Completing Jobs and Repetitive Schedules

Student Guide

ORACLE®

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Preface

Profile

Before You Begin This Course

Before you begin this course, you should have the following qualifications:

- Thorough knowledge of production activities associated with a discrete and repetitive manufacturing environment.

- Working experience with navigating Oracle Applications

Prerequisites

- Scheduling Discrete Jobs (eClass)

- Repetitive Schedules (eClass)

How This Course Is Organized

Completing Jobs and Repetitive Schedules is an instructor-led course featuring lecture and hands-on exercises. Online demonstrations and written practice sessions reinforce the concepts and skills introduced.

Related Publications

Oracle Publications

Title	Part Number
Oracle Work in Process User's Guide	A83598-01

Additional Publications

- System release bulletins

- Installation and user's guides

- read.me files

- Oracle Magazine

Completing Jobs and Repetitive Schedules Table of Contents

Typographic Conventions

Typographic Conventions in Text

Convention	Element	Example
Bold italic	Glossary term (if there is a glossary)	The **_algorithm_** inserts the new key.
Caps and lowercase	Buttons, check boxes, triggers, windows	Click the Executable button. Select the Can't Delete Card check box. Assign a When-Validate-Item trigger to the ORD block. Open the Master Schedule window.
Courier new, case sensitive (default is lowercase)	Code output, directory names, filenames, passwords, pathnames, URLs, user input, usernames	Code output: `debug.set ('I", 300);` Directory: `bin` (DOS), `$FMHOME` (UNIX) Filename: Locate the `init.ora` file. Password: User `tiger` as your password. Pathname: Open `c:\my_docs\projects` URL: Go to `http://www.oracle.com` User input: Enter `300` Username: Log on as `scott`
Initial cap	Graphics labels (unless the term is a proper noun)	Customer address (_but_ Oracle Payables)
Italic	Emphasized words and phrases, titles of books and courses, variables	Do _not_ save changes to the database. For further information, see _Oracle7 Server SQL Language Reference Manual._ Enter `user_id@us.oracle.com`, where _user_id_ is the name of the user.
Quotation marks	Interface elements with long names that have only initial caps; lesson and chapter titles in cross-references	Select "Include a reusable module component" and click Finish. This subject is covered in Unit II, Lesson 3, "Working with Objects."
Uppercase	SQL column names, commands, functions, schemas, table names	Use the SELECT command to view information stored in the LAST_NAME column of the EMP table.

Convention	Element	Example
Arrow	Menu paths	Select File—> Save.

Brackets	Key names	Press [Enter].
Commas	Key sequences	Press and release keys one at a time: [Alternate], [F], [D]
Plus signs	Key combinations	Press and hold these keys simultaneously: [Ctrl]+[Alt]+[Del]

Typographic Conventions in Code

Convention	Element	Example
Caps and lowercase	Oracle Forms triggers	`When-Validate-Item`
Lowercase	Column names, table names	`SELECT last_name` `FROM s_emp;`
	Passwords	`DROP USER scott` `IDENTIFIED BY tiger;`

	PL/SQL objects	`OG_ACTIVATE_LAYER`
		`   (OG_GET_LAYER`
		`('prod_pie_layer'))`

Lowercase italic	Syntax variables	`CREATE ROLE role`
Uppercase	SQL commands and functions	`SELECT userid` `FROM emp;`

Typographic Conventions in Navigation Paths

This course uses simplified navigation paths, such as the following example, to direct you through Oracle Applications.

(N) Invoice > Entry > Invoice Batches Summary (M) Query > Find (B) Approve

This simplified path translates to the following:

1. (N) From the Navigator window, select Invoice > Entry > Invoice Batches Summary.

2. (M) From the menu, select Query > Find.

3. (B) Click the Approve button.

Notations :

(N) = Navigator

(M) = Menu

(T) = Tab

(I) = Icon

(H) = Hyperlink

(B) = Button

Typographical Conventions in Help System Paths

This course uses a "navigation path" convention to represent actions you perform to find pertinent information in the Oracle Applications Help System.

The following help navigation path, for example—

> (Help) General Ledger > Journals > Enter Journals

—represents the following sequence of actions:

1. In the navigation frame of the help system window, expand the General Ledger entry.

2. Under the General Ledger entry, expand Journals.

3. Under Journals, select Enter Journals.

4. Review the Enter Journals topic that appears in the document frame of the help system window.

Getting Help

Oracle Applications provides you with a complete online help facility.

Whenever you need assistance, simply choose an item from the Help menu to pinpoint the type of information you want.

To display help for a current window:

1. Choose Window Help from the Help menu, click the Help button on the toolbar, or hold down the Control key and type 'h'.

   A web browser window appears, containing search and navigation frames on the left, and a frame that displays help documents on the right.

   The document frame provides information on the window containing the cursor. The navigation frame displays the top-level topics for your responsibility, arranged in a tree control.

2. If the document frame contains a list of topics associated with the window, click on a topic of interest to display more detailed information.

3. You can navigate to other topics of interest in the help system, or choose Close from your web browser's File menu to close help.

Searching for Help

You can perform a search to find the Oracle Applications help information you want. Simply enter your query in the text field located in the top-left frame of the browser window when viewing help, then click the adjacent Find button.

A list of titles, ranked by relevance and linked to the documents in question, is returned from your search in the right-hand document frame. Click on whichever title seems to best answer your needs to display the complete document in this frame. If the document doesn't fully answer your questions, use your browser's Back button to return to the list of titles and try another.

Completing Jobs and Repetitive Schedules

Chapter 1

Completing Jobs and Repetitive Schedules

Objectives

Objectives

After completing this course, you should be able to do the following:

- Describe basic completion transaction concepts
- Perform completion transactions
- Overcomplete discrete jobs and repetitive schedules
- Perform workorder-less completions
- Return assemblies from inventory to WIP
- Explain completion transactions using manufacturing average costing

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Completing Jobs and Repetitive Schedules

Objectives (continued)

Objectives (continued)

- **Identify set up steps for workflow alerts and intelligent messaging**
- **Explain integration with Oracle Quantity**
- **Explain rollforward**
- **Close discrete jobs**
- **Purge jobs and schedules**

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Agenda

Agenda

- **Lesson 1: Overview**
- **Lesson 2: Performing Completion Transactions**
- **Lesson 3: Performing Workorder-less Completions**
- **Lesson 4: Intelligent Messaging and Quality Integration**
- **Lesson 5: Performing Completion Transactions for Repetitive Jobs**
- **Lesson 6: Closing and Purging Jobs and Schedules**
- **Lesson 7: Summary**

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Overview

Overview
Completing Jobs

Inventory — Work in Process

Issue material

Raw material inventory

Complete finished assemblies

Jobs and schedules

Move assemblies on the shop floor and charge resources

Scrap rejected assemblies

Finished goods subinventory

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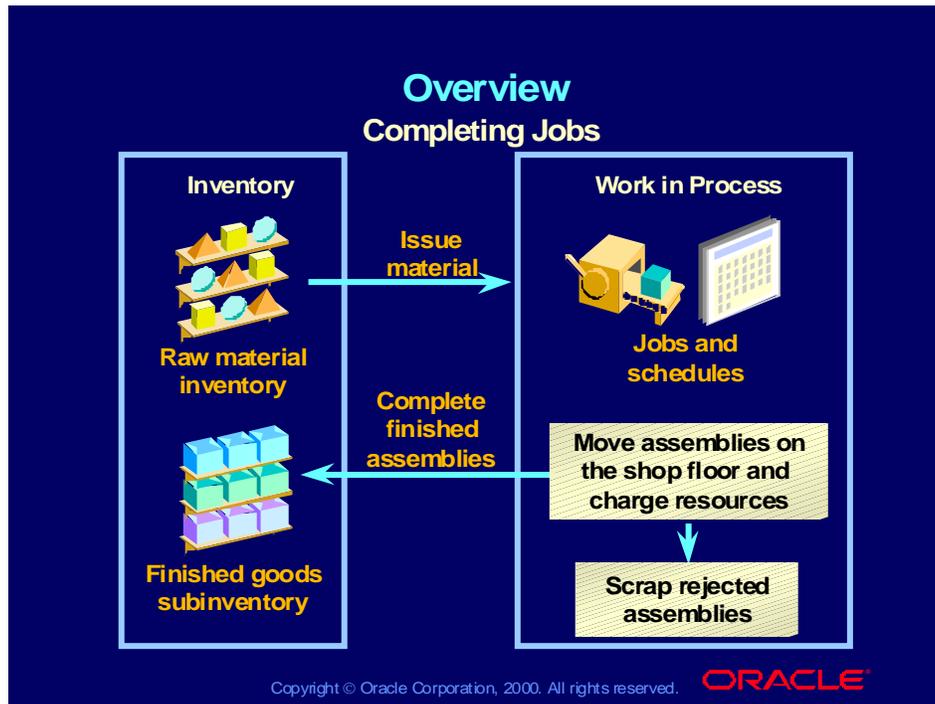
Definitions

- **Assembly completion transaction** is a material transaction in which you receive assemblies into inventory from a job or repetitive assembly/line upon completion of the manufacture of the assembly.

