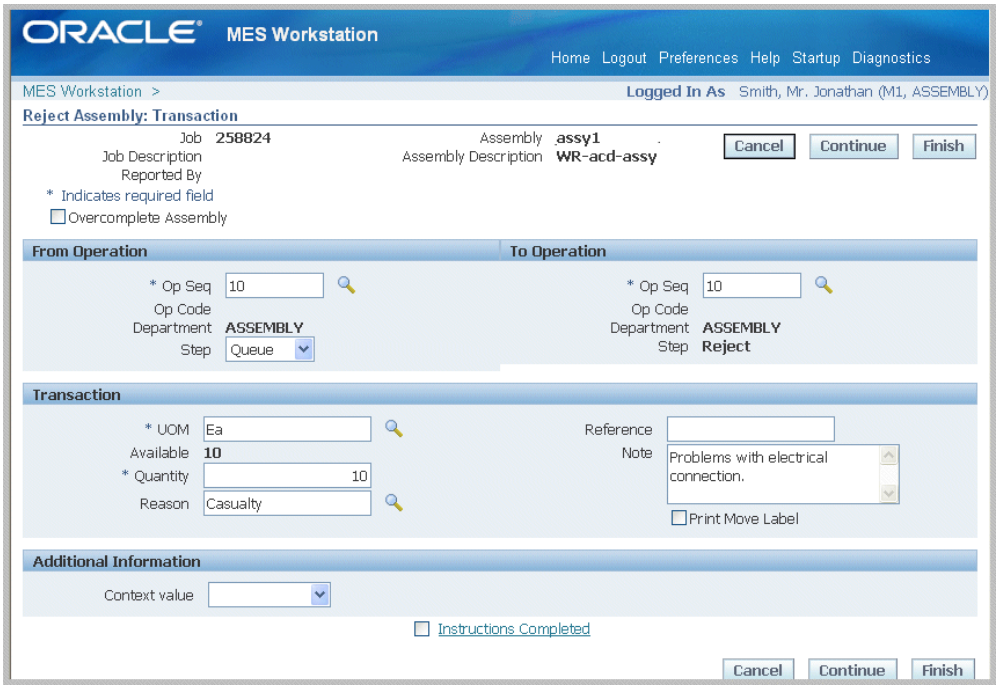
Rejecting and Scrapping Assemblies

You can reject or scrap, and then disposition assemblies that do not meet standards. The reject and scrap process isolates problem assemblies. When it is possible to rework defective assemblies, they can be returned to their routing operation.

- Rejected assemblies are considered complete and resources consumed. Assemblies in the Reject intraoperation step of an operation may be waiting to be reworked or scrapped. You can move assemblies from the Reject step to any other intraoperation step in the routing.
- Scrapped assemblies moved into the Scrap intraoperation step from the Queue or Run step of the same operation are considered complete at that operation. Operation completion information is updated including, backflushing pull components and charging resource costs.

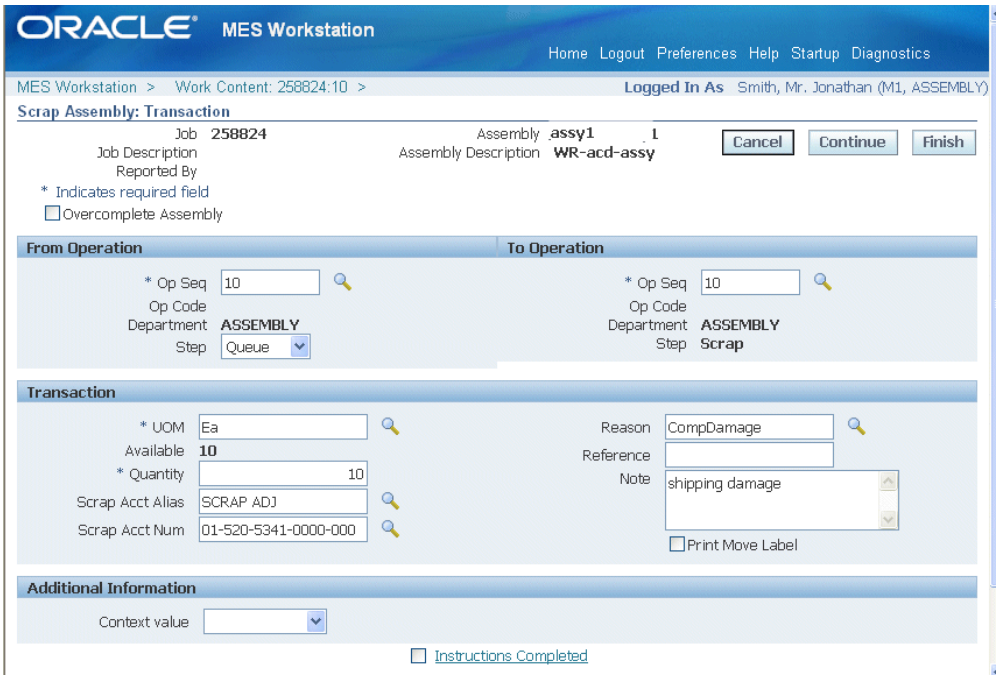
To reject or scrap assemblies:

1. Navigate to the Reject Assembly: Transaction page for assemblies you want to reject.



Or navigate to the Scrap Assembly: Transaction page for assemblies you want to scrap.

Both pages display job information including job number and description, operator, and assembly number and description.



2. Enable the Overcomplete Assembly check box if the transaction quantity is greater than the job quantity.

3. Select Finish to use the defaults displayed to create a reject or scrap transaction. Or, select Continue to add information needed to create this transaction.

4. In the From Operation region, select the originating interoperation step you are rejecting or scrapping assemblies.

   In the To Operation region, select the destination operation sequence you are moving the assemblies.

5. In the To Operation region, select the destination operation sequence for rejecting or scrapping the assemblies.

6. In the Transaction region, select applicable quantities in the Unit of Measure and Quantity fields. Optionally, you can enter a transaction Reason, Reference, and descriptive text in the Note region.

   Notes can be updated, see: Updating Job Notes, page 3-18

7. If a customized descriptive flexfield is used in your environment, you have the option to enter the value in the Additional Information region.

8. Select Finish to complete your reject or scrap transaction, or select Continue to enter information about manual resources and quality plans.

- If you select Finish, the transaction is saved.
- If you select Continue, the Detail page displays.

9. On the Detail page, in the Manual Resources region, you have the option to add machine resources by selecting Retrieve Non-Labor Resources.

   For any applicable machine resources, this region populates the fields for Operation Sequence, Resource, Instance, Start Time.

10. Quality collection plan information displays in the Quality Plans region. Several different modes may appear, For collection plans with a parent-child relationship only, the Quality Plans region displays fields for Plan Name, Information, Mandatory flag, Completed status, and Attachments. Select Add Child Data to navigate to the Enter Quality Results page in Oracle Quality.

    See: Quality Display Modes, page 3-24

    The Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

    After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

11. If single level plans exist, enter quality results directly in the MES transaction pages . Select information in the following fields: Inspection Resolution, Quantity Defects, Subinvenvory and Locator, and Remarks.

    If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench. If you choose to enter data in the parent-child mode, you cannot return to the inline mode. However, you can enter data first in the inline region, and then navigate to the parent-child region.

12. Oracle Applications also provides the ability to enter collection plan transactions using integrated devices. Scan your data into the fields for Defect Code, Quantity Defect, Date, and Comments.

    If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench.

13. Use the Backflush Components region to manually backflush components under lot and serial control. Search for preassigned assembly serial numbers in the Serial Number field. Select Add to populate the component transaction table with the information from the serial number record.

    If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components. See:

    Overview of Backflush Transactions, *Oracle Work in Process User's Guide*

    Backflush Transactions, *Oracle Work in Process User's Guide*

Backflushing Pull Components, *Oracle Work in Process User's Guide*

14. For component lot and serial number assignments—select applicable values in the Subinventory, Locator, Revision, and Lot fields:
    - Select from applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.
    - If lot and serial numbers have not been generated, select Enter Multiple Lot and Serial to access the Add Lot and Serial page in Oracle Inventory.

      See: Assigning Serial Numbers, *Oracle Inventory User's Guide*

15. Select Finish to save your work.

Related Topics

Rescheduling Operations, page 4-60

Returning Assemblies, page 3-63

Generating Serial Numbers, *Oracle Inventory User's Guide*

Lot Control, *Oracle Inventory User's Guide*

Setting Up Lot Control, *Oracle Inventory User's Guide*

Maintaining Item Lot Information, *Oracle Inventory User's Guide*

Setting Up Serial Number Control, *Oracle Inventory User's Guide*

Assigning Serial Numbers, *Oracle Inventory User's Guide*

Performing Express Completions for Related Job Operations

You can perform express job operation completions and use specific search criteria to pull in the related operations. Applicable job operation records for this action are:

- Set up using the Relation for Operation Completions parameter
- Completed on the Express Complete Related Job Operations page

The Express Complete Related Job Operations page lists all job operations related to the selected work order based on the relationship entered in the Relation for Operation Completions parameter. The page defaults to quantities for job operation completion; job operations included and quantities completed can be edited on this page.

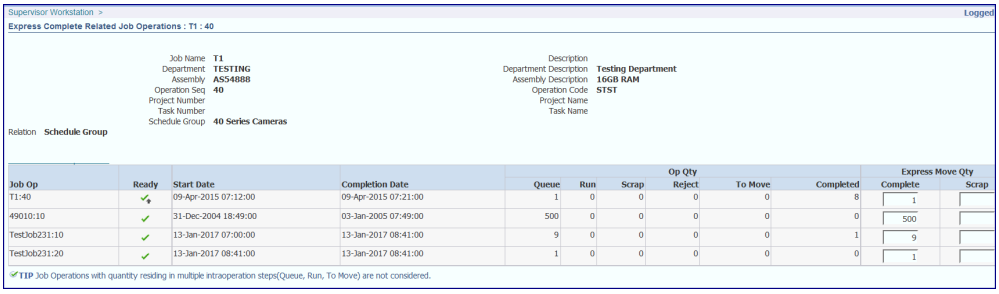
To perform express completions for related job operations:

1. Select a job on the Dispatch List and navigate to the Express Complete Related Job Operations page.

For the selected job, applicable information appears in the following fields:

- Job Name
- Description
- Department
- Department Description
- Assembly
- Assembly Description
- Operation Sequence
- Operation Code
- Project Number
- Project Name
- Task Number
- Task Name
- Schedule Group

The Relation field shows the relationship used in considering the operations fetched for completion as set in the Relation for Operation Completions parameter, see: Relation for Operation Completions, page 2-8



Job operations appear in the table with information in the following columns:

- Job Operation
- Ready Status
- Start and Completion Dates

- Quantity in Operation Steps: Queue, Run, Reject, To Move, and Completed

  Note: Job operations with existing quantities in Queue, Run, and To Move steps are not considered for express completion.

  Note: If the profile option WIP:Validate Push Components at WIP Completion has been set to Yes, all push type components must be issued to the job in order to perform the completion transactions. See: WIP:Validate Push Components at WIP Completion, *Oracle Work in Process User's Guide*

2. In the Express Move Quantity column for the selected record, enter the number of units completed in the Complete field. If applicable, enter rejected quantities in the Scrap field.

3. Select Apply to save your work.

Overview of Serialized Manufacturing Transactions

Oracle MES provides preassigned assembly serial numbers enabling the creation of serialized jobs. You have the ability to perform operation and assembly completion by job serial number record. The progress of the job can be tracked after the serialization start operation using the assembly serial number. In serialized manufacturing you can:

- Query jobs and perform transactions by serial number.

  The Job Selection Mode parameter is used to set your search preferences by serial number when initializing the workstation. Use selection mode Assembly Serial Numbers to use the Search Serial Numbers page as the initial page display for the workstation.

- Use a mobile device to scan jobs by serial number for transactions.

- Set the Auto Associate Serial Numbers parameter to determine if serial numbers are automatically generated and associated with a job when a job is created and released.

  Auto association of serial numbers provides the ability to associate serial numbers to jobs based on job quantity. The job start quantity is used to determine the number of serial numbers created. The Work in Process parameter, Auto Associate Serial Numbers, is used to provide this option. If set to:

  - On Job Release: Serial numbers are automatically generated and associated with a job when it is released.

    - Never: Serial numbers are not generated but can be associated to the job at any point in the manufacturing cycle.

- Control move transactions sequentially up to the next count point operation.

  If the Enforce Sequential Move parameter is set to Yes, you can restrict moves for assemblies for particular departments. The Dispatch List, Search Serial Numbers page, and move and completion transaction pages display only up to the count point operation.

- Create transactions in specialized move, return, scrap, and completion pages for serial number transactions.

  This enables you to move only one serial number record, and restricts overcompletions.

- Perform express moves for serialized assemblies.

  This action moves all the serial number records in a job operation.

The Search Serial Numbers page is the starting point for the serialized transactions. Available transactions and default values displayed are tied to the method the page is accessed.

Express Moves

Express move functionality is supported for serialized jobs enabling you to move the quantity in one action; and create move transactions for a number of job operations performed in one action. In these jobs you can:

- Move partial quantities depending on the method the Search Serial Numbers page is accessed. You cannot move partial quantities if accessed from the Dispatch List Serialized icon, but you can if accessed directly from startup or from global actions.

- Move multiple serial numbers assigned to the job operation.

Express Transact Components

If you are using the Express Transact Components page feature, you can create move transactions from one step to the next step by default - rather than the next operation and default operation step. When scanning large numbers of serialized components, this feature mitigates the task of manually selecting components you require - and deselecting the ones not you do not want in the transaction. You can view the required, issued, open quantity values, and component serial numbers for a serialized assembly.

Related Topics

Serial Number Control, *Oracle Inventory User's Guide*

Setting Up Serial Number Control, *Oracle Inventory User's Guide*

Serial Number Tracking Throughout Manufacturing, *Oracle Work in Process User's Guide*

Express Moves, page 3-22

Searching for Serialized Jobs and Performing Express Moves, page 3-41

Creating Move Transactions for Serialized Jobs, page 3-45

Serial Parameters, *Oracle Work in Process User's Guide*

Searching for Serialized Jobs and Performing Express Moves

You can use the Serial Numbers and Assembly Serial Numbers pages to find serialized job records, perform express moves, print serial number labels, and navigate to other transaction pages. The Assembly Serial Numbers displays all assembly serial numbers for a specified job operation. These pages are accessed from:

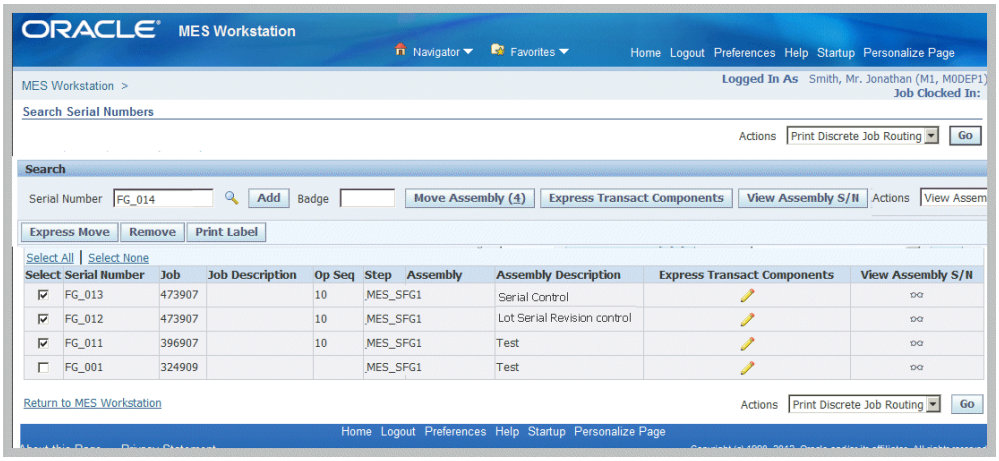
- The Dispatch List using the Serialized icon for specific job operations. When you navigate to either page from the Serialized icon in Dispatch List page, the page is populated with the serial numbers in the job operation selected.
- The Global Actions list of values; if the page is accessed directly from startup or from global actions, you can create transactions for the entire job operation quantities.
- The Search Job page.
    - The Job Selection Mode parameter enables you to set this page as your first page when initializing the workstation.
    - The Search Job/Serial Operation Actions parameter enables you to set the button or choice list actions viewable on this page.

      See: Manufacturing Execution Workstation Parameters, page 2-1

To search for serial number records and perform express moves:

1. Navigate to the Search Serial Numbers page.
2. Enter or scan the serial number record in the Serial Number field.
3. For transactions performed for one serial number record at a time, select an action either in the button or choice list action values to navigate to other pages.

   Actions can include moves and express moves among others. Actions are set in the parameter, Search Job/Serial Operation Actions, page 2-37



4. For transactions for multiple serial numbers, enter or scan the serial number records in the Serial Number field, and select Add to move records to the table.

   The table view displays information in the following fields:

   - Serial Number
   - Job number
   - Job Description
   - Operation Sequence
   - Operation Step
   - Assembly number
   - Assembly Description

5. Enable the records for transactions or views by checking the Select box; or remove records by selecting Remove.

6. Choose available actions for the selected records. These actions can include moves, express moves, view assembly serial numbers, label printing, and many others.

7. Select Express Move if this serialized job meets the criteria for express move functionality to move the quantity in one action, see: Overview of Serialized Manufacturing Transactions, page 3-39

8. Select Express Transact Components to navigate to the Express Transact Components page to create move transactions from one step to the next step by default - rather than the next operation and default operation step. This page primarily designed with a view to use scanners for component and component

serial number data entry. See: Creating Express Component Transactions for Serialized Assemblies, page 3-48

9. Select View Assembly S/N to navigate to the View Assembly Serial Number page, see: Viewing Assembly Serial Number Detail Information, page 3-59

To access serial number records from the Dispatch List or Search Jobs page:

1. Navigate to the Dispatch List or Search Jobs page, and select your search criteria.

2. Select the Serialized icon that is enabled for a specific job operation.

   The Search Serial Numbers page displays with the table rows populated with the serial numbers in the job operation selected.

3. Enable the records by checking the Select box, and then choose an action in the button or choice list action values, or global actions. Actions are set in the parameter, Search Job/Serial Operation Actions, page 2-37

   Note: You cannot remove serial number records if you navigate to the Serial Numbers page from the Dispatch List or Search Jobs page.

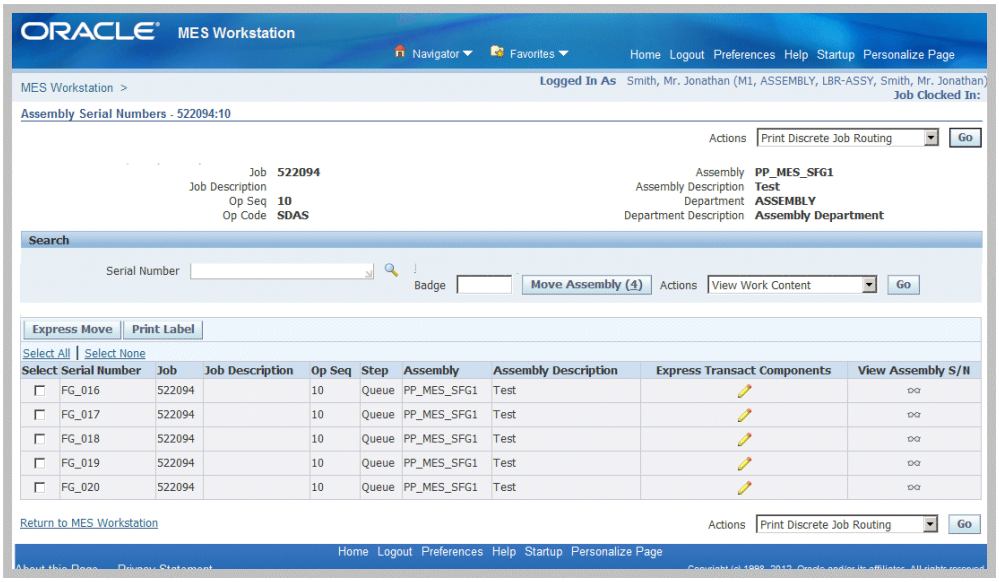
To access serial number records for a serialized assembly from the Dispatch List or Search Jobs page:

1. Navigate to the Dispatch List or Search Jobs page, and select your search criteria.

2. Select the Serialized icon that is enabled for a specific job operation.

   The Assembly Serial Numbers page heading region displays job information such as Job number, Job Description, Operation Sequence, Operation Code, Assembly number, Assembly Description, Department, and Department Description.

   The table rows are populated with the serial numbers for the job operation selected.



3. Enable the records by checking the Select box, and then choose an action in the button or choice list action values, or global actions. Actions are set in the parameter, Search Job/Serial Operation Actions, page 2-37

   Note: You cannot add or remove serial number records if you navigate to the Assembly Numbers page from the Dispatch List or Search Jobs page.

4. You can also select the following:

   - Express Move if this serialized job meets the criteria for express move functionality to move the quantity in one action, see: Overview of Serialized Manufacturing Transactions, page 3-39

   - Express Transact Components to navigate to the Express Transact Components page to create move transactions from one step to the next step by default - rather than the next operation and default operation step. This page is primarily designed with a view to use scanners for component and component serial number data entry, see: Creating Express Component Transactions for Serialized Assemblies, page 3-48

   - View Assembly S/N to navigate to the View Assembly Serial Number page, see: Viewing Assembly Serial Number Detail Information, page 3-59

Related Topics

Creating Move Transactions for Serialized Jobs, page 3-45

Creating Move Transactions for Serialized Jobs

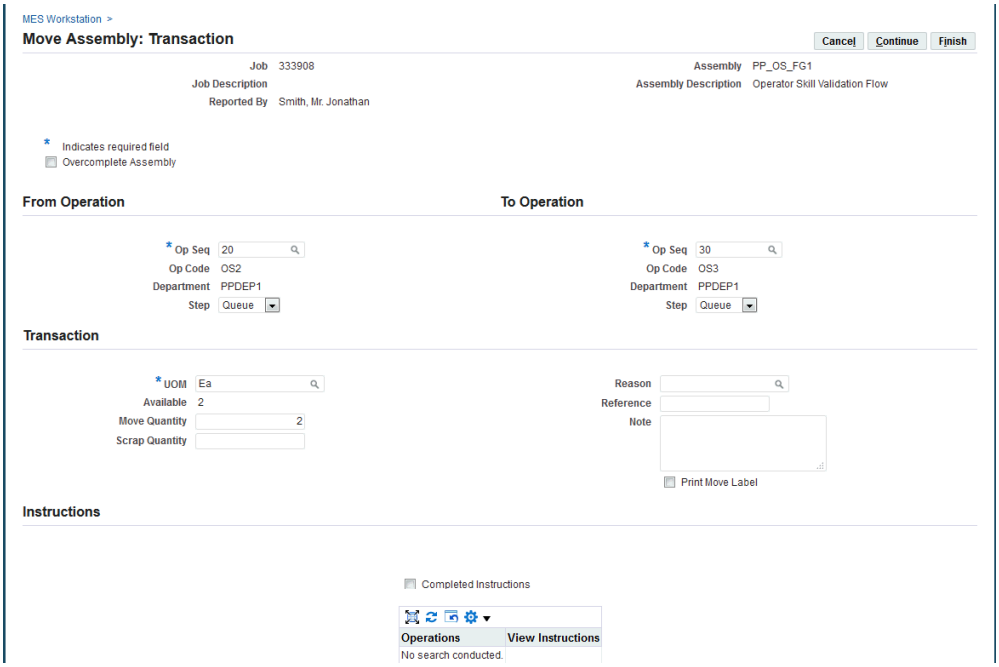
Serialized transaction pages are invoked when you select a move task from the Search Serial Numbers page. This includes Complete Assembly, Move Assembly, Return Assembly, Return From Scrap, Return From Reject, Reject Assembly, Move and Complete, Return and Move, Scrap, and Assembly transaction pages. The serialized transaction page is a one page flow, unlike the assembly transaction and detail pages for non-serialized moves. The following rules are set for these pages:

- You move only one serial number record, so the Move Quantity field does not appear on the transaction page.
- If the Enforce Sequential Move parameter is set to Yes, the To Operation value displays only the operation up to the count point operation. Moves across the count point operation are disabled.
- For backward moves, the assembly cannot be moved back before the serialization start operation.
- Overcompletion and moves combinations with scrap and reject transactions are not available for serialized move transactions.
- In completion, and completion and move combination transactions—the To Operation and To Step fields are not displayed.
- For a return transaction, the To Operation and To Step fields are not displayed since an assembly is always returned to the last operation's run step.

To move job operations for serialized jobs:

1. Select your serialized job record, and navigate to the Move Assembly: Transaction page. See: Searching for Serialized Jobs and Performing Express Moves, page 3-41

   This page displays job information including serial number, assembly number and description, job number and description, operation sequence, and step.



Depending on how the following parameters are set, certain fields display and are available for updates in this region:

- Allow Moves From Prior Operations, page 2-10
- Enforce Sequential Move, see: MES Administrator, page 2-1

2. You have the choice to select Apply to save your record using the values displayed on this page. You can also change the defaulted values before saving the record.

3. In the Transaction region, select values in the Step, Reason, Reference, and descriptive text in the Note region field.

   Updating Job Notes, page 3-18

4. If a customized descriptive flexfield is used in your environment, the Additional Information region displays. Enter your information in this region. If you are not using customized information, this region does not appear.

5. In the Manual Resources region, you have the option to add machine resources by selecting Retrieve Non-Labor Resources—or individually adding records.

   - When you select Retrieve Non-Labor Resources, applicable machine resources populate the fields for Resource, Instance, and Start Time and End Time. You can edit or delete these records.
   - For individual records you are manually entering, select values in the Resource,

Instance, and Start Time and End Time fields.

6. Quality collection plan information displays in the Quality Plans region. Several different modes may appear, For collection plans with a parent-child relationship only, the Quality Plans region displays fields for Plan Name, Information, Mandatory flag, Completed status, and Attachments. Select Add Child Data to navigate to the Enter Quality Results page in Oracle Quality.

   See: Quality Display Modes, page 3-24

   The Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

   After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

7. If single level plans exist, enter quality results directly in the MES transaction pages . Select information in the following fields: Inspection Resolution, Quantity Defects, Subinvenvory and Locator, and Remarks.

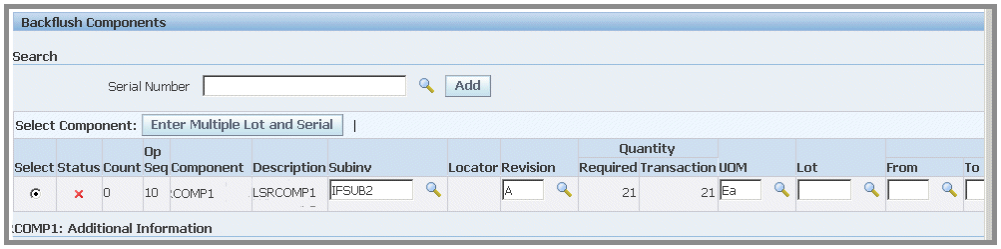
   If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench. If you choose to enter data in the parent-child mode, you cannot return to the inline mode. However, you can enter data first in the inline region, and then navigate to the parent-child region.

8. Oracle Applications also provides the ability to enter collection plan transactions using integrated devices. Scan your data into the fields for Defect Code, Quantity Defect, Date, and Comments.

   If applicable parent and child relationships plans also exist, the Parent-Child Entry Mode button is enabled to access the Quality Workbench.

9. Use the Backflush Components region to manually backflush components under lot and serial control. Search for component assembly serial numbers in the Serial Number field. Select Add to populate the component transaction table with the information from the serial number record.

   If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components.



See:

Overview of Backflush Transactions, *Oracle Work in Process User's Guide*

Backflush Transactions, *Oracle Work in Process User's Guide*

Backflushing Pull Components, *Oracle Work in Process User's Guide*

10. For component lot and serial number assignments—select applicable values in the Subinventory, Locator, Revision, and Lot fields:
    - Select from applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.
    - If lot and serial numbers have not been generated, select Enter Multiple Lot and Serial to access the Add Lot and Serial page in Oracle Inventory.

      See: Assigning Serial Numbers, *Oracle Inventory User's Guide*

11. Select Apply to save your work.

Creating Express Component Transactions for Serialized Assemblies

The Express Transact Components page provides an enhanced component view for serialized assemblies. The functionality is designed for serialized assemblies with serialized components, primarily for use with scanners for data entry. This feature enables you to improve productivity by creating move transactions defaulting to the correct next operation and step in the work order.

- Heading region displays assembly and serial number data.
- Transaction region enables you to enter additional components or component serial number details for a specific transaction type.
- Serial Attributes region enables you to enter additional serial number information; this region appears if the serial attributes flexfield is enabled.
- Component List region provides detailed information for all the components entered in the Transaction region.

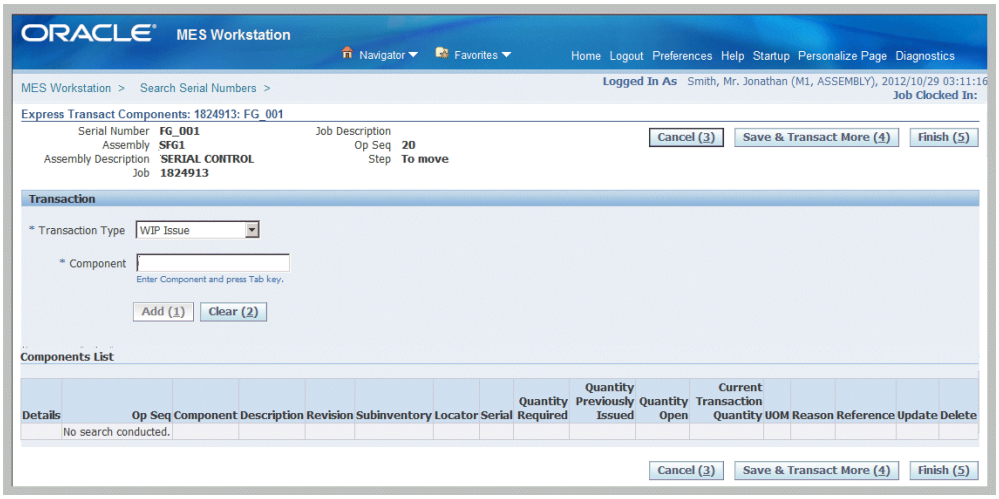
To create express component transactions for serialized assemblies:

1. Navigate to the Express Transact Components page for the assembly you selected.

   The heading region displays data on the assembly serial number including:
   - Serial Number
   - Assembly
   - Assembly Description

- Job number
- Job Description
- Operation Sequence
- Step

2. You have the option for the serialized assembly to select:
   - Save and Transact More: This option enables you to complete this transaction with the defaulted component values and add additional components in the Transaction region.
   - Finish: This option completes this transaction with the defaulted component values. The Assembly Serial Numbers or Serial Numbers page refreshes.



3. The Transaction region is used to enter or scan additional components for this assembly. Select a value in the Transaction Type and Component fields.

   Transaction choices are: WIP Issue, WIP Return, WIP Negative Issue, or WIP Negative Return.

4. Press the Tab key to display the Serial Number field.

   The Serial Attributes region appears. Serial attribute fields appear if the serial attributes descriptive flexfield is enabled. If serial attributes are already defined for the serial number, such as predefined serial numbers, those values are defaulted but can be changed.

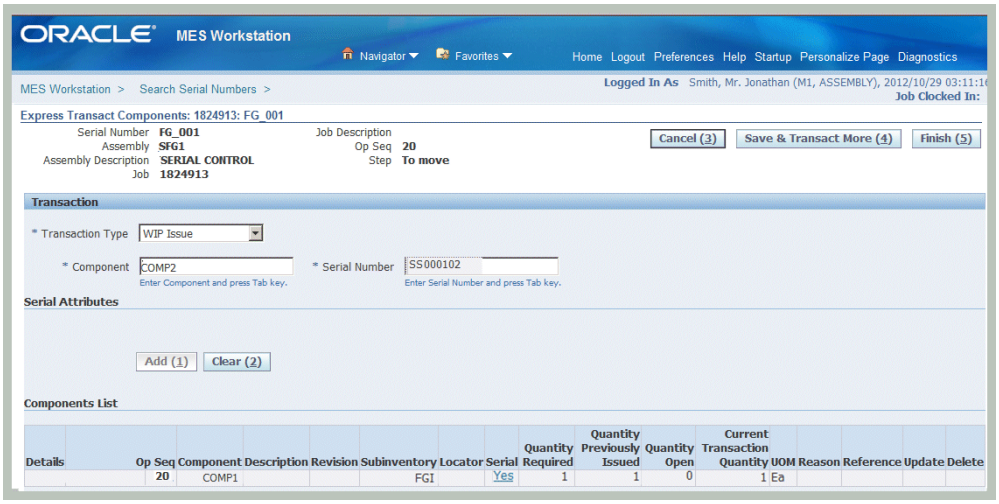
   When a non serialized component is entered, only the Quantity field appears with the current open quantity value displaying.

Note: Serial Tagging functionality is supported in Express Component Transactions. Serial tagging provides the ability to assign serial numbers for component issues and returns; and create serial numbers at the time of the transaction. See: Overview of Serial Tagging Assignments, *Oracle Inventory User's Guide*, and Setting Up Serial Tagging Assignments for an Item, *Oracle Inventory User's Guide*

5. Edit or add values in the serial attributes fields appearing.

6. Select Add to include this component in the transaction

   Components display in the Component List region for all component transactions entered in the current session. This list provides detailed information including: Operation Sequence, Component, Description Revision, Subinventory, Locator, Serial, Quantity Required, Quantity Previously Issued, Quantity Open, Current Transaction Quantity, Unit of Measure, Reason, and Reference.



7. After adding your records to the Components List table, select:

   - Update to navigate to the Update Transact Component page.

   - Save and Transact More: This option enables you to complete this transaction with the defaulted component values and add additional components in the Transaction region.

   - Finish: This option completes this transaction with the defaulted component values. The Assembly Serial Numbers or Serial Numbers page refreshes.

Related Topics

Returning Components from a Serialized Assembly, page 3-67

Express Move – To Operation Sequence and To Operation Step, page C-16

Move - Backflush Component Lot Selection, page C-4

Viewing Job Information

Job information is available on a number of pages and provide views of job details, quality results, job transactions, operation transactions, and related jobs.

Viewing Job Transactions

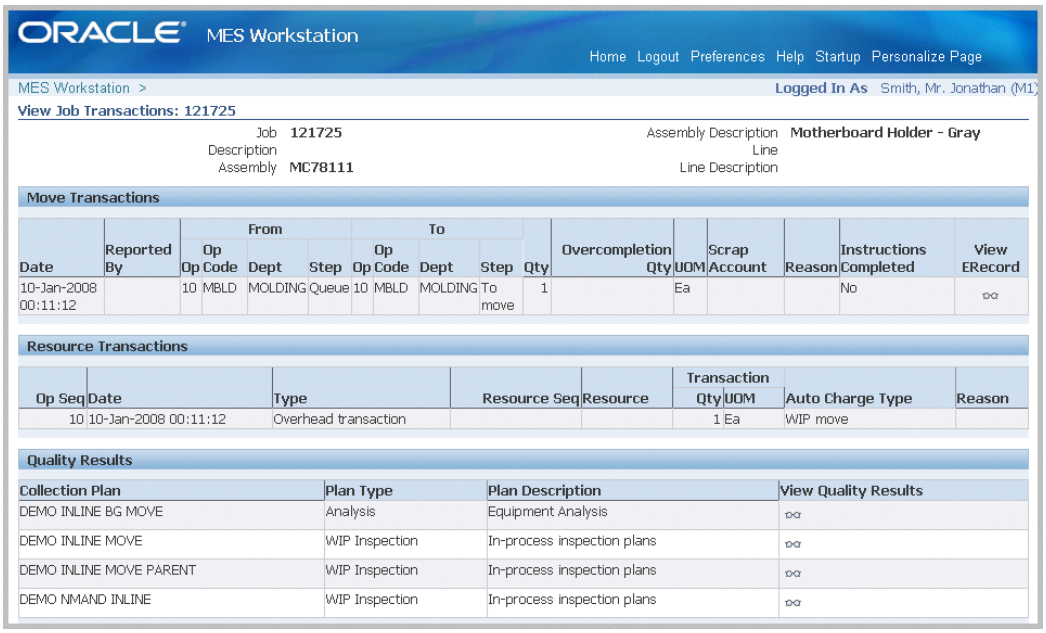
The View Job Transactions page displays regions for various job transactions for a specific job and includes move, resource, quality, and material transactions.

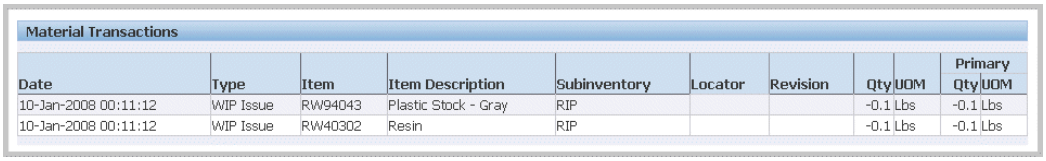
Move Transactions: The pertinent move transaction data for each operation step is listed including date, operator, operation steps from and to, charging departments, quantities, and login information.

Resource Transactions: Resources are listed for each operation sequence and resource by date, transaction type, resource sequence, and quantity.

Quality Results: Relevant quality results are displayed for a job and job operation. This summary view displays collection Plan name, Plan Type, and a link to the View Quality Results page. See: Viewing Quality Results, page 3-52

Material Transactions: Each component and quantity is listed, along with the transaction type, subinventory, locator, revision, and operator.

