

# Oracle <sup>®</sup> Complex Maintenance, Repair and Overhaul

Oracle Complex Maintenance, Repair and Overhaul User's Guide

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**Oracle Complex Maintenance, Repair and Overhaul User's Guide, Release 11*i***

**Part No. A97640-01**

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# Preface

## Audience for This Guide

Welcome to Release 11i of the Oracle Complex Maintenance, Repair and Overhaul Concepts and Procedures.

This guide assumes you have a working knowledge of the following:

- The principles and customary practices of your business area.
- The Oracle Applications graphical user interface.

To learn more about the Oracle Applications graphical user interface, read the *Oracle Applications User's Guide*.

See Other Information Sources for more information about Oracle Applications product information.

## How To Use This Guide

This document contains the information you need to understand and use Oracle Complex Maintenance, Repair and Overhaul .

Chapter 1, "Overview of Oracle Complex Maintenance, Repair and Overhaul " provides overviews of the application and its components, explanations of key concepts, features, and functions.

Chapter 2, "Managing Maintenance Requirements" provides process-oriented, task based procedures for using the Fleet Maintenance Program module of Oracle Complex Maintenance, Repair and Overhaul to manage maintenance requirements.

Chapter 3, "Managing Maintenance Routes" provides process-oriented, task based procedures for using the Route Management module of Oracle Complex Maintenance, Repair and Overhaul to manage maintenance routes.

Chapter 4 "Managing Maintenance Documents" provides process-oriented, task based procedures for using the Document Index module of Oracle Complex Maintenance, Repair, and Overhaul to manage maintenance documents.

Chapter 5, "Working With Master Configurations" provides process-oriented, task based procedures for using the Master Configuration module of Oracle Complex Maintenance, Repair, and Overhaul to manage master configurations of electromechanical system assemblies.

Chapter 6, "Working with Unit Configurations" provides process-oriented, task based procedures for using the Unit Configuration module of Oracle Complex Maintenance, Repair, and Overhaul to manage the operational readiness of fleet units.

Chapter 7, "Managing Product Classification" provides process-oriented, task based procedures for using the Product Classification module of Oracle Complex Maintenance, Repair, and Overhaul to manage product maintenance based on different maintenance classifications.

Chapter 8, "Working With Unit Maintenance Plans" provides process-oriented, task based procedures for using the Unit Maintenance Plan module of Oracle Complex Maintenance, Repair, and Overhaul to manage unit maintenance plans.

Chapter 9, "Working With Maintenance Visits" provides process-oriented, task based procedures for using the Visit Work Package module of Oracle Complex Maintenance, Repair, and Overhaul to manage maintenance visits.

Chapter 10, "Long Term Planning" provides process-oriented, task based procedures for using the Long Term Plan module of Oracle Complex Maintenance, Repair, and Overhaul to manage the long term planning of maintenance activities.

Chapter 11, "Production" provides process-oriented, task based procedures for using the Production module of Oracle Complex Maintenance, Repair, and Overhaul to manage the production of maintenance activities.

Chapter 12, "Production Planning" provides process-oriented, task based procedures for using the Production Planning module of Oracle Complex Maintenance, Repair, and Overhaul to manage the planning of maintenance activities.

Chapter 13, "Outside Processing" provides process-oriented, task based procedures for using the Outside Processing module of Oracle Complex Maintenance, Repair, and Overhaul to manage third party maintenance activities.

## Documentation Accessibility

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

### Accessibility of Code Examples in Documentation

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

## Other Information Sources

You can choose from many sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Complex Maintenance, Repair, and Overhaul.

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

### Online Documentation

All Oracle Applications documentation is available online (HTML or PDF). Online help patches are available on MetaLink.

### Related Documentation

Oracle Complex Maintenance, Repair, and Overhaul shares business and setup information with other Oracle Applications products. Therefore, you may want to

refer to other product documentation when you set up and use Oracle Complex Maintenance, Repair, and Overhaul.

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

If you require printed guides, you can purchase them from the Oracle Store at <http://oraclestore.oracle.com>.

## **Documents Related to All Products**

### **Oracle Applications User's Guide**

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

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

## **Documents Related to This Product**

### **Oracle Install Base Concepts and Procedures Guide**

This guide provides an introduction to the concepts, and explains how to navigate the system, enter data, and query information in the Oracle Installed Base interface that forms part of Oracle Complex Maintenance, Repair, and Overhaul.

### **Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide**

Use this guide to set up Oracle Complex Maintenance, Repair, and Overhaul.

## **Installation and System Administration**

### **Oracle Applications Concepts**

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

## **Installing Oracle Applications**

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time to install Oracle Applications, the Oracle8 technology stack, and the Oracle8*i* Server technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you need to perform to finish your installation. You should use this guide in conjunction with individual product user's guides and implementation guides.

## **Oracle Applications Supplemental CRM Installation Steps**

This guide contains specific steps needed to complete installation of a few of the CRM products. The steps should be done immediately following the tasks given in the Installing Oracle Applications guide.

## **Upgrading Oracle Applications**

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i*. This guide describes the upgrade process and lists database and product-specific upgrade tasks. You must be either at Release 10.7 (NCA, SmartClient, or character mode) or Release 11.0, to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

## **Maintaining Oracle Applications**

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

## **Oracle Applications System Administrator's Guide**

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

## **Oracle Alert User's Guide**

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

## **Oracle Applications Developer's Guide**

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

## **Oracle Applications User Interface Standards for Forms-Based Products**

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and how to apply this UI to the design of an application built by using Oracle Forms.

## **Other Implementation Documentation**

### **Multiple Reporting Currencies in Oracle Applications**

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

### **Multiple Organizations in Oracle Applications**

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

### **Oracle Workflow Guide**

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

### **Oracle Applications Flexfields Guide**

This guide provides flexfields planning, setup and reference information for the Oracle Complex Maintenance, Repair, and Overhaul implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications

product data. This manual also provides information on creating custom reports on flexfields data.

### **Oracle eTechnical Reference Manuals**

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing applications, integrate Oracle Applications data with non-Oracle applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on Metalink

### **Oracle Manufacturing APIs and Open Interfaces Manual**

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

### **Oracle Order Management Suite APIs and Open Interfaces Manual**

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

### **Oracle Applications Message Reference Manual**

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

### **Oracle CRM Application Foundation Implementation Guide**

Many CRM products use components from CRM Application Foundation. Use this guide to correctly implement CRM Application Foundation.

## **Training and Support**

### **Training**

Oracle offers training courses to help you and your staff master Oracle Complex Maintenance, Repair, and Overhaul and reach full productivity quickly. You have a choice of educational environments. You can attend courses offered by Oracle University at any one of our many Education Centers, you can arrange for our trainers to teach at your facility, or you can use Oracle Learning Network (OLN), Oracle University's online education utility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your

needs. For example, you may want to use your organization's structure, terminology, and data as examples in a customized training session delivered at your own facility.

### **Support**

From on-site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Complex Maintenance, Repair, and Overhaul working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle®i server, and your hardware and software environment.

### **OracleMetaLink**

OracleMetaLink is your self-service support connection with web, telephone menu, and e-mail alternatives. Oracle supplies these technologies for your convenience, available 24 hours a day, 7 days a week. With OracleMetaLink, you can obtain information and advice from technical libraries and forums, download patches, download the latest documentation, look at bug details, and create or update TARs. To use MetaLink, register at (<http://metalink.oracle.com>).

**Alerts:** You should check OracleMetaLink alerts before you begin to install or upgrade any of your Oracle Applications. Navigate to the Alerts page as follows: Technical Libraries/ERP Applications/Applications Installation and Upgrade/Alerts.

**Self-Service Toolkit:** You may also find information by navigating to the Self-Service Toolkit page as follows: Technical Libraries/ERP Applications/Applications Installation and Upgrade.

## **Do Not Use Database Tools to Modify Oracle Applications Data**

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

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

Because Oracle Applications tables are interrelated, any change you make using Oracle Applications can update many tables at once. But when you modify Oracle

Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL\*Plus and other database tools do not keep a record of changes.

## About Oracle

Oracle Corporation develops and markets an integrated line of software products for database management, applications development, decision support, and office automation, as well as Oracle Applications, an integrated suite of more than 160 software modules for financial management, supply chain management, manufacturing, project systems, human resources and customer relationship management.

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

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



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# Overview of Oracle Complex Maintenance, Repair, and Overhaul

This section provides an overview of Oracle Complex Maintenance, Repair, and Overhaul and its components. It explains the key concepts, features, and functions of Oracle Complex Maintenance, Repair, and Overhaul. This chapter covers the following topics:

- What is Oracle Complex Maintenance, Repair, and Overhaul?
- Key Features of Oracle Complex Maintenance, Repair, and Overhaul
- Business Processes
- Integration and Dependencies
- Accessing Oracle Complex Maintenance, Repair, and Overhaul

## What is Oracle Complex Maintenance, Repair, and Overhaul?

Oracle Complex Maintenance, Repair, and Overhaul is an integrated, Web-enabled, software application suite designed to empower complex equipment maintenance organizations. Oracle Complex Maintenance, Repair, and Overhaul supports typical maintenance processes such as scheduled and unscheduled maintenance visits, component monitoring, job scheduling and routing, labor time collection, cost collection, inventory management, and maintenance document management.

Oracle Complex Maintenance, Repair, and Overhaul reveals maintenance practice improvement opportunities, and opportunities to improve fleet readiness. Oracle Complex Maintenance, Repair, and Overhaul provides models for electromechanical systems and defines rules for assembling units. It also records unit-specific information, allowing quick access to the maintenance history of a

product component. It provides maintenance organizations a means to reduce operational costs, and thereby to yield improved profitability.

Oracle Complex Maintenance, Repair, and Overhaul is organized as follows:

1. Engineering
  - Fleet Maintenance Program (maintenance requirements)
  - Route Management (work card authoring)
  - Document Index (technical document management)
2. Configuration Management
  - Master Configuration (allowable installations)
  - Unit Configuration (“as installed” maintenance tracking)
  - Product Classification (logical grouping)
3. Planning
  - Unit Maintenance Plan (active maintenance requirements)
  - Visit Work Package (work scope and resource)
  - Long Term Plan (hangar and visit plan)
4. Execution
  - Production
  - Production Planning
  - Outside Processing

## Key Features

Oracle Complex Maintenance, Repair, and Overhaul enables maintenance organizations to meet customer expectations, and draw maximum benefit by improving the operational readiness of equipment. Oracle Complex Maintenance, Repair, and Overhaul enables organizations to:

- Streamline maintenance operations
- Meet the demands for transport and service
- Improve profitability

The major features presented by each of the Oracle Complex Maintenance, Repair, and Overhaul modules are discussed in the following sections:

- Fleet Maintenance Program
- Route Management
- Document Index
- Master Configuration
- Unit Configuration
- Product Classification
- Unit Maintenance Plan
- Visit Work Package
- Long Term Plan
- Production Planning
- Production
- Outside Processing

## **Fleet Maintenance Program**

Key Fleet Maintenance Program features include:

- Maintenance requirements creation allowing maintenance personnel to create maintenance requirements with attributes uniquely defining the requirement
- Maintenance routes association by attaching appropriate routes created in the Route Management module to the maintenance requirement
- Maintenance documents association by attaching appropriate documents from Document Index to the maintenance requirement
- Effectivity definition allowing automatic notification to personnel of the maintenance requirements applicable to certain physical units within the database
- Interval and threshold definition enabling a schedule to be set that counts down until the maintenance requirement is due for a unit
- Maintenance requirements and dependent relationships management allowing use of group relationships for non-complicated parent child components where the parent maintenance requirement accomplishment includes the children

- Affected items listing providing a comprehensive view of the items that are covered by a maintenance requirement's effectivities

## Route Management

Key Route Management features include:

- Work card or route authoring
- Maintenance planning information helps organizations plan maintenance activities based on system, zone, process, skill of technician, and significant task
- Resource requirements definition providing a set of resource requirements such as estimated labor, tools, and material, associated with each maintenance operation
- Sign-off requirements definition allowing the association of Quality Plans in order to define sign-off requirements and accomplishment recordings for each work card and/or operation
- Resource collection check point definition allowing capture of resource utilization details at different maintenance operation levels

## Document Index

Key Document Index features include:

- Receipt and registration of documents
- Upload and revision of electronic documents
- Document subscription control through supplier information recording and subscription status tracking
- Document revision control ensuring current and accurate information
- Document status look-up allowing document version verifications from multiple levels during maintenance operations
- Document Distribution Control ensuring authorization of a person (who requests a document) to receive a document

## Master Configuration

Key Master Configuration features include:

- Assembly tree structure representing the positions of tracked or required components that make up a complex assembly
- Assembly qualification by identifying the components required to meet a certain specification
- Tracked parts positioning
- Definition of parent child relationships between components in an assembly
- Configuration template for unit configuration modeling the general characteristics of a fleet unit
- Cost roll up structure allowing division of maintenance cost by the modules of an assembly
- Definition of alternate parts allowable for each component position in an assembly
- Definition of position ratios for usage counter updates between positions in a master configuration hierarchy
- Maintenance document association to master configuration positions

## Unit Configuration

Key Unit Configuration features include:

- Unit composition providing information on the hierarchical positions of parts within a unit
- Physical location tracking of parts
- Recording of child unit installation and removal on or from parent assemblies
- Recording of utilization or age of parts in an assembly based on different parameters related to usage of parts and events that affect the parts
- Utilization population from parent to child units enabling determination of component aging as a result of attachment to other parts, or parent units, that gain utilization
- Unit maintenance history tracking through all previously accomplished maintenance requirement records
- Applicable warranty tracking of individual units enabling easy comparison of coverage period and unit utilization period

- Equipment ownership history tracking enabling analysis of impact on business procedures due to ownership change
- Temporary part identification allowing assignment of temporary serial numbers to parts in an acquired unit

## Product Classification

Key Product Classification features include:

- Hierarchy based product classification creation and maintenance.
- Association of maintenance requirements and documents to any level in the product classification using a tree based hierarchy in order to reduce the administration necessary with adding a new product to a maintenance program.
- Logical grouping of products across multiple levels.
- Primary and supplementary classification support which allows part and unit grouping from multiple viewpoint.

## Unit Maintenance Plan

Key Unit Maintenance Plan features include:

- Utilization forecast maintenance that provides the utilization forecast in terms of the applicable time based unit of measures for each unit in the fleet
- Serviceable time (UOM) of units viewing for the parent unit and all child units expressed in terms of appropriate UOM, such as hours, cycles, mileage, etc.
- Repetitive maintenance requirement modeling over a user defined period providing the UOM remaining for each occurrence of a maintenance requirement
- Due date calculation of maintenance requirements based on utilization forecasts and maintenance frequencies in the absence of a specified fixed due date
- Association of maintenance requirement groups to a visit

## Visit Work Package

Key Visit Work Package features include:

- Equipment based maintenance visit definition enabling an equipment item to be connected with a block of tasks, a location, and a period of time

- Maintenance visit template definition enabling a maintenance planner to develop a shop visit plan without access to a unit maintenance plan for the equipment
- Visit creation from a template allowing a planner to add attribute values like visit location, visit start date, and description to a template definition, and copy the template to a visit object
- Visit and task structure conversion to a template allowing a visit object, or the visit header, and all attached tasks that comprise the work package, to be transformed into a visit template
- Merging of imminent maintenance requirements with visits allowing a maintenance planner to select imminent maintenance requirements for an equipment unit based on an effective date range
- Addition of ad hoc repair tasks to visits allowing association of ad hoc tasks, not associated with a route, to a visit
- Departmental work shift schedule definition allowing maintenance planners to select shift schedules for the departmental workers who will accomplish the inspections and repairs
- Visit task work breakdown structure definition enabling calculation of the labor, parts, and material costs incurred during a maintenance visit
- Visit task sequence definition permitting precise definition of the order of completion of all tasks that comprise a maintenance facility visit
- Visit work package export to Oracle Projects enabling export of the entire visit object to Oracle Projects, on completion of the visit definition, as a project record with equivalent tasks

## Long Term Plan

Key Long Term Plan features include:

- Assessment of a maintenance base's work load capacity. analysis of available labor by skill, available tooling/machinery, available materials and the location's capabilities—such as the list of units and requirements the location can support—balanced against known workloads.
- Visit creation in order to group together events for long and short term capacity planning and to facilitate scheduling to a maintenance base.

- Definition of a visit's resource requirements based on the unit, man hour requirements by skill, required tooling, required materials, duration and required completion times of the visit's maintenance requirements and routes.
- Visit appointment creation based on maintenance base resource forecasting and visit requirements.
- Resource balancing capacity versus work load requirements for scheduling purposes and efficiency assurance.
- Resource leveling on different simulation plans allowing identification of the best plan with regards to resource capacity.

## Production Planning

Key Production Planning features include:

- Job creation from visit tasks for Scheduled, Unscheduled, and Convenience maintenance
- Service Request creation for tracking reported problems
- Creation of Operations to Non-Routine Jobs for work definition and tracking
- Job maintenance through status, completion, and start/end date adjustments of the schedule.
- Operation maintenance by addition, removal, material and resource requirement updates, cost capture, and resource assignment review.
- Quality maintenance using Route Management.

## Production

Key Production features include:

- Job creation from visit tasks for Scheduled, Unscheduled, and Convenience maintenance
- Service Request creation for tracking reported problems
- Creation of Operations to Non-Routine Jobs for work definition and tracking
- Job maintenance through status, completion, and start/end date adjustments of the schedule.
- Operation maintenance by addition, removal, material and resource requirement updates, cost capture, and resource assignment review.

- Quality maintenance using Route Management.

## Outside Processing

Key Outside Processing features include:

- Assign production jobs for third party service
- Add or remove production jobs to an existing OSP Work Order
- Determine how and when the parts will be shipped to the supplier
- Create and Approve Purchase Orders
- Borrow Parts from a third party organization
- Loan Parts to a third party organization
- Approve Loan or Borrow Orders

## Business Processes

The following sections explain the business process associated with Oracle Complex Maintenance, Repair, and Overhaul:

- Managing Maintenance Requirements
- Working with Maintenance Routes
- Managing Maintenance Documents
- Managing Master Configuration Records
- Managing Unit Configuration Records
- Working With Product Classifications
- Planning Unit Maintenance
- Managing Maintenance Visits
- Long Term Planning
- Production Planning
- Production
- Outside Processing

## Managing Maintenance Requirements

The Fleet Maintenance Program module in Oracle Complex Maintenance, Repair, and Overhaul allows maintenance organizations to record, organize, and plan maintenance requirements. The maintenance planner can create maintenance requirement records and attach attributes to these records. The attributes attached to the record enables maintenance planning, and increased operational efficiency while accomplishing a requirement. Maintenance planners can:

- Search the database for a specific maintenance requirement for reference, or for editing purposes.
- Create a maintenance requirement record in the database.
- Attach documents, maintenance routes, actions, effectivities, and maintenance requirement relationships to the record.
- Create revisions for maintenance requirements that are complete.
- View items that are affected by a maintenance requirement.

The Oracle Complex Maintenance, Repair, and Overhaul Fleet Maintenance Program module serves as a repository for scheduled maintenance and associated information that organizes and streamlines planned maintenance tracking and execution.

## Working with Maintenance Routes

The Route Management module in Oracle Complex Maintenance, Repair, and Overhaul provides a single interface for managing all maintenance tasks. Maintenance personnel can prepare and maintain work instructions. Maintenance personnel can:

- Search the database for a specific operation for reference purposes, or for editing purposes.
- Create an operation or define instructions for carrying out a maintenance task.
- Search for maintenance routes, for reference, or for editing route information.
- Create a maintenance route.
- Associate major and sub zones in a system to a product type to facilitate tracking of maintenance operations on complex electromechanical systems.

The intuitive user interface of Oracle Complex Maintenance, Repair, and Overhaul is designed to enable maintenance personnel handle operational needs as effortlessly and quickly as possible.

## Managing Maintenance Documents

The Document Index module in Oracle Complex Maintenance, Repair, and Overhaul is the central place for managing all maintenance documents. The maintenance personnel can access an online catalog of documents used in maintenance, repair, and overhaul operations. The Document Index allows personnel to receive, distribute, and control revisions in technical documentation.

Maintenance personnel can:

- Search the database to quickly refer to a document.
- Create new documents or document revisions.
- Associate subtypes to document types for easy identification.
- Upload electronic documents

Maintenance document management involves tracking documents and their revisions, validating document references from multiple levels of maintenance operations, and making them easily accessible to the maintenance personnel.

## Managing Master Configuration Records

The Master Configuration module in Oracle Complex Maintenance, Repair, and Overhaul provides models of electromechanical system assemblies. A master configuration model will form the basis of a unit in combination with business rules that specify the systems and subsystems that may be included in the assembled unit.

Maintenance personnel can:

- Search the database for master configurations of electromechanical system assemblies.
- Create system assembly master configurations.
- Search for alternate parts that may be used in place of specified components in an assembly.

## Managing Unit Configuration Records

The Unit Configuration module in Oracle Complex Maintenance, Repair, and Overhaul allows organizations to describe the structure of an assembled electromechanical system. The as-constructed configuration of an assembly will determine the specific maintenance program required to ensure the operational

readiness of that unit. Maintenance personnel can easily initiate proper maintenance activities to resolve issues. Maintenance personnel can:

- Create unit configurations from existing master configurations.
- Search for unit configuration records that exist in the database.
- Add new part information to the database.
- Search for, and update existing part information.

The Unit Configuration module in Oracle Complex Maintenance, Repair, and Overhaul is a key feature that enables maintenance organizations to determine services required. Even if two units have the same part number, or belong to the same product family, their configurations are normally different due to the operation and maintenance history of each unit. Unit Configuration provides models of individual tracked parts to support unit-specific information.

## Working with Product Classifications

The Product Classification module in Oracle Complex Maintenance, Repair, and Overhaul provides a maintenance engineer with the ability to create and maintain product classifications. Product Classification provides a hierarchy within which parts and units can be grouped. Organizations are able to create, copy and maintain product classification and for the use of maintenance definition of the parts or units within a product classification, they can associate documents and view association of the associated maintenance requirements. Maintenance Personnel can:

- Search the database to quickly refer to a product classification.
- Create new product classifications or product classifications revisions.
- Edit and copy product classifications.
- Associate documents to a nodes product classifications.
- Attach parts or units to product classifications.
- View maintenance requirements associated to a product classification node.
- View Utilization forecast of a product classification.
- Check for completeness of primary product classifications.
- Launch the approval process for a draft product classification.

Product Classification allows organizations to provide a multilevel hierarchy that logically group products together. Product classifications are used mainly to define

maintenance requirements and documents applicability as well as provide a basis for analysis and reporting purposes.

## Planning Unit Maintenance

The Unit Maintenance Plan module in Oracle Complex Maintenance, Repair, and Overhaul ensures that all maintenance requirements are accomplished on or prior to their due date, and provides demand estimates over a planning time window by forecasting the due date of maintenance requirements associated to a unit. It searches and displays maintenance requirements that are due for an equipment unit and provides maintenance personnel instant access to maintenance requirements, due date estimation, accomplishment history, and planning information for a unit configuration. Maintenance personnel can:

- Maintain utilization forecasts.
- View the servicable time remaining of a unit
- Model repetitive maintenance requirements over a specified time period
- Calculate the due dates of maintenance requirements.
- Associate maintenance requirements to a visit.

Unit Maintenance Plan serves as a repository of the maintenance requirements related to units and any related subassemblies or components. It also enables forecasting of usage to determine due dates for fleet maintenance activities.

## Managing Maintenance Visits

The Visit Work Package module provides planning capabilities including creation, organization, and scheduling of maintenance visits based on maintenance requirements. It allows creation and management of visit templates based on equipment types enabling efficient visit package creation for equipment units of a type. Visit Work Package permits association of tasks with visits and visit templates, and definition of task hierarchy and cost structure. Maintenance planners can:

- Create maintenance visit records, new, or from a template
- Search for, retrieve, and update existing visit records
- Associate tasks with visits: planned tasks, tasks that are required but not scheduled, and ad hoc tasks that are not associated with maintenance routes
- Search for, retrieve, and update tasks associated with a visit
- Create visit templates, new, or from an existing visit record

- Search for, retrieve, and update existing visit templates
- Associate tasks with visit templates: tasks that are required but not scheduled, and ad hoc tasks that are not associated with maintenance routes
- Search for, retrieve, and update visit template tasks
- Create shift schedules for department workers based on planned visits
- Search for and retrieve existing department shifts

Visit Work Package permits a maintenance planner skilled in the maintenance of the firm's assets, and aware of cost and complexity, to organize a maintenance visit execution for an equipment unit.

## Long Term Planning

The Long Term Planning module in Oracle Complex Maintenance, Repair, and Overhaul is used by a maintenance planner to schedule planned maintenance requirements for maintenance visits based on the optimal use of maintenance resources. The maintenance planner using Long Term Plan is able to make a complete assessment of the maintenance resources available at all maintenance locations. The planner can schedule maintenance visits, assess capacity and reserve required materials. Maintenance personnel can:

- Assess Maintenance Workload Capacity by analysis of available labor by skill, level and certification, available tools, materials, and location capabilities balanced against known workloads.
- Create a Visit in order to group events together for long and short term capacity planning, and to facilitate scheduling to a maintenance base.
- Define a Visit's Resource Requirements to allow accurate scheduling and capacity planning.
- Analyze capacity versus work load requirements
- Run simulations in order to evaluate different scheduling scenarios before implementing actual plan changes.

Long Term Plan maximizes maintenance scheduling by balancing maintenance requirements with available maintenance capacity. The maintenance planner is able to do this by balancing forecasted maintenance requirement information from Unit Maintenance Plan against projected maintenance capacity.

## Production Planning

The Production Planning module in Oracle Complex Maintenance, Repair, and Overhaul is designed for the execution of Routine Tasks and Maintenance Requirements associated with a Visit and creation and execution of Non-Routine Tasks for a Visit. The Production module supports the execution of the tasks against an Install Base Tracked Item. Maintenance personnel can:

- Search for Routine and Non-Routine Jobs using filtered search elements.
- Create Jobs from visit tasks for Scheduled, Unscheduled, and Convenience maintenance
- Create Service Requests to track reported problems when an item has a service difficulty.
- Create Operations to Non-Routine Jobs for work definition and tracking
- Maintain jobs by adjusting the schedule, the status, completing, deferring, and selecting the actual start and end for a job.
- Maintain operations by updating the operations, adding, removing, or updating the material and resource requirements.
- Maintain Quality using Route setup from Route Management for Job and Operation compliance.

Production Planning enables the maintenance scheduler to create jobs, initiate service for material and parts change transactions, and perform job operation maintenance.

## Production

The Production module in Oracle Complex Maintenance, Repair, and Overhaul is designed for the execution of Routine Tasks and Maintenance Requirements associated with a Visit and creation and execution of Non-Routine Tasks for a Visit. The Production module supports the execution of the tasks against an Install Base Tracked Item. Maintenance personnel can:

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- Maintain jobs by adjusting the schedule, the status, completing, deferring, and selecting the actual start and end for a job.
- Maintain operations by updating the operations, adding, removing, or updating the material and resource requirements.
- Maintain Quality using Route setup from Route Management for Job and Operation compliance.

Production enables the maintenance scheduler to create jobs, initiate service for material and parts change transactions, and perform job operation maintenance.

## Outside Processing

The Outside Processing module in Oracle Complex Maintenance, Repair, and Overhaul is used by a maintenance planner to schedule planned maintenance for parts and services provided outside the organization. The maintenance planner using Outside Processing is able to determine when, where, and how a service or part can be used in the most cost effective manner. Maintenance personnel can:

- Assign production jobs for third party service
- Add or remove production jobs to an existing OSP Work Order
- Determine how and when the parts will be shipped to the supplier
- Create and Approve Purchase Orders
- Borrow Parts from a third party organization
- Loan Parts to a third party organization
- Approve Loan or Borrow Orders

Outside Processing maximizes scheduling third party service through the use of OSP Work Orders and Loan/Borrow Orders.

## Integration and Dependencies

Oracle Complex Maintenance, Repair, and Overhaul uses modules from other Oracle applications.

**Oracle Counters** Organizations perform maintenance operations on an electromechanical system to maximize the service life of that asset. Maintenance operations require that the service life of a system, or the components comprising it, be measured. Timers and counters become important here. Car odometers, for

example, are counters. Meters used to record the operating hours of power plants on aircraft and boats are timers. Maintenance is typically performed periodically, based on elapsed operating time. Oracle Complex Maintenance, Repair, and Overhaul meets these needs through its integration with Oracle Counters application.

Oracle Complex Maintenance, Repair, and Overhaul user will use an Oracle Counters instance to represent a timer when defining models for system configurations. The service life of a component is measured according to the nature of that component's role, and service life measurements are selected by failure mode analysis. Calendar time is of interest because of possible corrosive conditions resulting in damage over time. Counter instances are sufficiently flexible, and Oracle Complex Maintenance, Repair, and Overhaul users can define the counters using the appropriate unit of measurement associated with a component.

**Oracle Install Base** Maintenance organizations gain many advantages by modeling a template for electromechanical system assemblies and individual fleet units. After an Oracle Complex Maintenance, Repair, and Overhaul user completes the definition of a master configuration, a framework that describes the general characteristics of the system including the engineering rules for assembly, exists. The user can then create a unit configuration.

Oracle Complex Maintenance, Repair, and Overhaul will invoke the Install Base methods to populate the database with a transaction representing the as-operated or unit configuration of an electromechanical system.

**Oracle Inventory** Maintenance organizations can greatly improve operational efficiency by planning their material requirements. The Master Configuration module of Oracle Complex Maintenance, Repair, and Overhaul provides a template for the structure of an electromechanical system, and lists the components that are allowable in the different positions of a system configuration. The Unit Configuration module describes the as-installed configuration of a specific fleet unit. This helps organizations predict to an extent, the material requirement for maintaining operational readiness of fleet units.

Oracle Complex Maintenance, Repair, and Overhaul user will use instances of Oracle Inventory when defining the allowable parts in a master configuration for an electromechanical system, and when describing the components in a unit configuration.

## Accessing Oracle Complex Maintenance, Repair, and Overhaul

You can access Oracle Complex Maintenance, Repair, and Overhaul with an up-to-date Web browser. Oracle recommends Netscape Communicator 4.78 or later, or Microsoft Internet Explorer 5.5 or later. Your systems administrator will provide you with a username and password to access Oracle Complex Maintenance, Repair, and Overhaul.

To access Oracle Complex Maintenance, Repair, and Overhaul, using the path provided by your System Administrator, navigate to the Welcome to Oracle eBusiness Suite page. If you have not already obtained a registered and approved login, click Register Here to register.

After you have an approved login, in the Welcome to Oracle eBusiness Suite page, enter your User ID and Password. Click **Go**. The Oracle Complex Maintenance, Repair, and Overhaul Home page appears. Access the modules using the global buttons at the top of the page. They are organized as follows:

### 1. **Engineering**

Engineering includes:

- Fleet Maintenance Program
- Route Management
- Document Index

### 2. **Configuration Management**

Configuration Management includes:

- Master Configuration
- Unit Configuration
- Product Classification

### 3. **Planning**

Planning includes:

- Unit Maintenance Plan
- Visit Work Package
- Long Term Planning

### 4. **Execution**

Execution includes:

- Production Planning
- Production
- Outside Processing

To change your password, click the Profile link on the top right corner of the Home page to launch the Personal Profile page. Enter field values as required, and click Update to effect the change.



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## Managing Maintenance Requirements

Ensuring the safety and readiness of machines, and the increase in component life of complex, safety sensitive, and expensive assets is crucial in today's industry. The Oracle Complex Maintenance, Repair, and Overhaul Fleet Maintenance Program module enables organizations to manage a preventative maintenance program that accomplishes this need.

This chapter presents the key functions supported by this module, and provides process-oriented, task based procedures for using Oracle Complex Maintenance, Repair, and Overhaul to perform essential maintenance requirement management tasks.

See:

- Creating Maintenance Requirement Records
- Retrieving Existing Maintenance Requirement Records
- Attaching Documents to a Maintenance Requirement
- Associating Maintenance Routes to a Maintenance Requirement
- Setting Maintenance Route Dependencies
- Defining:
  - Maintenance Requirement Actions
  - Maintenance Requirement Effectivity
  - Effectivity Details
  - Intervals and Thresholds
  - Maintenance Requirement Relationships
- Updating Maintenance Requirement Records

- Viewing Items Affected by a Maintenance Requirement
- Creating Maintenance Requirement Revisions
- Viewing Maintenance Requirement Details
- Associating Program Sub Types to Program Types

## What is Fleet Maintenance Program?

Fleet Maintenance Program is an Oracle Complex Maintenance, Repair, and Overhaul subsystem that manages the creation, organization, and planning of preventative maintenance tasks for an asset or group of assets. It is a repository for scheduled maintenance and associated information that organizes and streamlines planned maintenance tracking and execution.

Planned maintenance actions are called maintenance requirements within Oracle Complex Maintenance, Repair, and Overhaul, and originate from required maintenance needs external to Oracle Complex Maintenance, Repair, and Overhaul. Subsystems face the challenge of defining all the maintenance requirements applicable to a product, and organizing them in a way universally usable by all parties involved. The Fleet Maintenance Program module addresses the four major parts of a preventative maintenance requirement:

- Origin (why a maintenance action is required)
- Effectivity (what the maintenance requirement applies to)
- Frequency (when the maintenance requirement is to be performed)
- Work Cards or Routes (how the maintenance requirement is to be performed).

Fleet Maintenance Program targets the operator (Commercial and Military), third party maintenance service provider, simple assembly component shop, and complex assembly component shop in the maintenance, repair, and overhaul industry. It allows the association of maintenance requirements to the three groups of product types:

- Top Units: units that contain all the component parts, such as an aircraft, a motor vehicle, or a ship
- Complex Assembly: a complex component of the top unit, such as an engine, or an aircraft landing gear
- Simple Component: a component of the top unit or complex assembly

## Key Business Processes

Fleet Maintenance Program supports the following business processes:

**Maintenance Requirements Creation** Maintenance requirements refer to planned maintenance actions that originate from required maintenance needs external to Oracle Complex Maintenance, Repair, and Overhaul, such as airworthiness directives from the FAA (Federal Aviation Administration) in the aircraft industry. The maintenance requirement recording process allows maintenance personnel to create maintenance requirements with attributes uniquely defining the requirement. You can link maintenance requirements to maintenance routes that are authored using Oracle Complex Maintenance, Repair, and Overhaul, define an effectivity clause describing the requirement applicability, and schedule the maintenance performance.

**Maintenance Routes Association** Knowledge of maintenance routes associated with a maintenance requirement greatly enhances maintenance planning, organization, and execution. The Fleet Maintenance Program module allows maintenance personnel to search the Oracle Complex Maintenance, Repair, and Overhaul Route Management module for routes applicable to a maintenance requirement, and to attach the appropriate routes to the maintenance requirement. Routes can then be set up with technical dependencies to each other within the maintenance requirement. These dependencies are validated against the Oracle Complex Maintenance, Repair, and Overhaul Visit Work Package and Production Planning modules to assist in the scheduling order of the routes.

**Documents Association** Maintenance personnel frequently refer to technical manuals during a maintenance operation. Maintenance documents, such as technical manuals and regulatory directives, if attached to a maintenance requirement, can greatly improve operational efficiency. The Fleet Maintenance Program module allows maintenance personnel to search the Oracle Complex Maintenance, Repair, and Overhaul Document Index module for documents applicable to a maintenance requirement, to attach appropriate documents to a maintenance requirement, and mark attached documents as reference or source.

**Effectivity Definition** Effectivity refers to the applicability of a maintenance requirement. Fleet Maintenance Program allows maintenance organizations to attach attributes to maintenance requirements, which automatically notifies personnel of the maintenance requirements applicable to certain physical units within the database. A Master Configuration node, an alternate part combination, or an item from the database can be attached to a maintenance requirement.

Maintenance requirements can also be associated to unit details such as Serial Number, Serial Number Range, and Manufacturer.

You can set up multiple effectivities for one maintenance requirement allowing total flexibility and control. An effectivity owns a set of effectivity details, and a set of interval thresholds. Depending on these effectivity rows, details, and interval thresholds, the Oracle Complex Maintenance, Repair, and Overhaul Unit Maintenance Plan module will find the actual items affected in inventory, and then calculate estimated maintenance requirement due dates. You can also set up overlapping effectivities for the same maintenance requirement, in which case the Unit Maintenance Plan module will calculate more than one estimated due date, and then display only the earliest one. This is desirable because one effectivity can have its own set of applicable interval thresholds when an item is found according to specific criteria.

**Interval and Threshold Definition** Intervals and thresholds are used to set a schedule that counts down until the maintenance requirement is due for a unit. Maintenance organizations can define interval and threshold values for maintenance requirements using the Fleet Maintenance Program. The number of interval and threshold values defined for a maintenance requirement can be unlimited, and maintenance personnel can select whether the combined intervals will come due at "whichever occurs first" or "whichever occurs last". The interval thresholds are directly related to one of the effectivities of a maintenance requirement, allowing a maintenance requirement to have several useful interval threshold sets depending on the effectivity.

#### **Maintenance Requirements and Dependent Relationships Management**

Maintenance organizations can use group relationships for non-complicated parent child components where the parent maintenance requirement accomplishment includes the children.

The Letter Check relationships in aviation maintenance is an example. An A check consists of X number of children components that are all tracked on the parent component's interval for maintenance requirement. An A Check will belong to a B Check, and the B Check will include all the A Check's children in addition to some of its own. The B Check will belong to a C Check and the C Check to a D Check. Each Check will be displayed in the Unit Maintenance Plan as a group with the same estimated due date eliminating a cluttered report. However, when a child component has a recurring maintenance requirement frequency outside of its parent (more frequent), this will be displayed separately also.

A maintenance requirement is also sometimes linked up with the completion of another requirement. This creates a dependency between the two requirements.

Fleet Maintenance Program accommodates such dependency with a maintenance requirement attribute that states another maintenance requirement as its prerequisite.

**Affected Items Listing** The Fleet Maintenance Program module enables maintenance organizations to gain a comprehensive view of the items that are covered by a maintenance requirement's effectivities. Maintenance personnel can view all items in the database to which the maintenance requirement applies based on the current set of effectivities.

## Fields Associated with Maintenance Requirement Records

The following sections provide descriptions of fields appearing on each Fleet Maintenance Program page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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### Fields on the Search Maintenance Requirements Page

The following fields appear on the Search Maintenance Requirements page:

**Title** User defined maintenance requirement name. The combination of maintenance requirement Title and Version Number is unique. This can be a number, or other alpha numeric identifiers used to locate the record. For example, AD 99-01-01.

**Revision Number** User defined revision number of the maintenance requirement. This is an optional field used to record document revision. For example, Airworthiness Directives have FAA (Federal Aviation Authority) approved revision numbers. Such numbers may be recorded here.

**Originating Document** The document existing in the Document Index database which serves as the source for creating a maintenance requirement record. For example, an Airworthiness Directive issued by the Federal Aviation Authority.

**Status** The seeded revision status of the maintenance requirement. This is either Draft, Complete, Approval pending, Approval Rejected, or Terminated. Statuses are not user definable or editable, and only indicate whether the maintenance requirement details and associated information are editable. Any newly created maintenance requirement is given the Draft status. The status advances to Approval Pending when the user sends the maintenance requirement for approval, becomes Complete or Approval Rejected depending on Approval Process, and becomes Terminated when terminated or replaced by newer version.

**Program Type** The user defined maintenance requirement program type. Program Types are used to classify or group maintenance requirements, and can be used in conjunction with Program Subtypes. For example, Letter Check, Corrosion, Modification.

**Parent Title** The user defined title of the maintenance requirement that would act as parent for the maintenance requirement being retrieved.

**Category** The user defined category of the maintenance requirement. A common method of categorization would be based on the equipment type to which the maintenance requirement applies. For example, Airframe, Powerplant, Ground Service Equipment.

**Description** The maintenance requirement description. The description may be anything that identifies additional information.

**Associated Part Number** The item Part Number to which the maintenance requirement applies. You can search for maintenance requirement records based on their associated Part Numbers using this field.

## Fields on the Create and Update Maintenance Requirement Pages

The following fields appear on the Create Maintenance Requirement and Update Maintenance Requirement pages:

**Title** The user defined maintenance requirement name. The combination of maintenance requirement Title and Version Number is unique. This can be a

number, or other alpha numeric identifiers used to locate the record. For example, AD 99-01-01.

**Status** The seeded revision status of the maintenance requirement. This is either Draft, Complete, Approval pending, Approval Rejected, or Terminated. Statuses are not user definable or editable, and only indicate whether the maintenance requirement details and associated information are editable. Any newly created maintenance requirement is given the Draft status. The status advances to Approval Pending when the user sends the maintenance requirement for approval, becomes Complete or Approval Rejected depending on Approval Process, and becomes Terminated when terminated or replaced by newer version. Approval rules are defined when Oracle Complex Maintenance, Repair, and Overhaul is set up. Refer to *Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide* for details.

**Version** The system defined version number of the maintenance requirement. This value is not user definable or editable, and indicates how many times this particular record has been changed in the system.

**Revision Number** The user defined revision number of the maintenance requirement. This is an optional field used to record document revision. For example, Airworthiness Directives have FAA (Federal Aviation Authority) approved revision numbers. Such numbers may be recorded here.

**Category** The user defined category of the maintenance requirement. A common method of categorization would be based on the equipment type to which the maintenance requirement applies. For example, Airframe, Powerplant, Ground Service Equipment.

**Program Type** The user defined maintenance requirement program type. Program Types are used to classify or group maintenance requirements, and can be used in conjunction with Program Subtypes. For example, Letter Check, Corrosion, Modification.

**Program Subtype** The user defined sub group of the Program Type, and is used in conjunction with Program Types. For example the Program Type Letter Check may have the Program Subtypes A Check, B Check, C Check, and D Check associated to it.

**Service Type** The seeded service type of the maintenance requirement. The value for Service Type is either On or Off. This field value is used to determine the service

type needed to fulfill the maintenance requirement. For example, On wing can be accomplished at aircraft location, whereas Off wing requires being sent to the shop.

**Implement Status** The seeded implement status of the maintenance requirement. The field value is either Mandatory, Optional Implement, or Optional Do Not Implement. The user can select from these values while creating the maintenance requirement record. The field value depicts the maintenance requirement characteristic as defined by the document engineer. The Oracle Complex Maintenance, Repair, and Overhaul Unit Maintenance Plan module will pick up any Implement Status other than Optional Do Not Implement.

**Repetitive** The seeded repetitive flag for the maintenance requirement. The field values can be Yes or No. The field value indicates whether the maintenance requirement is one time or repetitive. This field adds appropriate logical validations to the maintenance requirement interval thresholds.

**Show (Repetitive)** The seeded flag used to show repeating maintenance requirements in the Oracle Complex Maintenance, Repair, and Overhaul Unit Maintenance Plan module. This field is only applicable to repetitive maintenance requirements. The field value can be either All or Next. This value is taken into consideration when Unit Maintenance Plan calculates the Estimated Due Dates list. Based on the Show field value, Unit Maintenance Plan will either show all repeating occurrences for the Unit Maintenance Plan rolling time window, or only the next occurrence. This is especially useful in the case of maintenance requirements that are to be carried out frequently, and would otherwise clutter up a year long report.

**Whichever Comes** A seeded flag used to determine whether to choose the first or the last due date calculated based on all the interval thresholds defined for the maintenance requirement. The values you can choose from are First and Last. First would indicate an OR condition, and Last would indicate an AND condition for the interval threshold records.

**Effective From** The effective start date of the maintenance requirement. Only one maintenance requirement revision can be effective at a time instance. The effective start date can be post dated to begin in the future. A revision to a maintenance requirement can be post dated to replace current version as of specified date.

**Follows After Accomplishment of** The maintenance requirement after the accomplishment of which the maintenance requirement being created can be performed. This field is optional.

**Description** The maintenance requirement description. The description may be anything that identifies additional information.

**Comments** Text field where you can enter any user oriented comments.

## Fields on the Update Attached Documents Page

The following fields appear on the Update Attached Documents Page:

**Association Type** indicates whether the document being attached is a source document or a reference document. The field value can be either Source or Reference. A Source association type indicates that the attached document is the originating document of the maintenance requirement, and a Reference association type indicates that the document is a supporting document.

**Number** Unique identifier, generated by the organization to identify a maintenance document. If you do not know the document number, enter % in the field, and click the search icon to launch the Select Number page that displays all the document references in the database. Click the relevant record to return this value to the Number field on the Update Attached Documents page.

**Title** The title of the maintenance document. This field value returns when you enter the document Number.

**Type** represents the major topic such as powerplant, fleet unit, and ground support equipment that is described by the document in question. This field value is returned when you enter the document Number.

**Revision** Field that holds a user-assigned document revision identifier. This field is populated when the document Number value is returned.

**Chapter** The specific chapter in the document related to the maintenance requirement. This is a free text field where you can enter the chapter information.

**Section** The specific section in the document chapter that relates to the maintenance requirement record. This is a free text field where you can enter the section information.

**Subject** The subject within the document relating to the maintenance requirement. This is a free text field where you can enter the subject information.

**Page** The page in the document that deals with the section relating to the maintenance requirement. This is a free text field. Enter the page number here.

**Figure** Any figures in the document that are related to the maintenance requirement. This is a text field. Enter the figure detail here.

**Note** Text field where you can enter any additional information regarding the document attached to the maintenance requirement.

## Fields on the Update Attached Routes Page

The following fields appear on the Update Attached Routes page:

**Route Number** User-assigned identifier for a maintenance route. You can retrieve this number from the List of Values by entering %, and clicking the search icon. This launches the Select Route Number screen. Click the pertinent record to return this value to the Route Number field.

**Route Description** provides more information about the maintenance route. This field is populated when the Route Number field value is returned.

**Product Type** Classification by category, of the electromechanical system to which the maintenance route applies. This field is populated when the Route Number field value is returned.

**Operator** The organization operating the concerned equipment. This field is populated when the Route Number field value is returned.

**Revision Number** Field that holds a system driven maintenance route revision identifier. This field is populated when the Route Number field value is returned.

## Fields on the Route Dependencies Page

The following fields appear on the Route Dependencies page:

**Dependency** Order in which maintenance routes associated to a maintenance requirement are to be carried out. The seeded field values include Execute Before and Execute After. You can choose between these values to set the order of this maintenance route accomplishment before or after another maintenance route associated to the same maintenance requirement.

**Route Number** User-assigned identifier for a maintenance route. You can retrieve this number from the List of Values by entering %, and clicking the search icon. This launches the Select Route Number screen. In this case, the Route Number List of Values will show only routes associated to the maintenance requirement in context. Click the pertinent record to return this value to the Route Number field.

**Route Description** Information which provides more information about the maintenance route. This field is populated when the Route Number field value is returned.

**Product Type** Classification, by category, of the electromechanical system to which the maintenance route applies. This field is populated when the Route Number field value is returned.

**Operator** Organization operating the concerned equipment. This field is populated when the Route Number field value is returned.

## Fields on the Update Attached Actions Page

The following fields appear on the Update Attached Actions page:

**Action** User defined action to be carried out at the time of maintenance requirement accomplishment. For example, at the accomplishment of this maintenance requirement, e-mail the equipment owner with data from findings. The Action could be called Owner Report.

**Action Description** is read only, and is carried forward from the Lookup values. Description further describes the action or Quality Control Plan for the maintenance requirement. With reference to the above example for action, the Action Description could be E-mail owner with data.

**Quality Collection Plan** represents the Quality Collection Plan identifier. This provides a link to Oracle Quality, where a workflow can be set up, for example, to automatically e-mail data when maintenance requirement is accomplished.

## Fields on the Update Effectivity Page

The following fields appear on the Update Effectivity page:

**Effectivity** User defined name for the effectivity. The name is unique across all effectivities for a given maintenance requirement, and can relate to the actual

application of the effectivity or maintenance requirement further describing its purpose. For example, Boeing 737, MD 80, Cold Weather.

**Item Number** The Inventory item identification number. This refers to the Part Number that the maintenance requirement is applicable to in the context of the effectivity.

**Master Configuration Position** The master configuration position to which the maintenance requirement applies to in the context of the effectivity. This indicates that the maintenance requirement would apply to a part installed in a specific position of the configuration. For detailed instructions, see Retrieving Existing Master Configuration Records.

**Master Configuration Item** points to the alternate item which can be installed in the specified master configuration position. The maintenance requirement applies to the item in this position.

**Product Classification Node** The Product Classification node to which the maintenance requirement applies. Product Classification refers to the logical grouping of a product family. An Item or a Master Configuration Position must be defined for the maintenance requirement effectivity in addition to the product classification node. The maintenance requirement will then be applicable to the item when it is installed in the specified product classification only.

## Fields on the Update Effectivity Details Page

The following fields appear on the Update Effectivity Details page:

**Serial Number From** allows you to enter any context item serial number to define the start of the serial number range to which the maintenance requirement applies. You can use a lookup from existing inventory serial numbers to populate this field, or enter any value here to allow accommodation of unknown new inventory, not yet owned, but would be affected by the maintenance requirement.

**Serial Number To** The serial number that ends the serial number range to which the maintenance requirement applies. You can use a lookup from existing inventory serial numbers to populate this field, or enter any value here to allow accommodation of unknown new inventory that is not yet owned, but would be affected by the maintenance requirement. The Serial Number To field value can be the same as the Serial Number From value if only one item serial number is affected by the maintenance requirement.

**Manufacturer** The item manufacturer identity. The current validation against this field is not in effect as manufacturer has a one to one relationship with Item Number.