- **Completion subinventory** is an inventory location at the end of your production line or shop floor routing where you receive completed assemblies from work in process. This is often the supply subinventory for subassemblies or finished goods inventories for final assemblies.

- **Completion locator** is an inventory location in a completion subinventory where you receive completed assemblies from work in process.

Completing Jobs and Repetitive Schedules
Chapter 1 - Page 6
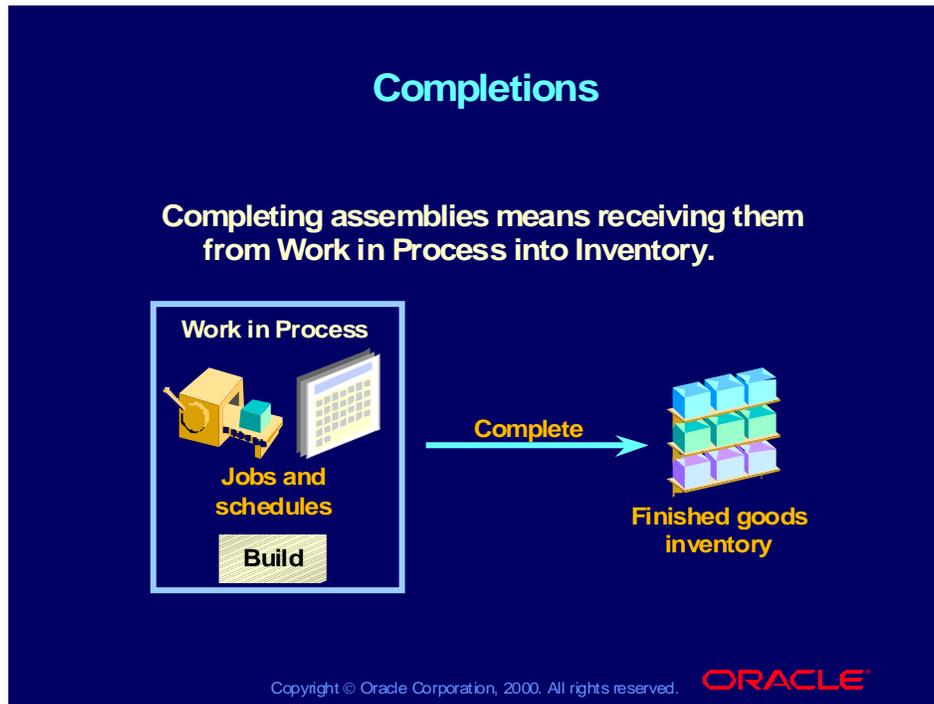
Completions

Completion Transaction Process

- The finished assemblies are received into inventory, either to be used as subassemblies or to be shipped as finished goods.
- All Assembly Pull material attached on the bill is backflushed.
- The quantity in the To Move step of the last operation is decreased, if there is a routing.
- The Quantity Complete on the job or repetitive schedule is increased.
- If the quantity completed equals the total quantity for a schedule, and there are other active schedules following it on the assembly/line, the schedule's status is changed to Complete—No Charges. If the schedule is the last active schedule, its status is changed to Complete.
- Job and repetitive schedule statuses are automatically updated to Complete when the total number of assemblies completed and scrapped on a job or repetitive schedule is greater than or equal to the required quantity. Previously, the job would not change status to "Complete" when there was a scrap quantity and you finished the remainder.

Quantity completed + Quantity scrapped $\geq$ New Job Start Quantity

Note: The new job start quantity takes into account the quantity overcomputed on a workorder or schedule.

Completing Jobs and Repetitive Schedules

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Returns to WIP

Returns to WIP

Returning assemblies means moving them back from inventory to Work in Process.

Work in Process

Jobs and schedules

Build

Return

Finished goods inventory
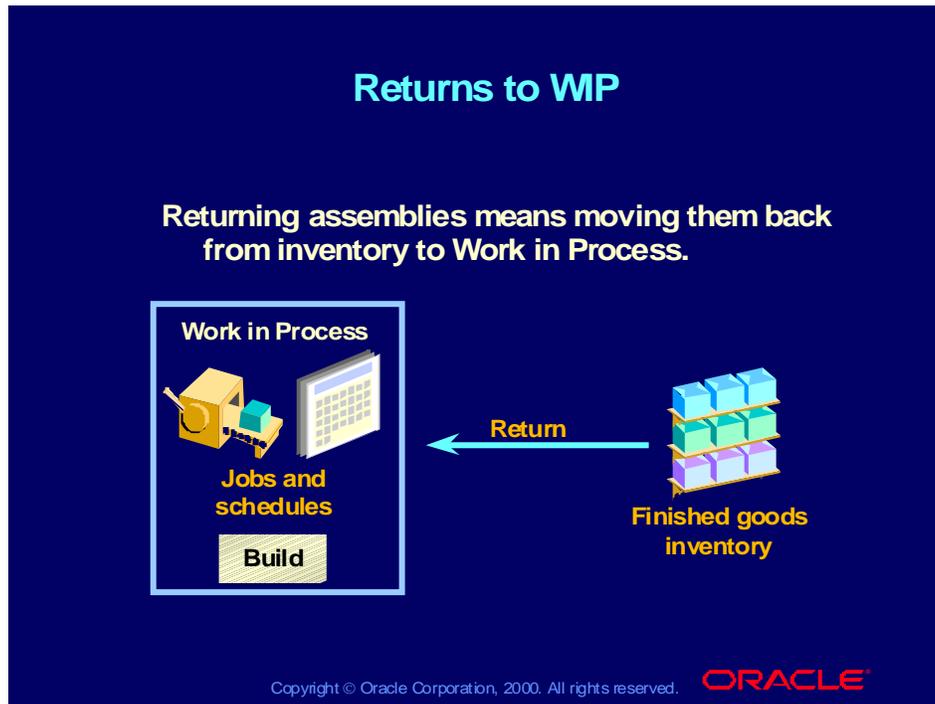
Return from Inventory Transaction Process

- The finished assemblies are returned from inventory to work in process.
- All backflush transactions that took place during the corresponding completion transaction are reversed.
- The Quantity Complete is reduced.
- The quantity in the To Move step of the last operation in the routing is increased (assuming there is a routing).
- A discrete job's status is changed back to Released.
- Repetitive schedule statuses are only changed back to Released from Complete, never from Complete—No Charges.

Agenda

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Business Benefits

Business Benefits

Using completion transactions, you can:

- **complete assemblies from discrete jobs and repetitive schedules into inventory**
- **return completed assemblies from inventory to jobs and repetitive schedules**
- **complete a greater quantity than the job or schedule start quantity (over-complete) into inventory**
- **return more assemblies than were completed on repetitive schedules and non-standard discrete jobs**

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Completion Transactions

Completion Transactions

Use the Completion Transactions window to:
- complete assemblies from jobs and repetitive schedules into inventory
- return completed assemblies from inventory to jobs and repetitive schedules
- over-complete assemblies

(N) Manufacturing & Distribution Manager > WIP > Material Transactions > Completion Transactions

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Completing Discrete Jobs

... > Repetitive Manufacturing > Completing Repetitive Schedules

WIP Assembly Completion

WIP Assembly Completion

Use the WIP Assembly Completion window to enter:
- subinventory/Locator
- unit of Measure
- quantity

(N) Manufacturing & Distribution Manager > WIP > Material Transactions > Completion Transactions (B) Continue

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Material Control

> **... > Assembly Completions and Returns**
> **... > Completing and Returning Assemblies**

Lot and Serial Numbers

Lot and Serial Numbers

Use the Lot and Serial Number Entry window to enter:

- **a new or existing lot number**
- **one or range of serial numbers for each item or lot quantity**
- **lot expiration**

(N) Manufacturing & Distribution Manager > WIP > Material Transactions > Completion Transactions (B) Continue (B) Lot/Serial

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Material Control

> **... > Assembly Completions and Returns**

> **... > Completing and Returning Assemblies**

Serial Number Genealogy

Use the material transaction history to view the attributes of your lots or the composition for a job or lot. These can also be viewed graphically.

Easy Completion

Easy Completion

Use the Move Transaction window to receive assemblies from Work in Process into inventory.