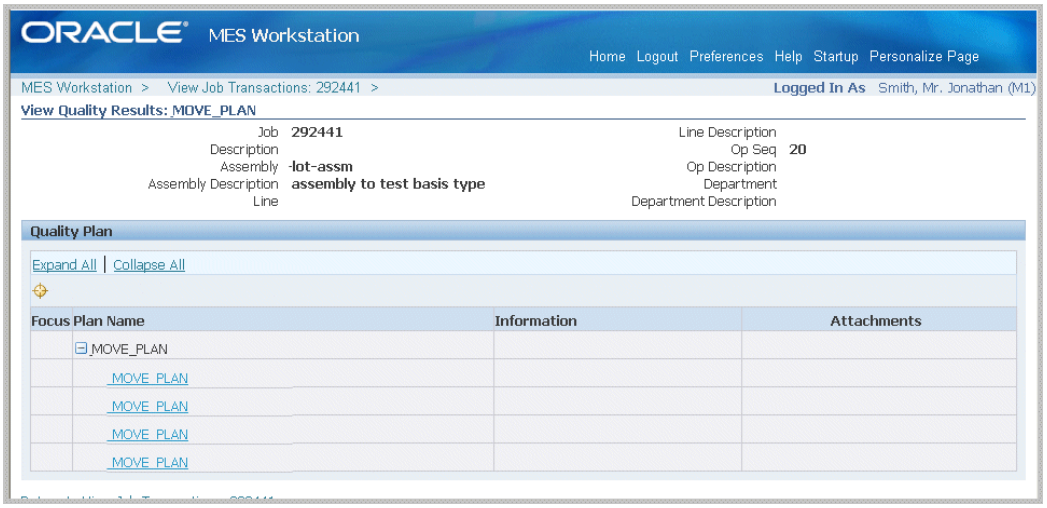




Viewing Quality Results

The View Quality Results page enables you to see the results entered for your quality plan for a particular job and job operation. You can navigate to this page from the View Job Transactions, Job Details, and View Operation Transactions pages.

In the Quality Plan summary region, details display for any other information about the plan and applicable attachment files.



Select a plan in the Quality Plan region, to navigate to the detail Data page. This page displays quantity, defect, and operation step and sequence data.

Viewing Job Details

The Job Details page displays six regions for job details including:

- Job Properties
- Operations
- Components

- Resources
- Competencies
- Sales Order
- Job Instructions

Job Properties

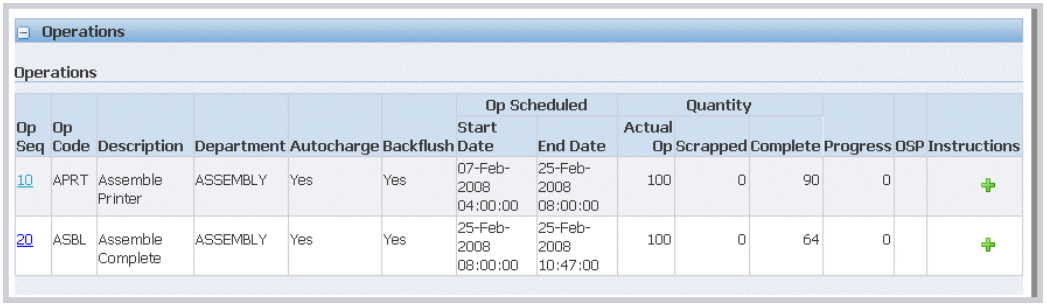
This region has seven tabbed sections related to this job and displays the following details:

- General Information - Job details such as number, description, dates, and quantity
- Bill - Bill of material information including revision and supply type
- Routing - Revision, supply type, completion subinventory, and Serializaton Start Operation flag.
- Job History - Dates and quantities
- Project - Project and task related data
- Scheduling - Request due date and priority if you are using constraint-based scheduling
- Other - On demand data, class, kanban, overcompletion tolerance, and locator

See: Defining Discrete Jobs Manually, *Oracle Work in Process User's Guide*

Operations

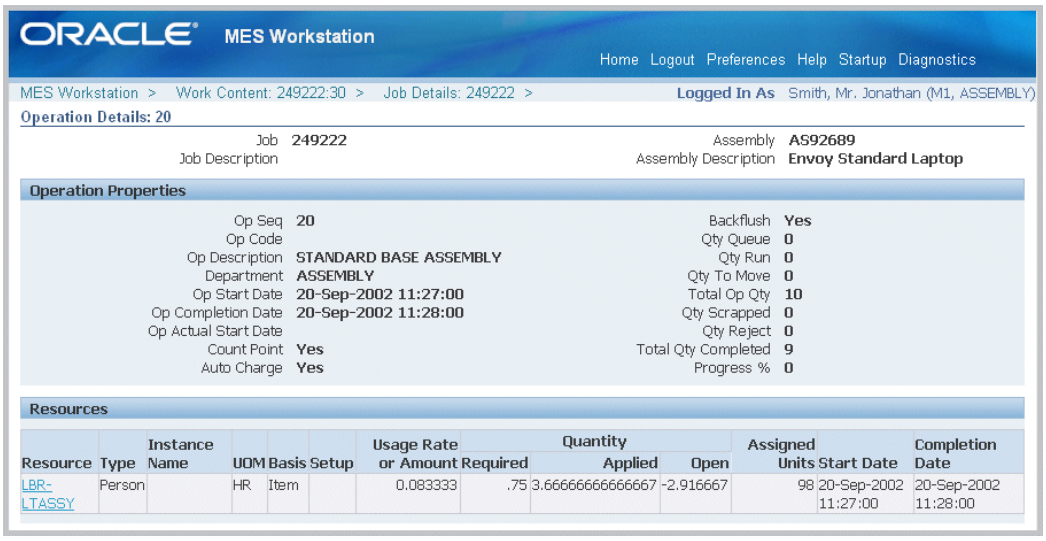
This region shows information on operation sequence, operation code, charging department, quantities, dates, and instructions. See: Viewing Operations, *Oracle Work in Process User's Guide*



Select the Operation Sequence to display the Operation Details page.

The Operation Properties region of this page displays information about this operation including description, department, dates, quantity at the intraoperation steps, and progress percent. You can select update the progress percent for a job operation using the Update button in the Operation Properties region. See: To update job operation progress percent, page 4-49.

The Operation Details page also contains the Resources, Components, Competencies, Outside Processing, and Instructions regions that provide more details on the specific operation. See: Viewing Operation Details, page 4-47

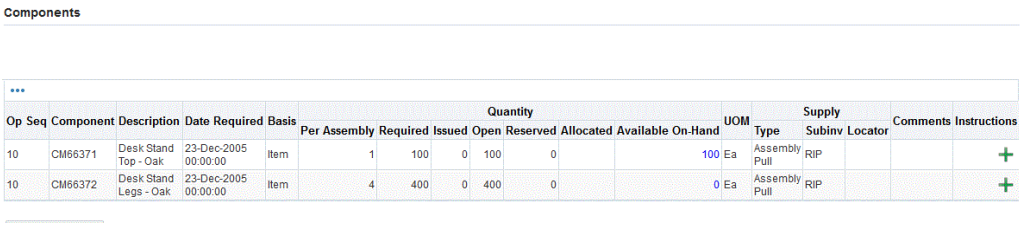


Components

This region shows bill of material component data including name, date required, quantities, and applicable supply and locator data.

Select the quantity link in the Available On-Hand column to view on-hand components across subinventories. When you select a value in this column, you navigate to the Material Workbench in Oracle Inventory. See:

- Material Workbench Window and HTML Page, *Oracle Inventory User's Guide*
- Viewing Component Requirements, *Oracle Work in Process User's Guide*

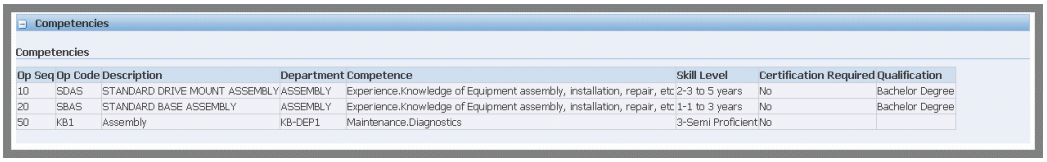


Resources

Resources are viewed per operation sequence and resource sequence including instance, basis, usage rate, and dates. See: Viewing Resource Requirements, *Oracle Work in Process User's Guide*

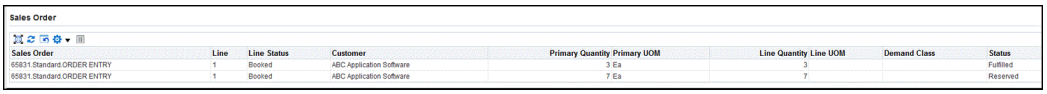
Competencies

This region lists all competency requirements for the job operation if using labor skills validation functionality at Clock In. For each operation—requirements for skill level, certification, and qualifications appear.



Sales Order

Sales orders linked to jobs display in this region including sales order number, line, customer, and quantities. You can view both reserved and fulfilled quantities of sales orders associated with a job.



Job Instructions

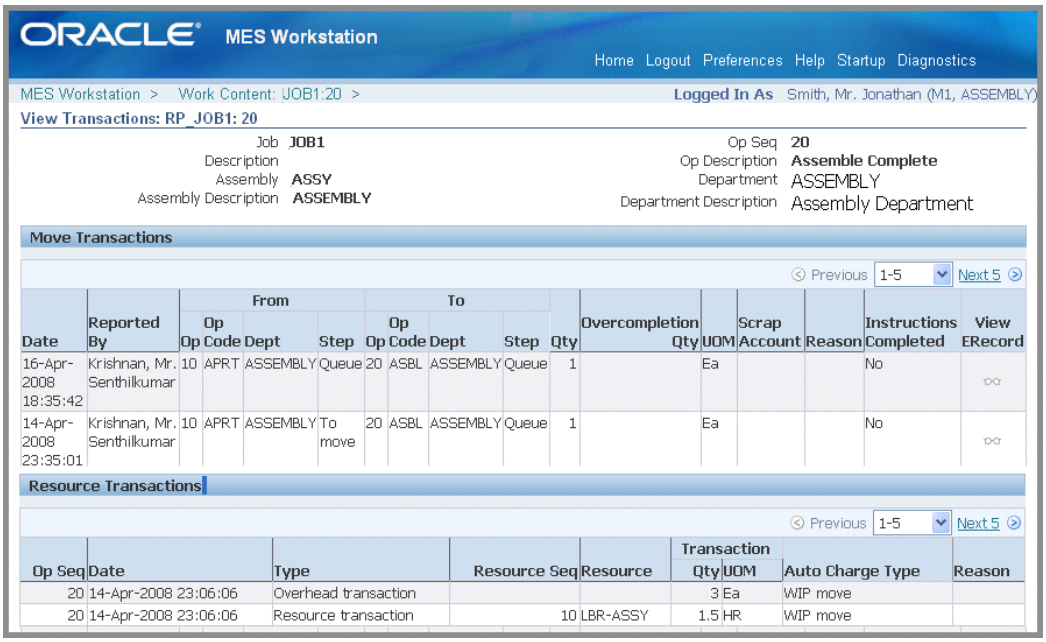
Instructions attached to a job including category, updates, and publish to catalog information display in this region.

Viewing Operation Transactions

The View Operation Transactions page shows the detail information of an operation. Four regions display on this page:

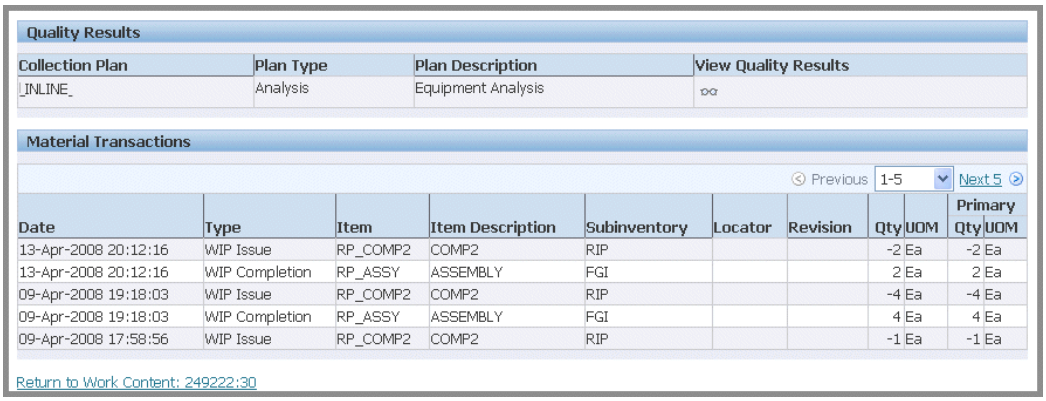
Move Transactions: The pertinent move transaction data for each operation in a particular job is listed. This includes date, operator, operation steps and codes from and to, charging departments, quantities, and instructions completed flag.

Resource Transactions: Resource data for this operation is listed and includes date, type, resource, resource sequence, quantity, and autocharge type.



Quality Results: Quality summary information is displayed for this job operation including Collection Plan name, Plan Type, and a link to navigate to the View Quality Results page. See: Viewing Quality Results, page 3-52

Material Transactions: Each component and quantity is listed, along with the transaction type, subinventory, locator, revision, and operator.



Viewing Related Jobs

For scheduling effects and other cross dependencies, you can view jobs related to one of the records on the dispatch list. This view can filter the jobs displayed by Project, Project and Task, Schedule Group, or a user defined attribute. This enables schedulers and supervisors to see jobs related to one job record, and reschedule other jobs as needed.

This page lists jobs and assemblies by status, start quantity, and schedule dates.

Viewing Assembly Serial Number Detail Information

The Assembly Serial Number Detail page provides a summary and detail of components and transactions for a given assembly serial number. This page is accessed from the Assembly Serial Numbers List and Search Serial Number pages; and is organized into three regions:

- Components for Assembly Serial Number provides information including details of component and transaction requirements and issue status.
- Component Serials Numbers provides a detailed list of all serial numbers for all the serialized components.
- Transactions region provides information on move transactions and quality information.

To view assembly serial number detail information:

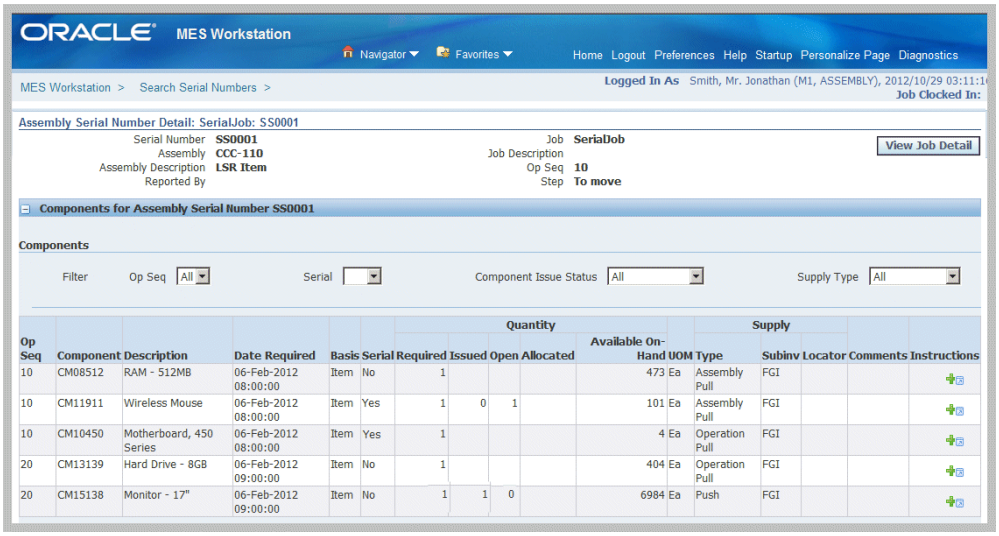
1. Navigate to Assembly Serial Number Detail page.

   The heading information displays the following data:

   - Assembly Serial Number
   - Assembly name
   - Assembly Description
   - Reported By
   - Job number
   - Job Description

- Operation Sequence
- Operation Step

2. Select View Job Detail to navigate to the Job Details page for this job. See: Viewing Job Details, page 3-51



3. You can filter this region by selecting values in the following fields:
   - Op Seq: The Operation Sequence, filter by All or individual sequences.
   - Serial: Serial Number, filter by Yes or No.
   - Component Issue Status: All, Fully Issued Partially Issued, Not Issued, and Over Issued.
   - Supply Type: All, Assembly Pull, Bulk, Operation Pull, Push, and Supplier.

   In the table view of this region, you can see data in the following columns:
   - Operation Sequence
   - Component
   - Description
   - Date Required
   - Quantity
     - Usage quantity Basis

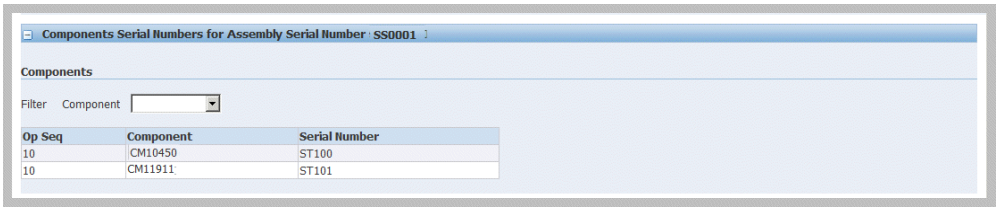
- Serial
- Required
- Issued
- Open
- Allocated
- Available On-Hand
- Unit of Measure

- Supply
  - Subinventory
  - Locator
  - Comments

4. Select the Instructions icon to add attachments.

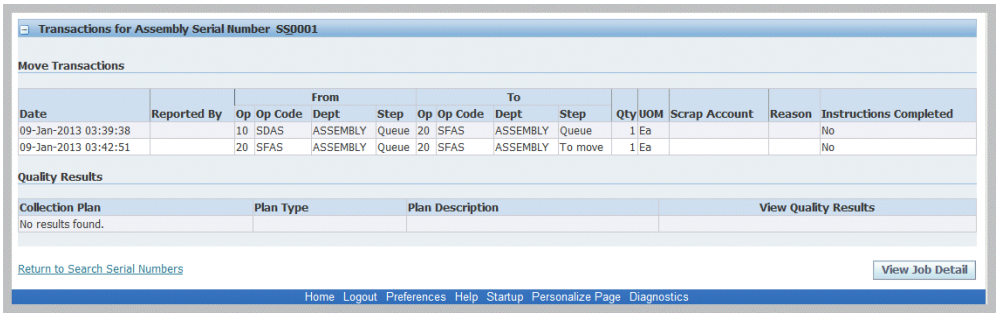
   This selection opens the Add Attachment page to add files, URLs, or text. See: Oracle E-Business Guide Suite Attachments, *Oracle E-Business Suite User's Guide*

5. The Components for Assembly Serial Number region displays the serial numbers for individual components in the assembly. Use the Component drop-down box to filter long lists of components.



   - The Transactions for Assembly Serial Number region is divided into transactions performed on this assembly serial number, and Quality Results data.

   - The Transactions table lists Date, Reported By, From and To Operation Codes and Steps, Quantity, Scrap Account, and if instructions have been completed.



6. The Quality Results table lists any quality data on Collection Plan, Plan Type, Plan Description, and Quality Results. Select View Quality Results to navigate to Quality pages.

Reporting Exceptions

There are a number of situations that may affect work on the production floor such as missing components and quality problems:

- Report Exception action is used to create a signal on the MES Workstation pages indicating problems.
- Update Exception action is used to add and update notes concerning the exception.

You can associate reason codes with the different exception types to display on Exceptions pages. This relationship is set up in the Reason Codes for Exception Types parameter, page 2-35.

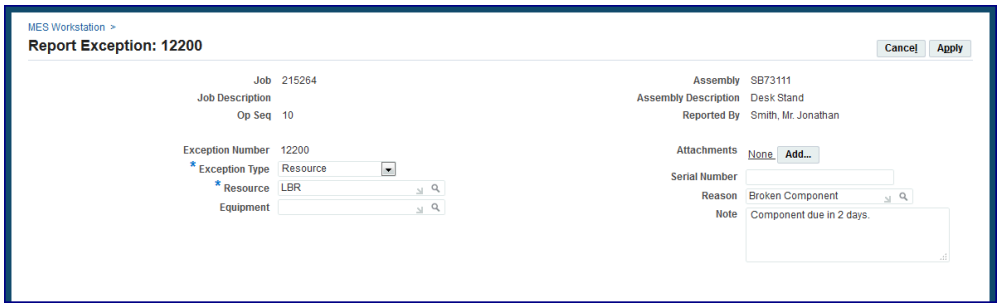
To report an exception:

1. Navigate to the Report Exception page from the Job Operation or Work Content actions.

   Details for this job operation display such as number, description, assembly.

2. Select a value in the Exception Type field. Your choices are:
   - Resource
   - Component
   - In Process Assembly
   - Quality
   - Other

For resource and component exceptions, you can select information to define the specific record.



3. Optionally, select a reason for this exception.

4. Enter any descriptive information in the Note region.

   This information displays in the Note History region of the Exception page detail, and is updated using the Update Exception page.

5. Select Apply to save your work.

   A notification message is sent to the supervisor. You can customize the WIP Exception Notification workflow to suit your specific business rules, see: WIP Exception Notification Workflow, page B-1

Related Topics

Viewing and Resolving Exceptions, page 4-36

Dashboard, page 4-8

Returning Assemblies

You can return assemblies in a number of transactions pages including Return Assembly, Return From Scrap, and Return From Reject. You can return a greater quantity than the original transaction quantity. The return process enables you to move assemblies either back to the stockroom. Or move assemblies taken out of production back to the original production job, and proceed through the remainder of the routing.

To return assemblies:

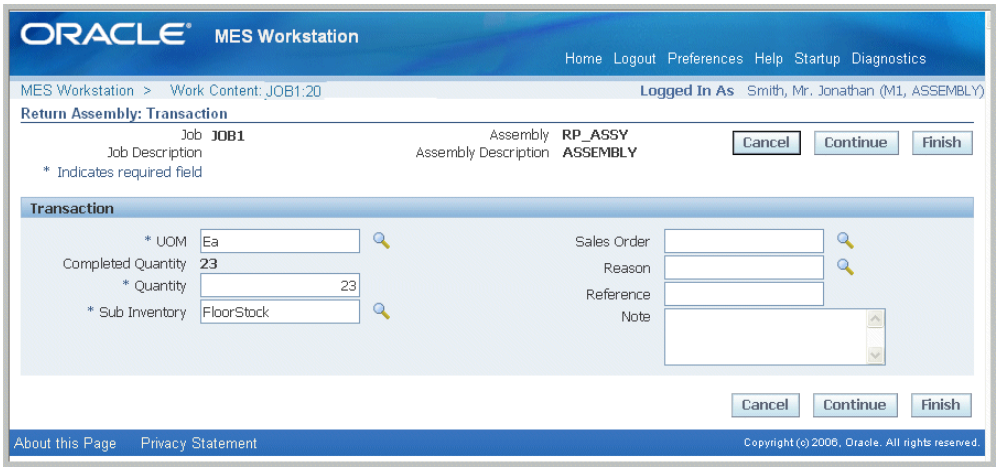
1. Navigate to the Return Assembly page.

   The page displays job information including job number and description, operator, and assembly number and description.

2. Select Finish to use the defaults displayed to create a return transaction. Or select

values for fields displayed on this page.

3. In the Transaction region, enter values in the Quantity and Subinventory fields. You have the option to change the unit of measure.



4. You can select applicable information in the Sales Order, Reason, and Reference fields—and descriptive text in the Note region.

5. The Lots and Serials region displays for assemblies under lot or serial number control, or both. Select Lot Details or Serial Details to access lot or serial detail pages. See: Lot Control, *Oracle Inventory User's Guide*, and Setting Up Serial Number Control, *Oracle Inventory User's Guide*

   - For lot controlled assemblies, select applicable values in the Lot, Parent Lot, and Quantity fields.
   - For serial controlled assemblies, select applicable values in the Serial From and To, and Quantity fields.
   - If the assembly is under both lot and serial control, select values in the Lot, Parent Lot, Serial From and To, and Quantity fields.

6. Select Finish to complete your return transaction, or select Continue to enter information for quality plans and component backflushing.

   - If you select Finish, the transaction is saved.
   - If you select Continue, the Return Assembly Detail page displays.

7. On the Return Assembly: Detail page, collection plan information displays in the Quality Plans region. This region displays fields for Plan Name, Information, Mandatory flag, and Completed status. Select the plan you want to update by choosing Add Child Data.

The Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

8. The Backflush Components region displays components under lot and serial control requiring backflushing. If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components:
   - Select applicable lot values in the Subinventory, Locator, Revision, and Lot fields.
   - Select applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.
9. Select Finish to save your work.

To return assemblies from scrap or reject:

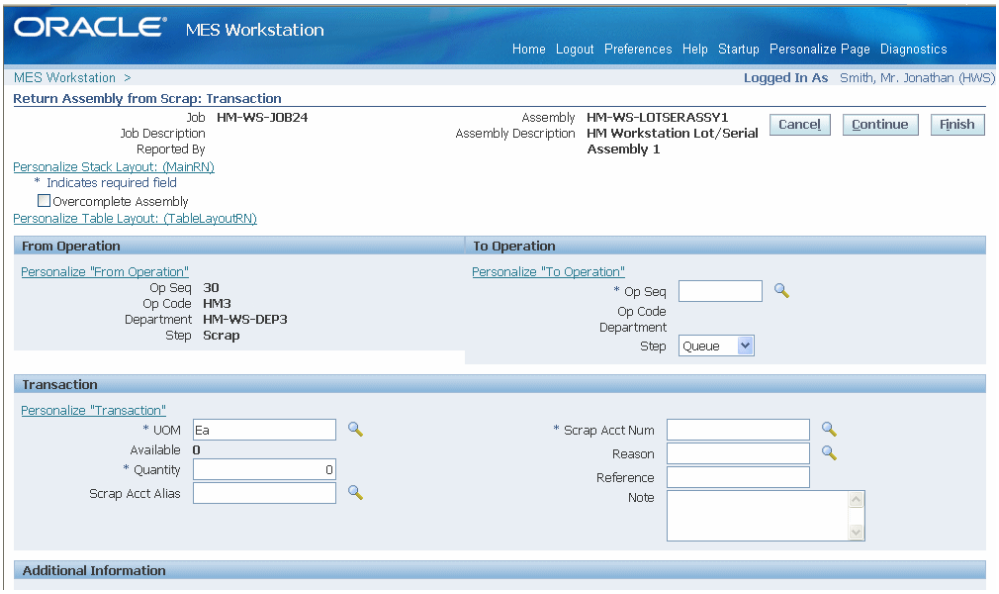
1. Navigate to the appropriate page. Choices are Return From Scrap or Return From Reject.

   The page displays job information fields including Job number, Job Description, Assembly number, Assembly Description, and Reported By.

2. For reject returns, you have the option to return a quantity greater than the job quantity by enabling the Overcomplete Assembly check box.

   Note: This function is not available for Return From Scrap transactions.

3. Select Finish to use the defaults displayed to create a return transaction. Or select values for fields displayed on this page.



4. In the From Operation and to Operation region, select values in the following fields:
   - From Operation Sequence
   - To Operation Sequence
   - To Step

5. In the Transaction region, select a quantity value.
   - If this is a return from scrap transaction, you can enter information in the Scrap Account Alias and Scrap Account Number fields.
   - Optionally, you can enter a transaction Reason, Reference, and descriptive text in the Note region.

6. If a customized descriptive flexfield is used in your environment, the Additional Information region displays. Enter your information in this region. If you are not using customized information, this region does not appear.

7. Select Finish to complete your return transaction, or select Continue to enter information about manual resources, quality plans, or component backflushing.
   - If you select Finish, the transaction is saved.
   - If you select Continue, the detail page displays.

8. On the detail page, in the Manual Resources region, you have the option to add machine resources by selecting Retrieve Non-Labor Resources.

For applicable machine resources, this region populates the fields for Operation Sequence, Resource, Instance, and Start Time.

Enter values in the End Time and Total Quantity fields. You have the option to change the unit of measure.

9. You can collect quality results in the Quality Plans region. This region provides information on Plan Name, Information, whether data collection is mandatory, and Completed status. Select the plan you want to update by choosing Add Child Data.

   This Enter Results page on the Quality Workbench appears for entering quality data. See: Entering Quality Results, *Oracle Quality User's Guide*

   After quality data is entered, the transaction page is refreshed with the updated information. You have the option to duplicate, update, or delete these records.

10. The Backflush Components region displays components under lot and serial control requiring backflushing. If lot and serial information is required, the status column displays X. Edit this list by enabling or disabling the Select field for applicable components:

    - Select applicable lot values in the Subinventory, Locator, Revision, and Lot fields.

    - Select applicable generated serial numbers in the From, To, and Parent fields. You can also select values in the Reason and Reference fields.

11. Select Finish to save your work.

Returning Components from a Serialized Assembly

You can return components from a serialized assembly in a single return transaction. This provides an efficient method for returning parts on complex bills of materials with numerous components. All the component issue transactions belonging to a serialized job, after serialization start operations, are supported in this return functionality. This includes transactions from the Express Transact Component page, Backflush Components region on the Move Assembly: Detail page, express material transactions, and serialized material issues from Mobile pages.

The following parameters enable display of the Mass Return Components for Serialized Assembly page on the MES Workstation to complete these transactions:

- Global Actions

- Search Job/Serial Operation Actions

See: Manufacturing Execution Workstation Parameters, page 2-1

There are two procedures for mass returning components, depending on whether the

original work order is open or closed.

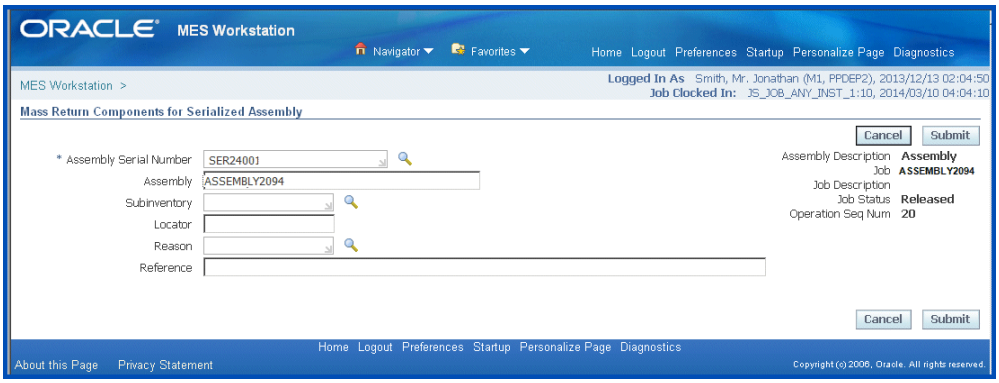
To return components from a serialized assembly for an open work order:

1. Navigate to the Mass Return Components for Serialized Assembly page.

2. Scan or enter the serial number in the Assembly Serial Number field.

   The associated assembly value appears in the Assembly field. The assembly Description, Job Number, Job Description, Job Status, and Operation Sequence Number appear on this page for this Assembly Serial Number.

   If you leave the Subinventory and Locator fields null, the system returns the items to the subinventory where they were originally issued when you submit the transaction. Otherwise, you have the option to change subinventory and locator areas.



3. Enter a value in the Subinventory field if you choose to select a subinventory different from where the items were originally issued.

4. Optionally you can enter a new value in the Locator field for the associated item and subinventory.

   You can enter locator segments that do not already exist. The system creates the locator in the specified return subinventory, and components are returned to this locator.

   > **Note:** You can create a dynamic return locator if the return subinventory is not set as item level locator control.

5. Optionally select a transaction reason in the Reason field, and enter any descriptive information in the Reference field.

   See: Defining Transaction Reasons, *Oracle Inventory User's Guide*

6. Select Submit to launch the concurrent program Mass Return Components for

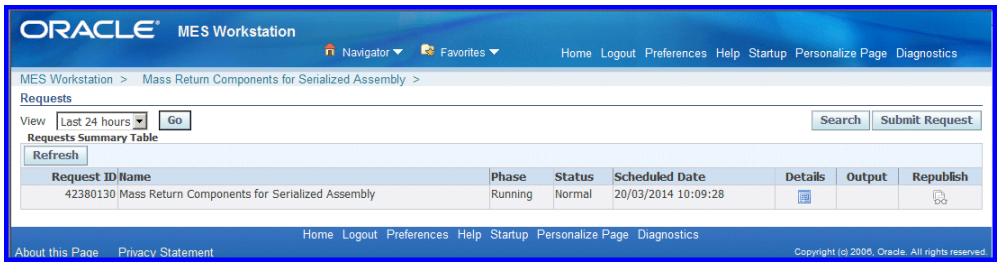
Serialized Assembly. A warning message appears before the program is submitted listing the information, (where XX stands for the specified values):

"You are about to return all the components currently issued to Assembly XX (Assembly), Serial Number XX in Organization XX. Are you sure you want to mass return components?"

7. Select Yes to continue launching the program.

   The Requests page appears. You can monitor the status of the request you submitted,

   See: Monitoring Requests, *Oracle E-Business Suite User's Guide*



8. Navigate to the Assembly Serial Number Detail page to verify that correct quantities and serial numbers are returned to the designated subinventory.

   This page provides a summary and detail of components and transactions for a given assembly serial number, see: Viewing Assembly Serial Number Detail Information, page 3-59

If the original work order is closed for a serialized assembly, you first create an alternate routing and non-standard job to return the parts. Then you proceed using the previous steps.

To return components in a serialized assembly for a closed work order:

1. Navigate to the Routings window.
2. Create an alternate routing for the closed job with at least one operation and a Serialization Start Operation.

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

3. Save your work.
4. Navigate to the Discrete Jobs window.
5. When the Find Discrete Jobs window appears, select New.
6. Create a non-standard job for the items you want to return to the subinventory.

See: Defining Discrete Jobs Manually, *Oracle Work in Process User's Guide*

7. In the Routing tabbed region of the Discrete Jobs window, enter the alternate routing you created in the Reference field.

   The values you created for this routing appear in the Alternate, Serialization Start Operation, Revision, and Revision Date fields.

8. Save your work.

9. Select Serial Numbers to access the Associate Serial Numbers window.

   The non-standard Job name, Job Quantity, and Assembly name field values default from the record accessed on the Discrete Jobs window.

   In the Associate Serial Numbers region, the serial numbers from the referenced routing you created appear. See: Associating and Modifying Serial Number Job Information, *Oracle Work in Process User's Guide*

10. Select the serial numbers you want to return.

11. Save your work.

12. After you have completed the previous steps, follow the steps for returning components in a serialized assembly for an open work order.

Related Topics

Creating Express Component Transactions for Serialized Assemblies, page 3-48

Shop Floor Time Entry

Shop floor time entry captures resource times using Job On and Job Off, Clock In and Clock Out, and time entry page functionality. Employee, contingent worker, machine, and job time is tracked by user login identification and employee badge number. Several parameters control time entry behavior:

- **Job Operation Actions** and **Work Content Actions** set the display of actions for Job On, Job Off, Clock In, Clock Out, and Undo Clock In on the MES Workstation and MES Supervisor Workbench.

  See: Job Operation Actions, page 2-24, and Work Content Actions, page 2-42

- **Charge Resource at Report Time** specifies if resource transactions are created at the time the job operation transaction time is reported.

- **Time Entry Mode** enables Clock In and Clock Out, and Shift In and Shift Out functionality.

See: Time Entry Mode, page 2-40

- **Combine Job On and Clock In Buttons** enables you to combine the actions of Job On and Off, and Clock In and Out time entry.
- **Simultaneous Clock In** enables restrictions to multiple job operation Clock In.
- **Display Clock In Information** enables shift time, Clock In, and simultaneous Clock In information displayed in the login context on the page.

MES Administrator, page 2-1

Clock In and Clock Out, page 3-71

Using Badge Numbers, page 3-74

Reporting Time Pages, page 3-75

Reviewing and Editing Operator Time Entries, page 4-63

Clock In and Clock Out

When an operator performs a Job On action, that job is assigned to that employee. Clock In signifies that an operator is working on the job operation, and Clock Out signals that work has stopped.

- For environments where one employee, the single user mode, is working on a job—the tracking is performed by user login identification. For multiple employees, the identification is derived from the employee badge number.
- You can also set clock actions in the Ready Action column on the dispatch list for a specific job. When you select the clock and worker icon, the job operation is clocked in. The icon displays a red colored box with a cross out, signifying that the operation is locked.
- The Undo Clock In action removes the clock action you performed.
- In the single user mode - the Simultaneous Clock In parameter enables you set restrictions on multiple job operation Clock In; and the Multiple Clock In and Clock Out page is used for actions on multiple job operations.

Performing Job On and Clock In Actions

Job On is an action used when multiple employees are working on a single job operation. Job On means that a job has been picked, it is ready for work, enabling the recording of charges for time entry. It is used to indicate that a particular job has been taken up for work but does not necessarily indicate actual work start. When an operator performs a Job On action, that job is assigned to that employee and the name is displayed in the dispatch list.

An operator Clocks In to record actual times for starting work on a specific job

operation, and Clocks Out to signal that work has stopped. As an operator, you can pick and Job On to multiple jobs—but will most likely Clock In to one job at a time.

- When you Clock Off, the job is still associated with your operator name. If you are no longer performing work on a job operation, you must select Job Off to remove your name as associated with the operation.

- In production floor environments where work on specific job operations are assigned to only one employee, you can combine the Job On and Clock In actions using the Combine Job On and Clock In Buttons parameter. If the actions are combined, Job On and Job Off tasks do not appear on the page. When multiple employees are working on specific job operations, this parameter is set to No.

Multiple Clock In and Clock Out Actions

You can work on multiple job operations if the Simultaneous Clock In parameter has been set to either Yes or Warning. If set to:

- Yes, there are no restrictions on Clocking In or Clocking Out of multiple job operations.

- Warning, when Clocking In to a new job operation - you are given the option to Clock Out of other job operations.

- No, this option is disabled.

Set the Display Clock In Information parameter to show all job operations you are working on. This information displays on your pages in the login context.

The Multiple Clock In and Clock Out page shows all job operations you are clocked in, and is used to select job operations you want to clock out. You can navigate to this page through global actions.