**Manufacture Date From** denotes the starting item manufacturing date to which the maintenance requirement applies. This field value is used to define effectivity for items with manufacturing dates within a specified range.

**Manufacture Date To** represents the ending item manufacturing date to which the maintenance requirement applies. This field value is used to define effectivity for items with manufacturing dates within a specified range.

**Country** represents the country of origin. The current validation against this field is not in effect as country of origin is not stored against an instance of an item. Serial number range is often used for defining this item attribute.

## Fields on the Update Interval Threshold Page

The following fields appear on the Update Interval Threshold page:

**Calendar Due** (Threshold Date) represents the calendar due date for the maintenance requirement effectivity. This attribute can be defined only for a one time (non-repetitive) maintenance requirement, and is used in conjunction with other one time intervals.

**Counter** The associated counter identifier. The associated counter is used for all the numerical values of the row including Interval, Tolerances, Start, and Stop.

**Interval** The interval value for repetitive maintenance requirements, and drop-dead counter values for one time maintenance requirements. When used with one time maintenance requirements, interval will be a count down of the associated counter. When used with repetitive maintenance requirements, interval will represent the frequency of occurrence according to the associated counter.

**Start** The start counter value of the range from which the interval specified is valid. Start value is mutually exclusive with the Stop value, and begins the range for the interval in relation to the associated counter. This field does not apply for one time maintenance requirements.

**Stop** The stop counter value of the range before which the interval specified is valid. This value is mutually exclusive with the Start value, and ends the range for

the interval in relation to the associated counter. This field does not apply for one time maintenance requirements.

**Start Date** The start date of the range before which the interval specified is valid. This field value is mutually exclusive with the Stop Date, and begins the range for the interval in relation to the associated counter. This field does not apply for one time maintenance requirements.

**Stop Date** The stop date of the range before which the interval specified is valid. This date is mutually exclusive with Start Date, and ends the range for the interval in relation to the associated counter. This field is not applicable for one time maintenance requirements.

**Tolerance Before** The number of counter units of measure that is acceptable for maintenance requirement accomplishment before the specified interval. This aids in planning maintenance jobs.

**Tolerance After** The number of counter units of measure that is permissible for maintenance requirement accomplishment after the specified interval. This value aids in planning maintenance jobs.

**UOM** The Unit of Measure as per the associated counter. This field value is returned when the counter is selected. This value is not editable.

## Fields on the Maintenance Requirement Relationships Page

The following fields appear on the Maintenance Requirement Relationships page:

**Title** User defined maintenance requirement name. Enter the generic substitution metacharacter % and click the Search icon to retrieve the list of maintenance requirement records that exist in the database. Click the pertinent record in the list of values to return the value to the Title field.

**Revision** The revision number of the maintenance requirement. This value if it exists, further identifies the maintenance requirement. This field is populated when the Title field value is returned.

**Relationship Type** indicates whether the attached maintenance requirement relates as a parent or a child to the context maintenance requirement. The field values can be either Parent or Child. Relationship Type Parent implies that the attached maintenance requirement would include the context maintenance

requirement, and Relationship Type Child implies that a context maintenance requirement would include the attached maintenance requirement.

**Description** The maintenance requirement description. The description may be anything that identifies more information about the maintenance requirement. This field is populated when the Title field value is entered.

**Program Type** The user defined maintenance requirement program type. Program Types are used to classify or group maintenance requirements, and can be used in conjunction with Program Subtypes. For example, Letter Check, Corrosion, Modification. This field is populated when the material requirement Title is entered.

**Status** The seeded revision status of the maintenance requirement. This is either Draft, Complete, Approval pending, Approval Rejected, or Terminated. Statuses are not user definable or editable, and only indicate whether the maintenance requirement details and associated information are editable. This field is populated when the maintenance requirement Title field value is returned.

**Effective From** The effective start date of the maintenance requirement. Only one maintenance requirement revision can be effective at a time instance. This field is populated when the Title field value is entered.

**Effective To** The effective maintenance requirement end date. Only one maintenance requirement revision can be effective at a time instance. This field is populated when the Title field value is entered.

## Fields on the View Affected Items Page

The following fields appear on the View Affected Items page:

**Item Number** is the Inventory item identification number. This refers to the Part Number that the maintenance requirement is applicable to in the context of the effectivity.

**Serial Number** The part serial number to which the maintenance requirement applies. This is derived from the serial number ranges you set for maintenance requirement effectivity on the Update Effectivity Details page.

**Location** is an attribute of the item instance that is affected by the maintenance requirement, and is one of the standard item identifiers. The field value refers to the part location.

**Status** is an attribute of the item instance that is affected by the maintenance requirement, and is one of the standard item identifiers.

**Owner** refers to the item owner. This is an attribute of the item instance that is affected by the maintenance requirement, and is a standard item identifier. This attribute is defined when a part information is added or updated.

**Condition** is an attribute of the item instance that is affected by the maintenance requirement, and is one of the standard item identifiers.

**Unit** The top node of the unit configuration that this particular item instance is part of. When you click the Unit link, the unit configuration page for the item opens.

## Creating Maintenance Requirement Records

The Fleet Maintenance Program module leads you through six steps to create a maintenance requirement record. The first step creates a record of the maintenance requirement in the database, while the steps that follow help you update the record, and define the attributes of the requirement including associated maintenance routes, source and reference documents, actions required, maintenance requirement effectivity, and relationships.

To update maintenance requirement records, see [Updating Maintenance Requirement Details](#).

To revise a maintenance requirement with the status "Complete", see [Creating Maintenance Requirement Revisions](#).

The following process initiates the creation of a maintenance requirement. The Create Maintenance Requirement page permits you to save the record in the database, before proceeding to update the record, or define the attributes in the following pages.

### **Prerequisites:**

You should know the Maintenance Requirement Category, Program Type, Program Sub Type, and the Service Type. These values must exist in the database. Moreover, the Program Type and Program Sub Type combination must be defined. See [Associating Program Sub Types to Program Types](#).

**To create maintenance requirement records:**

1. Click the Engineering link on the top right corner of the Oracle Complex Maintenance, Repair, and Overhaul Home page. The Fleet Maintenance Program module opens with the Search Maintenance Requirements displayed under the Overview subtab.
2. Click Create on the Search Maintenance Requirements page to launch the Create Maintenance Requirement page that allows you to perform the first of eight successive steps in the process of creating a maintenance requirement.
3. Enter field values. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Create and Update Maintenance Requirement Pages.

Note: The Status value defaults to Draft and the Version value defaults to 1 when you create the record.

4. Click Apply to save the maintenance requirement record in the database, and proceed to the Update Maintenance Requirements page to edit the maintenance requirement details, or navigate to define the maintenance requirement attributes.
5. To define the maintenance requirement attributes, such as reference and source documents, associated maintenance routes, actions required, maintenance requirement effectivity, and relationships, use the side navigation menu.

See:

- Attaching Documents to a Maintenance Requirement
- Associating Routes to a Maintenance Requirement
- Defining Maintenance Requirement Actions
- Defining Maintenance Requirement Effectivity
- Defining Maintenance Requirement Relationships

## Retrieving Existing Maintenance Requirement Records

Maintenance organizations refer to existing maintenance requirement records while defining solutions for related equipment maintenance. Oracle Complex Maintenance, Repair, and Overhaul allows maintenance personnel to efficiently retrieve any maintenance requirement record that exists in the database to define maintenance requirement effectivity, to establish relationships between different maintenance requirements, to update the record, associate routes to the requirement, or to attach documents to the requirement.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

The maintenance requirement record you want to retrieve must exist in the database.

**To retrieve existing maintenance route records:**

1. Click the Engineering link on the upper right corner of the Oracle Complex Maintenance, Repair, and Overhaul Home page. The Fleet Maintenance Program module opens with the Search Maintenance Requirements displayed under the Overview subtab.
2. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Search Maintenance Requirements Page.
3. Click Go. The lower half of the screen displays the Maintenance Requirement List of all matching records in the database.
4. To restart a search, click Clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

5. To view items affected by a maintenance requirement record, select the pertinent record using the Select radio button, and click View Affected Items.
6. To revise a maintenance requirement, select the pertinent record using the Select radio button, and click Create Revision.

Note: You can only create revisions for maintenance requirements that have the Status "Complete".

7. To edit maintenance requirement details, attached routes, attached documents, actions, effectivities, and relationships, click the pertinent Title link.

Note: You can update these attributes only for a maintenance requirement that is in the Draft or Approval Rejected state. If the selected maintenance requirement is in the Complete, Terminated, or Approval Pending states, the application generates the details and attribute pages as view-only.

You can also update (records in editable statuses) or view effectivity definitions and relationship associations by clicking the Effectivity and Relationships icons corresponding to the pertinent record.

## Attaching Documents to a Maintenance Requirement

Fleet Maintenance Program allows you to attach source and reference documents to a maintenance requirement.

Source or originating documents identify the origin of a maintenance requirement. The Oracle Complex Maintenance, Repair, and Overhaul Document Index module serves as the central location for these documents. Multiple originating documents can be applicable to one maintenance requirement. Reference documents refer to supporting documents. This enhances operational efficiency, providing maintenance personnel at all levels ready access to related documents during the maintenance process.

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**Note:** You cannot edit the documents that are attached to a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the View Attached Documents page (view-only mode) instead of the Update Attached Documents page when the maintenance requirement is in any of these states.

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### Prerequisites:

The document records and the maintenance requirement record to which you want to attach the documents must exist in the database. The maintenance requirement record must be in the Draft or Approval Rejected state.

### To attach documents to a maintenance requirement:

1. Retrieve the maintenance requirement records that match your needs. See [Retrieving Existing Maintenance Requirement Records](#).
2. In the Search Results list, click the Title link of the pertinent record to launch the Update Maintenance Requirement page. The side navigation menu is accessible from this page.
3. On the side navigation menu, click Documents to launch the Update Attached Documents page.

If documents have already been attached to the maintenance requirement, the Documents List shows the attached documents. These attachments can be updated by altering the values in the Documents List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see Fields on the Update Attached Documents Page.

4. To attach new documents to the maintenance requirement record, click Attach Documents. This launches the Search Document page.
5. Retrieve the document references that match your requirement. For detailed instructions, see Finding Document References.
6. From the Search Results, select the pertinent record using the Select checkbox, and click Associate to return this record to the Documents List in the Update Attached Documents page.
7. Click Apply on the Update Attached Documents page to save the changes.

Note: To attach new documents to the maintenance requirement, you can also click Add More Rows, enter the field values as described above, and click Apply. This, however, limits the search criteria you can use to find the required document.

8. To remove an attached document from the Documents List, select the Remove checkbox beside the record you want to remove, and click Apply.

## Associating Routes to a Maintenance Requirement

Fleet Maintenance Program allows maintenance organizations to search for maintenance route records that are created and stored in the database using the Oracle Complex Maintenance, Repair, and Overhaul Route Management module, and to associate them to maintenance requirements. One maintenance requirement can be associated to multiple routes, and each route can be associated to multiple maintenance requirements. Fleet Maintenance Program module also allows you to set a dependency to the attached routes.

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**Note:** You cannot edit the maintenance routes assigned to a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the Update Attached Routes page in a view-only mode when the maintenance requirement is in any of these states.

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**Prerequisites:**

The maintenance route records and the maintenance requirement record to which you want to associate the routes must exist in the database. The maintenance requirement record must be in the Draft or Approval Rejected state.

**To associate maintenance routes to a maintenance requirement:**

1. Retrieve the maintenance requirement records that match your needs. See [Retrieving Existing Maintenance Requirement Records](#).
2. In the Search Results list, click the Title link of the pertinent record to launch the Update Maintenance Requirement page.
3. On the side navigation menu, click Routes to launch the Update Attached Routes page.

If routes have already been attached to the maintenance requirement, the Routes List shows the associated maintenance routes. These routes can be updated by altering the values in the Routes List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions refer to [Fields on the Update Attached Routes Page](#).

4. To associate new maintenance routes to the maintenance requirement record, click Attach Routes. This launches the Search Route page.
5. Retrieve the desired maintenance route records. For detailed instructions, see [Retrieving Existing Maintenance Route Records](#).
6. From the Search Results, select the pertinent record using the Select checkbox, and click Associate to return this record to the Routes List in the Update Attached Routes page.
7. Click Apply on the Update Attached Routes to save the changes.

Note: To attach new routes to the maintenance requirement, you can also click Add More Rows, enter the field values as described above, and click Apply. This, however, limits the search criteria you can use to find the required maintenance route.

8. To set the route dependency, click on the Dependency icon for the route. This launches the Route Dependencies page. For detailed instructions, see [Setting Maintenance Route Dependencies](#).
9. To remove an associated maintenance route from the Routes List, select the Remove checkbox corresponding to the record you want to remove, and click Apply.

## Setting Maintenance Route Dependencies

Fleet Maintenance Program permits maintenance organizations to attach existing maintenance route records to maintenance requirements, and to set an order in which the maintenance routes are to be performed.

The Route Dependencies page is accessible from the Update Associated Routes page. The values for Dependency can be chosen as Execute Before, or Execute After. Only Route Numbers corresponding to routes associated to the maintenance requirement will be displayed in the context. If a maintenance route is associated to another route, then the system returns an error.

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**Note:** You cannot edit the maintenance route dependencies assigned to a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system opens the View Route Dependencies page (view-only mode) instead of the Update Route Dependencies page when the maintenance requirement is in any of these states.

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### Prerequisites:

The maintenance requirement record must be in the Draft or Approval Rejected state.

### To define maintenance route dependencies:

1. Associate the appropriate maintenance routes with the maintenance requirement record. See *Associating Maintenance Routes to a Maintenance Requirement*.
2. Click the Dependency tree icon corresponding to the route that you want to set the dependency for. This launches the Route Dependencies page with the maintenance requirement and route context information.

If other maintenance route dependencies have already been defined for the requirement record, the Route Dependencies List shows the existing dependencies. These dependencies can be updated by altering the values in the Route Dependencies List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see *Fields on the Route Dependencies Page*.

3. To set new route dependencies for the maintenance requirement, click Add More Rows, and enter the required values.
4. To remove a route dependency, click the Remove checkbox beside the pertinent record, and click Apply. This will return you to the Update Attached Routes page.
5. Click Apply to save the route dependencies, and return to the Update Attached Routes page.

## Defining Maintenance Requirement Actions

Maintenance requirement actions refer to certain additional tasks such as specific sign off requirements, and other alerts providing quality checks that are tied to a maintenance requirement. The Fleet Maintenance Program module allows maintenance personnel to create such requirement related actions, with links to a Quality Collection Plan. The link to Quality Collection Plan is optional.

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**Note:** You cannot edit the actions attached to a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system opens the View Attached Actions page (view-only mode) instead of the Update Attached Actions page when the maintenance requirement is in any of these states.

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### Prerequisites:

The maintenance requirement record to which you want to attach the actions must exist in the database. The maintenance requirement record must be in the Draft or Approval Rejected state. A QA Plan that you may optionally associate with an action must exist in the database.

### To define maintenance requirement actions:

1. Retrieve the maintenance requirement records that match your needs. See Retrieving Existing Maintenance Requirement Records.
2. In the Search Results list, click the Title link of the pertinent record to launch the Update Maintenance Requirement page. The side navigation menu is accessible from this page.
3. On the side navigation menu, click Actions to launch the Update Attached Actions page.

If actions have already been attached to the maintenance requirement, the Actions List shows the attached actions. These actions can be updated by altering the values in the Actions List fields if the maintenance requirement is in the Draft or Approval Rejected state.

For field descriptions, see Fields on the Update Attached Actions Page.

4. To define a new maintenance requirement action, click Add More Rows. Rows with empty fields are displayed where you can enter required values.
5. Click Apply to attach the actions to the maintenance requirement, and to record changes, if any, to previously defined actions.
6. To remove an action attached to the maintenance requirement, select the Remove checkbox corresponding to the record, and click Apply.

## Defining Maintenance Requirement Effectivity

Fleet Maintenance Program permits maintenance organizations to attach Oracle Complex Maintenance, Repair, and Overhaul attributes to maintenance requirements. This automatically notifies maintenance personnel about a maintenance requirement applicability on certain physical components existing in the database.

You can define maintenance requirement effectivity using the Fleet Maintenance Program for a Master Configuration position or alternate item, for an item in Inventory, or for a Product Classification node. You can also define effectivity based on Manufacturer, Serial Number or a range of Serial Numbers, Manufacturing Date, or Country of Origin.

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**Note:** You cannot edit the effectivity definitions for a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the View Effectivity page (view-only mode) instead of the Update Effectivity page when the maintenance requirement is in any of these states.

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Use the following procedure to define maintenance requirement effectivity.

**Prerequisites:**

The maintenance requirement record for which you want to define effectivities must exist in the database. The maintenance requirement record must be in the Draft or Approval Rejected state.

**To define maintenance requirement effectivity:**

1. Retrieve the maintenance requirement records that match your needs. See [Retrieving Existing Maintenance Requirement Records](#).
2. In the Search Results list, click the Title link of the pertinent record to launch the Update Maintenance Requirement page. The side navigation menu is accessible from this page.
3. On the side navigation menu, click Effectivities to launch the Update Effectivity page.

If effectivities have already been defined for the maintenance requirement, the Effectivities List shows the existing effectivity definitions. These definitions can be updated by altering the values in the Effectivities List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see [Fields on the Update Effectivity Page](#).

4. To define new effectivities for the maintenance requirement, click [Add More Rows](#). Rows with empty fields are displayed where you can enter required values.
5. Click [Apply](#) on the Update Effectivity page to record the changes.
6. To remove an effectivity definition from the Effectivities List, select the [Remove](#) checkbox beside the record you want to remove, and click [Apply](#).
7. To update the details of an effectivity definition, click the [Effectivity Details](#) icon corresponding to the record you want to update. This launches the [Update Effectivity Details](#) page. For detailed instructions, see [Defining Effectivity Details](#).
8. To define intervals and thresholds for an effectivity, click the [Interval Threshold](#) icon corresponding to that record. For details, see [Defining Intervals and Thresholds](#).
9. To view the items affected by a maintenance requirement effectivity, click the [View Affected Items](#) icon corresponding to that effectivity definition. For details, see [Viewing Items Affected by a Maintenance Requirement](#).

## Defining Effectivity Details

You can define effectivity details, such as Serial Number Range, Manufacturing Details, and Country of Origin, after defining a maintenance requirement effectivity. Specifying these item details further funnels down the maintenance requirement applicability to specific units.

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**Note:** You cannot edit the effectivity definition details for a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the View Effectivity Details page (view-only mode) instead of the Update Effectivity Details page when the maintenance requirement is in any of these states.

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### Prerequisites:

The maintenance requirement record for which you want to define effectivity details must be in the Draft or Approval Rejected state.

### To define effectivity details:

1. Define effectivities for the maintenance requirement. See Defining Maintenance Requirement Effectivity.
2. On the Update Effectivity page, click the Effectivity Details icon corresponding to the effectivity definition for which you want to specify details. This launches the Update Effectivity Details page with the maintenance requirement context information.

If other effectivity details have already been defined for the requirement effectivity record, the Effectivity Details List displays the existing details. These details can be updated by altering the values in the Effectivity Details List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see Fields on the Update Effectivity Details Page.

3. To enter a new effectivity detail row, click Add More Rows.
4. Enter the field values as required.
5. Click Apply to save the effectivity detail.

6. To exclude an effectivity detail row from the maintenance requirement effectivity, select the Exclude checkbox corresponding to that row, and click Apply. The Exclude flag indicates whether the maintenance requirement effectivity includes or excludes an effectivity detail row.

For example, if you want to exclude from the effectivity, a range of part serial numbers within a serial number range for which the maintenance requirement applies, perform the following tasks:

- a. Click Add More Rows to open a new row.
  - b. Enter the Serial Number From and Serial Number To values in this row, defining the range that you want to exclude from the effectivity.
  - c. Select the Exclude checkbox beside the range that you want to exclude from the effectivity, and click Apply. The Exclude checkbox being selected serves as the flag to exclude the serial number range in that effectivity detail row from the maintenance requirement effectivity.
7. To remove an effectivity detail row from the Effectivity Details List, select the Remove checkbox beside the pertinent record, and click Apply.

## Defining Intervals and Thresholds

Maintenance organizations use intervals and thresholds to set a schedule that will count down until a maintenance requirement is due for a unit. Fleet Maintenance Program allows organizations to set multiple intervals and thresholds for each effectivity. It links all intervals and thresholds directly to the affected unit's existing counters. You can choose the counter based on which to set an interval and threshold combination. You can choose between "Whichever Comes Last" and "Whichever Comes First" for each set of interval and threshold combination.

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**Note:** You cannot edit the interval and threshold definitions for a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the View Interval Threshold page (view-only mode) instead of the Update Interval Threshold page when the maintenance requirement is in any of these states.

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**Prerequisites:**

The maintenance requirement record for which you want to define interval threshold must be in the Draft or Approval Rejected state.

**To define intervals and thresholds:**

1. Define effectivities for the maintenance requirement. See Defining Maintenance Requirement Effectivity.
2. On the Update Effectivity page, click the Interval Threshold icon corresponding to the effectivity definition for which you want to define intervals and thresholds. This launches the Update Interval Threshold page with the maintenance requirement context information.

If other intervals and thresholds have already been defined for the requirement effectivity record, the Interval Threshold List displays the existing records. These intervals and thresholds can be updated by altering the values in the Interval Threshold List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see Fields on the Update Interval Threshold Page.

3. To enter a new interval threshold, click Add More Rows to open new rows.
4. Enter the field values as required.

Note:

- a. You can define a threshold only for one-time (non-repetitive) maintenance requirements. You cannot enter Start, Stop, Start Date, and Stop Date values for one-time maintenance requirements.
  - b. You can add only one interval per counter.
  - c. Start and Stop values cannot overlap.
5. Click Apply to save the interval threshold definition.
  6. To remove an existing interval threshold definition from the Interval Threshold List for the maintenance requirement, select the Remove checkbox beside the definition you want to remove, and click Apply.

## Defining Maintenance Requirement Relationships

Maintenance organizations use group relationships for non-complicated parent child components, where the maintenance requirement accomplishment on the parent component includes the child components. A maintenance requirement is

also sometimes linked to the accomplishment of another requirement, creating a dependency between the two. For example, a maintenance requirement MR1 can have a dependency to another requirement MR2 that requires MR2 to be completed before MR1. Fleet Maintenance Program accommodates such dependencies using an attribute of the maintenance requirement that states another requirement as its prerequisite.

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**Note:** You cannot edit the relationships defined for a maintenance requirement flagged as Complete, Terminated, or Approval Pending. The system launches the Relationships page in a view-only mode when the maintenance requirement is in any of these states.

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Use the following procedure to create maintenance requirement groups, and define their relationships.

### **Prerequisites:**

The maintenance requirement record for which you want to create groups and define relationships must exist in the database. The maintenance requirement record must be in the Draft or Approval Rejected state.

### **To define maintenance requirement relationships:**

1. Retrieve the maintenance requirement records that match your need. See [Retrieving Existing Maintenance Requirement Records](#).
2. In the Search Results list, click the Title link of the pertinent record to launch the Update Maintenance Requirement page. The side navigation menu is accessible from this page.
3. On the side navigation menu, click Relationships to launch the Maintenance Requirement Relationships page.

If other maintenance requirement relationships have already been defined for the requirement record, the Maintenance Requirements List shows the existing relationships. These relationship definitions can be updated by altering the values in the Maintenance Requirement List fields if the maintenance requirement record is in the Draft or Approval Rejected state.

For field descriptions, see [Fields on the Maintenance Requirement Relationships Page](#).

4. To relate new maintenance requirements to the maintenance requirement record, click **Attach**. This launches the **Search Maintenance Requirement** page.
5. Retrieve the maintenance requirement records that match your needs. See **Retrieving Existing Maintenance Requirement Records**.
6. From the **Search Results**, select the record that you want to attach using the **Select** checkbox, and click **Attach** to return this record to the **Maintenance Requirements List** on the **Maintenance Requirement Relationships** page.
7. Click **Apply** on the **Maintenance Requirement Relationships** page to save the relationship records.

**Note:** To include new maintenance requirement relationships, you can also click **Add More Rows** to open new rows, enter the field values as described above, and click **Apply**. This, however, limits the search criteria you can use to find the required maintenance requirement.

8. To remove a related requirement from the **Material Requirements List**, select the **Remove** checkbox beside the record you want to remove, and click **Apply**.
9. To view the child maintenance requirements associated with any **Parent Relationship Type** record in the **Maintenance Requirements List**, click the corresponding **Relationships** icon. This displays the list of material requirements to which the record is related, and their relationship types.

## Updating Maintenance Requirement Records

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing maintenance requirement records and edit the information associated with the requirement including maintenance routes, documents, effectivities, actions and relationships.

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**Note:** You can update these attributes only for a maintenance requirement that is in the **Draft** or **Approval Rejected** state. If the selected maintenance requirement is in the **Complete**, **Terminated**, or **Approval Pending** states, the application generates the details and attribute pages in view-only mode.

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To view the details of a **Complete**, **Approval Pending**, or **Terminated** maintenance requirement, see **Viewing Maintenance Requirement Details**.

This first step in the process allows you to edit the basic maintenance requirement information.

**Prerequisites:**

The maintenance requirement record you want to edit must exist in the database. The record must be in the Draft or Approval Rejected state.

**To update maintenance requirement records:**

1. Retrieve the maintenance requirements that match your need. See Retrieving Existing Maintenance Requirement Records.
2. In the Search Results list, click the Title Link of the record that you want to edit. This launches the Update Maintenance Requirement page if the maintenance requirement is in the Draft or Approval Rejected state.

If the maintenance requirement record you selected has the status Complete, Terminated, or Approval Pending, the application launches the View Maintenance Requirement page. In this case, a Super-User can change the following attributes in the maintenance requirement details:

- Program Type
  - Program Sub Type
  - Service Type
  - Repetitive
  - Show Repetitive
  - Description
  - Comments
  - Revision Number
3. Make the necessary changes to the field values. For field descriptions, see Fields on the Create and Update Maintenance Requirement Pages.
  4. Click Apply to record the changes.
  5. To advance the maintenance requirement to Approval Pending Status, click Approve. This is possible only after maintenance routes have been associated to the requirement. The status changes are dependent on the approval rules during Oracle Complex Maintenance, Repair, and Overhaul setup.

A maintenance requirement record in the Approval Pending Status cannot be edited. When you click Approve, the View Maintenance Requirement page is launched displaying the maintenance requirement details in a view only mode.

6. To view items to which the maintenance requirement applies, click **Affected Items** link on the side navigation menu. See **Viewing Items Affected by a Maintenance Requirement**.
7. To update attached documents, associated maintenance routes, attached actions, effectivities, and relationships, use the side navigation menu.

See:

- **Attaching Documents to a Maintenance Requirement**
- **Associating Routes to a Maintenance Requirement**
- **Defining Maintenance Requirement Actions**
- **Defining Maintenance Requirement Effectivities**
- **Defining Maintenance Requirement Relationships**

## Viewing Items Affected by a Maintenance Requirement

The **View Affected Items** page displays the items that are affected by a maintenance requirement. Maintenance requirement effectivities are defined using the **Update Effectivity** page.

You can access the **View Affected Items** page using any of the following methods. For field descriptions, refer to **Fields** on the **View Affected Items** Page.

1. From the **Search Maintenance Requirement** page:
  - a. Retrieve the maintenance requirement record for which you want to view the affected items. See **Retrieving Existing Maintenance Requirement Records**.
  - b. Select the pertinent record using the **Select** radio button, and click **View Affected Items** to launch the **View Affected Items** page.
2. From the **Update Maintenance Requirement** page (when the maintenance requirement is in the **Draft** or **Approval Rejected** state):
  - a. Retrieve the maintenance requirement records that match your needs.
  - b. On the **Search Results** list, click the pertinent maintenance requirement **Title** link to launch the **Update Maintenance Requirement** page.

- c. On the side navigation menu, click Affected Items to launch the View Affected Items page.
  3. From the View Maintenance Requirement page (when the maintenance requirement is in the Approval Pending, Terminated, or Complete state):
    - a. Retrieve the maintenance requirement records that match your needs.
    - b. On the Search Results list, click the pertinent maintenance requirement Title link to launch the View Maintenance Requirement page.
    - c. On the View Maintenance Requirement page side navigation menu, click Affected Items to launch the View Affected Items page.
  4. From the Update Effectivity page (when the maintenance requirement is in the Draft or Approval Rejected state):
    - a. Retrieve the maintenance requirement records that match your needs.
    - b. On the Search Results list, click the pertinent maintenance requirement Title link to launch the Update Maintenance Requirement page.
    - c. On the side navigation menu, click Effectivities to launch the Update Effectivity page.
    - d. To view the items affected by any effectivity definition, click the corresponding View Affected Items icon. This launches the View Affected Items page listing all the part Serial Numbers for which the effectivity is defined.
  5. From the View Effectivity page (when the maintenance requirement record is in the Approval Pending, Terminated, or Complete state):
    - a. Retrieve the maintenance requirement records that match your needs.
    - b. On the Search Results list, click the pertinent maintenance requirement Title link to launch the View Maintenance Requirement page.
    - c. On the side navigation menu, click Effectivities to launch the View Effectivity page.
    - d. To view the items affected by any effectivity definition, click the corresponding View Affected Items icon. This launches the View Affected Items page listing all the part Serial Numbers for which the effectivity is defined.

## Creating Maintenance Requirement Revisions

A maintenance requirement revision is created when an existing maintenance requirement record with the status Complete has to be updated for necessary reasons.

You can create a revision from an existing maintenance requirement record. The Create Maintenance Requirement Revision page is a variation of the Create Maintenance Requirement page with the status set to Draft. The maintenance requirement Version defaults to the next sequentially generated number, and all the original maintenance requirement attributes including intervals and thresholds are copied into the revision. The maintenance requirement Revision Number is user definable and optional.

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**Note:** Revisions are allowed only from the latest Complete maintenance requirement record.

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### Prerequisites:

The maintenance requirement record you want to revise must exist in the database in the Complete state.

### To create maintenance requirement revisions:

1. Retrieve the maintenance requirement record for which you want to create a revision. See Retrieving Existing Maintenance Requirement Records.
2. In the Search Results list, select the pertinent record using the Select radio button, and click Create Revision. This launches the Create Maintenance Requirement Revision page.

The fields that appear on the Create Maintenance Requirement Revision page are the same as that on the Create Maintenance Requirement page with the exception of the Copy Last Accomplishment field, and the Version field defaulting to the next sequentially generated number. For field descriptions, see Fields on the Create and Update Maintenance Requirement Pages.

Copy Last Accomplishment is a flag to indicate whether the last accomplishment of the maintenance requirement should be copied in Unit Maintenance Plan when a new maintenance requirement revision is created. The field value can be either Yes or No, and is used when creating a maintenance requirement revision. This flag is used only in the case of

repetitive maintenance requirements. The Unit Maintenance Plan module calculates the next occurrence of the maintenance requirement based on the previous accomplishment of the same maintenance requirement. Also, when a maintenance requirement revision is created, you may want to retain the previous accomplishment information, or start with new information.

3. Click **Apply** to save the maintenance requirement revision record.
4. To advance the maintenance requirement revision to **Approval Pending Status**, click **Approve**. This is possible only after maintenance routes have been associated to the requirement.

A maintenance requirement record in the **Approval Pending Status** cannot be edited. When you click **Approve**, the **View Maintenance Requirement** page is launched displaying the maintenance requirement details in a view only mode.

5. To update the maintenance requirement attributes, such as attached documents, associated maintenance routes, actions, effectivities, and relationships, see:
  - **Attaching Documents to a Maintenance Requirement**
  - **Associating Routes to a Maintenance Requirement**
  - **Defining Actions Required for a Maintenance Requirement**
  - **Defining Maintenance Requirement Effectivities**
  - **Defining Maintenance Requirement Relationships**
6. To view items to which the maintenance requirement revision applies, click **Affected Items** link on the side navigation menu. See **Viewing Items Affected by a Maintenance Requirement**.

## Viewing Maintenance Requirement Details

Maintenance requirement records with the status **Complete**, **Terminated**, or **Approval Pending**, cannot be edited. With any of these maintenance requirement statuses, the application opens the **Maintenance Requirement Details** page in a view-only mode.

### **Prerequisites:**

The maintenance requirement record that you want to view must exist in the database with the status **Complete**, **Terminated**, or **Approval Pending**.

**To view maintenance requirement details:**

1. Retrieve the maintenance requirement records that meet your needs. See Retrieving Existing Maintenance Requirement Records.
2. Click the pertinent Title link to launch the View Maintenance Requirement page. This page provides the maintenance requirement header details. For field descriptions, see Fields on the Create and Update Maintenance Requirement Pages.
3. To view the attributes including attached documents, associated maintenance routes, attached actions, effectivities, and relationships of a Complete, Approval Pending, or Terminated maintenance requirement, click the corresponding link on the side navigation menu.

## Associating Program Sub Types to Program Types

Use the following procedure to associate Program Sub Types to Program Types.

**Prerequisites:**

Program Type values must exist in the database.

**To associate program sub types to program types:**

1. Under the Fleet Maintenance Program tab, select Program Type Associations subtab to launch the Create Program Type/Sub Type page.
2. In the Program Type field enter the generic substitution metacharacter %, and click the Search icon to return a list of Program Type values on the Select Program Type page.
3. Click the relevant result to return this record to the Program Type field.
4. The Program Sub Types List displays all the Program Sub Types associated to the selected Program Type.
5. To associate a new sub type to the Program Type, click Add More Rows to reveal new rows.
6. Enter the required values in the fields. Fields in the Program Sub Types List include:
  - Program Subtype represents the user defined sub type of the Program Type. For example, for the Program Type Letter Check, Program Subtypes could be A Check, B Check, C Check, and D Check.

- Description refers to the Program Subtype description. The description provides more description about the subtype to the user.
7. Click Apply to record the association.
  8. To remove a Sub Type that is associated to the Program Type, select the Remove checkbox beside the Program Subtype you want to remove, and click Apply.

Note: You can remove a Program Sub Type association to a Program Type only if this combination is not associated to any existing maintenance requirement.



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## Managing Maintenance Routes

A maintenance route describes a series of maintenance, repair, or overhaul tasks on a fleet unit, subassembly, or subsystem. Maintenance routes are effectively work cards, modeling the printed work cards typically provided by the manufacturer of the fleet unit. Work cards are often associated with a zone in a fleet unit, such as the powerplant of a commercial aircraft. Other attributes of maintenance routes include work location (for example, engine overhaul shop, machine shop, painting facility), supporting process types (for example, inspection, cleaning), skill types (for example, electronics technician, airframe technician, powerplant technician), and supporting significant maintenance tasks (for example, ship in dry-dock with all cargo and engines removed). Oracle Complex Maintenance, Repair, and Overhaul includes the Route Management module that manages work cards and resource requirements.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Route Management module. The chapter provides process-oriented, task based procedures for using Oracle Complex Maintenance, Repair, and Overhaul to perform essential route management tasks in maintenance organizations.

See:

- Creating Operation Records
- Creating Maintenance Route Records
- Finding Operation Records
- Finding Maintenance Route Records
- Defining Reference Documents
- Defining Resource Requirements
- Defining Material Requirements

- Associating Operations to a Maintenance Route
- Editing Operation Records
- Editing Maintenance Route Records
- Associating Major Zones to Product Types
- Associating Sub Zones to Product Types
- Finding Oracle Complex Maintenance, Repair, and Overhaul Resources
- Creating Oracle Complex Maintenance, Repair, and Overhaul Resources
- Editing Oracle Complex Maintenance, Repair, and Overhaul Resources
- Associating BOM Resources

## What is Route Management?

Route Management is a subsystem that manages the work definition of scheduled and unscheduled maintenance tasks. It allows maintenance organizations to create work cards specifying the zone, work location, supporting process types, skill types, and significant maintenance tasks associated with the work card.

The Route Management module also supports the management of resource requirements for a maintenance route including labor estimate, materials estimate, tooling required, and reference documents. For some fleets, especially aircraft, regulatory compliance requires that maintenance operations be inspected before completion is formally recorded. Route Management supports the definition of inspection signature attributes for work card records. Route Management also supports check point definitions for labor cost collection, and progress reporting.

The Route Management module uses data managed by the other modules comprising Oracle Complex Maintenance, Repair, and Overhaul. For example, airlines may create work cards in response to an Airworthiness Directive by the Federal Aviation Administration, but only for a subset of the aircraft in the operational fleet. Through Fleet Maintenance Program, Route Management routes (work cards) can be associated with those fleet units.

## Key Business Processes

Route Management supports the following business processes:

**Work Card or Route Authoring** Work cards or routes are fundamental in accomplishing maintenance requirements. Work cards consist of step by step work

instructions containing functional and operational data needed to perform specific job tasks. Oracle Complex Maintenance, Repair, and Overhaul supports the authoring of routes. Each work card is made up of one or several operations. The route authoring process allows maintenance personnel to select pre-defined operations, and associate them to a maintenance route.

**Production Planning Information** Operational data is essential to grouping work cards and planning maintenance requirements. The more the information in the work card, the easier it is for the production planner to schedule and group work cards. Oracle Complex Maintenance, Repair, and Overhaul allows organizations to define production planning information for an operation, including work zone, work center, operation category, operation type, process, and significant tasks.

**Resource Requirements Information** Functional data is essential to accomplish maintenance requirements, and to a lesser extent grouping of maintenance tasks. The more the information in the work card, the easier it is for the production planner to schedule and group work cards. This allows the material planner to schedule and forecast material needs. Oracle Complex Maintenance, Repair, and Overhaul allows organizations to define the resource requirements for an operation including estimated labor man hours, material required, tools required, and reference documents.

**Sign-Off Requirements** A work card changes to a work order when issued to Production. In the maintenance, repair, and overhaul industry, all work orders require to be signed off when completed, and also at certain step levels. Oracle Complex Maintenance, Repair, and Overhaul allows maintenance facilities to define sign-off requirements for each work card. You can set up all sign-off requirements at the time the work card or route is created. The actual sign-off, however, occurs on the work order and not on the work card.

**Resource Collection Check Points** Maintenance organizations may require to collect actual labor expended, material usage, and other job cost data at the completion of different operations during a maintenance job. Oracle Complex Maintenance, Repair, and Overhaul allows you to collect this data by creating check points that group successive operations together.

## Fields Associated with Operation Records

The following fields appear on Route Management pages that relate to maintaining operation records:

**Operation** field contains the operation code, which describes the order of the operation within the route. If you do not know the value for a segment in the operation, enter the generic substitution metacharacter %, and click Go to launch the Select Operation page. This returns all operation records in the segment. You can then click on the pertinent record to return the value to the corresponding field. Repeat for each segment.

**Operation Type** refers to the kind of operation being performed. It is used to help organize operations. Operation type values are set up during the installation of Oracle Complex Maintenance, Repair, and Overhaul.

**Process** refers to the kind of maintenance process, such as cleaning or inspection. If you do not know the value, enter the generic substitution metacharacter %, and click Go to launch the Select Process page. This returns all process records in the database. Click on the pertinent record to return the value to the corresponding field. Process values are set up during the installation of Oracle Complex Maintenance, Repair, and Overhaul.

**Revision Status** indicates whether the operation record is current, or in the draft stage. The status types are system defined and are approval supported.

**Start Date** refers to the date of the first day of effectivity of this operation. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**End Date** refers to the date before which the operation is to be completed. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Description** refers to a text description of the maintenance operation.

**Remarks** is a field where you can enter any additional information that the maintenance personnel should know regarding the operation.

**Revision** is a field that holds a user-assigned document revision identifier.

**Revision Note** is a description of why the revision is made.

**Quality Collection Plan** is an association to a plan in Oracle Quality with quality elements for recording the necessary accomplishments and sign-off criteria of an operation. Quality collection plans are used at the time of maintenance completion

and are set up as part of Oracle Quality allowing for precise control of job completion requirements and subsequent processes. For more information, see the Oracle Quality set up procedures.

**Standard** is a user selected yes or no value to catalog an operation record as a standard or non-standard job.

## Creating Operation Records

The Route Management module leads you through the steps to create an operation record. The initial step creates a record of the operation in the database. Subsequent steps define operation attributes like document references, labor, machine and tooling requirements, and material requirements. The following process initiates the creation of an operation. The Create Operation page permits saving the record in the database before proceeding to define the attributes in the following pages.

### **Prerequisites:**

You should know the Product Type, the Major and Sub Zones of the system on which the operation is to be carried out, the Work Center, the Skill Type required to perform the operation, the Operation Type, and the Category type. These values must exist in the database.

### **To create operation records:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Click the Route Management tab. The Search Operation page appears.
3. Click Create to launch the Create Operation page and begin the process of creating an operation record.
4. Enter the information in the fields provided. Information in fields marked with asterisk is mandatory. For field descriptions, see Fields Associated with Operation Records.
5. Click Apply to record the operation in the database. The Edit Operation page appears where you can update information and/or define reference documents, resource requirements, and material requirements for the operation.
6. After it is completely defined, the operation must be approved. To do this, click Approve on the Edit Operation page. This will launch the approval workflow

and, depending on the outcome of the approval, change the status of the operation. During the approval workflow the status is "Approval pending" for the creation of a operation or "Termination pending" for the deletion of an operation. The outcome status of the approval workflow can either be "Complete" or "Approval Rejected." You can also approve a draft operation from the result list in the operation search screen. The approval workflow is defined by your organization at the time of setting up Oracle Complex Maintenance, Repair, and Overhaul. For more information about setting up approval workflow, see the *Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide*.

See:

- Defining Reference Documents for an Operation
- Defining Resource Requirements for an Operation
- Defining Material Requirements for an Operation

## Fields Associated with Maintenance Route Records

The following fields appear on Route Management pages that relate to managing maintenance route records:

**Route Number** is the user-assigned identifier for a maintenance route.

**Title** refers to the text description of the maintenance route.

**Operator** refers to the organization operating the concerned fleet. If you do not know the value, enter the generic substitution metacharacter %, and click Go to launch the Select Operator page. This page displays all operator records in the database. Select the pertinent record to return the value to the field on the Create Route page.

**Time Span** defines the total duration of a route in hours. It will be used when calculating the visit structure in the Visit Work Package module.

**Product Type** refers to the classification by category, of the electromechanical system. If you do not know the value, enter the generic substitution metacharacter %, and click Go to launch the Select Product Type page. This page displays all product type records in the database. Select the pertinent record to return the value to the field.

**Major Zone and Sub Zone** refers to the user-defined zones used as a method for identifying locations in the electromechanical system being maintained. If you do not know the value, enter the generic substitution metacharacter %, and click Go to launch the Select Major Zone (or, if applicable, Sub Zone) page. This page displays all records in the database. Select the pertinent record to return the value to the field.

**Route Type** refers to the type of route, for example, whether the route applies to an entire aircraft or to a subsystem in the aircraft. The route types are defined while installing Oracle Complex Maintenance, Repair, and Overhaul.

**Process** refers to the type of the maintenance route such as cleaning or inspection.

**System** refers to the electromechanical system on which you perform the maintenance activity. This system field is a segmented flexfield. The segmentation is defined by your organization at set up time. When setting up the system field, your organization may define valid values for the segments

**Quality Collection Plan** is an association to a plan in Oracle Quality with quality elements for recording the necessary accomplishments and sign-off criteria of an operation. Quality collection plans are used at the time of maintenance completion and are set up as part of Oracle Quality allowing for precise control of job completion requirements and subsequent processes. For more information, see the Oracle Quality set up procedures.

**Service Item** refers to the according service item of this route for outside processing. This service item is used in production planning when creating the outside processing work order and the purchase order. Service Items are defined by your organization when setting up the item master in Oracle's inventory module.

**Accounting Class** The accounting class is used when the route becomes a WIP job in Production. It supports the costing procedure in on the shop floor. Accounting Classes are defined by your organization when setting up Oracle's WIP module.

**Task Template Group** refers to a template group used by Oracle Service. Task Template Groups need only be defined when your Organization uses Oracle's Preventive Maintenance Module. Task Template Groups are defined by your organization when setting up Oracle's Service and/or Field Service module.

**Start Date** refers to the date of the first day of effectivity of this maintenance route. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**End Date** refers to the date that represents the last day before which the maintenance route is to be completed. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Revision** is a field that holds a user-assigned document revision identifier.

**Status** indicates whether the route record is completed, or in the draft stage.

## Creating Maintenance Route Records

The Route Management module takes you through eight steps to create a maintenance route record. The first step creates a record of the route in the database, while the steps that follow help you define the attributes of the route including sign off requirement, document references, labor requirement, material requirement, machine requirement, and tool requirement. The final step involves associating existing operations with a route.

The following process initiates the creation of a route. The Create Route page lets you save the record in the database, before proceeding to define the attributes in the following pages.

### **Prerequisites:**

You should know the Route Type, Product Type, the System, the Process, the Major/Sub Zone, the Quality Collection Plan, and the Accounting class of the system to which the maintenance route applies. These fields are all optional. If you define the route as a work card for a different operator on whose equipment you perform maintenance, you can specify that operator on the route. If the route is a work card for an outside processing job, you can define the Service Item that is applicable when the outside processing work order and the purchase order gets created. If Route Management is used in the Preventive Maintenance Module you can also define the JTF Task Template Group which should be used when integrating with Oracle's Field Service module through Preventive Maintenance.

These values must exist in the database.

**To create a route record:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab and then the Route sub tab. The Search Route page in Route Management appears. Click Create to launch the Create Route page.
3. Enter the information in the fields provided. Information in fields marked with asterisk is mandatory. For field descriptions, see Fields Associated with Maintenance Route Records.
4. Click Apply to create the maintenance route record in the database.
5. Click Apply to record the operation in the database. The Edit Route page appears where you can update information and/or define reference documents, resource requirements, and material requirements for the operation.
6. After it is completely defined, the operation must be approved. To do this, click Approve on the Edit Route page. This will launch the approval workflow and, depending on the outcome of the approval, change the status of the operation. During the approval workflow the status is “Approval pending” for the creation of a operation or “Termination pending” for the deletion of an operation. The outcome status of the approval workflow can either be “Complete” or “Approval Rejected.” You can also approve a draft operation from the result list in the operation search screen. The approval workflow is defined by your organization at the time of setting up Oracle Complex Maintenance, Repair, and Overhaul. For more information about setting up approval workflow, see the *Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide*.
7. To define the attributes of the route such as reference documents, labor requirement, resource (material, tool, machine etc.) requirement, and associated operations, click Next.

See:

- Defining Reference Documents for a Route
- Defining Resource Requirements for a Route
- Defining Material Requirements for a Route
- Associating Operations to a Maintenance Route

## Finding Operation Records

Maintenance organizations refer to existing operation records while defining solutions for similar maintenance requirements. Oracle Complex Maintenance, Repair, and Overhaul also allows organizations to associate existing operations to a maintenance route. This necessitates the efficient retrieval of operation records.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

The operation record you want to retrieve must exist in the database.

### **To find an operation record:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab. The Search Route page appears in Route Management.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields Associated with Operation Records.
4. Click Go. The lower half of the screen displays the Operation List of all matching records in the database.
5. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

6. To edit a maintenance operation record, click the hyper linked name of the operation in the result list.
7. To approve a draft operation, select the pertinent record and click Approve.
8. To delete a draft operation, select the pertinent record and click Delete
9. To terminate an active operation, select the pertinent record and click Terminate

10. To create a revision for an active operation, select the pertinent record and click Create Revision.

## Finding Maintenance Route Records

Use this process to retrieve maintenance route records from your database.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

The maintenance route that you want to retrieve must exist in the database.

### **To find maintenance route records:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab, then select the Route sub tab. The Search Route page appears in Route Management.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields Associated with Maintenance Route Records.
4. Click Go. The lower half of the screen displays the Route List of all matching records in the database.
5. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).  
  
After entering the new search criteria, click Search to begin searching the database for records that match.
6. To edit a maintenance route record, click on the hyper linked route in the search result list.
7. To approve a draft route, select the pertinent record and click Approve.
8. To delete a draft route, select the pertinent record and click Delete
9. To terminate an active route, select the pertinent record and click Terminate.

10. To create a revision for an active route, select the pertinent record and click Create Revision.
11. To associate operations with a maintenance route record, select the pertinent route, and click Associate Operations.

## Defining Reference Documents

Oracle Complex Maintenance, Repair, and Overhaul allows you to define the reference documents related to a maintenance activity while creating the work card. This provides a ready reference that will improve the operational efficiency of personnel involved in the maintenance job.

See:

- Defining Reference Documents for an Operation
- Defining Reference Documents for a Maintenance Route

## Fields on the Reference Document Page

The following fields appear on the Reference Document page:

**Document Number** contains a unique identifier, generated by the organization to identify a maintenance document. If you do not know the document number, enter the generic substitution metacharacter % in the field, and click Go to launch the Select Doc Number page that displays all the document references in the database.

**Type** represents the major topic such as powerplant, fleet unit, and ground support equipment that is described by the document in question. This field value is returned when you enter the Document Number.

**Title** refers to the title of the maintenance document. This field value returns when you enter the Document Number.

**Revision** is a field that holds a user-assigned document revision identifier.

**Chapter** refers to a specific chapter in the associated document. The value is defined by the user when the association is created.

**Section** refers to a specific section in the associated document. The value is defined by the user when the association is created.

**Subject** refers to a specific subject in the associated document. The value is defined by the user when the association is created.

**Page** refers to a specific page in the associated document. The value is defined by the user when the association is created.

**Figure** refers to a specific figure in the associated document. The value is defined by the user when the association is created.