(N) Manufacturing & Distribution Manager > WIP > Move Transactions > Move Transactions

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Rules of the Easy Completion Transaction

- Assemblies are completed into the default completion subinventory or locator for the job, assembly, or line. Therefore, there must be a completion subinventory or locator default for the job or assembly/line.

- Assemblies under serial number control cannot be completed this way.

- Assemblies under lot control can be completed only if the discrete job lot is specified in the job header.

Practice 1 Overview
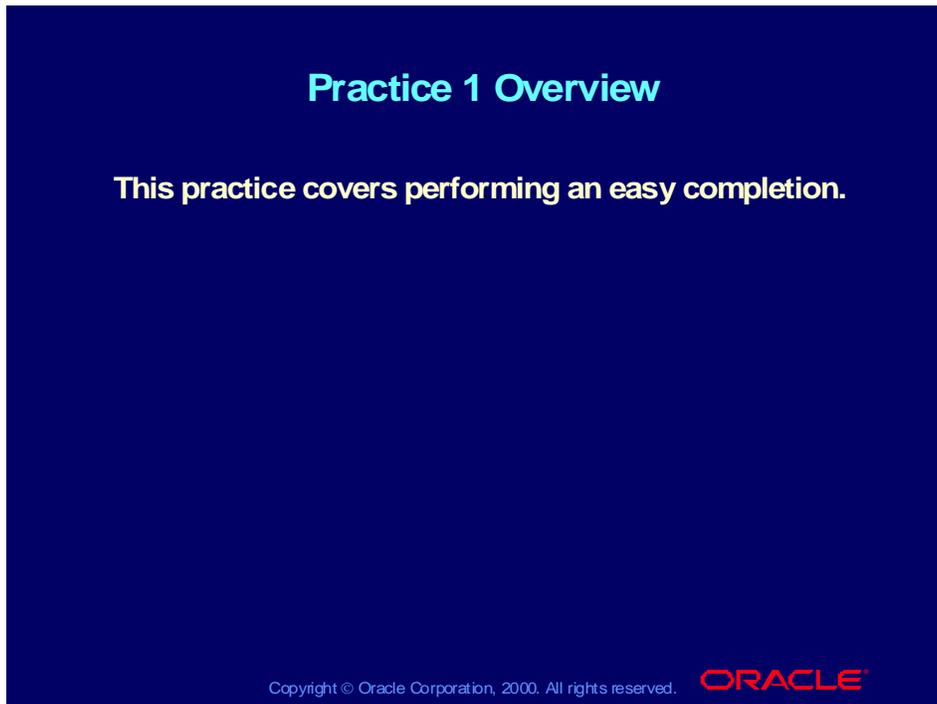
Practice 1 Overview

This practice covers performing an easy completion.

Scenario

Your customer has called and requires 100 of the final assembly sent immediately. Create the work order using the easy completion and verify the following:

- the requirements for the phantom resources have been created
- the requirements for the sub-assembly have also been created
- the functionality of shortage messaging has been invoked

Practice 1 Solutions
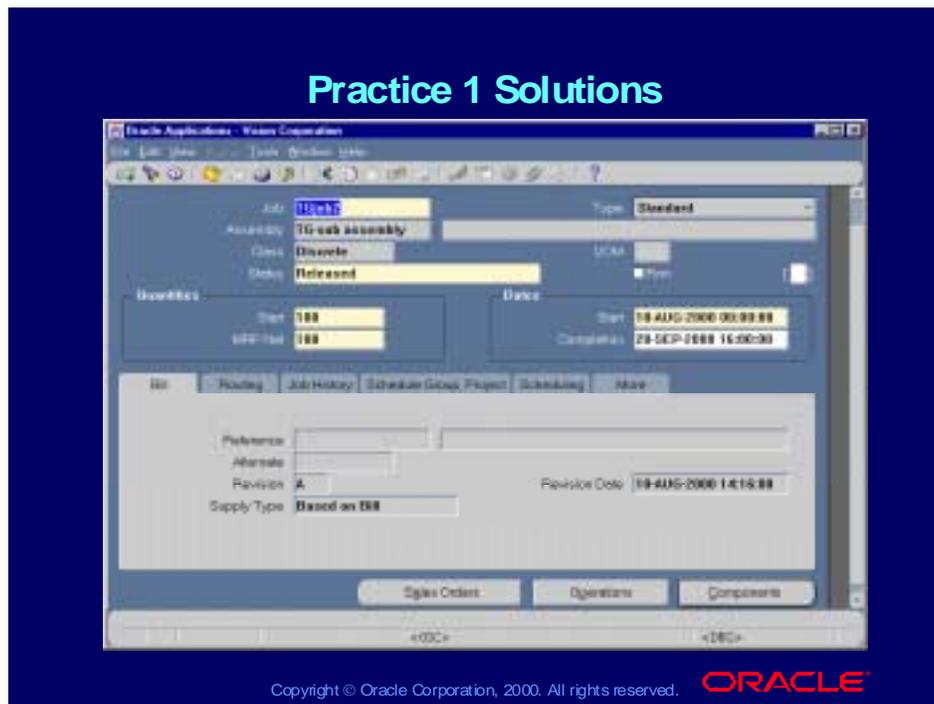
Oracle Applications Logon

The following is specific information to access Vision for manufacturing:

1. Enter a url that is given to you by the instructor

2. Enter User Name: mfg

3. Enter Password: welcome

4. Click Connect

5. Select Responsibility: Manufacturing and Distribution Manager

6. Click OK

7. Select the M1 Seattle manufacturing organization in which to do all of the practices.

   (N) Other—>Change Organization (M) M1 Seattle Manufacturing (B) OK

8. Create an item XX-final assembly, where XX are your initials. Enter a description. Apply the Finished Good Item template. Enable your item in the M1and M3 organizations. Set Overcompletion Tolerance Type to Percent and set Overcompletion Tolerance Value to 20 (This should allow you to over-receive and over-move 20% more units per job/schedule). Save your work.

9. Create 3 items XX-buy part1, XX-buy part2, XX-buy part3. Enter a description. Apply the Purchased Item template. Set the Supply Type for item 1 = Push, item 2 = Operation Pull, and item 3 = Assembly Pull. Set Overcompletion Tolerance Type to Percent and set Overcompletion Tolerance Value to 20 for each item. Enable in organizations M1 and M3. Save each record.

10. Create 2 items XX-sub assembly and XX-phantom assembly. Enter a description for these components. Apply the Finished Good Item template. Set the Supply Type for sub-

assembly = Operation Pull and phantom = Phantom. Set Overcompletion Tolerance Type to Percent and set Overcompletion Tolerance Value to 20. Enable in M1and M3. Save each record.

11. Create 3 resources used to process the assemblies: XX-res1, XX-res2, and XX-res3. Enter descriptions. Type is Machine for resource 1 and Person for resources 2 and 3. UOM is HR for all resources. Charge type is WIP MOVE. Basis = Item, Costed and Standard Rate should be enabled. Select an Absorption and Variance account (should be the same for each resource). Select Rates button. Select a Cost Type (should be the same for each resource). For the Resource Unit Cost enter $10, $5, and $20 respectively. Save each record.

12. Create 3 departments for each resource XX-dept1, XX-dept2, and XX-dept3. Enter department descriptions. In the Main tabbed region, link the appropriate resource to each department (example: XX-res1 to XX-dept1). Enable Available 24 hours. In the Units column, enter 1. Save each record.

13. Create 2 more resources and departments for your phantom. Resource 1 will be Type = Person and resource 2 Type = machine. Resource Unit Cost for resource 1 = $25 and resource 2 = $15. Enter the rest of the information the same as in step 11.

14. Create 4 operations to be used in all the routings:

– XX-d1: Dept=XX-dept1

– Option dependent (cleared), Count Point (enabled), Autocharge (enabled)

– In Operation Resources, Resource=XX-res1

– UOM=HR

– Basis=Item

– Usage =5

– In Scheduled tabbed page, Scheduled = Yes

– In Costing tabbed page, Charge Type = WIP Move, Standard Rate is enabled

– XX-d2: Dept=XX-dept2

– Option dependent (cleared), Count Point (enabled), Autocharge (enabled)

– In Operation Resources, Resource=XX-res2

– UOM=HR

– Basis=Item

– Usage=5

– In Scheduled tabbed page, Scheduled = Yes

– In Costing tabbed page, Charge Type = WIP Move, Standard Rate is enabled

– XX-d3: Dept=XX-dept3

– Option dependent (cleared), Count Point (enabled), Autocharge (enabled)

– In Operation Resources, Resource=XX-res3

– UOM=HR

– Basis=Item

– Usage=5

– In Scheduled tabbed page, Scheduled = Yes

– In Costing tabbed page, Charge Type = WIP Move, Standard Rate is enabled.