To clock in or clock out of multiple job operations

1. Navigate to the Multiple Clock In and Clock Out page.

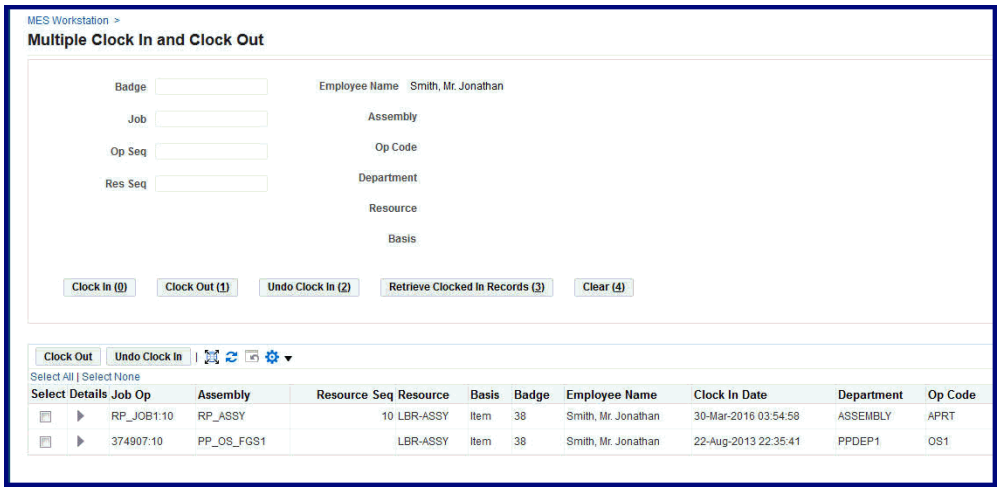
   A list of job operations clocked in associated with your employee login appear in the table.

2. To stop work on job operations, choose records in the Select column check box and select one of the following:

   - Clock Out signals that work has stopped.

   - Undo Clock In action removes the clock action

   The records you selected are removed from the table.



3. You can also retrieve other records by entering values in any of the following search fields:
   - Badge
   - Job
   - Assembly
   - Operation Sequence
   - Operation Code
   - Resource Sequence
   - Department
   - Resource
   - Basis

4. For the applicable records in the results of your search, you have the option to perform the following actions:
   - Clock In signals operator is working on the job operation.
   - Clock Out signals that work has stopped.
   - Undo Clock In removes the clock action.
   - Retrieve Clocked In Records finds records meeting your search criteria.

Using Badge Numbers

Badge numbers in MES are used for the operator to report labor resource time, and for the supervisor to track that time. Badges are either scanned on the transaction pages, or manual entered. In the Oracle Human Resources application, every employee is given a unique identifier. Badge number values are created as Employee Numbers in the Oracle HRMS. See: Entering a New Person, *Oracle Human Resources Management Systems Workforce Sourcing, Deployment, and Talent Management Guide (Global)*

Several parameters used for setting badge numbers:

- **Single User Mode**: If enabled, indicates that only one operator is reported for the job transaction, rather than multiple operators. For single users, the employee Badge number field is not shown on the transaction pages.

- **Require Badge Number for Move Transaction**: If enabled, operators are required to enter their badge numbers when reporting moves and completions. This parameter is not applicable for the single user mode.

- **Retain Badge Number**: Controls whether to retain the employee badge number on the dispatch list after it is entered. If enabled, the badge number is active for transactions until it is cleared.

When using badge numbers as identifiers, you can set specific employees to work as resources on job operations. You can also setup labor skills validation to certify that the required qualifications for performing an operation are met by the employee.

- When setting employees as person type resources, any employee who is a resource instance in the organization in any of the departments can move the job:
    - In the Department window, assign resources to the department, and resource instances to the resources.
    - The Resources window is used to associate specific employees as Person type resources. Person resource instances are assigned by selecting the Employee Number value created in Oracle HRMS. This value is used as the Badge value in MES. See: Assigning Resources to a Department, *Oracle Bills of Material User's Guide*

- When labor skills validation is set up, required qualifications for performing an operation are certified when the operator Clocks In. If badge numbers are required for move transactions in the environment, after the operator enters the number, and Clocks In to a job operation, the skill levels are checked. This feature is set up in several applications. See: Moving and Completing Assemblies, page 3-21

Reporting Time Pages

Report Time pages provide a manual method of reporting, reviewing, and charging resources if time is not reported during the move transaction. The entries are used in calculating labor resources:

- Report My Time page is used for reporting resource time for job operations on a number of different jobs.
- Report Time page is used to report resource time on one specific job.
- Review Time Entries is used by supervisors to search across the time records, across all jobs and employees, and edit these records. See: Reviewing and Editing Operator Time Entries, page 4-63

These pages can be used in environments where the clock functionality is disabled in the Time Entry Mode parameter. Or to revise automatic clock calculations to adjust and revise time.

If the parameter Charge Resource at Report Time is enabled, and the job operation is flagged as autocharge—the Charge check box displays a check symbol. The autocharge resource charges the move transaction at the standard rate to avoid doubling the cost transactions. Calculated actual times for operations are system derived for manual resources.

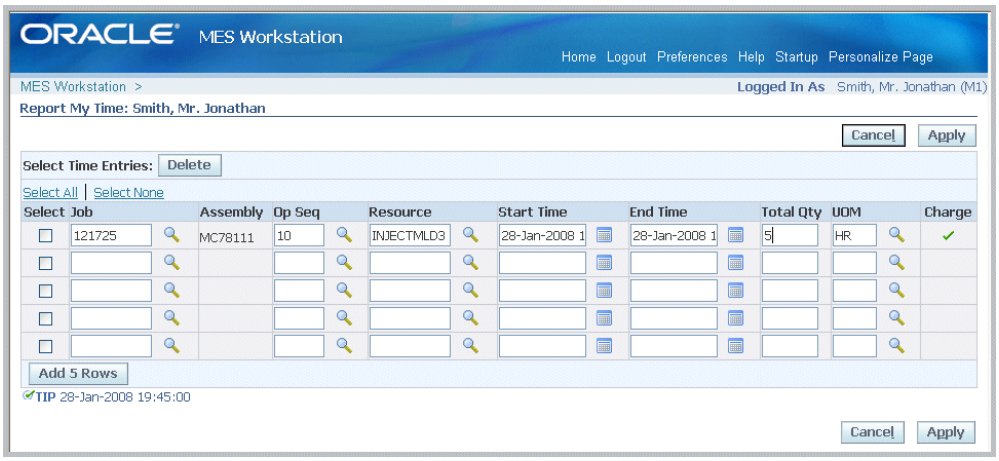
You have the option to enter time in one of two ways:

- Report completion times (both Start Time and End Time) together.
- Report Start Time initially, and later update the completion time when it's available. In this method, the Start date cannot be updated in update mode—only the completion date can be updated.

To report your time on job operations:

1. Navigate to the Report My Time page.
2. Select the appropriate information in the following fields:
    - Job
    - Operation Sequence
    - Resource
3. Enter a value in two of these fields—Start Time, End Time, and Total Quantity. The other fields automatically calculate the correct values.

Optionally, you can change the value in the Unit of Measure field.

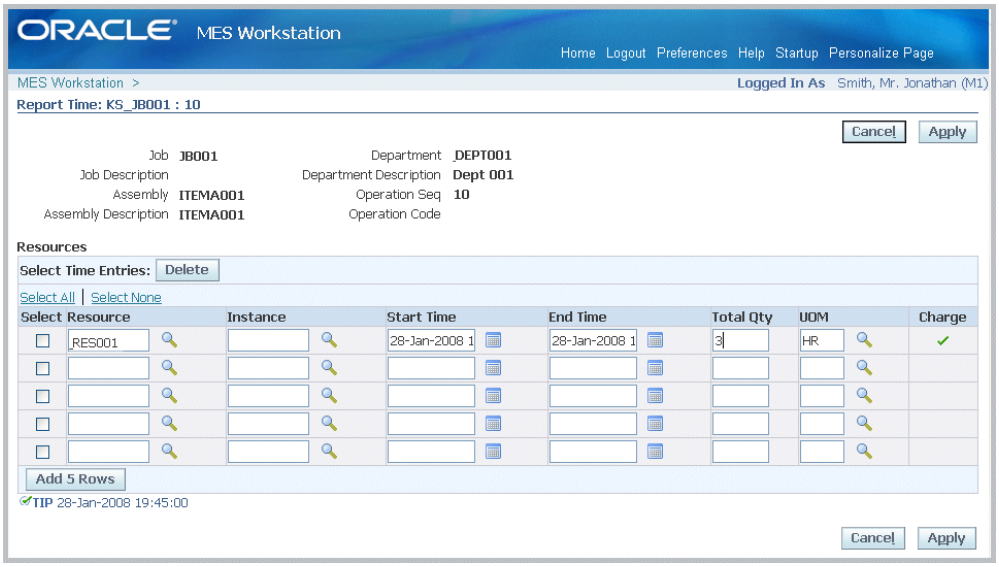


4. Select Apply to save your work.

To report resource time for one job:

1. Navigate to the Report Time page.

2. Select a value in the Resource field, and if applicable, a resource instance in the Instance field.



3. Enter a value in two of these fields—Start Time, End Time, and Total Quantity. The other fields automatically calculate the correct values.

4. Optionally, you can change the value in the Unit of Measure field.

5. Select Apply to save your work.

4

MES Supervisor Workbench

This chapter describes the features of the MES Supervisor Workbench, including the ability to monitor shop floor progress on the Dashboard and to avoid potential problems through actions taken on the Supervisor Workstation.

This chapter covers the following topics:

- Overview of the MES Supervisor Workbench
- Using Tiles to Access Information
- Using the Supervisor Dashboard
- Monitoring Shop Floor Progress
- Viewing and Updating Work Order Status Details
- Rescheduling Work Orders
- Viewing and Printing Job Traveler for Multiple Jobs
- Viewing and Resolving Exceptions
- Viewing and Managing Operations
- Viewing Operation Details
- Reserving Components for Operations
- Viewing and Managing Component Availability
- Assigning Alternate Resources
- Rescheduling Operations
- Changing Shopfloor Statuses
- Expedite and Undo Expedite
- Using Contingent Workers
- Reviewing and Editing Time Entries
- Viewing Time Entries

Overview of the MES Supervisor Workbench

The MES Supervisor Workbench is the starting point for supervisors to view shop floor progress and potential problems. This includes shop floor status, performance, and exceptions to shop floor workflow. The details displayed in the Supervisor Workbench are determined by the specifics of the login information. You can view the entire organization; or specify a particular department, resource, employee, or machine. This workbench has the following regions:

- Tiles

  The Tiles region provides access to information and enables you to create transactions in the following areas: Work Orders, Exceptions, Operations, and Component Availability. See: Using Tiles to Access Information, page 4-7

- Dashboard

  The MES Supervisor responsibility opens in the Dashboard view. This view displays performance graphs with links to detailed information in the Metrics tabbed region and a Shopfloor Progress tabbed region. See: Using the Supervisor Dashboard, page 4-8

- Shopfloor Progress

  The Shopfloor Progress region displays tabbed regions displaying information for Capacity Shortages, Current State, and Operator Availability. See: Monitoring Shop Floor Progress, page 4-19

  Note: If Oracle Endeca is installed and licensed in your environment, then refer to the *Oracle E-Business Suite Information Discovery Integration and System Administration Guide* for detailed information about the Endeca enhancements to your product.

MES Supervisor Workbench Startup

The Startup page is used to enter specific parameters for organization, department, and resource. You can set different login and workbench initialization modes. For example, you can:

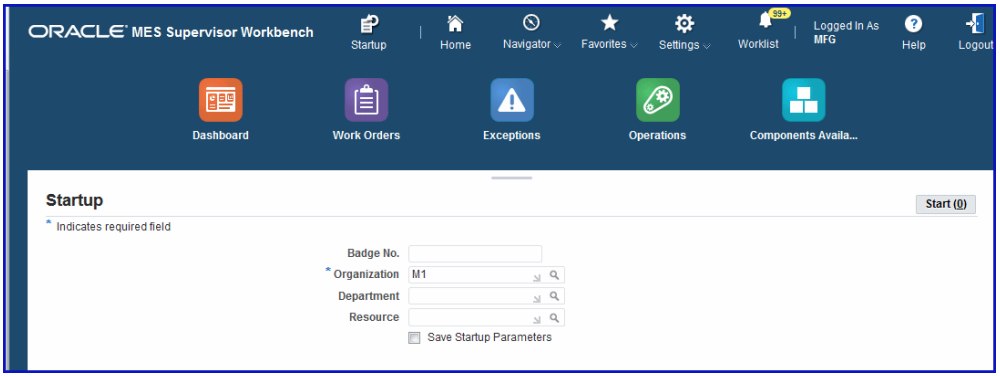
- Save startup parameters from a prior login to reduce navigation for repeated parameter combinations.
- Set different job search pages.
- Configure organization, department, and resource access.

See: Workstation Startup and Initialization Modes, page 3-4

To access the MES Supervisor Workbench:

1. Navigate to Startup page and select the specifics for a particular Badge Number, Organization, Department, Resource, and Employee or Machine.

   The Organization field is required; select values in the other fields depending on how much detailed information you want to view.



2. Enable the Save Startup Parameters check box to save these parameters for future logins.

3. Select Start to display the Dashboard page.

4. Select a task from the Actions box to access available global actions. Choose Go to navigate to the appropriate page.

   Available global actions are specified in the Global Actions parameter. These views and tasks include other workbenches and reports. See: Global Actions, page 2-21

5. The MES Supervisor responsibility opens in the Dashboard view, see: Using the Supervisor Dashboard, page 4-8

   Select other tiles to access the following information:

   - Work Orders
   - Exceptions
   - Operations
   - Component Availability

List Search Capability

List Search is a tool that helps you quickly and easily retrieve information and create custom search criteria for future retrievals. The Work Orders and Exceptions pages in

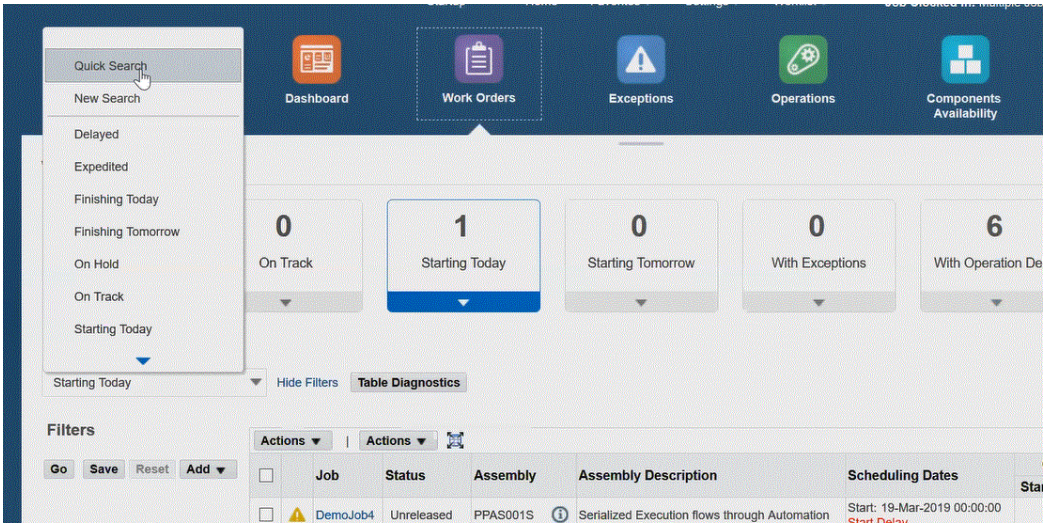
the MES Supervisor Workbench provide a List Search panel. List Search is enabled only when both the following profile option and query bean property are enabled:

- Profile option FND: Enable List Search (FND_ENABLE_LIST_SEARCH) is set to True.

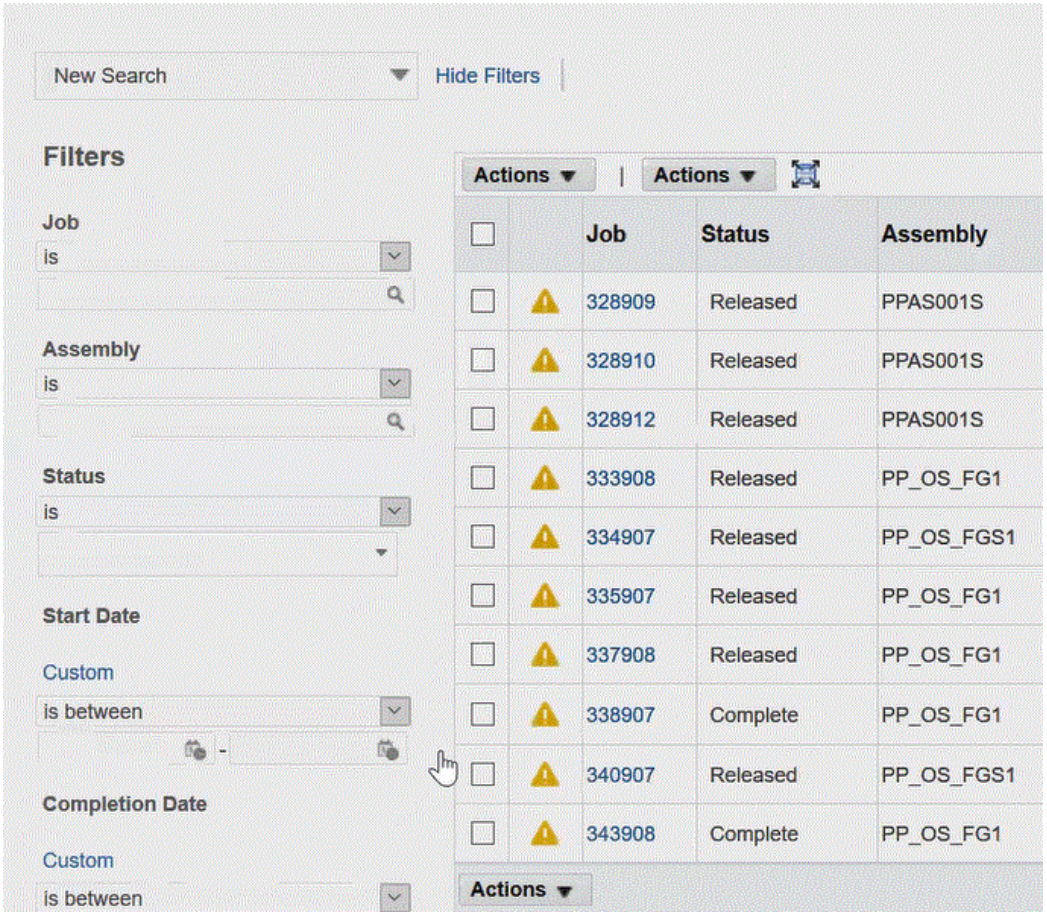
  This profile can be enabled at all levels: Site, Application, Responsibility, and User. Users cannot see or update this profile option.

- Enable List Search for a specific query bean property. List Search has two optional capabilities controlled by the profile option FND: Enable Quick Search for Query Beans (FND_ENABLE_QUICK_SEARCH_QUERYBEANS).

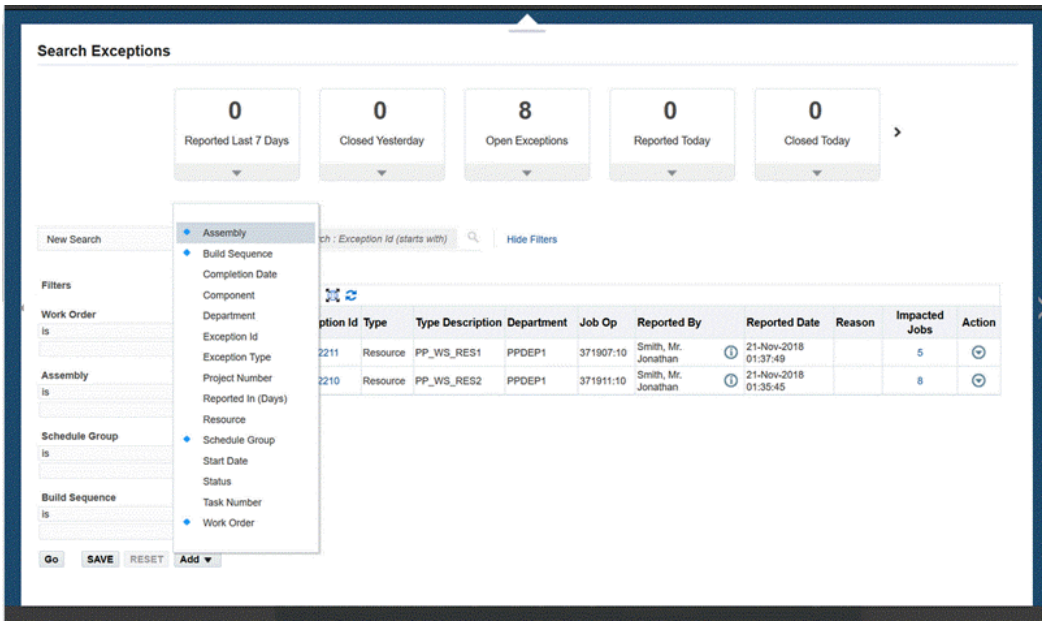
The List Search panel enables you to perform a Quick Search on one value, such as Starting Today, or create a new custom search as shown in the search panel for the specific tile you are viewing.



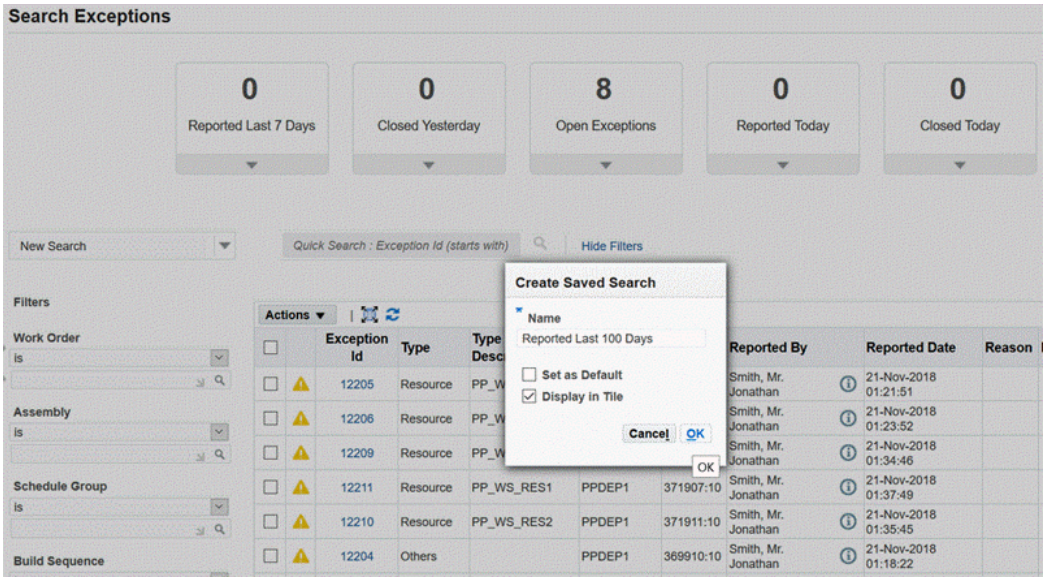
You can search based on default filters, add, and remove filters on values such as Job, Assembly, Status and so forth. You can use multiple items from a list of values. For each search criteria value, there is the option to select a conditional qualifier such as: is, greater than, is between.

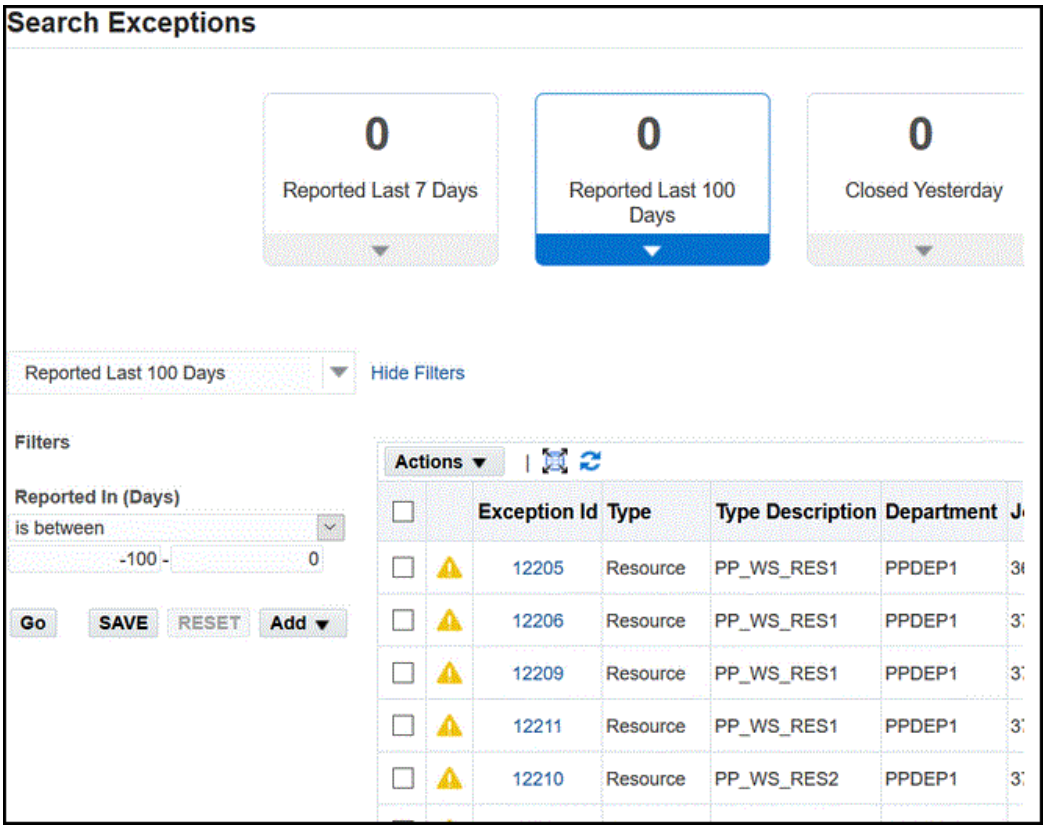


The Exceptions page displays filter values such as Assembly, Exception id, Exception Type, among other choices.



You have the ability to create a custom search and save it for future inquiries. The Create Saved Search dialog box provides the option to use this criteria r as a default that can also be displayed as a tile on the page.





See: List Search, *Oracle E-Business Suite Setup Guide*, and Querying and Viewing Data, *Oracle E-Business Suite User's Guide*

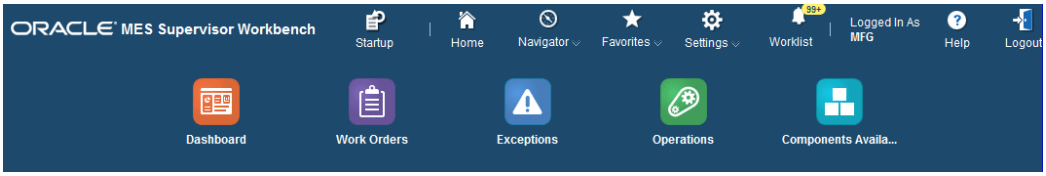
Using Tiles to Access Information

The MES Supervisor Workbench provides tiles enabling you to access corresponding pages of detailed content for the following areas:

- Dashboard: Enables you to navigate back to the Dashboard after accessing pages from the other tiles. See: Using the Supervisor Dashboard, page 4-8
- Work Orders: Accesses the Works Orders page where you can view the dispatch list for various work order statuses and take actions. See:
  - Viewing and Updating Work Order Status Details, page 4-24
  - Rescheduling Work Orders, page 4-32
  - Viewing and Printing Job Traveler for Multiple Jobs, page 4-35
- Exceptions: Exceptions created for shop floor issues can be resolved using various options. These views enable you to see a list of the issues and take actions. See: .

Viewing and Resolving Exceptions, page 4-36

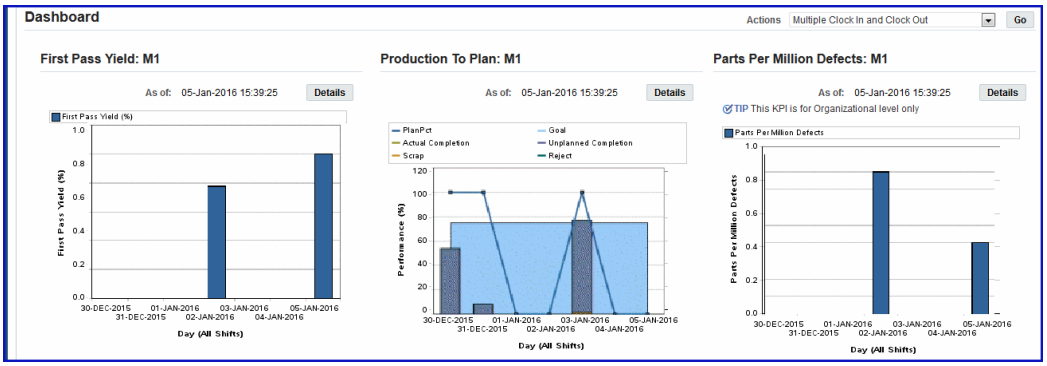
- Operations: Accesses the Operations page where you can view the Dispatch List showing all operations to be worked on—according to specific department, resource, resource instance, or a combination of these values per your login information. You can perform transactions and access other pages for performing and viewing transactions. See:
  - Viewing and Managing Operations, page 4-45
  - Viewing Operation Details, page 4-47
  - Reserving Components for Operations, page 4-49
- Component Availability: Component Availability Management provides the ability to view part requirements and react to unplanned situations to make adjustments. Requirements are shown in a job or component-oriented view: See: Viewing and Managing Component Availability, page 4-50



Using the Supervisor Dashboard

The Dashboard displays performance graphs, links to detailed information in the Metrics tabbed region, and a Shopfloor Progress tabbed region. The graphs in the Metrics region are configured using several parameters including:

- Labor Performance Metrics, page 2-27
- Production to Plan KPI, page 2-32
- Supervisor Dashboard View, page 2-39



The Dashboard graphs include:

- Production to Plan, page 4-9

  This graph displays the progress at the organization and department levels for the actual versus the planned production. Select Details to display both summary and detailed views.

- Labor Performance, page 4-11

  Labor reporting captures both attendance and actual time spend on production for employees. These times are used for generating the labor performance views. You set targets for utilization, productivity, and efficiency at the organization and department level. Select Details to display both summary and detailed views.

- First Pass Yield , page 4-15

  First Pass Yield (FPY) is defined as the ratio of usable, specification conforming output from a process to its input, achieved without rework or reprocessing. The data is calculated from the move transactions performed. Select Details to display both summary and detailed views.

- Parts Per Million Defects , page 4-17

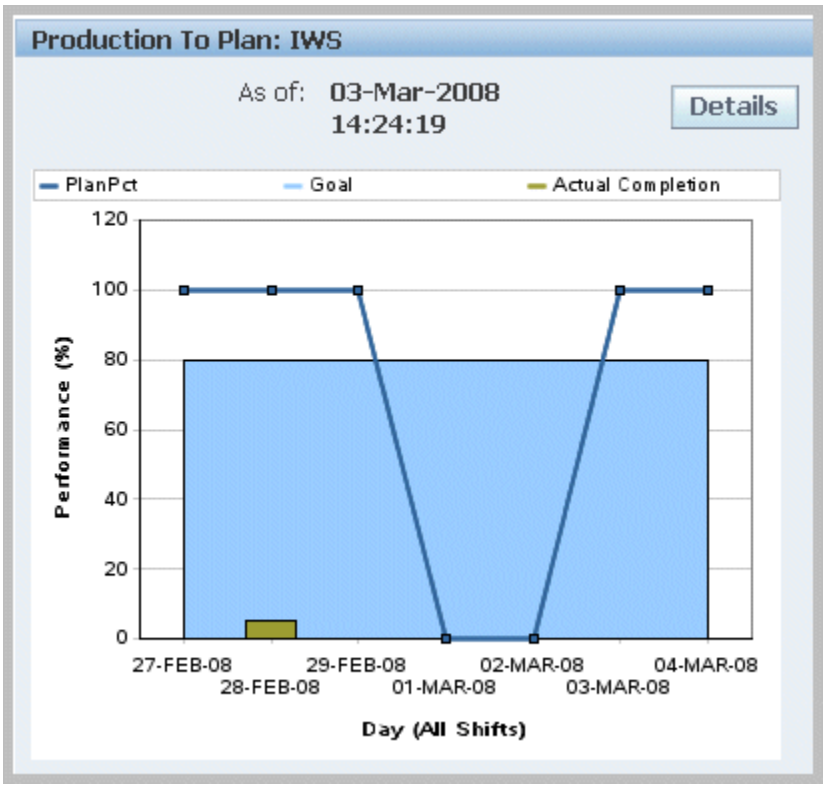
  Parts per million defects refers to the defective parts per million on completed work orders. This view provides a large-scale view of your manufacturing operations and is calculated from job with statuses of Completed, Complete-No Charges, and Closed. Select Details to display both summary and detailed views.

  Important: Data displayed in the graphs on the dashboard are based on time calculated in the server time zone, and not the client time zone.

Production to Plan View

The Production to Plan graph displays progress for actual production in comparison to planned production. Planned quantity is the scheduled quantity for a job operation with a scheduled end time. Actual production quantity is the number of good units

completed at a job operation. This view gives supervisors the capability to monitor production and synchronize it with demand. The key performance indicators are calculated for organization and department levels. The Production to Plan KPI parameter is one of the key performance indicators on the Dashboard. See: Production to Plan KPI, page 2-32.



The progress percent is defined in the Production to Plan KPI parameter and can be calculated on either quantity or operation lead time. The calculated values at each job operation is then summed up, and the average is calculated at the department or organization level:

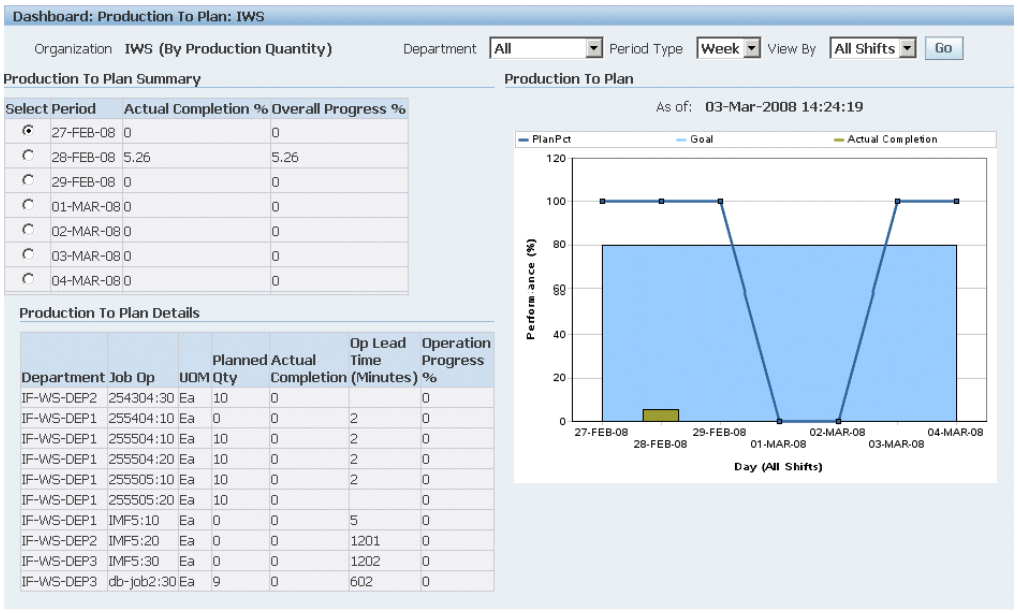
- Quantity = [(Actual production quantity) / (Planned quantity)] * 100
- Operation lead time = [{Sum (Actual production quantity * Operation Lead Time)} / {Sum (Planned quantity * Operation Lead Time)}] * 100

Data is used from the WIP_OPERATIONS table for planned jobs; and from the WIP_MOVE_TRANSACTIONS table for actual completion. Depending on how the parameter is set, the program also considers other factors such as job types, job statuses, scrap, reject, and unplanned completions. When the concurrent program is generated, information from these two sources, at the shift level, is calculated for the seven-day period to display in the chart for each day.

You can navigate to the Production to Plan Summary and Production to Plan Details tables by selecting Details. This view also enables you to navigate to the other

Dashboard performance tables and graphs. You can set your display for:

- Department—a particular department or all departments. This is available if you logged in without specifying the department.
- Period Type—week or day
- View by—a particular shift, all shifts, or a particular date (based on Period Type)



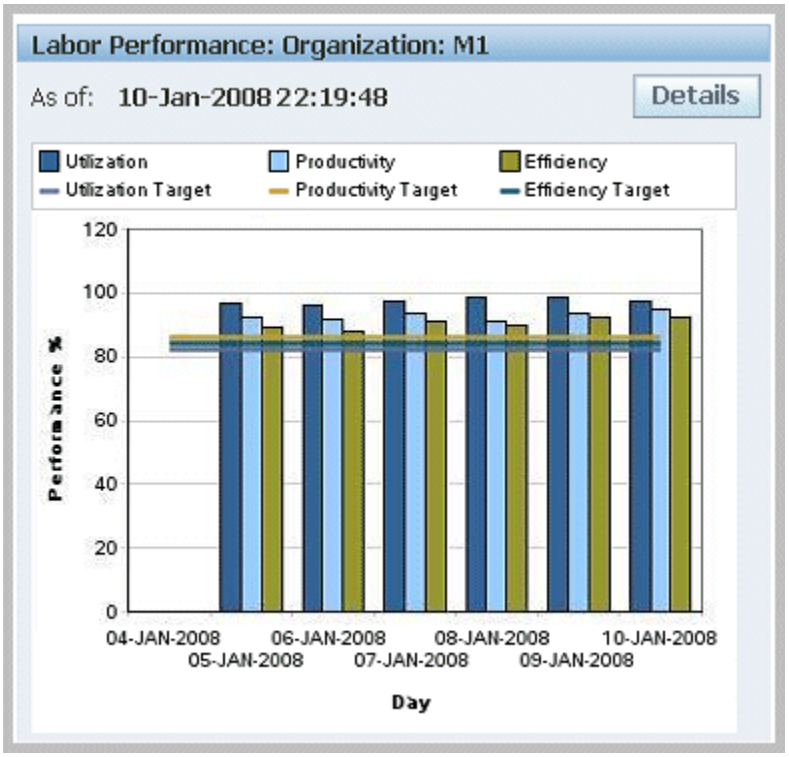
The Production to Plan Summary table displays the period, actual completion percent, unscheduled completion percent, scrap percent, reject percent, and overall progress percent of your production—based on your setup of the Production to Plan KPI parameter setup for the organization.