**Note** refers to a specific note in the associated document. The value is defined by the user when the association is created.

## Defining Reference Documents for an Operation

### Prerequisites:

The document references and the operation record to which you want to associate them must exist in the database.

### To define reference documents for an operation:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab. The Search Operation page appears. Click the Create button to launch the Create Operation page, or search for an existing operation from the search operation page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Operation Records).
4. Click Apply, and the operation is added to the database. The Edit Operation page appears.
5. If you are associating documents to an existing operation, find that operation with the search then click on the hyper linked record in the search result list to navigate to the edit operation page.
6. Click Reference Documents on the side navigation menu to launch the Reference Document page.
7. Enter the information in the fields provided. For field descriptions, see Fields on the Reference Document Page.

8. Click **Apply** to add the reference document information to the operation record.
9. To remove a reference document associated to the operation, click on the delete icon in the associate document list of document definition that you want to remove, then click **Apply**.

## Defining Reference Documents for a Maintenance Route

### **Prerequisites:**

The document references, and the maintenance route record to which you want to associate them, must exist in the database.

### **To define reference documents for a maintenance route:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the **Engineering Global** button. The **Search Maintenance Requirements** page of **Fleet Maintenance Program** appears.
2. Select the **Route Management** tab and then select the **Route** sub tab. The **Search Route** page appears. Click the **Create** button to launch the **Create Route** page, or search for an existing operation from the search operation page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see **Fields Associated with Maintenance Route Records**).
4. Click **Apply**, and the operation is added to the database. The **Update Route** page appears.
5. If associating documents to an existing route, search for the route and click on the hyper linked record in the search result list to navigate to the **Update Route** page. Click **Reference Document** on the side navigation menu to launch the **Reference Document** page.
6. Enter the information in the fields provided. For field descriptions, see **Fields on the Reference Document Page**.
7. Click **Apply** to add the reference document information to the maintenance route record.
8. To remove a reference document associated to the route, select the check box beside the document definition that you want to remove, and then click **Apply**.

## Defining Resource Requirements

Oracle Complex Maintenance, Repair, and Overhaul allows you to compile labor requirements related to a maintenance task. This information is necessary for pre-planning activities. Resource requirements can be defined as Labor, Tooling or Machinery.

See:

- Defining Resource Requirements for an Operation
- Defining Resource Requirements for a Maintenance Route

## Fields on the Resource Requirement Page

The following fields appear on the Labor Requirement page:

**Resource Type** refers to the type of resource requirement. If you do not know the value, enter a partial search string using the generic substitution metacharacter %, and click on the search icon to launch the resource type list of values. The resource types are system seeded, defined at installation of Oracle Bill of Materials.

**Primary Resource** refers to the resource required to perform the route or operation. If you do not know the value, enter a partial search string using the generic substitution metacharacter %, and click on the search icon to launch the resource list of values. The resources are set up by your organization at implementation time.

**Quantity** refers to the number of resources required to perform the route or operation.

**Duration** refers to number of hours required of each resource to perform the route or operation.

**Skill Type** refers to the type of skill the individual performing the maintenance operation should possess. The skill type is retrieved from the selected resource. Skill Type is populated only for the resource type "Person."

**Skill Level** refers to the skill level an individual performing the maintenance task should possess. The skill type is retrieved from the selected resources. Skill level is populated only for the resource type "Person."

**Certification** refers to certification an individual performing the maintenance task should possess. Certification is populated only for the resource type “Person.”

## Defining Resource Requirements for an Operation

### **Prerequisites:**

The operation record for which you want to define labor requirements should exist in the database. The resources required to carry out the operation must be set up in the database. Refer to *Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide*.

### **To define resource requirements for an operation:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab to bring up the Search Operation page. Click the Create button to launch the Create Operation page, or search for an existing operation from the search operation page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Operation Records).
4. Click Apply to add the operation to the database. The Edit Operation page appears.
5. If associating documents to an existing operation, search for the operation and click on the hyper linked record in the search result list to navigate to the Edit Operation page.
6. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
7. Click on the Costing Parameter Icon to specify Costing Parameters for this resource requirement. See Defining Costing Parameters.
8. Click Apply to add the resource requirement information to the operation record.
9. To remove a labor requirement associated to the operation, click the remove icon on the pertinent record in the resource list and then click Apply.

## Defining Resource Requirements for a Maintenance Route

### Prerequisites:

The maintenance route record for which you want to define labor requirements must exist in the database. The Resources required to carry out the route must be set up in the database. Refer to the *Oracle Complex Maintenance, Repair, and Overhaul Implementation Guide*.

### To define resource requirements for a maintenance route:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab then click the Route sub tab to bring up the Search Route page. Click the Create button to launch the Create Route page, or search for an existing route from the search route page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Maintenance Route Records).
4. Click Apply to add the operation to the database. The Update Route page appears.
5. If you are defining resources for an existing route, search for the route and click on the hyper linked record in the search result list to navigate to the Update Route page.
6. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
7. Click on the Costing Parameter Icon to specify Costing Parameters for this resource requirement. See Defining Costing Parameters.
8. Click Apply to add the resource requirement information to the operation record.
9. To remove a labor requirement associated to the operation, click the remove icon on the pertinent record in the resource list and then click Apply.

## Defining Costing Parameters

Oracle Complex Maintenance, Repair, and Overhaul allows you to define the costing parameters for resource requirements. These parameters are used for

calculating job costs during execution of the route or operation on the shop floor. The costing parameter values are defined when implementing Oracle's Work in Process (WIP) and Costing module. Definition of the costing parameters at the route or operation level is optional. Should you choose not to define any parameter values at that level when you create a job in WIP for this Route/Operation, the system selects a default from the Bill of Materials resources connected to the Oracle Complex Maintenance, Repair, and Overhaul Resource.

See:

- Defining Costing Parameters for an Operation Resource Requirement
- Defining Costing Parameters for a Route Resource Requirement

## Fields on the Costing Parameters Page

The following fields appear on the Material Requirement page:

**Cost Basis** refers to the Cost Basis ID. The value is picked from a pull down list. The valid cost basis id's are defined upon implementation of the Bill of Materials Resources

**Scheduled** refers to the Schedule Type ID. The value is picked from a pull down list. The valid schedule types are defined upon implementation of the Bill of Materials.

**Activity** refers to the Activity ID. The value is picked from a pull down list. The valid activity id's are defined upon implementation of the Bill of Materials.

**Autocharge Type** refers to the Autocharge Type. The value is picked from a pull down list. The valid autocharge types are defined upon implementation of the Bill of Materials Resources

**Standard Rate** refers to the application of a Standard Rate. The value is picked from a pull down list and can be either Yes or No.

## Defining Costing Parameter for an Operation Resource Requirement

### Prerequisites:

The operation record and the material requirements for which you want to define costing parameters must exist in the database. The costing parameters must exist in the database.

**To define the costing parameters for a requirements on an operation:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab to bring up the Search Operation page. Click the Create button to launch the Create Operation page, or search for an existing operation from the search operation page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Operation Records).
4. Click Apply to add the operation to the database. The Edit Operation page appears.
5. If you are defining parameters for an existing operation, search for the operation and click on the hyper linked record in the search result list to navigate to the Edit Operation page.
6. Click on Resource Requirements in the side navigation menu to navigate to the Resource Requirements page.
7. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
8. Click Apply to add the resource requirement information to the operation record.
9. Click on the Costing Parameters icon in the resource requirements list to navigate to the costing parameters page.
10. Enter the information in the fields provided. For field descriptions, see Fields on the Costing Parameter Page.
11. Click Apply to save your costing parameter definition.
12. To remove Costing Parameters, select the null value from the pull down list of each field you want to remove and then click Apply.

## Defining Costing Parameter for a Route Resource Requirement

### Prerequisites:

The Route record and the material requirements for which you want to define costing parameters must exist in the database. The Costing Parameters must exist in the database.

### To define costing parameters for a resource requirements on a route:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab then click the Route sub tab to bring up the Search Route page. Click the Create button to launch the Create Route page, or search for an existing route from the search route page.
3. If you are creating a new route, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Maintenance Route Records).
4. Click Apply to add the route to the database. The Update Route page appears.
5. If you are defining parameters for an existing route, search for the route and click on the hyper linked record in the search result list to navigate to the Update Route page.
6. Click on Resource Requirements in the side navigation menu to navigate to the Resource Requirements page.
7. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
8. Click Apply to add the resource requirement information to the Route record
9. Click on the Costing Parameters icon in the resource requirements list to navigate to the costing parameters page.
10. Enter the information in the fields provided. For field descriptions, see Fields on the Costing Parameter Page.
11. Click Apply to save your costing parameter definition.
12. To remove Costing Parameters, select the null value from the pull down list of each field you want to remove and then click Apply.

## Defining Material Requirements

Oracle Complex Maintenance, Repair, and Overhaul allows you to compile material requirements related to a maintenance task. This information is necessary for pre-planning activities.

See:

- Defining Material Requirements for an Operation
- Defining Material Requirements for a Maintenance Route

## Fields on the Material Requirement Page

The following fields appear on the Resource Requirement page:

**Item Group** refers to the Alternate Item Group defined in Master Configuration. If your material requirement for this task is not a specific item type but a group of alternate items, you can define the complete alternate item group as a material requirement. This allows the system to plan for all the possible alternate items to perform the task. This definition specifically applies for a replacement material requirement. You can only define an item group or a part number for one and only one material requirement. If you do not know the value, enter a partial search string using the generic substitution metacharacter %, and click on the search icon to launch the alternate Item Group list of values. The alternate item groups are defined by your organization when implementing Master Configuration.

**Part Number** refers to an item number that is required to perform the task. This definition supports the set up of consumable requirements to perform the task. You can only define an item group or a part number for one material requirement but not both. If you do not know the value, enter a partial search string using the generic substitution metacharacter %, and click on the search icon to launch the part number list of values. Parts are defined by your organization when setting up the item master.

**Organization** refers to the Inventory Organization an Item belongs to. The organization will be automatically populated when a part number is defined. When creating a material requirement for an item group the Organization remains empty, since Alternate Item Groups are not Organization related in Master Configuration. Organizations are defined by your organization when setting up the item master.

**Description** refers to the description of the item group or the part number. The description is automatically populated when selecting an item group or part number.

**Quantity** refers to the number of parts required to perform the task.

**UOM** refers to the Unit of Measure of the quantity required to perform the task.

## Defining Material Requirements for an Operation

### Prerequisites:

The operation record for which you want to define resource requirements should exist in the database. The Material required to carry out the operation must exist in the database.

### To define machine requirements for an operation:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab to bring up the Search Operation page. Click the Create button to launch the Create Operation page, or search for an existing operation from the search operation page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Operation Records).
4. Click Apply to add the operation to the database. The Edit Operation page appears.
5. If associating documents to an existing operation, search for the operation and click on the hyper linked record in the search result list to navigate to the Edit Operation page.
6. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
7. Click Apply to add the material requirement information to the operation record.
8. To remove a material requirement associated to the operation, click the remove icon on the pertinent record in the resource list and then click Apply.

## Defining Material Requirements for a Maintenance Route

### **Prerequisites:**

The maintenance route record for which you want to define machine requirements must exist in the database. The Item Type and Part Number values should exist in the database.

### **To define machine requirements for a maintenance route:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab then click the Route sub tab to bring up the Search Route page. Click the Create button to launch the Create Route page, or search for an existing route from the search route page.
3. If you are creating a new operation, enter the information in the fields provided. Information in fields marked with asterisk is mandatory (see Fields Associated with Maintenance Route Records).
4. Click Apply to add the operation to the database. The Update Route page appears.
5. If you are defining resources for an existing route, search for the route and click on the hyper linked record in the search result list to navigate to the Update Route page.
6. Enter the information in the fields provided. For field descriptions, see Fields on the Resource Requirement Page.
7. Click Apply to add the material requirement information to the maintenance route record.
8. To remove a material requirement associated to the operation, click the remove icon on the pertinent record in the resource list and then click Apply.

## Associating Operations to a Maintenance Route

The Associate Operation to a Route page allows you to associate operations to a selected maintenance route. The application simplifies the creation of maintenance routes by allowing you to use related operation records existing in the database. You can search for a required operation, and copy the operation record to associate it with the route.

**Prerequisites:**

Operation records that apply to the route must exist in the database.

**To associate operations to maintenance routes:**

1. Retrieve the route record for which you want to associate operations (see Finding Maintenance Route Records).
2. Select the pertinent route record from the Route List on the Search Route page.
3. Click Associate Operations on the side navigation menu to launch the Associate Operations page.
4. Enter the information in the fields provided. For field descriptions, see Fields on the Reference Document Page.
5. Click Associate Operations on the side navigation menu to launch the Operation page.

You can also access the Edit Route Operation page by clicking Apply on the Create Route page. See Creating Maintenance Route Records.

6. Enter the information in the fields provided.
  - Step refers to the serial order of the operation in the maintenance route. This field value is user assigned.
  - Operation field contains the pre-defined operation that you want to associate with the maintenance route.
    - \* Some operations may already be associated with the Route. Enter any number in the Step field of the next line to add an operation.
    - \* Do not use the List Of Values to enter the value in the Operation field, but click Search to select the operation from the Search Operation page.
    - \* Select one or more operations, and click Copy. This will return the (Edit Route) Associate Operations page. You will see that the values in the Operation fields are not in the same line as that of the step for which you entered the operation, but on the next empty line.
    - \* For entering the Operation field value against the Step field for which you initially entered a value, use the List of Values.
    - \* For the operations copied from Search Operation page, enter the values in the Step fields later, along with the rest of the fields.

7. To narrow down your search for operations, click **Go** to launch the **Associate Operation to a Route** page. You can specify your search criteria in the fields provided.
8. Click **Go**. The lower half of the screen displays all matching records in the database.
9. Select the operation you require, and click **Copy** to return this value to the **Operation** page.
10. Click **Apply** to associate the operations to the maintenance route record.

## Editing Operation Records

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing operation records and edit the information associated with the operation including sign off, material, machine, and tool requirements. You can also edit document reference and phase code definitions associated with the operation.

This first step in the process allows you to edit the basic operation record information.

### **Prerequisites:**

The operation must exist in the database and must have a status of **Draft** or **Approval Rejected**. To edit an approved operation, you must first create a revision of that operation.

### **To edit operation records:**

1. Retrieve the operation records that match your requirement (see **Finding Operation Records**).
2. Click the hyper linked name of the pertinent record to bring it up on the **Edit Operation** page.
3. Make the necessary changes to the information in the fields provided. For field descriptions, see **Fields associated with Operation Records**.
4. To activate the edited operation, click **Approve**.
5. To edit reference document resources, material requirements, or associated operations, click the pertinent link in the side navigation menu.

See:

- **Defining Reference Documents for an Operation**

- Defining Resource Requirements for an Operation
- Defining Material Requirements for an Operation

## Editing Maintenance Route Records

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing maintenance route records and edit the information associated with the route, including sign off, material, machine, and tool requirements. You can also edit document reference and phase code definitions associated with the operation.

This first step in the process allows you to edit the basic maintenance route record information.

### **Prerequisites:**

The maintenance route record must exist in the database and must have a status of Draft or Approval Rejected. To edit an approved route, you must first create a revision of that route.

### **To edit maintenance route records:**

1. Retrieve the maintenance route records that match your requirement (see Finding Maintenance Route Records).
2. Click the hyper linked name of the pertinent record to bring it up on the Update Route page.
3. Make the necessary changes to the information in the fields provided. For field descriptions, see Fields Associated with Maintenance Route Records.
4. To activate the edited operation, click Approve.
5. To edit reference document resources, material requirements, or associated operations, click the pertinent link in the side navigation menu.

See:

- Defining Reference Documents for a Route
- Defining Resource Requirements for a Route
- Defining Material Requirements for a Route
- Associating Operations to a Maintenance Route

## Defining Component Locations in Fleet Units

Maintenance organizations define zones to identify component locations in an electromechanical system. Oracle Complex Maintenance, Repair, and Overhaul allows you to associate major zones and sub zones in electromechanical systems to product types. Product Type refers to the classification by category of electromechanical systems such as Ground Support and Engine for aircraft. This enables you to closely monitor maintenance activities and component location on any fleet unit belonging to a product type.

See:

- Associating Major Zones to Product Types
- Associating Sub Zones to Product Types

## Fields on the Associate Zone to Product Type Pages

The following fields appear on the Associate Major Zone to Product Type and Associate Sub Zone to Product Type pages:

**Product Type** refers to the classification by category of the electromechanical system. Enter the value of the product type to which you want to associate zones. If you do not know the value, enter a partial search string with the generic substitution metacharacter %, and click Go. This launches the Select Product Type page with all the matching records in the database. Click the pertinent record to return this value to the field.

**Major Zone** refers to the user-defined zones used as a method for identifying locations in the electromechanical system being maintained. If you do not know the value, enter a partial search string with the generic substitution metacharacter %, and click Go. This launches the Select Major Zone page with all the matching records in the database. Click the pertinent record to return this value to the field.

**Description (Major Zone)** is the zone description automatically placed in this field when the Major Zone is selected from the database.

**Sub Zone** refers to the user-defined zones within a major zone used as a method for identifying locations in the electromechanical system being maintained. If you do not know the value, enter a partial search string with the generic substitution metacharacter %, and click Go. This launches the Select Sub Zone page with all the matching records in the database. Click the pertinent record to return this value to the field.

**Description (Sub Zone)** is the sub zone description automatically placed in this field when the Sub Zone is selected from the database.

**Start Date** refers to the date from which this definition for component location is valid. You cannot enter a date directly in this field. Click on the calendar selector icon beside the date field and select the correct date, which will be copied into the field.

**End Date** refers to the date up to which this component location definition for the product type would remain valid. Click on the calendar selector icon beside the date field and select the correct date, which will be copied into the field.

## Associating Major Zones to Product Types

### **Prerequisites:**

Product Type, and Major Zone values must exist in the database. You should decide on the major zone that you want to associate with the selected Product Type.

### **To associate major zones to a product type:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab then click the Associate Major Zone sub tab to bring up the Associate Major Zone to Product Type page.
3. Enter the information in the fields provided. For field descriptions, see Fields on the Associate Zone to Product Type Pages.
4. Click Apply to record the major zones associated to the product type.

## Associating Sub Zones to Product Types

### **Prerequisites:**

Product Type, Major Zone, and Sub Zone values must exist in the database. You should decide on the major zone and sub zone that you want to associate with the selected Product Type.

**To associate sub zones to product types:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab then click the Associate Sub Zone sub tab to bring up the Associate Sub Zone to Product Type page.
3. Enter the information in the fields provided. For field descriptions, see Fields on the Associate Zones to Product Type Pages.
4. Click Apply to record the sub zones associated to the product type.

## Finding Oracle Complex Maintenance, Repair, and Overhaul Resources

Use this process to retrieve Oracle Complex Maintenance, Repair, and Overhaul resource records from your database.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

The resource that you want to retrieve must exist in the database.

**To find Oracle Complex Maintenance, Repair, and Overhaul resources:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab, then select the Oracle Complex Maintenance, Repair, and Overhaul Resource sub tab. The Search Oracle Complex Maintenance, Repair, and Overhaul Resources page appears in Route Management.
3. Enter the information in the fields for which you know the value.
4. Click Go. The lower half of the screen displays the Oracle Complex Maintenance, Repair, and Overhaul Resources List of all matching records in the database.

5. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Search to begin searching the database for records that match.

## Creating Oracle Complex Maintenance, Repair, and Overhaul Resources

The following process initiates the creation of a resource. The Create Oracle Complex Maintenance, Repair, and Overhaul Resource page lets you save the record in the database before defining the attributes.

### **Prerequisites:**

You should know the resource type of the resource you want to create.

### **To create an Oracle Complex Maintenance, Repair, and Overhaul resource:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button. The Search Maintenance Requirements page of Fleet Maintenance Program appears.
2. Select the Route Management tab, then select the Oracle Complex Maintenance, Repair, and Overhaul Resource sub tab. The Search Oracle Complex Maintenance, Repair, and Overhaul Resources page appears in Route Management.
3. Click the Create button. The Create Oracle Complex Maintenance, Repair, and Overhaul Resources page appears. Enter the information in the fields provided. Information in fields marked with asterisk is mandatory.
4. You must associate at least one BOM Resource with the Oracle Complex Maintenance, Repair, and Overhaul resource you are creating. Use the Associated BOM Resources List on the lower half of the page to associate BOM resources to the Oracle Complex Maintenance, Repair, and Overhaul resource. Click Add More Rows and enter the information in the fields provided.
5. Click Attach to associate the BOM resource.
6. Click Apply to create the resource in the database. The Update Oracle Complex Maintenance, Repair, and Overhaul Resource page will appear displaying the current resource in context.

7. Click **Cancel** to stop the process and return to the previous page.
8. Click **Remove** next to any BOM resource you want to remove.

## Editing Oracle Complex Maintenance, Repair, and Overhaul Resources

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing Resources and edit the information associated with it.

### **Prerequisites:**

The Oracle Complex Maintenance, Repair, and Overhaul Resource must exist in the database.

### **To edit operation records:**

1. Retrieve the Oracle Complex Maintenance, Repair, and Overhaul resource records that match your requirement (see [Finding Oracle Complex Maintenance, Repair, and Overhaul Resources](#)).
2. Click the hyper linked name of the pertinent record in the Oracle Complex Maintenance, Repair, and Overhaul Resource list to bring it up on the [Update Oracle Complex Maintenance, Repair, and Overhaul Resources](#) page.
3. Make the necessary changes to the information in the fields provided. For more information on attaching BOM Resources to an Oracle Complex Maintenance, Repair, and Overhaul Resource see [Creating Oracle Complex Maintenance, Repair, and Overhaul Resources](#).
4. Click **Apply** to save the changes to the database.

## Associating BOM Resources

Use this process to retrieve BOM resource records from your database.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

The resource that you want to retrieve must exist in the database.

**To associate BOM resources:**

1. Retrieve the Oracle Complex Maintenance, Repair, and Overhaul resource records that match your requirement (see Finding Oracle Complex Maintenance, Repair, and Overhaul Resources).
2. Click the hyper linked name of the pertinent record in the Oracle Complex Maintenance, Repair, and Overhaul Resource list to bring it up on the Update Oracle Complex Maintenance, Repair, and Overhaul Resources page.
3. Click Attach under the Associated BOM Resources List results. The Search BOM Resource page appears.
4. Enter the information in the fields provided and click Go. The lower half of the page displays the BOM Resources results for that Oracle Complex Maintenance, Repair, and Overhaul resource.
5. Click the Select button next to the pertinent resource, then click Associate. The Update Oracle Complex Maintenance, Repair, and Overhaul Resources page displays with the revised information.
6. Click Apply to save the changes to the database.
7. Click Revert to restore the fields to the last saved position in the database.
8. Click Cancel to return to the Oracle Complex Maintenance, Repair, and Overhaul Resource page.

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# Managing Maintenance Documents

The maintenance, repair, and overhaul of high-valued electromechanical systems is supported by large volumes of documentation, supplied by original equipment manufacturers (OEMs), equipment operators, governmental agencies, and third-party maintenance specialists. These numerous documents evolve during the life of the asset, and must be monitored, often for regulatory compliance. From the perspective of the organization, the complete set of maintenance documents includes self-authored documents, as well as those produced by external organizations. Oracle Complex Maintenance, Repair, and Overhaul includes the Document Index module that permits a maintenance organization to create a repository of meta-documentation.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Document Index module. The chapter provides process-oriented, task based procedures for using the application to perform essential document management tasks in maintenance organizations.

See:

- Creating Document References
- Associating Document Sub Types to Document Types
- Finding Document References
- Editing Document References
- Maintaining Document Subscription Information
- Maintaining Document Supplier Information
- Maintaining Document Distribution Information
- Creating Document Revision Records
- Editing Document Revision Records

- Uploading Electronic Documents

## What is Document Index?

Document Index is a subsystem that provides an online catalog of documents used in maintenance, repair, and overhaul operations. Document Index is the Oracle Complex Maintenance, Repair, and Overhaul module that you will use to manage your maintenance, repair, and overhaul documents, regardless of their source, and regardless of their form, paper or electronic.

For each document that you would like to monitor with Document Index, you will add a reference to the document that includes the document identifier, its title, and whether or not the document can be subscribed to. Documents can be of certain types, and subtypes, and this information is also managed with Document Index. You can edit the document references that you create, as well as define and edit revisions. You cannot delete document descriptions using Document Index. When documents are no longer required, for example, after having disposed of a unit in your fleet, you can mark the document as obsolete.

## Key Business Processes

The Document Index supports the following business processes:

**Document Registration** Internal documents that evolve during the life of an equipment, and external documents provided by suppliers on a subscription basis, may consist of various formats that should be tracked. Oracle Complex Maintenance, Repair, and Overhaul allows you to consolidate all the document information by registering the document titles and reference information in a single area. The various business areas can refer to the documents for the latest information on a particular maintenance requirement. Maintaining accuracy in available documents begins with the process of registering the documents. Document registration defines only a document title; the document definition is created with the first revision.

**Document Revision Control** Maintaining the latest documentation and related updates is a necessity for maintenance organizations. This includes tracking revisions of a document to ensure information is up to date and accurate. Inaccurate information may not be in adherence to required rules and regulations. Oracle Complex Maintenance, Repair, and Overhaul allows organizations to mark current information as reference, and obsolete information as not considered for use, while retaining the obsolete documents for document history.

**Electronic Document Uploading** Any document that is available in electronic form can be uploaded to the database and associated with the relevant document revision. All file types are supported.

**Document Subscription Control** Organizations maintain supplier information for documents to ensure that the right supplier provides the documentation requested or subscribed to. Oracle Complex Maintenance, Repair, and Overhaul allows organizations to maintain supplier information, and to track the status of a subscription for a document from an associated supplier.

**Document Distribution** To maintain information on document distribution, it is necessary to map out who or what group is the recipient of a particular document. Missing or incorrectly identifying a recipient can cause substantial business impact. Approvals may be necessary by a specific individual before the release of a document. Oracle Complex Maintenance, Repair, and Overhaul allows organizations to maintain the distribution of documents by defining the recipient of a document. This enables organizations to map the documents and release them to the right individuals or groups.

## Fields Associated with Document References

The following fields appear on Document Index pages that relate to maintaining document references:

**Document Number** contains a unique identifier, generated by the organization to identify a maintenance document.

**Type** refers to the maintenance document type, and typically refers to the fleet unit, or major section division of the fleet unit. The set of values of this field is created when Oracle Complex Maintenance, Repair, and Overhaul is installed, and you cannot enter a new value here. Select the correct value for the type of document that you are creating from the drop-down list.

**Sub Type** is the maintenance document category that describes the nature of the information contained in the document that you are defining in this field. Select the appropriate value from the drop-down list. Also see [Associating Document Sub Types to Document Types](#).

**Operator** is the name of the company that owns or uses the document that you are recording. To find all operator codes, use the generic substitution metacharacter %, and click Go. This launches the Select Operator Page. All the records in the database

appear on the page in groups of ten. Click on the operator you want, to enter this value in the Operator field in the Create Document page.

**Product Type** contains a user-defined document product identifier. To find all product types, use the generic substitution metacharacter %, and click Go. This launches the Select Product Type page. All the records in the database appear on the page in groups of ten. Click on the product type you want, to enter this value in the Product Type field on the Create Document page.

**Source** refers to the internal or external supplier of the maintenance document. To find all source codes, use the generic substitution metacharacter %, and click Go. This launches the Select Source page. All the records in the database appear on the page in groups of ten. Click on the source you want, to enter this value in the Source field on the Create Document page.

**Title** refers to the title of the maintenance document.

**Subscription Available** is a true or false flag that indicates whether or not this maintenance document is available by subscription. Select Yes or No from the drop-down list.

**Subscribed To** is a true or false flag that indicates whether or not your organization has subscribed to this maintenance document. The status of this field is derived from the status of the subscription available flag and whether or not a subscription is in place.

**Status** indicates whether a document is obsolete or current. Select the value from the drop-down list. The values for this field is defined when Oracle Complex Maintenance, Repair, and Overhaul is installed.

## Creating Document References

This is the primary process by which you can create references to all of the maintenance documents you would like to manage. You can record any revision information, if necessary, using this process.

### Prerequisites:

To create a document reference, you should know the document type, the document source, the document number, whether the document is available through subscription, and whether the document is subscribed to by the organization.

Document types should be set up by your organization while installing Oracle Complex Maintenance, Repair, and Overhaul.

**To create a document reference:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button.
2. Select the Document Index sub tab.
3. Click the Create button to display the Create Document page.
4. Enter the document information in the fields provided. Information in fields marked with asterisk is mandatory. For field descriptions, see Fields Associated with Document References.
5. Click Apply.

When you click Apply, Oracle Complex Maintenance, Repair, and Overhaul checks to ensure that all required fields have been completed with valid entries. The application rejects invalid records with error messages.

## Associating Document Sub Types to Document Types

Manufacturers of transportation equipment produce many different types of documents including maintenance manuals, service bulletins, parts catalogs, and others. Organizations may wish to use sub types to identify maintenance documents that are sections of others, or related otherwise. For example, a document type might be "Powerplant". A powerplant will probably be supplied with an "Illustrated Tool and Equipment Manual", so you might create a document sub type called "ITEM".

**Prerequisites:**

You should decide how to relate maintenance document types to sub types. Your organization should have set up document types while installing Oracle Complex Maintenance, Repair, and Overhaul.

**To associate document sub types to a document type:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button.
2. Select the Document Index sub tab.

3. Select the Associate Type sub tab to display the Associate Document Sub Type to Document Type page.
4. Select the document type for which you wish to create a document sub type using the Document Type drop-down list. The field below shows all document sub types in the database in groups of three.

Document Type represents the major topic such as powerplant, fleet unit, and ground support equipment that is described by the document in question. This field is populated when Oracle Complex Maintenance, Repair, and Overhaul is installed.

5. Enter the new document Sub Type Name and Sub Type Description.  
Sub Type Name represents the content of the document type. For example, a document type might be "Powerplant", and the document sub type might be "Illustrated Parts Catalog". Sub Type Description contains the text description of the document Sub Type Name.
6. To use document sub types that already exist in the database, click Go. This launches the select Document Sub Type page. Use the generic substitution metacharacter % to find all sub type records in the database. Click the pertinent document sub type to return this value to the field on the Associate Document Sub Type to Document Type page.
7. Click Apply.

**To remove a document sub type from a document type:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button.
2. Select the Document Index sub tab.
3. Select the Associate Type sub tab to display the Associate Document Sub Type to Document Type page where you can define sub types.
4. Select a document type using the Document Type drop-down list. The field below shows all document sub types in the database.
5. Select the sub type record that you want to delete.
6. Click Apply. You can remove only a single document sub type at a time.

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**Note:** .A document sub type can only be removed from its document type if the combination is not associated to an existing document.

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## Finding Document References

Maintenance documents undergo frequent revisions. You can retrieve document references from the Document Index database and edit these references as necessary.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

Oracle Complex Maintenance, Repair, and Overhaul allows you to specify one or more search criteria to retrieve maintenance document references from the database. You can enter search strings in any of the fields for which you know the value. By using a combination of parameters in more than one field, you can restrict the search to retrieve only those document references that you want. After you retrieve the required document reference, click the buttons on the page to activate required functions.

### **Prerequisites:**

The document reference must exist in the database.

### **To find a document reference:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Engineering Global button.
2. Select the Document Index sub tab.
3. Select Search sub tab to display the Search Document page where you can enter the search criteria.
4. Enter the document information in the fields for which you know the value. For field descriptions, see Fields Associated with Document References.

5. Click Search. Search results appear in the Document List field in the lower half of the screen.
6. To restart a search for records, click Clear. All the search fields on the page clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Search to begin searching the database for records that match.

## Editing Document References

After you create a document reference, you can edit it, or add more information about document subscriptions, document suppliers, and in-house document distribution.

### To edit document references:

1. Retrieve the document reference that you want to edit (see Finding Document References).
2. Click the hyperlinked document number from the search results to launch the Edit Document page for that document.
3. Make necessary changes to the document information in the fields provided. The fields in the Edit Document page are the same as in the Create Document page with the exception of the Document Number, which you cannot change. For field descriptions, see Fields Related to Document References.
4. Click Save to store your changes in the database.

You can edit subscription information, supplier information, and distribution information from the Edit Document page using the links on the left hand menu. You can also create new revisions for the document from the Edit Document page using the Create New Revision button.

See:

- Maintaining Subscription Information
- Maintaining Supplier Information
- Maintaining Document Distribution Information

## Maintaining Document Subscription Information

When maintenance organizations purchase a new subscription, or want to update subscription information, tracking this information for reference is necessary. The supplier of a document may change over time, or the frequency of the subscription may change. Oracle Complex Maintenance, Repair, and Overhaul tracks such information ensuring that the document is subscribed from the right supplier, and that the information regarding the subscription is correct.

### **Prerequisites:**

Your organization should have set up the Subscription Type and Media Type values while installing Oracle Complex Maintenance, Repair, and Overhaul.

### **To add subscription information:**

1. Retrieve the document reference for which you want to add subscription information (see Finding Document References).
2. Click the hyperlinked document number from the search results to launch the Edit Document page for that document.
3. Click Subscription on the left hand menu of the Edit Document page to launch the Create New Subscription page.
4. Enter the subscription information in the fields provided. You must enter information into any field marked with an asterisk.
  - Subscription Type indicates whether the subscription is free, or paid for. The field contains a drop-down list box from which you can select a value. These values are set up when your configuration of Oracle Complex Maintenance, Repair, and Overhaul is installed. You cannot type a string in this field.
  - Frequency specifies the reoccurrence of the subscription; i.e., monthly, semi-annually, annually. The field contains a drop-down list box from which you can select a value. Values are set up when your configuration of Oracle Complex Maintenance, Repair, and Overhaul is installed; you cannot type a string in this field.
  - Requested By contains the name of the individual in your organization who has requested a subscription to this publication. This is a quick lookup field. You can enter a value if you know the value. Otherwise, enter a partial search string with the generic substitution metacharacter % (example John%), and click Go to launch the Select Requested By page. The system

returns all records in the database that match the search argument. Click on a search result to return that record to the field on the Edit Subscription Information page. The requestors are internal person set up in the Oracle TCA (Trading Community Architecture) module.

- **Subscribe From** is a quick lookup field that contains the name of the organization that supplies the maintenance document. Enter a partial search string with the generic substitution metacharacter %, click Go and the system returns all matching supplier records in the database. Click on the pertinent record to return this value to the field on the Create New Subscription page.
  - **From Date** contains the date on which the document subscription started. Click on the calendar selector icon beside the date field and select the correct date, which will be copied into the field.
  - **To Date** is date on which the subscription ends. This date must be later than the From Date. Click on the calendar selector icon beside the date field and select the correct date, which will be copied into the field.
  - **Status** contains a drop-down list box from which you can select a value from a set of values created when your configuration of Oracle Complex Maintenance, Repair, and Overhaul was installed. You cannot type a string in this field.
  - **Quantity** contains the number of subscriptions to this document that your organization will receive. The value must be at least 1.
  - **Purchase Order** contains a purchase order identifier supplied by your accounts payable department.
  - **Media Type** indicates whether the subscription is a paper or an electronic document. The field contains a drop-down list box from which you can select a value. These values are set up when your configuration of Oracle Complex Maintenance, Repair, and Overhaul is installed. You cannot type a string in this field.
5. Click **Add More Rows** to add rows for subscription definition.
  6. Click **Apply** to store the subscription information in the database.

**To update document subscription information:**

1. Retrieve the document reference for which you want to update document subscription information (see Finding Document References).

2. Click Subscription on the left hand menu of the Edit Document page to navigate to the Subscription Information page. The lower half of the screen displays the subscription information about the document.
3. Update the field values.
4. Click Add More Rows to add rows for recipients definitions.
5. Click Apply to store your changes in the database.

## Maintaining Document Supplier Information

Maintaining supplier information for documents is necessary to ensure that the correct supplier provides the documentation requested or subscribed to. You may need to contact the supplier to verify information about a document, and for this reason maintenance of supplier contact information is crucial. Oracle Complex Maintenance, Repair, and Overhaul helps you record and update document supplier information.

### **Prerequisites:**

The values for Preference Code should be set up by your organization while installing Oracle Complex Maintenance, Repair, and Overhaul.

### **To add supplier information:**

1. Retrieve the document reference for which you want to add supplier information (see Finding Document References).
2. Click on the hyperlinked document number to launch the Edit Document page.
3. Click Supplier on the left hand menu of the Edit Document page to launch the Supplier Information page.
4. Enter supplier information in the fields provided. Information in fields marked with asterisk is mandatory.
  - Supplier Name refers to the name of the organization that supplies this maintenance document. This is a quick lookup field. Enter a partial search string with the generic substitution metacharacter %, and click Go to launch the Select Supplier page. The system returns all matching records in the supplier database. Click on the supplier name you want. This record returns to the Supplier Name field on the Supplier Information page.
  - Supplier Description value is returned along with the Supplier Name to the Supplier Information page.

- Preference Code contains a drop-down list box from which you can select a value from a set of values created when your configuration of Oracle Complex Maintenance, Repair, and Overhaul was installed. You cannot type a string in this field.
5. Click Add More Rows to add rows for Supplier definitions.
  6. Click Apply to store the document supplier information in the database.

**To update supplier information:**

1. Retrieve the document reference for which you want to update document supplier information (see Finding Document References).
2. Click Supplier on the left hand menu of the Edit Document page to navigate to the Supplier Information page. The lower half of the screen displays the supplier information about the document.
3. Update the field values.
4. Click Add More Rows to add rows for recipients definitions.
5. Click Apply to store your changes in the database.

## Maintaining Document Distribution Information

It is necessary for maintenance organizations to control the distribution of documents and software for various reasons including licensing, cost of distribution, regulatory authorities, and others. This creates the necessity to ensure that the requester has authorization to receive a document prior to distributing it. Oracle Complex Maintenance, Repair, and Overhaul allows you to manage information about recipients in the organization to whom documents will be distributed.

**To record document distribution information:**

1. Retrieve the document reference for which you want to record distribution information (see Finding Document References).
2. Click the hyperlinked document number to launch the Edit Document page.
3. Click Distribution on left hand menu of the Edit Document page to launch the Distribution Information page.
4. Enter the supplier information in the fields provided. Information in fields marked with asterisk is mandatory.

- Recipient Name is the name of the individual or department that will receive a copy of the document. This is a quick lookup field. You can enter a value if you know the value, otherwise, enter a partial search string with the generic substitution metacharacter % (example, John%), and click Go to launch the Select Recipient page. The system returns all matching records in the database. Click on the recipient name you want to enter. This record returns to the Recipient Name field on the Distribution Information page. Recipients are set up as Organizations in the Oracle Trading Community Architecture module.
  - The system also returns the corresponding Recipient Description to the field on the Distribution Information Page.
5. Click Add More Rows to add rows for recipients definitions.
  6. Click Apply to store the document recipient information in the database.

**To update document distribution information:**

1. Retrieve the document reference for which you want to update document distribution information (see Finding Document References).
2. Click Distribution on the left hand menu of the Edit Document page to navigate to the Distribution Information page. The lower half of the screen displays the distribution information about the document.
3. To remove a recipient from the list, select the name that you would like to remove, and click Apply. The application saves this change automatically.
4. To change a recipient, enter the recipient's name in the Recipient Name field, or click Go to move to the Select Recipient page. Select a recipient from the list by clicking the name, and the record returns to the Distribution Information page.
5. Click Add More Rows to add rows for recipients definitions.
6. Click Apply to store your changes in the database.

## Fields Associated with Document Revisions

The following fields appear on Document Index pages that relate to managing document revisions:

**Revision No** is a field that holds a user-assigned document revision identifier.

**Revision Date** is usually provided by the source company of the document. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Volume** contains a string that identifies the volume of this revision.

**Issue Number** contains a number that identifies the issue of this revision. You cannot enter alphabetic characters here.

**Date Received** is the date on which the document revision was received by the user organization. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Effective Date** is the date on which the document is technically effective. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Approved By** contains the name of the individual who is authorized to approve this document revision. If you know the exact name, enter it. Otherwise, enter a text search argument (example, John%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field. Names of approvers are maintained as type persons in the Oracle Trading Community Architecture module.

**Electronic Link** is a Uniform Resource Identifier string that locates a document or similar file somewhere in the World Wide Web.

**Remarks** refer to any notes that are pertinent to this maintenance document revision. This long text field behaves much like a simple word processor.

**Revision Type** values are defined while installing Oracle Complex Maintenance, Repair, and Overhaul. Select the correct value for this field from the drop-down list.

**Status** indicates whether a document revision is a draft, current, or obsolete. Select the correct value for this field from the drop-down list box.

**Issue** contains a description of the document issue.

**Issue Date** refers to the date on which the maintenance document was made available. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Media Type** indicates whether the document is in paper or electronic format. Select the correct value for this field from the drop-down list box.

**Obsolete Date** is the date on which the document is no longer valid. If the Status of this revision is Current, this field should remain blank. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Approved Date** is the date on which the document revision was approved by the individual named in the Approved By field. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Electronic File** refers to the electronic file stored in the database that is associated to the revision of this document.

## Creating Document Revision Records

Equipment manufacturers frequently revise maintenance documents. For tractability, it is necessary to record document revision information including issue dates, dates of obsolescence, dates of effectivity, and publication part number changes. Oracle Complex Maintenance, Repair, and Overhaul allows you to create new revisions once you retrieve the pertinent document reference from the database.

### Prerequisites:

The document reference for which you want to create a new revision must exist in the database.

### To create new revision records:

1. Retrieve the document reference for which you want to create new revisions (see Finding Document References).
2. From the Edit Document page, click Create New Revision to launch the Create New Revision page.
3. Enter revision information in the fields provided. Information in fields marked with asterisk is mandatory. For field descriptions, see Fields Associated with Document Revisions.
4. Click Apply to add the document revision to the database.

You can revise the maintenance document reference by clicking **Edit Document**, but your revision could be lost if you do not click **Apply** first.

## Editing Document Revision Records

Documents related to an equipment often continue to evolve during the life cycle of the equipment. Maintenance organizations require to track and update such document revisions. Oracle Complex Maintenance, Repair, and Overhaul allows you to record and edit document revision information.

### **Prerequisites:**

The document revision you want to edit must exist in the database.

### **To edit document revision records:**

1. Retrieve the document revision record for which you want to edit information (see Finding Document References).
2. Select the document revision that you want to edit from the Document List at the bottom of the page.
3. Click **Edit Revision** to navigate to the Edit Revisions page. If you selected a document record that has no revisions defined, clicking the **Edit Revision** button will launch the Create New Revision page.
4. Enter the document revision information in the fields provided. The fields on the Edit Revision page are the same as on the Create New Revision page with the exception of the Revision Number field, which you cannot change. For field descriptions, see Fields Associated with Document Revisions.

If the Revision Number is incorrect, create a new revision, noting in the Remarks field, the reason for the new revision (for example, "Typo in the original revision entry."). This feature preserves the tractability of document revisions to maintenance procedures, should questions about the effectiveness of maintenance procedures be raised in the future.

5. Click **Apply** when you have finished entering revised document information.

You can switch to the document reference editing page by clicking the **Edit Document** button.

## Uploading Electronic Documents

Documents available in an electronic format can be uploaded to the database and associated with relevant records in Document Index. Associated electronic documents can be accessed via links in Document Index on the search results pages and edit revision pages.

### **Prerequisites:**

A document revision must exist. The user needs access to the filesystem where the electronic document is stored.

### **To upload electronic documents:**

1. Retrieve the document revision record for which you want to edit information (see Finding Document References).
2. Select the document revision that you want to edit from the Document List at the bottom of the page.
3. Click Edit Revision to bring up the Edit Revisions page. If there are no revisions defined for this record, the Create New Revision page will appear.
4. Click Upload to bring up the upload page.
5. Click Browse to open your file browser.
6. Select your document and click on open. The file location path and the filename copy into the File field.

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**Note:** .There is a predefined folder set up in Oracle Content Manager for storing electronic documents. Refer to the Implementation Guide for more information on setting up Oracle Content Manager for Document Index.

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7. Enter an optional description of the electronic document.
8. Click on Upload. The document is now accessible through the document search result page or the edit document revision page.

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**Note:** .A revision can only have one file associated with it.

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## Working With Master Configurations

Modeling a fleet involves describing entire fleet attributes, and the members of a fleet. For example, an airline might operate a mixed fleet consisting of Boeing 717s, 737s, 747s, and 767s. Some aircraft attributes apply to all the aircraft in the fleet, whereas other attributes apply to individual airplanes. Complex systems consist of parts or assemblies, in a tree structure, and these parts may be provided by different suppliers. A commercial jet aircraft for example, can have engines supplied by General Electric, Rolls-Royce, or Pratt & Whitney. The assembly configuration set for an aircraft type, locomotive, ship, or any other fleet group, is described by an Oracle Complex Maintenance, Repair, and Overhaul module called Master Configuration.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Master Configuration module. The chapter provides process-oriented, task based procedures for using the application to perform essential tasks for managing models of fleet group configurations.

See:

- Creating Master Configuration Records
- Finding Master Configuration Records
- Editing Master Configuration Records
- Creating Position References in a Master Configuration
- Adding Position References to a Master Configuration
- Adding Existing Configurations to a Position Reference
- Editing Position Ratios
- Attaching Documents to a Position Reference
- Adding Alternate Parts Information

- Finding Alternate Parts Information
- Editing Alternate Parts Information
- Viewing Master Configuration Records
- Viewing Position Details
- Viewing Position Ratios Associated with a Position
- Viewing Documents Attached to a Position
- Viewing Alternate Parts Associated with a Position
- Viewing Positions Associated with an Alternate Part Group
- Closing (Removing) Master Configuration Records
- Reopening Closed Records

## What is Master Configuration?

Master Configuration is a subsystem that provides a model of the structure of an electromechanical system assembly, with rules for component location and component selection, and applicable maintenance operations. For example, a Boeing 757-300 can be configured with either a pair of Pratt & Whitney PW2043 power plants, or a pair of slightly more powerful Rolls-Royce RB211-535E4B power plants. An instance of a master configuration will describe the components and subassemblies that might comprise a fleet unit, as well as the maintenance requirements and schedules that apply to those components and assemblies. You can derive the configurations of "as-operated" fleet units from corresponding Master Configuration instances.

The presence of a master configuration simplifies route development (see *Managing Maintenance Routes* for more information about maintenance routes). This is because a master configuration record, to which a service route definition is attached, will also exist for each component that might be present in a unit configuration. The Master Configuration module enables maintenance organizations to create a service route once and connect the service route, via a Maintenance Requirement, to the template of an assembly instead of creating duplicate service routes, i.e., one for each part.

## Key Business Processes

The Master Configuration module supports the following business processes:

**Definition of Allowable Configuration** A master configuration is a template that represents the hierarchy of component positions in an assembly. The relative component positions define the parent-child relationship among the parts within a master configuration. Master Configuration identifies the tracked parts that make up a unit, and allows you to construct a logical tree structure to illustrate the component positions in an assembly. You can define multiple master configurations for a product to suit different operation modes. You can also define the allowable part alternates for each component position.

**Provide Configuration Template for Unit Configuration** A fleet operator may have multiple units of the same configuration. The Master Configuration module provides a template to create a unit configuration, which reflects the current "as-installed" configuration of a product. A unit configuration replicates the position structure of a master configuration.

**Attach Applicable Maintenance Requirement** When defining a unit's applicable maintenance requirement, organizations can use several grouping mechanisms to streamline the process. Oracle Complex Maintenance, Repair, and Overhaul allows you to apply a maintenance requirement, directly to a unit configuration, to a node in a product classification that a unit configuration inherits, or to a position in a master configuration that a unit configuration inherits. If you associate a maintenance requirement to a node in a master configuration for example, any unit configuration that you create based on the master will receive those maintenance requirements.

**Provide Checklist for User** The physical breakdown of a complex assembly decides shop floor processes and information requirement. You can associate such information with a node or position in a master configuration. During the overhaul of an assembly, maintenance personnel, remove, re-install, and replace serialized parts. The service provider has to provide an on-off log for such operations. The off log indicates the part number and serial number of a part installed at a certain position before the maintenance event. The on log indicates the part number and serial number of the part installed at a certain position during maintenance. Oracle Complex Maintenance, Repair, and Overhaul allows you to provide an on-off log template indicating all the positions and part alternates for the nodes (positions) where users can install or remove parts.

## Working with Master Configuration Records

After you create a master configuration record using Oracle Complex Maintenance, Repair, and Overhaul, you can retrieve the record to edit the information, to create

new master configurations, or to create unit configurations based on existing master configuration records.

See:

- Creating Master Configuration Records
- Finding Master Configuration Records
- Editing Master Configuration Records

## Fields Associated with Master Configuration Records

The following fields appear on Master Configuration pages that relate to creating and editing master configuration records:

**Name** refers to an appropriate name for the configuration template hierarchy.

**Description** is the field where you can enter phrases or sentences that describe this configuration hierarchy.

**Status** indicates whether a master configuration record is complete or in the draft stage. The Status field contains a drop-down list box from which you can select a value. These values are set up when your Oracle Complex Maintenance, Repair, and Overhaul configuration is installed.

**Position** refers to the position in the assembly that acts as the topmost node of the master configuration hierarchy. Enter a partial search string with the generic substitution metacharacter % (example, Engine%), and click Go to launch the Select Position Reference page that displays all matching records in the database. Click the appropriate record to return this value to the Position field in the Search Master Configuration page.

**Position Description** is the field containing phrases or sentences that describe this position in the configuration hierarchy.