– XX-p1: Dept=XX-phandept

– Option dependent (cleared), Count Point (enabled), Autocharge (enabled)

– In Operation Resources, Sequence = 10, Resource=XX-phanres1

– UOM=HR

– Basis=Item

– Usage=10

– In Scheduled tabbed page, Scheduled = Yes

– In Costing tabbed page, Charge Type = WIP Move, Standard Rate is enabled

– In Operation Resources, Sequence = 20, Resource=XX-phanres2

– UOM=HR

– Basis=Item

– Usage=10

– In Scheduled tabbed page, Scheduled = Yes

– In Costing tabbed page, Charge Type = manual, Standard Rate is enabled

15. Create 3 routings for the sub-assembly, final-assembly and phantom:

– Item = XX-sub assembly

– Sequence 10, Code XX-d1, Referenced enabled

– Sequence 20, Code XX-d2, Referenced enabled

– Using Routing Details button and specify FGI as the completion subinventory

– Item = XX-phantom assembly

– Sequence 10, Code XX-p1, Referenced enabled

– Sequence 15, Code XX-p2, Referenced enabled

– Using Routing Details button and specify FGI as the completion subinventory

– Item = XX-final assembly

– Sequence 10, Code XX-d1, Referenced enabled

– Sequence 20, Code XX-d2, Referenced enabled

– Sequence 30, Code XX-d3, Referenced enabled

– Using Routing Details button and specify FGI as the completion subinventory

16. Create the bills of material (revision A) for each item:

– Item = XX-sub assembly

– Item sequence 10, Operation sequence 01, Component = XX-buy part1, Quantity = 2

– In the Material Control tabbed page, Supply Type = Push,

Supply Sub-inventory = Stores

– Item = XX-phantom assembly

– Item sequence 10, Operation sequence 10, Component = XX-buy part2, Quantity = 5

– In the Material Control tabbed page, Supply Type = Operation Pull,

Supply Sub-inventory = Stores

– Item sequence 10, Operation sequence 15, Component = XX-buy part3, Quantity = 5

– In the Material Control tabbed page, Supply Type = Assembly Pull,

Supply Sub-inventory = Stores

– Item = XX-final assembly

– Item sequence 10, Operation sequence 10, Component = XX-sub assembly,

Quantity = 1

– In the Material Control tabbed page, Supply Type = Operation Pull,

Supply Sub-inventory = Stores

– Item sequence 10, Operation sequence 20, Component = XX-phantom assembly, Quantity = 1

– In the Material Control tabbed page, Supply Type = Phantom,

Supply Sub-inventory = Stores

17. Define a discrete job to satisfy a customer order of 100 assemblies required. Assume that the job must start today.

- Use the Discrete Jobs window to define the job

    Oracle WIP (N) Discrete—>Discrete Jobs

- Type: Standard
- Assembly: XX-final assembly
- Class: Discrete
- Status: Released
- Firm (cleared)
- Start Quantity: 100, MRP Net Quantity: 100
- Start Date: Today's date

18. Verify that requirements for the phantom have been created:

    Oracle WIP (N) Discrete —>View Discrete Jobs

- Search for the job for the final assembly
- Select the Operations button
- Select the Resources button
- Select the Quantities tabbed page

Practice 1 Solutions
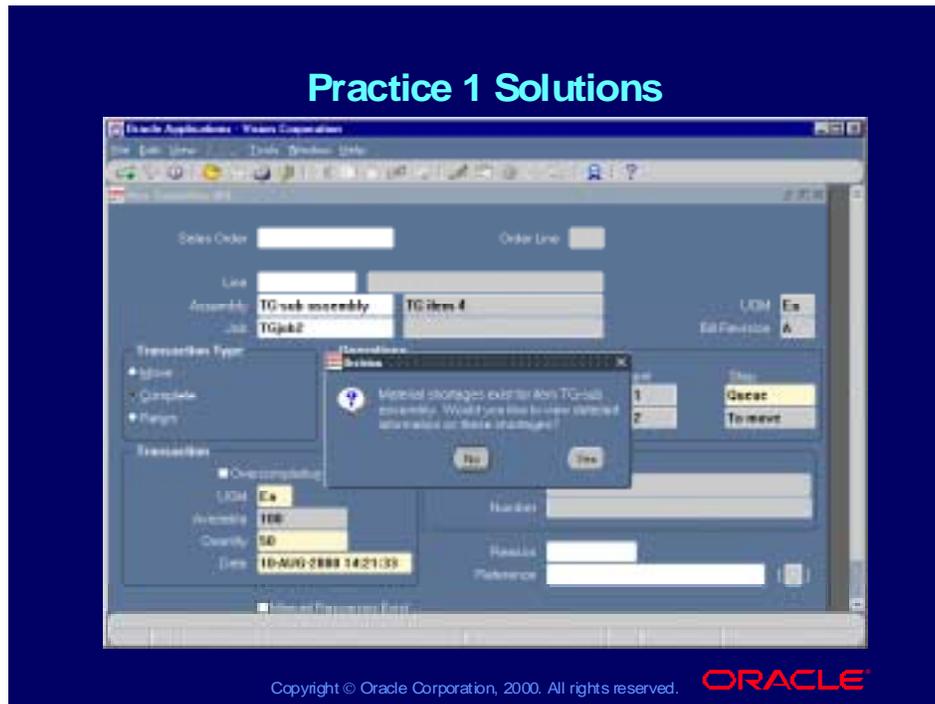
19. Create a work order for the sub-assembly:
    - Use the Discrete Jobs window to define the job
        Oracle WIP (N) Discrete—>Discrete Jobs
    - Type: Standard
    - Assembly: XX-sub assembly
    - Class: Discrete
    - Status: Released
    - Firm (cleared)
    - Start Quantity: 100, MRP Net Quantity: 100
    - Start Date: Today's date

20. View potential shortages:
    - You can run a pick list report or shortage report.
        Oracle WIP (N) Report
        Oracle Inventory (N) On hand, Availability—>View Potential Shortages

21. Perform an easy completion on 1/2 of the quantity on the work order for the sub-assembly:

- Use the Move Transactions window to complete a job

    Oracle WIP (N) Move Transactions—>Move Transactions
- Job: your job for the sub-assembly
- Transaction Type = Complete
- From Operation Sequence 10, Step = Queue
- Quantity = 50.

Completing Jobs and Repetitive Schedules

Overcompleting Jobs and Schedules
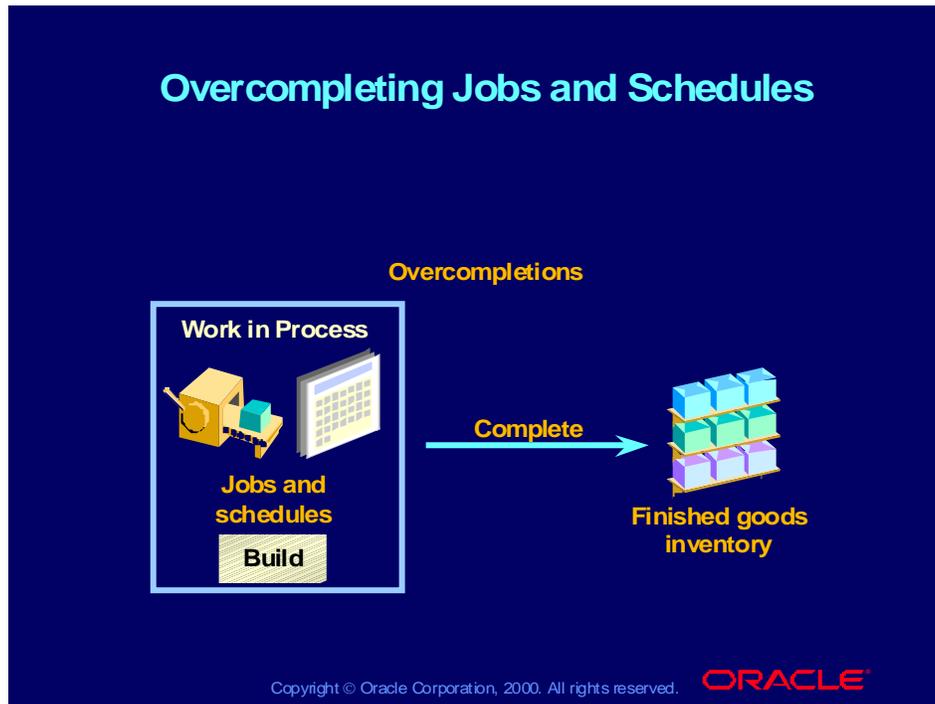
Overcompletions

You can over-complete assemblies to inventory from jobs and schedules per established tolerance limits without changing the job start quantity. You also can move more assemblies than are available at a routing operation.