Select a record to display the details of that record in the Production to Plan Details table. This view displays the department, job operation, unit of measure, planned quantity, actual completion, operation lead time, and operation progress percent.

Labor Performance View

The Labor Performance graph provides visibility in managing shop floor resources using values set in the Labor Performance Metrics parameter,and calculated in the Labor Performance Metrics concurrent request. Labor Performance metrics are displayed in different time buckets for views by organization, department, resource, or employee. Aggregated data for all employees, at every shift for the previous seven days, is populated into the graph. Time is captured using shift, clock, and job information.

The Labor Performance graph displays the performance metrics and the target goals for efficiency, productivity, and utilization for a seven-day time frame.



Labor performance reporting uses the following in its calculations:

- Calculates are only for person type resources; the calculation is based on actual times and not on resource transactions.
- Labor metrics are calculated for non-24 hours resources (person type resources do not work 24 hours).
- Shop floor labor resources are tracked using employee badge numbers and resource instances.
- Data attributes are configured per organization using the parameter, Labor Performance Metrics, page 2-27
- Four labor performance data elements are tracked including actual attendance, direct labor, scheduled available, and earned hours.
- Values are used from the WIP_LABOR_PERFORMANCE_RATES table, Bill of Material department resource setups, and the Bill of Material Workday Calendar shifts.
- Labor metrics are calculated only for resources that are attached to specific shifts.
    - Shift In and Shift Out enables the recording of actual attendance hours entered. You can enable or disable employee time and labor reporting in the parameter,

Time Entry Mode, page 2-40

- Actual attendance hours is not computed for the current shift until the shift ends.
- For overlapping shifts, actual hours are credited to the shift with the earliest start date.

- Clock In flags the job operation as started and records the start time for resource usage calculation. See: Clock In and Clock Out, page 3-71
- **Actual Attendance Hours**—the number of hours an employee reports for work in a given period of time. For example, if an employee reports to work at 8:00 am and leaves at 5:00 pm; the total number of actual attendance hours is 9 hours.
- **Scheduled Available Hours**—the number of hours an employee is scheduled to be available for work in a given period of time (excluding holidays, sick days, and vacation).
- **Direct Labor Hours**—the total number of hours an employee reports on job operations in a given period of time.
- **Earned Hours**—the total number of hours designated to produce a specific quantity of units, according to the standard routing definition. For example, if an employee reports 10 units completed in a certain operation and the standard usage rate defined on the routing is 1 hour per unit; then the employee earned 10 hours.

  Note: Earned hours are not calculated for lot based resources as they cannot be attributed to a particular unit of an assembly level.

  Note: Direct labor hours are used for earned hours in reporting for an employee who does not have a standard usage rate.

Using Third Party Time and Attendance Systems

MES for Discrete Manufacturing can be integrated with third party time and attendance systems to collect actual time. The WIP_TIME_ENTRY_INTERFACE table is used to enter records for Direct Labor Hours and Actual Attendance Hours. The Import Actual Times concurrent program moves the records from this table and imports them into the MES system. The Labor Performance Metrics Calculation is then generated to view labor metrics with the imported data. See: Time and Attendance Systems Integration, page C-22

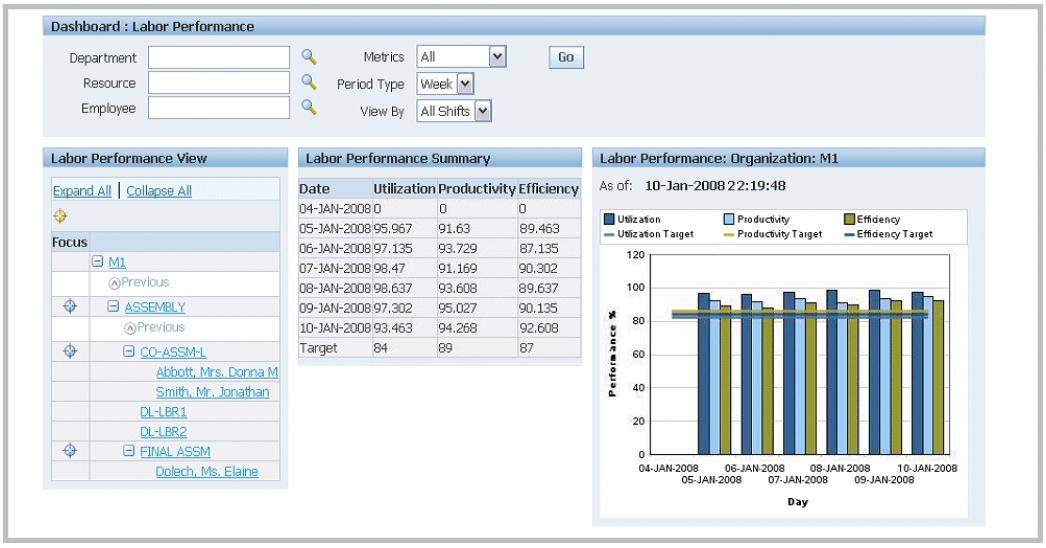
Labor Performance View and Labor Performance Summary

In the Labor Performance Graph, select Details to navigate to both the Labor

Performance View and Labor Performance Summary tables. This view also enables you to navigate to the other Dashboard performance tables and graphs. The detail of the information displayed, and the selection of specific criteria, depends on the level of your login values entered in the startup page. You can set your display for:

- Department - a particular department or all departments. This is available if you logged in without specifying the department.
- Resource - a particular resource or all resources. This is available if you logged in without specifying the resource.
- Employee - a particular employee or all employees. This is available if you logged in without specifying the employee.
- Metrics - all metrics or you can specify efficiency, productivity, or utilization.
- Period Type - week or day.
- View By - a particular shift or all shifts

Select Go to display the results of your search.



- **Labor Performance View:** The detail level of your search criteria is displayed in this view. You can expand or collapse the nodes for specified departments resources, and employees to review different levels of information. When you select one of the links on the node, the Labor Performance Summary table and graph are refreshed with the detail level of this information.
- **Labor Performance Summary Table:** The detail level of your search criteria is displayed in this view. The table displays the labor performance metrics and targets for each metric based on the Labor Reporting parameters. It displays the period

(day or week) and shift set in the search criteria.

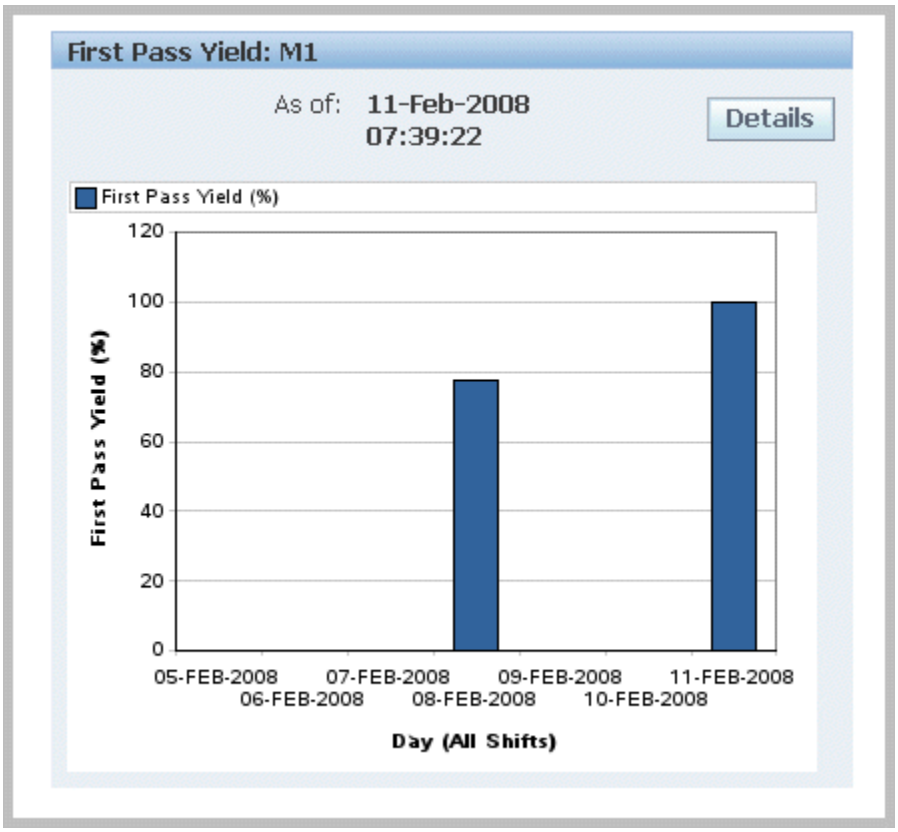
First Pass Yield View

The First Pass Yield graph displays the ratio of usable parts to the material used for its processing, achieved without rework or reprocessing. This metric provides supervisors a view of manufacturing operations at the macro level for decision making. The view is enabled using the Supervisor Dashboard View parameter and generated through the First Pass Yield Calculation program accessed in the global actions. See: Supervisor Dashboard View, page 2-39

The First Pass Yield concurrent program uses the following considerations in its calculation:

- Only operations performed are considered.
- Net scrap or reject quantities are the final quantities moved to the Scrap or Reject intraoperation step—not the sum of quantities moved in and out of these steps.
    - Partially completed assembles not meeting quality requirements are considered moved to the Scrap or Reject intraoperation.
    - Reject transactions are reversed by moving parts out of the Reject step.
- Either or both the Count Point and Autocharge fields on job operations must be enabled. See: Count Point and Autocharge Fields, *Oracle Bills of Material User's Guide*

The first pass yield percentages displaying on the chart are for the previous seven days from the current date.



Select Details to view First Pass Yield Summary and Details. This view also enables you to navigate to the other Dashboard performance tables and graphs. The data displayed in the summary and detail regions depends on your display parameters. You can set your display for:

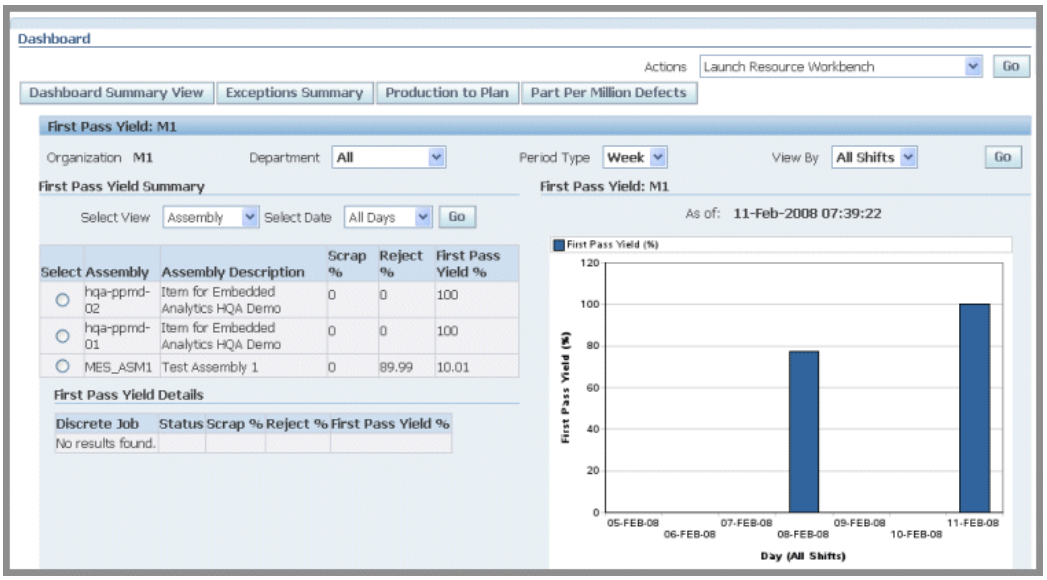
- Department - a particular department or all departments. This is available if you logged in without specifying the department.
- Period Type - a week or day
- View by - a particular shift, all shifts, or a particular date (based on Period Type)

In the First Pass Yield Summary Region, select view and date values to filter your display for the Scrap Percent, Reject Percent, First Pass Yield Percent values.

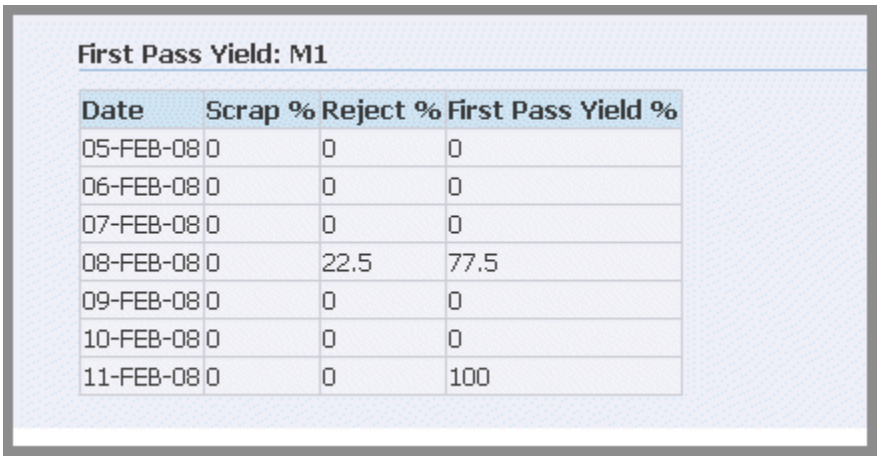
- Select View - by Department or Assembly. This is available if you logged in without specifying the department.

  If you select Assembly, Assembly name and Assembly Description display. If you select Department, Department Code and Department Name display.

- Select Date - a particular date or all dates in the previous seven-day period.



Select a record to display the First Pass Yield Details for a particular assembly or department for the date parameters specified.



First Pass Yield: M1

Date	Scrap %	Reject %	First Pass Yield %
05-FEB-08	0	0	0
06-FEB-08	0	0	0
07-FEB-08	0	0	0
08-FEB-08	0	22.5	77.5
09-FEB-08	0	0	0
10-FEB-08	0	0	0
11-FEB-08	0	0	100

Parts Per Million Defects View

The Parts Per Million Defects graph displays the ratio of defective parts per million on completed work orders. This view is calculated from job with statuses of Completed, Complete-No Charges, and Closed. The view is enabled using the Supervisor Dashboard View parameter and generated through the Parts Per Million Defects Calculation program, accessed in the global actions. See: Supervisor Dashboard View, page 2-39

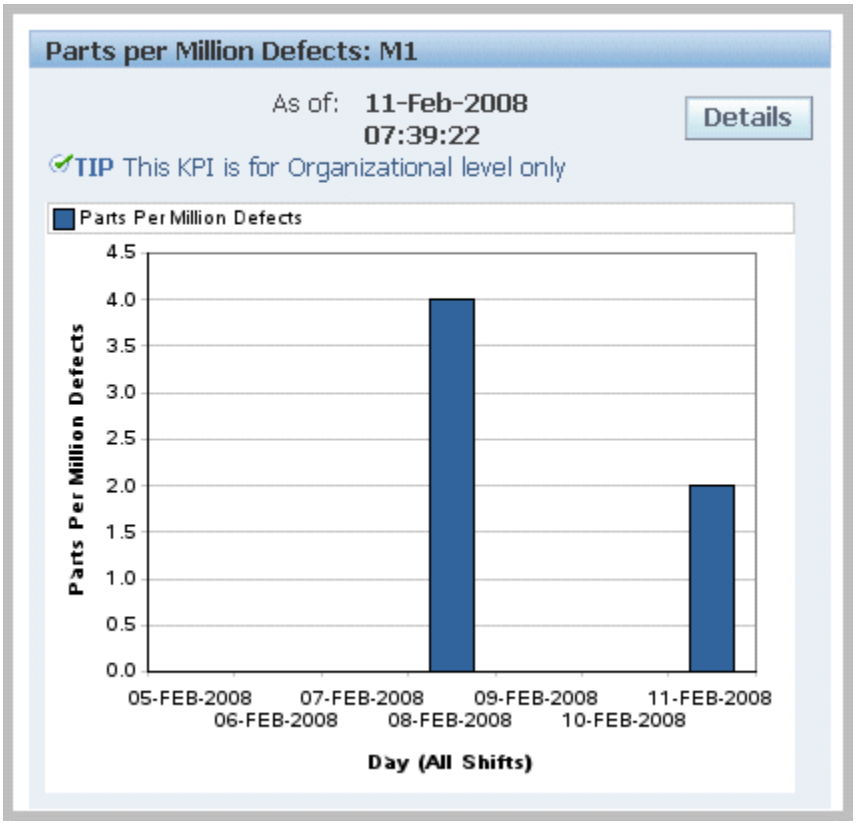
The parts per million defects percentages displaying on the chart are for the previous seven days from the As Of date field value.

The Parts Per Million Defects concurrent program uses the following considerations in

its calculation:

- The program gathers quantity completed and quantity scrapped data from the WIP_DISCRETE_JOBS table and populates data into WIP_WS_PPM_DEFECTS table.

- Parts Per Million Defect is always calculated at organization level.



Select Details to view Parts Per Million Defects Summary and Details charts, and a table of the listing the records in a seven-day date range. This view also enables you to navigate to the other Dashboard performance tables and graphs. The data displayed in the summary and detail regions depends on your display parameters. You can set your display for:

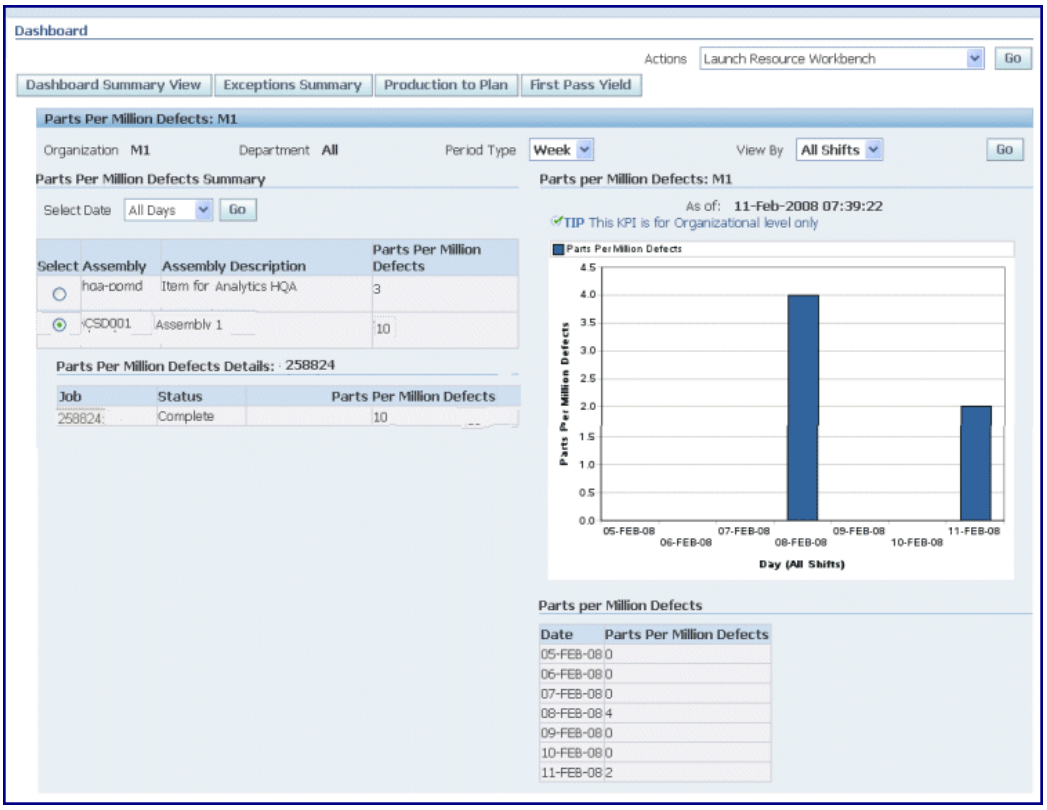
- Organization

- Period Type—week or day

- View by—a particular shift, all shifts, or a particular date (based on Period Type)

In the Parts Per Million Defects Summary Region, select shift or date values to filter your display for the Assembly and Parts Per Million Defects values. If you select date, you can see a particular date or all dates in the previous seven-day period.

Select a record to display the Parts Per Million Defects Details for a particular assembly or department for the date parameters specified.



Monitoring Shop Floor Progress

Shopfloor Progress displays tabbed regions for the status of jobs, machines, and people on the shop floor: Current State, Capacity Shortages, and Operator Availability including:

Current State

The Current State tabbed region displays a real time view of all the clocked in job operations. It provides a status of current jobs, and machines and operators.

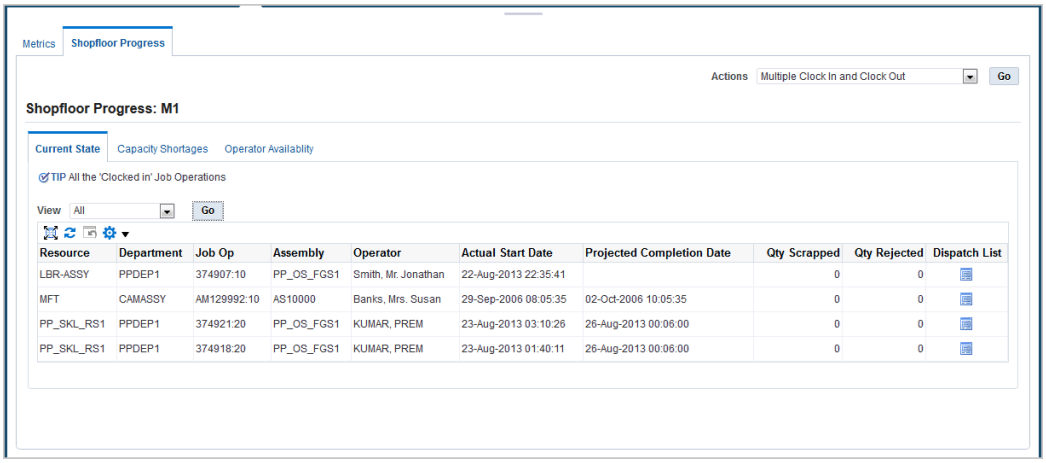
You can filter the list of records by specifying a resource view in the View box and selecting Go. Choices are:

- All - all resources for the job operations fitting the criteria in your login parameters
- Machine - select a specific machine resource for job operations fitting the criteria in your login parameters
- Labor - select a specific labor resource for job operations fitting the criteria in your login parameters

- Assembly - select a specific assembly for job operations fitting the criteria in your login parameters
- Department - select a specific department for job operations fitting the criteria in your login parameters
- With Scrap/Reject - all job operations with scrap or reject fitting the criteria in your login parameters

Select a resource record, and the Dispatch List icon to navigate to the Dispatch list to view other jobs using this resource. This enables you to monitor those jobs and perform transactions.

Use the Table Setting icons to set fields for this view including Department, Job Operation, Assembly, Operator, Actual Start Date, Projected Completion Date, Quantity Scrapped, and Quantity Rejected.



Capacity Shortages

The Capacity Shortages tabbed region displays potential capacity shortages for bottleneck resources. The jobs appearing are those whose projected completion time exceeds the shift or scheduled time.

You can set your display to a particular shift by selecting a time slot in the View By Shift box, and selecting Go. The other fields in this view include Jobs Not Started, Remaining quantities (for Available, Required, Shortage), and Unit of Measure. The resources considered when calculating capacity shortages are set in the parameter, Resources for Capacity Shortages, page 2-36

This view enables you to select a resource record and navigate to the Dispatch List page to view other jobs using this resource. You can then monitor those jobs and perform transactions.

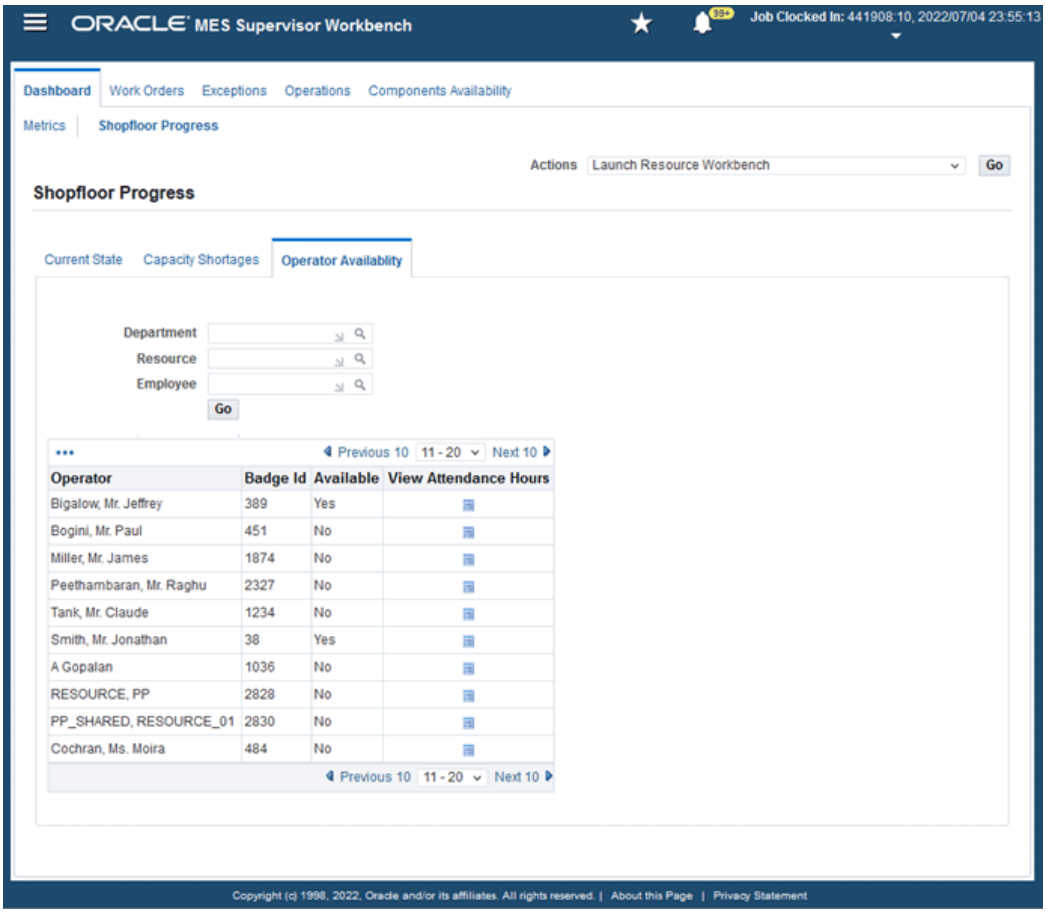
Note: Resource shortages do not change the ready status of a job

operation. A particular job may have shortages, but the job can display as ready on the Dispatch List and Work Content pages. The Ready Status function is designed to enable the supervisor to determine if a job is ready for work. However, you can customize how you want job readiness calculated using a client extension. See: Viewing Dispatch Lists, page 3-6

Operator Availability

The Operator Availability tabbed region provides a view of labor availability based on employees who have reported their attendance either through MES for Discrete or another time and attendance system integrated with MES. This aids supervisors in managing shop floor work. This list is dependent on the level of the login information. For example, if the supervisor logs in specifying Department, the list displays employees attached as resource instances to the department. You can:

- Click Go to display all records.
- Filter the list by selecting values in the Department, Resource, and Employee fields and then click Go to display the results of your search.
- View operators listed by name, badge identification, and their available status.
- View attendance hours of operators on the shopfloor using the View Attendance Hours page.



To view attendance hours for operators:

As a supervisor, you can view the attendance history of operators on the shopfloor using the View Attendance Hours page. Use the Discrete MES Import Actual Times concurrent request to load the shift-in and shift-out details for shopfloor operators.

1. Click the View Attendance Hours icon available for an operator.

2. The View Attendance Hours page displays the employee name and employee number of the operator.

3. Click Go to see all the shift-in and shift-out record details for the operator.

4. (Optional) Use the following criteria to search for specific time and dates for the operator's attendance:

    - Start Time Within - Enter the number of hours as the start time within which you would like to search for an operator's attendance. For example, you may want to search for attendance details for an operator within the last 10 hours.

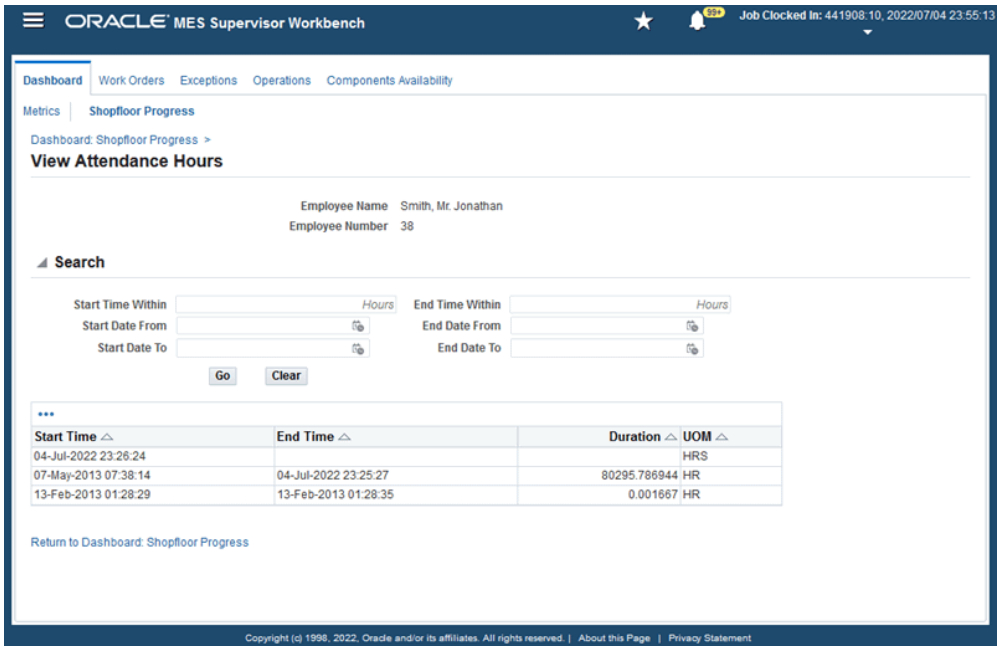
    - End Time Within - Enter the number of hours if you want to specify a start and

end time range within which you would like to search for an operator's attendance. For example, you may want to search for attendance details for an operator within 10 to 24 hours.

- Start Date From - Enter a start date from which you would like to search for an operator's attendance.
- Start Date To - Enter a start date if you want to specify a from and to start date range to search for an operator's attendance.
- End Date From - Enter an end date from which you would like to search for an operator's attendance.
- End Date To - Enter an end date if you want to specify a from and to end date range to search for an operator's attendance.

5. Click Go.

   The table lists the start time and end time of the operator's shift-in and shift-out details. The total duration that an operator worked appears in hours. If the operator is still available, the End Time will be blank.



6. Click Return to Dashboard: Shopfloor Progress to go back to the Operator Availability tab.

Viewing and Updating Work Order Status Details

The Work Orders page provides a job centric view of scheduling statuses listing all the jobs fitting the criteria in your Startup page parameters. You view a dispatch list of your jobs by statuses when selecting specific tabs and tiles.

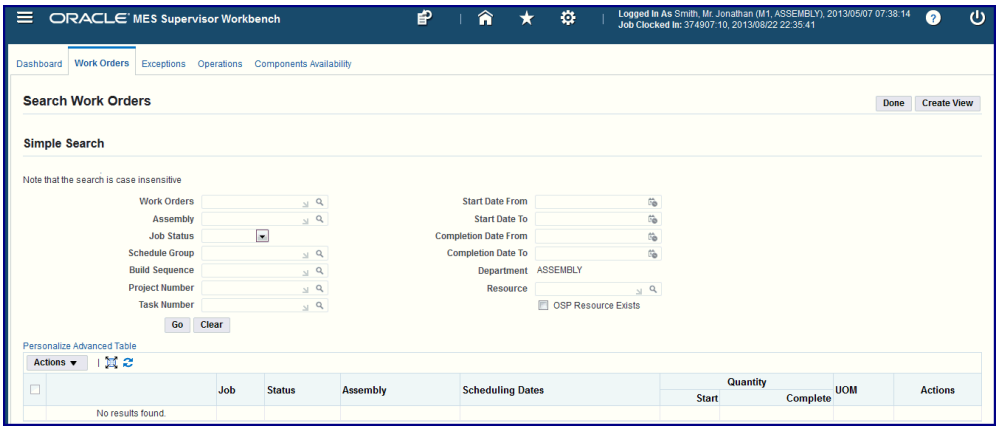
To search for work orders:

1. Navigate to the Work Orders page and select Search.

   The Simple Search panel appears.

2. Select search criteria in the following fields:

   - Work Orders
   - Assembly
   - Job Status
   - Schedule Group
   - Build Sequence
   - Project Number
   - Task Number
   - Start Date To and From
   - Completion Date To and From
   - Department
   - Resource
   - Outside Processing Resource Exists check box



3. Select Go to display the results of your query.

4. If List Search capability is set up—you can search based on default filters, add and remove filters, and use multiple items from a list of values. See: List Search Capability, page 4-3

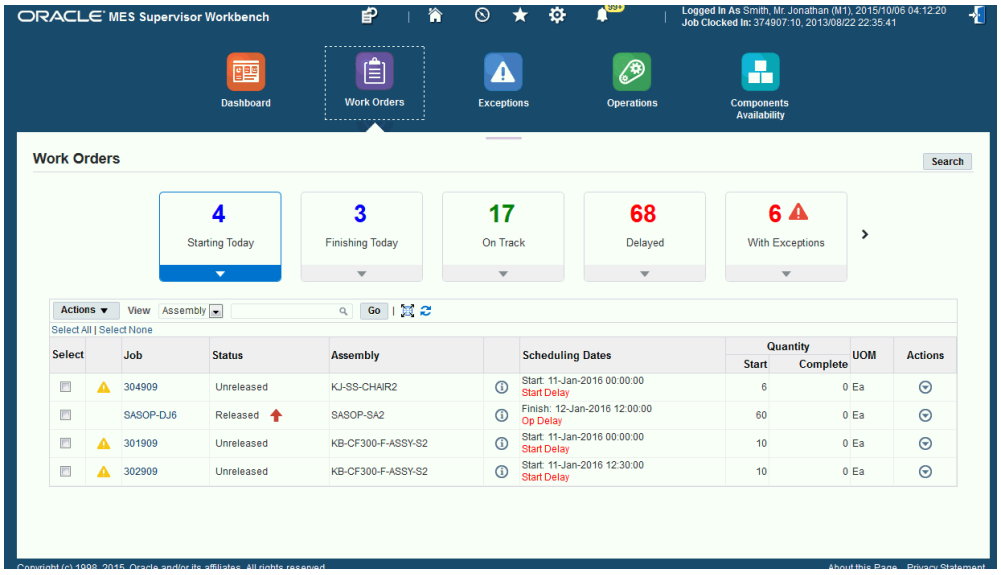
To view and take work order actions:

1. Navigate to the Work Orders page.

2. Select tiles for a listing of jobs scheduled. Choices are shown in the following table:

Starting Today	Jobs with Scheduled Start Date as today and status of Unreleased, Released, On Hold, Cancelled, Completed, and Completed No Charges.
Finishing Today	Jobs with scheduled completion date as today and status of Unreleased, Released, On Hold, Cancelled, Completed, and Completed No Charges.
On Track	Released and On Hold jobs without delays or operation delays.
Delayed	Released and On Hold jobs where the current date is past the Scheduled Job Completion date by more than the tolerance specified.

With Exceptions	Released and On Hold Jobs having open exceptions in at least one of the job operations.
With Operation Delay	Released and On Hold Jobs with operations that are yet to be started and include one of the following: • Start delay: current date is past scheduled operation start date by more than the delay tolerance specified. • Operations that are yet to be completed and have a completion delay: current date is past scheduled operation completion date by more than the delay tolerance specified. • Jobs that are unreleased and first operation is delayed: current date is past the scheduled start date of the first operation by more than the tolerance specified.
On Hold	Jobs that are on hold.
Expedited	Expedited jobs in the status of Unreleased, Released, and On Hold.
Starting Tomorrow	Jobs with Scheduled Start Date as the next day.
Finishing Tomorrow	Jobs with Scheduled Completion Date as the next day.



The fields appearing in the table for all statuses are Job Number, Job Status, Assembly Number, Scheduling Dates, Quantity Start and Complete numbers, Unit of Measure, and available Actions.

3. You have the option to select one or multiple records listed in the table and choose Email in the Actions box to send the work order records to another employee.

4. You can filter the list of records by specifying Status, Job, or Assembly in the View box, or selecting a value and choosing Go.

   The results of your query appear in the table.

5. Select the Job link to navigate to the Work Order Detail page for this record to view details and perform actions. See: Viewing and Maintaining Work Order Details, page 4-28

6. Select the Schedule icon that appears in the Scheduling Dates field to reschedule work orders that are unreleased, released, complete or on hold. See: Rescheduling Work Orders, page 4-32.

7. Select the Actions column for a specific record and choose one of the following available actions for a work order. Specific actions are available depending on the work order status:

   - Email: Sends an email with the job summary detail information to a designated party.
   - Put Jobs On Hold
   - Cancel Job

- Release or Unrelease Job
- Expedite
- Add Notes: Navigates to the Update Note page to add text regarding this job. See: Updating Job Notes, page 3-18
- Generate Assembly Serial Numbers for serialized assembly jobs.

Viewing and maintaining work order Details

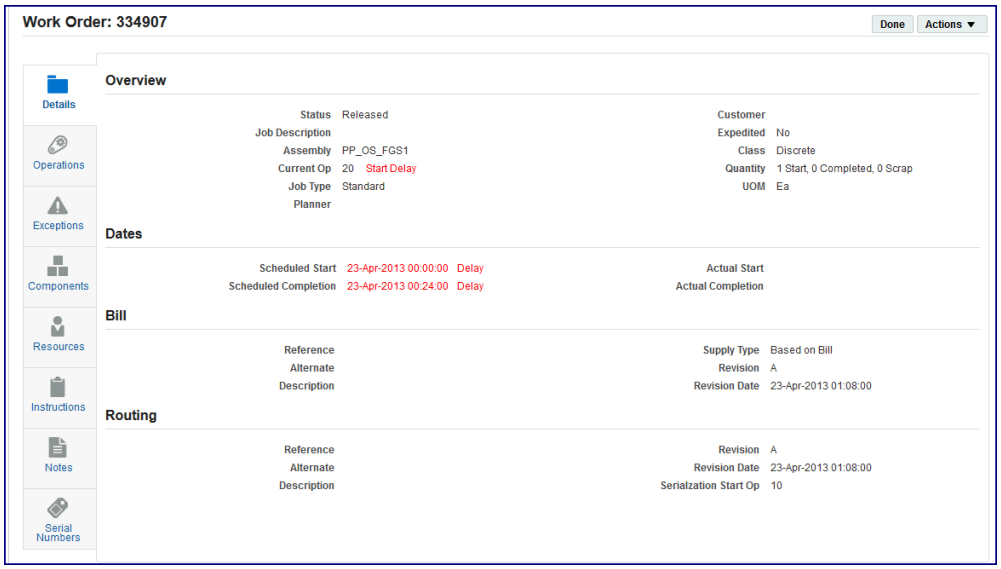
You can navigate to the Work Order details page by selecting a work order link. This page enables you to view information regarding a specific work order, select more detailed information, and choose actions.