**Quantity** refers to the number of parts in the part selection option set for this position in the configuration hierarchy. Enter a number greater than zero.

**UOM** field identifies the unit of measure of the parts in the current hierarchy position. You cannot enter text directly in this field because the text value must exist in the database. Enter a search argument with the generic substitution metacharacter %, and click Go to retrieve and display all records from the database

that match the search argument. Click the correct value from the records displayed on the Select UOM page, to have the text value returned to the field.

**Start Date** refers to the date of the first day of effectivity of this position in the configuration hierarchy. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**End Date** refers to the last day on which the position in the configuration is valid. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Part Group Name** is the name for the set of part option selections at this node. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed, to have the text value returned to the field.

**Part Group Description** refers to a description of the part options set, and is displayed automatically when you retrieve the Part Group Name.

**Display Order** refers to an ordinal that determines the order in which the configuration positions are displayed.

## Creating Master Configuration Records

A master configuration represents the structure of a complete electromechanical assembly, consisting of as many nodes as necessary to fully represent the assembly. There is no limit to the number of nodes that an assembly representing a fleet unit can comprise. This process allows the user to add the master configuration of a fleet unit to the database.

### **Prerequisites:**

You must know the information required to create a master configuration record.

### **To create a master configuration record:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select Configuration Management Global button. The Search Master Configuration page appears.
2. Select the Create button to open the Create Master Configuration page.

3. Enter the master configuration information in the fields provided. Information in fields marked with asterisk is mandatory. For field descriptions, see Fields Associated with Master Configuration Records.
4. Click Apply to save this master configuration record in the database.

When you click Apply, the Create Position page appears. Every configuration template must have at least one position, which serves as the topmost node in the configuration hierarchy. See Creating Position References.

## Finding Master Configuration Records

Fleet operators can use a master configuration as a template to create unit configurations, as well as to create multiple master configurations (for a single product) to suite different operation modes. Master configurations also provide checklists for users on the shop floor to ensure the validity of assembly models. This necessitates the efficient retrieval of master configuration records in maintenance organizations.

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### To find a master configuration record:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page appears.
2. Enter the master configuration information in the fields for which you know the value. For field descriptions, see Fields Associated with Master Configuration Records.
3. Click Search. The lower half of the screen displays the Master Configuration List of all matching records in the database. The Reopen and View buttons appear along with the search results.

See:

- Editing Master Configuration Records
- Closing Master Configuration Records
- Reopening Closed Records

- Viewing Master Configuration Details

## Editing Master Configuration Records

After you create a master configuration template, you can edit the record to add additional attributes. Because the configuration template must consist of all part locations, part installation options, and pertinent maintenance documents, the configuration hierarchy is completed by retrieving a previously created Master Configuration record from the database, and extending it, using the Edit Master Configuration page. Remember that the hierarchy must include a topmost position (the fleet unit itself).

After you view the topmost position in the configuration template, you can drill down into the hierarchy by clicking on the Position link. You have reached the bottom of the configuration tree when Master Configuration finds no more records. Do not attempt to add any attributes at this point by clicking the Add Configuration, Position Ratio, Documents, or Alternates buttons. You will see a message about a "StringIndexOutOfBoundsException" error.

### Prerequisites:

The master configuration record that you want to edit must exist in the database.

### To edit master configuration records:

1. Search for the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Click the hyperlinked Master Configuration name from the search results to launch the Edit Master Configuration page for that record, where you can edit the Master Configuration definition and the top node information.
3. To change the description or status of the master configuration record, enter the relevant values in the Description and Status fields then click Apply.
4. To edit the position references at subsequent levels of the configuration tree, click Edit Tree. The system navigates to the Edit Master Configuration Tree page. The Master Configuration Tree Structure can also be accessed through the Tree Icon in the search results page. Navigate through the tree to go to the position that needs to be edited. To edit information of the position click the hyperlinked position name in the tree. The right hand part of the page displays the position information.

5. Make necessary changes in the fields provided. For field descriptions, see Fields Associated with Master Configuration Records.
6. Click Apply to store the changes in the database.
7. Use the Position Ratio, Documents, and Alternates buttons on this page to edit position ratios, document references attached to the master configuration, and the part alternates information for a selected component position. Use the pulldown menu to add, delete, and copy position references beneath a position node.

See:

- Editing Position Ratios
- Attaching Documents to a Position Reference
- Editing Alternate Parts Information
- Adding Position References to a Master Configuration
- Adding Existing Configurations to a Position Reference

## Working with Position References

After you define the general master configuration attributes, you can create each position in the hierarchy. For each position in the hierarchy, you can define a set of valid parts, with maintenance requirements for each part. Oracle Complex Maintenance, Repair, and Overhaul stores this information in the database. Also, you can retrieve master configuration records to add other master configurations, part locations, and valid parts to a position reference in the selected configuration.

See:

- Creating Position References in a Master Configuration
- Adding Position References to a Master Configuration
- Adding Existing Configurations to a Position Reference
- Editing Position Ratios
- Attaching Documents to a Position Reference
- Editing Alternate Parts Information

## Fields on the Create Position Page

The following fields appear on Master Configuration pages that relate to creating and editing position reference details in a master configuration:

**Position** refers to the position in the assembly that acts as the topmost node in the master configuration hierarchy. Enter a partial search string with the generic substitution metacharacter % (example, Engine%), and click Go to launch the Select Position Reference page that displays all matching records in the database. Click the appropriate record to return this value to the Position field in the Search Master Configuration page.

**Position Description** is the field containing phrases or sentences that describe this configuration hierarchy.

**Quantity** refers to the number of parts in the part selection option set for this position in the configuration hierarchy. Enter a number greater than zero.

**UOM** field identifies the unit of measure of the parts in the current hierarchy position. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument with the generic substitution metacharacter %, and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed on the Select UOM page to have the text value returned to the field.

**Start Date** refers to the date of the first day of effectivity of this position in the configuration hierarchy. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**End Date** refers to the date that represents the last day on which the position in the configuration is valid. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Part Group Name** is the name for the set of part option selections at this node. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed, to have the text value returned to the field.

**Part Group Description** refers to a description of the part options set, and is displayed automatically when you retrieve the Part Group Name.

**Display Order** refers to an ordinal that determines the order in which the configuration positions are displayed.

**Necessity** sets a node as mandatory or optional. This field defines whether the item represented by the node is a required installation, or is only an option.

## Creating Position References in a Master Configuration

Use the Create Position page to create a position reference in your master configuration. When you access the Create Position page from the Create Master Configuration page, the position reference that you create will form the topmost node in the hierarchy of the master configuration. When you access the Create Position page from the Edit Master Configuration page, the position reference you create will form an additional node in the selected master configuration hierarchy.

### Prerequisites:

The master configuration for which you want to define a position reference must exist in the database.

### To create a position reference:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page appears.
2. Click the Create button to launch the Create Master Configuration page.
3. Enter the master configuration information in the fields provided. For field descriptions, see Fields Associated with Master Configuration Records.
4. Click Apply to save the master configuration record in the database. The Edit Master Configuration page appears.
5. Click Edit Tree to bring up the Master Configuration Tree structure.
6. Click the node where you want to add a position then select Add from the pull down menu.
7. Click Go to add a position.
8. Enter the values in the fields provided on the Create Position page. Information in the fields marked with asterisk is mandatory. For field descriptions, see Fields on the Create Position Page.
9. Click Apply to add the position reference to the master configuration record.

This will launch the Edit Master Configuration, Edit Position page where you can edit the position details if necessary. Click Apply to save the changes. You can attach position ratios, documents, or alternate parts to the node position by using the appropriate buttons on this page. For more information, refer to the appropriate sections in this chapter.

## Adding Position References to a Master Configuration

The Edit Master Configuration page allows you to access the Create Position page where you can add position references to a selected master configuration record. Use this process to add position nodes to build your master configuration hierarchy.

### Prerequisites:

The master configuration record to which you want to add position references must exist in the database.

### To add position references to a master configuration:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page appears.
2. Enter field values to search for the pertinent records. For field descriptions, see Fields Associated with Master Configuration Records.
3. Click the hyperlinked Master Configuration name from the search results to launch the Edit Master Configuration page for that record, where you can edit the Master Configuration definition and the top node information.
4. Click Edit Tree to bring up the Edit Master Configuration Tree page. Navigate through the tree to go to the position that needs to be edited. To edit information of the position click the hyperlinked position name in the tree. The right hand part of the page displays the position information.
5. Click the node where you want to add a position then select Add from the pull down menu.
6. Click Go to add a position.
7. Enter the values in the fields provided on the Create Position page. Information in the fields marked with asterisk is mandatory. For field descriptions, see Fields on the Create Position Page.
8. Click Apply to add the position reference to the master configuration record.

This will launch the Edit Master Configuration, Edit Position page where you can edit the position details if necessary. Click Apply to save the changes. You can attach position ratios, documents, or alternate parts to the node position by using the appropriate buttons on this page. For more information, refer to the appropriate sections in this chapter.

## Adding Existing Configurations to a Position Reference

The Edit Master Configuration page allows you to access the Search Master Configuration page, where you can retrieve an existing master configuration record that you want to add to a selected master configuration position. This process allows you to build configuration template hierarchies using existing master configuration records.

### **Prerequisites:**

Master configuration records that you want to add to the position reference must exist in the database.

### **To add configurations to a position reference:**

1. Navigate to the node to which you want to add a configuration. See Adding a Position Reference.
2. To add an existing configuration to a node, click the check box next to the node then select Copy from the pull down menu. The Search Master Configuration page appears.
3. Search for the master configuration that you want to add. See Finding Master Configuration Records.
4. Select the pertinent record from the Master Configuration List generated when you execute the search.
5. To view master configuration details before copying it, click View. This will launch the View Master Configuration page. For more information, refer to the following sections:
  - Viewing Position Details
  - Viewing Position Ratios Associated with a Position
  - Viewing Documents Attached to a Position
  - Viewing Alternate Parts Associated with a Position
6. To add this master configuration to the selected position reference, click Copy.

## Editing Position Ratios

The Edit Position Ratio page allows you to add information about service timer ratios in cases where the value derived from a service timer should be a multiple of the timer reading. For example, a powerplant operated in a high-temperature, high-altitude environment might run at much higher RPM to produce the same torque as compared to a less severe environment.

### Prerequisites:

The master configuration record with the position reference that you want to define the position ratio for, must exist in the database. The values for the fields UOM and Rule Code should be set up by your organization.

### To edit position ratios:

1. Retrieve the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Select the pertinent record from the Master Configuration List on the Search Master Configuration page.
3. Click the tree icon next to the record you want to edit. The Edit Master Configuration page appears.
4. Use the tree to find the position that needs to be changed. Click Position Ratio.
5. The Add Position Ratio page appears on the right.
6. Enter the information in the fields provided. If no position ratios are defined, the page will be empty. To define a position ratio, click Add More Rows. This will add three rows to the table. Enter information in the provided fields.
  - UOM indicates the unit of measurement that the operational service timer for this position represents. In most cases, this unit will be hours of time. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (e.g., MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed on the Select UOM page to have the text value returned to the field.
  - Description refers to a text description of the unit of measure, and is automatically placed in this field when the UOM is selected from the database.

- Ratio is a multiplying factor to be applied to an operational service timer to yield the service life value of the component. Typically, this ratio will be a number greater than or equal to 1.
  - Rule Code is a field containing a drop-down list box from which you can select a value. The set of values in this list is created when your configuration of Oracle Complex Maintenance, Repair, and Overhaul is installed.
7. Click Apply to retain the Position Ratio information in the database.
  8. To remove a position ratio from the configuration hierarchy, select the record from the Position Ratio List, check the remove checkbox then click Apply.

## Attaching Documents to a Position Reference

The Edit Master Configuration page allows you to access the Attach Documents page, where you can search for, and enter documents that you want to attach as references for a component position in the hierarchy. This allows maintenance personnel to refer to the right documents while carrying out maintenance activities at a specific location in a system assembly. For more information on Document References, see *Working With Maintenance Documents*.

### **Prerequisites:**

The master configuration with the position reference to which you want to attach the documents must exist in the database.

### **To attach documents to a position reference:**

1. Retrieve the master configuration records that match your requirement (see *Finding Master Configuration Records*).
2. Select the pertinent record from the Master Configuration List on the Search Master Configuration page.
3. Click the tree icon next to the record you want to edit. The Edit Master Configuration page appears.
4. Use the tree to find the position that needs to be changed. Click Documents.
5. The Attach Documents page appears on the right.

If you have attached a document reference to the selected position, the Attach Documents page will display the attached document in the Document List field.

6. To remove a document reference attachment, select the document you want to remove, and click Apply.
7. To add a document reference, enter the information in the fields provided on the Attach Documents page.
  - Document refers to the name of a maintenance document previously recorded using the Document Index module. You cannot enter text directly in this field. Enter a search string with the generic substitution metacharacter %, and click Go to launch the Select Document Number page. The lower half of the Select Document Number page displays the list of documents in the database. Click the pertinent document record to return this value to the Document List fields in the Attach Documents page.
  - Title is the document title that is automatically placed in this field when the Document Name is selected from the database.
  - Chapter refers to the chapter number where the required reference is available. If the component at this level in the hierarchy is described by a single chapter or less in the maintenance document, enter the chapter number here in this field.
  - Section refers to the section identifier of the maintenance document that describes maintenance procedures for the component described by the current configuration position.
  - Page, Figure, and Note fields allow you to provide more specific information about the maintenance documentation for the parts in the current configuration hierarchy position.
  - Use Latest field contains a drop-down list box from which you can select a value from a set of values set up when your Oracle Complex Maintenance, Repair, and Overhaul configuration was installed.
8. Click Apply to store your maintenance document definition for the selected configuration position in the database.

## Managing Alternate Parts Information

Fleet vehicles with long service lives are designed and constructed with similar parts from different suppliers. For example, aircraft can often be ordered from manufacturers with powerplant choice. A master configuration template definition that serves as a general model for a unit configuration definition, provides the fleet operator an opportunity to define an optional parts set for any part position in the configuration.

The alternate parts listed in the master configuration template allows you to derive a unit configuration that represents the "as-operated" configuration of a fleet unit.

See:

- Adding Alternate Parts Information
- Finding Alternate Parts Information
- Editing Alternate Parts Information

## Fields Associated with Alternate Parts Information

The following fields appear on Master Configuration pages that relate to managing alternate parts information:

**Group Name** is the name for the set of part option selections at this node. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed on the Select Group page, to have the text value returned to the field.

**Description** refers to the description of the part options set, and is displayed automatically when you retrieve the Group Name.

**Part Number** field contains the identifier of the part that you want to add to the group of parts that can be installed in this position. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field.

**Description (Part)** is the part description automatically placed in this field when the Part Number is selected from the database. You cannot enter a value in this field.

**Organization Code** refers to the code for the inventory organization assigned to the alternate part when the part information is created in inventory. This information exists in the database. Enter the generic substitution metacharacter % in the field, and click Go to retrieve and display all records from the database. Click the record of your choice to return this value to the Organization Code field on the Search Alternate Parts page.

**Revision** field contains a part revision identifier. You cannot enter text directly in this field because the revision must exist in the inventory database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field.

**UOM** field contains a unit of measure in which the part is usually supplied. You cannot enter text directly in this field because the text value must exist in the database. However, you can enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed on the Select UOM page to have the text value returned to the field.

**Quantity** specifies the number of optional parts in this group that is to be installed.

**Priority** specifies the preferred selection order of parts in the group. The most preferred part should be assigned a value of 1.

**Type** specifies the status of the part information such as deleted, or obsolete. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field.

**Interchange** refers to the selection of a part for a configuration. One-way interchangeability means that the part can only be used for a single configuration. Two-way interchangeability means that the part can be used in multiple configurations. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field.

**Reason** refers to the technical justification for one-way interchangeability. You can enter text directly in this field.

## Adding Alternate Parts Information

The Alternate Parts sub tab allows you to access the Add Alternates page where you can add parts, identified by part numbers existing in the database, to a

particular group name. The group name specifies the set of part option selections at a node. You can also record any revision made to alternate part information in a group.

**Prerequisites:**

Values for Group Name, Part Number, Revision, Type, Interchangeability, and Reason fields should exist in the database.

**To add alternate parts:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Master Configuration page appears.
2. Click on the Alternate Parts sub tab to launch the Search Alternate Parts page.
3. Click Create to launch the Add Alternates page.
4. Enter the information in the fields provided. For field descriptions, see Fields Associated with Alternate Parts Information.
5. Click Apply to add the alternate parts information to the database.

## Finding Alternate Parts Information

Use the Search Alternate Parts page to retrieve alternate part information that you want to edit. You can search for alternate parts based on Part Group, Part Description, Part Number, or the Organization Code for the part.

**Prerequisites:**

The alternate part groups must be created.

**To find alternate parts:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Master Configuration page appears.
2. Select Alternate Parts sub tab to launch the Search Alternate Parts page.
3. Enter the alternate part information in the fields provided. For field descriptions, see Fields Associated with Alternate Parts Information.
4. Click Search to generate all alternate part groups that match the search criteria.

## Editing Alternate Parts Information

The Search Alternate Parts page allows you to access the Edit Alternates page, where you can make necessary changes to alternate part information.

### Prerequisites:

Values for Part Number, Revision, Type, Interchangeability, and Reason fields should exist in the database.

### To edit alternate part information:

1. Retrieve the pertinent alternate part group record from the database (see Finding Alternate Parts Information).
2. To delete an alternate part group, click the remove icon in the search results list. Only Alternate Parts Groups with no association to a master configuration position can be deleted.
3. To view the configurations with which an alternate part group is associated, select the pertinent group from the Parts Group List on the Search Alternate Parts page, and click View Positions. This will launch the View Alternate Part Associations page. See Viewing Alternate Part Associations.
4. To edit alternate part details, click the required alternate part group name from the Part Group List on the Search Alternate Parts page. This launches the Edit Alternates page showing the alternate parts contained in the selected Part Group.

Note: You can also access this page from the Edit Master Configuration page using the Alternates button (Search > Search Master Configuration page > Edit > Edit Master Configuration page > Edit Master Configuration tree page > Alternates > Edit Alternates page).

5. Select the part record that you want to modify, and make the necessary changes in the fields provided. For field descriptions, see Fields Associated with Alternate Parts Information.

You can also add alternate part records to the group, using the fields provided in the Parts List section on the Edit Alternates page (see Adding Alternate Parts Information).

6. To remove an alternate part from the part group, select the part that you want to remove, and click Remove.

7. Click **Apply**. If the alternate part group you edited is not attached to additional master configurations and positions, the changes are saved.
8. If the alternate part group you selected is attached to a master configuration or position other than the one currently being edited, and you click **Remove** or **Apply**, the application will prompt you, "This item group is associated with more than one position. Do you want to force the changes to all positions?"
9. To apply the changes to all the configuration positions to which the part group is attached, click **OK**.
10. To cancel the changes and return to the **Edit Alternates** page, click **Cancel**.

## Viewing Master Configuration Records

View master configuration details using the following procedure.

### **Prerequisites:**

The master configuration record must exist in the database.

### **To view master configuration details:**

1. Retrieve the master configuration records that match your requirement (see [Finding Master Configuration Records](#)).
2. Check the select radio button next to the pertinent master configuration from the **Master Configuration List** on the **Search Master Configuration** page.
3. Click **View**. The **View Master Configuration** page appears showing the **Name**, **Description**, and **Status** of the configuration. The topmost node in the configuration is shown in the **Position List**.

You can use the **Position Ratio**, **Documents**, and **Alternates** buttons to view position details and the position ratio, documents, and alternate parts associated with a node in the configuration.

See:

- [Viewing Position Details](#)
- [Viewing Position Ratio](#)
- [Viewing Documents Associated with a Position](#)
- [Viewing Alternate Parts associated with a Position](#)

## Viewing Position Details

You can view the position details of master configuration nodes using the following procedure.

### **Prerequisites:**

The master configuration record must exist in the database.

### **To view position details:**

1. Retrieve the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Check the select radio button next to the pertinent master configuration from the Master Configuration List on the Search Master Configuration page.
3. Click View. The View Master Configuration page appears showing the Name, Description, and Status of the configuration. The node hierarchy is represented by the tree structure on the left.
4. Navigate to the node you want to view using the tree structure; click on the plus icon next to a node listing to display subordinate nodes. Click on a node to display the position details corresponding to the node.

## Viewing Position Ratios Associated with a Position

You can view position ratios associated with a position in a master configuration using the following procedure.

### **Prerequisites:**

The position ratios of the master configuration position must be defined. See Editing Position Ratios.

### **To view position ratios associated with a position:**

1. Retrieve the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Check the select radio button next to the pertinent master configuration from the Master Configuration List on the Search Master Configuration page.
3. Click View. The View Master Configuration page appears showing the Name, Description, and Status of the configuration. The node hierarchy is represented by the tree structure on the left.

4. Navigate to the node you want to view position ratios for using the tree structure; click on the plus icon next to a node listing to display subordinate nodes. Click on a node to select it. The position details corresponding to the node appear.
5. Click Position Ratio. The View Position Ratio page appears.

## Viewing Documents Attached to a Position

Use the following procedure to view documents attached to a master configuration node.

### **Prerequisites:**

Documents relating to the master configuration node must be defined. See [Attaching Documents to a Position Reference](#).

### **To view the documents attached to a position:**

1. Retrieve the master configuration records that match your requirement (see [Finding Master Configuration Records](#)).
2. Check the select radio button next to the pertinent master configuration from the Master Configuration List on the Search Master Configuration page.
3. Click View. The View Master Configuration page appears showing the Name, Description, and Status of the configuration. The node hierarchy is represented by the tree structure on the left.
4. Navigate to the node you want to view documents for using the tree structure; click on the plus icon next to a node listing to display subordinate nodes. Click on a node to select it. The position details corresponding to the node appear.
5. Click Documents. The Documents List appears, displaying all documents associated with the selected position.

## Viewing Alternate Parts Associated with a Position

Use the following procedure to view alternate parts associated with different nodes in a master configuration.

**Prerequisites:**

Alternate parts must be defined for the position prior to viewing the parts associated with a position in a master configuration. See [Adding Alternate Parts Information](#).

**To view alternate parts associated with a position:**

1. Retrieve the master configuration records that match your requirement (see [Finding Master Configuration Records](#)).
2. Check the select radio button next to the pertinent master configuration from the Master Configuration List on the Search Master Configuration page.
3. Click View. The View Master Configuration page appears showing the Name, Description, and Status of the configuration. The node hierarchy is represented by the tree structure on the left.
4. Navigate to the node you want to view documents for using the tree structure; click on the plus icon next to a node listing to display subordinate nodes. Click on a node to select it. The position details corresponding to the node appear.
5. Click Alternates. The View Alternates page appears, displaying all alternate parts relevant to the selected position.

## Viewing Positions Associated with an Alternate Part Group

Use the following procedure to view the configuration positions with which an alternate part group is associated.

**Prerequisites:**

The alternate part group must be created.

**To view positions associated with an alternate part group:**

1. Retrieve the pertinent alternate part group record from the database (see [Finding Alternate Parts Information](#)).
2. To view the configurations with which an alternate part group is associated, select the pertinent group from the Parts Group List on the Search Alternate Parts page, and click View Positions.

This will launch the View Alternate Part Associations page. The Configuration Positions List displays all the configurations and positions where the part group is attached.

## Closing Master Configuration Records

You can delete a master configuration record using the Remove button on the Search Master Configuration page. The status of this record is then changed to Closed.

### **Prerequisites:**

The master configuration record that you want to close must exist in the database.

### **To close master configuration records:**

1. Retrieve the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Click the Close icon next to the pertinent master configuration from the list on the Search Master Configuration page.
3. The search results list is refreshed with the status of the selected master configuration record changed to Closed.

## Reopening Closed Records

You can reopen a master configuration record that was previously deleted using the following procedure.

### **Prerequisites:**

The master configuration record must have been previously defined, and then removed.

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**Note:** You can only reopen master configuration records with status Closed.

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### **To reopen closed master configuration records:**

1. Retrieve the master configuration records that match your requirement (see Finding Master Configuration Records).
2. Select the pertinent record from the Master Configuration List on the Search Master Configuration page.

- 3. Click Reopen.** The search result list is refreshed with the status of the selected master configuration changed to Draft.



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## Working With Unit Configurations

In the maintenance, repair, and overhaul industry, the "as-constructed" configuration of an assembly determines the specific maintenance program required to ensure the operational readiness of that asset. Even if two units have the same part number, or belong to the same product family, the as-constructed configurations may be different due to optional subsystems selected by fleet operators, and due to the asset's operational and service history. Ultimately, maintenance organizations must manage maintenance activities for each unit in the fleet. For maintenance purposes, an aircraft, for example, might consist of a thousand parts that you must monitor. As you remove, overhaul, or replace parts, you must associate the monitored parts that have unique model and serial numbers with a fleet unit, and retain the maintenance history of those parts. Many systems, such as aircraft flight management computers, contain software that is revised during their service lives. The Oracle Complex Maintenance, Repair, and Overhaul Unit Configuration module describes the configuration for each unit, and enables maintenance organizations to define and monitor parts in a fleet unit.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Unit Configuration module. The chapter provides process-oriented, task based procedures for using the application to perform essential tasks for managing maintenance activities of fleet units.

See:

- Creating Unit Configuration Records
- Finding Master Configuration Records
- Creating Unit Configuration Headers
- Finding Unit Configuration Records
- Editing Unit Configuration Records

- Assigning Parts to Unit Configuration Positions
- Viewing Alternate Parts Utilization
- Assigning Alternate Parts to Unit Configuration Positions
- Creating and Updating Part Information (Create Product and Search Product)

## What is Unit Configuration?

Unit Configuration is a subsystem that describes the structure of an assembled electromechanical system. Unit Configuration is also concerned with monitored components modeling to support the management of a single part of interest, or a complex assembly that consists of a hierarchy of monitored parts.

Unit Configuration manages information about the service readiness of any component, and implements Closed Loop Asset Tracking techniques, the result of which is instantaneous online intelligence about the location and state of components. Another important feature of Unit Configuration is the ability to precisely record the utilization of as many parts or subassemblies in a fleet unit as required. Oracle Complex Maintenance, Repair, and Overhaul allows you to represent the part lifetime using industry-standard units of measure, such as operating hours, flight cycles, elapsed time, and calendar time. Unit Configuration also allows you to define and maintain the maintenance requirements for a subassembly or subsystem. Maintenance requirements for each fleet unit support detailed maintenance planning for the fleet as a whole.

## Key Business Processes

The Unit Configuration module of Oracle Complex Maintenance, Repair, and Overhaul supports the following business processes:

**Managing Equipment As-Installed Configurations** When a product is in service, some components may need replacement for maintenance and modification, or upgrade purposes. Knowing the current or "as-installed" configuration is critical to plan the required maintenance actions. The Oracle Complex Maintenance, Repair, and Overhaul Unit Configuration module allows you to track the as-installed configuration of a complex assembly, component installation and removal history, and the software installed in a unit.

**Managing Configuration Changes** When a current equipment configuration does not meet the future needs, operators modify the existing equipment, instead of replacing it. Organizations also maintain multi-purpose equipment that require a

configuration change between different modes of operation. Oracle Complex Maintenance, Repair, and Overhaul allows you to compare the unit (current) configuration with its master configuration to derive the effort required for the modification. Unit Configuration also allows you to validate allowable installation, and whether a configuration is complete.

**Tracking Utilization of a Unit** Utilization is a major factor determining the maintenance required to preserve an equipment's operational utility. When an assembly is made up of different components that may require different parameters to measure utilization and aging, the resulting maintenance forecast process can be complicated. Unit Configuration will precisely track the utilization of each individual component within an assembly by tracking current utilization of units, such as age, odometer reading, and flight hours since overhaul. Unit Configuration applies the appropriate unit of measure to suit different types of utilization or aging.

**Tracking Maintenance Requirements of a Unit** The key functions of maintenance planning include identifying the maintenance requirements of a unit, and calculating the service life before the next maintenance event. Fleet Maintenance Program provides this functionality. Unit Configuration enables you to model the maintenance requirement applicable to individual units, by providing a tracking mechanism for maintenance requirements.

**Closed Loop Asset Management** Maintenance organizations track information about a unit using multiple systems throughout the service life of the unit. To build a continuous "cradle-to-grave" event history of a unit, may require great efforts. The Unit Configuration module provides an anchor to tie all the transactions required to build the full history of a unit. It tracks all transactions associated to unit location and status changes.

**Tracking Unit Specific Business Information** Some critical business information resides at the individual unit level, and will require special attention and tracking. Unit Configuration provides a platform to track unit-specific information such as ownership.

## Creating Unit Configuration Records

Master configuration provides a template for the structure of an electromechanical system with rules for component location and component selection, and applicable maintenance operations. An instance of a master configuration models the general

characteristics of a fleet unit. You can derive a unit configuration modeling the structure of an "as-operated" electromechanical system from a master configuration.

Creating a unit configuration from an existing master configuration record involves three stages:

1. Finding the master configuration record (that serves as the unit configuration template)
2. Creating the unit configuration header
3. Assigning parts to unit configuration positions

## Finding Master Configuration Records

When searching for a master configuration record that will serve as the unit configuration template, you can search using the master configuration template name, or the hierarchical position reference where a master configuration is connected. You can also retrieve all records by providing no search criteria, and clicking Search. For more information about master configurations, see *Working With Master Configurations*.

### **Prerequisites:**

Master configuration records from which you want to derive unit configurations must exist in the database.

### **To find a master configuration record:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page appears.
2. Click on the Unit Configuration tab, then select the Create From Master sub tab to launch the Search Master Configuration page.
3. To retrieve master configuration templates by name, enter part of the master configuration name followed by the generic substitution metacharacter % (example, Air%) in the Name field, and click Go.
4. To retrieve master configuration records by position in the hierarchy, enter part of the position name followed by the generic substitution metacharacter % in the Position field, and click Search.
5. If you do not know the name or position of the master configuration, use the Description field to enter your search string, and click Search. The Description

field contains a text description of the master configuration that will serve as the basis for the new unit configuration.

6. The lower half of the page displays all matching master configuration records. The application will display all master configuration records matching the search criteria you provided, as long as the Status of the master configuration record is "Complete". The system will not permit you to create unit configuration records from master configuration templates of any other Status value.

## Creating Unit Configuration Headers

After retrieving a master configuration template from the database, you can create a unit configuration header that represents an individual fleet unit, and shares attributes in common with other fleet units derived from the same master configuration template. To create a unit configuration header, provide a name for the unit configuration, a part number that represents an existing part definition, and a range of effective dates.

### **Prerequisites:**

The master configuration record that serves as template for the unit configuration must exist in the database. The part that the unit configuration definition represents must exist in the database (or you must have created the product).

### **To create unit configuration headers:**

1. Retrieve the master configuration record that serves as the template for creating the new unit configuration (see Finding Master Configuration Records).
2. Select the pertinent master configuration record, and click Create Unit Configuration to launch the Create Unit Configuration page.
3. Enter the information in the fields provided. Information in fields marked with asterisk is mandatory.
  - Name represents a descriptive name for this unit configuration record. Your organization must have established a naming convention for you to follow.
  - Part Number is a number that identifies this particular fleet unit. The part number must already exist in the database. This is a quick lookup field. You can enter a value if you know it, otherwise, enter a partial search string with the generic substitution metacharacter %, and click Go. This returns all

part number records in the database. Click the pertinent record to return this value to the field.

- Start Date represents the beginning of a period of time during which this unit configuration is valid. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.
  - End Date represents the end of a period of time during which this unit configuration is valid. While the configuration is valid, this field remains empty. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.
  - Status indicates whether the unit configuration record is in the draft stage, or completed.
  - The application populates the Party Type, Description, Serial Number, Owner, Owner Name, Location, and Location Address fields when you select a part number. These field values represent the description, and the attributes of the fleet unit, such as serial number, owner, and current location. The attributes are defined when a part information is added or updated. You cannot update the values in these fields, you can only view them.
4. Click Apply to add the unit configuration record to the database.
  5. To assign parts to the unit configuration, click Next. See Assigning Parts to Unit Configuration Positions.

## Finding Unit Configuration Records

After you create a unit configuration header in the database, you can continue to add parts to all the positions that were defined in the master configuration structure. Oracle Complex Maintenance, Repair, and Overhaul helps you retrieve any unit configuration record that exists in the database, by name, or by serial number. You can also retrieve all records in the database by providing no search criteria, and clicking Search.

### **Prerequisites:**

The unit configuration record you want to retrieve must exist in the database.

**To find unit configuration records:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page appears.
2. Click on the Unit Configuration tab to launch the Search Unit Configuration page. This is also the default Unit Configuration page.
3. To retrieve unit configuration records by name, enter part of the unit configuration name followed by the generic substitution metacharacter % (example, Air%) in the Name field, and click Search.
4. To retrieve unit configuration records by serial number, enter the value in the Serial Number field, and click Search. Serial Number represents a unique identifier for the fleet unit, provided by the original equipment manufacturer, or the re builder.
5. The lower half of the screen displays the Unit Configuration List of all matching records in the database.

## Editing Unit Configuration Records

Maintenance organizations alter fleet unit configurations to suit different modes of operation, or to comply with changes in business rules. These alterations may also result from component replacements with allowable parts at certain hierarchical positions. Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve and update unit configuration records to reflect these changes.

**To edit unit configuration records:**

1. Retrieve the unit configuration record that you want to edit (see Finding Unit Configuration Records). The search results appear in the lower half of the page.
2. To remove a unit configuration record, select the pertinent record from the Unit Configuration List, and click Remove. You can reuse the item represented by the unit configuration that you remove.
3. To edit a unit configuration record, click the Edit Details icon for the pertinent record in the Unit Configuration List. This launches the Edit Unit Configuration page.
4. Note that you cannot add or update position references in the unit configuration after changing the Status to Complete. Make sure that you assign parts to all the positions in the unit configuration hierarchy before changing the Status to Complete.

To change the status of the unit configuration record from Draft to Complete, make the necessary change in the Status field, and click Save. The application validates whether all mandatory positions have been filled, and issues an error message if not.

5. To edit a position in the unit configuration hierarchy, use the tree structure on the left. The position references beneath the selected node in the unit configuration appear with corresponding part information.
6. To remove a position reference from the unit configuration record, select the position reference, and click Remove. You can reuse the item represented by the position reference that you remove from the unit configuration.

Note that you cannot remove a position reference that is defined as Mandatory in the master configuration. The Edit Unit Configuration page presents this information in the Necessity field under Unit Configuration Structure.

7. To assign a part to a position in the unit configuration, select the pertinent position reference, and click Assign. The Assign Part page appears. See Assigning Parts to Unit Configuration Positions.

## Assigning Parts to Unit Configuration Positions

Creating a unit configuration logical record from a master configuration results in the connection of a unit configuration record with at least one item in the inventory catalog, and with an actual part or assembly in the inventory database. A unit configuration cannot exist without a part definition and a position definition. After you create a unit configuration header in the database, you can continue to add parts to all the positions that were defined in the template master configuration. All the parts that you assign must exist in a group created using the Master Configuration module.

### **Prerequisites:**

The unit configuration record for which you want to assign parts must exist in the database, and the Status must be flagged as Draft.

### **To assign a part to a unit configuration position:**

1. Retrieve the unit configuration record that you want to edit (see Finding Unit Configuration Records). Search results appear in the lower half of the page.
2. To remove a unit configuration record, select the pertinent record from the Unit Configuration List, and click Remove.

3. To assign parts to a unit configuration position, select the pertinent record from the Unit Configuration List, and click Edit Details. The Edit Unit Configuration page appears. Using the tree structure on the left, navigate to the node you want to edit.
4. To remove a position reference from the unit configuration structure, select the position reference you want to remove, and click Remove. You can reuse the item that you remove.
5. Click Assign to launch the Assign Part page.
6. Enter the information in the fields provided. Information in fields marked with asterisk is mandatory.
  - Part Number field contains the identifier of the part that you want to add from the group of parts that can be installed in this position. You cannot enter text directly in this field because the text value must exist in the database. Enter a text search argument (example, MACHINE%), and click Go to retrieve and display all records from the database that match the search argument. Click the correct value from the records displayed to have the text value returned to the field.
  - The application populates the Description, Serial Number, UOM, and Quantity fields when you select a part number. These field values represent the description, and the attributes of the assigned part, such as serial number, unit of measurement, and quantity. The attributes are defined when a part information is added or updated.

The Serial Number value is not returned if not defined in the database. You can assign a temporary Serial Number to the part, but make sure that you enable the Temporary check box beside the field. This will allow you to change the Serial Number later. You cannot change the serial number later if you do not enable the Temporary check box.
  - Lot No. is an identification number representing the part's manufacturing lot. Enter the generic substitution metacharacter % in the field, and click Go to launch the Select Lot Number page. If lot control is defined for the part, the page lists all the lot number records for this part. If no lot control is defined when the part information is created in the database, you cannot enter a value in this field. The application will return error messages if you enter a value in this field for a part with no lot control defined.
  - Mfg. Date represents the date of manufacture of the part. You can enter a value in this field only if manufacturing date control is defined for the part when this part record is created in the database. To enter a value in this

field, click the calendar icon beside the field. Click the correct date to copy this value into the field.

- Revision represents the part revisions introduced by manufacturers. Part revisions are made to accommodate changes that may somehow improve the efficiency of the part. You can enter a value in this field only if revision control definitions exist for this part record in the database. The application returns errors when you enter revision values for parts that do not have revision control defined. To enter a value in this field, follow the same procedure as you did for the Lot No.
7. Click Apply to add the part to the unit configuration structure.

When you click Apply, the application checks to ensure that all required fields have been completed with valid entries. The application rejects invalid records with error messages.

## Viewing Alternate Parts Utilization

Unit Configuration records the utilization of each component within an assembled hierarchy by monitoring current utilization of units and component hierarchies. Unit Configuration uses appropriate units of measurement including Time Since New, Time Since Overhaul, Time Since Repair, utilization cycles, Hobbs meter time, and many others. Unit Configuration also records utilization history of a revenue fleet unit, serialized part, or component hierarchy.

You can assign alternate parts to unit configuration positions after viewing the utilization gained by each allowable part listed for a position.

### **Prerequisites:**

An assigned part must exist for the pertinent position in the unit configuration, and the Unit Configuration record Status must be flagged Complete.

### **To view alternate part utilization:**

1. Retrieve the unit configuration record that you want to edit (see Finding Unit Configuration Records). Search results appear in the lower half of the page.
2. To remove a unit configuration record, select the pertinent record from the Unit Configuration List, and click Remove.
3. To view the use of alternate parts, select the pertinent record from the Unit Configuration List, and click Edit Details. The Edit Unit Configuration page

appears. Using the tree structure on the left, navigate to the node you want to edit.

4. Select the position to which you want to assign alternate parts.
5. Click Alternates to launch the Alternate Parts List page. This is the allowable parts list defined for the selected position. Note that the Alternates button is enabled only when the unit configuration status is Complete.
6. Select the alternate part for which you want to view the utilization.
7. Click Utilization to launch the Alternate Part & Utilization page. The page displays the Name, Description, Unit of Measurement, and the Reading for the selected part.

## Assigning Alternate Parts to Unit Configuration Positions

When a fleet unit is in operation providing a transport service, eventually some components will require replacement to preserve the operational readiness of that unit. A unit configuration inherits the alternate parts list for each component position in the hierarchy, from its master configuration template. Use this procedure to assign alternate parts to a component position in an assembly. This will enable you to manage the "as-installed" configuration details of any fleet unit.

### **Prerequisites:**

An assigned part must exist for the pertinent position in the unit configuration, and the Unit Configuration record Status must be flagged Complete.

### **To assign an alternate part to a unit configuration position:**

1. Retrieve the unit configuration record that you want to edit (see Finding Unit Configuration Records). Search results appear in the lower half of the page.
2. To remove a unit configuration record, select the pertinent record from the Unit Configuration List, and click Remove.
3. To assign alternate parts to a unit configuration position, select the pertinent record from the Unit Configuration List, and click Edit. This launches the Edit Unit Configuration (Unit Configuration Structure) page.
4. Click the topmost node in the unit configuration that appears in the Position field under Unit Configuration Structure. The position references beneath the selected node appear with corresponding part information.
5. Select the position to which you want to assign alternate parts.

6. Click Alternates to launch the Alternate Parts List page. This is the allowable parts list defined for the selected position.
7. Select the alternate part that you want to assign to the position.
8. Click Assign. This assigns the selected alternate part to the position, and the part previously assigned to the selected position is marked Out-of-Service and returned to the Alternate Parts List.

## Creating and Updating Part Information

Oracle Complex Maintenance, Repair, and Overhaul uses Oracle Install Base, part of the Oracle e-Business Suite, to create and update part information.

- Click the Create Product sub tab in the Unit Configuration module to launch the Create Product page.
- Click the Search Product sub tab in the Unit Configuration module to launch the Search My Products page.

For instructions on using these pages to create, find, and update part information, refer to *Oracle Install Base Concepts and Procedures*. The chapter, "Using the Product Tabbed Page" in this guide provides all the information you need to use the Create Product and Search My Product pages.

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## Managing Product Classification

In the transportation business, the term fleet commonly describes a group of related vehicles. A fleet may be divided into smaller groups, or subfleets, each consisting of products that are similar with regard to manufacturer, operating region, or other pertinent attribute. Because maintenance requirements are often based on such attributes, product classification is needed to provide a hierarchy within which the products can be grouped.

Throughout the MRO industry, businesses need to define how MRO maintenance and supporting documents apply to physical units or parts. These MRO documents typically represent other parts or technical information, and their purpose is to express what requirements apply to what units.

A product classification will group products logically across multiple levels. Examples are the family-model-version classification for engines and the fleet-series-model classification for aircraft. A product classification can be represented by a tree structure in which individual units can be attached to the nodes of the tree, with the implication that maintenance requirements and maintenance documents applicable to such a node "flow down" to the attached units or parts.

This chapter presents the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Product Classification module. The chapter provides process-oriented, task base procedures for using Oracle Complex Maintenance, Repair, and Overhaul to perform essential product classification tasks.

See:

- Finding Product Classifications
- Working with Product Classifications:
  - Creating a Product Classification

- Copying a Product Classification
- Editing a Product Classification
- Working with Nodes:
  - Adding a Node
  - Editing a Node
  - Removing a Node
- Viewing Nodes
- Associating Documents to a Node
- Attaching Parts/Units in Product Classification
- Viewing Utilization Forecasts
- Viewing associated Maintenance Requirements
- Checking Completeness
- Launching the Approval Process

## What is Product Classification?

A product classification is a logical categorization of units or parts pertaining to maintenance, with a unit being the physical instance of an item and a part being the general item definition from which a unit is instantiated. Product Classification allows an organization to group its units or parts together from multiple viewpoints. Examples are the general product family classification, a classification per geographical location or a classification based on the type of usage of a unit or part. The affiliation of a unit or part to certain classifications is used to define the applicability of maintenance requirements and maintenance documents. In case of changing a product classification by adding, deleting or moving a unit or a part, the unit maintenance plan of the affected unit(s) is changed automatically to represent the maintenance requirements based on the edited product classification. This gives an organization a powerful set up of maintenance applicability with a minimum of maintenance of the engineering set up when implementing maintenance plan changes.

## Key Business Processes

Product Classification supports the following business processes:

**Product Classification** Oracle Complex Maintenance, Repair, and Overhaul provides a maintenance engineer with the ability to create and maintain product classifications. Product Classification provides a hierarchy within which parts and units can be grouped. Organizations are able to create, copy and maintain product classification and for the use of maintenance definition of the parts or units within a product classification, they can associate documents and view association of the associated maintenance requirements.

Maintenance Personnel can:

- Search the database to quickly refer to a product classification.
- Create new product classifications or product classifications revisions.
- Edit and copy product classifications.
- Associate documents to a nodes product classifications.
- Attach parts or units to product classifications.
- View maintenance requirements associated to a product classification node.
- View Utilization forecast of a product classification.
- Check for completeness of primary product classifications.
- Launch the approval process for a draft product classification.

**Parts and Unit Classification** Oracle Complex Maintenance, Repair, and Overhaul allows organizations to group parts or units in multiple product classifications. A product classification is represented in a tree model hierarchy. This supports organizations to group parts or units together from different viewpoints and enables them to define maintenance requirements and maintenance documents based on the parts or units product classification(s) association.

**Primary and Supplementary Classification** Oracle Complex Maintenance, Repair, and Overhaul supports primary and supplementary classifications. For a primary classification all parts or units of that classifications' product type need to be associated to this primary classification. An organization can have one primary classification per product type. This gives the organization a view of all the parts or units for a specific product type. An example of that would be the complete fleet of an airline. A supplementary classification can represent a subset of the parts and units for a particular product type. An organization can have multiple supplementary classifications for a particular product type. This allows an organization to group the parts and units together from different viewpoints. An

example of that would be a categorization by geographical location of the parts and units.

**Association of Maintenance Documents** Oracle Complex Maintenance, Repair, and Overhaul allows you to associate maintenance documents to any node within the product classification hierarchy.

**View Maintenance Requirement Association** Oracle Complex Maintenance, Repair, and Overhaul displays the maintenance requirements associated to a node in a product classification. The association itself happens in Fleet Maintenance Program.

**Unit Maintenance Plan Update** When a part or unit changes its product classification or is newly added or deleted from a product classification. The system automatically runs the re-calculation of the affected units' maintenance plan.

## Fields Associated with Product Classification

The following sections provide descriptions of fields appearing on each Product Classification page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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## Fields on the Search Product Classification Page

The following fields appear on the Search Product Classification page:

**Name** refers to the name of the product classification.

**Product type** refers to the kind of product, such as airplane, train, car, and so on. This is a seeded field. All classifications have a product type defined to control the association of a unit or a part. This is to ensure that different types of products get mixed up in the same classification (i.e. Airplanes and Engines).

**Status** refers to the state of the classification which is one of the following: Draft, Approval Pending, Approval reject, or Complete. When creating a product classification the default is Draft. This is a seeded field.

**Primary Classification** One of two types of product classifications, primary or supplementary. A primary classification is used to give an overview of all existing units that make up a complete list of components. For an operator in the transportation industry, this consist of all airplanes, trains, buses, ships, cars, and so forth. Multiple primary classifications can be defined but must associate an item type to a primary classification for validation purposes. For example, you can define multiple primary classifications for the complete fleet of Airplanes and the complete list of Engines. Only parts of product type 'Airplane' can be associated to the primary classification for the fleet of Airplanes and only parts of product type 'engine' could be associated to the Engine classification. Since one part can only have one product type, there is no duplication when associating parts or units to a primary classification. Every unit defined as part of the fleet has to be part of the primary product classification. Supplemental classifications are applied to group certain units for specific classification needs based on geography, types not covered through the primary classification or any other attribution. A supplementary classification does not necessarily resemble the complete fleet it therefore does not have to have every unit assigned to a leaf node.

**Association Type** refers to the kind of association; either unit or part.

**Document** refers to the document number set from document index.

**Revision** refers to the revision number of the associated document.

**Maintenance Requirements** refers to the maintenance requirements determined in Fleet Maintenance Program.

**Unit** refers the name of the unit

**Part** refers to the part number.

## Fields on the Attach Documents Page

This page displayed in Product Classification is part of Document Index. For more information on the fields of this page, see Fields Associated with Document References in Visit Work Package.

## Fields on the View Maintenance Requirements Page

This page displayed in Product Classification is part of Fleet Maintenance Program. For more information on the fields of this page, see Fields on the Search Maintenance Requirements Page.

## Fields on the View Utilization Forecast Page

This page displayed in Product Classification is part of Unit Maintenance Plan. For more information on the fields of this page, see Fields on the Update Part Utilization Forecast Page.

## Finding Product Classifications

Maintenance organizations refer to existing product classification records while defining solutions for similar maintenance requirements. Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value “ENGINE” in a field, typing “E%” will return all records where the field value begins with “E”.

### **Prerequisites:**

The product classification record you want to retrieve must exist in the database.

### **To find a product classification record:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page of Master Configuration appears.
2. Select the Product Classification tab. The Search Product Classification page appears in Product Classification.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Search Product Classification Page.
4. Click Go. The lower half of the screen displays the Product Classification results for all matching records in the database.
5. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

See:

- Working With Product Classifications

## Working With Product Classifications

Product Classification provides a multilevel hierarchy that permits the logical grouping of products. Product classifications are used mainly to define maintenance requirements and documents applicability. There are two types of classification - Primary and Secondary. There can be only one Primary classification for one product type. Oracle Complex Maintenance, Repair, and Overhaul allows you to copy, edit, and create product classifications.

See:

- Creating Product Classifications
- Copying Product Classifications
- Editing Product Classifications

## Creating a Product Classification

### **Prerequisites:**

You should know the name, product type, classification status, and association type of the product classification you want to create.

### **To create a product classification:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Configuration Management Global button. The Search Master Configuration page of Master Configuration appears.
2. Select the Product Classification tab. The Search Product Classification page appears in Product Classification.
3. Click the Create button in the Product Classification Results in the lower half of the page.
4. The Create Product Classification page appears. Enter the information in the fields for which you know the value. Fields marked with asterisks require an entry.

5. Click **Apply** to save the changes to the database. You should see a message: **Confirmation—Product Classification successfully created**. The **Edit Product Classification** page appears, displaying the new Product Classification.
6. Click **Cancel** to return to the previous page.

See:

- Copying Product Classifications
- Editing Product Classifications

## Copying a Product Classification

### **Prerequisites:**

A draft status product classification must exist in the database.