For example, if 50 intermediate assemblies move into an operation and that operation yields 57 assemblies, you may move 57 units into the next operation.

Note: The extra quantity must be within overcompletion tolerance.

Overcompletions on Jobs

You can overcomplete a quantity of assemblies greater than the job quantity.

Discrete Job without a Routing

You can complete any quantity from a discrete job to inventory.

Overcompletions on Schedules

You can overcomplete the quantity of assemblies scheduled on a production line.

Repetitive Schedule without a Routing

You can complete any quantity from the schedules for the assembly/line combination to inventory.

Overcompletions

Overcompletions

You can:
- **overcomplete either within tolerance or limits**
- **move and complete more assemblies than at operation**

Job quantity = 50   Overcompletion tolerance = 30 units

Move 50 → Operation 1 → Move 50 → Operation 2 → Over move 57 → Operation 3 → Move 57 → Operation 4
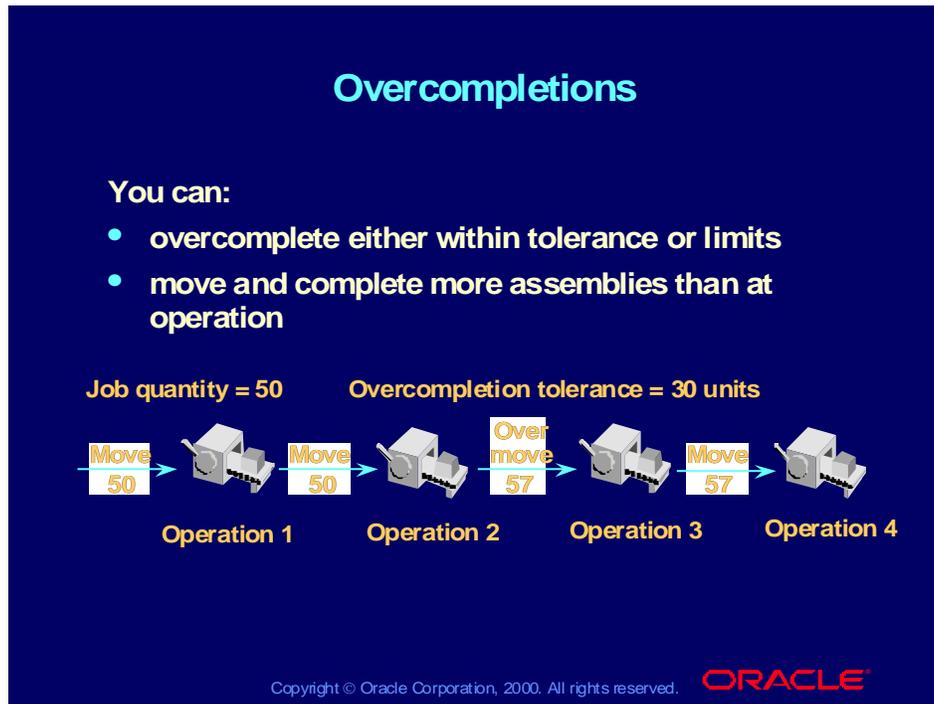
WIP Explodes BOM and Routing for Job Requirements

WIP creates the requirements for operation pull and assembly pull components for the additional assemblies by exploding the bill of materials. WIP creates the requirements for resources by exploding the routing. For the completions:

- Operation pull and assembly pull components will be backflushed automatically.
- Move transactions will charge resources automatically.
- Push components and manual resources will be issued manually.
- The job start quantity remains the same. The completion quantity reflects the overcompletions. It doesn't matter when the overcompletion happens within the routing because the system acts as though the start quantity is higher.

Default Overcompletion Tolerance %

- A hierarchy is used to establish tolerances based on settings at different levels:
- Organization level tolerances

  Set in WIP parameters, are considered if no other tolerances are set at the item level or at the discrete job level.
- Item level tolerances

  Set in the Inventory Item Attributes form by organization, are considered for overcompletions, indicating tolerance type and tolerance value. If no item level tolerances are established, organization level tolerances in WIP parameters are considered.
- Discrete job level

  Set in the Discrete Job form in the More page.

Overcompletion Checkbox

Overcompletion Checkbox

You no longer need to change the job start quantity to complete more than the available quantity in to move. Any extra quantities will be moved through each operation.

You select the overcompletion checkbox in the Move Transactions window or in the Completions window.

- In the Completions window, you must have quantity in the to move of the last operation in order to do an overcompletion.

- In the Move Transactions window, you can complete from any operation.

The amount you can overcomplete is subject to tolerances defined at the organization level, item level, or job/schedule level. You can select an overcompletion tolerance by percent or amount.

Overcompletion Setup

**(Help) Oracle Manufacturing Applications > Oracle Work in Process >
Setting Up > Defining WIP Parameters**

Default Overcompletion Tolerance % (continued)

The WIP parameter is used to default tolerance. If tolerance value is not set up at item
level or at the job/schedule level, this parameter will be used to determine the tolerance
level.

Overcompletions Tolerance at the Item Level

(Help) Oracle Manufacturing Applications > Oracle Inventory > Items > Updating Organization Level Items

Default Overcompletion Tolerance % (continued)

On the Inventory Item Attributes form in the work in process page, you can set an overcompletion tolerance for a specific item. You can either set up a tolerance percentage or amount. The item tolerance overrides the WIP parameter tolerance.

Overcompletions Tolerance at the Job Level

Use the Discrete Jobs or Repetitive Line/Assembly Association window to enter an overcompletion tolerance percentage or amount for a job.

(N) Manufacturing & Distribution Manager > WIP > Discrete > Discrete Jobs (T) More

or

(N) Manufacturing & Distribution Manager > WIP > Repetitive > Associate Lines and Assemblies

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Defining Discrete Jobs Manually

Default Overcompletion Tolerance % (continued)

On the job or schedule, you can either set up a tolerance percentage or amount. The job or schedule overcompletion tolerance overrides the item and organization tolerance.

Completing Jobs and Repetitive Schedules

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Review Question

A hierarchy is used to establish tolerances based on settings at different levels. In which order (from lowest to highest) do they go?

1. Item level, Organization level, Discrete job level

2. Discrete job level, Organization level, Item level

3. Discrete job level, Item level, Organization level

4. Organization level, Item level, Discrete job level

5. Organization level, Discrete job level, Item level

Review Solution

Review Solution

A hierarchy is used to establish tolerances based on settings at different levels. In which order (from lowest to highest) do they go?
1. Item level, Organization level, Discrete job level
2. Discrete job level, Organization level, Item level
3. Discrete job level, Item level, Organization level
4. Organization level, Item level, Discrete job level
5. Organization level, Discrete job level, Item level

Agenda

Agenda

- **Lesson 1: Overview**
- **Lesson 2: Performing Completion Transactions**
- **Lesson 3: Performing Workorder-less Completions**
- **Lesson 4: Intelligent Messaging and Quality Integration**
- **Lesson 5: Performing Completion Transactions for Repetitive Jobs**
- **Lesson 6: Closing and Purging Jobs and Schedules**
- **Lesson 7: Summary**

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Business Benefits

Business Benefits

Using workorder-less completions, you can:
- **complete assemblies without having to create a job or schedule**
- **do several tasks in one step at completion**
- **substitute components**
- **support lot and serial number control**
- **cost transactions using standard and average costing**

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Business Benefits

Workorder-less completions support flow manufacturing, standard costing, and manufacturing average costing. Using workorder-less completions, you can:

- Complete assemblies without having to create a job or schedule
- Do all of the following in one step at completion:
    - Backflush pull and push components
    - Charge WIP move resources and overhead based on the routing
    - Complete assemblies to a designated completion subinventory/locator

  No move transactions are required since the workorder-less completion backflushes and charges resources at completion versus at each operation

- Substitute components

  Add, delete, and substitute components that are not normally associated with the assembly you are building

- Support lot and serial number control
    - Backflushing
    - Completing
- Cost completion transactions
    - Standard
    - Average

Workorder-less Completions

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Flow Manufacturing > Work Order-less Completions

Performing Workorder-less Completion Transactions

- You can complete assemblies using the Workorder-less Completions window without having to create a job or repetitive schedule.

- Assembly Pull, Operation Pull, and Push components are automatically backflushed when you complete assemblies in this window.

- Lots for backflush components under lot number control can be identified manually or automatically depending on how the WIP Backflush Lot Selection Method parameter is set.

- For backflush components under serial or lot and serial control, you can manually identify which lots or serial numbers to backflush using the Lot/Serial action in the Components window.

- If you return assemblies using this window, you must always identify the lot, serial, and lot or serial numbers of the components being returned to inventory.