To view details for a specific work order:

1. Navigate to the Work Order details page for a selected work order.

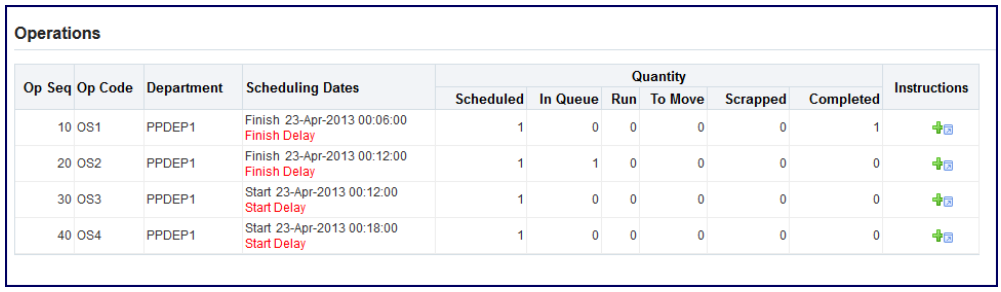
   Information displays in fields in the following regions with the associated fields:

   - Overview: Status, Job Description, Assembly, Current Operation, Job Type, Planner, Customer, Expedited, Class, Quantities, and Unit of Measure.
   - Dates: Scheduled Start, Scheduled Completion, Actual Start, and Actual Completion
   - Bill: Reference, Alternate, Description, Supply Type, Revision, Revision Date
   - Routing: Reference, Alternate, Description, Supply Type, Revision, Revision Date, Serialization Start Operation



2. In the Details column, you can access detail information in the following regions:
   - Operations
   - Exceptions
   - Components
   - Resources
   - Instructions
   - Notes
   - Serial Numbers
   - Additional Information

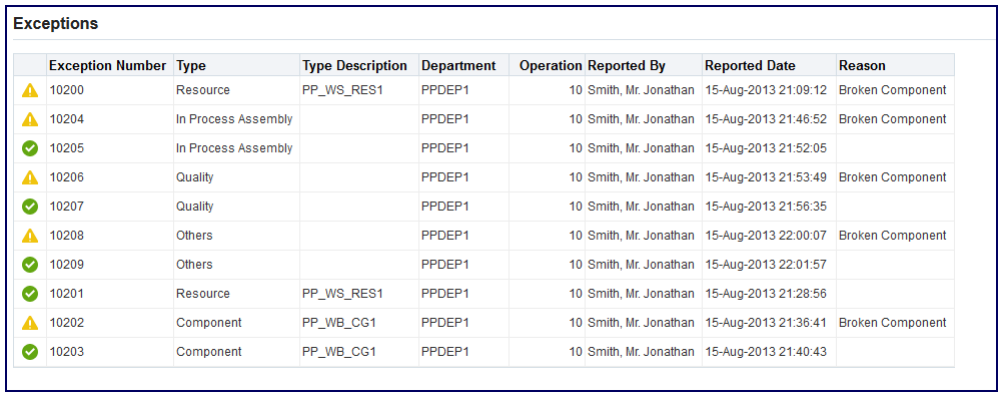
   Operations: You can view each Operation Sequence and Code, Scheduling Dates, the Quantities and status in each Operation Step, and Instructions. See: Viewing and Managing Operations, page 4-45



Operations

Op Seq	Op Code	Department	Scheduling Dates	Quantity						Instructions
				Scheduled	In Queue	Run	To Move	Scrapped	Completed	
10	OS1	PPDEP1	Finish 23-Apr-2013 00:06:00 Finish Delay	1	0	0	0	0	1	
20	OS2	PPDEP1	Finish 23-Apr-2013 00:12:00 Finish Delay	1	1	0	0	0	0	
30	OS3	PPDEP1	Start 23-Apr-2013 00:12:00 Start Delay	1	0	0	0	0	0	
40	OS4	PPDEP1	Start 23-Apr-2013 00:18:00 Start Delay	1	0	0	0	0	0	

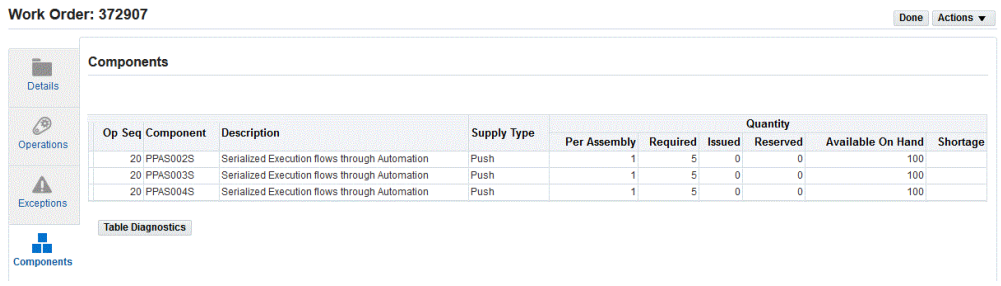
Exceptions: You can view a listing of exceptions for this work order record displaying details on Type, Description, Department, Operation, Reported By, Reported Date, and Reason. See: Viewing and Resolving Exceptions, page 4-36



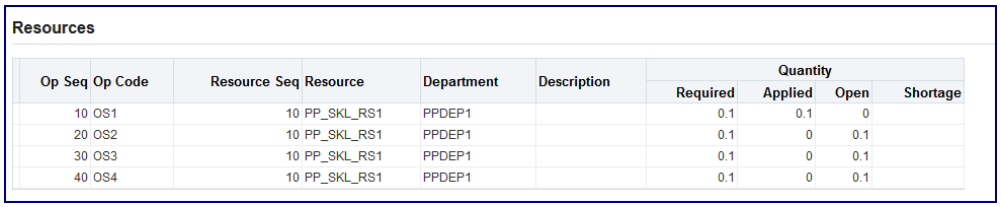
Exceptions

	Exception Number	Type	Type Description	Department	Operation	Reported By	Reported Date	Reason
⚠	10200	Resource	PP_WS_RES1	PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:09:12	Broken Component
⚠	10204	In Process Assembly		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:46:52	Broken Component
✓	10205	In Process Assembly		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:52:05	
⚠	10206	Quality		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:53:49	Broken Component
✓	10207	Quality		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:56:35	
⚠	10208	Others		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 22:00:07	Broken Component
✓	10209	Others		PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 22:01:57	
✓	10201	Resource	PP_WS_RES1	PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:28:56	
⚠	10202	Component	PP_WB_CG1	PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:36:41	Broken Component
✓	10203	Component	PP_WB_CG1	PPDEP1	10	Smith, Mr. Jonathan	15-Aug-2013 21:40:43	

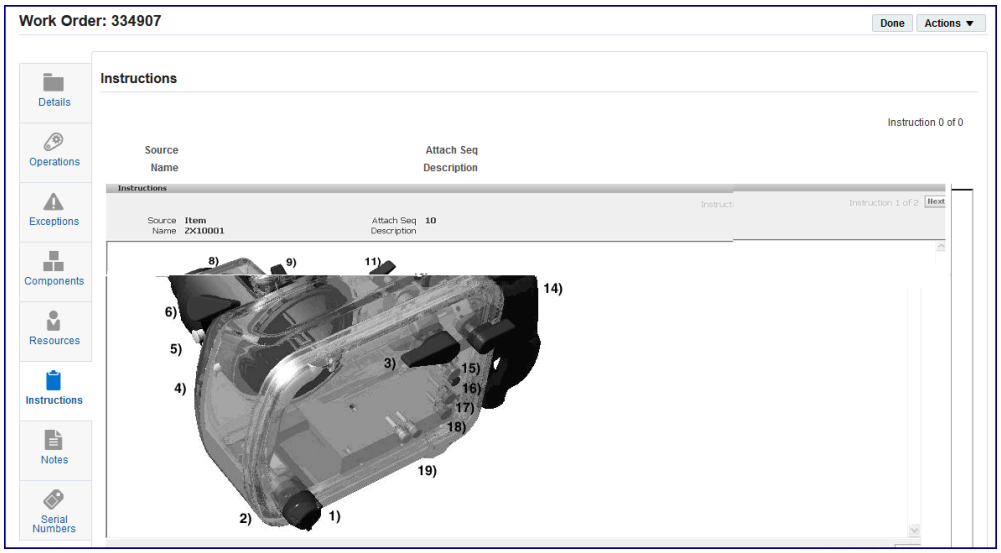
Components: You can view the component details for Component number, Description, Supply Type; and Quantities Per Assembly Required, Issued, Reserved. Available On Hand, and Shortages. See: Viewing and Managing Component Availability, page 4-50



Resources: You can view details for Resource Sequence, Resource Department, Description; and Quantities Required, Applied, Open, and Shortages.

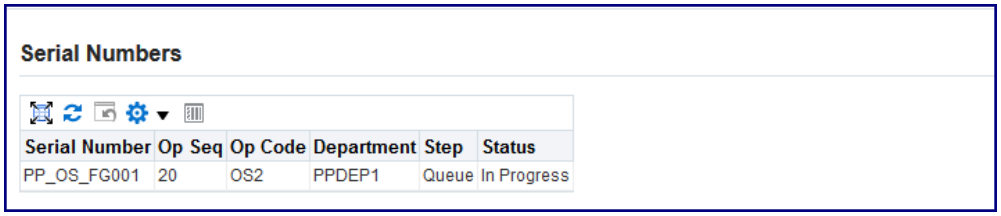


Instructions: You can setup a sequential display of instructions needed to perform the operation. See: Configuring Document Attachments, page D-1

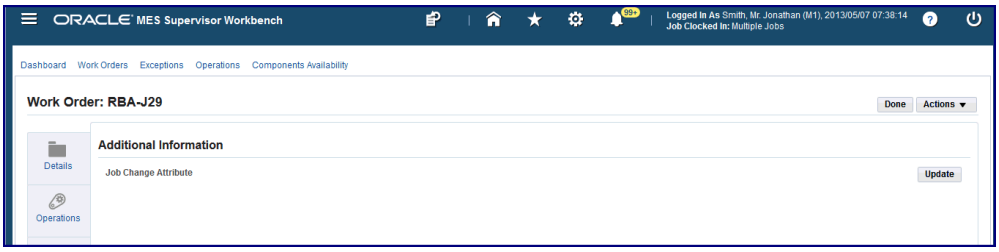


Notes: Information and notes can be viewed and created on the Update Note page. See: Updating Job Notes, page 3-18

Serial Numbers: You can view a listing of serial numbers data regarding this work order including : Serial Number, Operation Sequence, Operation code, Department, Step, and Status.



Additional Information: Descriptive flexfield data appears if you defined descriptive flexfield structures. See: Using Descriptive Flexfields, page 2-44



3. The following options are available in all the regions in the Actions box:
   - Email Job
   - Put Job On Hold
   - Cancel Job
   - Unrelease Job
   - Expedite
   - Add Notes

4. Select Done to close any of the detail pages and navigate back to the Work Orders page.

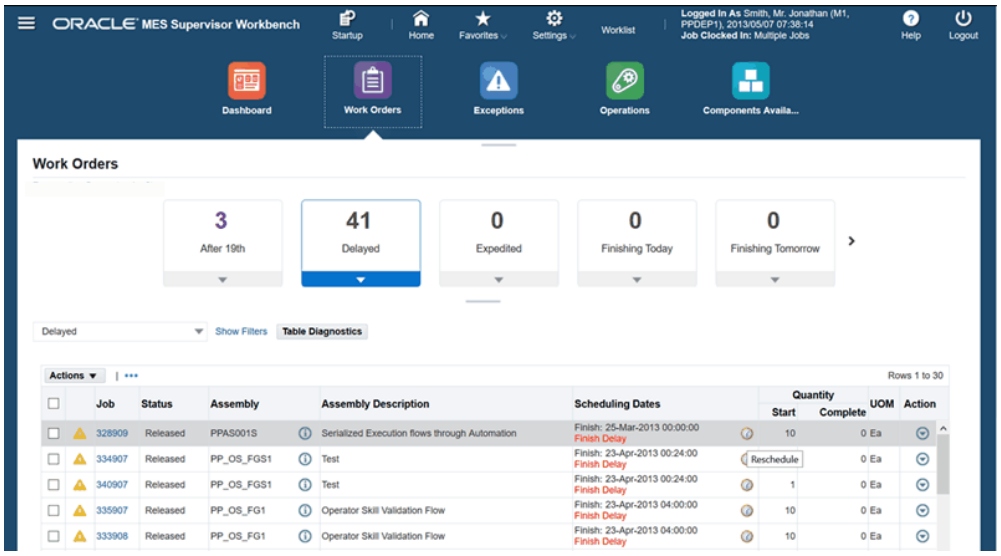
Rescheduling Work Orders

You can use the Reschedule Work Order page to reschedule work orders that are unreleased, released, complete or on hold.

To reschedule a work order:

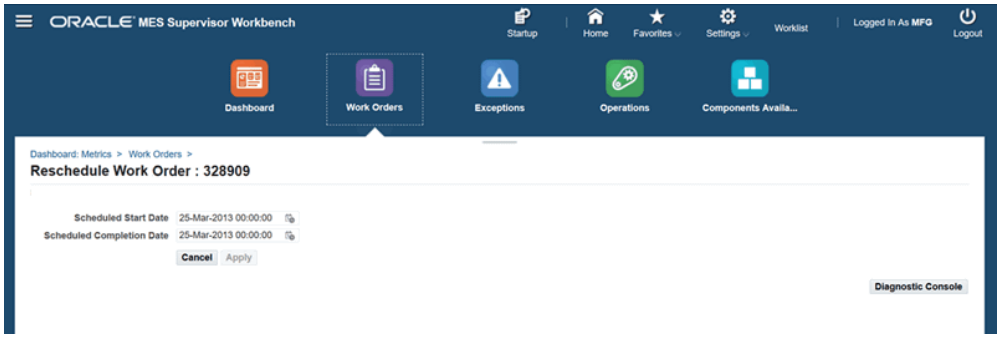
1. Navigate to the Work Orders page and search for work orders. Follow the steps given in Viewing and Updating Work Order Status Details, page 4-24 to search for work orders.

2. The Work Orders page displays information for work orders in the Job, Status, Assembly, Scheduling Dates, Quantity Start and Complete, UOM, and Actions columns. Note that you can only reschedule work orders with the status of Unreleased, Released, Completed or On Hold.

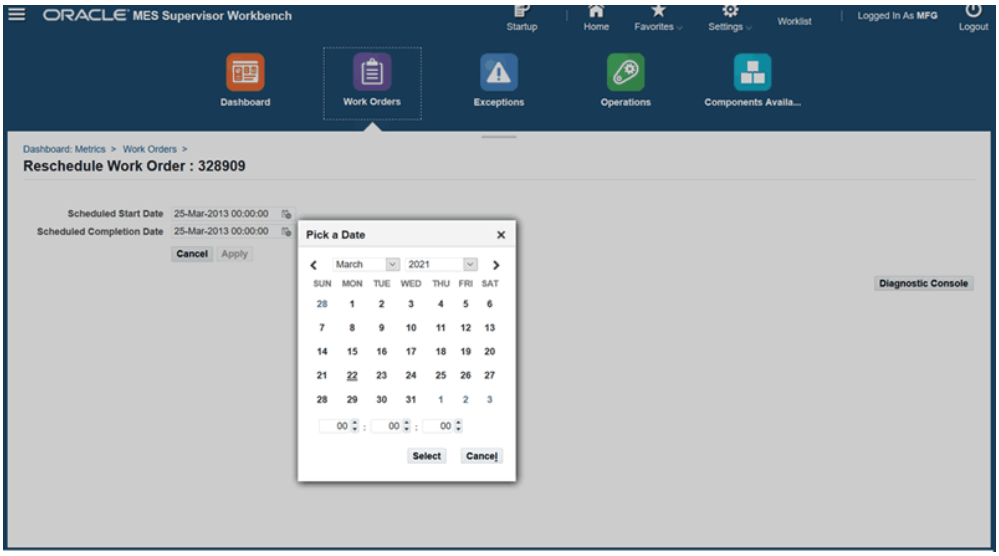


3. In the Scheduling Dates field for a work order, click the Reschedule icon.

4. The Reschedule Work Order page appears. This page displays the existing schedule start and scheduled completion dates that have been saved for the work order.

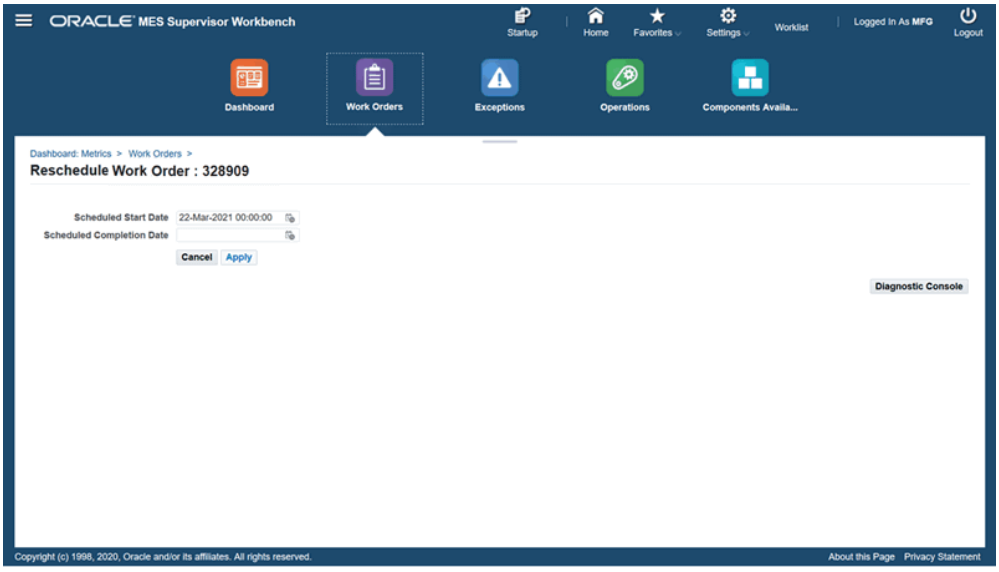


5. To reschedule the work order, select a start date in the Schedule Start Date field or the scheduled completion date in the Scheduled Completion Date field.

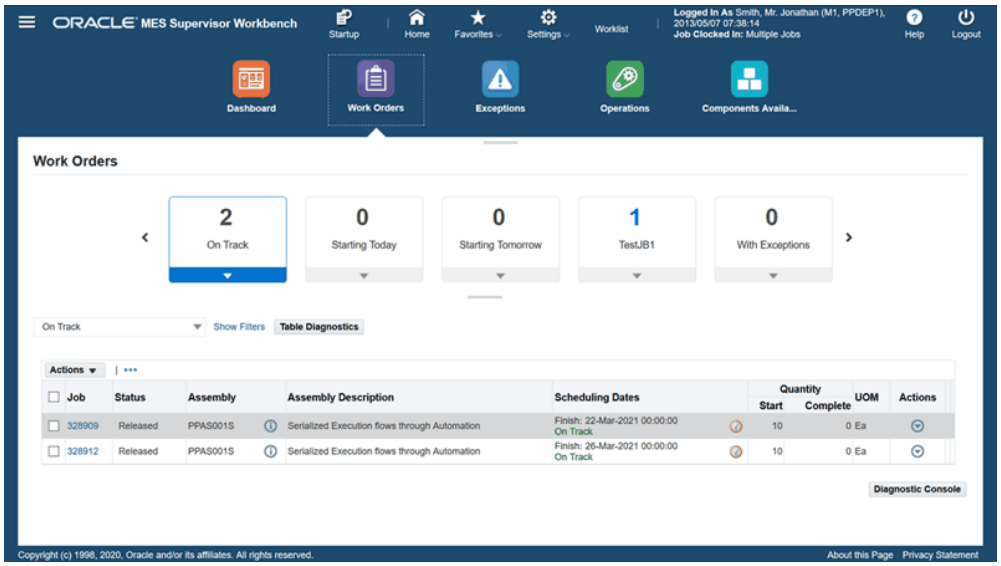


6. Click Cancel to cancel your changes.

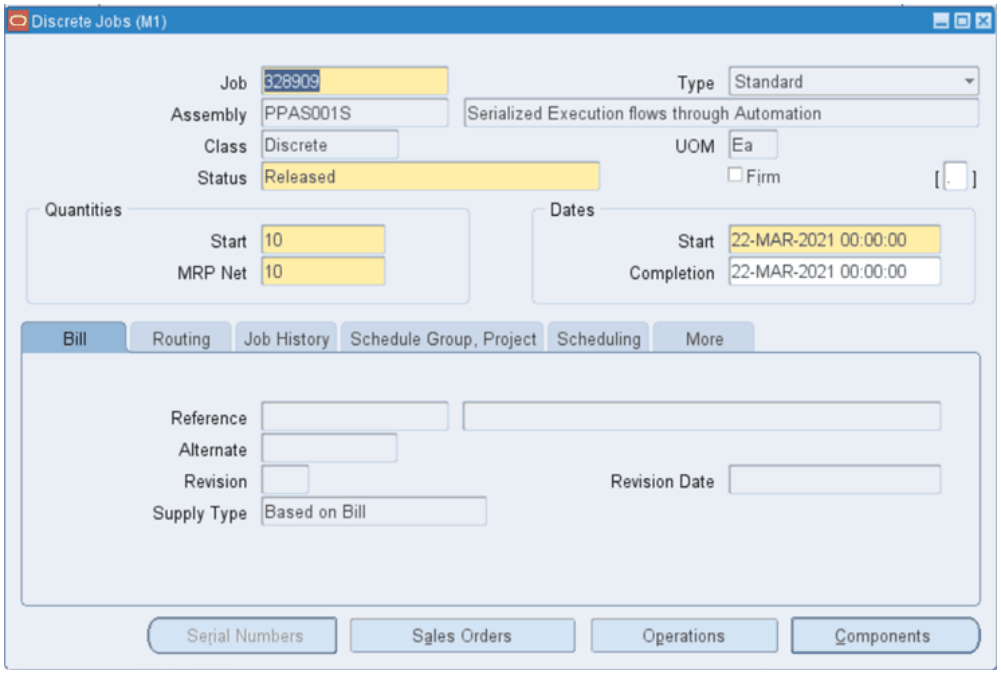
7. Click Apply to reschedule the work order.



8. View the changes in the Work Orders page.



9. The changes in the work order schedule will also reflect in the Discrete Jobs, Operations, and Resource Requirements windows.



Viewing and Printing Job Traveler for Multiple Jobs

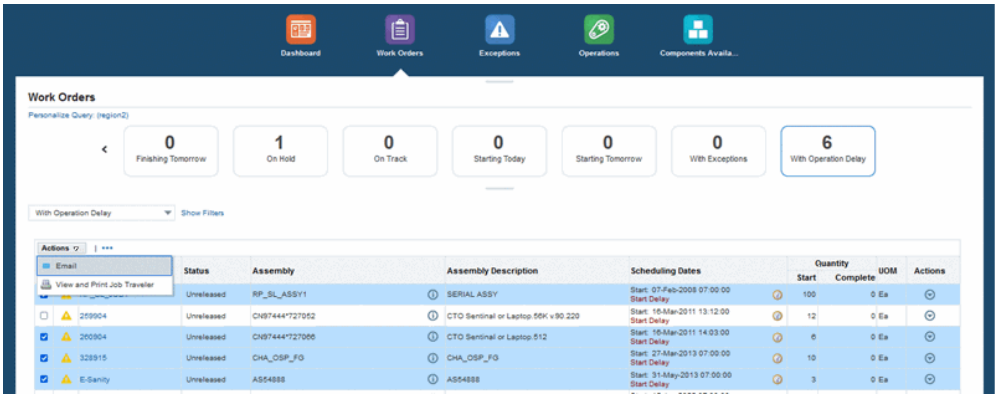
You can view and print the Job Traveler for multiple jobs in the Work Orders page using the View and Print Job Traveler action.

Note: You can print the Job Traveler for a maximum of 15 work orders.

To view and print Job Traveler for multiple jobs:

1. On the Work Orders page, select multiple jobs.
2. From the Actions list of values, select View and Print Job Traveler.

Print Job Traveler for Multiple Jobs



3. Click Go.
4. You can then review details for all the selected job in the Job Traveler report that opens per the Job Traveler template you have set.

Viewing and Resolving Exceptions

Exceptions are reported and displayed for situations preventing work on job operations. They can include material shortages, labor balancing problems, machine downtime, and quality problems. When an exception is reported, a workflow is invoked and notifications are sent to the appropriate recipients to signal that there are production issues. When notified about exceptions, you can view other job operations affected and take action. Exception types are in the following categories:

- Resource
- Component
- In Process Assembly
- Quality
- Others

The same exception can be created for any or all of the impacted jobs. Various resolutions are available. You can choose a record and select an action to resolve the production problem. For example, for the following exception types, you can:

- Resource: Assign Alternate Resources, Assign Shopfloor Statuses, Put Jobs on Hold, Reschedule Jobs
- Component: Assign Shopfloor Statuses, Put Jobs on Hold, Reschedule Jobs
- In Process Assembly: Reschedule Jobs
- Quality, Other, and User Defined: Assign Alternate Resources, Assign Shopfloor Statuses, Put Jobs on Hold, Reschedule Jobs

Additionally, you can define a custom exception type using the Oracle Applications Lookup functionality.

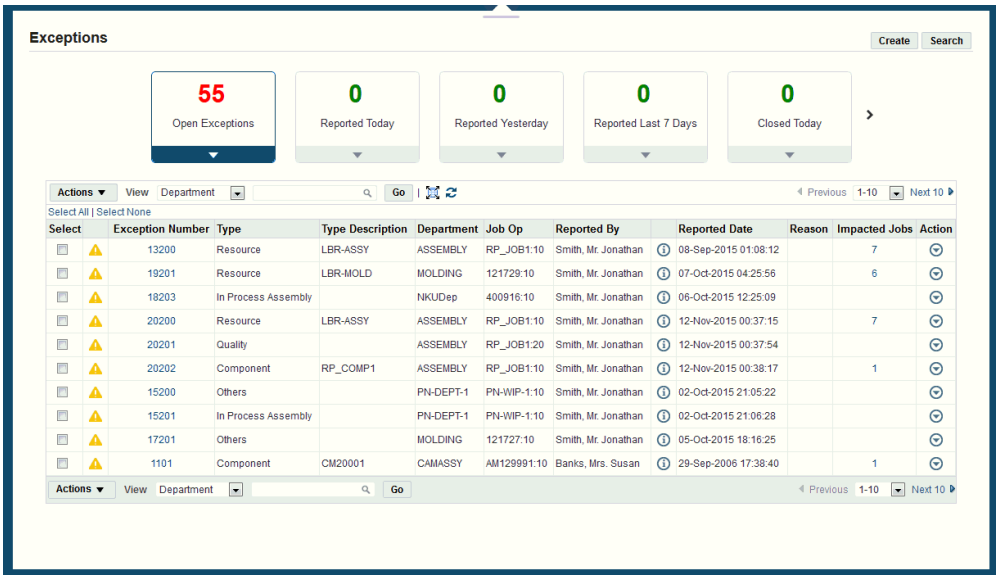
The Exception page can be accessed from the Exceptions tile on the MES Supervisor Dashboard and the View Exception job operation action if set up as actions on the Dispatch List and Work Content pages.

To view a summary listing of exceptions to production work:

1. Navigate to the Exceptions page.

   If accessed from the Exceptions tile on the MES Supervisor Dashboard, all exceptions fitting the criteria in your Startup parameters appear in a table on the page. You can view the list in the following categories by selecting tiles for:

   - Open Exceptions
   - Reported Today
   - Reported Yesterday
   - Reported Last 7 Days
   - Closed Today
   - Closed Yesterday
   - Closed Last 7 Days



Exception data appears in a table in the following fields:

- Exception Number
- Exception Type
- Type Description
- Department
- Job Operation
- Reported By
- Reported Date
- Reason: Reason codes for various exceptions are set up in the parameter: Reason Codes for Exception Types, page 2-35
- Impacted Jobs
- Action

2. Select Create to navigate to the Report Exceptions page to create new records, see: Reporting Exceptions, page 3-62

3. Select Search to navigate to the Simple Search Exceptions page to find and filter exception records. See: Searching for Exceptions, page 4-39

4. Select one or multiple records listed in the table and choose one of the following

options in the Actions box:

- Email: Sends an email with the exception summary detail information to a designated party.

- Add Notes: Navigates to the Update Note page to add text regarding this exception. See: Updating Job Notes, page 3-18

5. You can filter the records in the table display by selecting either Department or Exception Type in the View box. Then select a value and choose Go.

   The results of your query appear in the table.

6. In the summary table, select an Exception Number link to navigate to the Exception page, see: Viewing an Exception Detail Record, page 4-41

7. In the Impacted Jobs column, select the number link for a particular record to navigate to the Impacted Jobs page. See: Viewing and Adding Exceptions to Impacted Jobs, page 4-43

8. Exceptions created for shop floor issues can be resolved using various options. Depending on the status, select a record and one of the following choices available for resolution in the Actions drop-down icon:

   - Email: Sends an email with the exception summary detail information to a designated party.

   - Resolve: If this exception has been corrected, selecting Resolve closes this record.

   - Add Notes: Navigates to the Update Note page to add text regarding this exception. See: Updating Job Notes, page 3-18

   - Assign Alternate Resources: Navigates to the Assign Alternate Resources page enabling a switch from the current resource group to an alternate resource group. See: Assigning Alternate Resources, page 4-59

   - Assign Shopfloor Statuses: Enables you to change the status of a specific interoperation step. See: Changing Shopfloor Statuses, page 4-61

   - Put Jobs On Hold: Changes the job status to On Hold.

   - Reschedule Jobs: Navigates to the Reschedule Operation window to change scheduling direction and start dates. See: Rescheduling Operations, page 4-60

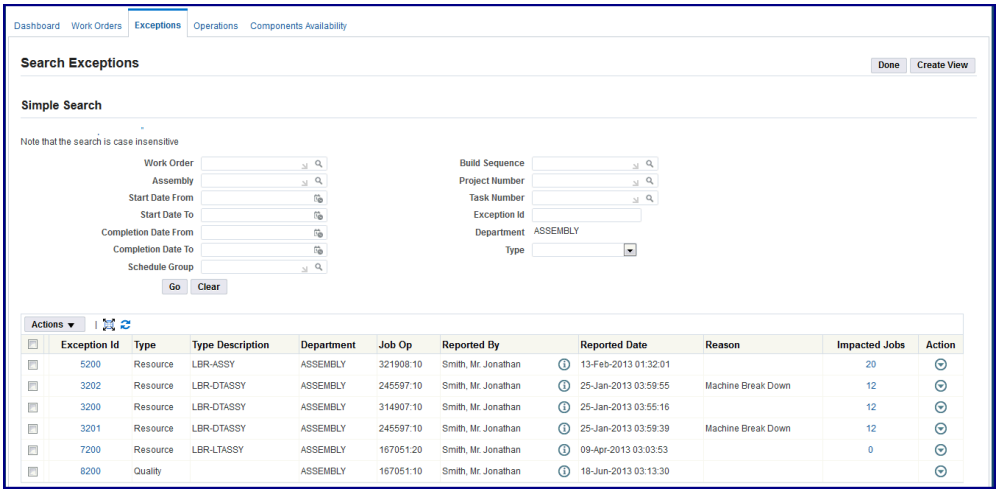
To search for exception records:

1. Navigate to the Search Exceptions page.

This page enables you to search for specific exceptions and filter long lists of exception records.

2. In the Simple Search region, select values related to your search in the following fields:

   - Work Order
   - Assembly
   - Start Date From and To
   - Completion Date From and To
   - Schedule Group
   - Build Sequence
   - Project Number
   - Task Number
   - Exception Identification
   - Department
   - Type



3. Select Go to display the results of your search.

4. If List Search capability is set up—you can search based on default filters, add and remove filters, and use multiple items from a list of values. See: List Search

Capability, page 4-3

5. Select Done to navigate back to the Exceptions page.

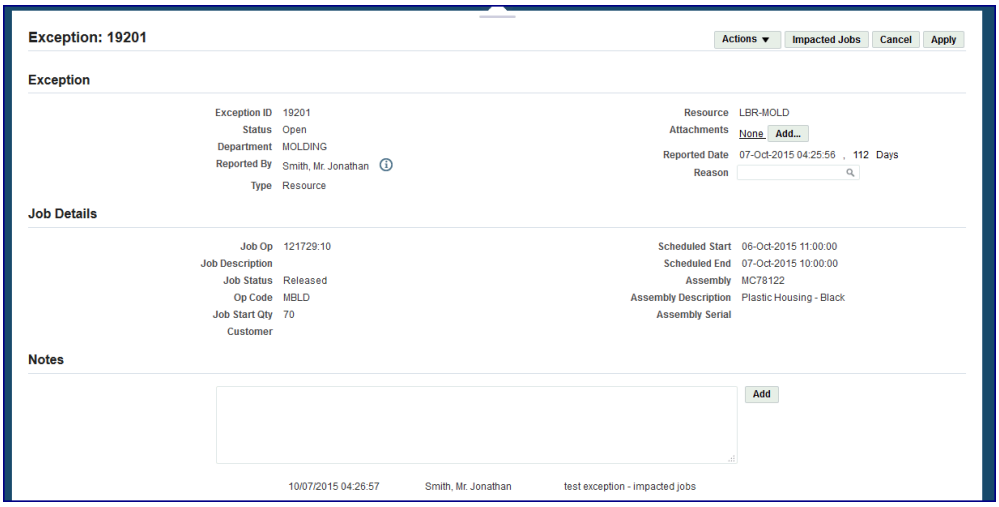
6. Select Create View to navigate to the Create View page listing attributes that can be edited to change the view or filter the data that is displayed.

Viewing an exception detail record:

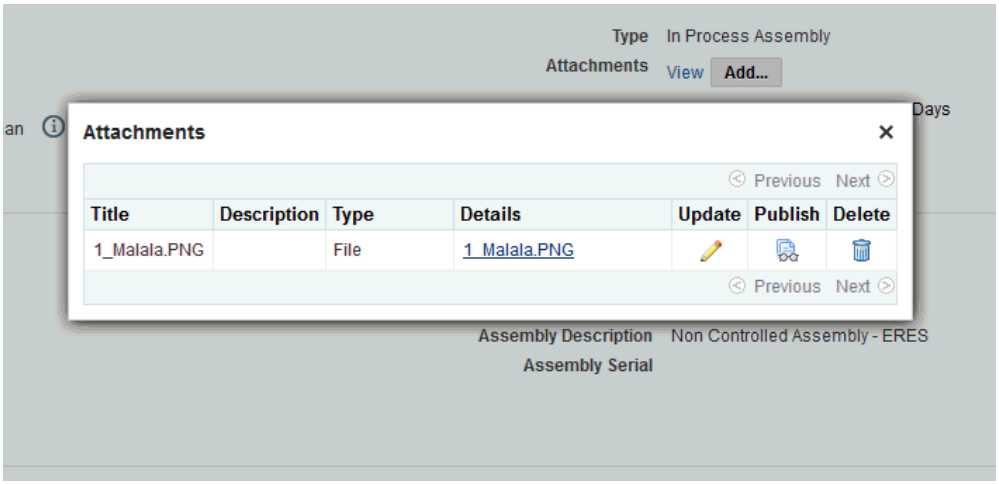
1. Navigate to the Exception page for a specific exception record.

   In the Exception region, the following fields appear for this record:

   - Exception ID number
   - Value of the designated Exception Type if this is a Resource or Component exception.
   - Status
   - Attachments
   - Reported By
   - Reported Date: This field displays the date and number of days since reported.
   - Type, one of the following Exception Types:
     - Resource
     - Component
     - In Process Assembly
     - Quality
     - Others
   - Reason: Reason codes for various exceptions are set up in the parameter. Reason Codes for Exception Types, page 2-35



2. If attachments exist, select the View link to open the Attachments dialog box to view a summary window of existing attachments. This window enables you to view, update, publish, and delete the attachment file.



3. Select Add Attachments to add files, URLs, or text. See: Oracle E-Business Guide Suite Attachments, *Oracle E-Business Suite User's Guide*

4. In the Job Details region of the page, information appears for this record in the following fields:

   - Job Operation
   - Scheduled Start and End Dates
   - Description

- Job Status
- Operation code
- Assembly
- Assembly Description
- Job Start Quantity
- Assembly Serial Number
- Customer

5. You have the option to add informational text in the Notes region of the page. Enter text in the Notes region and select Add.

   All note text appears in the section after the Notes region.

6. The Actions drop-down box enables you to perform the following actions:
   - Resolve: If this exception has been corrected, selecting Resolve closes this record.
   - Email: Sends an email with the exception summary detail information to a designated party.

7. Select Impacted Jobs to navigate to the Impacted Jobs page to see other jobs affected by this exception. See: Viewing and Adding Exceptions to Impacted Jobs, page 4-43

8. Select Apply to save changes to this record.

Viewing and Adding Exceptions to Impacted Jobs

This page displays information for all job operations affected by a specific exception.