### **To copy a product classification:**

1. Retrieve the product classification you want to copy. See **Finding Product Classifications**.
2. Select the product classification you want to copy from the **Product Classification Results** on the lower half of the page, then click **Copy**.
3. The **Copy Product Classification** page appears. Give the copy a new name—each product classification must have a unique name.
4. Change any other information about the copy in the fields provided. Note that only one primary product classification is permitted for any product type. If you also want to copy other components, such as any associated **Unit/Parts** or **Documents**, click the checkboxes next to the relevant component.
5. Click **Apply** to save the changes to the database.
6. Click **Apply** to save the changes to the database. You should see a message: **Confirmation—Product Classification successfully copied**. The **Edit Product Classification** page appears, displaying the copied Product Classification.
7. Click **Cancel** to return to the previous page.

See:

- Creating Product Classifications
- Editing Product Classifications

## Editing a Product Classification

Oracle Complex Maintenance, Repair, and Overhaul Product Classifications can be edited only if the status of the Product Classification is in "draft" status. If the status is "complete" changes are not allowed, including any changes in associations of maintenance requirements and documents.

### **Prerequisites:**

A draft status product classification must exist in the database.

### **To edit product classification:**

1. Retrieve the product classification you want to edit. See Finding Product Classifications.
2. Click the hyper link name of the product classification you want to edit from the Product Classification Results on the lower half of the page.
3. The Edit Product Classification page appears.
4. Make the necessary changes in the fields provided. Note that only one primary product classification is permitted for any product type.
5. Click Apply to save the changes to the database. The page refreshes and displays "Product Classification successfully updated."

See:

- Creating Product Classifications
- Copying Product Classifications
- Working with Nodes

## Working With Nodes

Assigning a part, instead of the unit to a node is an easier way to classify the products if a differentiation is not needed on the instance level. Oracle Complex Maintenance, Repair, and Overhaul uses a hierarchy tree to graphically display the structure of product classifications and the elements related to them. In Product Classification, you can add, edit, and remove nodes in addition to attaching documents, associate units/parts, and view the maintenance requirements for any selected product classification.

See:

- Adding a Node
- Editing a Node
- Removing a Node

## Adding a Node

### **Prerequisites:**

A draft status product classification must exist in the database.

### **To add a node:**

1. Find the product classification to which you want to add a node. See Finding Product Classifications.
2. Click the hyper link name of the product classification you want to add a node to from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Select Add Node from the Action pull down menu and click Go.
5. Node Details appears on the lower right hand of the page. Enter the information in the fields for which you know the value.
6. Click Apply to save the changes to the database.
7. The page refreshes and displays "Confirmation: Product Classification Node successfully created" and the tree displays the new node.

See:

- Editing a Node
- Removing a Node

## Editing a Node

### **Prerequisites:**

A draft status product classification and an editable node must exist in the database.

**To edit a node:**

1. Find the product classification to which you want to add a node. See Finding Product Classifications.
2. Click the hyper link name of the product classification you want to add a node to from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node you want to edit and click the hyper link name of the node. The details for that node appear.
5. Make the necessary changes in the fields provided. Click the More details button if you want to associate documents or attach parts.
6. Click Apply to save the changes to the database. The page refreshes and displays "Product Classification Node successfully updated."
7. Click Cancel to return to the previous page.

See:

- Adding a Node
- Removing a Node
- Associating Documents to a Node
- Attaching Parts/Units in Product Classification

## Removing a Node

**Prerequisites:**

The node you want to remove must exist in the database.

**To remove a node:**

1. Find the product classification that has the node that you want to remove. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want to remove from the Product Classification Results on the lower half of the page.

Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.

3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node you want to remove
5. Select Delete Node from the Action pull down menu and click Go.
6. The page refreshes and displays "Confirmation: Product Classification Node(s) successfully deleted." The node, all its associations, and sub nodes are deleted.
7. Click Apply to save the changes to the database.
8. Click Cancel to return to the previous page.

See:

- Adding a Node
- Editing a Node

## Viewing Nodes

Oracle Complex Maintenance, Repair, and Overhaul uses a hierarchy tree to graphically display the structure of product classifications and the elements related to them. You can use Product Classification to view any nodes associated to a product classification.

### **Prerequisites:**

A product classification with associated nodes must exist in the database.

### **To view a node:**

1. Find the product classification that has the node that you want to view. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want to view from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.

4. Navigate through the tree by clicking on the plus/minus icons next to the node names.

## Associating Documents to a Node

Product Classification uses a tree structure to graphically display the structure of product classifications and the elements related to them. Documents can be associated with product classifications by attaching them to the appropriate node of this tree structure. You can search for relevant documents from document index then use Product Classification to attach documents to a node.

### **Prerequisites:**

A draft status product classification must exist in the database.

### **To associate a document to a node:**

1. Find the product classification that has the node that you want to associate with a document. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node to which you want to associate a document.
5. Click the hyper link name of the node. The Edit Product Classification page refreshes with information on that node. Click More Details.
6. The Update Attached Documents page should appear. If it does not, click Documents on the left hand side menu to bring up the page.
7. The Update Attached Documents page displays currently attached documents. To add a document, click Add More Rows.
8. Enter the information in the fields for which you know the value.
9. Click Apply to save the changes to the database.
10. Click Cancel to return to the previous page.

## Attaching Parts/Units in Product Classification

Product Classification uses a tree structure to graphically display the structure of product classifications and the elements related to them. Parts/units can be associated with product classifications by attaching them to the appropriate node of this tree structure.

### **Prerequisites:**

A draft status product classification must exist in the database.

### **To do attach a part or unit:**

1. Find the product classification that has the node that you want to associate with a document. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node to which you want to attach a part or unit.
5. Click the hyper link name of the node. The Edit Product Classification page refreshes with information on that node. Click More Details.
6. The Update Attached Documents page appears. Click Units/Parts from the left hand navigation menu. The Update Attached Units page appears, displaying any currently attached units/parts. To add a unit/part, click Add More Rows.
7. Enter the information in the fields for which you know the value.
8. Click Apply to save the changes to the database.
9. Click Cancel to return to the previous page.

## Viewing Utilization Forecasts

The Oracle Complex Maintenance, Repair, and Overhaul Product Classification module allows you to view any utilization forecasts related to a particular product classification.

**Prerequisites:**

A draft status product classification must exist in the database.

**To view utilization forecasts:**

1. Find the product classification that has the node with the associated maintenance requirements you want to view. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node with the maintenance requirement you want to view.
5. Click the hyper link name of the node. The Edit Product Classification page refreshes with information on that node. Click More Details.
6. The Update Attached Documents page appears. Click Utilization Forecast from the left hand navigation menu. The View Utilization Forecast page appears, displaying any related utilization forecasts.
7. Click Cancel to return to the previous page.

## Viewing Associated Maintenance Requirements

The Oracle Complex Maintenance, Repair, and Overhaul Product Classification module allows you to view any maintenance requirements related to a particular product classification.

**Prerequisites:**

A product classification with associated maintenance requirements must exist in the database.

**To view an associated maintenance requirement:**

1. Find the product classification that has the node with the associated maintenance requirements you want to view. See Finding Product Classifications.

2. Click the hyper link name of the product classification with the node you want from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears. The node tree appears on the left hand side of the page, displaying the currently selected node.
4. Use the tree to find the node with the maintenance requirement you want to view.
5. Click the hyper link name of the node. The Edit Product Classification page refreshes with information on that node. Click More Details.
6. The Update Attached Documents page appears. Click Maintenance Requirements from the left hand navigation menu. The View Maintenance Requirement page appears, displaying any currently relevant maintenance requirements.
7. Click Cancel to return to the previous page.

## Checking Completeness

The Oracle Complex Maintenance, Repair, and Overhaul Product Classification module allows you to check a draft product classification for completeness before launching an approval process.

### **Prerequisites:**

A primary product classification must exist in the database.

### **To check the completeness of a product classification:**

1. Retrieve the product classification you want to check. See Finding Product Classifications.
2. Select the product classification you want to check completeness for from the Product Classification Results on the lower half of the page, then click Check Complete. Note that you cannot initiate the check complete process on a non-primary Product Classification.
3. Oracle Complex Maintenance, Repair, and Overhaul performs the check, then displays a confirmation message.

## Launching the Approval Process

The Oracle Complex Maintenance, Repair, and Overhaul Product Classification module allows you to start the approval process for a draft product classification.

### **Prerequisites:**

There must be a draft status process classification in the database.

### **To launch the approval process:**

1. Find the product classification for which you want to launch an approval process. See Finding Product Classifications.
2. Click the hyper link name of the product classification with the node you want from the Product Classification Results on the lower half of the page. Alternatively, you can click the tree icon in the row the product classification appears in the Product Classification Results.
3. The Edit Product Classification page appears, displaying the currently selected product classification. Click Submit.

The Product Classification status changes from "Draft" to "Pending Approval".



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## Working With Unit Maintenance Plans

In a Maintenance, Repair, and Overhaul (MRO) environment, it is necessary to plan work on complex equipment and simple components. This work is typically specified by a set of maintenance requirements that have been defined by the engineering organization to ensure proper operation of the equipment or component. Unit Maintenance Plan is used to ensure that all maintenance requirements are accomplished on or prior to their due date, and provides the "demand" over a planning time window by forecasting the due date of maintenance requirements associated to a unit. It searches and displays maintenance requirements that are due for an equipment unit and provides maintenance personnel instant access to maintenance requirements, due date estimation, accomplishment history, and planning information for a unit configuration.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Unit Maintenance Plan module. The chapter provides process-oriented, task based procedures for using the application to perform essential tasks for managing maintenance planning activities.

See:

- Finding Unit Maintenance Plan Records
- Associating a Maintenance Requirement to a Visit
- Calculating Maintenance Requirement Due Dates
- Viewing Unit Maintenance Requirement Detail and History
- Viewing Group Maintenance Requirements
- Initializing a Maintenance Requirement
- Viewing Unit Maintenance Requirement Details
- Viewing Maintenance Requirement Thresholds

- Finding Part Utilization Forecasts
- Updating Part Utilization Forecasts
- Finding and Updating a Product Classification Utilization Forecast
- Finding and Updating an Unit Configuration Utilization Forecast

## What is Unit Maintenance Plan?

Unit Maintenance Plan serves as a repository of the maintenance requirements related to units and any related subassemblies or components. It also enables forecasting of usage to determine due dates for fleet maintenance activities.

Unit Maintenance Plan manages information about the service readiness of any component or subassembly, and offers instantaneous online intelligence about the maintenance requirement due date, the planning status and the history of all the maintenance works performed on the unit. Another important feature of Unit Maintenance Plan is the ability to precisely forecast the maintenance due dates.

## Key Business Processes

Unit Maintenance Plan supports the following business processes:

**Maintain utilization forecast** Unit Maintenance Plan allows maintenance personnel to forecast utilization for each unit in a fleet using appropriate units of measure such as operation hours, cycles, or mileage, for a period of time specified by the personnel.

**View remaining serviceable time (UOM) of units.** Determining the remaining service time of units, expressed in relevant units of measure (UOM), such as hours, cycles, or mileage is critical for maintenance planning. Unit Maintenance Plan has a full featured search for viewing and determining the remaining service time of units.

**Model repetitive maintenance requirement over a time period.** Replicate the maintenance requirement for any repetitive requirements over a user defined period, and provide the relevant unit of measure remaining for each occurrence of a maintenance requirement.

**Calculate due dates of maintenance requirement** Calculate due dates based on utilization forecast and maintenance frequency if a fixed due date is not specified.

**Associate a Maintenance Requirement to a Visit** Unit maintenance plan uses Oracle Complex Maintenance, Repair, and Overhaul Visit Work Package to associate a maintenance requirement to a visit. Unit Maintenance Plan allows you to schedule by associating a maintenance requirement group to visit appointments.

## Fields Associated with Unit Maintenance Plans

The following fields appear on Unit Maintenance Plan pages that relate to creating, finding, and editing unit maintenance records.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your unit maintenance page.

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## Fields on the Search Unit Maintenance Plan Page

This page is for searching and displaying any maintenance requirements that are due on a unit. The following fields appear on the Search Unit Maintenance Plan Page:

**Unit Name** User-defined name for a serialized part or assembly stored in the Oracle Complex Maintenance, Repair, and Overhaul database as a unit configuration. At this screen, the user provides all or part of name of an equipment record to be used to search Installed Base. For aviation users, this field might contain the FAA registration ID (called tail number) of the aircraft.

**Part Number** Inventory identifying number. Note that the Oracle Inventory does not store what is actually in stock, only what is available to stock, so in that way it is more like a catalog. Actual warehouse contents are stored in Oracle Installed Base. This field might contain an aircraft type, like "B777-200".

**Sort By** This field is not part of the database, but is used by the program to order the query results. The values displayed in the "pick-one" list are the names of other fields on this page. They are stored as seeded data and created by default. You can sort by due date, MR program, MR category, and implement status.

**MR Title** Search argument field that contains a user-defined title of the maintenance requirement for which the user is searching. The maintenance requirement itself is created using Fleet Maintenance Program when the maintenance plans are loaded into the database.

**Due From** Starting date range argument for imminent maintenance requirements.

**Serial Number** User-defined ID that uniquely identifies a part for which the user wants to view maintenance requirements.

**MR Status** Maintenance requirements can be in different states. These states are provided by default in Oracle Complex Maintenance, Repair, and Overhaul, but can be expanded by the user as needed. This search argument field permits specifying a status in the retrieval query.

**Program Type** The user may specify the name of a maintenance program that will be used as a search argument in retrieving imminent maintenance requirements. A maintenance program type might be "Corrosion Prevention." A maintenance requirement may be one of many that belong to the same program.

**Due To** Ending date range argument for imminent maintenance requirements.

## Fields on the Search Visits Page

This page displayed in Unit Maintenance Plan is part of Visit Work Package. For more information on the fields of this page, see Fields on the Search Visit Page in Visit Work Package.

## Fields on the View MR Detail & History Page

The following fields appear on the MR Detail & History Page:

**Due Date** is the date on which an imminent task is due to be completed. Click the calendar icon to display a calendar from which you can select a due date

**Set Due Date** determines the calendar due date for the maintenance requirement.

**Accomplished Date** indicates the date the maintenance was performed.

**Status** Maintenance requirements can be in different states. These states are provided by default in Oracle Complex Maintenance, Repair, and Overhaul, but can

be expanded by the user as needed. This search argument field permits specifying a status in the retrieval query.

## Fields on the Unit Maintenance Plan - Group MR Page

The following fields appear on the Unit Maintenance Plan - Group MR Page:

**MR Status** Maintenance requirements can be in different states. These states are provided by default in Oracle Complex Maintenance, Repair, and Overhaul, but can be expanded by the user as needed. This search argument field permits specifying a status in the retrieval query.

**Visit Number** refers to the Visit Number attribute of the visit template record retrieved.

**Visit Date** refers to the date on which the relevant maintenance visit is scheduled.

## Fields on the View Maintenance Requirement Pages

The following pages in Unit Maintenance Plan are from Fleet Maintenance Program: View Attached Documents, View Attached Actions, View Effectivity, Relationships, and View Affected Items. For more information on the fields on these pages, see Managing Maintenance Requirements.

## Fields on the View Threshold Page

The following fields appear on the View Threshold Page:

**Start Value** The start counter value of the range from which the interval specified is valid. Start value is mutually exclusive with the Stop value, and begins the range for the interval in relation to the associated counter. This field does not apply for one time maintenance requirements.

**Stop Value** The stop counter value of the range before which the interval specified is valid. This value is mutually exclusive with the Start value, and ends the range for the interval in relation to the associated counter. This field does not apply for one time maintenance requirements

**Interval Value** The interval value for repetitive maintenance requirements, and drop-dead counter values for one time maintenance requirements. When used with one time maintenance requirements, interval will be a count down of the associated

counter. When used with repetitive maintenance requirements, interval will represent the frequency of occurrence according to the associated counter.

**Tolerance Before** The number of counter units of measure that is acceptable for maintenance requirement accomplishment before the specified interval. This aids in planning maintenance jobs.

**Tolerance After** The number of counter units of measure that is permissible for maintenance requirement accomplishment after the specified interval. This value aids in planning maintenance jobs.

**Start Date** The start date of the range before which the interval specified is valid. This field value is mutually exclusive with the Stop Date, and begins the range for the interval in relation to the associated counter. This field does not apply for one time maintenance requirements.

**Stop Date** The stop date of the range before which the interval specified is valid. This date is mutually exclusive with Start Date, and ends the range for the interval in relation to the associated counter. This field is not applicable for one time maintenance requirements.

**Counter UOM** The Unit of Measure as per the associated counter. This field value is returned when the counter is selected. This value is not editable.

## Fields on the Search Part Page

The following fields appear on the Search Part Page:

**Part Number** Inventory identifying number. Note that the Oracle Inventory does not store what is actually in stock, only what is available to stock, so in that way it is more like a catalog. Actual warehouse contents are stored in Oracle Installed Base. This field might contain an aircraft type, like "B777-200".

**Search With** A pull-down menu that allows you to specify parts with an associated forecast, or with no forecast, or with both.

**Forecast Available** indicates if a forecast is available for this part.

**Product Classification** displays the product classification number for the part.

**Product Type** refers to the group the product belongs to according to its use or category.

## Fields on the Update Part Utilization Forecast Page

The following fields appear on the Update Part Utilization Forecast Page:

**Start Date** Marks the start of a utilization forecast period.

**End Date** End of utilization forecast period. If left empty, Unit Maintenance assumes there is no end date and the forecast is unlimited.

**Usage Per Day** Estimates usage per day (as 100 miles per day).

**UOM** refers to the quantity (unit of measure) required to perform the task. The unit used is user defined, and can be in miles, hours, or cycles.

## Fields on the Search Product Classification Page

The following fields appear on the Search Product Classification Page:

**Name** is an alphanumeric description of the product classification.

**Document Title** gives the name of the document associated with the product.

**Unit** Equipment unit identification number as stored in the unit configuration database.

**Product Type** refers to the group the product belongs to according to its use or category.

## Fields on the Search Unit Page

The following fields appear on the Search Unit Page:

**Search With** A pull-down menu that allows you to specify parts with an associated forecast, no forecast, or both.

**Part Number** The part identification number in the inventory database.

**Serial Number** The serial number of the part related to the unit.

**Unit** Equipment unit identification number as stored in the unit configuration database.

**Forecast Available** indicates if a forecast is available for this unit.

**Product Classification** indicates how the product associated with this unit is classified.

**Product Type** refers to the group the product belongs to according to its use or category.

## Fields on the Utilization Forecast Page

This page permits the user to retrieve a product classification record from the database. A product classification groups equipment units by function. Maintenance requirements can be associated with product classifications. Planners can then manage maintenance based on the purpose to which equipment is put. For example, a product classification called "short-haul" might be created for aircraft with a low flight hour/pressurization cycle ratio.

**Name** User-defined product classification name search criterion field.

**Product Type** The inventory number corresponding to the product type.

**Unit** Equipment unit identification number as stored in the unit configuration database.

**Part** The part identification number in the inventory database.

**Start Date** Marks the start of a utilization forecast period.

**End Date** End of utilization forecast period. If left empty, Unit Maintenance assumes there is no end date and the forecast is unlimited.

**Usage Per Day** Estimates usage per day (as 100 miles per day).

**UOM** refers to the quantity (unit of measure) required to perform the task. The unit used is user defined, and can be in miles, hours, or cycles.

## Finding Unit Maintenance Plan Records

The Unit Maintenance Plan module allows you to search for records using any or nearly any combination of the following criteria: unit name, part number, serial number, MR Title, MR status, program type, or due date ranges.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive a unit maintenance plan for must exist in the database. It will help to know at least part of the unit name, part or serial number, or the MR Title of the sought after unit(s) in order to conduct a search.

### **To find Unit Maintenance Plan records:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of Unit Maintenance Plan appears.
2. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Search Unit Maintenance Plan Page.
3. Click Go. The lower half of the screen displays all matching records in the database.
4. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

Use the Due From and Due To fields to narrow your search to units due for maintenance between specified dates, or any units due before or after a specified date. If you are not sure of the dates you are looking for, pull up a calendar by clicking on the calendar icon next to the relevant field. 'Due to' represents the end of a period of time during which the Maintenance Requirement due date is valid within the Due From date.

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**Note:** Select the 'Show Dependent Components' check box to return any maintenance requirements for any other components of the assembly or sub assembly to which the unit belongs. Select 'Show Replicate' to return the repeating maintenance requirements of the unit based on interval frequency and a rolling time window.

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## Associating a Maintenance Requirement to a Visit

The Unit Maintenance Plan module is able to associate a maintenance requirement or the maintenance requirement routes to a visit by calling Visit Work Package.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive unit maintenance plan must exist in the database. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

### **To associate a maintenance requirement to a visit:**

From the search results page in Unit Maintenance Plan:

1. Retrieve the unit maintenance plan record you want to associate with a visit (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'Associate to a Visit' from the pull-down menu in the results header, then click the Go button.
3. The Search Visit page appears.
4. Enter information in the fields provided. Information in fields marked with asterisk is mandatory.

## Calculating Maintenance Requirement Due Dates

You can use Unit Maintenance Plan to estimate due dates and any repetitive maintenance requirement for the selected unit.

**Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The relevant maintenance requirements must be initialized, and the information for Last Accomplishment must be set up. A product classification forecast and/or an unit utilization forecast must be defined to calculate due dates.

**To calculate maintenance requirement due dates:**

1. Retrieve the unit maintenance plan record for which you want to view maintenance requirement details (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'Calculate Due Dates' from the pull-down menu in the results header, then click the Go button.
3. Unit Maintenance Plan will calculate the due dates for the selected record, then confirm that it has done so.

## Viewing Unit Maintenance Requirement Detail and History

The Unit Maintenance Plan module allows you to view maintenance requirement details.

**Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive unit maintenance plan must exist in the database. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

**To view Unit Maintenance requirement history:**

1. Retrieve the unit maintenance plan record for which you want to view details (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'View Details & History' from the pull-down menu in the results header, then click the Go button.
3. The View MR Detail and History page appears displaying the history and details relevant for the selected record.
4. Select 'Cancel' to return to previous page.

## Viewing Group Maintenance Requirements

Unit Maintenance Plan allows you to view group Maintenance requirements.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance.

### **To group Maintenance requirements:**

1. Retrieve the unit maintenance plan record for which you want to view group maintenance requirement details (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'View Group MR' from the pull-down menu in the results header, then click the Go button.
3. The Unit Maintenance Plan - Group MR page appears displaying the group maintenance requirements relevant for the selected record.
4. Select 'Cancel' to return to previous page.

## Initializing Maintenance Requirements

Unit Maintenance Plan module allows you to initialize maintenance requirements.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance.

### **To initialize a maintenance requirement:**

1. Retrieve the unit maintenance plan record you want to initialize (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'Initialize MR' from the pull-down menu in the results header, then click the Go button.
3. The Initialize Maintenance Requirement page appears.
4. Select the Initializing action, First Due, or Initial Accomplishment from the Init. Action pull-down menu.
5. Select a date you want to set the initialization on in the Set Date field.

6. To define first due or last accomplished counter values for the requirement, click Add More Rows. This will add several rows to the table. Enter information in the provided fields.
7. Click the Apply button.
8. A header on the page should display the following message:  
"Confirmation—Maintenance Requirement Initialized"
9. Select 'Cancel' to return to the previous page.

## Viewing Unit Maintenance Requirement Details

The Unit Maintenance Plan module can display all maintenance requirements applicable to a selected unit. You can sort the results by due date, category, program type, implement status, or group type. Maintenance Requirements with unspecified due dates appear at the top of the list by default. You can calculate the remaining time of a maintenance requirement based on many factors, including the usage counter, the UOM time remaining, and utilization forecast and maintenance requirement thresholds.

The system will allow the user to filter by maintenance requirement type or by status: Accomplish, Terminate, Initialized or Open.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

### **To view maintenance requirement details:**

1. Retrieve the unit maintenance plan record for which you want to view maintenance requirement details (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'View MR Details' from the pull-down menu in the results header, then click the Go button.
3. The View Maintenance Requirement page appears displaying the information for that record.
4. From the View Maintenance Requirement page, you can use the side navigation menu navigate to the following pages:
  - Documents

- Routes
  - Action
  - Effectivities
  - Relationships
  - Effected Items
5. Select 'Cancel' to return to previous page.

## Viewing Maintenance Requirement Thresholds

The Unit Maintenance Plan module allows you to view maintenance requirement thresholds.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive unit maintenance plan must exist in the database. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

### **To view maintenance requirement thresholds:**

1. Retrieve the unit maintenance plan record for which you want to view maintenance requirement thresholds (see Finding Unit Maintenance Plan Records).
2. Choose the pertinent record using the Select radio button, select 'View Threshold' from the pull-down menu in the results header, then click the Go button.
3. The Unit Maintenance Plan - View Threshold page appears displaying the thresholds relevant for the selected record.
4. Select 'Cancel' to return to previous page.

## Finding Part Utilization Forecasts

Oracle Complex Maintenance, Repair, and Overhaul permits use of metacharacters when you type a word, or part of a word, to use as a search argument. Use % to represent any string of zero or more characters. Use \_ to represent any single

character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive unit maintenance plan must exist in the database. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

**To find a part utilization forecast:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of Unit Maintenance Plan appears.
2. Select the Utilization Forecast sub tab. The Search Part page appears.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Part Utilization Forecast Page.
4. Click Go. The lower half of the screen displays all matching records in the database.

## Updating Part Utilization Forecasts

The Unit Maintenance Plan module allows you to create and update part configuration utilization forecasts.

**Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance. The Unit configuration records from which you want to derive unit maintenance plan must exist in the database. It will help to know at least part of the unit name, part or serial number, or MR Title of the sought after unit(s) in order to conduct a search.

**To update a part utilization forecast:**

1. Retrieve the part record with the forecast you want to update (see Finding Part Utilization Forecasts).
2. Choose the pertinent record using the Select radio button, then click the Utilization Forecast button.

3. The Update Part Utilization Forecast page appears
4. Enter the information in the fields provided. If no utilization forecast is defined, the page will be empty. To define a forecast, click Add More Rows. This will add several rows to the table. Enter information in the provided fields.
5. Click Apply to retain the utilization forecast information in the database.
6. To remove a forecast from the list, select the Remove check box next to the forecast then click Apply.
7. Select 'Cancel' to return to the previous page.

## Finding and Updating a Product Classification Utilization Forecast

In order to estimate due dates for the Maintenance Requirement applied to the Unit Maintenance Plan, you need to be able to convert the remaining time of a maintenance requirement UOM that is in a form other than a calendar date into a calendar date. The Utilization Forecast page helps to facilitate this calculation. For example, an estimate of driving 50 miles a day will translate the requirement of changing engine oil every 3000 miles to 60 days.

### **Prerequisites:**

The Unit configuration records on which you want to base an utilization forecast and the Primary Product Classification must exist in the database.

### **To update a product classification utilization forecast:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of Unit Maintenance Plan appears.
2. Select the Utilization Forecast sub tab. The Search Part page appears.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Search Unit Maintenance Plan Page.
4. Click Go. The lower half of the screen displays all matching records in the database.
5. Select the part you want to create or update the product classification for and click Utilization Forecast.
6. The Update Part Utilization Forecast page appears. Make any necessary changes. Click Add More Rows to enter new forecast data.

7. Click Apply to add the changes to the database.

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**Note:** All Product Classification records are read-only.

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To reset the form and start a new search, click on the Clear button.

## Finding and Updating a Unit Configuration Utilization Forecast

The Unit Maintenance Plan module allows you to create and update unit configuration utilization forecasts.

### **Prerequisites:**

Any relevant maintenance requirements must already be set up in Fleet Maintenance.

### **To create an Unit Configuration Utilization Forecast:**

1. Using the Result Product Classification Tree Structure located on the left hand side of the page, double click on the Product Classification or Unit for which the utilization forecast is to be added or updated.
2. The Update Product Classification Utilization Forecast section appears directly to the right of the Product Classification Tree.
3. Click on the Add More Rows Icon to add a new utilization forecast.
4. Enter a start date in the Start Date field or click on the calendar selector icon next to the date field to bring up a calendar from which you can select the desired date.
5. Enter the end date in the Start Date field or click on the calendar selector icon next to the date field to bring up a calendar from which you can select the desired date. Note that the end date must be later or on the same date as the start date.
6. Enter the usage per day in the Usage Per Day field.
7. Enter the UOM directly to the UOM field or partial of UOM followed by the generic substitution metacharacter % in UOM field, and click the search icon. Select the UOM from the search result.

8. Click 'Apply' to Save the record. Before saving the record, the system will check for duplicate records and for any overlap of the utilization forecast.

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## Working with Maintenance Visits

Chemical process industries, firms providing medical diagnostic services, or transportation services including aviation, railway, marine, and roadway, require complex and high-valued asset maintenance. Maintenance of such systems is complex and expensive, and organizations seek to minimize operational costs while maximizing operational revenues.

In addition to the conflicting requirements of service availability versus service reliability, a maintenance planner seeks to optimize a maintenance visit, taking into consideration the following:

- Service efficiency: Do not replace an asset component or the asset itself any sooner than economically necessary.
- Constrain off-line maintenance duration: Organizations earn revenue when their assets are in operation, not when under maintenance.
- Constrain maintenance cost: Provide an infrastructure that permits maximum skilled worker productivity. Sequence maintenance tasks based on efficiency dependencies, and historical service records that help predict maintenance requirements.
- Meet safety and regulatory mandates.

The Oracle Complex Maintenance, Repair, and Overhaul Visit Work Package module permits a maintenance planner to organize a maintenance visit for an equipment unit, whether the unit be at a maintenance base, or in the field.

This chapter presents the key functions supported by the Visit Work Package module, and provides process-oriented, task-based procedures for using Oracle Complex Maintenance, Repair, and Overhaul to perform essential maintenance visit management tasks.

See:

- Creating Maintenance Visit Records
- Retrieving Existing Maintenance Visit Records
- Creating a New Visit Definition from an Existing Visit
- Associating Tasks with Maintenance Visits
- Retrieving Existing Visit Task Records
- Updating Visit Records
- Creating Imminent Visit Tasks
- Creating Undated Visit Tasks
- Associating Item Serial Numbers and Service Requests to Tasks
- Creating Visit Tasks Unassociated with Routes
- Updating Visit Task Headers
- Defining Visit Task Hierarchy
- Defining Visit Cost Structure
- Creating Department Shift Records
- Retrieving Department Shift Records

## What is Visit Work Package?

Visit Work Package is an Oracle Complex Maintenance, Repair, and Overhaul subsystem that provides planning capabilities to an organization responsible for complex and high valued asset maintenance. Visit Work Package permits a maintenance planner, skilled in the maintenance of the firm's assets, and aware of cost and complexity, to organize a maintenance visit for an equipment unit.

Oracle Complex Maintenance, Repair, and Overhaul uses a hierarchical recursive model of asset structure, an advantage of which is the capability to associate maintenance requirements with increasing component granularity. Maintenance requirements are connected to the asset model where most appropriate. For example, a maintenance task package that applies to each asset of a particular type (such as all turbine engines from the same manufacturer, in the same shaft power class) is associated with the Master Configuration instance of that asset.

Visit Work Package permits the maintenance planner to retrieve all tasks and task groups that apply to the asset at any given point in its service life. In defining the maintenance visit, the planner will also be able to add pending deferred

maintenance tasks, and maintenance tasks that are required to correct equipment defects, noted by inspectors during an early phase of the visit, and recorded as service requests. Visit Work Package allows the planner to trigger engineering support workflow if required. On an implementation-dependent basis, Visit Work Package creates in-site maintenance visits, where asset time out of service can be easily predicted. Planners can also manage maintenance visits to the individual task level, and estimate costs at the task, route, task group, task package, and visit levels.

## Key Business Processes

Visit Work Package supports the following business processes:

**Equipment-Based Maintenance Visit Definition** Visit Work Package provides a maintenance planner with the ability to create and manage a maintenance visit. A visit definition connects an equipment item with a block of tasks, a location where the maintenance work takes place, and a period of time in which the work is accomplished.

**Merging Imminent Maintenance Requirements with Visits** When creating tasks for a shop visit, the planner will usually select routes associated with maintenance requirements derived as imminent with Unit Maintenance Plan. This is one of the most powerful features of Visit Work Package. The planner does not have to tediously calculate a due date for each maintenance requirement that comprises the maintenance plan, or decide whether or not to add the routes that fulfill a given maintenance requirement to a planned shop visit as tasks. The planner can select imminent maintenance requirements for an equipment unit based on an effective date range. One or more routes can then be selected, and included in the task package.

**Adding Non-Imminent Maintenance Requirements to Visits** When planning which maintenance requirements for an equipment unit are to be fulfilled during a shop visit, the planner may also select those that are not marked as periodic. The rules for repetitive maintenance requirements are managed using the Unit Maintenance Plan module. The rules for maintenance requirements without repetitive effectivities are managed using the Fleet Maintenance Program. These requirements may be marked as optional, or not implemented. Regardless of the requirement type, planners, at their own discretion, can include its routes in a visit as tasks.

**Adding Ad hoc Repair Tasks to Visits** If a job needs to be done on an equipment unit, and the set of routes as managed with Unit Maintenance Plan does not include

a maintenance requirement that describes the job adequately, the planner will create an ad hoc repair task. The task is not associated with a route, but the scope of the work to be accomplished is described as a task remark. Ad hoc tasks are intended to address minor, non-routine repairs.

**Departmental Work Shift Schedule Definition** Efficient maintenance planning seeks to smooth the workload curve. Before a shop visit duration can be accurately determined, an organization's skilled workers' schedules must be considered. Using Visit Work Package, the planner can select shift schedules for the workers who will accomplish the inspections and repairs. As the task-to-shift matching is completed, the time required for the visit tasks to be completed can be calculated.

**Visit Task Work Breakdown Structure Definition** To calculate the costs incurred during a maintenance visit, a cost structure must be defined, so that labor, parts, and materials cost transactions associated with tasks can be configured, recorded, and accumulated using other Oracle eBusiness Suite modules, and used to account for overall visit costs. The cost structure is implied by the parent-child relationship between tasks. After costs have been defined by item and unit of measure, summary tasks can be defined as control breaks for subtotal cost calculations at any point in the task hierarchy.

**Visit Task Sequence Definition** Visit Work Package permits the maintenance planner to precisely define the order of completion of all tasks that comprise a maintenance facility visit. The precedence order is established by parent-child relationships such that a child task has as many parents as it is technically dependent on. This feature ensures that complex routes are correctly planned and accomplished, and provides the planner the ability to factor out duplicate tasks, which improves the concision of the visit without disrupting the workflow. After the planner has defined the shift assignments for the visit, Visit Work Package will navigate the sequence of tasks to calculate the commencement and completion timestamps of each task, and the predicted visit completion date.

## Fields Associated with Visit Work Packages

The following sections provide descriptions of fields appearing on each Visit Work Package module page.

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**Note:** The Search icon beside a field implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your visit package page.

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## Fields on the Create Maintenance Visit and Edit Maintenance Visit Pages

The following fields appear on the Create Visit page:

**Visit Name** is an alphanumeric description that uniquely identifies the visit you want to create.

**Visit Type** is a work package category that your organization has created for different types of shop, or field maintenance and service visits.

**Item** is the equipment type for which the visit is to be created. This equipment type description comes from the inventory catalog that your organization has created.

**Unit** is the name of the unit configuration. For example, it is the name of the configuration of the assembly, subassembly, plant, or vehicle, for which you would like to retrieve visit definitions. Enter the full name of an asset configuration, or use the field list of values pages by clicking the flashlight icon. If you link to the LOV page to select a unit configuration by part of its name, only Unit Configuration objects that are complete display because maintenance visits can only be defined for complete unit configurations.

**Service Request** is the identifier of a request a type of asset service for which a visit definition has been created.

**Category** is a drop-down list field where you can choose the general class of visit for which to search.

**Serial Number** is the user or manufacturer-supplied part identifier to which the maintenance visit applies. The serialized part information is stored in the unit configuration repository.

**Organization** is the identifier of the business entity or division where the maintenance work is managed. In order to activate additional asset management features that are integrated with Oracle Complex Maintenance, Repair, and Overhaul, and are provided by Oracle Enterprise Asset Management, the organization that you choose for the visit header record must be eAM-enabled. Wherever a list of Organization values page is displayed, only those organizations that are eAM-enabled will be displayed. Additional asset management features include Activity Type Activity Cause, and Shutdown Type. See the *Oracle Inventory User's Guide* for more information about organization-level item definition

**Department** is the organization subdivision where the maintenance work is accomplished, and to which skilled workers, and other resources are assigned.

**Start Date** is the date on which the maintenance visit is expected to begin. The hour of the day at which work will start is also selected here.

**Use Oracle Projects** is a flag that indicates whether the maintenance visit object is to be exported to Oracle Projects for subsequent production and cost collection support. This flag, however, is not implemented in the current version of Visit Work Package.

**Description** contains any comments that you want to record for this visit.

**Visit Number** is a view-only field displayed only on the Update Visit page. This is a system-generated value.

## Fields on the Search Visit Page

The following search argument fields appear on the Search Visit page:

**Item** is the equipment type for which a maintenance visit was defined. This equipment type description comes from the inventory catalog that your organization has created.

**Serial Number** is the user-supplied part identifier to which the maintenance visit applies. The serialized part information is stored in the unit configuration repository.

**Organization** is the identifier of the business entity or division where the maintenance work is managed. Information about your organizations is managed with Oracle Human Resources.

**Unit** is the name of the unit configuration. For example, it is the name of the configuration of the assembly, subassembly, plant, or vehicle, for which you would like to retrieve visit definitions. Enter the full name of an asset configuration, or use the field list of values pages by clicking the flashlight icon. If you link to the LOV page to select a unit configuration by part of its name, only Unit Configuration objects that are complete display because maintenance visits can only be defined for complete unit configurations.

**Service Request** is the identifier of a request a type of asset service for which a visit definition has been created.

**Category** is a drop-down list field where you can choose the general class of visit for which to search.

**Department** is the organization subdivision where the maintenance work is accomplished, and to which skilled workers and other resources are assigned. Information about your departments is managed with Oracle Bills of Material. If you provide a valid organization in the previous field, the set of department values available for your selection consists of departments that belong to the organization.

**Visit Number** is an alphanumeric value that uniquely identifies the visit definition that you wish to retrieve.

**Visit Name** is an alphanumeric description of the visit.

**Start From Date** is the earlier visit starting date search argument. Use the calendar icon to display a calendar to make the date value selection. Visit header records with a starting date on or later than your search date will be displayed.

**Start To Date** is the later visit starting date search argument. Use the calendar icon to select the date value. Visit header records with a starting date on or earlier than your search date will be displayed.

**Visit Status** provides a drop-down list from which to select a visit status. Only one status value can be active for the query.

**Visit Type** is a category of work package that your organization has created for different types of shop or field maintenance and service visits.

## Fields on the Copy Visit Page

The following fields appear on the Copy Visit page:

**Visit Name** is an alphanumeric description that uniquely identifies the visit you want to create.

**Visit Type** is a category of work package that your organization has created for different types of shop or field maintenance and service visits.

**Item** is the equipment type for which the visit is to be created. This equipment type description comes from the inventory catalog that your organization has created.

**Serial Number** is the user-supplied part identifier to which the maintenance visit applies. The serialized part information is stored in the unit configuration repository.

**Organization** is the identifier of the business entity or division where the maintenance work is managed.

**Department** is the organization subdivision where the maintenance work is accomplished, and to which skilled workers and other resources are assigned.

**Start Date** is the date on which the maintenance visit is expected to begin. The hour of the day at which work will start is also selected here.

**Use Oracle Projects** is a flag that indicates whether the maintenance visit object is to be exported to Oracle Projects for subsequent production and cost collection support. This flag, however, is not implemented in the current Visit Work Package version.

**Description** contains any comments that you want to record for this visit.

## Fields on the Search Visit Task Page

The following fields appear on the Search Visit page:

**Task Number** is an alphanumeric value that uniquely identifies the task you retrieve.

**Task Name** is the name of the task that you want to retrieve.

**Maintenance Requirement** contains the ID of the maintenance requirement corresponding to the task that you want to retrieve.

**Route** is the identifier of the maintenance route to which the tasks you want to work with is connected. Use a value in this field to limit the tasks that are retrieved from the database.

**Display Only** is a drop-down list field that provides a task type to select when retrieving the visit's tasks.

**Department** is the name of the department that is responsible for completion of the maintenance task. Click the LOV icon to select from a list of departments for which visit tasks have been created.

**Task Type** is the task category that classifies the task as planned (imminent tasks), unplanned (required tasks, but not dated), or unassociated (ad hoc tasks).

**Tasks Due By** is the date on which an imminent task is due to be completed. Click the calendar icon to display a calendar from which you can select a due date.

**Service Request** is the service request identifier that corresponds to the task you want to retrieve.

## Fields on the Create Planned Task Page

The following view-only context fields appear on the Create Planned Task page:

- Visit Number
- Serial Number
- Visit Type
- Start Date
- Item
- End Date

The fields that follow are used as search criteria when retrieving imminent, dated maintenance requirements for the asset being maintained.

**Item** is the equipment type attribute of the maintenance requirement.

**Maintenance Requirement** is the imminent requirement for which you want to create task records. When searching the database for maintenance requirements, the routes of which you wish to attach to a visit as tasks, you must provide a valid maintenance requirement identifier. Use the list of values to retrieve a match.

**Serial Number** is the user-supplied part identifier to which the imminent maintenance requirement applies.

**Unit** is the name of the unit configuration. For example, it is the name of the configuration of the assembly, subassembly, plant, or vehicle, for which you would like to retrieve visit definitions. Enter the full name of an asset configuration, or use the field list of values pages by clicking the flashlight icon. If you link to the LOV page to select a unit configuration by part of its name, only Unit Configuration objects that are complete display because maintenance visits can only be defined for complete unit configurations.

**Route** is the maintenance route associated with the displayed task records.

## Fields on the Create Unplanned Visit Task Page

The following view-only context fields appear on the Create Unplanned Task page.

- Visit Number
- Serial Number
- Visit Type
- Start Date
- Item
- End Date

The fields that follow are used as search criteria when retrieving undated, type-specific maintenance requirements for the asset being serviced.

**Item** is the equipment type attribute of the maintenance requirement. You must provide a valid equipment type when searching for off-plan maintenance requirements. Use the list of values to retrieve a match.

**Unit** is the name of the unit configuration. For example, it is the name of the configuration of the assembly, subassembly, plant, or vehicle, for which you would like to retrieve visit definitions. Enter the full name of an asset configuration, or use the field list of values pages by clicking the flashlight icon. If you link to the LOV

page to select a unit configuration by part of its name, only Unit Configuration objects that are complete display because maintenance visits can only be defined for complete unit configurations.

**Maintenance Requirement** is the maintenance requirement for which you want to create task records.

**Route** is the maintenance route associated with the displayed task records.

## Fields on the Associate Serial Number/Service Request to Task Page

The following view-only context fields appear on the Associate Serial Number/Service Request to Task page:

- Visit Number
- Serial Number
- Visit Type
- Start Date
- Item
- End Date

The following fields update the association between a task, a service request, and a serialized component of the equipment unit:

**(Associated to) Serial Number** is the user-supplied part identifier to which the maintenance requirement applies.

**Service Request** is the identifier of the technical defect that is repaired by the accomplishment of the associated task.

**Unit** is the name of the unit configuration. For example, it is the name of the configuration of the assembly, subassembly, plant, or vehicle, for which you would like to retrieve visit definitions. Enter the full name of an asset configuration, or use the field list of values pages by clicking the flashlight icon. If you link to the LOV page to select a unit configuration by part of its name, only Unit Configuration objects that are complete display because maintenance visits can only be defined for complete unit configurations.

## Fields on the Create Unassociated Task Page

The Visit Number, Unit, Visit Type, Start Date, Item, and End Date fields are view-only and appear as part of the context information on the Create Unassociated Task Page.

The following fields comprise a task record for the visit, where the task does not have an associated service requirement in the equipment maintenance plan.

**Task Name** contains any name for the task that you consider meaningful. The task name can contain any letters or numbers.

**Item** is the master configuration object with which this task is associated.

**Service Request** is the identifier of the technical defect that is repaired by the accomplishment of the associated task.

**Cost Parent Task** is the identifier of the summary task in the task hierarchy at which a subtotal of cost transactions, including the costs attached to the task being created, will be calculated. A top task must be a summary task.

**Description** contains a description of the work that this task consists of. This task does not have a corresponding route. You should therefore, provide a complete description including the resources required to finish the job, in this field.

**Duration/Hour** contains the duration in hours of this task.

**Serial Number** is the user-supplied part identifier to which this new task applies.

**Start From Hours** is the time offset in decimal hours, of this task, from the beginning of the visit being planned. Use this field to specify precisely when this task should start relative to the beginning of the visit.

**Originating Task** is the identifier of another task that requires the inclusion of the current task in the visit task package. A task may not originate itself. The originating task usually is part of a scheduled maintenance requirement.

## Fields on the Update Visit Task Header Page

The following view-only context fields appear on the Update Visit Task page. These fields cannot be updated.

- Visit Number

- Serial Number
- Visit Type
- Start Date
- Item
- End Date

The following fields can be updated by a maintenance planner:

**Task Number** is an alphanumeric value that uniquely identifies the task you update.

**Task Name** contains any name for the task that you consider meaningful. The task name can contain any letters or numbers.

**Maintenance Requirement** indicates the imminent maintenance requirement to which this task applies. Updating this field might require that the route association must also be updated.

**Service Request** is the identifier of the technical defect that is repaired by the accomplishment of the associated task.

**Cost Parent Task** is the identifier of the summary task in the task hierarchy at which a subtotal of cost transactions, including the costs attached to the task being updated, will be calculated. A top task must be a summary task.

**Description** contains a description of the work that this task consists of. If the task does not have a corresponding route, you should provide a complete description, including the resources required to finish the job, in this field.

**Duration/Hour** contains the duration in hours of this task.

**Serial Number** is the user-supplied part identifier to which this task applies.

**Route** is the maintenance route associated with the previously selected maintenance requirement.

**Start From Hours** is the time offset in decimal hours, of this task, from the beginning of the visit being planned. Use this field to specify precisely when this task should start relative to the beginning of the visit.

**Originating Task** is the identifier of another task that requires the inclusion of the current task in the visit task package. A task may not originate itself. The originating task usually is part of a scheduled maintenance requirement.

## Fields on the Update Visit Task Hierarchy Page

The following view-only task context fields appear on the Update Visit Task Hierarchy page:

- Task Name
- Service Request
- Maintenance Requirement
- Route
- Zone
- Sub Zone

The fields that follow contain values that are created and updated to maintain the sequence of tasks during the maintenance visit.

**Task Name** identifies the task that you want to associate in a parent or child relationship with the task in context. A task can have one or more parent or child task relationships.

**Relationship** is a seeded value. Select Parent or Child.

## Fields on the Visit Cost Structure Page

The following view-only visit context fields appear on the Visit Cost Structure page.

- Visit Number
- Serial Number
- Visit Type
- Start Date
- Item
- End Date
- Task Number
- Duration

The following fields can be updated by a maintenance planner who needs to modify a visit's task structure for costing purposes. The tree-structured task graphic shows the relationships between the tasks. Select the hyper linked Task Name corresponding to the task that you want to update. You can also search for a task using the Search icon.

**Task Name** contains any name for the task that you consider meaningful. The task name can contain any letters or numbers.

**Serial Number** is the user-supplied part identifier to which this task applies.

**Maintenance Requirement** is the imminent requirement to which this task applies. Updating this field might require that the route association is also updated.

**Service Request** is the report identifier of the technical defect that is repaired by the accomplishment of the associated task.

**Cost Parent Task** is the mid-level task to which the current task is connected as a low-level task. Note that only low-level tasks can have associated cost transactions.

**Originating Task** is the identifier for a task that requires the inclusion of the current task in the visit task package. A task may not originate itself. The originating task usually is part of a scheduled maintenance requirement.

**Description** contains a description of the work that this task consists of. If the task does not have a corresponding route, you should provide a complete description, including the resources required to finish this job, in this field.

## Fields on the Create Department Shift Page

The following fields are found on the Create Department Shift page:

**Organization** is the identifier of the business entity or division where calendars for workers have been created.

**Department** is the organization subdivision where the maintenance work is accomplished, and to which skilled workers are assigned.

**Calendar** is the identifier of the work calendar for the employees who are assigned to the current department.

**Shift Number** is the identifier of the shift that is to be associated with the departmental calendar.

**Start Time** is derived from the departmental shift number and is view-only.

**End Time** is also derived from the departmental shift number and is view-only.

**Work Days** identifies the workday patterns associated with the shift number, calendar and department.

**Days On** is derived from the work calendar and is view-only.

**Days Off** is derived from the work calendar and is view-only.

## Fields on the Search Department Shift Page

The following fields are found on the Search Department Shift page:

**Organization** is the identifier of the business entity or division where calendars for workers have been created.

**Department** is the organization subdivision where the maintenance work is accomplished, and to which skilled workers are assigned.

## Creating Maintenance Visit Records

The following explains the procedures required to create a visit record. Additionally, preparing visits for production planning is explained.

See:

Creating Maintenance Visit Records

Preparing the Maintenance Visit for Production Planning

## Creating Maintenance Visit Records

A maintenance visit represents the intersection of several entities:

- Equipment to be maintained
- Location where the maintenance jobs will take place

- Period of time, called a visit slot, during which the maintenance will be accomplished
- Maintenance work to be completed during the visit

The number of tasks that can be in a visit and the duration a visit have no limits.