Caution: Assembly Pull, Operation Pull, and Push components are automatically backflushed. Bulk and supplier components are not backflushed. The bills for Phantoms

are exploded and the Phantom components are backflushed. The system backflushes these components from the supply subinventory/locator assigned to the components on the bill of materials or the one that the user specified in the window. If no supply subinventory/locator is assigned to the bill components, the system pulls components from the supply subinventory/locator defined for the item. If no item supply subinventory/locator is defined at the item level, items are pulled from the default supply subinventory/locator as determined by the Supply Subinventory and Supply Locator parameters.

Components on a Workorder-less Completion

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Flow Manufacturing > Performing Work Order-less Completions

Returning Assemblies from Inventory to WIP
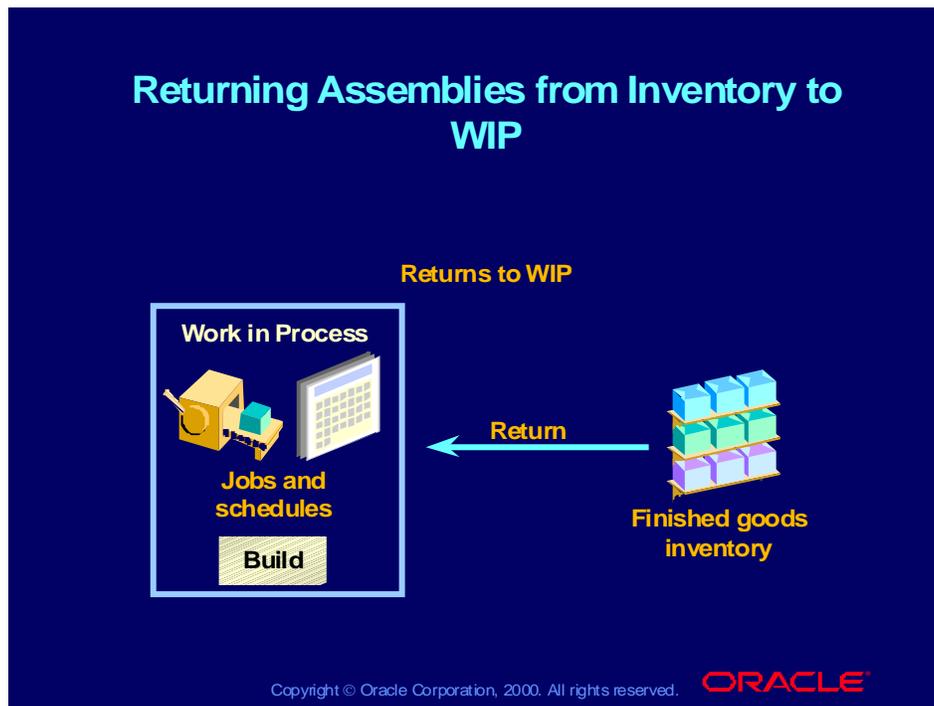
Return Completed Assemblies

You can return completed assemblies to work in process using the Completion Transactions window as well as the Move Transactions window.

Reasons to Return Assemblies to Work in Process

- You want to perform additional processing.
- You found a quality problem.
- You mistakenly completed unfinished assemblies to inventory.
- You are performing a disassembly using a nonstandard job.

Return Characteristics

- You can return assemblies from inventory to work in process by selecting Return as the transaction type.
- You can return as many assemblies as needed.
- Any assembly pull components that were backflushed upon completion are unbackflushed; that is, they are returned to inventory when you return the assembly to work in process.

Note

For repetitive production, Oracle Work in Process allocates returns to active schedules on a last-in-first-out basis.

For standard discrete jobs, you can never return more assemblies than you completed.

You can return more assemblies than you completed for nonstandard discrete jobs without a routing, as in the case of disassembly.

Move Transactions for Return Assemblies

Move Transactions for Return Assemblies

Use the Move Transactions window to return assemblies to the shop floor.

(N) Manufacturing & Distribution Manager > WIP > Move Transactions > Move Transactions

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Shop Floor Control > Move Transactions >Performing Move Transactions

Move Transactions

You can return assemblies to the shop floor and simultaneously move them to a specific operation using the Move Transactions window.

Costing Completion Transactions: Accounting Entries

Costing Completion Transactions: Accounting Entries

- The accounting entries for assembly completion transactions are:

Account	Debit	Credit
Subinventory elemental accounts	XX	
WIP accounting class valuation accounts		XX

- The accounting entries for earning assembly material overhead on completions are:

Account	Debit	Credit
Subinventory material overhead account	XX	
Inventory material overhead absorption account		XX

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Costing Assembly Completion Transactions

Completion transactions affect your work in process and inventory valuations.

Completion transactions decrease your work in process valuation and increase your inventory valuation. The accounting entries for assembly completion transactions are shown on the slide.

Earning Assembly Material Overhead on Completion

You can assign overheads based on the total value of an item. You can earn these overheads as you complete assemblies into inventory. The accounting entries are shown on the slide.

Note: Applicable to both standard and average costing.

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Manufacturing Average Costing

You can cost items at a weighted average perpetual cost.

- Completions are valued using the sum of the actual costs of resources and materials issued to a job

- Partial completions are valued using the appropriate proportional sum of actual resource and materials issued to a job

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Manufacturing Average Costing (continued)

- **Final completions are valued using the total net value in a job**
- **The unit cost of a completion is computed elementally**
  - **Material**
  - **Material and overhead**
  - **Resource**
  - **Overhead**
  - **Outside processing**

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Completing Jobs and Repetitive Schedules

Practice 2 Overview
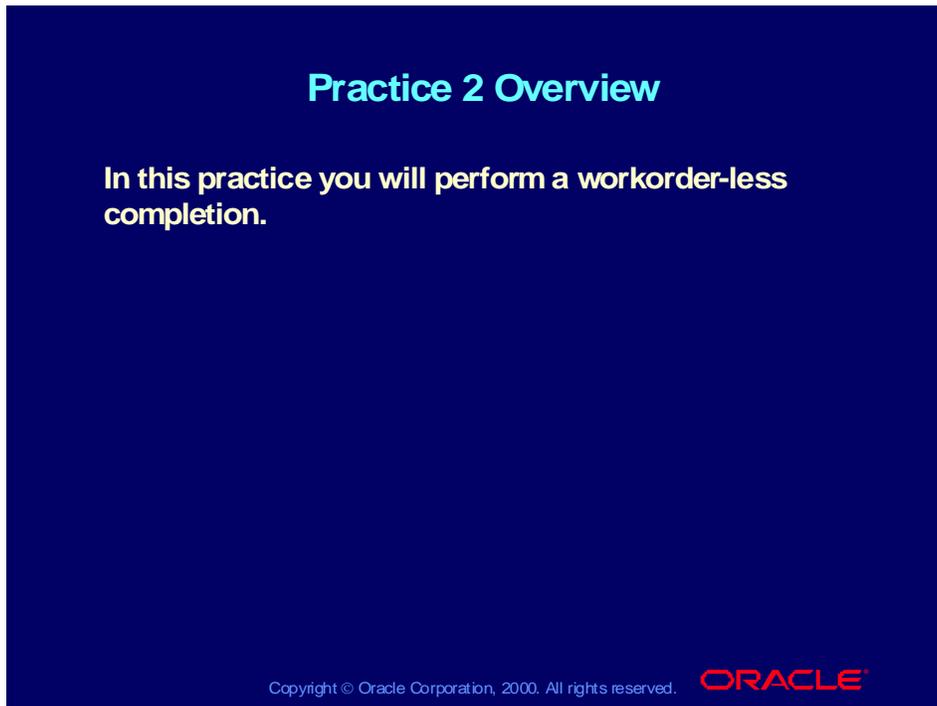
Scenario

Create a workorder-less completion for the final assembly. You should see a request for quality results.