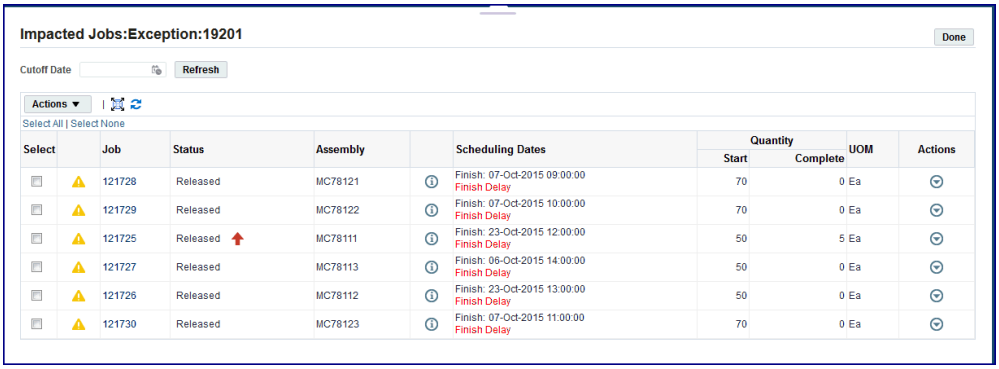
To add exceptions to impacted jobs

1. Navigate to the Impacted Jobs page for a particular exception record.

   A summary table appears with information for the jobs in the following fields: Job number, Status, Assembly number, Schedule Dates, Quantity Start and Complete values, and Unit of Measure.

2. Use the Cut Off Date field to select a date to change the calculated shortage values by date. Select Refresh to show the results in the table.
   - Shift end time is used as the end time value in the calculation.

- If the shortage calculation is based on Component Shortage Calculation Level: of Subinventory, the shortages displayed are based on the specific subinventory. See: Component Availability Calculations, page 2-12



3. To send an email with the exception summary detail information to a designated party, select one or multiple records listed in the table. Choose Email in the Actions box.

4. Select a Job link to navigate to the Work Content page for this work order.

   This enables you to view details of the work order and take actions. See: Viewing Work Content, page 3-11

5. Review and select the relevant records, and select appropriate tasks for specific work orders in the Actions box . TheActions include the following:

   - Email Job
   - Put Job On Hold
   - Cancel Job
   - Unrelease Job
   - Expedite
   - Add Notes to navigate to the Update Note page to enter job information details. See: Updating Job Notes, page 3-18

6. Select Done to close this page.

Related Topics

WIP Exception Notification Workflow, page B-1

Viewing and Managing Operations

The Operations tile on the Supervisor Workstation enables you to navigate to the job operation Dispatch List page. Dispatch lists are a listing of all job operations to be worked on—according to specific department, resource, resource instance, or a combination of these values. You can perform express move transactions and access other pages for performing and viewing transactions.

To view operations on the Supervisor Workstation:

1. Select the Operations tile to navigate to the Supervisor Workstation Dispatch List.

2. Use the View Options and More Options regions to filter the records.

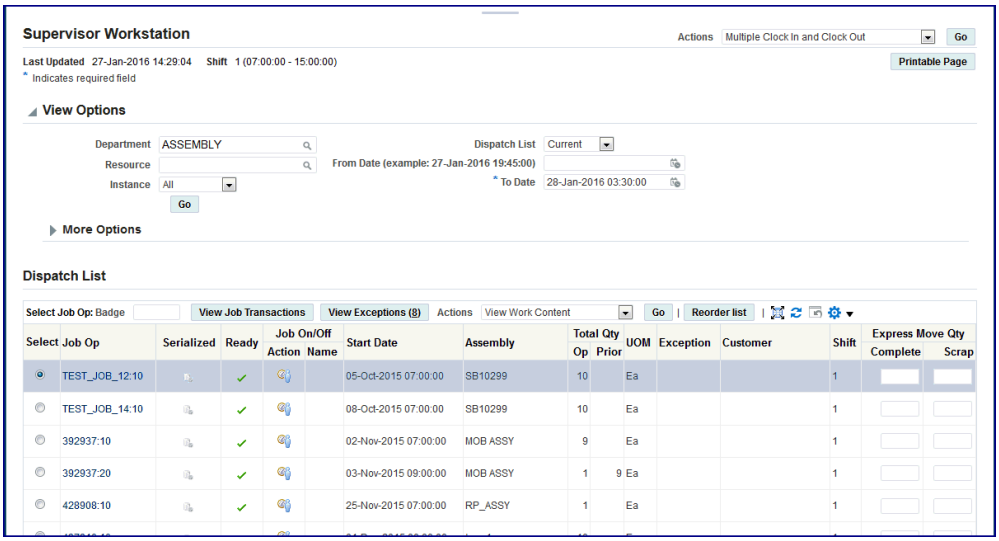
   The results of your query appear in the table. You can reorder the records display. This list is based on operation schedule times including:

   - Current: Job operations with assembly quantities in all steps except Scrap and Reject.

   - Scheduled: Job operations with assembly quantities in all steps except Scrap and Reject, plus all other job operations having schedule times within time range.

   - Upstream: Job operations that have quantities in Queue, Run and To Move steps in their immediate preceding count point operation within the time range.

3. You can perform tasks or view a variety of operation features, see: Viewing Dispatch Lists, page 3-6



Reordering Job Operations on the Dispatch List

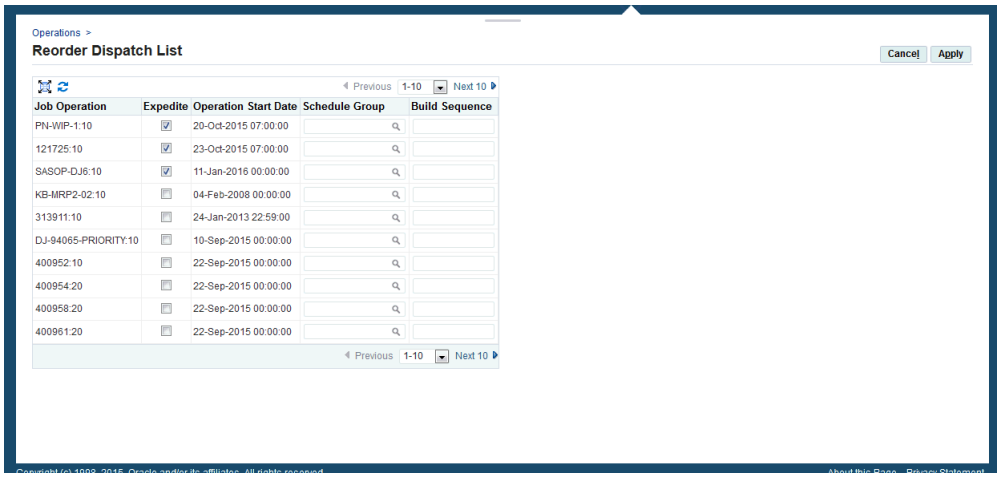
You can change the order and rearrange job operations on the dispatch list. This action enables you to group job operations together on the dispatch list. Reordering may be performed for more efficient display and processing of job operations with similar setups, components, or for expediting.

> **Note:** To adjust to the changes and dynamic nature of the shop floor, the supervisor might need to re-order the dispatch list. Because the Dispatch list is a supervisor or scheduler function, Oracle recommends that you limit access to this action.

To reorder job operations on the dispatch list

1. Navigate to the Reorder Dispatch List page.

   Job operations from your dispatch list display in a table view; all operations are shown as in your dispatch list, including any filtering performed on the list. The fields appearing on the page are set in the parameter, Dispatch List Ordering Criteria, page 2-20



The ordering is performed first by the Expedite column changes, then by the attributes. Changing the values of the attributes creates the reordering.

2. Select the job operations you want to expedite by enabling the Expedite check box.

3. Select values in the attribute fields according to your preference for reordering the list.

4. Select Apply to save your work.

   The dispatch list refreshes with your changes.

Related Topics

Viewing Operation Details, page 4-47

Reserving Components for Operations, page 4-49

Viewing Operation Details

You can view operation details for a selected job operation in the Supervisor Workbench using the Operations tab or the Work Content page. Select the View Operation Detail action as a button or choice list action to ensure the action appears in the Dispatch list and Work Content actions. See: Job Operation Actions, page 2-24 and Work Content Actions, page 2-42

To view operation details:

1. On the Operations tile or tab, select a job operation in the Dispatch List. See: Viewing and Managing Operations, page 4-45

   Alternatively, select a job operation in the Dispatch List and then select the View Work Content action to open the Work Content page.

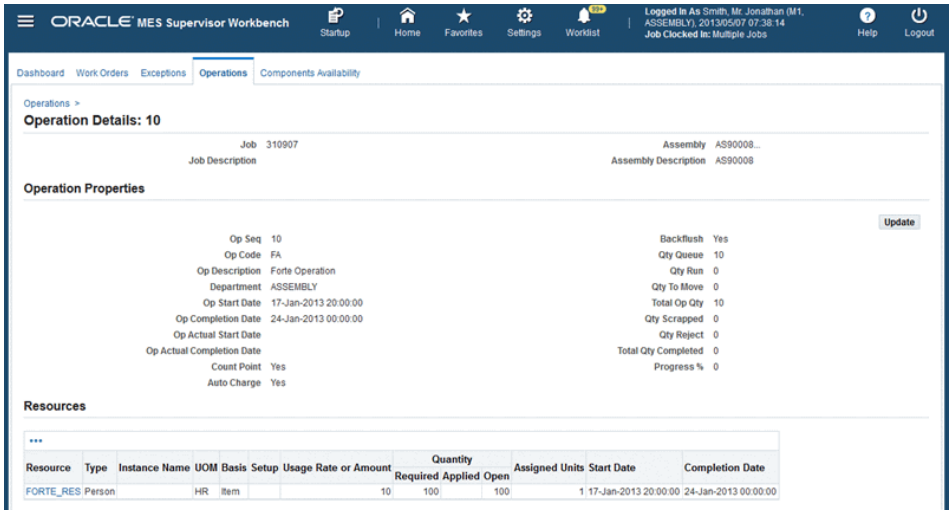
2. From the Actions list of values, select View Operation Detail.

3. Click Go.

4. On the Operation Details page that opens, you can review information in the following regions:

    - Operation Properties - This region shows information about this operation including description, department, dates, quantity at the intraoperation steps, and progress percent. You can use the Update button to update the progress percent. See: To update job operation progress percent, page 4-49

Operation Properties



    - Resources - This region show information about the type of resource, instance name, unit of measure, basis, set up, usage rate or amount, quantity details, assigned units, and the start and completion dates.

    - Time Entries - This region shows information about the resource, instance name, start and end dates, duration, unit of measure, reported by, charge, and status.

    - Competencies - If you set up the labor skills validation to certify the qualifications of operators performing transactions, this region shows information about the competence, skill levels, certification required, and qualification for the operation.

    - Components - This region provides information about the component name, description, required date, basis, quantity details, unit of measure, and supply details such as supply type, subinventory, and locator. Comments if any display and you can also use the Add Attachment icon in the Instructions field

to add any additional information for the component.

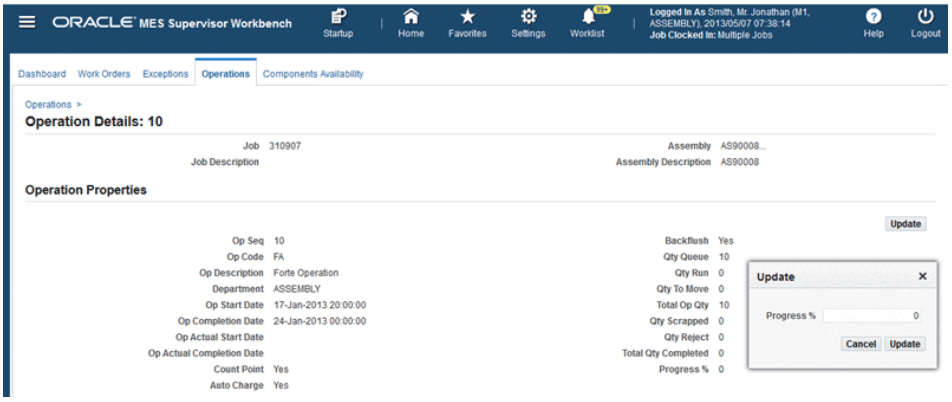
- Outside Processing - This region shows information about the status, purchase order number, requisition number, line numbers, cancelation information, need-by and promised dates, pending quantity and the unit of measure for the outside processing operation.

- Instructions - If you have set up sequential instructions to perform an operation, this region provides the sequence, title, type, description, category, usage, when the operation was updated and by whom, deletion and publish to catalog information for the operation.

To update job operation progress percent

1. In the Operation Properties region on the Operation Details page, click the Update button.

Update Progress Percent



2. On the Update popup page that opens, enter a value between 0 and 100 in the Progress % field.

3. Click Update.

   When you update the progress percent for a job operation, this update will display in the Operation Properties region when you open the Operation Details page for the job operation using the View Operation Detail action in the Dispatch list as well as from the Work Content page actions.

Reserving Components for Operations

You can perform material reservations for a selected job operation in the Supervisor Workbench using the Operations tab or the Work Content page. Select the Reserve Components action as a button or choice list action to ensure the action appears in the

Dispatch list and Work Content actions. See: Job Operation Actions, page 2-24 and Work Content Actions, page 2-42

To reserve components:

1. On the Operations tile or tab, select a job operation in the Dispatch List. See: Viewing and Managing Operations, page 4-45

   Alternatively, select a job operation in the Dispatch List and then select the View Work Content action to open the Work Content page.

2. From the Actions list of values, select Reserve Components.

3. Click Go.

   A message appears that components for the operation have been reserved.

4. Open the Operation Details page for the job operation for which you reserved components. See: Viewing Operation Details, page 4-47

5. Use the Components region on the Operation Details page to view information about the material reservations you created for the job operation.

Viewing and Managing Component Availability

Component Availability Management enables production schedulers to react to unplanned component shortage situations and make adjustments. You can take stock of open component requirements of work orders at a point of time, and set up the system to order production of jobs in a specified priority sequence. The Components Availability region provides both a job and a component view.

Job View

- The Job View shows components available or required in relationship to the work order details, and is visible on either a single table view by allocation order or in the following regions:
  - Unreleased Fully Allocated Jobs
  - Unreleased Partially Allocated and Unallocated Jobs
  - In Process Jobs
- Jobs are marked as either having all components available or having component shortages.
- Job inclusion criteria enables production schedulers to review open component requirements and take actions such as releasing work orders that have all components available; or canceling, putting on hold, or changing resources of work

orders.

- Forced allocation provides the ability for component requirements for a job to be exchanged or deallocated. Components can be deallocated from some jobs and allocated to others starting with the top most priority, using on-hand balances of the components.

Component View

- The Component View shows information on component buyer, quantities, and subinventory.

Component Availability Calculations

- Use the Component Availability Calculations parameter to define components and allocations. For each organization and calculation level record, you can define the following settings:
  - Reservations - Selecting the Reservation check box enables you to create or update component reservations for multiple work orders based on job priority rules, job inclusion criteria, and the components inclusion criteria that you define.
  - Job Priority Rules - Setting these rules defines the chronological priority order of job operation components considered for allocation.
  - Job Inclusion Criteria - Defining these criteria determines which jobs are considered in the component availability calculation.
  - Component Inclusion Criteria - Defining these criteria determines which components are considered with various options for the component availability calculation.
  - Forced Allocation Rules - Setting these rules determines which allocated jobs would be exempted from deallocation.

  See: Component Availability, page 2-12

- Select Launch Component Availability Calculations to generate data using the Launch Component Availability Calculations concurrent request. This program calculates and lists the job operations based on the setup for component availability calculations.

To view component availability in the job oriented view:

1. Navigate to the Component Availability page and select the Job View tabbed region.

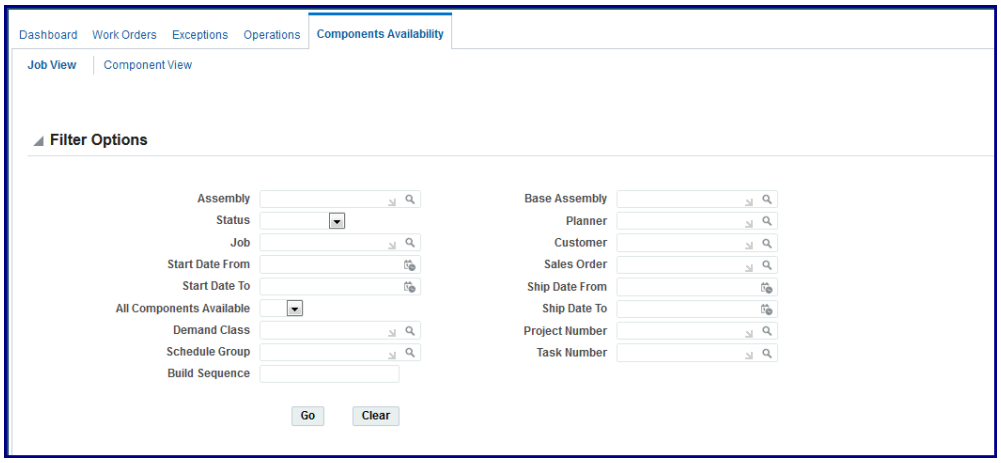
   You have the option to view the information in a categorized or single view. The

Single View table displays all work order records in a table by allocation order.

The Categorized View table displays three regions including:

- Unreleased Fully Allocated Jobs
- Unreleased Partially Allocated and Unallocated Jobs
- In Process Jobs

2. Use the Filter Options region to restrict the data displayed by selecting values in the following fields:
   - Assembly
   - Status
   - Job
   - Start Date From and To
   - All Components Available
   - Demand Class
   - Schedule Group
   - Build Sequence
   - Base Assembly
   - Planner
   - Customer
   - Sales Order
   - Ship Date From and To
   - Project Number
   - Task Number



3. Select Go.

   The results of your query appear in the three regions.

   In the categorized view, depending on the region, job information appears in a table in the following fields:

   - Details
   - Job number
   - Job Status
   - Assembly number
   - Planner
   - Buyer
   - Quantity Start and Completed numbers
   - Unit of Measure
   - Start Date
   - Customer
   - Number of Components: Total and With Shortage
   - All Components Available flag
   - Allocation: Order and Actions

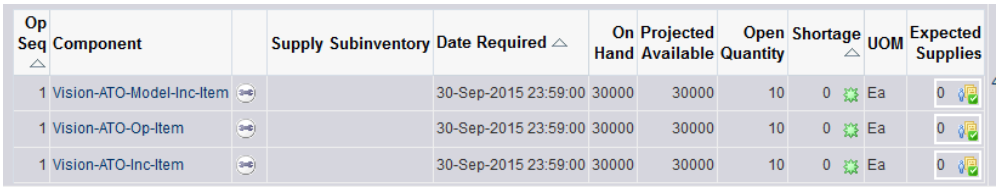
4. Select a Job link record to navigate to the details page for a particular work order, see: Viewing Job Details, page 3-51

5. Select the Customer name link to view sales order summary information.

6. In the Actions column, select the drop-down arrow to choose one of the following actions, depending on the region:
   - Unreleased Fully Allocated Jobs region: Unallocate
   - Unreleased Partially Allocated region: Force Allocate

7. Select Details to show the listing of components by Operation Sequence. The information appears in the following fields:
   - Operation Sequence
   - Component
   - Supply Subinventory
   - Date Required
   - On Hold
   - Projected Availability
   - Open Quantity
   - Shortage
   - Unit of Measure
   - Available

- Expected Supply



Op Seq	Component		Supply Subinventory	Date Required	On Hand	Projected Available	Open Quantity	Shortage	UOM	Expected Supplies
1	Vision-ATO-Model-Inc-Item			30-Sep-2015 23:59:00	30000	30000	10	0	Ea	0
1	Vision-ATO-Op-Item			30-Sep-2015 23:59:00	30000	30000	10	0	Ea	0
1	Vision-ATO-Inc-Item			30-Sep-2015 23:59:00	30000	30000	10	0	Ea	0

8. Select the Component link to navigate to the Component View tabbed region showing all the work orders using this component.

   See: Component View, page 4-57

9. Select the Expected Supplies icon to show a summary of the quantity and dates of the component ordered.

10. Review and select the relevant records, and select appropriate tasks for specific work orders in the Actions box.

    - Select Add Notes to navigate to the Update Note page to enter job information details. See: Updating Job Notes, page 3-18

    - Other choices depending on if the job meets the appropriate criteria are:

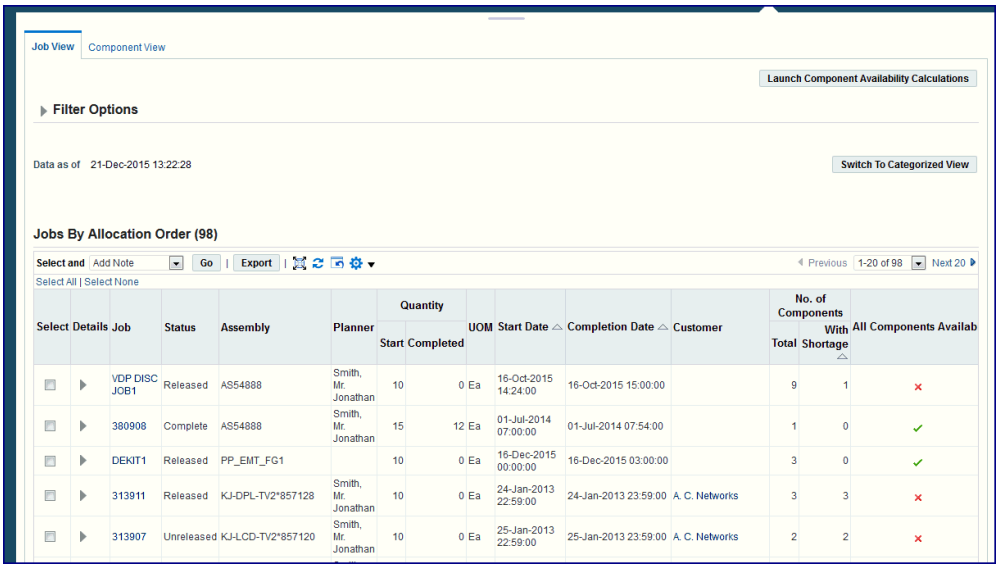
      - Cancel Job
      - Put Job On Hold
      - Release Job
      - Unrelease Job

11. After you select the action, select Go.

12. You have the option to select records in the tables and select Export. This action will save or open the details as a comma separated values file (.csv) for a spreadsheet.

13. Select Switch to Single View Table to view all work order records in a table by allocation order.

14. Use the Filter Options region to restrict the data displayed by selecting values and selecting Go.



15. In the single view, information appears in a table in the following fields:
    - Details
    - Job number
    - Job Status
    - Assembly number
    - Planner
    - Quantity: Start and Completed values
    - Unit of Measure
    - Completion Date
    - Customer
    - Number of Components: Total and With Shortage
    - All Components Available flag

16. This view enables you to select records and perform actions. Select appropriate records, and in the Select and field, choose one of the following actions relevant to your component availability situations:
    - Add Note

- Cancel Job
- Put Job On Hold
- Release Job
- Unrelease Job

To view component availability in the component oriented view:

1. Navigate to the Component Availability page and select the Component View tabbed region.
2. Use the Filter Options region to restrict the data displayed by selecting values.

   There are two sections in the Filter Options region, select search criteria in the following fields:

   Show Components with

   - Component
   - Supply Type
   - Date Required From and To
   - Buyer
   - Category
   - Component Available
   - Subinventory
   - Locator

   Show Components of Jobs with

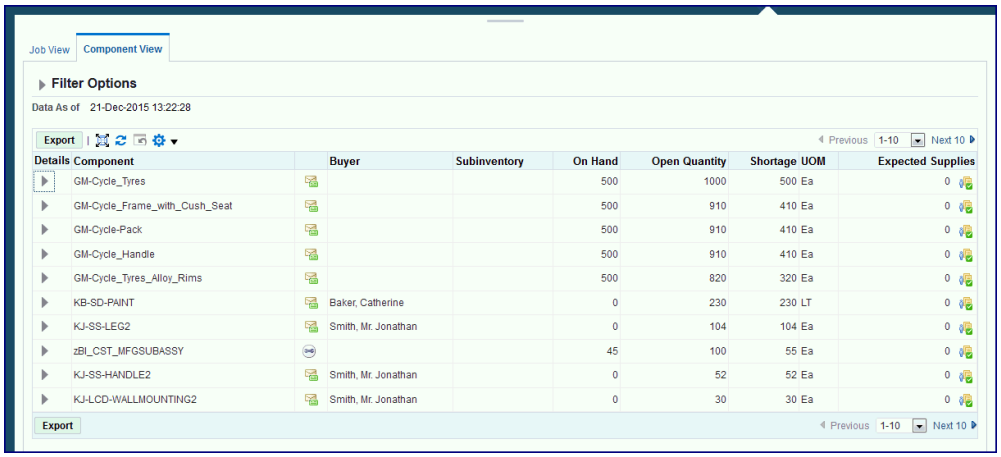
   - Assembly
   - Status
   - Job
   - Start Date From and To
   - Completion Date From and To
   - Demand Class

- Schedule Group
- Build Sequence
- Planner
- Customer
- Sales Order
- Ship Date From and To
- Project Number
- Task Number

3. Select go to show the results of your search.

   Information appears in the following columns:

   - Component
   - Buyer
   - Subinventory
   - On Hand
   - Open Quantity
   - Shortage
   - Unit of Measure
   - Expected Supplies



4. You have the option to select records and choose Export. This action will save or open the details as a comma separated values file (.csv) for a spreadsheet.

5. Select Details to show the listing of all jobs requiring a specific component. The information appears in the following fields:

6. Select the Expected Supplies icon to view a dialog window showing any orders for components.

Assigning Alternate Resources

You can use alternate resources to resolve production problems on the shop floor. Resources can be substituted in groups, enabling a switch from the current resource group to an alternate resource group. If several resources are available, they display in a drop-down box.

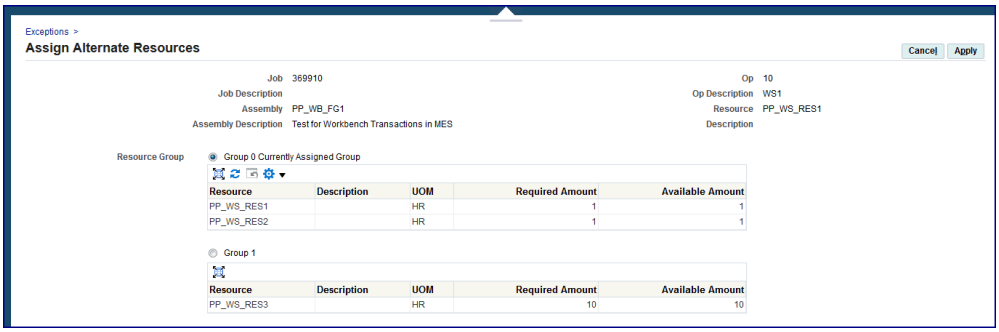
To assign alternate resources:

1. Navigate to the Assign Alternate Resources page.

   The page displays job number and description, assembly number and description, operation number and description.

   The Resource table displays information about the available resources. The Required Amount and Available Amount indicates the resource load.

2. Select the resource you want to assign in the Resource box.



3. Enable the Group radio button if this is a resource group.

4. Select Apply to save your work.

Rescheduling Operations

You can reschedule operations to resolve exceptions in bottleneck job operations. You have the option to change scheduling direction, and start dates. Material and resource requirement dates are also updated. Use Oracle planning products to reschedule discrete jobs by modifying discrete job operations, importing modified jobs and schedules, and replanning planned orders using Oracle planning products.

To reschedule an operation:

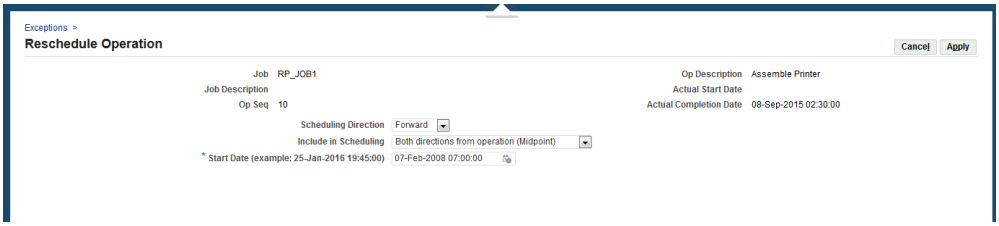
1. Navigate to the Reschedule Operation page.

   Information displays in fields for Job, Job Description, Operation Sequence, Operation Description, and Actual Start and Completion Dates.

2. Select a direction in the Scheduling Direction field, choices are:

   - Forward: Scheduling begins at the start date and calculates a production end date.

   - Backward: Scheduling begins at the production end date and calculates a production start date.



3. Select a value in the Include in Scheduling field, used to set the automatic

scheduling option. Choices are:

- Backward from operation (Midpoint Backward): Moves only the selected and prior operations, keeping them in sequence, when a time slot is located to move this specified operation. Next operations are not rescheduled.

- Both directions from operation (Midpoint): Reschedules all prior and next operations when a time slot is found for the operation. Prior operations are backward scheduled. Next operations are forward scheduled.

- Forward from operation (Midpoint Forward): Moves only the selected and next operations, keeping them in sequence, when a time slot is located to move this specified operation. Prior operations are not rescheduled.

- Operation Only: Only the operation that is selected is scheduled. Prior and next operations are not rescheduled.

4. Select a value in the Start Date field to begin the rescheduling process.

5. Select Apply to save your work.

Related Topics

Rescheduling Discrete Jobs, *Oracle Work in Process User's Guide*

Changing Shopfloor Statuses

You may need to change the status of a job operation because exception problems. When you display the Assign Shopfloor Statuses page, existing exceptions display in a table view list. This page enables you to change the status of a specific interoperation step. The job progresses through the routing until it reaches that step

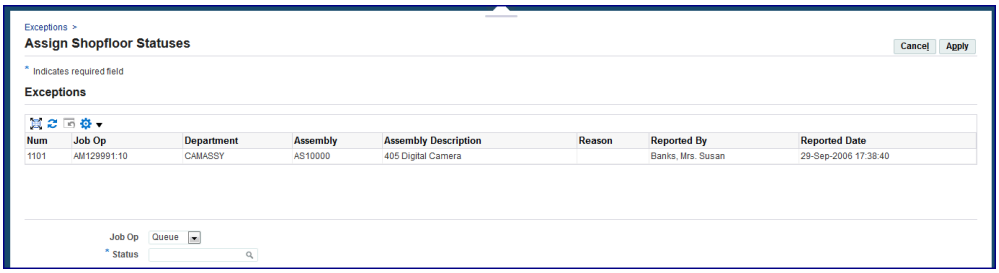
To change the status of the job operation:

1. Navigate to the Assign Shopfloor Statuses page.

   Exceptions display in a table view, the number of records in the list is dependent on your selection from the Exceptions page.

2. In the Job Op field, select the interoperation step for the status change.

3. In the Status field, select the new status for this interoperation step.



4. Select Apply to save your work.

Expedite and Undo Expedite

Any job operation can be moved to top priority on the dispatch list. Scheduled operation start and end times are not changed—the operation is moved on the display to make it prominent. The Ready column displays an arrow icon indicating the operation is expedited. Since expediting is performed at the job level, all operations are affected—and moved and marked on the dispatch list.

Using Contingent Workers

A contingent worker is typically a self-employed individual or an agency supplied worker. Contingent workers can perform many of the roles assigned to your employees. This type of worker is not paid in your payroll; they submit payment invoices to your accounts payable department or can be set up in the Oracle Services Procurement using Oracle Time and Labor to generate payment invoices automatically.

> **Note:** Contingent workers exist as a separate category of worker from short-term or fixed-term contractors who are hired directly by your organization and are paid in your payroll.

MES for Discrete Manufacturing pages show contingent worker data along with other employees in the login context of the MES Workstation and the MES Supervisor Workbench. You can also view worker information in the following pages:

- Work Content page: the Current Working Employees region shows employees and contingent workers clocked in and clocked out.
- Supervisor Workbench: Monitoring Shop Floor Progress—the Current State region displays a real time view of the status of operators, and Operator Availability region provides of view of labor availability.
- Supervisor Workbench: Labor Performance Metrics displays the performance metrics and the target goals when employees perform a Shift In and Shift Out.

Contingent workers assigned as resource instances can use the Reporting Resource Usage and Report My Time pages for time entry. Resources are tracked using employee badge numbers and resource instances. Your employees can use their Employee Number interchangeably as their Badge Number for transactions. However, a contingent worker requires a badge number to perform transactions.

> **Note:** The contingent worker requires a unique badge number; badge sharing between an employee and a contingent worker in the same organization is not supported.

See: Contingent Workers, *Oracle Human Resources Management Systems Workforce Sourcing, Deployment, and Talent Management Guide*

To setup a contingent worker:

1. Define the contingent worker in the Oracle Human Resources application. See:
   - Hiring an Applicant (People Window and Application Window), *Oracle Human Resources Management Systems Workforce Sourcing, Deployment, and Talent Management Guide*
   - Entering Contingent Worker Information, *Oracle Human Resources Management Systems Workforce Sourcing, Deployment, and Talent Management Guide*
   - Workforce Sourcing and Deployment, *Oracle Human Resources Management Systems Implementation Guide*
2. Navigate to the Resources window in Oracle Bills of Material.
3. Assign the contingent worker to a specific resource.

   See: Defining a Resource, *Oracle Bills of Material User's Guide*
4. On the Resources window, select Employees.
5. On the Employees window select:
   - Number or Name for your contingent worker
   - Type: Contingent
6. Save your work.

Reviewing and Editing Time Entries

Shop floor time entry captures resource times using Job On and Job Off, Clock In and Clock Out. Employee, contingent worker, machine, and job time is tracked by user login

identification and employee badge number, and controlled by the settings of several parameters, see: Shop Floor Time Entry, page 3-70

Shop floor supervisors can search time entries across all job operations and by all employees in the Review Time Entries page. This page enables you to edit and submit the records.

To review operator time entry:

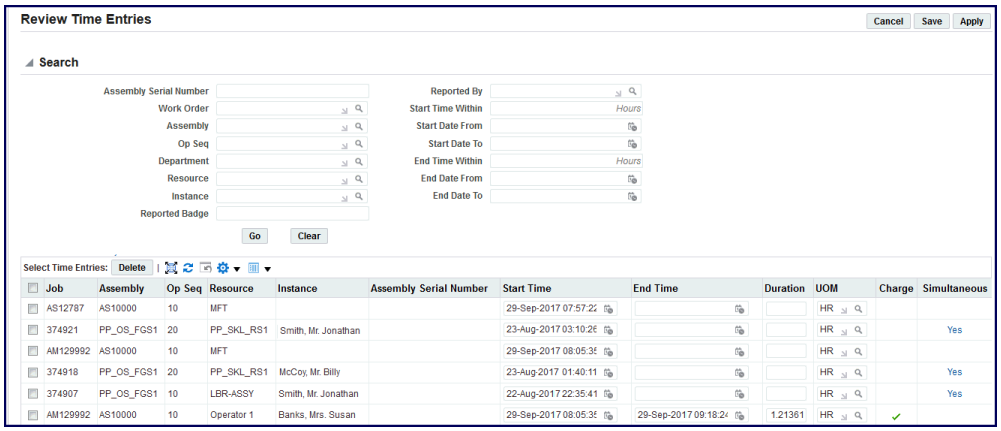
1. Navigate to the Review Time Entries page.

   Work order records appear in the table according to your login and startup parameters.

2. You can filter the records appearing in the table using the following search criteria:

   - Assembly Serial Number
   - Work Order
   - Assembly
   - Operation Sequence
   - Department
   - Resource
   - Instance
   - Reported Badge number
   - Reported By
   - Start and End Time Within
   - Start Date From and To
   - End Date From and To

   Select Go to display the results of your query appear in the table.



3. Enter values in the Start Time and End Time fields. The other fields automatically calculate the correct values. Optionally, you can change the value in the Unit of Measure field.

4. Select Save to save your work in draft as you are completing a long list of transactions.

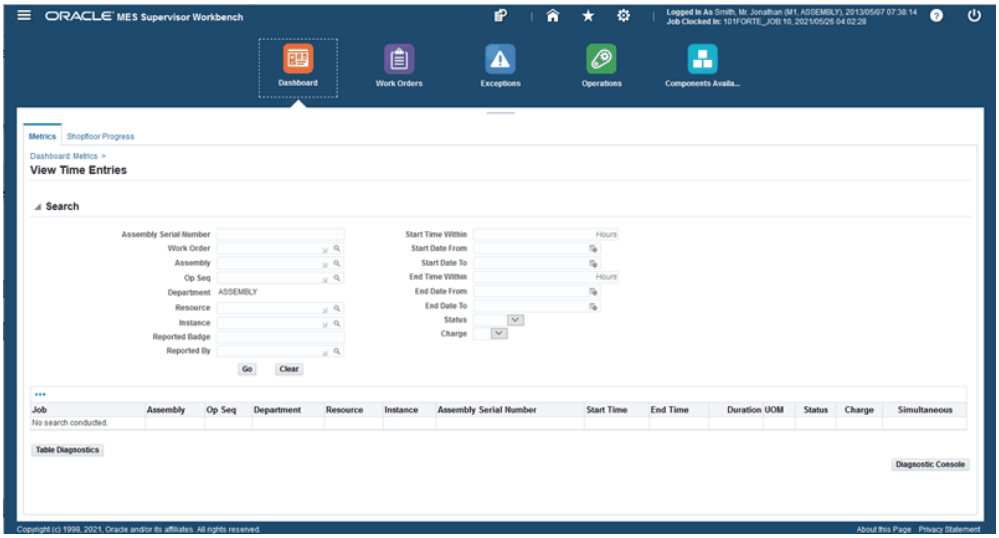
5. Select Apply to save the time entries.