Visit Work Package continues the workflow begun in the Oracle Complex Maintenance, Repair, and Overhaul Fleet Maintenance Program module, where the maintenance plan for your equipment units was described. Subsequently, the effectivity rules for each unit's maintenance requirements were described in the Unit Maintenance Plan module. The maintenance planner is concerned about the maintenance requirements that are imminent for an equipment unit. Therefore, the first process in creating a visit is to define the visit header. Its attributes include a name, number, organization, description, department, visit type, inventory item, serial number, etc. After the header has been created, you can proceed to creating tasks to complete the visit definition. Tasks can be attached to the visit definition from the maintenance plan associated through Unit Maintenance Plan as tasks that pertain to the equipment type, or as ad hoc tasks.

A maintenance visit definition may be created new, or from an existing visit record. See *Creating a Visit from an Existing Visit*.

The following procedure initiates a visit work package creation by allowing you to create a visit header record in the database.

### **Prerequisites:**

The item and serial number to which the maintenance visit applies must exist in the database. The organization and the department in which the visit is to be carried out must exist in the repository.

### **To create a maintenance visit record:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, click the Planning link at the top right corner to access the Visit Work Package tab.
2. Click the Visit Work Package tab. This launches the Search Visit page under the Visits subtab.
3. On the Search Maintenance Visit page, click Create to launch the Create Visit page.
4. Enter the visit header field values. Asterisks indicate mandatory fields. For field descriptions, refer to Fields on the Create Maintenance Visit and Edit Maintenance Visit Pages.

5. Click **Apply** to save the visit record in the database, and proceed to the **Update Visit (Visit Header Info)** page to update the visit header information, or to navigate to the **Visit Tasks** page to associate tasks with the visit record. See *Associating Tasks with Maintenance Visits*.

## Preparing the Maintenance Visit for Production Planning

Once you have finished developing and refining the structure of a maintenance visit, you can transfer the visit, including the visit header and all of the associated tasks to Oracle Complex Maintenance, Repair, and Overhaul Production Planning for final adjustments before the maintenance project is started.

You have two options at this point. Firstly, you can

### Validating Visits

This process checks that the visit structure meets all business logic requirements.

#### **Prerequisites:**

The visit record you want to validate must exist in the database.

#### **To validate a visit:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, click the **Planning** link at the top right corner to access the **Visit Work Package** tab.
2. Select the **Visit Work Package** tab. This launches the **Search Visit** page under the **Visits** subtab.
3. Find the visit you want to validate. Enter the field values to specify your search criteria. For field descriptions, see *Fields on the Search Visit Page*.
4. Select the visit you want from the results and click **Validate**.

### Push to Production

If the visit structure is logically correct, push the visit to production on the **Visit Overview** page; the visit structure logic is checked prior to the transfer. Visit tasks are exported to Oracle Projects as a complete set.

#### **Prerequisites:**

The visit record you want to push to production must exist in the database.

**To push a job to production:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, click the Planning link at the top right corner to access the Visit Work Package tab.
2. Select the Visit Work Package tab. This launches the Search Visit page under the Visits subtab.
3. Find the visit you want to validate. Enter the field values to specify your search criteria. For field descriptions, see Fields on the Search Visit Page.
4. Select the visit you want from the results and click **Push to Production**.

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**Note:** Only complete sets of tasks are transferred to Projects and to the Oracle Complex Maintenance, Repair, and Overhaul production modules. If an error occurs during the export of tasks to production jobs, the Projects object is not rolled back. Instead, the relationships between visit tasks and tasks in Projects are maintained, and another attempt is made to export production jobs when pushing the visit structure to production.

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The following visit attributes are checked when a visit and its tasks are exported to maintenance production:

- The visit is associated with a valid department, and a valid organization.
- The visit has a starting date and time. The visit end date and time is automatically calculated.
- The visit is associated with a valid Item, and a correct Unit from Install Base.
- The visit is in the Planning stage.
- A correct visit type is selected for the visit.
- The visit definition is a member of a primary simulation plan. See *Long Term Plan*.
- All visit tasks not based on a repair or service route defined by Fleet Maintenance Program as pertinent to the equipment being serviced may not have a duration of zero.
- Visit tasks based on an expired maintenance requirement or route cannot be scheduled for maintenance production.

- Only tasks associated with parent maintenance requirements by Fleet Maintenance Program that apply to the type of equipment being maintained may be included in a visit. This check prevents the inclusion of erroneously selected tasks in a visit.
- The inventory part template and serial number associated with a task must exist in the Unit Configuration structure for the asset for which the visit definition was created.
- For tasks added to a visit because of a corresponding maintenance requirement in the plan for the asset, derived as imminent by Unit Maintenance Plan, the effectivity must be for the same maintenance requirement and task.
- Each department in which a maintenance task is planned must belong to the related organization.

After successfully checking all of these conditions, Visit Work Package will return a message indicating that the visit was correctly defined.

## Retrieving Existing Maintenance Visit Records

Maintenance planners need to retrieve existing maintenance visit records for reference or new visits based on an existing visit. Oracle Complex Maintenance, Repair, and Overhaul permits efficient retrieval of visit records saved in the database. The Search Visit page provides the ability to search and display all maintenance visits regardless of their status.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

The visit record you want to retrieve must exist in the database.

### **To retrieve existing maintenance visit records:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, click the Planning link at the top right corner to access the Visit Work Package tab.
2. Select the Visit Work Package tab. This launches the Search Visit page under the Visits subtab.
3. Enter the field values to specify your search criteria. For field descriptions, see Fields on the Search Visit Page.

Note: You can also execute a search without specifying any search criteria. In this case, the system returns all the records existing in the database that have the selected Status (Released, Planning, or Closed).

4. Click Go. The lower half of the screen displays the Search Results list of all matching records in the database.
5. To restart a search, click Clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

6. To copy a visit record to create a new visit, select the pertinent record using the Select radio button, and click Copy.
7. To validate a visit before release to production, select the pertinent record using the radio button, and click Validate.

Note: You can only validate visits that are in the Planning Status.

8. To remove a visit record from the database, click the Remove icon corresponding to that record.
9. To view the task cost structure for a visit, click the Cost Structure icon corresponding to that record.
10. To edit visit header details, and associated tasks, click the pertinent Visit Number link.

Note: You can update the header information and associated tasks only for a visit that is in the Planning state. If the selected visit is in the Released or Closed states, the application generates the details and associated tasks page in view-only mode.

## Creating a New Visit Definition from an Existing Visit

A visit record can also be created from an existing visit record. The Copy Visit page allows you to create a new visit from an existing visit record. Use the following procedure to create a new visit record from an existing visit record.

### **Prerequisites:**

Before attempting to copy an existing visit object to a new object, a visit definition for the same equipment type must be present in the database. You cannot create a

copy of a visit for a different equipment type. Attempting to do so would invalidate all of the tasks. The existing visit object can have any status value.

**To create a visit from an existing visit record:**

1. Retrieve desired visit records from the database. See Retrieving Existing Maintenance Visit Records.
2. Select the visit record based on which you want to create the new visit using the radio button, and click Copy. This launches the Copy Visit page with the Item and Visit Type fields populated with values from the selected visit. These field values are not editable.
3. Enter the remaining field values. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Copy Visit Page.
4. Click Apply to create the new visit record, and proceed to the Update Visit page.

## Associating Tasks with Maintenance Visits

After a maintenance planner has completed the visit header creation, the planner can add new tasks to the visit structure. A maintenance plan can consist of three task types:

1. Tasks based on routes that comprise a maintenance plan, and have imminent required completion dates based on the effectivity calculation in Unit Maintenance Plan. For more information about this process, see Creating Imminent Visit Tasks.
2. Tasks based on maintenance routes that are not part of a maintenance plan, but might apply, in the judgment of the planner, to the equipment being maintained. These tasks can be selected from routes that pertain to the equipment type. For more information, see Creating Undated Visit Tasks.
3. Tasks can be added on an ad hoc basis, even if no corresponding route exists. The description of the work to be accomplished is stored as a task remark. For more information, refer to Creating Visit Tasks Unassociated With Routes.

The following sections detail procedures for associating tasks with maintenance visits:

**Prerequisites:**

The visit record to which you want to attach tasks must exist in the database.

**To associate tasks with maintenance visits:**

1. Retrieve the visit records that match your need. See Retrieving Existing Maintenance Visit Records.
2. In the Search Results list, click the Visit Number link of the record you want to edit. This launches the Update Visit page if the visit record is in the Planning state. If the visit record is in the Released or Closed status, the application generates the View Visit page.
3. On the side navigation menu, click Visit Tasks. This launches the Visit Tasks page with the visit context information, and the list of tasks, if any, already associated to the visit.
4. To update a task associated with the visit, click the Name link corresponding to the pertinent task. This launches the Update Visit Task page. For details, see Updating Visit Task Headers.
5. To create a task corresponding to an undated maintenance requirement, click Create Unplanned Task. This launches the Create Unplanned Task page. For details, refer to Creating Undated Visit Tasks.
6. To create a new task, unassociated to any maintenance route, click Create Unassociated Task. This launches the Create Unassociated Task page. For details, refer to Creating Visit Tasks Unassociated with Routes.
7. To create a task based on an imminent maintenance requirement, click Create Planned Task. This launches the Create Planned Task page. For details, see Creating Imminent Visit Tasks.
8. To remove a task associated to the visit, click the corresponding Remove icon.

When you remove a task associated to a maintenance visit, note the following:

- If all tasks associated to a maintenance requirement summary task are deleted, the summary task is deleted as well.
- You can delete a task that is the originating task for another only if the association is first removed.
- You must first remove the association to delete a task with associated child tasks.
- You cannot delete a task that has other tasks dependent on it.

## Retrieving Existing Visit Task Records

After a maintenance planner creates a visit structure, the Search Visit Tasks page permits the planner to retrieve tasks associated with a particular visit, or to add new tasks to the visit structure.

After retrieving visit tasks based on desired search criteria, the planner can select a task for subsequent editing. The Search Visit Tasks page also allows maintenance personnel to link to pages that permit creation of tasks associated with serialized inventory items, for both imminent and undated maintenance requirements, and tasks associated only with non-serialized assemblies.

### Prerequisites:

The visit record for which you want to retrieve associated tasks must exist in the database, and must have tasks assigned to it.

### To retrieve existing visit tasks:

1. Click the Planning link at the top right corner of the Oracle Complex Maintenance, Repair, and Overhaul Home page to access the Visit Work Package tab.
2. Click Visit Work Package. The Search Maintenance Visit page appears.
3. Find the visit associated with the task you want to retrieve. Enter information in the fields for which you know the value then click **Go**. For field descriptions, see Fields on the Search Visit Tasks Page.
4. The lower half of the screen displays the Search Results list of all the matching records in the database. To restart a search, click **Clear**. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click **Go** to begin searching the database for records that match.

5. To create a task corresponding to an imminent maintenance requirement, click **Create Planned Task**.
6. To create a task corresponding to an undated maintenance requirement, click **Create Unplanned Task**.
7. To create a visit task that is unassociated to a route, click **Create Unassociated Task**.
8. To update visit task details, click the pertinent Task Name link.

Note: You can update the visit task details and associated information only if the visit record is in the Planning state. If the visit record is in the Released or Closed status, the system generates the visit task details page in view-only mode.

9. To remove a task associated to the visit, click the Remove icon corresponding to the task record.

Note: You can only remove a task that is in the Planning state. To delete a task from a Primary visit, any task associated to it in a simulation visit must have the association removed. If you delete all tasks associated to a maintenance requirement summary task, the summary task is deleted as well. To remove a task that is the originating task for another task, the associations must be first removed. To remove a task with associated children tasks, the association must first be removed. Also, a task with other technically dependent tasks cannot be removed. Any material requests defined in Long Term Planning for a task must be cancelled before it can be deleted.

## Updating Visit Records

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing maintenance visit records and edit the header and associated tasks information.

The following explains how you can update existing visit records:

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**Note:** You can update these attributes only for a visit record that is in the Planning state. If the selected visit is in the Released or Closed states, the application generates the details and visit tasks pages in view-only mode.

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### Prerequisites:

The visit record you want to edit must exist in the database. The record must be in the Planning state.

### To update visit details:

1. Retrieve the visit records that match your need. See Retrieving Existing Maintenance Visit Records.

2. In the Search Results list, click the Visit Number link of the record you want to edit. This launches the Update Visit page if the visit record is in the Planning state.

Note: You can also access the Update Visit page from the Copy Visit page. See [Creating a Visit from Existing Visit Records](#).

3. Make the necessary changes to the field values. For field descriptions, see [Fields on the Create Maintenance Visit and Edit Maintenance Visit Pages](#).
4. Click Apply to record the changes.

If the visit record you selected has the status Released, or Closed, the application launches the View Visit page. If necessary, a Super-User can change the details of a visit. This is possible if such a user responsibility has been created while setting up Oracle Complex Maintenance, Repair, and Overhaul.

5. To update tasks associated to the visit, use the side navigation menu. See [Associating Tasks with Maintenance Visits](#).

## Creating Imminent Visit Tasks

When creating tasks for serialized inventory items, Visit Work Package allows the maintenance planner to select maintenance requirements derived as imminent for the serialized assembly or equipment unit in the Oracle Complex Maintenance, Repair, and Overhaul Unit Maintenance Plan module. The planner can then select one or more routes associated with the pending maintenance requirement for attachment to the visit as tasks.

The Create Planned Task page provides the ability to search and display unit effectivity. Maintenance planners can create tasks associated with a selected Unit Effectivity ID.

### **Prerequisites:**

The visit record for which you want to create planned tasks must exist in the database in the Planning state. The unit maintenance requirement that you want to associate to the visit must exist in the database.

### **To create imminent visit tasks:**

1. Find the visit you want to create a task for. See [Retrieving Existing Visit Task Records](#).
2. Select the Visit you want to create a task for and Click **Search Tasks**.

3. The Search Visit Task page appears. Click **Create Planned Task** to create an imminent on-plan task. The Search Unit Maintenance Plan page appears.
4. Search for the relevant information, then select a Maintenance requirement from the existing plan for which you want to create a visit task. Select **Associate to Visit** from the menu and click **Go**. You can specify that the added Maintenance requirement is performed by another department. To do this, select a department for only the Maintenance requirement on the Associate Planned Maintenance Requirements to Tasks page. You can only select a department in the same organization. The department defined for the visit header is the default choice. If the Maintenance requirement is motivated by a service request, select the service request at the Associated To Service Request field. Click **Apply** to navigate to the Create Planned Maintenance Tasks page.
5. The Associate Planned Maintenance Requirements to Tasks page appears.  
Note: You can also access the Create Planned Task page from the Visit Tasks page by clicking the Create Planned Tasks button. See Associating Tasks with Maintenance Visits.
6. Enter the field values as required to specify the search criteria. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Create Planned Task Page.
7. Click **Go**. The lower half of the screen displays the Search Results list of all matching records in the database.  
If a task associated to the visit has the matching Item, Serial Number, Maintenance Requirement, Route, and Unit Effectivity ID combination, then the system displays the task name in the maintenance route Task column. The task names are unique in this visit, and are editable.
8. To restart a search, click **Clear**. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).  
After entering the new search criteria, click **Go** to begin searching the database for records that match.
9. Click **Create Associated Tasks for All**. The system refreshes the page with the tasks associated to all the routes in the Search Results list.

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**Note:** Route dependencies defined by Fleet Maintenance Program are copied to the task technical dependencies and task hierarchy only if you click Create Associated Tasks for All. For tasks that match the Item, Serial Number, Maintenance Requirement, Route, and Unit Effectivity ID combination, the existing technical dependencies and task hierarchy are removed.

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10. To create associated tasks for specific routes, select the pertinent routes then click **Create Associated Task**. The system refreshes the page with associated tasks for all selected maintenance routes.

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**Note:** If the routes already have matching tasks in the visit, clicking Create Associated Tasks or Create Associated Tasks for All will effect no changes.

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Special conditions to consider when adding tasks to a visit definition:

- Maintenance requirements can occur in groups. See *Fleet Maintenance Program* for more information about grouped maintenance requirements. Periodic work packages often include more frequently scheduled work packages. If you select a group maintenance requirement, and do not select one or more of the routes that comprise any of the maintenance requirements in the group, then all of the routes that comprise the maintenance requirement will be retrieved.
- If there are already associated routes from the imminent maintenance requirement that you just selected to tasks in the current visit, those tasks will be shown as linked.
- If the visit definition already includes one or more tasks that are linked to the previously selected maintenance requirement and one of its routes, and the same serial number as is currently selected, those tasks will be connected to the corresponding imminent maintenance requirement from Unit Maintenance Plan.
- If the visit definition already includes a task created from the same maintenance requirement and route, does not have a corresponding asset identifier, and is present in the visit because of a different service request, a new task record is created for the current service request.

- If the visit definition already includes a task for the same maintenance requirement, route, and asset serial number, but a different department, a new task record is created.
- Visit Work Package creates the task name from the corresponding route identifier.
- For each maintenance requirement to be accomplished during the visit, a summary task that serves as a placeholder in the task hierarchy is created. The summary task receives its name from the title of the maintenance requirement.
- All of the tasks created for the corresponding routes that comprise a maintenance requirement have the Maintenance requirement's summary task as both the parent and originating tasks.
- If you decide to attach all of an Maintenance requirement's routes to a visit as tasks, any work sequence dependencies defined when the maintenance plan was transferred to Fleet Maintenance Program will be reproduced in the visit's task sequence. Conversely, tasks created from routes that are not in a sequence network must be manually added. If task sequencing dependencies have already been defined for this visit, route sequence dependencies defined in Fleet Maintenance Program are not applied in order to avoid disrupting the task network defined in the visit. These must also be manually created. More information about the task network is found in the section Defining Visit Task Hierarchy.

## Creating Undated Visit Tasks

The following details procedures for creating undated maintenance visit tasks. Apart from the pending maintenance requirements for serialized items, maintenance planners can associate undated maintenance requirements with a visit instance. These requirements are defined in the Oracle Complex Maintenance, Repair, and Overhaul Fleet Maintenance Program module. The duration of each task is captured from the route definition that is created when the original maintenance plan is entered and managed with the Oracle Complex Maintenance, Repair, and Overhaul Route Management module.

The Create Unplanned Task page provides the ability to retrieve and display maintenance requirement routes. Maintenance planners can create tasks associated with selected maintenance requirement routes. This feature is useful if you have the need to use an existing maintenance route that is not part of the scheduled maintenance plan for the equipment unit, to accomplish a repair or service procedure. This is a two-step process. You first select the route(s) from maintenance

requirement for the equipment type, and create a corresponding task. Then, you specify the part and its serial number that will be serviced by the task.

**Prerequisites:**

The visit record for which you want to create undated tasks must exist in the database in the Planning state. The maintenance requirement that you want to associate to the visit must exist in the database.

**To create undated visit tasks:**

1. Find the Visit you want to create a undated visit task for. See Retrieving Existing Visit Task Records.
2. Select the visit and click **Search Tasks**. The Search Visit Task page appears.
3. Click **Create Unplanned Tasks**. The Search Unit Maintenance Plan page appears.

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**Note:** You can also access the Create Unplanned Task page from the Visit Tasks page by clicking the Create Unplanned Tasks button. See Associating Tasks with Maintenance Visits.

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4. Enter the field values as required to specify the search criteria. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Create Unplanned Task Page.
5. Click **Go**. The lower half of the screen displays the Search Results list of all matching maintenance routes in the database.

If the maintenance requirement you selected is a group maintenance requirement, then all the child maintenance requirements and associated routes will be displayed in the Search Results. Also, if a task associated to the visit has the matching Item, Maintenance Requirement, and Route combination, then the system displays the task name in the Search Results Task column. The task names are unique in this visit, and are editable.

All tasks associated to a route will store the applicable maintenance requirement place holder task as the originating and the cost parent task.

6. To restart a search, click **Clear**. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click **Go** to begin searching the database for records that match.

7. Click **Create Associated Tasks for All** to associate tasks to all the maintenance routes in the Search Results list. This launches the Associate Serial Number/Service Request to Maintenance Tasks page.

Note: Route dependencies defined in the Oracle Complex Maintenance, Repair, and Overhaul Fleet Maintenance Program module are copied to the task hierarchy only if you click **Create Associated Tasks for All** for the first time for the selected maintenance requirement and item combination.

8. To create associated tasks for specific routes, select the pertinent routes and click **Create Associated Task**. This launches the Associate Serial Number/Service Request to Maintenance Tasks page.

Note: If the maintenance routes returned from the database already have matching tasks in the visit, clicking **Create Associated Tasks** or **Create Associated Tasks for All** will effect no changes.

## Associating Item Serial Numbers and Service Requests with Tasks

A repair job required to fix a defect reported by built-in test equipment, monitoring and control systems, operating personnel, or maintenance personnel during inspections, might not have a corresponding route in the unit maintenance plan. In such cases, it may be necessary to select a maintenance requirement and routes to add to a visit for the equipment type. See *Creating Undated Visit Tasks* for more information.

After a technician has inspected a part, the equipment type task must be associated with an actual part in the unit configuration. The task can also be connected with a service request by adding the service request identifier to the task record. If the part to be serviced or repaired is not serialized, or not of sufficient importance to describe in the Unit Configuration, the task can be associated with the visit header's equipment type and serial number.

### Prerequisites:

The equipment specific task must exist in the database. The service request to be connected to the ad hoc task must exist in the database. The serial number of the part to be serviced must exist as part of the unit configuration.

**To associate serial numbers and service requests with a task:**

1. Launch the Associate Serial Number/Service Request to Maintenance Tasks page as explained in Creating Undated Visit Tasks. The page displays the Visit Number, Visit Type, Item, Unit, Start Date and End Date as context information. The Item subcomponent in the visit package to which the service request or serial number is to be associated is also displayed as view-only.
2. Enter the Associated to Serial # field. Use the Search icon to retrieve and display all matching records in the database. Click the pertinent search result to return the value to the corresponding field. Only a serial number that corresponds to the item for which the task was created can be used.  
  
Asterisks indicate mandatory fields. For field descriptions, see Fields on the Associate Serial Number/Service Request to Task Page.
3. If the task is being added to the visit in response to a service request, select the service request identifier from the list of values.
4. Click Apply to associate the Item Serial Number and Service Request, if any, to the selected task.

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**Note:** The unit configuration name is displayed as part of the visit context information, and is a display-only field on this page.

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## Creating Visit Tasks Unassociated with Routes

The following provides detailed procedures for creating tasks that are unassociated with any maintenance route for attachment to visits. This process supports the creation of an ad hoc task, usually to repair or replace a component, to be included in a shop or field maintenance visit. Tasks can be added to a visit on an ad hoc basis, even if no corresponding route exists. The description of the work to be accomplished, and the required tools and materials is stored as a task remark.

The Create Unassociated Task page is used to create a task that is not associated with any maintenance route.

**Prerequisites:**

The visit record for which an ad hoc task is to be created must exist in the database. The part type to which the task pertains must exist in the unit configuration hierarchy of the equipment to which the visit applies.

**To create visit tasks unassociated with routes:**

1. On the Search Visit Task page (see Retrieving Existing Visit Task Records for navigation), use the Visit Number field to select the visit record to which you want to associate tasks that are unassociated with routes.
2. Click Create Unassociated Tasks. This launches the Create Unassociated Task page with the visit context information.  
  
Note: You can also access the Create Unassociated Task page from the Visit Tasks page by clicking the Create Unassociated Tasks button. See Associating Tasks with Maintenance Visits.
3. Enter the field values. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Create Unassociated Task Page.  
  
Use the Remarks field to describe the work to be completed, the level of skill required to accomplish the task, the part kits required, and any tools and materials required.
4. To refresh the screen with empty fields without saving the task information, click Cancel.
5. Click Apply to save the unassociated task, and proceed to update the visit task. For more information, see Updating Visit Task Headers.

## Updating Visit Task Headers

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing maintenance visit task records, and edit the header and task hierarchy information. For updating task hierarchy, see Defining Visit Task Hierarchy.

The following explains how you can update existing visit headers. After a maintenance planner associates maintenance requirements with a visit by retrieving the routes defined for the imminent maintenance work, the resulting set of tasks can be edited.

The planner can modify the task attributes that are unique to the current visit association. Attributes inherited from the route definition cannot be updated.

Use the Update Task Header page to update visit task header details, and to navigate to pages that allow you to update task dependency and task hierarchy.

You can access the Update Task Header page using any of the following methods. For field descriptions, refer to Fields on the Update Task Header Page.

1. From the Search Task page:

- a. Retrieve desired visit task records from the database. See Retrieving Existing Visit Task Records.
  - b. On the Search Results list, click the Task Name link of the task record that you want to update. This launches the Update Task Header page.
  - c. Enter or update the field values as required.
  - d. Click Apply to save the changes.
  - e. To proceed to defining or updating task dependencies and hierarchy, use the side navigation menu.
2. From the Associate Serial Number/Service Request to Maintenance Tasks page:
    - a. Associate Item Serial Numbers or Service Requests to visit tasks. See Associating Item Serial Numbers and Service Requests to Tasks. Clicking Apply to save the association will launch the Update Task Header page.
    - b. Enter or update the field values as required.
    - c. Click Apply to save the changes.
    - d. To proceed to defining or updating task dependencies and hierarchy, use the side navigation menu.
  3. From the Create Unassociated Task page:
    - a. Create an unassociated task for a visit. For details, refer to Creating Visit Tasks Unassociated with Routes. Clicking Apply to save the unassociated task will launch the Update Task Header page.
    - b. Enter the field values as required.
    - c. Click Apply to save the changes.
    - d. To proceed to defining or updating task dependencies and hierarchy, use the side navigation menu.

## Defining Visit Task Hierarchy

The following details procedures for defining and editing visit task hierarchy. After visit tasks are attached to the visit header, further refinement of the visit structure involves three processes: removing redundant tasks, defining the task hierarchy for costing purposes, and arranging the tasks sequence. It may be possible to remove redundant tasks if more than one job will be done in the same area of the equipment. To support cost transaction summarization during and after production, a task hierarchy specifies the summary tasks for subtotal calculations using the

Oracle Projects features. The tasks sequence specifies the temporal order of tasks to be carried out during the visit, respecting the technical considerations of task dependencies.

After defining task dependencies, the planner can create a final task structure by deriving the task network connecting tasks to each other in a parent-child relationship. The task network complies with the technical dependencies between tasks while becoming the optimal structure for more efficient maintenance resources utilization.

The Visit Work Package module allows maintenance planners to retrieve visit tasks, select a task record, and define the parent-child relationship between the selected task and other tasks in the visit structure using the Task Hierarchy page.

**Prerequisites:**

The visit and the associated maintenance task for which you want to define the hierarchy must exist in the database. The visit record must be in the Planning state.

**To define visit task hierarchy:**

1. Retrieve desired visit task records from the database. See Retrieving Existing Visit Task Records.
2. On the Search Results list, click the Task Name link of the task record that you want to update. This launches the Update Task Header page.
3. Click Hierarchy on the side navigation menu to launch the Task Hierarchy page. The task header context information is displayed on the page.
4. To edit the workflow hierarchy information of an associated task, select the task using the radio button, and click Edit Hierarchy. This launches the Update Visit Task Hierarchy page. For field descriptions, see Fields on the Update Visit Task Hierarchy Page.
5. To remove a task from the hierarchy, click the corresponding Remove icon on the Task Hierarchy page.
6. Click Apply to save the changes, and refresh the Hierarchy list with new rows.

## Defining Visit Cost Structure

The following section provides detailed procedure on defining visit cost structures. A maintenance planner may not wish to export all planned visit definitions to Oracle Projects. Using the Oracle Complex Maintenance, Repair, and Overhaul

Long Term Planning module, the planner may define a set of visit options, called simulations. Each member of a simulation set is a complete visit definition. The planner uses the simulation set to determine the task package that is optimal with respect to the scheduling of repair facilities, and the materials necessary to complete each job.

The final logical relationship among the visit tasks defines the subtotal and the total cost calculation of the visit. This feature is provided by Oracle Projects. However, it is necessary to specify a top-level task where a cost subtotal will be calculated.

Each task associated with a visit must have a top-task attribute, so that the task's charge transactions can be correctly subtotaled at the top-task level. This task relationship is managed by a maintenance planner using the Visit Cost Structure page.

After selecting a visit task, the task to which the current task's cost transactions are summed is specified by the planner by choosing the task's ID. This structure is exported to Projects so that the Project ID and Task ID can be used to maintain the connection between production jobs and cost transactions.

### **Prerequisites:**

The visit and tasks must exist in the database. The visit cost structure must be known for accounting purposes.

### **To define visit cost structure:**

1. Retrieve the desired visit records from the database. See Retrieving Existing Visit Records.
2. On the Search Results list, click the Cost Structure icon corresponding to the visit for which you want to define or update cost structure. This launches the Visit Cost Structure page with the visit context information.
3. Enter the field values as required. Although several fields can be updated on this page, Cost Parent Task field determines which other task will be the current task's immediate predecessor in the cost accounting structure. For field descriptions, see Fields on the Visit Cost Structure Page.
4. Click Apply to save the visit cost structure.
5. To edit the task hierarchy, click Edit Hierarchy. For details, see Defining Visit Task Hierarchy.

## Creating Department Shift Records

In order to derive the completion date of the maintenance visit, a departmental work shift must be created and factored into the derivation. The shift records for each department specify the actual daily work calendar for your skilled workforce.

Use the following procedure to create department shifts.

### **Prerequisites:**

The maintaining organization, department, shift number, and work days must have been recorded in the database.

### **To create department shifts:**

1. Click the Planning link at the top right corner of the Oracle Complex Maintenance, Repair, and Overhaul Home page to access the Visit Work Package tab.
2. Select the Visit Work Package tab, and then the Department Shift subtab. This launches the Search Department Shift page.
3. Click Create to launch the Create Department Shift page.
4. Enter the field values. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Create Department Shift Page.
5. Click Apply to save the record.

## Retrieving Department Shift Records

Once departmental shift records have been created, they can be retrieved from the database, viewed, and if necessary, deleted. Shift records cannot be updated; they must be deleted and recreated.

**Prerequisites:** Shift records for a department within an organization must already have been created.

To retrieve departmental shift records:

1. Click the Planning link at the top right corner of the Oracle Complex Maintenance, Repair, and Overhaul Home page to access the Visit Work Package tab.
2. Select the Visit Work Package tab, and then the Department Shift subtab. This launches the Search Department Shift page.

3. Enter values for the Organization and Department where you want to view the shift records. For field descriptions, see Fields on the Search Department Shift Page.
4. Click Go. The lower half of the screen displays the list of all matching records in the database.
5. To restart a search, click Clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

6. To remove a department shift record, click the Remove icon corresponding to that record.

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## Managing Long Term Planning

The Oracle Complex Maintenance, Repair, and Overhaul Long Term Plan module maximizes maintenance scheduling by balancing maintenance requirements with available maintenance capacity. It allows you to simulate a visit or sequence of visit combinations in order to find the optimal maintenance visit schedule.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Long Term Planning module. The chapter provides process-oriented, task based procedures for using the application to perform essential tasks for planning the long term maintenance needs of fleet units.

See:

- Finding Scheduled and Unscheduled Visits
- Assessing a Work Schedule
- Scheduling a Visit
- Uncheduling a Maintenance Visit
- Viewing Scheduled Visit Details
- Assigning Spaces to a Visit
- Checking Material Availability
- Checking the Material Schedule
- Finding Maintenance Spaces
- Creating a Maintenance Space
- Editing Maintenance Spaces
- Deleting Maintenance Spaces
- Finding a Space's Unavailable Period

- Setting a Space as Unavailable
- Editing a Space's Unavailable Period
- Deleting a Space's Unavailable Period
- Managing Simulation Plans
- Creating a New Simulation Plan
- Deleting a Simulation Plan
- Adding Visits to a Simulation Plan
- Deleting a Simulation Visit
- Setting a Simulation Plan as Primary
- Deleting a Simulation Visit
- Copying a Visit to a New Simulation Plan
- Running Resource Leveling Plans

## What is Long Term Plan?

The Long Term Planning (LTP) module is used by a maintenance planner to schedule planned maintenance requirements for maintenance visits based on the optimal use of maintenance resources. The maintenance planner using Long Term Plan is able to make a complete assessment of the maintenance resources available at all maintenance locations. The maintenance planner is able to do this by balancing forecasted maintenance requirement information from Unit Maintenance Plan against projected maintenance capacity. The planner will schedule maintenance visits, assess capacity and reserve required materials.

In order to accurately schedule a maintenance visit, the planner will need to be able to forecast available resources, labor work hours by skill, level and certification and tooling/machinery, as well as schedule visit work packages and forecast their resource requirements.

## Key Business Processes

**Assess Maintenance Workload Capacity** Maintenance base and sublocation workload capacities must be accurately assessed to maximize available resources and precisely schedule maintenance visits. Base capacity consists of available labor by skill, level and certification, available tooling/machinery, available materials and

location capabilities (the list of units and visit types it is capable of supporting), balanced against known workloads.

**Create a Visit** A visit is created in Visit Work Package and is a group of events created by the maintenance planner made up of selected maintenance requirements—defined in Unit Maintenance Plan—and associated routes, with projected compliance times based the unit's forecasted operational times. This visit is used to group events together for long and short term capacity planning, and to facilitate scheduling to a maintenance base. Visits are used for production through Visit Work Package and Production Planning. Creation of a maintenance visit consists of selecting and creating tasks for maintenance requirements and associated routes, and projecting compliance times based the unit's forecasted operational times.

**Define a Visit's Resource Requirements** Maintenance visit resource requirements must be defined to allow accurate scheduling and capacity planning. Visit resource requirements are based on the maintenance requirement's associated routes—which are created in Route Management—and the man hour requirements by skill, skill level and certification, required tooling, required materials, duration and required completion times as defined by Unit Maintenance Plan.

**Schedule a Visit** After a visit has been created it must be scheduled at a maintenance facility. Availability for this is based on currently scheduled visits and the forecast resources of the maintenance facility. The visit start time is set by considering due dates calculated for maintenance requirements by Unit Maintenance Plan. Required materials are reserved and the maintenance planner can determine if capacity is exceeded or does not fulfill requirements.

**Capacity Versus Work Load Requirements** You can compare resource capacity versus resources required for the projected workload, which is an essential tool for accurate scheduling and planning and ensures that available resources are used as efficiently as possible. This is accomplished through the Resource Leveling feature of Long Term Plan. To derive the optimal schedule, you must have the ability to adjust visit schedules, change maintenance locations, and remove and add visit requirements.

**Simulations** The simulation function works in conjunction with both the scheduling and resource leveling functions of Long Term Plan. This allows the user to test different scheduling scenarios without changing the original visits. Visits can be copied into a simulation plan and their schedule or structure changed. After evaluating these visits, and taking into account schedule and resource consumption,

the changes can be implemented for the entire simulation plan, or for individual visits within the plan.

## Fields Associated with Long Term Planning

The following sections provide descriptions of fields appearing on each Long Term Planning page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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### Fields on the Search Visits Page

The Search Visits page is an overview for Long Term Planning. From here you can view all primary visits, scheduled and unscheduled. All visits that need to be associated to an item (model) or serial number, all visits of a certain visit type, all visits due during a defined period, or all visits associated to an organization and department.

The following fields appear on the Search Visits Page:

**Organization** Visits are associated to an “Organization” that represents the larger group, company, or division where maintenance is performed. All Organizations defined in Oracle HR associated to the user's responsibility can be selected.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Item** The item refers to a part number or a model name—e.g., Boeing 747-200B—that the visit is associated to. All visits must be associated to an item. This field is not required for the search, but filtering the table of visits by item gives a basic

picture of the maintenance workload required for a particular model. All items defined in the Inventory associated to the user's responsibility can be selected.

**Due From, Due To** These two attributes allow the user to filter the displayed visits based on when a visit is due. The due date of a visit is defined by associated maintenance requirements from Unit Maintenance Plan. The maintenance requirements are associated to the visit's tasks. The earliest due date from the associated requirements is the due date of the visit. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Display Only** A drop down menu used to filter displayed visits by Scheduled or Unscheduled. This field is empty by default. A visit is considered scheduled if its start date is defined and it is associated to a department and organization.

**Visit Type** This defines what kind of maintenance visit is required, e.g, C-Check, D-Check, Preflight. The types are user defined. This allows maintenance to be classified into categories. Larger visits can include many different maintenance requirements, but can still be grouped together under one visit type. Filtering the table of visits by visit type is useful, as the visit type in general and indirectly represents visit's length and resource requirements.

**Visit Number** All maintenance visits are assigned a unique visit number. All visit numbers for all visits that have been created are available for selection.

## Fields on the Search Spaces Page

The following fields appear on the Search Spaces page:

**Organization** Visits are associated to an "Organization" that represents the larger group, company, or division where maintenance is performed. All Organizations defined in Oracle HR associated to the user's responsibility can be selected.

**Department** Departments are a subgroup of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be an airline, and a Department may be "SFO Airport." All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Space** Spaces are a subdivision of Departments and are used to refer to a specific location where maintenance takes place. For example, if a Department is "SFO

Airport,” then a Space might be “Hangar 1.” Spaces might further subdivide a hangar into separate docks or maintenance bays. Spaces also define the maintenance capabilities of a department. Spaces break down a department into subgroups representing smaller maintenance areas. Each space can be assigned maintenance capabilities based on item and visit type and are assigned a maintenance category

**Status** (refers to the state of the space, which is either “active” or “inactive. Inactive spaces are no longer used or considered in the scheduling process.

**Item Capability** The item refers to a model name—e.g., Boeing 747-200B— that the visit is associated to. All visits must be associated to an item. This field is not required for the search, but filtering the table of visits by item gives a basic picture of the maintenance workload required for a particular model. All items defined in the Inventory associated to the user's responsibility can be selected.

**Visit Type Capability** This defines what kind of maintenance visit is required, e.g. C-Check, D-Check, Preflight. All possible maintenance visits are listed here. This allows maintenance to be classified into categories. Larger visits can include many different maintenance requirements, but can still be grouped together under one visit type. Filtering the table of visits by visit type is useful, as the visit type in general and indirectly represents visit's length and resource requirements.

**Category** represents a maintenance space type. These are user defined and are used to quickly identify and group space together by the general type of work that can be performed there.

## Fields on the Edit Spaces Page

The following fields appear on the Edit Spaces Page:

**Space Name** Spaces are a subgroup of Departments and are used to refer to the specific locations where all of the actual maintenance takes place. For example, if a Department is “SFO Airport,” then a Space might be “Hangar 1”, or even “Dock 1” within a hangar.

**Category** The user defined category of the maintenance requirement. A common method of categorization would be based on the equipment type to which the maintenance requirement applies. For example, Airframe, Powerplant, Ground Service Equipment.

**Status** (refers to the state of the space, which is either “active” or “inactive. Inactive spaces are no longer used or considered in the scheduling process.

**Item** The item refers to a model name—e.g., Boeing 747-200B— that the visit is associated to. All visits must be associated to an item. This field is not required for the search, but filtering the table of visits by item gives a basic picture of the maintenance workload required for a particular model. All items defined in the Inventory associated to the user's responsibility can be selected.

**Visit Type** Visit Type defines what kind of maintenance visit is required, e.g. C-Check, D-Check, Preflight. The user defined list of maintenance visits are listed here. This allows maintenance to be classified into categories. Filtering the table of visits by visit type is useful, as the visit type indicates the visit's length and resource requirements.

**Item Capability** refers to the items that can be maintained at the space

**Visit Capability** refers to the visits that the space is capable of handling.

## Fields on the Search Space Availability Restrictions Page

The following fields appear on the Search Availability Restrictions Page:

**Organization** Visits are associated to an “Organization” that represents the larger group, company, or division where maintenance is performed. All Organizations defined in Oracle HR associated to the user's responsibility can be selected.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Space** Spaces are a subgroup of Departments and are used to refer to the specific locations where all of the actual maintenance takes place. For example, if a Department is “SFO Airport,” then a Space might be “Hangar 1.” This field allows you to search for the availability restrictions for specific spaces.

**Unavailable From** Specifies the date after which the space is not available for scheduling. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Unavailable To** Specifies the date after which the space is available for scheduling. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

## Fields on the Add Availability Restriction Page

The following fields appear on the Add Availability Restriction Page:

**Organization** Visits are associated to an “Organization” that represents the larger group, company, or division where maintenance is performed. All Organizations defined in Oracle HR associated to the user's responsibility can be selected.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Space** Spaces are a subdivision of Departments and are used to refer to a specific location where maintenance takes place. For example, if a Department is “SFO Airport,” then a Space might be “Hangar 1.” Spaces might further subdivide a hangar into separate docks or maintenance bays. Spaces also define the maintenance capabilities of a department. Spaces break down a department into sub groups representing smaller maintenance areas. Each space can be assigned maintenance capabilities based on item and visit type and are assigned a maintenance category

**Unavailable From** Specifies the date after which the space is not available for scheduling. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Unavailable To** Specifies the date after which the space is available for scheduling. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

## Fields on the Simulation Plan Page

The following fields appear on the Simulation Plans page:

**Plan Name** refers to the name of the simulation plan. All visits are associated with a simulation plan. These plans are used in the scheduling process, and allow you to

create different schedule scenarios. The optimal plan is identifying the optimal plan based on resource consumption and schedule flow. After determining the optimal plan, the changes made to the visits within the plan can be implemented, either for the entire plan or for individual visits.

**Primary Plan** indicates whether or not the plan is set as the primary plan. When visits are created in Visit Work Package, they are automatically included in the primary plan. Copies of these visits can then be added to other simulation plans.

**Number of Visits in Plan** indicates how many visits are included in the specified plan.

## Fields on the View Simulation Plan Page

The following fields appear on the View Simulation Plan page:

**Visit Number** All maintenance visits are assigned a unique visit number. All visit numbers for all visits can be selected.

**Item** The item refers to a model name—e.g., Boeing 747-200B—that the visit is associated to. All visits must be associated to an item. This field is not required for the search, but filtering the table of visits by item gives a basic picture of the maintenance workload required for a particular model. All items defined in the Inventory associated to the user's responsibility can be selected.

**Visit Type** Visit type defines what kind of maintenance visit is required. This allows maintenance to be classified into categories. Larger visits can include many different maintenance requirements, but can still be grouped together under one visit type. Filtering the table of visits by visit type is useful, as the visit type in general and indirectly represents visit's length and resource requirements.

**Unit** refers to the serial number of a specific item.

**Organization** Visits are associated to an “Organization” that represents the larger group, company, or division where maintenance is performed. All Organizations defined in Oracle HR associated to the user's responsibility can be selected.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All

Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Start Date** Lists the date of the first day of effectivity of this operation.

## Fields on the Schedule Visit Page

The Schedule Visit page is accessed from the Search Visits page or the View Simulation Plan page by selecting a visit and clicking on the Schedule button. The selected visit is displayed in context. This page allows you to assign a visit to an organization and department. You also must define its start date. All three of these attributes must be assigned and define a visit as "scheduled." After a visit has been scheduled, spaces can be assigned and Long Term Planning's resource leveling functionality can be used. You can also reschedule a visit from this screen as long as the visit is still in the "planning" status.

**Visit Number** All maintenance visits are assigned a unique visit number. All visit numbers for all visits that have been created are available for selection

**Duration** This is the total length of the visit in days. It is the sum total of the durations of the associated visit tasks. Maintenance visits can be any length, from an hour to an unlimited number of days. A D-Check on a larger aircraft might take 90 days, where a preflight on a small plane might only take 5 minutes.

**Visit Type** Attribute of the visit in context selected from the previous screen. The visit type values are defined in Oracle Complex Maintenance, Repair, and Overhaul and represent all possible maintenance visits, C-Check, D-Check, Preflight, etc. This allows maintenance to be classified into categories. Some of the larger visits, like a D-Check, will often include many different maintenance requirements, but can still be grouped together under once visit type. Filtering the table of visits by visit type is useful, as the visit type in general and indirectly represents visit's length and resource requirements.

**Due By** The due date of a visit is defined by the associated maintenance requirements from Unit Maintenance Plan. The maintenance requirements are associated to the visit's tasks. The earliest due date from the associated requirements is the due date of the visit. This is a required field. It is an attribute of the visit in context selected from the previous screen.

**Item** The item is the model, Boeing 747, 737, etc., that the visit is associated to. All visits must be associated to an item. This is not a required field for the search

parameters, but filtering the table of visits by item allows the user to see a basic picture of the maintenance workload required by a particular model. This field is an attribute of the visit in context selected from the previous screen.

**Unit** refers to the serial number of a specific item.

**Simulation Plan** Attribute of the visit in context selected from the previous screen. This further identifies the visit by allowing the user to know which simulation plan the visit in context is part of or if it is a visit in the Primary Plan. When coming from the Search Visits screen, the visit will always be part of the Primary Plan. When coming from the View Simulation Plan screen, the value is defined by the plan in context.

**Organization** All visits are associated to an Organization. An organization represents the larger group, company, division, etc., where the maintenance visit is to be performed. All Organizations defined in Oracle HR associated to the user's responsibility are available for selection.

**Department** All visits are associated to a Department and all Departments are associated to an Organization. The Department represents the group below the organization, such as SFO Airport, or the hangar where the maintenance visit is to be performed.

**Start Date** This is a required field. It is an attribute of the visit in context selected from the previous screen. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Material Schedule Designator** This is a required field. This is a Material Demand Schedule that has been previously created in Oracle's MRP application. The Schedule Designator must be defined for each visit in order to schedule required materials.

## Fields on the Select Resource Leveling Criteria Page

**Organization** All visits are associated to an Organization. An organization represents the larger group, company, division, etc., where the maintenance visit is to be performed. All Organizations defined in Oracle HR associated to the user's responsibility are available for selection.

**Department** All visits are associated to a Department and all Departments are associated to an Organization. The Department represents the group below the

organization, such as SFO Airport, or the hangar where the maintenance visit is to be performed.

**Start Date** This is a required field. It is an attribute of the visit in context selected from the previous screen. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**End Date** This is a required field. It is an attribute of the visit in context selected from the previous screen. Enter a date directly, or click on the icon beside the date field to bring up the calendar. Click on a date to insert it in the field.

**Simulation Plan** Attribute of the visit in context selected from the previous screen. This further identifies the visit by allowing the user to know which simulation plan the visit in context is part of or if it is a visit in the Primary Plan. When coming from the Search Visits screen, the visit will always be part of the Primary Plan. When coming from the View Simulation Plan screen, the value is defined by the plan in context.

**Required Capacity %** This field sets the percentage of capacity that you want to hold in reserve. The table of required resources will be filtered by this percentage. All resources required for each period for all visits in the selected simulation plan are balanced against the total available resources.

## Finding Scheduled and Unscheduled Visits

The Search Visit page provides the ability to search and display all maintenance visits regardless of their status.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### Prerequisites:

The visit you want to retrieve must exist in the database.

### To find a visit:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.

2. Click on the Long Term Planning tab, then select the Visits sub tab to launch the Search Visits page.
3. Enter the schedule information in the fields for which you know the value. For field descriptions, see Fields on the Search Visits Page.
4. Click Go. The lower half of the page displays all of the spaces matching the search criteria you provided. Note that selected visits may be edited and/or deleted.

## Assessing a Work Schedule

Long Term Planning allows quick identification of a maintenance base's workload. This assessment identifies the current scheduled visits at a given space or department.

### **Prerequisites:**

A primary plan with at least one visit must exist in the database. It is helpful if there are maintenance requirements, associated tasks and routes in also in the database.

### **To assess a work schedule:**

1. Retrieve the visit schedule you want to assess (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the appropriate visit then click the Plan Visit button. The Schedule Visit page appears.
3. Click Scheduled Visits from the left-hand menu. The Schedule Overview page appears.
4. Enter the schedule information in the fields for which you know the value.
5. All Visits within the selected criteria are displayed, showing the Organization, Department, Space, and Category. Whether or not a visit is scheduled for the selected period block is also displayed. If multiple visits are scheduled for the period, the block is red and identified by an M, for Multiple. If multiple visits are scheduled for the period, the block is red and identified by an S, for Single. Blue blocks represent no visits scheduled for the blocks defined period and date. Black blocks represent the space as unavailable for the blocks defined period and date.

## Scheduling a Visit

Long Term Plan permits maintenance organizations to schedule visits, which can be created specifically for a maintenance requirement. An empty visit can be created and later be associated to requirements.

### **Prerequisites:**

The visit to be scheduled must exist in the database.

### **To schedule a visit:**

1. Retrieve the visit you want to schedule (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the visit you want to schedule then click the Plan Visit button.
3. The Schedule Visit page appears.
4. Make any necessary changes, then click Apply to save the changes to the database.

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**Note:** In order to schedule materials for a visit, you must define a MRP Schedule Designator, or a Material Demand Schedule. To do this you need to create a Schedule Designator and an associated MRP Plan using Oracle's MRP application. The designator you create will then be associated in Long Term Plan and be reflected on the existing Schedule Visit page.

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## Unscheduling a Maintenance Visit

### **Prerequisite:**

The visit to be removed from the schedule must exist in the database.

### **To unschedule a maintenance visit:**

1. Retrieve the visit you want to schedule (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.

2. Select the visit you want to remove from the schedule then click the Unschedule button.
3. The visit is removed from the schedule and no longer appears in the Visits results. The Organization, Department, Start Date and any associated Spaces are removed from the visit.

## Viewing Scheduled Visit Details

### **Prerequisites:**

A scheduled visit must exist in the database.

### **To view scheduled visit details:**

1. Retrieve the visit for which you want to view details (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the visit you want to view details for then click the Plan Visit button.
3. The Plan Visit page appears. Click Scheduled Visits from the left-hand menu.
4. The Schedule Overview page appears, displaying the currently scheduled visits for the relevant visit number. The visit may be selected and unscheduled from this page.