Practice 2 Solution

Copyright © Oracle Corporation, 2000. All rights reserved.
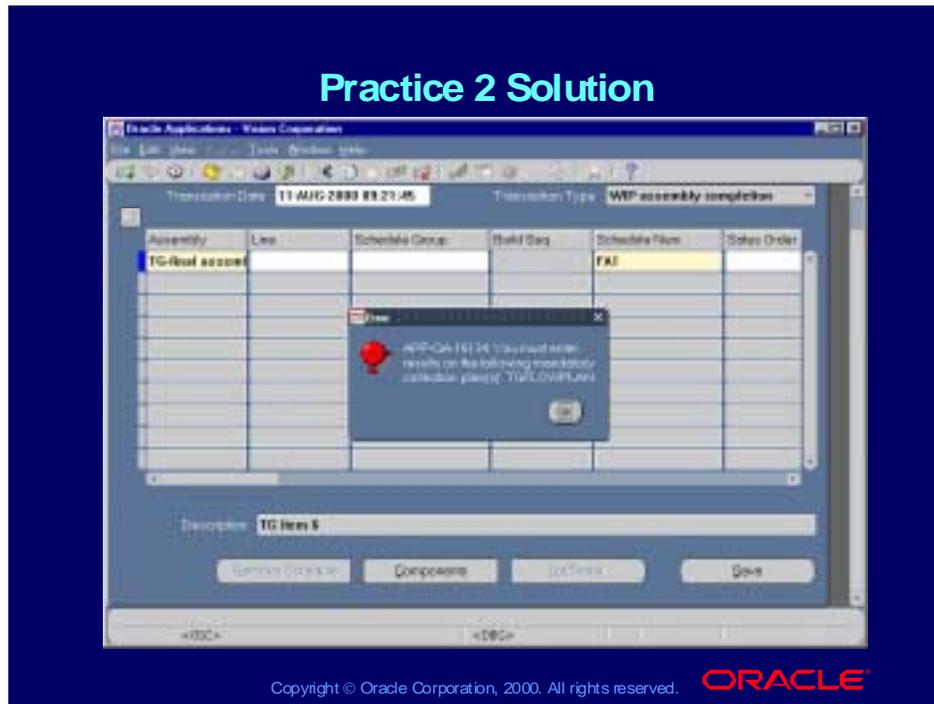
Workorder-less Completion

1. Navigate to the Workorder-less Completions window to complete a final assembly.

   Oracle WIP (N) Material Transactions—>Workorder-less Completions

2. Assembly: XX-final assembly

   Schedule: you decide

   Quantity: you decide

   Save your work. Upon save you should receive a message that says you must enter mandatory quality results.

   Select the Blue Ribbon on the tool bar.

   Enter the quality results. Select OK.

Note: Depending on the action you chose, you may see a message.

3. Verify that the phantom routing was exploded correctly and the WIP move resources in the phantom routing were charged to the schedule.

   Oracle Cost (N) View Transactions—>WIP Distributions

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- **Lesson 7: Summary**

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Workflow Alerts and Intelligent Messaging

Workflow Alerts and Intelligent Messaging

Notify users of shortages during WIP completion and component return transactions

Complete quantity

Shortage notification
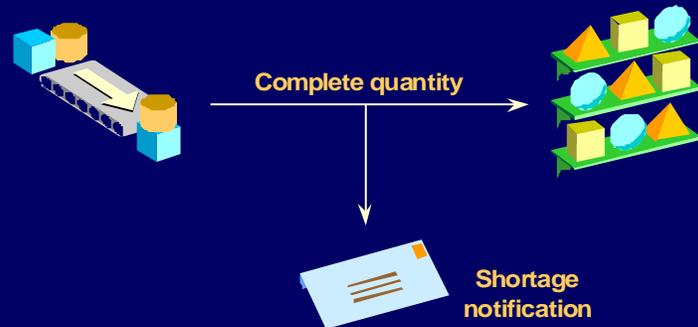
Shortage Messages

Material Shortages
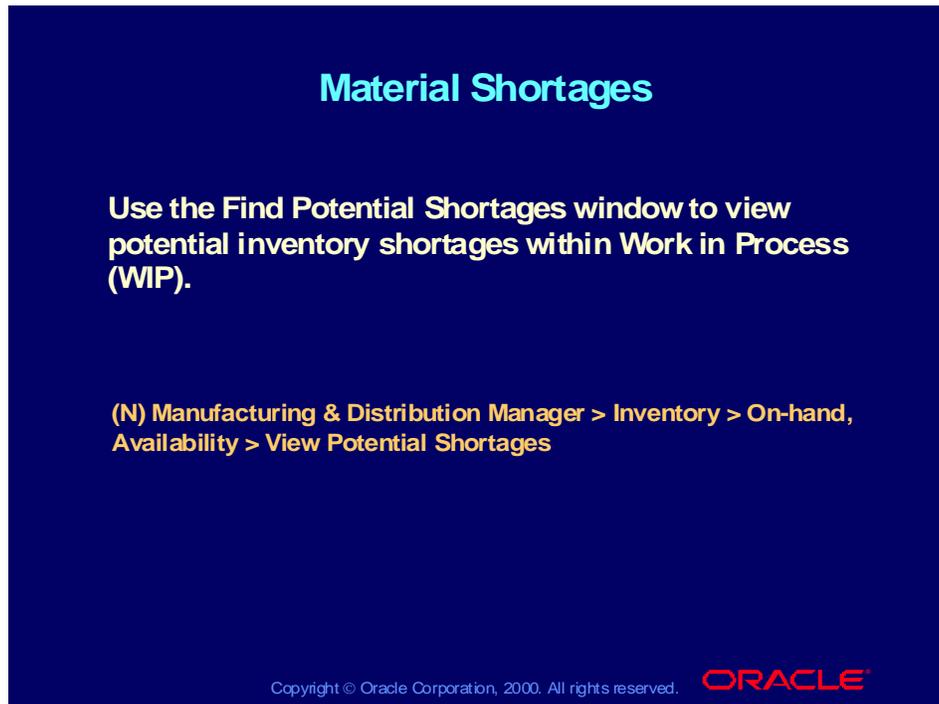
(Help) Oracle Manufacturing Applications > Oracle Inventory > Items > On-hand and Availability

Material Shortages

View material shortages directly from all of the forms that have been enabled to alert users of material shortages, bringing up the View Potential Shortages form.

Material Shortage Parameter Setup

Material Shortage Parameter Setup

Use the Organization Item window to identify which items will have the Check Material Shortage attribute enabled.

(N) Manufacturing & Distribution Manager > Inventory > Items > Organization Items

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Technical Note

This setup is at the item level.

Implementation Considerations for Shortage Messages

- Determine which items should have shortage checks
- Determine shortage parameters
- Which type of WIP jobs to check for shortages
- What location to check for shortages
- Who should be notified

Other Setup Required for Material Shortage Feature

- On the Setup Transaction Types form, you must choose the type of message (online or workflow notification), and you must select the transaction types to trigger the shortage check.
- On the Inventory Item Attributes form, you must check the material shortages check box for those items that you want included in the material to be checked for shortages at the organization level of the item.

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Shortage Message Configuration

Shortage Message Configuration

What is needed to configure shortage messages?
- **Define demand sources and individuals notified in Shortage Parameters for Inventory Organization.**
- **Set item to be shortage message enabled.**
- **Set Transaction Type to be shortage message-enabled.**
- **Optionally, assign planners and buyers to items.**

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Review Question

Review Question

True or False

- **Users performing WIP completion and component return transactions can be sent a message indicating that, for the item being moved into inventory, a shortage exists in an inventory location or on a sales order or manufacturing order.**

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Review Solution

Review Solution

True or False

- **Users performing WIP completion and component return transactions can be sent a message indicating that, for the item being moved into inventory, a shortage exists in an inventory location or on a sales order or manufacturing order.**

Answer:

True

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Integration with Oracle Quality

Oracle Quality Integration

You can collect quality data while performing a completion transaction or a work orderless completion in Oracle WIP. You can collect data as you complete, return, or scrap assemblies on discrete jobs, repetitive schedules, or work orderless flow schedules.

Quality Collection Criteria in Oracle Quality

You set measures for quality data collection in Oracle Quality.

What Oracle Quality does is driven by the form. Prompts to collect quality data are form specific and are only invoked when in the completion window.