Viewing Time Entries

You can use the View Time Entries page to search and view the history of Job On and Job Off and Clock In and Clock Out information. You can view the duration of an employee, contingent worker, or machine that were engaged for a job. Select and add View Time Entry in the Update Parameter: Global Actions page to ensure that you can select this as an action from the MES Supervisor Workbench and open the View Time Entries page. See: Global Actions Parameter, page 2-21

To view time entries:

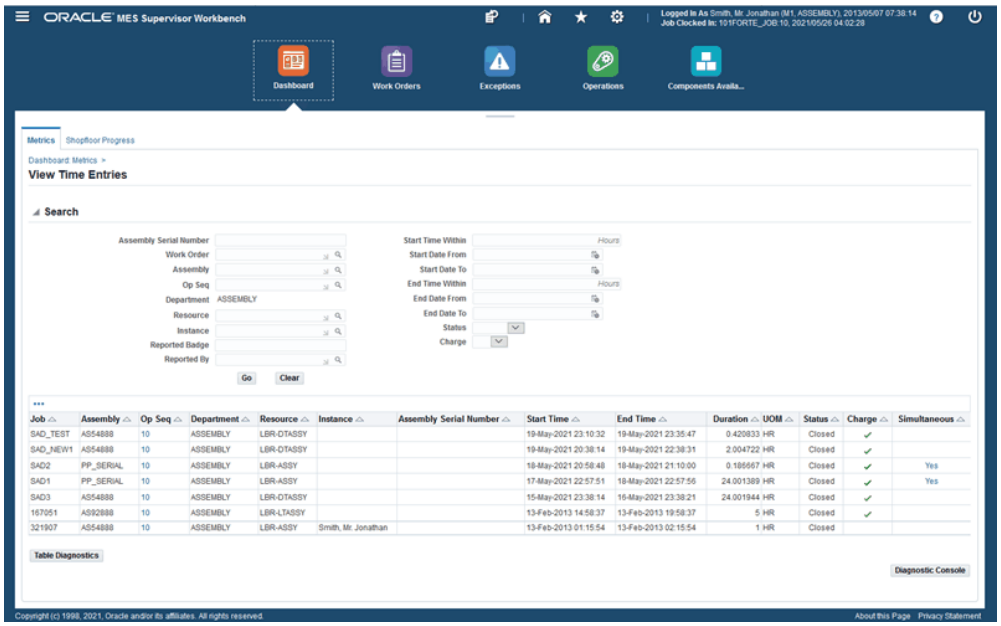
1. Navigate to the View Time Entries page. You can default the values for department, resource, and instance fields to appear in the table according to your login and startup parameters.



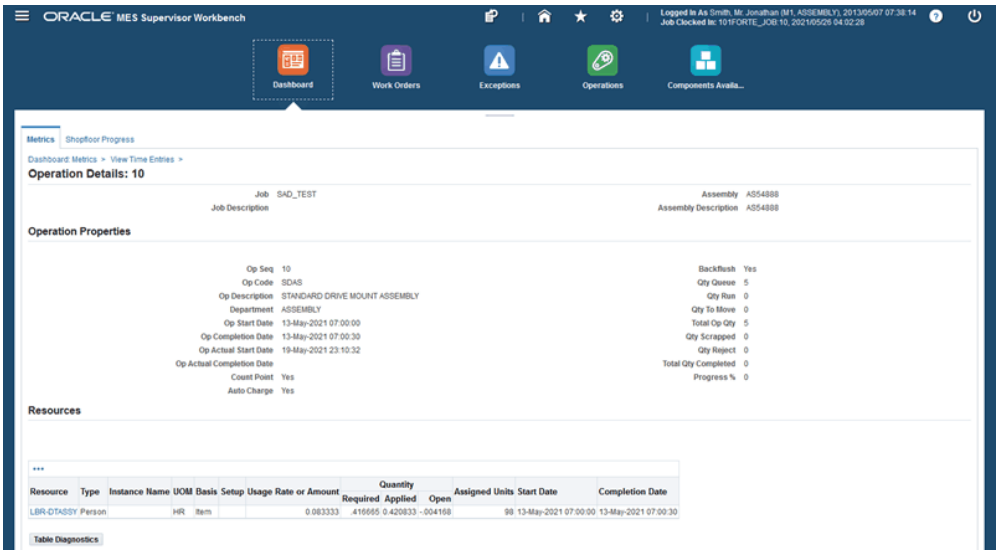
2. You can filter the records appearing in the table using the following search criteria:
   - Assembly Serial Number
   - Work Order
   - Assembly
   - Operation Sequence
   - Department
   - Resource
   - Instance
   - Reported Badge Number
   - Reported By
   - Start Time Within
   - End Time Within
   - Start Date From and To
   - End Date From and To
   - Status
   - Charge

- The Status can be closed or pending. Pending refers to clock-outs that are pending or are under review.
- Select Yes in the list of values for Charge to filter your view according to only time entries that are being charged. Otherwise, select No.

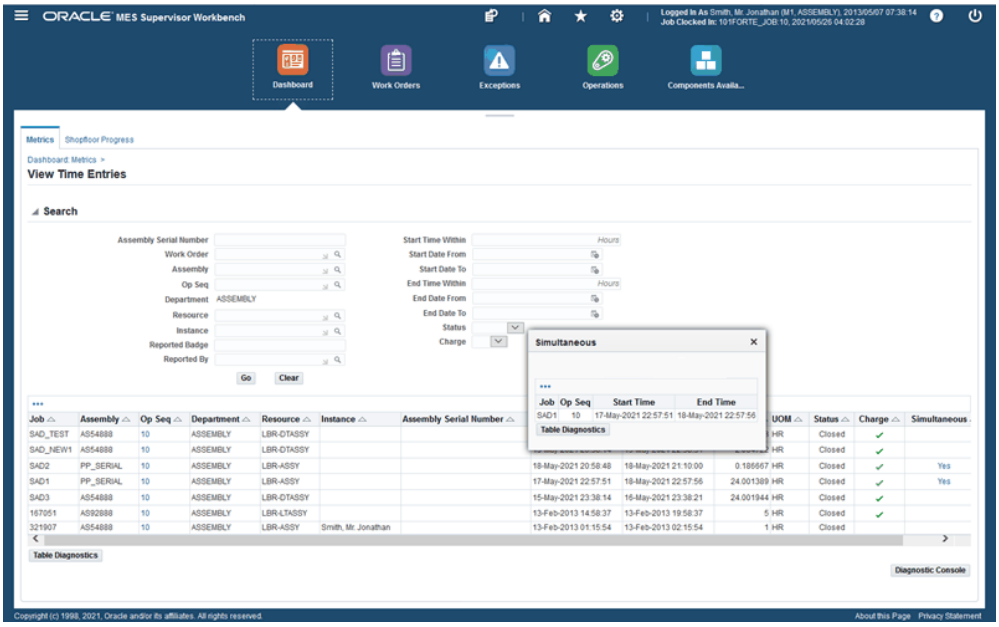
3. Click Go to display the results of your query.



4. Click the links in the Op Seq column to view the details of resources engaged in the operation.



5. Click the links in the Simultaneous column to see the clock in time entry information for a resource on other jobs and operations in the same time frame. This enables you to view overlapping time entries.



5

Global Actions

This chapter describes global action views and tasks displayed in the MES Supervisor Workbench and the MES Workstation.

This chapter covers the following topics:

- Global Actions
- Printing the Discrete Job Routing Sheet
- Report Resource Usage
- Searching for Jobs
- Customizing Global and Job Operation Actions

Global Actions

Global actions are views and tasks based on site, role, organization and department. Global action display is set using the Global Actions parameter, see: Global Actions, page 2-21. These actions can include:

- Launch Component Availability Calculation, page 2-12
- Launch First Pass Yield Calculation, page 4-15
- Launch Labor Performance Calculation, page 2-27
- Launch Mass Return Components for Serialized Assembly, page 3-67
- Launch Parts Per Million Defects Calculation, page 4-17
- Launch Production to Plan Calculation, page 4-9
- Multiple Clock In and Clock Out, page 3-71
- Launch Job Workbench, see: Using the Job Workbench, *Oracle Work in Process User's*

Guide

- Launch Resource Workbench, see: Using the Resource Workbench, *Oracle Work in Process User's Guide*
- Print Discrete Job Routing, page 5-2
- Report My Time, page 3-75
- Report Resource Usage, page 5-3
- Review Time Entry, page 4-63
- Search Jobs, page 5-4
- Search Serial Numbers, page 3-41
- View Time Entries, page 4-65

Printing the Discrete Job Routing Sheet

You can print the Discrete Job Routing Sheet to list information about the job, operations, customer, routing steps, requirements, resources. Report sorting can be by job, schedule group, and build sequence. You can set a simple or advanced schedule to automatically submit this report.

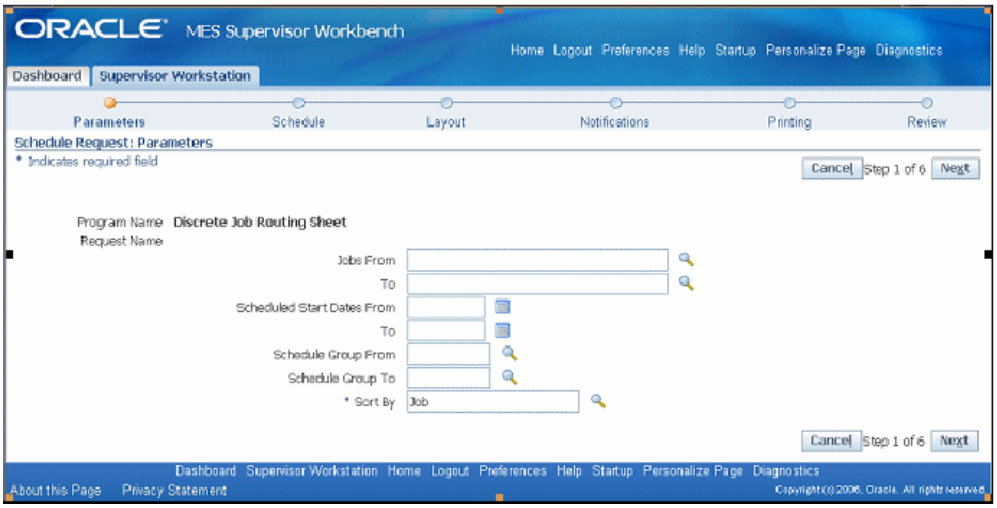
The pages for this concurrent program display a chronology of steps, or a process train, showing where you are in the process. The train displays Parameters, Schedule, Layout, Notifications, Printing, and Review.

To print the Discrete Job Routing Sheet:

1. Select the Print Discrete Job Routing action to navigate to the Discrete Job Routing Sheet program.

   The Schedule Request Parameters page appears. The step train displays the steps to complete with the Parameter step highlighted.

2. Enter the appropriate report submission information in the following fields:
   - Jobs From and To: Select a beginning and an ending job to restrict the report to a range of jobs.
   - Schedule Start Dates To and From: Select a beginning and an ending date to restrict the report to a range of scheduled start dates.
   - Schedule Group From and To: Select a beginning and an ending schedule group to restrict the report to a range of schedule groups.



3. Choose one of the following Sort By options:
   - Job
   - Schedule Group, Build Sequence—sort by the schedule group, then by build sequence within the schedule group

4. Select Next to display the other pages, and select the details appropriate for your report. The process train highlights each step as you proceed. This includes:
   - Schedule
   - Layout
   - Notifications
   - Printing
   - Review

5. Select Submit to generate the report.

Report Resource Usage

The Report Resource Usage page enables you to change and charge resources and resource instances. You can also change resource charges to other units of measure. If the entry is time based, the system uses the Charge Resource at Report Time parameter. Otherwise, the resource charge occurs when you save your record.

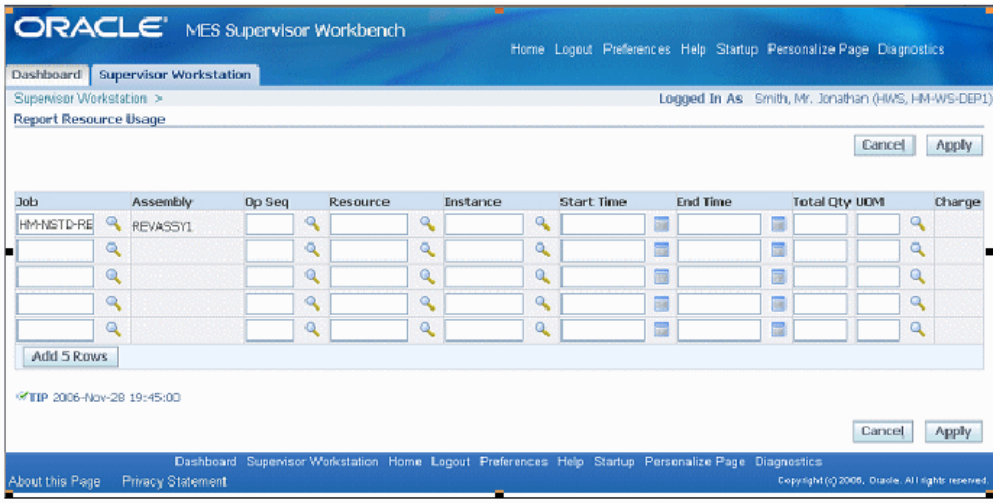
The start time comes from all sources including clock actions, time card entry, and resource usage charging at both resource and instance levels. In each situation when the

time is modified, the actual resource start and completion time is recalculated. Operation actual time and job actual time only use resources with a scheduled flag set to Yes.

If the parameter Charge Resource at Report Time is enabled, and the job operation is flagged as autocharge—the Charge check box displays a check symbol.

To report resource usage:

1. Navigate to the Report Resource Usage page.
2. Select the appropriate information in the following fields:
   - Job
   - Operation Sequence
   - Resource
   - Instance
3. Enter a value in two of these fields—Start Time, End Time, and Total Quantity. The other field will automatically calculate the correct value.



4. Optionally, you can change the value in the Unit of Measure field.
5. Select Apply to save your work.

Searching for Jobs

The Search Jobs page enables you to search for a specific job for performing transactions on that job. Actions available are set on the Search Job Operation Actions parameter.

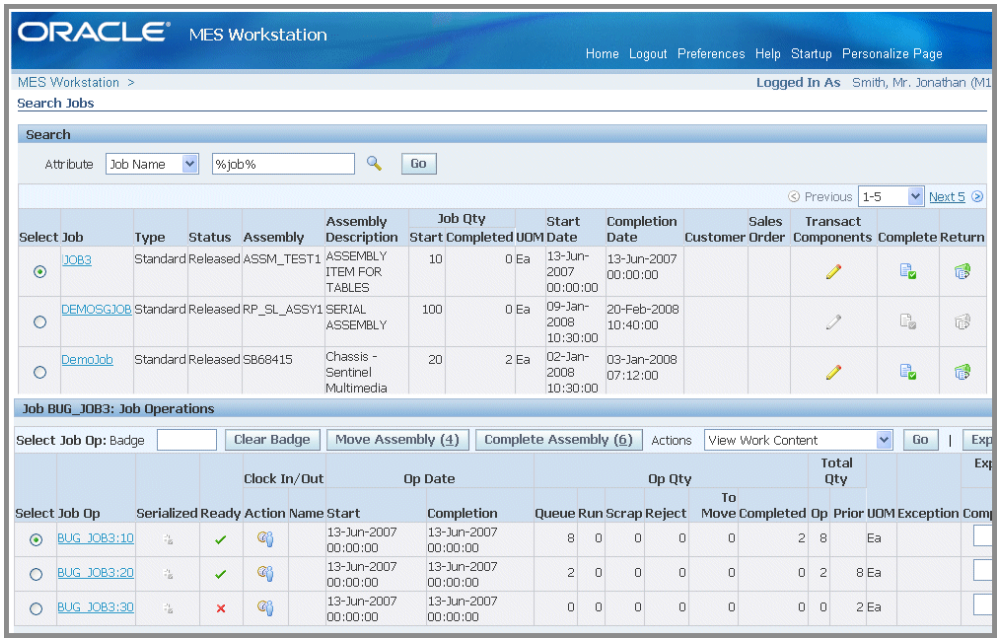
You can set this page as your Startup page in the Job Selection Mode parameter. See: Search Job Operation Actions, page 2-37

To search for jobs

1. Navigate to the Search Jobs page.

2. In the Search region, select a value in the Attribute field.

   You have the option to search by Job Number or Sales Order number. If you select a sales order, you can also select an Order Line.



3. Select Go to display the results of your search.

   The job information displays including Type, Status, Assembly, Assembly Description, Job Quantity Start and Completed, Unit of Measure, Start Date, Completion Date, Customer, and Sales Order.

   The status of the job operations display in the Job Operations region including Ready Status, Operation Start and Completion Dates, Operation Quantities in the interoperation steps, and any exceptions logged.

   Specific transactions can be performed depending on how you set up the Search Job Operation Actions parameter.

Customizing Global and Job Operation Actions

The Global Actions and Job Operation Actions parameters enable you to display or restrict a number of seeded actions available on the MES Workstation and MES Supervisor Workbench. See:

- Global Actions Parameter, page 2-21
- Job Operation Actions Parameter, page 2-24

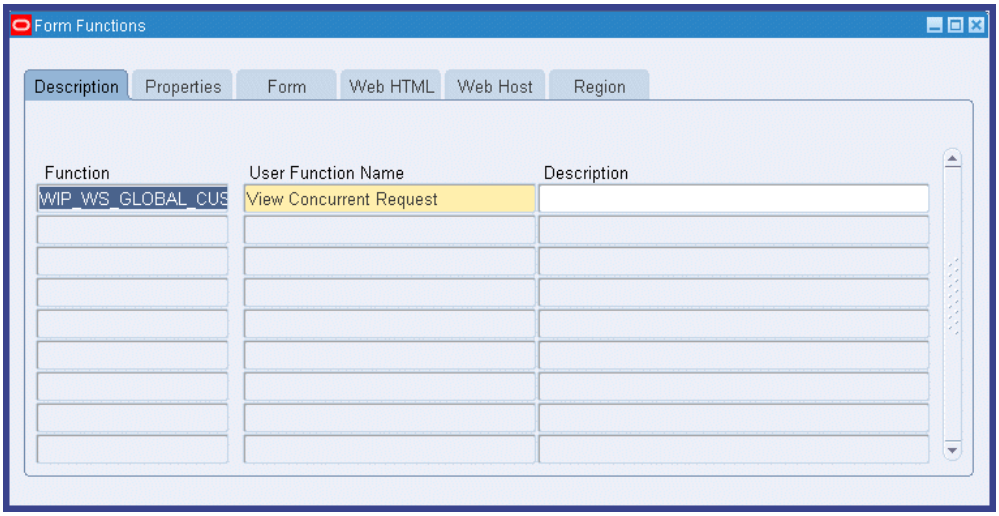
You can add other reports and functions you use on a regular basis to these actions. This is accomplished by setting up these menu options in the Form Functions and Manufacturing Lookups windows.

To set up a customized global or job operation action:

1. Navigate to the Form Functions window.

   See: Form Functions Window, *Oracle E-Business Suite System Administrator's Guide - Security*

   Note: In this setup example, the View Concurrent Request page is used as an example of a non-seeded global or job operation action. You can use other reports and actions not included in the seeded environment.



2. Create a new function by entering the following values.

   Note: The number part of the FORM_FUNCTION_NAME_NUMBER value is what is entered as the Code in the lookup. The key to this capability is to create a form function name with a number:

   - In the Description tabbed region enter a Function Name and User Function Name:

- Function Name, for example:

  Global Action: WIP_WS_GLOBAL_CUSTOM_1001

  or

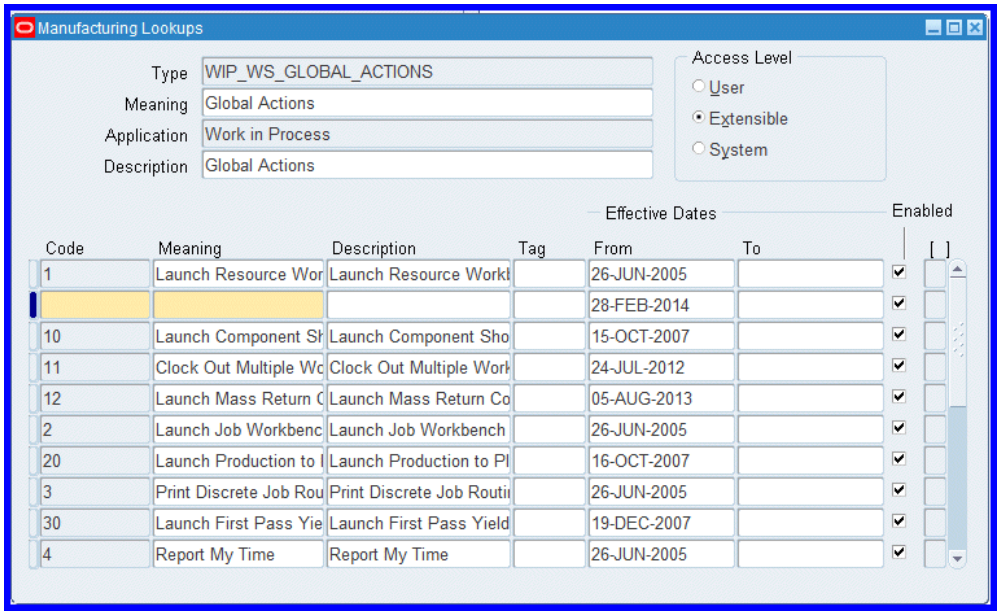
  Job Operation Action: WIP_WS_JOBOP_ACTIONS_CUSTOM_1001

- User Function Name: for example: View Concurrent Request

- In the Properties tabbed region, enter in the Type field: SSWA jsp function
- In the Web HTML tabbed region, enter the HTML Call value:, for example: OA.jsp?akRegionCode=FNDCPREQUESTVIEWPAGE=0

3. Save your work.
4. Navigate to the Manufacturing Lookups window.

   See: Application Utilities Lookups and Application Object Library Lookups, *Oracle E-Business Suite Developer's Guide*



5. Search for the following record using these search parameters:
   - Type: WIP_WS_GLOBAL_ACTIONS or WIP_WS_JOBOP_ACTIONS
   - Meaning: Global Actions or Job Operation Actions
   - Application: Work in Process

- Description: Global Actions or Job Operation Actions

6. Place your cursor in the Code field, and select New to create a new entry.

   A new row appears for entering data.

7. In the new row that appears, in the Code field, enter the numeric value you created in the Form Functions window.

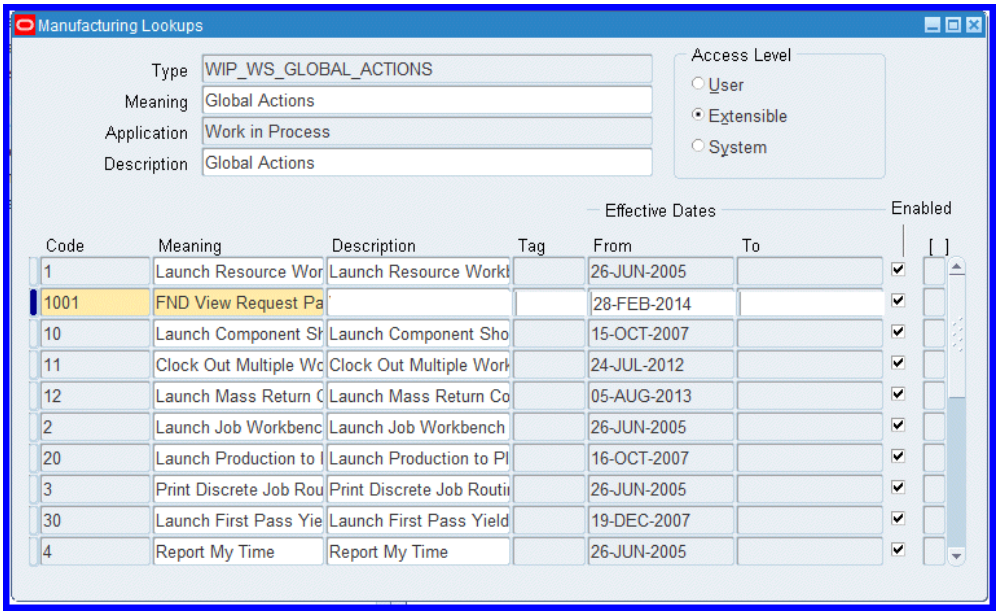
   For example, if you entered the custom function name WIP_WS_GLOBAL_CUSTOM_1001, enter 1001 as the Code value.

   When the numeric value is identical to the form function number, Oracle code calls the respective function when the action is selected.

8. In the Meaning field, enter the name of the program, and in the Description field enter the description of the program.

   For this example of viewing the concurrent request page, use:

   - Meaning: FND View Request Page
   - Description: View Concurrent Requests page



9. Save your work.

10. Navigate to the Manufacturing Execution Workstation Parameters page.

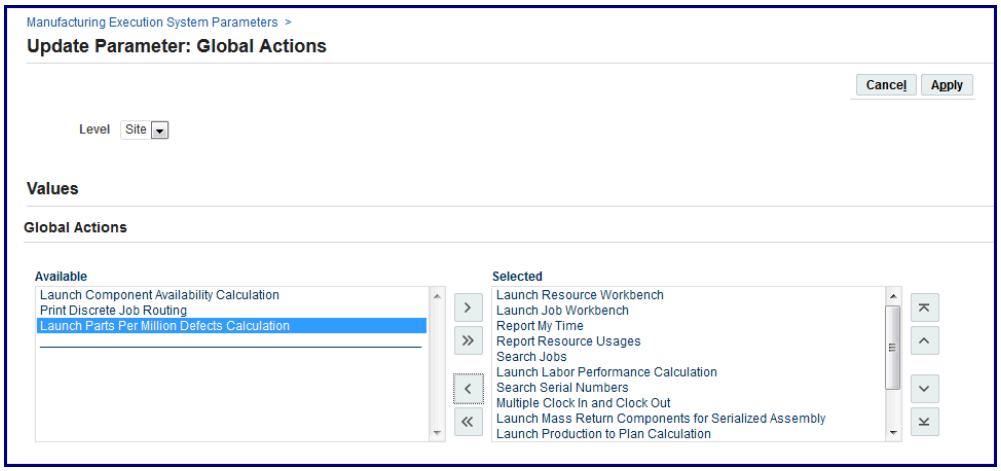
    See: Manufacturing Execution Workstation Parameters, page 2-1

11. Select a parameter level. Your choices are Site, Role, Organization, or Department.

Depending on the level selected, other level specific values are required.

12. Select Go to display the Workstation Parameters page.

13. Select the appropriate parameter, either Global Actions or Job Operation Actions, and choose Update.



14. Select the new action you added from the Available box—and move to the Selected box.

    The order listed in the Selected box, is the order displayed on the page. Use the Arrow tool to change the order they appear in the pop-list.

    Now when you are in either the MES Workstation and MES Supervisor Workbench - based on site, role, organization and department access - this task appears as an action.

A

Navigator Paths

This appendix lists navigation paths for pages in the Oracle MES for Discrete Manufacturing application.

This appendix covers the following topics:

- MES for Discrete Navigator Paths

MES for Discrete Navigator Paths

Page Name	Navigation Path
Assemblies for Completion Labels, page 2-10	MES Administrator > Assemblies for Completion Labels > [Edit]
Assembly Serial Number Detail, page 3-59	Search Serial Numbers > [select a record] > View Assembly S/N
Assign Alternate Resources, page 4-59	Dispatch List > [Assign Alternate Resources] > [Go] Work Content > [Assign Alternate Resources] > [Go]
Complete Assembly: Transaction, page 3-21	Dispatch List > [Complete Assembly] > [Go] Work Content > [Complete Assembly] > [Go]
Component Availability Component View , page 4-50	MES Supervisor Workbench > Components Availability tab or tile > Component View tab
Component Availability Job View , page 4-50	MES Supervisor Workbench > Components Availability tab or tile > Job View tab

Page Name	Navigation Path
Component Availability parameter, page 2-12	MES Administrator > Component Availability > [Edit]
Dashboard, page 4-2	MES Supervisor Workbench > Startup > Dashboard
Dispatch Lists, page 3-6	MES Workstation > View Options > [Go] MES Supervisor Workbench: > Operations tab or tile > View Options > [Go]
Enforce Sequential Move, page 2-1	MES Administrator > Enforce Sequential Move > [Edit]
Exceptions, page 4-36	MES Supervisor Workbench > Exceptions tab or tile
Express Complete Related Job Operations, page 3-37	Dispatch List > [select a record] > [Express Complete Related Job Operations] MES Supervisor Workbench > Operations > Dispatch List > [select a record] >[Express Complete Related Job Operations]
Express Transact Components, page 3-48	Search Serial Numbers > [select a record] > Express Transact Components
Job Traveler Template Setup, page 2-25	MES Administrator > Job Traveler Template Setup > [Edit]
Labor Performance Metrics, page 2-27	MES Administrator > Labor Performance Metrics > [Edit]
Manufacturing Execution Workstation Parameters, page 2-1	MES Administrator > Select a parameter level > Go

Page Name	Navigation Path
Mass Return Components for Serialized Assembly, page 3-67	Dispatch List > [select serialized assembly] > Actions > Launch Mass Return for Serialized Assemblies Search Serial Numbers > [enter Serial Number] > Actions > Launch Mass Return for Serialized Assemblies Search Serial Numbers > [enter Serial Number] > [Choice List or Button] > Mass Return Components
Move Assembly: Detail, page 3-21	Dispatch List > [Move Assembly] > [Continue] Work Content > [Move Assembly] > [Continue]
Move Assembly: Transaction, page 3-21	Dispatch List > [Move Assembly] Work Content > [Move Assembly]
Multiple Clock Out In and Clock In, page 3-71	Actions > Multiple Clock In and Clock Out
Operation Details, page 4-47	Dispatch List > [View Operation Detail] Work Content > [View Operation Detail] Job Detail > Operations region > Op Seq link
Operator Skills Validation, page 2-29	MES Administrator > Operator Skills Validation> [Edit]
Parameters, page 2-1	MES Administrator > Select a parameter level > Go > Update
Production to Plan KPI, page 2-32	MES Administrator > Production to Plan KPI > [Edit]
Reason Codes for Exception Types, page 2-35	MES Administrator > Reason Codes for Exception Types > [Edit]

Page Name	Navigation Path
Related Jobs, page 3-58	Dispatch List > [select a record] > [View Related Jobs] MES Supervisor Workbench > Operations > Dispatch List > [select a record] >[View Related Jobs]
Reschedule Operation, page 4-60	Work Content > [Reschedule Operation] > [Go]
Report Exceptions, page 3-62	Dispatch List > [Report Exception] > [Go] Work Content > [Report Exception] > [Go] MES Supervisor Workbench > Exceptions tab or tile > [Create]
Report Time, page 3-70	Dispatch List > [Report Time] > [Go] Work Content > [Report Time] > [Go]
Review Time Entries, page 4-63	Dispatch List > [Global Actions] > [Review Time Entry] MES Supervisor Workbench > [Global Actions] > [Review Time Entry]
Search Job/Serial Operation Actions, page 2-37	MES Administrator > Search Job/Serial Operation Actions > [Edit]
Search Serial Numbers, page 3-41	Dispatch List > [Search Serial Numbers] > [Go] Work Content > [Search Serial Numbers] > [Go] Job Selection Mode parameter > [Edit] > [Assembly Serial Numbers]
Standard Operations for Move Labels, page 2-38	MES Administrator > Standard Operations for Move Labels > [Edit]
Startup (MES Workstation), page 3-2	MES Workstation
Startup (MES Supervisor Workbench), page 4-2	MES Supervisor Workbench

Page Name	Navigation Path
Supervisor Dashboard View, page 2-39	MES Administrator > Supervisor Dashboard View > [Edit]
Transact Components, page 3-19	Dispatch List > [Transact Components] > [Go] Work Content > [Transact Components] > [Go]
Update Job Note, page 3-18	Dispatch List > [Update Note] > [Go] Work Content > [Update Note] > [Go]
View Job Detail, page 3-51	Dispatch List > [View Job Detail] > [Go] Work Content > [View Job Detail] > [Go]
View Job Transactions, page 3-51	Dispatch List > [View Job Transactions] > [Go] Work Content > [View Job Transactions] > [Go]
Work Content, page 3-11	Dispatch List > Work Content [Go] Dispatch List > [Job Op]
Work Order detail page, page 4-28	MES Supervisor Workbench > Work Orders tab or tile > [select job link}
Work Orders, page 4-24	MES Supervisor Workbench > Work Orders tab or tile

B

MES for Discrete Manufacturing Workflow

This appendix describes the features of the WIP Exception Notification Workflow.

This appendix covers the following topics:

- WIP Exception Notification Workflow

WIP Exception Notification Workflow

The WIP Exception Notification Workflow is used to notify appropriate people of production exceptions on the shop floor. Exceptions are conditions and problems preventing work on job operations. These conditions are reported while performing work, and the workflow is activated at this time. This reporting mechanism enables the exception to be tracked, monitored, and resolved. See: Reporting Exceptions, page 3-62 and

Customizing the WIP Exception Notification Workflow Process

Oracle Workflow Builder is used to customize workflows.

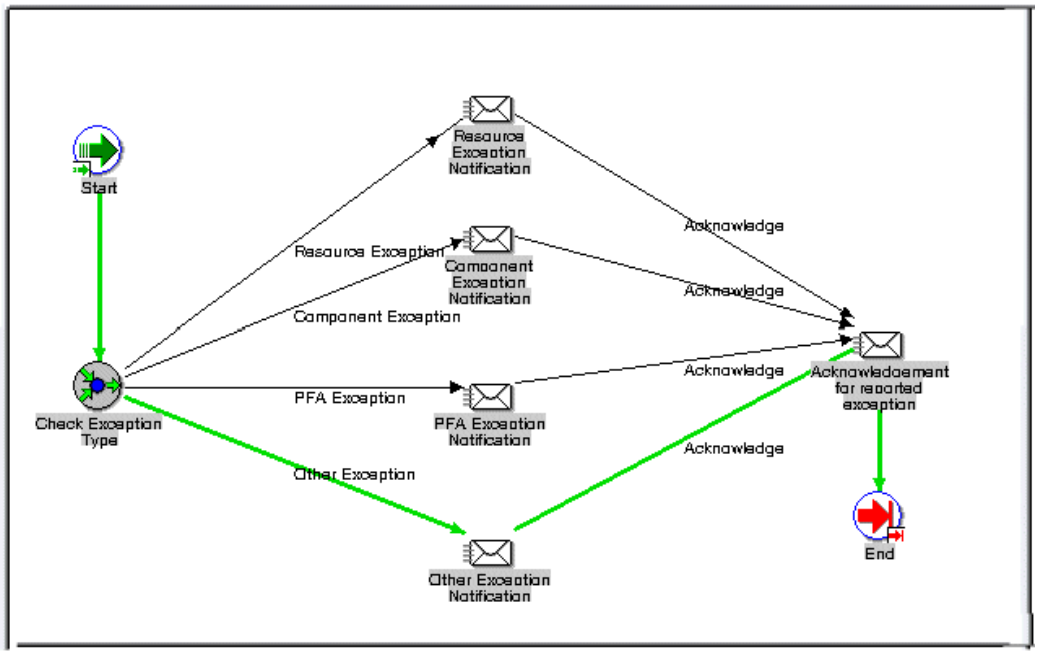
To display the process in Oracle Workflow Builder:

1. Navigate to Oracle Workflow Builder at your site
2. Select database or file to connect to the source containing the item type associated to your process definition:
   - The display name of the workflow is WIP Exception Notification Workflow
   - The name of its workflow definition file is wipexpwk.wft
3. Expand the WIP Exception Notification branch within the data source.
4. Expand the Processes branch, then choose the WIP Exception Notification branch activity to display the diagram.

See: Opening and Saving Item Types, *Oracle Workflow Developer's Guide*

Summary of WIP Exception Notification Workflow

The process begins at Node 1 where values are initialized. At Node 2 the process checks exception types and then sends the notification for the applicable exception type to the assigned recipient. The recipient has several available actions. If the message is acknowledged, the process is complete at Node 3.



WIP Exception Notification Activities

The following is a description of each activity in the WIP Exception Notification workflow.

Node 1

Standard function activity marking the start of the process.

Node 2

The process checks exception types. Various types of exceptions are defined, and you can also define custom exception types. Types include:

- Component–indicates missing or damaged components
- In-Process Assembly–indicates damaged assembly
- Quality–indicates quality or nonconformance problems
- Resource–indicates resource unavailability

- Other–indicates any miscellaneous category

The notification is then sent to the assigned recipient for the specific exception type.

The recipient has several actions available including:

- Acknowledgement: Confirmation of receipt of the message and the notification process is complete.

- Reassign

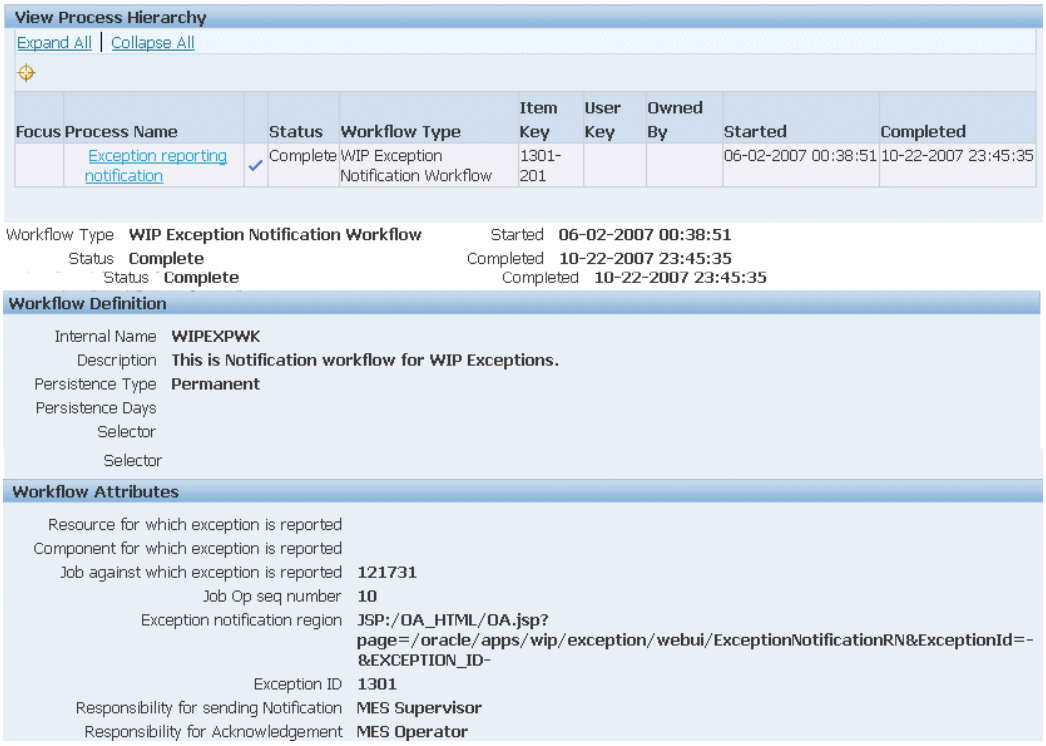
  Notification is forwarded to another user. See: To Reassign a Notification to Another User, *Oracle Workflow User's Guide*

- Request Information

  Information is solicited about the notification from another user before responding to the notification. The Request Information page enables you to create a plain text email reply. See: To Request More Information From Another User, *Oracle Workflow User's Guide*

Node 3

If the message is acknowledged, the process is complete at Node 3. You can view the workflow record for your particular exception on the View Process Hierarchy page. See: Viewing Workflow Details, *Oracle Workflow Administrator's Guide*



View Process Hierarchy

Expand All | Collapse All

Focus	Process Name		Status	Workflow Type	Item Key	User Key	Owned By	Started	Completed
	Exception reporting notification	✓	Complete	WIP Exception Notification Workflow	1301-201			06-02-2007 00:38:51	10-22-2007 23:45:35

Workflow Type **WIP Exception Notification Workflow** Started **06-02-2007 00:38:51**

Status **Complete** Completed **10-22-2007 23:45:35**

Status **Complete** Completed **10-22-2007 23:45:35**

Workflow Definition

Internal Name **WIPEXPWK**

Description **This is Notification workflow for WIP Exceptions.**

Persistence Type **Permanent**

Persistence Days

Selector

Selector

Workflow Attributes

Resource for which exception is reported

Component for which exception is reported

Job against which exception is reported **121731**

Job Op seq number **10**

Exception notification region **JSP:/OA_HTML/OA.jsp?page=/oracle/apps/wip/exception/webui/ExceptionNotificationRN&ExceptionId=-&EXCEPTION_ID-**

Exception ID **1301**

Responsibility for sending Notification **MES Supervisor**

Responsibility for Acknowledgement **MES Operator**

C

MES Client Extensions

This appendix describes the client extensions, functions procedures, and packages integrated into Oracle MES for Discrete Manufacturing.