## Assigning Spaces to a Visit

Long Term Plan uses spaces to assign locations to the maintenance work required during a visit. Assign spaces to visits using the following process.

### **Prerequisites:**

A visit must exist in the database, and it must be scheduled. A space must exist in the database and the space capabilities must match the visit in context. Additionally, the space must be active and available.

### **To assign spaces to a visit:**

1. Retrieve the visit to which you want to assign a space (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the visit you want to assign a space to then click the Plan Visit button.

3. The Plan Visit page appears. Click Assign Spaces from the left-hand menu.
4. The Assign Spaces page appears.
5. To add spaces click Add More Rows. This will add several rows to the table. Enter information in the provided fields, then click apply to save the changes to the database.
6. Spaces may be deleted by selecting the applicable rows and clicking on the Delete button. When a space is deleted, the table refreshes reflecting the change.
7. Click Cancel to return to the previous page.

## Checking Material Availability

Oracle Complex Maintenance, Repair, and Overhaul Long Term Plan includes the ability to check the availability of materials for task starting time and location.

### **Prerequisites:**

The material requirements must be defined in Route Management and tasks must be associated to the routes.

### **To check material availability:**

1. Retrieve the visit to which you want to check material availability (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the visit you want to check availability then click the Plan Visit button.
3. The Schedule Visit page appears. Click Material Availability from the left-hand menu.
4. The Check Availability For page appears, displaying the material availability for the visit plan in context.
5. If needed, you can use the filter to search material requirements by the department that is associated to the route/operation's associated task.
6. Click Cancel to return to the previous page.

## Checking the Material Schedule

Oracle Complex Maintenance, Repair, and Overhaul Long Term Plan includes the ability to check the material schedule in order to assess available material resources.

**Prerequisites:**

The material requirements must be defined in Route Management and tasks must be associated to the routes

**To check the material schedule:**

1. Retrieve the visit to which you want to check material availability (see Finding Scheduled and Unscheduled Visits). The search results appear in the lower half of the page.
2. Select the appropriate visit then click the Plan Visit button.
3. The Plan Visit page appears. Click Material Schedule from the left-hand menu.
4. The Search Materials page appears. Enter information in the fields for which you know the value, then click Go.
5. Click Go. The lower half of the page displays the results matching the search criteria you provided. Note that both scheduled and unscheduled materials may be searched for and displayed.
6. Click Cancel to return to the previous page.

## Finding Maintenance Spaces

Oracle Complex Maintenance, Repair, and Overhaul helps you retrieve any Long Term Planning spaces that exist in the database by organization, item capability, department, visit type, or space name. You can also retrieve all records in the database by providing no search criteria and clicking Search.

**Prerequisites:**

The space you want to retrieve must exist in the database.

**To search maintenance spaces:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Spaces sub tab to launch the Search Spaces page.
3. Enter the information in the fields for which you know the value. For field descriptions, see Fields on the Search Spaces Page.

4. Click Go. The lower half of the page displays all of the spaces matching the search criteria you provided. Note that selected spaces may be edited and/or deleted.
5. To restart a search for records, click Clear. All the search fields on the page will clear. (If you have retrieved records being displayed in the lower half of the screen, these records will remain).

After entering the new search criteria, click Go to begin searching the database for records that match.

## Creating a Maintenance Space

The Long Term Plan module takes you through the steps to create a maintenance space. A maintenance space is used in Long Term Plan as a subgroup of Departments. They provide define specific locations where maintenance tasks take place, the type of work that can be performed there and the item the work can be done on.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field.

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### Prerequisites:

You should know the Organization and Department that the space is part of, the category it belongs to, as well as the name of the space you want to create. These fields are all required.

### To create a maintenance space:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Spaces sub tab to launch the Search Spaces page.
3. Click the Create button to open the Add Space page.

4. Enter values on the Add Space page in the fields provided. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Edit Spaces Page.
5. Click the Apply button to save the space to the database. The Edit Space page appears.

## Editing Maintenance Spaces

Oracle Complex Maintenance, Repair, and Overhaul allows you to retrieve existing maintenance spaces and edit the information associated with the space, including organization, department, category, material, machine, and tool requirements. After you create a space, you can edit the record to add additional attributes.

### **Prerequisites:**

The maintenance space that you want to edit must exist in the database.

### **To edit a maintenance space:**

1. Retrieve the space that you want to edit (see Finding Maintenance Spaces). The search results appear in the lower half of the page.
2. Click the hyper linked Space name from the search results to launch the Edit Space page for that record, where you can edit the space and its attributes.
3. Make any necessary changes in the fields provided. For field descriptions, see Fields on the Edit Spaces Page.
4. Click Apply to store the changes in the database.

## Deleting Maintenance Spaces

If a space is no longer needed, you can delete it using the Edit Space page.

### **Prerequisites:**

The maintenance space that you want to delete must exist in the database.

### **To delete a space:**

1. Retrieve the space that you want to edit (see Finding Maintenance Spaces). The search results appear in the lower half of the page.
2. Click the hyper linked Space name from the search results to launch the Edit Space page for that record, where you can edit the space and its attributes.

3. Click the Delete button in the Capabilities section. If there are no visits associated to the space it is deleted; however, if there are still associated visits an error will display stating a space cannot be deleted until all visits are removed. This space cannot be deleted if there were previous visits that were associated to the space that are now closed. You can set it as inactive.

## Finding a Space's Unavailable Period

### **Prerequisites:**

The maintenance space that you are checking must exist in the database.

### **To find the unavailability of a space:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Space Unavailability sub tab to launch the Search Availability Restrictions page.
3. Enter values on the Search Availability Restrictions page in the fields provided. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Search Availability Restrictions Page.
4. Click Go. The lower half of the page displays all of the spaces matching the search criteria you provided.

## Setting a Space as Unavailable

### **Prerequisites:**

The space to be set as unavailable must exist in the database.

### **To set a space as Unavailable:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Space Unavailability sub tab to launch the Search Availability Restrictions page.
3. Click the Add button to open the Add Availability Restriction page.

4. Enter values on the Add Availability Restriction page in the fields provided. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Add Availability Restriction Page.
5. Click the Apply button to save the space to the database. If there are no visits scheduled to this space during this period the Spaces Availability Overview screen is displayed with the space's unavailable period shown. If there are any visits scheduled to this space during this period an error is displayed.

## Editing a Space's Unavailable Period

### **Prerequisites:**

The maintenance space that you want to edit must exist in the database.

### **To edit a space's unavailable period:**

1. Retrieve the space with the unavailable period that you want to edit (see Find a Space's Unavailable Period). The search results appear in the lower half of the page.
2. Click the hyper linked name of the desired unavailable period from the search results to launch the Edit Availability Restriction page for that record, where you can edit the space and its attributes.
3. Make any necessary changes in the fields provided.
4. Click Apply to store the changes in the database.
5. The Spaces Availability Overview screen displays confirming your changes.

## Deleting a Space's Unavailable Period

### **Prerequisites:**

The relevant maintenance space and the period you want to delete must exist in the database.

### **To delete a space's unavailable period:**

1. Retrieve the space with the unavailable period that you want to edit (see Find a Space's Unavailable Period). The search results appear in the lower half of the page.

2. Select the desired unavailable period from the list using the check box next to it.
3. Click Delete to remove the selected unavailable period(s).
4. Click the hyper linked name of the desired unavailable period from the search results to launch the Edit Availability Restriction page for that record, where you can edit the space and its attributes.

## Managing Simulation Plans

A primary function of Long Term Planning is to balance the resources of work load requirements verses maintenance base resource capacity. This is important for scheduling purposes, to assure that the available resources are used as efficiently as possible. Simulation plans allow you to compare various plans before implementing them to enable selection of the most efficient maintenance plan.

See:

- Viewing Simulation Plans
- Creating a New Simulation Plan
- Deleting a Simulation Plan
- Adding Visits to a Simulation Plan
- Deleting a Simulation Visit
- Setting a Simulation Plan as Primary
- Deleting a Simulation Visit

## Viewing Simulation Plans

### **Prerequisites:**

There must be a primary plan in the database. At least one visit associated to the primary plan must exist in the database.

### **To view simulation plans:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.

3. All simulation plans are displayed, showing for each the number of visits in the plan, and if the plan is set to primary. Plan names may be changed, but must remain unique.
4. To view the visits within a plan, select the plan and click on the View Plan button

## Creating a New Simulation Plan

### **Prerequisites:**

There must be a primary plan in the database. At least one visit associated to the primary plan must exist in the database.

### **To create a new simulation plan:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click Add More Rows to add several rows to the table. Enter information in the provided fields according to plans you wish to add.
4. Click Apply to save the changes to the database.
5. Click Cancel to return to the previous page.

## Deleting a Simulation Plan

### **Prerequisites:**

There must be a primary plan in the database. A non-primary plan with a visit and at least one visit associated to the primary plan must exist in the database.

### **To delete a simulation plan:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.

3. Click the Select button next to the simulation plan you want to delete.
4. Click on the Delete button. If the Simulation Plan is not the Primary Plan, it is deleted.

## Adding Visits to a Simulation Plan

### **Prerequisites:**

A primary plan, a non-primary plan with a visit, and at least one visit associated to the primary plan must exist in the database.

### **To add a visit to a simulation plan:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click the Select button next to the simulation plan to which you want to add a visit.
4. Click the View Plan button. The View Simulation Plan page appears.
5. Click the Select button next to the visit you want to add a visit.
6. Click Add More Rows to add several rows to the table. Enter information in the provided fields according to the visits you wish to add.
7. Click Apply to save the changes to the database.
8. Click Cancel to return to the previous page.

## Deleting a Simulation Visit

### **Prerequisites:**

A primary plan, a non-primary plan with a visit, and at least one visit associated to the primary plan must exist in the database.

**To delete a simulation visit:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click the Select button next to the simulation plan with the visit you want to delete.
4. Click the View Plan button. The View Simulation Plan page appears.
5. Click the Delete icon next to the visit you want to delete. The page refreshes with the visit deleted.

## Setting a Simulation Plan as Primary

**Prerequisites:**

A simulation plan with at least one visit and a primary plan with at least one visit must exist in the database.

**To calculate maintenance requirement due dates:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click the Select button next to the simulation plan you want to set as the primary plan.
4. Click on the Set Plan as Primary button.

## Deleting a Simulation Plan

You can use Unit Maintenance Plan to estimate due dates and any repetitive maintenance requirement for the selected unit.

**Prerequisites:**

A primary plan, a non-primary plan with a visit, and at least one visit associated to the primary plan must exist in the database.

**To delete a simulation plan:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click the Delete icon next to the plan you want to delete. The page refreshes with the plan deleted.

## Copying a Visit to a New Simulation Plan

**Prerequisites:**

A primary plan with at least one visit and a simulated plan must exist in the database. Visits may only be added to non-primary plans from Long Term Plan.

**To copy a visit to a new simulation plan:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Simulations sub tab to bring up the Simulations Plan page.
3. Click the Select button next to the simulation plan with the visit you want to copy.
4. Click the View Plan button. The View Simulation Plan page appears.
5. Click the Select button next to the visit you want to copy, then click the Copy to a New Plan button. The Copy to a New Plan page appears. The visit and space information for that visit is displayed.
6. Select the plan you want to copy the visit to from the Simulation plan pull-down menu
7. Click Apply to save the changes to the database.

8. Click Cancel to return to the previous page.

## Running Resource Leveling Plans

Long Term Plan allows you to assess resources associated with the maintenance requirements of scheduled visits against the capacity of maintenance locations. Ideally, a certain percentage of maintenance capacity is kept free to allow for nonroutine maintenance needs. The resource leveling feature of Long Term Plan identifies shortcomings in your plan so that you can reschedule a visit or adjust it in Visit Work Package in order to better utilize available resources. Running resource leveling on different simulation plans allows you to identify the best plan with regards to resource capacity.

Resource leveling takes task level department assignments into consideration. Resource leveling procedure allows you to filter and display only those required resources that exceed a defined level of capacity. Keep in mind that as a result, the full set of procedures are run at the beginning of the process, as opposed to being inserted into each resource requirement before making the leveling calculations.

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**Note:** Resource leveling can display only those required resources that exceed a defined level of capacity. This means that the full set of procedures must now be run at the beginning of the process, as opposed to the previous function that drilled into each resource requirement before making these calculations. Enter a value in the Required Capacity field to set the reserve level.

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The resource leveling procedure allows you to easily identify where a potential problem exists with regards to conflicts or shortages in available resources. When planning visits, a scheduler needs to be able to leave a certain percentage or resources available in anticipation of non-routine maintenance. If the planned requirements consume too much of these resources, the over plan must be changed by either rescheduling entire visits or maintenance requirements within a visit. Setting a reserve with the Required Capacity field resolves this need in Long Term Plan. A resource's unused capacity is defined by summing the required units and dividing that by the number of available units. Available units are the total number of persons or machines minus those that are not available due to other assignments.

Results in Resource Leveling can be filtered to display only those required resources that exceed a defined level of capacity.

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**Note:** Resource leveling can only be done for one organization and simulation plan at a time.

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**Prerequisites:**

A visit with tasks associated to a maintenance requirement from Fleet Maintenance Program, and a route from Route Management must exist in the database.

**To run resource leveling:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, select the Planning Global button. The Search Unit Maintenance Plan page of the Unit Maintenance Plan module appears.
2. Click on the Long Term Planning tab, then select the Resource Levelling sub tab to bring up the Select Resource Leveling Criteria page.
3. Enter values in the fields provided. Department selection is optional, which allows you to view the resources for one department or for the selected simulation plan across many departments. For tasks without a department association, the visit's department is substituted. Asterisks indicate mandatory fields. For field descriptions, see Fields on the Select Resource Leveling Criteria Page.
4. Click Go. The lower half of the page displays all of the spaces matching the search criteria you provided.
5. Click the Select button next to the visit you want more information on, and click View Resources.
6. The Resource Availability page appears. Select the resource you want more information on, then click View Details.
7. The Resource Consumption Details page appears. Select the Visit or task column to edit the respective visit or task in Visit Work Package.

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## Production Planning

In the maintenance, repair, and overhaul industry, it is necessary to identify, perform, and track maintenance execution to form a complete history of an unit while maintaining the units condition to ensure service availability and capturing the costs associated with the maintenance execution. While maintaining the unit it is necessary to identify defects, the corrective action steps, material, and resource requirements as well as charging resources, performing material transactions, and maintaining the quality for a job. This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Production Planning module. The chapter provides process-oriented, task based procedures for using the application.

See:

- Working With Jobs
  - Finding Jobs and Visits
  - Viewing Job and Operation Dependencies
  - Editing Job Operations
  - Releasing Jobs to Production
- Editing Material Requirements
- Working With Resource Requirements
  - Viewing Resource Requirements
  - Editing Resource Requirements
- Working With Resource Assignments
  - Viewing Resource Assignments
  - Editing Resource Assignments

## What is Production Planning?

Production Planning is an Oracle Complex Maintenance, Repair and Overhaul module designed for the execution of Routine Tasks and Maintenance Requirements associated with a Visit and creation and execution of Non-Routine Tasks for a Visit. The Production module supports the execution of the tasks against an Install Base Tracked Item.

## Key Business Processes

The Production Planning module of Oracle Complex Maintenance, Repair, and Overhaul supports the following business processes:

**Search for Routine and Non-Routine Jobs** After a Routine Job or Non-Routine Job is created, the Job or Service Request can be selected from the results of a search using the desired filtering elements.

**Create Jobs from visit tasks for Scheduled, Unscheduled, and Convenience maintenance** Jobs are created through the Production API when the tasks are pushed to Production from Visit Work Package or when a Service Request, from Oracle Complex Maintenance, Repair, and Overhaul Production, is created in a Visit where the tasks have been pushed to Production.

**Create Service Requests to track reported problems** Service Requests are created when an item has a service difficulty, requiring an action to address the issue. During the Service Request creation a Visit Task is created and a job is create if the Visit's Tasks have been pushed to Production. The Service Request creation will also be generated when an Install Base tracked item is returned or removed in the Unserviceable or MRB condition.

**Create Operations to Non-Routine Jobs for work definition and tracking** For Non-Route based jobs the user is allowed to create operations to describe the steps required to correct the service difficulty. For Route based jobs the operation steps are created from the definition in Route Management including the associated material and resource requirements that are valid for the execution organization.

**Maintain Jobs** The user maintains the job by adjusting the schedule, the status, completing, deferring, and selecting the actual start and end for a job. In addition, the user can select if the job is confirming the jobs necessity by selecting the confirmed failure flag. When a job is completed it triggers a check to determine if the job is the last as part of a maintenance requirement. If the job was the last job to

be completed for a maintenance requirement, the counters are reset as defined by Fleet Maintenance Program and Unit Maintenance Plan is updated to reflect the maintenance requirement is complete.

**Maintain Operations** The user maintains the operations by updating the operations, adding, removing, or updating the material and resource requirements, captures costs by Charging Resources, Issuing, and Returning Materials, viewing the resource assignments, recording part changes, and completing the operations.

**Maintain Quality** Quality is maintained using the Route setup from Route Management for the Job and Operation compliance and from the profile options for Non-Routine Job and Operation compliance, Job Deferral, MRB part disposition support, and by capturing counter readings at the job completion. The quality results are captured based on the setup storing them in Oracle Quality.

## Fields Associated with Production Planning

The following sections provide descriptions of fields appearing on each Production Planning page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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### Fields on the Create Service Request Page

The following fields appear on the Create Service Request Page:

**Report Type** The default Service Request type setup in the AHL Profile Options.

**Report By Type** The reporting type related to the Name.

**Name** The name of the reporting entity defaulted from the AHL Profile Option Default SR Customer Name.

**Contact Type** The type associated to the Contact.

**Contact** The entity to contact in reference to the Service Request

**Date** The date the Service difficulty is reported against.

**Status** The current status of the Service Request defaulted from the AHL Profile Option Default SR Status.

**Severity** The Severity of the Service Request defaulted from the AHL Profile Option Default SR Severity and is formed from the common listing defined using the EAM Activity Priority and the Service Request Severities.

**Urgency** The urgency in which the Service Request needs to be addressed.

**Origination Visit** The visit associated with the originating Job.

**Origination Task** The Task number associated with the Job the Service Request is being generated from.

**Target Visit** The Visit in which the Task will be placed upon creation.

**Part Number** The part number of the item for which the Service Request will be created.

**Instance Number** The Install Base Instance Number of the tracked item for which the Service Request will be created.

**Serial Number** The serial number, if serial controlled, of the tracked item for which the Service Request will be created.

**Lot** The Lot Number, if Lot controlled, of the tracked item for which the Service Request will be created.

**Summary** The summary of the service difficulty being reported.

**Estimated Duration** The estimated hours it will take to resolve the service difficulty defaulted from the AHL Profile Option Default Estimated Duration.

**Problem Code** The code associated with the problem being reported or resolved.

**Resolution Code** The code associated with the resolution of the service difficulty.

## Fields on the Job Overview Page

The following fields appear on the Job Overview Page:

**Organization** The organization name.

**Department** The department name.

**Department Class** The class of department. Commonly used to distinguish Vendor class department for outside processing.

**Item** The tracked item for which the job has been created against.

**Serial Number** Enter the serial number if you want to display the jobs that are for a specific serialized part.

**Visit Number** The number generated for a visit.

**Task Number** The number generated for a task within a specific visit.

**Unit Name** The name used to distinguish a configuration defined in Unit Configuration.

**Start Date** The scheduled start date from which to begin the search.

**Job Number** The name generated for a job.

**Project** The project name associated with the job from Visit Work Package.

**Project Task** The project task name associated with the visit task and the job.

**Accounting Class** The maintenance type accounting class name.

**Priority** The priority of the job.

**Confirmed Failure** Used to search for jobs in which the user validated the justified need for the job to be executed.

**Job Status** The current status of a job.

**Service Request** The service request incident number for which a job was generated.

**End Date** The scheduled end date for which you want to limit the job search.

## Fields on the Update Service Request Page

The following fields appear on the Update Service Request Page:

**Contact Type** The type associated to the Contact.

**Contact** The entity to contact in reference to the Service Request

**Status** The current status of the Service Request defaulted from the AHL Profile Option Default SR Status.

**Urgency** The urgency in which the Service Request needs to be addressed.

**Problem Code** The code associated with the problem being reported or resolved.

**Resolution Code** The code associated with the resolution of the service difficulty.

## Fields on the Configuration Part Changes or Item Part Changes Page

The following fields appear on the Configuration Part Changes or Item Part Changes Pages:

**Operation Seq** The jobs operation sequence number on which the Remove, Replace, or Install / Add Component is to be performed.

**Estimated Duration** The time in hours that it is estimated to correct the service difficulty if removing in either the condition associated with unserviceable or MRB parts which generates a Service Request.

**Condition** The condition of the part being removed.

**Subinventory** The subinventory, if desired, to return the part.

**Locator** The locator within the subinventory to return the part, required if locator controlled.

**Reason** The reason code for the part being removed.

**Removal Date** The date the removal was performed.

**Problem Code** The code associated with the problem being reported or resolved.

**Severity** The severity of the service difficulty, if the part is being removed in the unserviceable or MRB condition.

**Summary** The summary of the service difficulty, if the part is being removed in the unserviceable or MRB condition.

**Part Number** The part number of the Item being installed.

**Instance Number** The Install Base Instance Number of the part being installed.

**Installation Date** The date the part was installed.

## Fields on the Job Operations Page for the Job Details

The following fields appear on the Job Operations Page:

**Department** The department owning or responsible for the Job.

**Job Status** The current status for the Job.

**Completion Sub Inventory** The subinventory to complete the Item, if the Item is to be issued to the Job.

**Locator** The locator within the subinventory to complete the Item, if the Item is under locator control and the Item is to be issued to the Job.

**Confirmed Failure** The indicator for the job to show if the user has confirmed the justification / necessity for the job.

**Scheduled Job Start Date** The date for which the job is scheduled to start.

**Scheduled Job Start Time** The time of day the job is scheduled to start.

**Scheduled Job End Date** The date for which the job is scheduled to end.

**Scheduled Job End Time** The time of day the job is scheduled to end.

**Actual Job Start Date** The date for which the job is scheduled to start. Required to complete or defer the job.

**Actual Job Start Time** The time of day the job is scheduled to start. Required to complete or defer the job.

**Actual Job End Date** The date for which the job is scheduled to end. Required to complete or defer the job.

**Actual Job End Time** The time of day the job is scheduled to end. Required to complete or defer the job.

## Fields on the Job Operations Page for the Operations

The following fields appear on the Job Operations Page:

**Operation Sequence** The jobs operation sequence number. Required on Creation.

**Operation Code** The standardized code for an operation. Selectable on a non-route based job, if the operation description has not been defined.

**Operation Description** The description of the work to be performed on an operation.

**Actual Start Date** The date for which the operation is scheduled to start. Required to complete an operation.

**Actual End Date** The date for which the operation is scheduled to end. Required to complete an operation.

**Scheduled Start Date** The date for which the operation is scheduled to start. Required on Creation.

**Scheduled End Date** The date for which the operation is scheduled to end. Required on Creation.

**Department** The department in which the operation is to be performed.

**Operation Status** The current status for the Operation.

## Fields on the Operation Detail Page

The following fields appear on the Operation Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Operation Code** The standardized code for an operation. Selectable on a non-route based job, if the operation description has not been defined.

**Operation Type** The type of operation being performed.

**Operation Description** The description of the work to be performed on an operation.

**Actual Start Date** The date for which the operation is scheduled to start. Required to complete an operation.

**Actual End Date** The date for which the operation is scheduled to end. Required to complete an operation.

**Scheduled Start Date** The date for which the operation is scheduled to start.

**Scheduled End Date** The date for which the operation is scheduled to end.

**Department** The department in which the operation is to be performed.

**Operation Status** The current status for the Operation.

## Fields on the Update Material Requirements Page

The following fields appear on the Update Material Requirements Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The Item Number for the requirement.

**Description** The Description of the Item defined.

**Required Quantity** The quantity desired for the requirement.

**Scheduled Quantity** The quantity scheduled by the Long Term Plan.

**UOM** The unit of measure for the Item's quantity.

**Required Date** The date the requirement is expected.

**Scheduled Date** The date the quantity is scheduled by Long Term Plan.

## Fields on the Material Requirement Detail Page

The following fields appear on the Material Requirement Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Operation Code** The standardized operation code, if selected.

**Item** The Item Number for the requirement.

**Description** The Description of the Item defined.

**Required Quantity** The quantity desired for the requirement.

**Scheduled Quantity** The quantity scheduled by the Long Term Plan.

**UOM** The unit of measure for the Item's quantity.

**MRP Net** If the Item is to be netted by MRP.

**Required Date** The date the requirement is expected.

**Scheduled Date** The date the quantity is scheduled by Long Term Plan.

## Fields on the Update Resource Requirements Page

The following fields appear on the Update Resource Requirements Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource Type** The type of resource requirement.

**Resource** The resource name within the operations department.

**Duration** The length of time required.

**UOM** The unit of measure for the time required.

**Quantity** The quantity of resources required.

**Start Date** The start date for the resource.

**End Date** The end date for the resource.

## Fields on the Resource Requirement Detail Page

The following fields appear on the Resource Requirement Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource Type** The type of resource requirement.

**Resource** The resource name within the operations department.

**Duration** The length of time required.

**UOM** The unit of measure for the time required.

**Quantity** The quantity of resources required.

**Total Required** The Duration times the Quantity.

**Applied** The duration of the resource charged to date.

**Open** The duration of the resource difference between the Total Required and the Applied amount.

**Charge Type** The expected method of charging the resource.

**Standard Rate** Determines if the resource is to be charged at the standardized rate.

**Basis** Provides the basis for determining the resource requirement.

**Operation Start Time** The date for which the operation is scheduled to start.

**Operation End Time** The date for which the operation is scheduled to end.

**Start Date** The start date for the resource.

**End Date** The end date for the resource.

## Fields on the Resource Assignments Page

The following fields appear on the Resource Assignments Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Operation Status** The status of the operation.

**Operation Start Time** The date for which the operation is scheduled to start.

**Operation End Time** The date for which the operation is scheduled to end.

**Resource Type** The type of resource requirement.

**Employee Number** The number assigned to identity the employee.

**Employee Name** The full name of the employee.

**Serial Number** The Serial Number used non-person type resources.

**Start Date** The start date for the assignment.

**End Date** The end date for the assignment.

## Fields on the Perform Resource Transactions Page

The following fields appear on the Perform Resource Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource** The resource name within the operations department.

**Department** The department within the organization to be charged.

**Employee** The employee number to be charged.

**Quantity** The quantity of resources to be charged.

**UOM** The unit of measure for the quantity to be charged.

**Activity** Not currently supported do not select.

**Reason** The reason for charging the resource.

**Reference** User defined reference information.

## Fields on the Perform Material Transactions Page for WIP Component Issue

The following fields appear on the Perform Material Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The item number to be transacted.

**Description** The description of the item to be transacted.

**Serial Number** The item serial number, if serial controlled, to be transacted.

**Lot** The item lot number, if lot controlled, to be transacted.

**Revision** The item revision, if revision controlled, to be transacted.

**Open** The quantity difference between the material requirement and the transacted quantity.

**Required Quantity** The quantity to be transacted.

**UOM** The unit of measure for the quantity to be transacted.

**Condition** The condition of the part to be transacted.

**On Hand** The quantity in the subinventory selected for the item to be transacted.

**SubInventory** The subinventory for which the item is to be transacted.

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**Note:** The Subinventory status and the items condition must match.

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**Locator** The locator for which the item is to be transacted, if under locator control.

## Fields on the Perform Material Transactions Page for WIP Component Return

The following fields appear on the Perform Material Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The item number to be transacted.

**Description** The description of the item to be transacted.

**Serial Number** The item serial number, if serial controlled, to be transacted.

**Lot** The item lot number, if lot controlled, to be transacted.

**Revision** The item revision, if revision controlled, to be transacted.

**Required Quantity** The quantity to be transacted.

**UOM** The unit of measure for the quantity to be transacted.

**Condition** The condition of the part to be transacted.

**On Hand** The quantity in the subinventory selected for the item to be transacted.

**SubInventory** The subinventory for which the item is to be transacted.

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**Note:** The Subinventory status and the items condition must match.

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**Locator** The locator for which the item is to be transacted, if under locator control.

**Reason** The Reason code for the item is being returned.

**Problem Code** The code associated with the problem being reported or resolved, if returning a part in the Unserviceable or MRB profile option statuses. The problem code is used in the automated Service Request generation.

**QA Results** Select to enter quality results, if returning a part to an MRB subinventory.

**Summary** The service difficulty summary for the item being returned. The summary is used in the automated Service Request generation.

## Working With Jobs

See:

- Finding Jobs and Visits
- Viewing Job and Operation Dependencies
- Editing Job Operations
- Releasing Jobs to Production

Also see *Creating a Job or Service Request* and *Maintaining a Job or Service Request in Production*.

## Finding Jobs and Visits

### **Prerequisites:**

A visit or job must exist in the database.

### **To find a visit or job:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**.
3. Select the visit/job you are looking for from the Job List Results.

## Viewing Job and Operation Dependencies

### **Prerequisites:**

A visit or job must exist in the database.

**To view job and operation dependencies:**

1. Find the job or operation you want to view dependencies for. See Finding Jobs and Visits.
2. Click the Job number you want to view from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Make any necessary changes and click **Apply**. Click **Cancel** to cancel any changes and return to the previous page.

## Editing Job Operations

**Prerequisites:**

A job with associated operations must exist in the database.

**To edit a job operation:**

1. Find the job with the operation you want to edit. See Finding Jobs and Visits.
2. Click the desired job number from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Make any necessary changes to the items displayed. To add operations to the Operations list, click **Add More Rows**.
5. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

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**Note:** QA Results are entered for operations with associated QA Plans.

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**Note:** You cannot edit the operation code or description if it is already completed or is from a route.

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## Releasing Jobs to Production

### Prerequisites:

A visit or job with a status of released must exist in the database.

### To release a job to production:

1. Find the job you want to release to production. See Finding Jobs and Visits.
2. Select the job you want to release and click **Release Job**.

## Editing Material Requirements

### Prerequisites:

A visit or job must exist in the database.

### To edit material requirements:

1. Find the job or operation you want to edit. See Finding Jobs and Visits.
2. Click the Job number with the material assignment you want to edit from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Select Materials from the left-hand navigation panel. The Update Material Requirements page appears.
5. Make any necessary changes to the items displayed in the Material Requirements list. To add materials, click **Add More Rows**.
6. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

See Updating Material Requirements in Production.

## Working With Resource Requirements

See:

- Viewing Resource Requirements
- Editing Resource Requirements

Also see [Updating Resource Requirements in Production](#).

## Viewing Resource Requirements

### Prerequisites:

A visit or job with associated resources must exist in the database.

### To view resource requirements for a job:

1. Find the job or operation you want to view dependencies for. See [Finding Jobs and Visits](#).
2. Click the Job number you want to view from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Select Resources from the left-hand navigation panel. The Resource Requirements page appears.
5. Make any necessary changes to the items displayed in the Resource Requirement list. To add requirements, click **Add More Rows**.
6. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

## Editing Resource Requirements

### Prerequisites:

A visit or job with associated requirements must exist in the database.

### To edit resource requirements and view summaries and details:

1. Find the job or operation you want to edit. See [Finding Jobs and Visits](#).
2. Click the Job number with the resource you want to edit from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Select Resources from the left-hand navigation panel. The Resource Requirements page appears.

5. Make any necessary changes to the items displayed in the Resource Requirement list. To add requirements, click **Add More Rows**.
6. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

## Working With Resource Assignments

See:

- Viewing Resource Assignments
- Editing Resource Assignments
- Also see Updating Resource Assignments in Production.

### Viewing Resource Assignments

#### **Prerequisites:**

A job with associated assignments must exist in the database.

#### **To view a resource assignment:**

1. Find the job you want to view assignments for. See Finding Jobs and Visits.
2. Click the Job number you want to view from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Select Assignments from the left-hand navigation panel. The Resource Assignments page appears.
5. Make any necessary changes to the items displayed in the Resource Assignment list. To add assignments, click **Add More Rows**.
6. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

### Editing Resource Assignments

#### **Prerequisites:**

A visit or job must exist in the database.

**To edit resource assignments:**

1. Find the job with the assignments you want to edit. See Finding Jobs and Visits.
2. Click the desired job number from the Job List Results.
3. The Job Operations page appears displaying the relevant information for that job.
4. Select Assignments from the left-hand navigation panel. The Resource Assignments page appears.
5. Make any necessary changes to the items displayed in the Resource Assignment list. To add assignments, click **Add More Rows**.
6. Click **Apply** to save your changes; click **Cancel** to cancel changes and return to the Job Overview page.

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## Working with Production

In the maintenance, repair, and overhaul industry, it is necessary to identify, perform, and track maintenance execution to form a complete history of an unit while maintaining the units condition to ensure service availability and capturing the costs associated with the maintenance execution. While maintaining the unit it is necessary to identify defects, the corrective action steps, material, and resource requirements as well as charging resources, performing material transactions, and maintaining the quality for a job.

This chapter discusses the key features supported by the Oracle Complex Maintenance, Repair, and Overhaul Production module.

See:

- Creating a Job or Service Request
  - Push to Production from Visit Work Package
  - Initiate Service Requests from a Material Transaction
  - Initiate Service Requests from a Parts Change Transaction
  - Initiate Service Requests against Existing Jobs
  - Searching for a Job or Service Request
- Maintaining a Job or Service Request
  - Releasing Jobs
  - Completing Jobs
  - Deferring Jobs
  - Entering QA Results for a Job
  - Updating Existing Service Requests

- Performing Part Changes
- Updating Job Details
- Creating Operations on non-route based Jobs
- Updating Operations
- Updating Operation Details
- Completing Operations
- Entering QA results for an Operation
- Updating Material Requirements
- Updating Material Requirement Details
- Updating Resource Requirements
- Updating Resource Requirement Details
- Updating Resource Assignments
- Charging Resources
- Working with Material Transactions
  - Issuing and Returning Parts to a Job
  - Entering QA results for an Material Transaction
- Quality Collection Plans Setup

## What is Production?

Production is an Oracle Complex Maintenance, Repair and Overhaul module designed for the execution of Routine Tasks and Maintenance Requirements associated with a Visit and creation and execution of Non-Routine Tasks for a Visit. The Production module supports the execution of the tasks against an Install Base Tracked Item.

## What is a Routine Task?

A Routine task is a job that has been generated from a predefined Route setup in Route Management which may be part of a Maintenance Requirement defined in Fleet Maintenance Program. If defined through a Maintenance Requirement it may have a schedule and due date as defined by Unit Maintenance Plan. The task has been associated with a maintenance visit in Visit Work Package and released to

Production, optionally scheduled by Long Term Plan, and optionally has resources scheduled by Production Planning.

## What is a Non-Routine Task?

A Non-Routine Task consists of a Service Request, which tracks the defect or problem statement, and a Job that tracks the steps required to resolve the Service Request. It may have additional Routine Routes associated with it in Visit Work Package to support the resolution of the Service Request. A Non-Routine Task is generated in the production environment, associated with a maintenance visit, and optionally has resources scheduled by Production Planning. A Non-Routine job is a dynamically created work definition including operation creation, material requirement definition, and the resource requirement definition required to perform the job.

## Key Business Processes

The Production module of Oracle Complex Maintenance, Repair, and Overhaul supports the following business processes:

**Search for Routine and Non-Routine Jobs** After a Routine Job or Non-Routine Job is created, the Job or Service Request can be selected from the results of a search using the desired filtering elements.

**Create Jobs from visit tasks for Scheduled, Unscheduled, and Convenience maintenance** Jobs are created in Production when the tasks are pushed to Production from Visit Work Package or when a Service Request, from Oracle Complex Maintenance, Repair, and Overhaul Production, is created in a Visit where the tasks have been pushed to Production.

**Create Service Requests to track reported problems** Service Requests are created when an item has a service difficulty, requiring an action to address the issue. During the Service Request creation a Visit Task is created and a job is created if the Visit's Tasks have been pushed to Production. The Service Request creation will also be generated when an Install Base tracked item is returned or removed in the Unserviceable or MRB condition.

**Create Operations to Non-Routine Jobs for work definition and tracking** For Non-Route based jobs the user is allowed to create operations to describe the steps required to correct the service difficulty. For Route based jobs the operation steps

are created from the definition in Route Management including the associated material and resource requirements that are valid for the execution organization.

**Maintain Jobs** The user maintains the job by adjusting the schedule, the status, completing, deferring, and selecting the actual start and end for a job. In addition, the user can select if the job is confirming the jobs necessity by selecting the confirmed failure flag. When a job is completed it triggers a check to determine if the job is the last as part of a maintenance requirement. If the job was the last job to be completed for a maintenance requirement, the counters are reset as defined by Fleet Maintenance Program and Unit Maintenance Plan is updated to reflect the maintenance requirement is complete.

**Maintain Operations** The user maintains the operations by updating the operations, adding, removing, or updating the material and resource requirements, captures costs by Charging Resources, Issuing, and Returning Materials, viewing the resource assignments, recording part changes, and completing the operations.

**Maintain Quality** Quality is maintained using the Route setup from Route Management for the Job and Operation compliance and from the profile options for Non-Routine Job and Operation compliance, Job Deferral, MRB part disposition support, and by capturing counter readings at the job completion. The quality results are captured based on the setup storing them in Oracle Quality.

## Fields Associated with Production

The following sections provide descriptions of fields appearing on each Production page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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## Fields on the Create Service Request Page

The following fields appear on the Create Service Request Page:

**Report Type** The default Service Request type setup in the AHL Profile Options.

**Report By Type** The reporting type related to the Name.

**Name** The name of the reporting entity defaulted from the AHL Profile Option Default SR Customer Name.

**Contact Type** The type associated to the Contact.

**Contact** The entity to contact in reference to the Service Request

**Date** The date the Service difficulty is reported against.

**Status** The current status of the Service Request defaulted from the AHL Profile Option Default SR Status.

**Severity** The Severity of the Service Request defaulted from the AHL Profile Option Default SR Severity and is formed from the common listing defined using the EAM Activity Priority and the Service Request Severities.

**Urgency** The urgency in which the Service Request needs to be addressed.

**Origination Visit** The visit associated with the originating Job.

**Origination Task** The Task number associated with the Job the Service Request is being generated from.

**Target Visit** The Visit in which the Task will be placed upon creation.

**Part Number** The part number of the item for which the Service Request will be created.

**Instance Number** The Install Base Instance Number of the tracked item for which the Service Request will be created.

**Serial Number** The serial number, if serial controlled, of the tracked item for which the Service Request will be created.

**Lot** The Lot Number, if Lot controlled, of the tracked item for which the Service Request will be created.

**Summary** The summary of the service difficulty being reported.

**Estimated Duration** The estimated hours it will take to resolve the service difficulty defaulted from the AHL Profile Option Default Estimated Duration.

**Problem Code** The code associated with the problem being reported or resolved.

**Resolution Code** The code associated with the resolution of the service difficulty.

## Fields on the Job Overview Page

The following fields appear on the Job Overview Page:

**Organization** The organization name.

**Department** The department name.

**Department Class** The class of department. Commonly used to distinguish Vendor class department for outside processing.

**Item** The tracked item for which the job has been created against.

**Serial Number** Enter the serial number if you want to display the jobs that are for a specific serialized part.

**Visit Number** The number generated for a visit.

**Task Number** The number generated for a task within a specific visit.

**Unit Name** The name used to distinguish a configuration defined in Unit Configuration.

**Start Date** The scheduled start date from which to begin the search.

**Job Number** The name generated for a job.

**Project** The project name associated with the job from Visit Work Package.

**Project Task** The project task name associated with the visit task and the job.

**Accounting Class** The maintenance type accounting class name.

**Priority** The priority of the job.

**Confirmed Failure** Used to search for jobs in which the user validated the justified need for the job to be executed.

**Job Status** The current status of a job.

**Service Request** The service request incident number for which a job was generated.

**End Date** The scheduled end date for which you want to limit the job search.

## Fields on the Update Service Request Page

The following fields appear on the Update Service Request Page:

**Contact Type** The type associated to the Contact.

**Contact** The entity to contact in reference to the Service Request

**Status** The current status of the Service Request defaulted from the AHL Profile Option Default SR Status.

**Urgency** The urgency in which the Service Request needs to be addressed.

**Problem Code** The code associated with the problem being reported or resolved.

**Resolution Code** The code associated with the resolution of the service difficulty.

## Fields on the Configuration Part Changes or Item Part Changes Page

The following fields appear on the Configuration Part Changes or Item Part Changes Pages:

**Operation Seq** The jobs operation sequence number on which the Remove, Replace, or Install / Add Component is to be performed.

**Estimated Duration** The time in hours that it is estimated to correct the service difficulty if removing in either the condition associated with unserviceable or MRB parts which generates a Service Request.

**Condition** The condition of the part being removed.

**Subinventory** The subinventory, if desired, to return the part.

**Locator** The locator within the subinventory to return the part, required if locator controlled.

**Reason** The reason code for the part being removed.

**Removal Date** The date the removal was performed.

**Problem Code** The code associated with the problem being reported or resolved.

**Severity** The severity of the service difficulty, if the part is being removed in the unserviceable or MRB condition.

**Summary** The summary of the service difficulty, if the part is being removed in the unserviceable or MRB condition.

**Part Number** The part number of the Item being installed.

**Instance Number** The Install Base Instance Number of the part being installed.

**Installation Date** The date the part was installed.

## Fields on the Job Operations Page for the Job Details

The following fields appear on the Job Operations Page:

**Department** The department owning or responsible for the Job.

**Job Status** The current status for the Job.

**Completion Sub Inventory** The subinventory to complete the Item, if the Item is to be issued to the Job.

**Locator** The locator within the subinventory to complete the Item, if the Item is under locator control and the Item is to be issued to the Job.

**Confirmed Failure** The indicator for the job to show if the user has confirmed the justification / necessity for the job.

**Scheduled Job Start Date** The date for which the job is scheduled to start.

**Scheduled Job Start Time** The time of day the job is scheduled to start.

**Scheduled Job End Date** The date for which the job is scheduled to end.

**Scheduled Job End Time** The time of day the job is scheduled to end.

**Actual Job Start Date** The date for which the job is scheduled to start. Required to complete or defer the job.

**Actual Job Start Time** The time of day the job is scheduled to start. Required to complete or defer the job.

**Actual Job End Date** The date for which the job is scheduled to end. Required to complete or defer the job.

**Actual Job End Time** The time of day the job is scheduled to end. Required to complete or defer the job.

## Fields on the Job Operations Page for the Operations

The following fields appear on the Job Operations Page:

**Operation Sequence** The jobs operation sequence number. Required on Creation.

**Operation Code** The standardized code for an operation. Selectable on a non-route based job, if the operation description has not been defined.

**Operation Description** The description of the work to be performed on an operation.

**Actual Start Date** The date for which the operation is scheduled to start. Required to complete an operation.

**Actual End Date** The date for which the operation is scheduled to end. Required to complete an operation.

**Scheduled Start Date** The date for which the operation is scheduled to start. Required on Creation.

**Scheduled End Date** The date for which the operation is scheduled to end. Required on Creation.

**Department** The department in which the operation is to be performed.

**Operation Status** The current status for the Operation.

## Fields on the Operation Detail Page

The following fields appear on the Operation Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Operation Code** The standardized code for an operation. Selectable on a non-route based job, if the operation description has not been defined.

**Operation Type** The type of operation being performed.

**Operation Description** The description of the work to be performed on an operation.

**Actual Start Date** The date for which the operation is scheduled to start. Required to complete an operation.

**Actual End Date** The date for which the operation is scheduled to end. Required to complete an operation.

**Scheduled Start Date** The date for which the operation is scheduled to start.

**Scheduled End Date** The date for which the operation is scheduled to end.

**Department** The department in which the operation is to be performed.

**Operation Status** The current status for the Operation.

## Fields on the Update Material Requirements Page

The following fields appear on the Update Material Requirements Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The Item Number for the requirement.

**Description** The Description of the Item defined.

**Required Quantity** The quantity desired for the requirement.

**Scheduled Quantity** The quantity scheduled by the Long Term Plan.

**UOM** The unit of measure for the Item's quantity.

**Required Date** The date the requirement is expected.

**Scheduled Date** The date the quantity is scheduled by Long Term Plan.

## Fields on the Material Requirement Detail Page

The following fields appear on the Material Requirement Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Operation Code** The standardized operation code, if selected.

**Item** The Item Number for the requirement.

**Description** The Description of the Item defined.

**Required Quantity** The quantity desired for the requirement.

**Scheduled Quantity** The quantity scheduled by the Long Term Plan.

**UOM** The unit of measure for the Item's quantity.

**MRP Net** If the Item is to be netted by MRP.

**Required Date** The date the requirement is expected.

**Scheduled Date** The date the quantity is scheduled by Long Term Plan.

## Fields on the Update Resource Requirements Page

The following fields appear on the Update Resource Requirements Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource Type** The type of resource requirement.

**Resource** The resource name within the operations department.

**Duration** The length of time required.

**UOM** The unit of measure for the time required.

**Quantity** The quantity of resources required.

**Start Date** The start date for the resource.

**End Date** The end date for the resource.

## Fields on the Resource Requirement Detail Page

The following fields appear on the Resource Requirement Detail Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource Type** The type of resource requirement.

**Resource** The resource name within the operations department.

**Duration** The length of time required.

**UOM** The unit of measure for the time required.

**Quantity** The quantity of resources required.

**Total Required** The Duration times the Quantity.

**Applied** The duration of the resource charged to date.

**Open** The duration of the resource difference between the Total Required and the Applied amount.

**Charge Type** The expected method of charging the resource.

**Standard Rate** Determines if the resource is to be charged at the standardized rate.

**Basis** Provides the basis for determining the resource requirement.

**Operation Start Time** The date for which the operation is scheduled to start.

**Operation End Time** The date for which the operation is scheduled to end.

**Start Date** The start date for the resource.

**End Date** The end date for the resource.

## Fields on the Resource Assignments Page

The following fields appear on the Resource Assignments Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Operation Status** The status of the operation.

**Operation Start Time** The date for which the operation is scheduled to start.

**Operation End Time** The date for which the operation is scheduled to end.

**Resource Type** The type of resource requirement.

**Employee Number** The number assigned to identity the employee.

**Employee Name** The full name of the employee.

**Serial Number** The Serial Number used non-person type resources.

**Start Date** The start date for the assignment.

**End Date** The end date for the assignment.

## Fields on the Perform Resource Transactions Page

The following fields appear on the Perform Resource Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Resource Sequence** The sequence number for the resource within an operation.

**Resource** The resource name within the operations department.

**Department** The department within the organization to be charged.

**Employee** The employee number to be charged.

**Quantity** The quantity of resources to be charged.

**UOM** The unit of measure for the quantity to be charged.

**Activity** Not currently supported do not select.

**Reason** The reason for charging the resource.

**Reference** User defined reference information.

## Fields on the Perform Material Transactions Page for WIP Component Issue

The following fields appear on the Perform Material Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The item number to be transacted.

**Description** The description of the item to be transacted.

**Serial Number** The item serial number, if serial controlled, to be transacted.

**Lot** The item lot number, if lot controlled, to be transacted.

**Revision** The item revision, if revision controlled, to be transacted.

**Open** The quantity difference between the material requirement and the transacted quantity.

**Required Quantity** The quantity to be transacted.

**UOM** The unit of measure for the quantity to be transacted.

**Condition** The condition of the part to be transacted.

**On Hand** The quantity in the subinventory selected for the item to be transacted.

**SubInventory** The subinventory for which the item is to be transacted.

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**Note:** The Subinventory status and the items condition must match.

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**Locator** The locator for which the item is to be transacted, if under locator control.

## Fields on the Perform Material Transactions Page for WIP Component Return

The following fields appear on the Perform Material Transactions Page:

**Operation Sequence** The jobs operation sequence number.

**Item** The item number to be transacted.

**Description** The description of the item to be transacted.

**Serial Number** The item serial number, if serial controlled, to be transacted.

**Lot** The item lot number, if lot controlled, to be transacted.

**Revision** The item revision, if revision controlled, to be transacted.

**Required Quantity** The quantity to be transacted.

**UOM** The unit of measure for the quantity to be transacted.

**Condition** The condition of the part to be transacted.

**On Hand** The quantity in the subinventory selected for the item to be transacted.

**SubInventory** The subinventory for which the item is to be transacted.

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**Note:** The Subinventory status and the items condition must match.

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**Locator** The locator for which the item is to be transacted, if under locator control.

**Reason** The Reason code for the item is being returned.

**Problem Code** The code associated with the problem being reported or resolved, if returning a part in the Unserviceable or MRB profile option statuses. The problem code is used in the automated Service Request generation.

**QA Results** Select to enter quality results, if returning a part to an MRB subinventory.

**Summary** The service difficulty summary for the item being returned. The summary is used in the automated Service Request generation.

## Creating a Job or Service Request

Job creation is a multi-step process. First, a visit is pushed to production in Visit Work Package. Next, material return and parts removal transactions are accomplished in Production. Finally, the service request is manually initiated in Production.

See:

- Push to Production from Visit Work Package
- Initiate Service Requests from a Material Transaction
- Initiate Service Requests from a Parts Change Transaction
- Initiate Service Requests against Existing Jobs

Also see *Working With Jobs in Production Planning*, and *Quality Collection Plans Setup*.

### Push to Production from Visit Work Package

Job creation begins when a visit in Visit Work Package is pushed to production.

#### **Prerequisites:**

A visit must exist and be at a planning state where jobs can be pushed to the production.

#### **To push a job to production from Visit Work Package:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Planning**.

2. Select the Visit Work Package tab. The Search Visit page appears.
3. Enter information in the fields for which you know the value then click **Go**.
4. Select the relevant visit and click **Push to Production**.
5. Click **Execution**, then select the Production planning tab. The Job Overview page appears.
6. Enter information in the fields for which you know the value then click **Go**.
7. Select the jobs you want to edit or review.  
See Visit Work Package for more information.

## Initiate Service Requests from a Material Transaction

### Prerequisites:

A job must exist in a released, parts hold, or pending QA status. The associated visit must not be Closed. The default Material Status profile options and the profile options related to Service Requests must be configured. Only one operation should exist for the Job.

### To initiate a service request from a material transaction:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**.
3. Click the Job number you want to initiate the request for from the Job List Results.
4. The Job Operations page appears. Select Materials Transactions from the left-hand navigation panel.
5. The Perform Material Transactions page appears.
6. Select Wip Component Return from Transaction type.
7. Click **Add More Rows** to add line items for the listing.
8. Enter the information required for the Install Base Tracked Item that matches the condition for AHL profile options for the Material Statuses of Unserviceable or MRB. See Working with Material Transactions and Updating Material Requirements.

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**Note:** Any applicable QA results must be entered prior to applying the transaction and the condition and material status assigned to the subinventory must match.

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9. Click **Apply** to initiate the Service Request, Visit Task, and corrective action Job Creation. Click **Revert** to cancel the service request.

## Initiate Service Requests from a Parts Change Transaction

### Prerequisites:

A job must exist in a released, parts hold, or pending QA status. The associated visit must not be Closed. The default Material Status profile options and the profile options related to Service Requests must be configured. Only one operation can exist for the job.

### To initiate a service request from a parts change transaction:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**.
3. Select the job from the from the Job List Results. Click **Part Changes**. The Configuration Parts Change page appears, or if the Item Instance the job is against is not part of an Unit Configuration, the Item Parts Change page appears.
4. Select the item from the left-hand list you want to remove. Note that the top item in the list cannot be removed.
5. Enter the information required for removal of the Install Base Tracked Item that matches the condition for AHL profile options for the Material Statuses of Unserviceable or MRB. See Perform a Material Transaction.

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**Note:** Any applicable QA results must be entered prior to applying the transaction and the condition and material status assigned to the subinventory must match.

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6. Click **Remove** to remove the item. Click **Replace** button to replace the part with another. Both actions will also initiate the Service Request, Visit Task, and the corrective action Job Creation.

## Initiate Service Requests against Existing Jobs

### Prerequisites:

A job with a status of Released, Part Hold, Hold, Pending QA, or Complete must exist in the database. The Service Request Profile Options must be setup. The EAM Activity Priority and Service Request Severities must be configured to match for an available priority.

### To create a service request against an existing job:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**.
3. Select the job from the from the Job List Results. Click **Create Service Request**. The Create Service Request page appears.
4. Enter information in the fields for which you know the value. Click **Apply** to create the Service Request and initiate the visit task and corrective action job creation.

## Searching for a Job or Service Request

Finding a Job or a Service Request related to a job is a basic step in retrieving the jobs to take action against or reviewing previously actioned jobs.

### Prerequisites:

A relevant job must exist in the database.

### To search for a job or service request:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Select the radio button next to a job to initiate an associated action:

- Release a job
  - Completion
  - Defer a job
  - view QA results for,
  - create a service request for, or
  - Make part changes to a job.
4. Click the job number to navigate to the Job Operations page for that job, where you can:
- Edit job operations
  - View operation details
  - Edit materials, resources, and assignments
  - Perform Material Transactions
  - Perform Resource Transactions

## Maintaining a Job or Service Request

Job maintenance involves recording quality information against the job, creating, updating, and viewing service requests against existing jobs.

See:

- Releasing Jobs
- Completing Jobs
- Deferring Jobs
- Entering QA Results for a Job
- Updating Existing Service Requests
- Performing Part Changes
- Updating Job Details
- Creating Operations on non-route based Jobs
- Updating Operations
- Updating Operation Details

- Completing Operations
- Entering QA results for an Operation

Also see *Working With Jobs in Production Planning*, and *Quality Collection Plans Setup*.

## Releasing Jobs

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database.

### **To release a job:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Select the job you want to release and click **Release Job**. Or, click the job number and update the job status to released from the Job Operations page.

## Completing Jobs

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. Any required QA results must be entered. All tracked parts must be returned or installed and all operations must be complete.

### **To complete a job:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Select the job you want to update as complete and click **Complete Job**. Or, click the job number and update the job status to complete from the Job Operations page.

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**Note:** If the job is the final job completed as part of a planned maintenance requirement, the job completion will also complete the maintenance requirement and update the unit's maintenance requirement accomplishment in Unit Maintenance Plan.

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## Deferring Jobs

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. Any required QA results must be entered. All tracked parts must be returned or installed and all operations must be complete.

### **To defer a job:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Select the job you want to update as complete and click **Defer Job**. Or, click the job number and defer the job from the Job Operations page.

## Entering QA Results for a Job

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The Quality Collection plan must be set up and the inspection type associated to the Job Deferral Inspection Type profile option, or with the route header in Route Management, or to the Non-Routine Job Inspection profile option. See Setup Quality Collection Plans.

### **To enter QA results for a job:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.

3. Select the job you want to enter QA results for and click **Job QA Results**. Or, click the job number and update the QA results on the Job Operations page.

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**Note:** QA results fields are custom defined for your installation. However, the base elements required to link the results to the job should not be removed or set as disabled.

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## Updating Existing Service Requests

### **Prerequisites:**

A job must have been initiated by a Service Request Creation and the related Service Request must be open.

### **To Update an existing Service Request:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Select the job you want to update and click **Service Request**. The Service Request page appears.
4. Make any necessary changes and click **Apply**. Click **Revert** to cancel any changes and return to the previous page.

## Performing Part Changes

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database

### **To perform part changes:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.

3. Select the job you want to update and click **Parts Changes**. The Item Part Changes or Configuration page appears.
  - If on Configuration, select the Position to install.
  - If on Item Parts Change, select the Item to remove, replace or add.
4. Select the Operation Sequence.
5. Make any necessary changes and click **Remove** to remove a part. Click **Install** to add a position. Click **Add Component** to add a part. Click **Revert** to clear any changes. Click **Cancel** to cancel any changes and return to the previous page.

## Updating Job Details

### Prerequisites:

A job with any status other than Complete must exist in the database. The WIP Mass Load Concurrent Program must be running.

### To Update Job Details:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Make any necessary changes and click **Apply**. Click **Revert** to cancel any changes and return to the previous page.

## Creating Operations on non-route based Jobs

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running.

### To create operations on non-route based jobs:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.

2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Click **Add More Rows**.
5. Make any necessary changes and click **Apply**. Click **Revert** to cancel any changes and return to the previous page.

## Updating Operations

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

### To Update Operations:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Make any necessary changes and click **Apply**. Click **Revert** to cancel any changes and return to the previous page.

## Updating Operation Details

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

### To update operation details:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.

2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select the operation you want to update and click **Details**.
5. Make any necessary changes and click **Apply**. Click **Cancel** to cancel any changes.

## Completing Operations

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status. The Operation Description, Actual Start Date, and Actual End Date must be complete. The Operation QA Results must be complete, if associated in Route Management or defined in the profile for a non-route based job.

### **To complete an operation:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select the operation you want to update and click **Complete Operation**.

## Entering QA results for an Operation

### **Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The Quality Collection plan must be set up and the inspection type associated with the operation in Route Management or associated to the Non-Routine Operation Inspection profile option. See Setup Quality Collection Plans.

**To Enter QA results for an Operation:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select the operation you want to update and click **Details**.
5. Enter information required for the Quality Collection Plan and click **Apply**. Click **Cancel** to cancel any changes.

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**Note:** QA results fields are custom defined for your installation. However, the base elements required to link the results to the job should not be removed or set as disabled.

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## Updating Material Requirements

**Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

**To update material requirements:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Materials from the left-hand navigation bar. The Update Material Requirement page appears.
5. You can then perform the following:
  - Select the Item, Required Quantity, and a Required Date and click **Apply** to save your changes.

- Select the requirement and click **Remove** to remove the requirement.
  - Click **Add More Rows** to add additional requirements.
6. Click **Cancel** to cancel any changes.

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**Note:** When changing an existing requirement defined in Route Management, the selection is limited to the alternates for the Item.

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See Updating Material Requirement Details.

## Updating Material Requirement Details

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

### To update material requirement details:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Materials from the left-hand navigation bar. The Update Material Requirement page appears.
5. Select the requirement you want to update and click **Details**.
6. Select the Item, Required Quantity, and a Required Date and click **Apply** to save your changes. Click **Cancel** to cancel any changes and return to the previous page.

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**Note:** When changing an existing requirement defined in Route Management, the selection is limited to the alternates for the Item.

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## Updating Resource Requirements

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

### To update resource requirements:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Resources from the left-hand navigation bar. The Update Resource Requirement page appears.
5. You can then perform the following:
  - Make any necessary changes and click **Apply** to save your changes.
  - Select a requirement and click **Remove** to remove it.
  - Click **Add More Rows** to add additional requirements.
6. Click **Cancel** to cancel any changes.

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**Note:** When changing an existing requirement defined in Route Management, the selection is limited to the alternates for the Item.

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See Updating Resource Requirement Details.

## Updating Resource Requirement Details

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The WIP Mass Load Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

**To update the resource requirement details:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Materials from the left-hand navigation bar. The Update Resource Requirement page appears.
5. Select the requirement you want to update and click **Details**.
6. Select the Item, Required Quantity, and a Required Date and click **Apply** to save your changes. Click **Cancel** to cancel any changes and return to the previous page.

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**Note:** When changing an existing requirement defined in Route Management, the selection is limited to the alternates for the Item.

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## Updating Resource Assignments

**Prerequisites:**

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database.

**To update resource assignments:**

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Assignments from the left-hand navigation bar. The Resource Assignments page appears.
5. You can then perform the following:
  - Make any necessary changes and click **Apply** to save your changes.

- Select the assignment and click **Remove** to remove the requirement.
  - Click **Add More Rows** to make new assignments.
6. Click **Cancel** to cancel any changes.

## Charging Resources

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The Cost Manager Concurrent Program must be running. The operation must have a Uncomplete or Pending QA status.

### To charge resources:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Resources Transactions from the left-hand navigation bar. The Perform Resource Transactions page appears.
5. You can then perform the following:
  - Make any necessary changes and click **Apply** to save your changes.
  - Click **Add More Rows** to add charged resources.
  - Click **Revert** to clear any changes.
6. Click **Cancel** to cancel any changes.

## Working with Material Transactions

See:

- Issuing and Returning Parts to a Job
- Entering QA results for an Material Transaction

## Issuing and Returning Parts to a Job

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The operation must have a Uncomplete or Pending QA status. Any applicable QA results must be entered prior to parts return. Material Status profile options for MRB, unserviceable, and serviceable conditions must be setup. Subinventory material status codes must be set up and associated with any relevant subinventories.

### To issue and return parts to a job:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Material Transactions from the left-hand navigation bar. The Perform Material Transactions page appears.
5. Select a transaction type: WIP Component Issue or WIP Component Return.

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**Note:** The page will refresh automatically when the Transaction Type is changed.

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6. You can then perform the following:
  - Make any necessary changes and click **Apply** to save your changes.
  - Click **Add More Rows** to add charged resources.
  - Click **Revert** to clear any changes.
  - Select the eraser to remove a single row.
7. Click **Cancel** to cancel any changes.

## Entering QA results for an Material Transaction

### Prerequisites:

A job with a status of Draft, Unreleased, Parts Hold, Hold, or Pending QA status must exist in the database. The operation must have a Uncomplete or Pending QA status. The Quality Collection plan must be set up and the inspection type associated to the appropriate MRB Disposition Inspection Type profile option. See Quality Collection Plans Setup.

### To enter QA results for an material transaction:

1. From the Oracle Complex Maintenance, Repair, and Overhaul Home page, click **Execution**. Select the Production Planning tab. The Job Overview page appears.
2. Enter information in the fields for which you know the value then click **Go**. All jobs matching your search criteria appear in the Job List Results table.
3. Click the job number. The Job Operations page appears.
4. Select Material Transactions from the left-hand navigation bar. The Perform Material Transactions page appears.
5. Select WIP Component Return from Transaction Type.

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**Note:** The page will refresh automatically when the Transaction Type is changed.

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6. Enter relevant information. Click QA Results to return the associated MRB profile option. the Submit Quality Results page appears.
7. Enter any information required by the Quality Collection Plan in the available fields and click **Apply** to save your changes. Click **Revert** to clear the fields; Click **Cancel** to cancel any changes.

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**Note:** QA results fields are custom defined for your installation. However, the base elements required to link the results to the job should not be removed or set as disabled.

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## Quality Collection Plans Setup

### **Prerequisites:**

Oracle Quality must be installed. Optionally, you may define additional Collection Plan Types, Collection Elements, and Collection Element Values.

### **To Create a Quality Collection Plan for the Organization:**

1. Navigate to the Collection Plans form in Oracle Quality.
2. Define the Collection Plan name.
3. Select the Plan Type.
4. Click **Copy Elements**.
5. Select the appropriate plan templates. For example, choose from Template Job Deferral, Template MRB Disposition, Template Op Completion, Template Route Completion, or Template Counter Readings.
6. Set any elements as Mandatory, Enabled, and Displayed.

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**Note:** Do not disable or remove base elements required to associate the collection to the transaction.

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7. Select **Transactions**. The Quality Collection Transactions Form appears.
8. Select the Transaction Description.
9. Select transaction MRB Disposition, Maintenance Job Deferral, Maintenance Operation Completion, and Maintenance Route Completion.
10. Set any necessary elements as Mandatory, Background, and Enabled.
11. Select Inspection Type for Trigger Name.
12. Select equals (=) for Condition.
13. Click **Save** to complete.

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**Note:** Steps 7-12 are not required for the counter readings plan.

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## Managing Outside Processing

In the maintenance, repair, and overhaul industry, there will be occasions when a part needs to be serviced outside of the organization. This may be due to lack of resources, skilled/certified personnel or cost considerations. The planner needs to have the flexibility of determining when, where and how the service will be performed at the most cost effective manner. In addition a planner needs to have the ability to Borrow parts from third parties when the same is not available in inventory, as well as Loan a parts to a third parties when it is requested.

This chapter discusses the key functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Outside Processing module and covers the key Outside Processing (OSP) functions supported by the Oracle Complex Maintenance, Repair, and Overhaul Production Planning module. The processes for creating and maintaining OSP work orders and managing the Loan/Borrow of parts are explained.

See:

- Working With Outside Processing Work Orders
  - Creating an OSP Work Order
  - Finding an OSP Work Order
  - Editing an OSP Work Order
  - Closing an OSP Work Order
  - Submitting an OSP Work Order
- Working With Purchase Orders
  - Reviewing Purchase Orders
  - Synchronizing Outside Processing Work Orders with Purchase Orders

- Updating and Approving Purchase Orders
- Shipping and Receiving
  - Shipping Parts
  - Receiving Parts
  - Accepting Supplier Services
- Working With Loan and Borrow Orders
  - Creating a Loan or Borrow Order
  - Finding a Loan or Borrow Order
  - Editing a Loan or Borrow Order
  - Submitting a Loan or Borrow Order
  - Closing a Loan or Borrow Order
  - Initiating Contracts

## What is an OSP Work Order?

An OSP Work Order is an order that contains the information required to service parts by a third party organization. It contains information about the supplier, the parts that need to be serviced, what services will be performed, and when and where the part will be shipped and received. If parts have to be shipped out to a third party there is a shipment order associated with the OSP Work Order.

## What is a Loan or Borrow Order?

A Loan or Borrow Order is used to ship or receive parts to and from outside organizations. Before a Loan or Borrow Order can be created there must be an approved legal contract that documents the terms and conditions of the loan or borrowing arrangement. A Loan Order contains information about the customer and the associated legal contract. A table on the order shows the parts being shipped and when they are shipped and received. A Borrow Order contains information about the supplier, the associated legal contract, the parts being received, and the dates of receipt and return. Each Loan or Borrow Order has an associated shipment order and available line items to handle the shipping and receiving of parts.

## Key Business Processes

The Outside Processing module of Oracle Complex Maintenance, Repair, and Overhaul supports the following business processes:

**Assign production jobs for third party service** After it is determined that the job will be performed by a third party organization, you can assign the production job to any department with a class of 'Vendor'. This assignment to a outside department can be done either in Long Term Planning or in Production Planning. To be included in an Outside Processing Work Order the job must be assigned to a department with a department class of 'Vendor'.

**Assign production jobs to an OSP Work Order** After assigning a job to an outside department, create an OSP Work Order and add to it the jobs that the third party organization will perform. You can include or restrict jobs with multiple parts or jobs for a single instance of a part. An OSP Work Order can be issued for one supplier and can have multiple jobs associated with it.

**Determine the supplier for outside processing** Determine which supplier should perform the service based on the service history of the part, warranties that may be applicable and then pick a supplier from a specified approved vendor list.

**Add or remove production jobs to an existing OSP Work Order** You can add production jobs to an existing OSP Work Order if the order has not yet been submitted for Purchase Order creation. Or, if a job is not needed you can remove it, provided the order has not been submitted. Once an OSP Work Order is submitted to create a Purchase Order in Oracle Purchasing, any additions or deletions must be performed in the Oracle Purchasing Module.

**Determine shipping and receiving logistics** Determine how and when the parts will be shipped to the supplier by creating a shipping order against the OSP Work Order. You define the shipment date, receipt date, freight terms and carrier. The shipment of the parts do not occur until the OSP Work Order has been submitted to create a Purchase Order in Oracle Purchasing and the buyer has approved the Purchase Order.

**Create and Approve Purchase Orders** After required services from a supplier are finalized, 'submit' them to create a Purchase Order. The Purchase Order is created in Oracle Purchasing. The buyer completes the Purchase Order by providing shipping and accounting distribution details. When the Purchase Order is ready to be shared with the Supplier, the buyer approves it in Oracle Purchasing. Upon approval, the

Shipment Order is marked as ready for the shipping clerk to pick, pack, and ship the parts. Any deletion or cancellation of Purchase Order line items are reflected in the corresponding OSP Work Order—meaning the production job is no longer associated with the OSP Work Order. It is up to the planner to decide on the disposition of the production job. If the buyer adds new line items to a Purchase Order, the planner must decide if those items have to be included in the OSP Work Order. The Planner also must use a manual process to associate the new Purchase Order line items to existing eligible production jobs.

**Shipping & receiving of parts** Once the Purchase Order is approved, the shipping clerk can pick, pack and ship the parts. The shipping clerk receives a notification of the Shipment Order number that indicates the parts are ready to be shipped. The Shipping Order provides shipping details such as ship to organization and location, part number, quantity, serial numbers, the location to pick the part from, and any shipping or packing instructions. Every time the part is shipped and received, the current location of the part and ownership is automatically reflected in the Oracle Install Base module. Shipping is taken care of with Oracle Shipping. Receipt of parts after servicing is done with Oracle Purchasing.

**Inspect parts after service** After receipt of the part that has been serviced by a supplier and received into inventory, the production planner will re-assign to the same production job that initiated the outside processing to an internal department.

The designated technician assigned to this job uses the Production module to complete and document the QA process. This ensures that the service has been performed correctly per maintenance requirement and the part is in good condition.

**Acknowledge supplier service** In order to pay the supplier for the service provided, the Purchase Order line may specify that the service has to be accepted (Received) without any QA or the service has to be accepted and approved by QA team (Inspected). If the Purchase Order line has 'Receipt required' specified then the technician has to 'Receive' the service in Oracle Purchasing module (three-way matching). If the Purchase Order line has 'Inspection required' specified then the technician has to 'Receive' the service and enter the QA code (four-way matching). It is possible that the buyer may indicate that in the Purchase Order line that the services need not be received, in which case the supplier is paid upon the approval of the Purchase Order.

**Close OSP Work Order** You can close the OSP Work Order provided that all shipped parts have been received back, the serviced parts are in good condition, all of the production jobs associated with the OSP Work Order are closed, and the

Purchase Order is closed. If any one of the conditions fails, the OSP Work Order cannot be closed.

**Borrow Parts from a third party organization** There are times when parts may be borrowed from a supplier instead of purchased. If you decides to borrow parts (a lease decision) there must be a legally binding contract with the supplier. Contracts are created in Oracle Procurement Contracts. The Borrow Order is created in Outside Processing. Contract terms include financial, warranty and shipment/return terms. Create a borrow order only after the contract approval. In order to receive the parts from the supplier there must be a production job. Shipping parts back requires another production job. A job must be assigned to a department with a class of 'Vendor' to be included in a Borrow Order. Each Borrow Order has an associated Shipment Order which provides any receiving and shipping details.

**Loaning Parts to a third party organization** Use Oracle Order Management to perform shipping and invoicing for loaning parts in inventory to a third party organization. If the parts must be removed or disassembled; however, the loan process must be done in Oracle Complex Maintenance, Repair, and Overhaul.

There must be an approved contract with the customer before you create a Loan Order. The contract is entered in Oracle Contracts for Service. The Loan Order is entered in Oracle Complex Maintenance, Repair, and Overhaul. If the part needs to be removed from its existing assembly or some other operation on the part is necessary to make it ready for loan there must be a production job for it before you ship the part. The job must have a department class of 'Vendor'. There must be another production job to receive the loan back. Each Loan Order has an associated Shipment Order which provides the shipping and receiving details for the loaned parts.

**Approve Loan or Borrow Orders** Submit a Loan or Borrow Order when you are ready to receive or ship the parts. This allows the shipping clerk to pick, pack, ship, or receive the parts. The shipping is done with the Oracle Shipping module; for receipts use the Oracle Purchasing module.

**Close Loan or Borrow Order** The order can be closed provided that all parts have been shipped or received, and all the production jobs that were part of the Loan or Borrow are closed. The Loan or Borrow Order cannot be closed if any of these conditions are not met.

## Fields Associated with Outside Processing

The following sections provide descriptions of fields appearing on each Outside Processing page.

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**Note:** The Search icon beside fields implies the availability of a List of Values to choose from for those field values. To populate these fields, enter a partial search string using the generic substitution metacharacter %, and click the icon to retrieve and display matching results on a Select <field name> page. Click the relevant record on this page to return this value to the field on your maintenance requirement page.

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### Fields on the Edit OSP Work Order Page

The following fields appear on the Edit OSP Work Order Page:

**Order Number** Displays the order number.

**Order Type** Select the type of order from the list provided. Currently 'Service' is the only available value.

**Order Description** Enter a brief description of the order.

**Vendor Name** Select a vendor name from the list of vendors that will perform the service.

**Vendor Location** Select the location from the list. This will be the ship to location of the supplier.

**Single Instance Flag** Select the value 'Yes' if you want to ensure that all the services to be performed in this OSP Work Order are against a single instance of a part. If it is set to 'No' then the system will allow you to mix jobs that have different instances of parts.

**Buyers Name** Select the buyer's name from the list that will be handling the Purchasing activity.

**Status** This is display only information. Possible values are:

- 'Entered' - the OSP Work Order is still in processing mode; edits to OSP Work Order is allowed.
- 'Submitted' -the OSP Work Order has created a Purchase Order in Oracle Purchasing; no edits allowed. Further edits should be done in Oracle Purchasing.
- 'Submit Failed'-the OSP Work Order has failed to successfully create a Purchase Order in Oracle Purchasing. Edits to OSP Work Order are allowed. Re-submit the OSP Work Order when all edits are completed.
- 'Closed' -the OSP Work Order has been closed and no further activity will be allowed

## Fields on the Create Order Page

The following fields appear on the Create Order Page:

**Job Number** Enter the job number if you want to quickly convert a single production job to an OSP Work Order.

**Part Number** Enter the Part Number if you want to group all the jobs that are for a specific part number.

**Serial Number** Enter the serial number if you want to group all the jobs that are for a specific serialized part.

**Service Item Number** Enter the service item number if you want to group all jobs that have the same service requirements.

**Instance Number** Enter the instance number if you want to group all the jobs that are for a specific instance of a part.

**Visit Type** Select the visit type if you want to group all jobs that have the same visit type.

**Project Name** Select the project name if you want to group all jobs that belong to the same project.

**Task Name** Select the task name if you want to group all the jobs that have the same task.

## Fields on the Search OSP Order Page

The following fields appear on the Search OSP Order Page:

**Order Number** Displays the order number.

**Job Number** The number generated for a job.

**Part Number** The part number of the relevant item.

**Description** The description of the relevant item.

**Project Name** Select the project name if you want to group all jobs that belong to the same project.

**Serial Number** Enter the serial number if you want to group all the jobs that are for a specific serialized part.

**Order Type** Select the type of order from the list provided. Currently 'Service' is the only available value.

**Task Name** Select the task name if you want to group all the jobs that have the same task.

**Order Status** This is display only information about the order status. Possible values are:

- 'Entered' - the OSP Work Order is still in processing mode; edits to OSP Work Order is allowed.
- 'Submitted' -the OSP Work Order has created a Purchase Order in Oracle Purchasing; no edits allowed. Further edits should be done in Oracle Purchasing.
- 'Submit Failed'-the OSP Work Order has failed to successfully create a Purchase Order in Oracle Purchasing. Edits to OSP Work Order are allowed. Re-submit the OSP Work Order when all edits are completed.
- 'Closed' -the OSP Work Order has been closed and no further activity will be allowed

**Vendor Name** Select a vendor name from the list of vendors that will perform the service.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

## Fields on the Search Work Order Page

The following fields appear on the Search Work Order Page:

**Job Number** The number generated for a job.

**Task Name** Select the task name if you want to group all the jobs that have the same task.

**Serial Number** Enter the serial number if you want to group all the jobs that are for a specific serialized part.

**Service Item Number** Enter the service item number if you want to group all jobs that have the same service requirements.

**Part Number** The part number of the relevant item.

**Department** Departments are a sub group of Organizations. Visits are associated to a Department and all Departments are associated to an Organization. For example, an Organization may be SFO Airport, and a Department may be “Hangar 1.” All Departments are defined in the Bill of Materials, associated to the selected Organization and also associated to the user's responsibility can be selected.

**Project Name** Select the project name if you want to group all jobs that belong to the same project.

**Instance Number** Enter the instance number if you want to group all the jobs that are for a specific instance of a part.

Also appearing on this page under Jobs Search Results are *Job Number, Part Number, Instance Number, Serial Number, Service Item Number, Service Item Description, Department, Suggested Vendor*

## Fields on the Create Borrow Order Page

The following fields appear on the Create Borrow Order Page:

**Order Number** Displays the order number.

**Order Type** Select the type of order from the list provided.

**Description** Describe what is being borrowed.

**Order Date** Enter the date of Ship Order. Defaults to the current date

**Order Status** This is display only information about the order status. Possible values are:

- 'Entered' - the OSP Work Order is still in processing mode; edits to OSP Work Order is allowed.
- 'Submitted' -the OSP Work Order has created a Purchase Order in Oracle Purchasing; no edits allowed. Further edits should be done in Oracle Purchasing.
- 'Submit Failed'-the OSP Work Order has failed to successfully create a Purchase Order in Oracle Purchasing. Edits to OSP Work Order are allowed. Re-submit the OSP Work Order when all edits are completed.
- 'Closed' -the OSP Work Order has been closed and no further activity will be allowed

**Vendor Name** Select a vendor name from the list of vendors that will perform the service.

**Contract Number** Displays the relevant contract number.

Also appearing on this page under OSP Order Lines are *Remove, Line Number, Job Number, Line Status, Part Number, Instance Number, Service Item Quantity, Ship/Received By Date, Project Name, and Task Name.*

## Fields on the Create OSP Order Page

The following fields appear on the Create Order Page:

**Order Number** Displays the order number.

**Order Type** Select the type of order from the list provided. Currently 'Service' is the only available value.

**Service Description** Describe the service being performed.

**Vendor Name** Select a vendor name from the list of vendors that will perform the service.

**Vendor Location** Select the vendor location.

**Buyer Name** Enter the name of the buyer.

**Order Status** This is display only information about the order status. Possible values are:

- 'Entered' - the OSP Work Order is still in processing mode; edits to OSP Work Order is allowed.
- 'Submitted' -the OSP Work Order has created a Purchase Order in Oracle Purchasing; no edits allowed. Further edits should be done in Oracle Purchasing.
- 'Submit Failed'-the OSP Work Order has failed to successfully create a Purchase Order in Oracle Purchasing. Edits to OSP Work Order are allowed. Re-submit the OSP Work Order when all edits are completed.
- 'Closed' -the OSP Work Order has been closed and no further activity will be allowed

**Order Date** Enter the date of Ship Order. Defaults to the current date

Also appearing on this page under OSP Order Lines are *Select, Line Number, Job Number, Part Number, Line Type, Line Status, Instance Number, Service Item Number, Service Item Description, Service Item Quantity, UOM, Need By Date, Project Name, and Task Name.*

## Fields on the Ship Order Page

The following fields appear on the Ship Order Page:

**OSP Order Number** Display only field

**Order Type** Displays OSP Order's type. Display only field

**Description** OSP Order description. Display only field

**Ship Order Number** Automatically generated. Display only field.

**Ship Order Type** Display only field.

**Booked** Status of the Ship Order. Display only field

**Cancelled** Status of the Ship Order. Display only field

**Order Date** Enter the date of Ship Order. Defaults to the current date

The following fields are required to create a Sales Order, but do not have relevance to the Ship Order. Accept the defaulted values.

- Price List
- Payment Terms
- Tax Handling
- Tax Exempt Reason

**Tax Handling** Indicates how you wish to handle taxes on the parts being shipped. If you want the shipments tax exempted the select a value other than 'Standard' and enter value in the Tax Exempt Reason field. Otherwise select the value 'Standard'.

**Vendor Name** Select a value from the selection list. Please ensure that the Vendor name is the same as the Vendor name entered in OSP Work Order. If it is different the system will give you a warning but will allow you proceed.

**Contact** Select a value from the selection list.

**Warehouse** Select the warehouses from where the part will be shipped out

**Shipment Method** Enter the shipment method from the selection list

**Shipment Priority** Enter the shipment priority from the selection list

**FOB** Enter the Freight On Board terms from the selection list

**Freight Carrier** Enter the freight carriers name from the selection list

**Freight Terms** Enter the freight terms from the selection list

**Packing and Shipping Instructions** Enter the information that the shipping clerk wants to see.

**Line Type** Select 'Ship Only' if you are shipping a part out. Select 'Receive' if you are expecting a part to be received into inventory.

**OSP Line Number** Display only field. Shows the associated OSP Line.

**Schedule shipment date** Enter the date on which the part will be shipped out. This is a required field.

**Inventory Organization** Enter the Inventory Organization from which the part will be shipped. If the line type is 'Receipt' this will be the receiving Organization. This is a required field.

**Sub-Inventory** Enter the sub-inventory identifier from which the part will be shipped or received. This is a required field.

**Freight On Board** This will be automatically populated if you had entered this in the header section.

**Shipment Priority** This will be automatically populated if you had entered this in the header section.

**Freight Carrier** This will be automatically populated if you had entered this in the header section.

**Freight Terms** This will be automatically populated if you had entered this in the header section.

**Receive Reason** If the line type is 'Receipt' you need to enter the reason for receipt.

**Packing Instructions** This will be automatically populated if you had entered this in the header section.

**Job Number** Select the job number from the list of jobs that you have entered in OSP Work Order line/Loan Order line/Borrow Order line.

## Working With Outside Processing Work Orders

An Outside Processing Work Order allows you to group together production jobs that have been earmarked for outside servicing. You can base the creation of purchase orders, which describe the services ordered from the supplier and ship orders, which describe the shipping and receiving logistics of the serviceable parts on Outside Processing Work Orders.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

See:

- Creating an OSP Work Order
- Finding an OSP Work Order
- Editing an OSP Work Order
- Closing an OSP Work Order
- Submitting an OSP Work Order

## Creating an OSP Order

### Prerequisites:

A production job that requires outside processing and is not currently assigned to Outside Processing Work Orders must exist in the database.

### To create an OSP Work Order:

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, select **Execution**. The Job Overview page of the Production Planning module appears.
2. Select the Outside Processing tab, then click **Create OSP**.
3. The Search Work Order page appears; this is where you find the production jobs that you want to include in the outside processing order. Enter information in the fields for which you know the value then click **Go**. For field descriptions, see Fields on the Search Work Order Page.
4. The lower half of the page displays all of the production jobs matching the search criteria you provided.
5. Select each job that you want to include in the OSP Work Order. When satisfied with your selections click **Create OSP**.
6. The Create OSP Order page appears. In the header, fill in the required fields. Fields marked with asterisks require an entry.
7. For each line item displayed in OSP Order Lines, enter information in the fields for which you know the value. Click **Add More Rows** if you need to add more line items.

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**Note:** You must fill in Line Type for any production job line item that requires the creation of a related Purchase Order line item.

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8. Click **Apply** to create the OSP Work Order. Click **Cancel** to cancel the work order and return to the Search OSP Order page.

## Finding OSP Work Orders

### Prerequisites:

The OSP Work Orders you are looking for must exist in the database.

### To find an OSP Work Order:

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, select **Execution**. The Job Overview page of the Production Planning module appears.
2. Select the Outside Processing tab. The Search OSP Order page appears.
3. Enter information in the fields for which you know the value then click **Go**. Click **Clear** to clear all fields and start over.
4. Click **PO Synch** to synchronize changes between an OSP Work Order and an Oracle Purchasing Order.
5. The results display under OSP Order Search Results. Select the OSP Work Orders you want to work with, then choose from the following:
  - Create a Purchase Order in the Oracle Purchasing module. Click **Submit**.
  - Close the OSP Work Order permanently. Click **Close**.
  - Delete the associated Ship Order. Click **Delete Shipment**.

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**Note:** To remove an OSP Work Order from the database, select the trash can in the delete column. When the work order is deleted, all jobs formerly associated with that order will be available for any other OSP Work Order.

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6. Click **Create OSP** to create a new OSP Work Order. See [Creating an OSP Work Order](#).
7. Click on the Order Number of any OSP Work Order you want view or edit.

## Editing an OSP Work Order

### Prerequisites:

The OSP Work Order you want to edit must have a status of 'Entered' and 'Submit-failed'. You must have authorization to edit the OSP Work Order.

### To edit an OSP Work Order:

1. Retrieve the OSP Work Order you want to edit. See [Finding OSP Work Orders](#).
2. Click the order number you want to edit from OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **Edit** on the left-hand navigation panel. You can edit the OSP Work Order if it has a status of Entered or Submit-failed.
4. Click **Apply** to save your edits. Click **Cancel** to discard any changes and return to the Search OSP Order page.
5. Click **Submit** to create a related Purchase Order in Oracle Purchasing.
6. Click **Delete Shipment** to remove the shipping order associated with the current OSP Work Order.
7. Click **Close** to permanently close the current OSP Work Order. This will be successful if:
  - All parts shipped out have been received back.
  - All listed production jobs are closed.
  - The associated Purchase Order is closed.

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**Note:** If you are adding rows, you can enter values for Job Number, Line Type, Service Item Number, Service Item Description, UOM, and Need By Date.

If you are editing, you can enter values for Line Type, Service Item Number, Service Item description, UOM, and Need By Date.

For Service Item Number and Description you can edit only if you have not already entered a service item number.

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### **Adding Rows to an OSP Work Order**

You can edit an OSP Work Order to add production jobs to an existing OSP Work Order.

#### **Prerequisites:**

You must know the production job number of the items you want to add. Each job you want to add should be assigned to a department with a department class of Vendor.

#### **To add a job to an existing OSP Work Order:**

1. Click **Edit** on the left-hand navigation panel.
2. Click **Add More Rows**.
3. Select the job number from the list. If the selected job's route has a pre-defined service associated with it, the service item number, UOM, and Service Item Description fields will populate with the relevant information.
4. Fill in the remaining fields. For field descriptions, see Fields on the Edit OSP Work Order Page.
5. Click **Apply** to save your edits. Click **Cancel** to discard any changes and return to the Search OSP Order page.

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**Note:** If the 'Single Instance' flag is set to 'Yes' and you associate a job with an instance number that is different from other line items you cannot save the OSP Work Order line.

If you want to physically ship the part associated with the newly created line then you must create a new Ship Order line.

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## Closing an OSP Work Order

If no further activity will be done to an OSP Work Order, you can close it. You cannot work on the order again once it is closed.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

All shipped parts must be received from the supplier. All parts must be in good condition and the inspector has approved the performed service. The associated Purchase Order and all associated jobs must be closed.

### **To close an OSP Work Order:**

1. Retrieve the OSP Work Order you want to close. See Finding OSP Work Orders.
2. Select the Order Number you want from the results list. The Edit OSP Work Order page appears.
3. Click **Close**. If all prerequisites are met, the OSP Work Order status will be Closed.

## Submitting an OSP Work Order

Create a purchase order in Oracle Purchasing for an OSP Work Order.

### **Prerequisites:**

The OSP Work Order must have a status of Entered or Submit-failed.

**To submit an OSP Work Order:**

1. Retrieve the OSP Work Order you want to submit. See Finding OSP Work Orders.
2. Select the OSP Work Order you want from the results.
3. Click **Submit**. This will create a Purchase Order in Oracle Purchasing.

## Working With Purchase Orders

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

See:

- Reviewing Purchase Orders
- Synchronizing Outside Processing Work Orders with Purchase Orders
- Updating and Approving Purchase Orders

## Reviewing Purchase Orders

**Prerequisites:**

There must be a complete, submitted OSP Work Order in the database. An associated purchase from Oracle Purchasing with an Entered status must be in the database.

**To review a purchase order:**

1. Retrieve the OSP Work Order you want to review. See Finding OSP Work Orders.
2. Click the order number you want to edit from OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **PO Details** on the left-hand navigation panel.
4. The Purchase Order Details page appears, displaying summary information about the related OSP Work Order. Below this is the Purchase Order information and the line item details. Select a line item to view associated shipping or receiving details for that item.

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**Note:** A list of errors will appear if the Purchase Order was not successfully created. Edit the relevant OSP Work Order to fix any errors, then submit the Purchase Order again.

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5. Click **PO Shipment** to view the Purchase Order Shipments.
6. Select a shipment number and click **Accounting Distribution** to view accounting distributions associated with the Purchase Order Shipment.
7. Click **Receipts** to view receipts associated with the Purchase Order line item. To view QA results for the receipt, select a receipt and click **QA Result**.

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**Note:** There may be a delay between the submission and actual creation of a Purchase Order in Oracle Purchasing. If you notice that the submission request has a Pending status for a long time, notify your system administrator. Review submission status on the Concurrent Requests page.

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## Synchronizing Outside Processing Work Orders with Purchase Orders

A buyer may add additional Purchase Order Lines manually after a Purchase Order has been created in Oracle Purchasing through a Submit action in OSP Work Order. If you decide that the newly added Purchase Order Lines should be reflected in the source OSP Work Order then you must assign the new Purchase Order Lines to existing production jobs.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

### **Prerequisites:**

A completed OSP Work Order must exist in the database with an associated Purchase Order that has relevant line items created by the buyer.

**To synchronize an OSP Work Order with a Purchase Order:**

1. Retrieve the OSP Work Order you want to synchronize. See Finding OSP Work Orders.
2. Click the order number you want from OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **PO Details** on the left-hand navigation panel.
4. The Purchase Order Details page appears, displaying summary information about the related OSP Work Order. Below this is the Purchase Order information and the line item details. If there are line items without job numbers the buyer has added to the purchase order. If the items need to be added to the current OSP Work Order, select a job number and click **Apply**.
5. A list of jobs appear with the following conditions:

If the Purchase Order line has a service item number:

- List of jobs that have same service item number associated with job's route.
- List of jobs that have no service item number associated with job's route.

If the Purchase Order line does not have a service item number then you will see a list of jobs that have no service item number associated with job's route.

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**Note:** If the selected OSP Work Order has 'Single Instance' flag set to 'Yes', then all jobs associated with the new Purchase Order line must have the same Instance number as other OSP Order Lines.

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6. Click **Apply** to save your edits. Click **Cancel** to discard any changes and return to the Search OSP Order page.

## Updating and Approving Purchase Orders

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

A completed OSP Work Order must be submitted in the database. An associated purchase order with an Entered status is in Oracle Purchasing. Additionally, you must have buyer privileges and access to Oracle Purchasing to make these changes.

**To update or approve a Purchase Order:**

1. Retrieve the OSP Work Order associated to the purchase order you want to approve or update. See Finding OSP Work Orders.
2. Click the order number you want to edit from OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **PO Details** on the left-hand navigation panel.
4. The Purchase Order Details page appears, displaying summary information about the related OSP Work Order. Make a note of the Purchase Order number.
5. Navigate to the Purchase Order summary page.
6. Change to the Purchasing responsibility assigned to you.
7. Enter the Purchase Order number and click **Find**.
8. For more information on using Oracle Purchasing, see *Oracle Purchasing User's Guide, Release 11i*.

## Shipping and Receiving

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

See:

- Shipping Parts
- Receiving Parts
- Accepting Supplier Services

## Shipping Parts

Create a Ship Order for OSP Work Orders that involve parts that need to be shipped for outside service. An OSP Work Order can have only one associated Ship Order.

**Prerequisites:**

An OSP Work Order with a status other than Closed must exist in the database.

**To create a Ship Order:**

1. Retrieve the OSP Work Order associated to the items you want to ship. See Finding OSP Work Orders.
2. Click the relevant order number from the OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **Shipments** on the left-hand navigation panel.
4. The Create Shipment page appears. Enter the required information and click **Apply**.

**To delete a Ship Order:**

1. Retrieve the OSP Work Order associated to the ship order you want to delete. See Finding OSP Work Orders.
2. Click the relevant order number from the OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **Shipments** on the left-hand navigation panel.
4. Depending on the order type, the OSP Work Order page or the Loan/Borrow Order page appears. Click **Delete Shipment**.

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**Note:** This action cannot be undone. All associated ship line items will be deleted with the ship order. You cannot delete a ship order if parts related to the order have already shipped.

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**To create a Ship Order line:**

1. Retrieve the OSP Work Order associated to the ship order you want to delete. See Finding OSP Work Orders.
2. Click the relevant order number from the OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **Shipments** on the left-hand navigation panel.
4. The OSP Work Order page appears. Click **Create Shipment Line**.

5. Fill in the fields for the new shipment line. For field descriptions, see Fields on the Ship Order Page
6. Enter the job number. The job numbers listed are from the OSP Order line items. Click **Go**.
7. Click **Apply** to save your edits. Click **Cancel** to discard any changes and return to the Ship Order page.

**To edit or delete a Ship Order line:**

1. Retrieve the OSP Work Order associated to the ship order you want to delete. See Finding OSP Work Orders.
2. Click the relevant order number from the OSP Order Search Results.
3. The Edit OSP Work Order page appears. Click **Shipments** on the left-hand navigation panel.
4. Click the shipment line number you want to edit.
5. Make your changes to the shipment line.
6. Select the trash can next to any line item you want to delete.

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**Note:** Delete cannot be undone. When you select the 'Delete' trash can, the item on that line is removed from the database immediately. You cannot delete a line item if associated parts have already shipped.

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7. Click **Apply** to save your edits. Click **Cancel** to discard any changes and return to the Ship Order page.

## Receiving Parts

Parts are received in Oracle Purchasing using a sales order return line.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

The received part must be part of an OSP Work Order, Loan Order, or Borrow Order. There must be a booked sales order with relevant Return lines in Oracle Purchasing.

**To receive a part:**

1. Select the available responsibility in Oracle Purchasing.
2. Navigate to the Receiving page and enter the sales order number.
3. Select the Return line item you want to receive into inventory.
4. Enter the available receipt information and save it in the database.
5. If there is a quality plan for this part, complete the QA plan.

For details on how to receive parts with Oracle Purchasing, see Oracle Purchasing User's Guide Release 11i.

## Accepting Supplier Services

A Purchase Order may specify that supplier performed services must be acknowledged before payment. In such cases, receive the service using Oracle Purchasing.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

**Prerequisites:**

The part must be received from the supplier in good condition and must be associated to an OSP Work Order. The inspector must approve of the service performed on the part. There must be an approved Purchase Order associated to the OSP Work Order and the relevant purchase order line item must be marked as Receipt Required.

**To accept a service:**

1. Select the available responsibility in Oracle Purchasing.
2. Navigate to the Receiving page.
3. Select the purchase order line item you want to receive into inventory.
4. Enter the available receipt information and save it in the database.

For details on how to receive parts with Oracle Purchasing, see Oracle Purchasing User's Guide Release 11i.

## Working with Loan and Borrow Orders

During the material-planning phase of a job the planner (either in Long Term Plan or in Production Plan) may decide that it would be better to 'Borrow' a part from a supplier than buy it outright. The decision may be based on expediency of job execution or cost considerations. Similarly the planner may receive a request to 'Loan' a part to a customer that is part of an existing assembly. In the case of 'Borrow' process the planner needs to have an install job that should receive the part from supplier, inspect it and install into an assembly. In the case of 'Loan' the planner needs to have a removal job that will remove the part, inspect and make it ready for shipping. Both the install job and remove job should have a department with a department class 'Vendor'. In order create a Loan/Borrow Order there should exist an approved legal contract between the parties to handle the financial transactions, since the Loan/Borrow handles the physical shipments/receipts of the parts.

While entering the search criteria, use the generic substitution metacharacter % to represent any string of zero or more characters. Use \_ to represent any single character. For example, if the database contains a record with the value "ENGINE" in a field, typing "E%" will return all records where the field value begins with "E".

See:

- Creating a Loan or Borrow Order
- Finding a Loan or Borrow Order
- Editing a Loan or Borrow Order
- Submitting a Loan or Borrow Order
- Closing a Loan or Borrow Order
- Initiating Contracts

## Creating a Loan or Borrow Order

### **Prerequisites:**

A Production job that requires outside processing and is not associated to an OSP Work Order must exist in the database. There must be an approved contract to loan or borrow parts.

**To create a loan or borrow Order:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, select **Execution**. The Job Overview page of the Production Planning module appears.
2. Select the Outside Processing tab. The Search OSP Order page appears.
3. Click **Create OSP** under the OSP Order Search Results header.
4. The Search Work Order page appears. Enter your search criteria in the fields and click **Go**. Click **Clear** if you want to clear all fields and start the search over.
5. Under Job Search Results, select each production job you want to include in the Loan or Borrow Order.
6. Click **Create Loan** to create a loan order; click **Create Borrow** to create a borrow order.
7. The Create Loan or the Create Borrow page appears. Fill in the fields as needed. Fields marked with an asterisk require an entry. Fields for the OSP line items that automatically fill in cannot be modified on this page.
8. Click **Apply** to create the loan or borrow. Click **Cancel** to discard any changes and return to the Search OSP Order page.

## Finding a Loan or Borrow Order

**Prerequisites:**

The Loan or Borrow orders you are looking for must exist in the database.

**To find a loan or borrow order:**

1. On the Oracle Complex Maintenance, Repair, and Overhaul Home page, select **Execution**. The Job Overview page of the Production Planning module appears.
2. Select the Outside Processing tab. The Search OSP Order page appears.
3. Enter your search criteria in the fields and click **Go**. If you are looking for a specific entry, enter the order number and select Loan or Borrow from Order Type. Click **Clear** if you want to clear all fields and start the search over.

## Editing a Loan or Borrow Order

**Prerequisites:**

The loan or borrow order you want to edit must have an Entered status.

**To edit a loan or borrow order:**

1. Retrieve the loan or borrow order you want to edit. See Finding a Loan or Borrow Order.
2. Click the order number you want to edit from the OSP Order Search results.
3. The Edit Loan Order page appears.
  - Click **Add More Rows** to add additional line items to the order. Select the trash can next to any line item you want to delete
  - Click **Submit** to ship or receive parts for this order.
  - Click **Delete Shipment** to remove the associated Shipment Order.
4. Click **Apply** to create the loan or borrow. Click **Cancel** to discard any changes and return to the Search OSP Order page.

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**Note:** Delete cannot be undone. When you select the 'Delete' trash can, the item on that line is removed from the database immediately.

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## Submitting a Loan or Borrow Order

**Prerequisites:**

The loan or borrow order you want to submit must have an Entered status.

**To submit a loan or borrow order:**

1. Retrieve the loan or borrow order you want to submit. See Finding a Loan or Borrow Order.
2. Select the order you want to submit from the OSP Order Search results.
3. Click **Submit**. Once you click submit, you cannot undo this operation.

## Closing a Loan or Borrow Order

**Prerequisites:**

All associated jobs must be closed, and all of the associated parts must have a shipped or received status.

**To close a loan or borrow order:**

1. Retrieve the loan or borrow order you want to close. See Finding a Loan or Borrow Order.
2. Select the order you want to close from the OSP Order Search results.
3. Click **Close**. The Loan or Borrow order's status changes to Closed.

**Initiating Contracts**

An approved contract must exist with the pertinent third parties before parts are borrowed or shipped to them for service. Contracts associated with Loan Orders are maintained by the Oracle Service Contracts module. Contracts associated with Borrow Orders are maintained by Oracle Contracts for Procurement.

For details on how to enter and maintain contracts in Oracle Service Contracts please refer to *Oracle Service Contracts Concepts and Procedures Release 11.5.8*.

For details on how to enter and maintain contracts in Oracle Service Contracts please refer to *Oracle Contracts for Procurement Concepts and Procedures Release 11.5.x*.