This appendix covers the following topics:

- Overview of MES Client Extensions and Packages
- Component Tracking for Non-serialized Items
- Backflush Lot and Component Selection
- Component Revision Default During Backflush
- Express Move – To Operation Sequence and To Operation Step
- Last Updated By Value
- Ordering Attributes
- Ready Status
- Serial Number Page Customizations
- Time and Attendance Systems Integration
- Transaction Validation
- Viewing Attachments
- Viewing Exceptions

Overview of MES Client Extensions and Packages

Oracle MES for Discrete Manufacturing provides custom programming instructions to control job operation readiness, transaction movements, reordering features, and viewing logic. The following client extensions and packages are provided:

- Component Tracking for Non-serialized Items, page C-3

  Enables you to view non-lot and non-serial controlled components issued to a

specific serialized assembly in the View Assembly Serial Number page.

- Backflush Lot and Component Selection, page C-4

  Enables custom logic to derive the component lot numbers for backflush transactions during move, and move and complete transactions.

- Express Move – To Operation Sequence and To Operation Step, page C-16

  Enables custom logic to derive the To Operation Sequence and To Operation Step during Express move transactions.

- Last Updated By Value, page C-18

  Inserts the value of the employee resource Clocked In, rather than the employee (operator or supervisor) login value in the Last Updated By column on the Dispatch List.

- Ordering Attributes, page C-18

  Enables the Dispatch List ordering criteria to be customized

- Ready Status, page C-19

  Based on your predefined setup criteria, triggering points are identified where the client extension returns a Yes or No status to execute actions for move transactions.

- Serial Number Page Customizations, page C-20

  One program provides the ability to customize the context by default in the View Assembly Serial Number page. Another program validates component serial numbers in the Express Transact Component page.

- Time and Attendance Systems Integration, page C-22

  Provides the ability to integrate third-party time and attendance systems to collect actual time with MES for Discrete.

- Transaction Validation, page C-26

  Enables custom logic to determine if transactions are processed or stopped.

- Viewing Attachments, page C-29

  Enables the View Attachments icon to access attachments in the Dispatch List, Search Job, and Search Serial Number pages.

- Viewing Exceptions, page C-29

  Enables you to view the number of exceptions, both open and closed, in the Dispatch List.

Component Tracking for Non-serialized Items

The View Assembly Serial Number is not designed to display non-serialized components. This package enables you to view non-serialized components issued from the Express Transact Component page to a specific serialized assembly in the View Assembly Serial Number page.

Technical Specifications for using the Functions:

- **wip_ws_custom.get_assy_serial_issue_qty**
- **wip_ws_custom.get_assy_serial_dff_column**

```
/* Hook to get Component issued Quantity per Assembly Serial in Exp
transact component page
as well as view assembly serial Page. */
Function get_assy_serial_issue_qty(p_org_id IN NUMBER,
p_job_id IN NUMBER,
p_op_seq IN NUMBER,
p_assy_item_id IN NUMBER,
p_assy_serial IN VARCHAR2,
p_comp_item_id IN NUMBER,
p_new_wip_entity_id IN NUMBER DEFAULT NULL)
return Number
IS
l_issue_qty Number := null;
BEGIN
/* Customize by mentioning the correct column of DFF which is mapped to
Assembly Serial
Number in the below SQL. */
/*
select (nvl(sum(mmt.transaction_quantity),0)) * -1
into l_issue_qty
from mtl_material_transactions mmt
where mmt.transaction_source_type_id = 5
and ((mmt.transaction_source_id = p_job_id and mmt.operation_seq_num =
p_op_seq)
or mmt.transaction_source_id = p_new_wip_entity_id)
and mmt.organization_id= p_org_id
and mmt.inventory_item_id = p_comp_item_id
and mmt.transaction_action_id in (1,27) --Only considering issue/return,
and not -ve
issue/return
and mmt.attributeXX = p_assy_serial;
Custom Hooks Page 4 of 16
*/
return l_issue_qty;
END get_assy_serial_issue_qty;
/* Hook to get the DFF Column Mapping for Assembly Serial in Exp
transact component page. */
Function get_assy_serial_dff_column
return Number
IS
l_attr_col Number := null;
BEGIN
/* Customize by defining the Transaction History DFF column mapping to
Assembly Serial
Number below .
Valid values are only values between 1-15 which maps to the
corresponding columns Attribute1 -
Attribute15 . */
/* l_attr_col := 1; */
return l_attr_col;
END get_assy_serial_dff_column;
```

Backflush Lot and Component Selection

The Move - Backflush Component Lot Selection client extension enables custom logic to derive the component lot numbers for backflush transactions during move, and move and complete transactions when using the Express Transact Components page. If the program does not return a value, the logic derives the lot number.

A PL/SQL package: **WIP_WS_CUSTOM**, contains the custom programming instructions invoked.

Procedure: **LOT_HOOK**

Parameter	IN/OUT	Type	Description
org_id	IN	NUMBER	Identification of the organization.
wip_entity_id	IN	NUMBER	WIP entity identification of the job.
operation_seq_num	IN	NUMBER	Operation sequence number of the operation.
repetitive_schedule_id	IN	NUMBER	Identification of the repetitive schedule.
inventory_item_id	IN	NUMBER	Identification of the component.
supply_subinv	IN	VARCHAR2	Supply subinventory.
supply_locator_id	IN	NUMBER	Supply locator.
revision	IN	VARCHAR2	Revision of the assembly.
primary_qty	IN	NUMBER	Quantity moved.
lot_number	IN OUT	VARCHAR2	Lot number derived by the program.
return_status	OUT	VARCHAR2	Value indicating performance status, choices are: • E: Error • S: Success
return_message	OUT	VARCHAR2	Error string the program returns.

Related Topics

Examples for Lot Selection Defaulting during Backflush Transactions, page C-6

Examples for Lot Selection Defaulting during Backflush Transactions

When there are multiple backflush transactions for the same component, on the same job—you can set the selection method for defaulting lot numbers used in the previous transactions. The following examples demonstrate how transactions and parameter setup determine the lot selection. See: Material Parameters , *Oracle Work in Process User's Guide*

No Existing Previous Backflush Transactions

- Lots cannot be derived because there is no backflush transaction history
- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Receipt Date
- JobA is created to create AssemblyA with the following bill of material:

Operation Sequence	Component	Supply Type	Assembly Quantity
10	A123	operation pull	1
20	B345	operation pull	1
30	A123	push	1
40	B345	assembly pull	1

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	10	A
Day 1	B345	2	A
Day 2	A123	5	B

Receipt Date	Component	Quantity	Lot
Day 4	B345	20	B
Day 5	A123	8	C

- When a quantity of 2 is moved from 10 Queue to 30 Queue:
  - Two each of A123, and two each of B345 are backflushed.
  - Since there is no previous backflush transaction, Lot A is defaulted based on receipt date for both components.

Manual Push Transactions

In this example, the Work in Process Parameter setup is:

- Lots cannot be derived because default logic does not apply to manual push transactions
- Lot Selection Method—Manual
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	8	A
Day 1	B345	0	A
Day 2	A123	5	B

Receipt Date	Component	Quantity	Lot
Day 4	B345	20	B
Day 5	A123	8	C

- A quantity of three A123 is manually pushed from Lot C into the job to fulfill Operation 30 requirements—default logic does not apply to manual push transactions.

Previous Backflush Transaction History, No Alternate Lot Selection Method

- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Null
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	8	A
Day 1	B345	0	A
Day 2	A123	5	B
Day 4	B345	20	B

Receipt Date	Component	Quantity	Lot
Day 5	A123	5	C

- When a quantity of 4 is moved from 10 Queue to 10 To Move:
  - Four each of A123 are backflushed.
  - The lots are defaulted from the last backflush transaction, so Lot A is defaulted based on receipt date for the component.

Previous Backflush Transaction History with Alternate Lot Selection Method

- Lot Selection Method—Transaction History
- Alternate Lot Selection Method
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push
JobA	A123	4	A	Operation Backflush

- When a quantity of 5 is moved from 10 Queue to 20 Queue:
  - The lot is defaulted from the last backflush transaction, if there is existing on-hand quantity in the lot.
  - Five each of A123 are backflushed, however only a default quantity of 4 is displayed in the Backflush window.
  - For the remaining quantity of 1, Lot B also displays as a quantity of 1 in the Backflush window.

Alternate Lot Selection Method with No On-hand Lot Quantity

- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Receipt Date
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push
JobA	A123	4	A	Operation Backflush
JobA	A123	4	A	Operation Backflush
JobA	A123	1	B	Operation Backflush

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	0	A
Day 1	B345	0	A
Day 2	A123	4	B
Day 4	B345	20	B
Day 5	A123	5	C

- When a quantity of 1 is moved from 20 Queue to 20 To Move:

- One B345 is backflushed.
- Lot A defaulted would be used as the default, however it contains 0 on-hand quantity.
- The system considers the previous backflush transaction receipt date, and uses Lot B for the current backflush transaction.

All Backflush Transactions Considered as Transaction History

- This includes assembly pull and operation pull
- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Receipt Date
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push
JobA	A123	4	A	Operation Backflush
JobA	A123	4	A	Operation Backflush
JobA	A123	1	B	Operation Backflush
JobA	B345	1	B	Operation Backflush

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	0	A
Day 1	B345	0	A
Day 2	A123	4	B
Day 4	B345	19	B
Day 5	A123	5	C

- When a quantity of 1 is completed
  - One of B345 is backflushed at Operation 40
  - Transaction history determines that Lot B is defaulted

Backflush History Does Not Span Across Jobs

- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Receipt Date
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push
JobA	A123	4	A	Operation Backflush
JobA	A123	4	A	Operation Backflush

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	B345	1	B	Operation Backflush
JobA	B345	1	B	Assembly Backflush

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	0	A
Day 1	B345	0	A
Day 2	A123	4	B
Day 4	B345	18	B
Day 5	A123	4	C

- Another job, JobB, has a quantity of 3 moved from 10 Queue to 10 To Move:
  - Three each of A123 are backflushed.
  - Transaction history does not exist for this job.
  - Alternate Lot Selection Method parameter determines that the quantity is defaulted from Lot B. You can override this default with a manual entry.

Backflush Transaction History Includes Multiple Lots with On-hand Quantity

- Lot Selection Method—Transaction History
- Alternate Lot Selection Method—Receipt Date
- The current backflush transaction history:

Transaction Reference	Component	Quantity	Lot	Transaction Type
JobA	A123	2	A	Operation Backflush
JobA	B345	2	A	Operation Backflush
JobA	A123	3	C	Manual Push
JobA	A123	4	A	Operation Backflush
JobA	A123	4	A	Operation Backflush
JobA	A123	1	B	Operation Backflush
JobA	B345	1	B	Operation Backflush
JobA	B345	1	B	Assembly Backflush
JobB	A123	2	B	Operation Backflush
JobB	A123	1	C	Operation Backflush

- On-hand quantity for the following lot receipt dates:

Receipt Date	Component	Quantity	Lot
Day 1	A123	0	A
Day 1	B345	0	A
Day 2	A123	2	B

Receipt Date	Component	Quantity	Lot
Day 4	B345	18	B
Day 5	A123	3	C

- JobB has a quantity of 2 moved from 10 Queue to 10 To Move:
  - Two each of A123 are backflushed.
  - In the transaction history, Lot B and Lot C were the last transactions.
  - Both lots have on-hand quantity—lot default is then based on the lot number in numerical sequence. Therefore, Lot B is defaulted. Lot C is only used if there is not sufficient quantity in Lot B.

Component Revision Default During Backflush

The following procedure contains the file of wipwsctb.pls to provide the client extension to default the component revision during backflush moves. You can insert your revision change code in this program.

```
426 Procedure GET_BACKFLUSH_COMP_REV (p_wip_entity_id       IN NUMBER,
427                                   p_op_seq_num          IN NUMBER,
428                                   p_comp_item_id        IN NUMBER,
429                                   p_txn_type            IN NUMBER,
430                                   p_txn_qty             IN NUMBER,
431                                   p_txn_date            IN DATE,
432                                   x_rev                 IN OUT
    NOCOPY VARCHAR2,
433                                   x_return_status       OUT NOCOPY
    VARCHAR2)
434 IS
435 BEGIN
436    /* This Hook To be Used For Defaulting the Component Revision
       during Move ,Completion Backflush Transactions.
437    Users Can write their own logic based on their requirement and
       ensure it returns valid revision.*/
438
439    x_rev := null;
440    x_return_status := 'S';
441
442    END GET_BACKFLUSH_COMP_REV;
```

Express Move – To Operation Sequence and To Operation Step

This client extension provides the ability to derive the To Operation Sequence and To Operation Step when using the Express Transact Components page during a move transaction. This program can have several possible results:

- Errors in the processing:
  - The move transaction cannot be performed.
  - A non-null value for one of sequence/step combinations, then transaction errors.
- Success and both the operation sequence and operation step have values returned; those operation sequence and step values are used in the move.
- Success but both the sequence and the step are null, and derivation logic is used to determine move values.

A PL/SQL package: **WIP_WS_CUSTOM**, contains the custom programming instructions invoked.

Procedure: **MOVE_TO_STEP_HOOK**

Parameter	IN/OUT	Type	Description
org_id	IN	NUMBER	Identification of the organization.
wip_entity_id	IN	NUMBER	WIP entity identification of the job.
fm_op_seq	IN	NUMBER	Originating operation sequence number that the assembly is being moved from.
fm_op_step_type	IN	NUMBER	Originating operation sequence step number that the assembly is being moved from.
fm_dept_id	IN	NUMBER	Identification of department where assembly is being moved from.
to_op_seq	IN OUT	NUMBER	Operation sequence number where assembly is being moved.
to_op_step_type	IN OUT	NUMBER	Operation sequence step where assembly is being moved
return_status	OUT	VARCHAR2	Value indicating performance status, choices are: • E: Error • S: Success
return_message	OUT	VARCHAR2	Error string the program returns.

Related Topics

Creating Express Component Transactions for Serialized Assemblies, page 3-48

Last Updated By Value

The Last Updated By column value in the Dispatch List defaults to the employee login value. This program provides the ability to display the employee resource who Clocked In, instead of the employee login.

Procedure: **get_last_updated_by**

```
function get_last_updated_by(p_wip_entity_id IN NUMBER,
p_organization_id IN NUMBER,
p_operation_seq_num IN NUMBER) return varchar2
is
begin
```

/* Enter values in the following code lines. This can be customized to return the employee name to display on the Dispatch List in the Last Updated By column. The column value will be the return value of this function. */

```
return NULL;
end get_last_updated_by;
```

Ordering Attributes

This program enables you to use the sequence attributes, Custom Order Attribute 1 and Custom Order Attribute 2, in the Dispatch List Ordering Criteria parameter to customize your dispatch list order.

Custom Ordering Attributes

To create customized values for the Dispatch List Ordering Criteria parameter:

1. In the wipwsctb.pls file, add Custom Order Attribute values:
   - wip_ws_customer.get_orderby_attribute_1()
   - wip_ws_customer.get_orderby_attribute_2()
2. Navigate to the Dispatch List Ordering Criteria parameter page.
3. In the Sequence Attribute field, select the applicable Custom Order Attributes.
4. Select your other values for the parameter, see: Dispatch List Ordering Criteria, page 2-20
5. Save your work.

Ready Status

In the Dispatch List, the Ready Status icon for each job operation is set in the Ready Status Criteria parameter. The options are No Exceptions, No Shop Floor Status Assigned, and Quantity in Queue or Run. When a job operation meets the conditions, the Ready check mark is automatically updated and displayed as Ready. This client extension enables custom logic to determine if a job operation is ready with your specific definitions. In addition to the Ready Status icon visual indicator in the Dispatch List, the Ready Status client extension's value displays on the Work Content page. The program returns one of two different values, Yes or No:

- If the job operation is ready for transactions, the program returns a Yes value, and the Ready Status visual indicator is enabled.
- If the client extension returns a No value, the Ready Status icon is disabled.

A PL/SQL package, WIP_WS_CUSTOM, contains the custom programming instructions invoked.

> **Note:** When the job operation is not ready prior to implementation of the client extension, the program does not effect the ready status of the job, displaying a Not Ready status.
>
> When the job operation is ready prior to implementation of the client extension, if the program returns a Yes value—the job status in the Dispatch List is ready with the Ready status visual indicator enabled. If the client extension return a No value, the job status in the Dispatch List is not ready.

Ready Status Function—get_custom_ready_status

Parameter	IN/OUT	Type	Description
wip_entity_id	IN	NUMBER	WIP entity identification of the job
operation_seq_num	IN	NUMBER	Operation Sequence number
serial_number	IN	VARCHAR2	Serial number of assembly

Parameter	IN/OUT	Type	Description
attribute1	IN	VARCHAR2	Reserved for future use
attribute2	IN	VARCHAR2	Reserved for future use
attribute3	IN	VARCHAR2	Reserved for future use
return_value	OUT	VARCHAR2	Value is one of the following: • Yes: Indicates the job operation passes the Ready Status program is in Ready Status. • No: Indicates the job operation did not pass the Ready Status program.

Serial Number Page Customizations

Two programs provide the ability to customize serial number pages:

- Configuring Attributes for Context Display

  The program get_dummy_serial_dff_context enables you to customize the context by default so that results are displayed every time in the View Assembly Serial Number page.

- Validating Serialized Components

  The program validate_comp_serial enables you to incorporate business specific conditions to validate components before adding items in the Express Transact Component page.

Configuring Attributes for Context Display

get_dummy_serial_dff_context:

Using this program you can customize the Viiew Assembly Serial Number page context

so that results are displayed based on the context selected; by default no data is displayed.

Once the serial attributes Digital Forensics Framework (DFF) is enabled in forms, you can select the context and provide the context values while performing express material transactions. These details are viewed in the View Assembly Serial Number page by selecting the attributes context.

```
/* Hook to get Dummy DFF context which is configured to show all the
attributes from all
different context */
Function get_dummy_serial_dff_context
return varchar2
IS
l_dff_context_code varchar2(50) :=null;
BEGIN
/* This dummy context used by Component serials table in view assembly
serial page to show all
the attributes of different context */
l_dff_context_code := 'Physical Parameters';
return l_dff_context_code;
END get_dummy_serial_dff_context;
```

Validating Serialized Components

validate_comp_serial

This program provides the ability to validate components with serial attributes in the Express Transact Components page. You can set up business specific conditions to validate components before clicking Add on this page:

```
PROCEDURE validate_comp_serial( p_org_id IN NUMBER,
p_wip_entity_id IN NUMBER,
p_assy_serial IN VARCHAR2,
p_op_seq_num IN NUMBER,
p_comp_item_id IN NUMBER,
p_comp_serial IN VARCHAR2,
p_quantity IN NUMBER,
p_txn_type_id IN NUMBER,
p_return_status OUT NOCOPY VARCHAR2,
p_errmsg OUT NOCOPY VARCHAR2)
IS
l_dummy number :=-1;
BEGIN
p_return_status := 'S';
p_errmsg := null;
/*p_return_status should return E/S/W/I.
S- will add component serial successfully.
W- will add component serial along with warning message.
I- will add component serial along with information message.
E- will throw error message and doesn't add the component serial.*/
begin
select 1 into l_dummy
from mtl_serial_numbers
where serial_number=p_comp_serial
and inventory_item_id=p_comp_item_id
and ( C_ATTRIBUTE10='Red' or C_ATTRIBUTE10 IS NULL);
exception
when NO_DATA_FOUND then
p_return_status := 'E';
p_errmsg := 'Custom validation message : Only serial number with
physical attribute
Red allowed';
end;
END validate_comp_serial;
```

Time and Attendance Systems Integration

Actual time spent on a work order by an operator is recorded using the Clock In and Clock Out capability. This time input is used to charge the manual resource transactions for calculating the work in process inventory value for particular accounting periods. MES for Discrete Manufacturing can be integrated with other time and attendance systems to collect actual time. Third party systems are often deployed to collect definite and exact actual recorded times, and pass the data to a payroll application. These systems might be used by organizations where labor costs are high, or actual time recording is a mandatory requirement for government regulations.

To integrate other time and attendance systems into MES, an interface table and concurrent program are used:

- The WIP_TIME_ENTRY_INTERFACE table is used to enter records for direct labor hours and actual attendance hours.

- The Import Time Entry Records concurrent program moves records from this table and imports them into the MES system.

WIP_TIME_ENTRY_INTERFACE Table

This interface table is used to enter records for direct labor hours and actual attendance hours. The TIME_ENTRY_TYPE column is used for differentiating between various time type records using Direct Labor Hours, Scheduled Available Hours, and Actual Attendance Hours. The table supports the following features:

- Assembly serial level Clock In
- Machine level Clock In and Clock Out
- Performing Clock In and Clock Out in two steps by reporting start time initially and later updating the completion time

In the following table, if the WIP_ENTITY_TYPE or JOB_NAME columns are:

- Null—the record entered is considered either Scheduled Available Hours or Actual Attendance Hours.
- Filled—the record entered is considered Direct Labor Hours.

Column Name	Type	Description
INTERFACE_ID	NUMBER	Unique record identification
TIME_ENTRY_TYPE	NUMBER	Time entry record types: • 1 - Actual Attendance Hours • 2- Scheduled Available Hours • 3 - Direct Labor Hours
ORGANIZATION_ID	NUMBER	Organization identifier
ORGANIZATION_CODE	VARCHAR2	Organization code
WIP_ENTITY_ID	NUMBER	Work order identifier
JOB_NAME	VARCHAR2	Job name
OPERATION_SEQ_NUMBER	NUMBER	Operation sequence number

Column Name	Type	Description
DEPARTMENT_CODE	VARCHAR2	Department code
DEPARTMENT_ID	NUMBER	Department identifier
RESOURCE_SEQ_NUM	NUMBER	Resource sequence number
RESOURCE_CODE	VARCHAR2	Resource code
RESOURCE_ID	NUMBER	Resource identifier
EQUIPMENT_ITEM	VARCHAR2	Equipment name corresponding to a machine resource
INSTANCE_ID	NUMBER	Instance identifier of the equipment as per bill of material definition
SERIAL_NUMBER	VARCHAR2	Equipment serial number
ASSEMBLY_SERIAL_NUMBER	VARCHAR2	Assembly serial number reported for this time
UOM_CODE	VARCHAR2	Unit of Measure code
EMPLOYEE_ID	NUMBER	Employee identifier
ACTUAL_START_DATE	DATE	Actual start date
ACTUAL_END_DATE	DATE	Actual end date
DURATION	NUMBER	Duration
ACTION_FLAG	NUMBER	Action: • 1- Add • 2 - Subtract • Null - Actual time entry record

Column Name	Type	Description
MODE_FLAG	NUMBER	Values are: • 1 - Null = Create • 2 - Update: Update mode can be used for updating duration and end date.
PROCESS_STATUS	NUMBER	Process status
ERROR	VARCHAR2	Error Message
REQUEST_ID	NUMBER	Concurrent request identification
PROGRAM_ID	NUMBER	Program identification
PROGRAM_APPLICATION_ID	NUMBER	Program application identification
Program_update_date PROGRAM_UPDATE_DATE	DATE	Program update date
CREATED_BY	NUMBER	Created by
CREATION_DATE	DATE	Record date creation
LAST_UPDATED_BY	NUMBER	Last updated by action
LAST_UPDATE_DATE	DATE	Last update date
LAST_UPDATE_LOGIN	NUMBER	Login information for last update

Import Time Entry (WIP_TIME_ENTRY_DATA) Concurrent Program

The Import Time Entry concurrent request imports actual times captured through the WIP_TIME_ENTRY_INTERFACE table into MES for calculation of labor performance metrics.

For each valid row in the interface table, the API, WIP_TIME_ENTRY_PUB.process reads all pending transactions for the given organization, and performs the following

validations:

- Actual times are imported for valid badges (employee identification numbers), job operations, and organizations.
- If the Departmental Access parameter is set to Assigned, Clock In and Clock Out times are imported if the employee is attached as a resource instance for a department.
- If the Shift In and Shift Out flags are enabled in the Time Entry Mode parameter, captured attendance hour records are not imported.
- If Clock In and Clock Out flags are enabled in the Time Entry Mode parameter, labor hours are not imported.

Transaction Validation

This client extension enables custom logic to determine if move, scrap, reject, and completion transactions are processed or stopped. The program returns one of several values. If the value returned is:

- Yes, the transaction page proceeds as normal.
- No, the transaction page is aborted displaying an error message.
- Warning, you are redirected to a dialog page. You can cancel the dialog page, and return to the transaction page. Or select Continue and process the transaction.
- Informational, the transaction proceeds as normal. The custom message is displayed in the returning transaction page.

A PL/SQL package, WIP_WS_CUSTOM, contains the custom programming instructions invoked.

Transaction Validation Function—get_transaction_validation_value

Parameter	IN/OUT	Type	Description
wip_entity_id	IN	Number	WIP entity identification of the job
mtl_header_id	IN	Number	Material header identification
txn_type f	IN	Varchar2	Transaction type

Parameter	IN/OUT	Type	Description
from_op_seq	IN	Number	From operation sequence
from_step	IN	Varchar2	From operation step
to_op_seq	IN	Number	To operation sequence
to_step	IN	Varchar2	To operation step
txn_quantity	IN	Number	Transaction quantity
txn_uom	IN	Varchar2	Transaction unit of measure
scrap_quantity	IN	NUMBER	Scrap quantity (for combination transaction)
reject_quantity	IN	NUMBER	Reject quantity (for combination transaction)
subinv locator_id	IN	VARCHAR2	Subinventory locator identification
assembly_lot	IN	NUMBER	Assembly lot number.
assembly_serial	IN	VARCHAR2	Assembly serial number
reason_id	IN	NUMBER	Reason identification
reference	IN	VARCHAR2	Transaction reference
sales_order_id	IN	VARCHAR2	Sales order identification
sales_order_line_id	IN	NUMBER	Sales order line identification

Parameter	IN/OUT	Type	Description
overcompletion	IN	STRING	Overcompletion
project_id	IN	NUMBER	Project identification
task_id	IN	NUMBER	Task identification
scrap_acct_id	IN	NUMBER	Scrap account identification
kanban_id	IN	NUMBER	Kanban identification
attribute1	IN	VARCHAR2	Reserved for future use
attribute2	IN	VARCHAR2	Reserved for future use
attribute3	IN	VARCHAR2	Reserved for future use
attribute4	IN	VARCHAR2	Reserved for future use
attribute5	IN	VARCHAR2	Reserved for future use
return_status	OUT	VARCHAR2	Indicates return status of the program: Yes, No, Warning, Informational
return_message	OUT	VARCHAR2	Custom message returned by the program
return_attribute1	OUT	VARCHAR2	Reserved for future use
return_attribute2	OUT	VARCHAR2	Reserved for future use

Viewing Attachments

The View Attachment icon is hidden by default on the Dispatch List, Search Job, and Search Serial Number pages. This program provides the ability to view attachments and also restrict the ability to view for user specific conditions. Attachments are added at the operations level on the discrete job.

Configure your view on these pages in the Personalization Structure page to view attachments on these pages. See: Configuring Document Attachments, page D-1

Procedure: **get_attachment_exists**

```
function get_attachment_exists(p_wip_entity_id IN NUMBER,
p_organization_id IN NUMBER,
p_operation_seq_num IN NUMBER,
p_department_id IN NUMBER) return NUMBER
is
l_dummy number;
begin
l_dummy := 0;
```

/* ---Enter information in the following code lines.

You can customize the program per your business requirements at various levels and the type of attachments according to the setting in the Attachment Sources parameter. If the return values is:

- 1: The job-operation has attachments and the View Attachments column of the Dispatch List displays an icon. When you select the icon , the attachments display.
- 0: There are no attachments for the job-operation and the View Attachments column of the Dispatch List does not display an icon.

```
*/
begin
select 1 into l_dummy from fnd_attached_documents
where entity_name='WIP_DISCRETE_OPERATIONS'
and pk1_value=p_wip_entity_id
Custom Hooks Page 5 of 16
and pk2_value=p_operation_seq_num
and pk3_value=p_organization_id;
exception
when no_data_found then
l_dummy := 0;
end;
return l_dummy;
end get_attachment_exists;
```

Viewing Exceptions

In the Dispatch List, the default display for exceptions is:

- If only one exception occurs, the type is named such as Resource.
- In the case of more than one exception, the value Multiple displays.

This program customizes the code so you can view the number of exceptions both open and closed.

get_custom_exception

```
function get_custom_exception(wip_entity_id number, operation_seq_num
number,serial_number varchar2) return varchar2
is
l_count number;
l_message varchar2(50);
l_wip_entity_id number;
l_operation_seq_num number;
begin
l_wip_entity_id := wip_entity_id;
l_operation_seq_num := operation_seq_num;
--Fill the custom implmentation here and return the final status the
user wants to see on the page
for Exception column
select count(*) into l_count
from wip_exceptions
where wip_entity_id=l_wip_entity_id
and operation_seq_num=l_operation_seq_num;
l_message := '(Custom)Exceptions Count:'||l_count;
return l_message;
end;
```

D

Document Attachment Setup

Configuring Document Attachments

The Work Content page provides a region displaying attached instructions and documents pertaining to your production.

- Specific documents to associate with job operations are defined in the Add Attachments page, see: Attachments, *Oracle E-Business Suite User's Guide*
- You can attach instructions to the following entities for display in the MES Workstation

  Entity types associated to the attachments are defined in the Attachment Sources parameter, see: Attachment Sources, page 2-11
- The attachment displays in a frame, the size can be changed in the Attachment Window Height parameter, see: Manufacturing Execution Workstation Parameters, page 2-1

You also have the ability to view attachments on the Dispatch List, Search Job, and Search Serial Number pages. The View Attachment icon, enabling you to select attachments, is hidden by default. You can reconfigure your view on these pages in the Personalization Structure page to view attachments on these pages. You can also setup your browser to view these documents in a separate browser page.

When multiple document attachments are associated to a job operation, documents are listed in a table.

Configuring Pages for Attachment Views

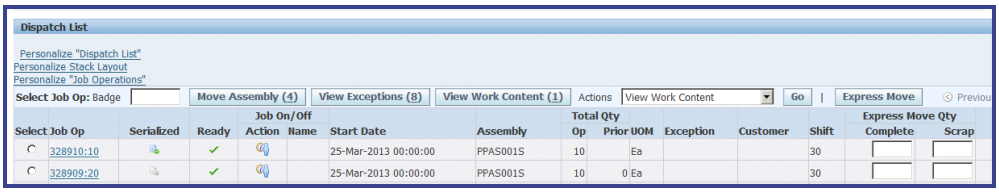
To configure the View Attachments icon:

1. Enable the personalization links in your environment, see: Personalization Profile Options, *Oracle Application Framework Personalization Guide*

2. Navigate to one of the pages where attachments are available for view and select the Personalize page link.

   This includes the following pages and links:

   - Dispatch List: Personalize "Dispatch List"
   - Search Job: Personalize "Search"
   - Search Serial Number: Personalize "Serial Numbers"

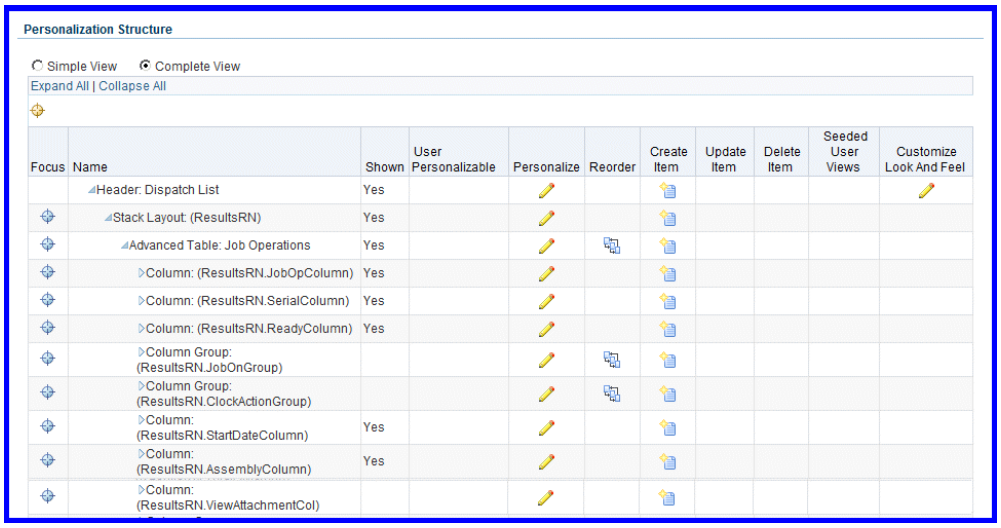


3. Select the Personalize link for the specific page you have accessed; the Personalize Region appears for that page.

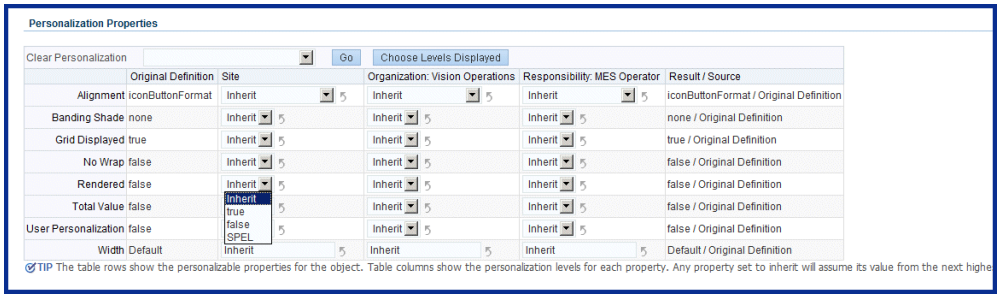
   In the Personalization Structure section of this page, the Shown column lists whether or not a column appears on the page:

   - Yes: The column is visible on the specified page.
   - Null or No: The column is not visible on the specified page.

4. In the Name column for the value Column: (ResultsRN.ViewAttachmentCol), select Edit in the Personalize column.



The Personalize Column : (ResultsRN.ViewAttachmentCol) page appears.



5. In the Personalization Properties region, change the Rendered value to True.

   You have the option to can change this value regarding login access for this page, that is: Site, Organization, and Responsibility.

6. Save your work.

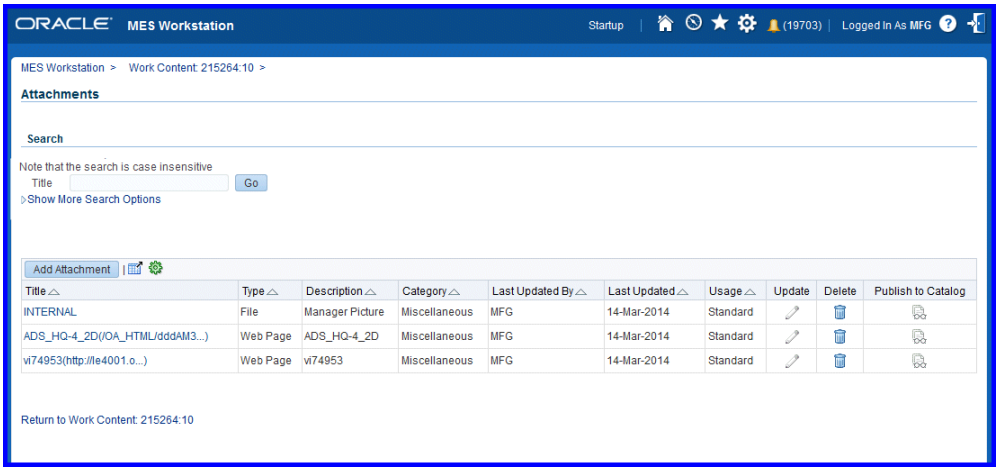
7. Select Return to Application to return to the original page you were on.

   The View Attachments icon now appears on the page.

8. Select View Attachments to view the document or instructions associated to a specific job operation.

9. When multiple document attachments are associated to a job operation, documents are listed in a table.

   Select the link in the Title column to view a specific attachment.



To view the attachment in a separate browser page:

1. Select Tools in your browser menu.

2. Depending on the browser used, select either Internet Options or Options in the drop-down list.

3. Depending on the browser used, select either the General tab and then Tabs Settings; or select the Tabs region.

4. Choose one of the radio buttons in your specific browser:

   - From the setting "When a pop-up is encountered":

    - Always open pop-ups in new window
    - Always open pop-ups in a new tab.
  - Open new windows in a new tab instead

5. Save your work.

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