Review Question

Review Question

True or False

- **You can collect quality data while performing a completion transaction or a workorder-less completion in Oracle WIP.**

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Review Solution

Review Solution

True or False

- **You can collect quality data while performing a completion transaction or a workorder-less completion in Oracle WIP.**

Answer:

True

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Completing Jobs and Repetitive Schedules
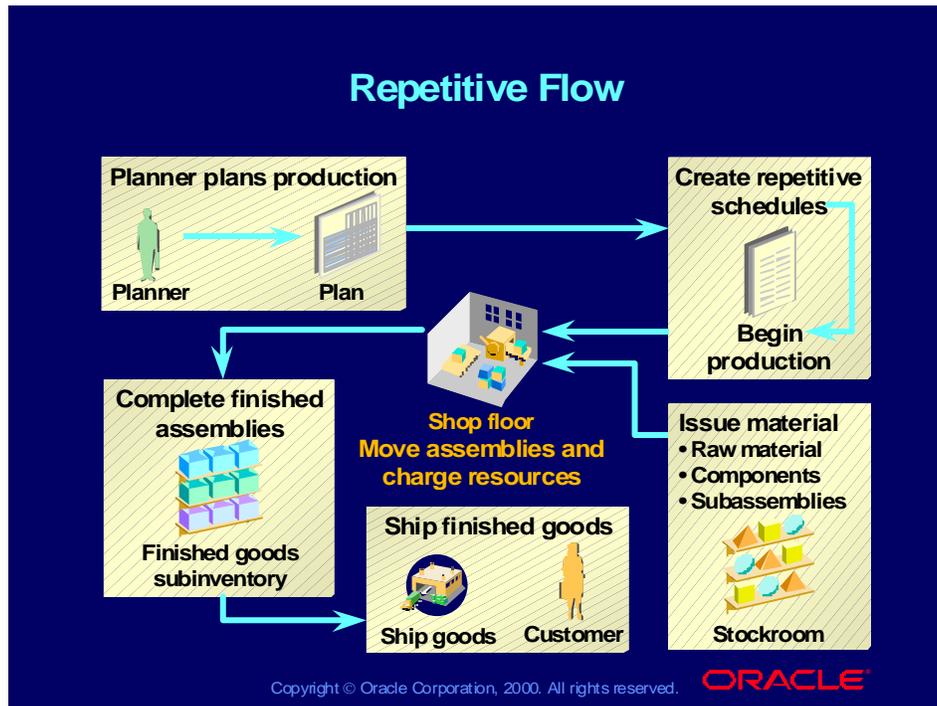
Repetitive Flow

Completion Transactions for Repetitive Schedules
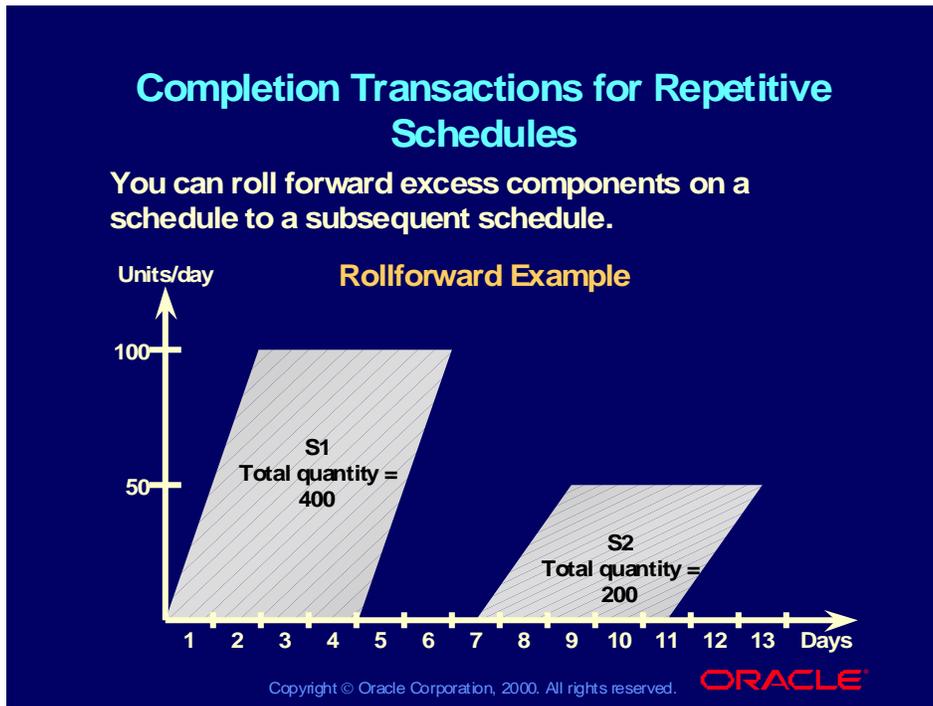
Rollforward Rules

- When all assemblies of a schedule are completed, Oracle Work in Process checks the schedule for any excess components resulting from overissue of material requirements.

- If the subsequent schedule is released, or if it is unreleased and falls into the autorelease time fence, Oracle Work in Process rolls the excess material charges forward to that schedule.

- If there is no subsequent schedule to autorelease, Oracle Work in Process does not roll the excess material charges forward.

Overissue Examples

- Push a quantity greater than the quantity required based on the total quantity on the assembly times (the component usage divided by the component yield), because you issue in daily or weekly buckets, and not by exact schedule quantity.

- Reduce the schedule quantity on a schedule after you already issued all the components to meet the material requirements. For example:

  Prior schedule quantity = 1,000   Component usage/component yield = 2/1 = 2

  Prior required quantity = 1,000 * 2 = 2,000

  New schedule quantity = 800   New required quantity = 1,600

- Issue additional components on the fly without ever creating corresponding material requirements. For example:

  Quantity required = 0   Quantity issued = 10

Performing Completion Transactions Example

Performing Completion Transactions Example

Rollforward Example

Component	Required Qty for S1	Qty Issued to S1	Required Qty for S2	Qty Rolled Forward to S2
COMP1	800	850	400	50
COMP2	400	400	200	0
COMP3	400	420	N/A	20

Examples

- Both S1 and S2 are released.
- Oracle Work in Process rolls forward the extra 50 COMP1 issued to S1 to S2 because COMP1 is a requirement for S2 and S2 is released.
- Oracle Work in Process also rolls forward the extra 20 COMP3 issued to S1 to S2 and creates a requirement for COMP3 on the S2 schedule with a quantity required of 0.

Note: You also have the option of rolling forward issued material if you are canceling a schedule.

Autorelease

Autorelease

With Oracle Work in Process, you can streamline your repetitive production by automatically releasing the next schedule when one schedule is completed.

- **You may want to continue running your line and building your repetitive assembly if another schedule is defined for the assembly on that line.**

- **If the schedule is defined but unreleased, the completion of the preceding schedule can serve as a signal to automatically release the next unreleased schedule.**

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Stopping a Repetitive Schedule

Stopping a Repetitive Schedule

5
Stop repetitive schedules and
analyze repetitive costs

A
Stop repetitive schedules

B
Analyze repetitive costs

END
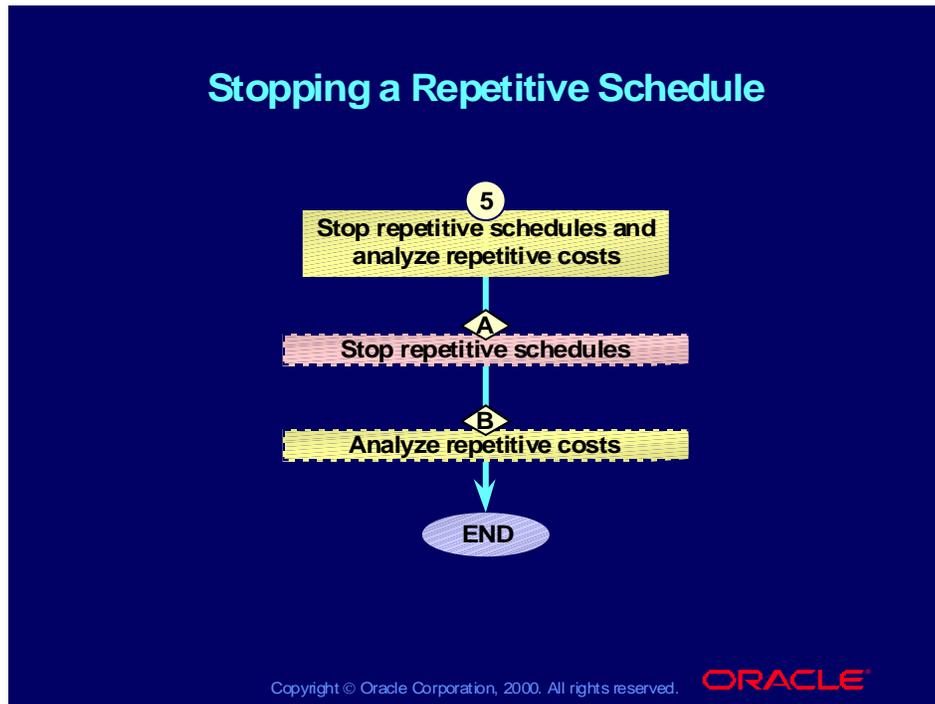
Status Change

You can stop a repetitive schedule to indicate that the schedule has reached its expected production.

- A schedule automatically stops when the number of assemblies completed in a WIP completion transaction equals the number of assemblies planned. The status of the schedule changes to Complete—No Charges if there is a subsequent schedule on the same line for the same assembly, or to complete if it is the last schedule.

- You can stop a schedule at any time manually by switching its status to Canceled.

- Unlike discrete jobs, repetitive schedules cannot be closed.

- You can change the status of a complete schedule to Canceled or Complete—No Charges to prevent any accidental charges to a schedule that is no longer needed.

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Completing Jobs and Repetitive Schedules

Closing Discrete Jobs
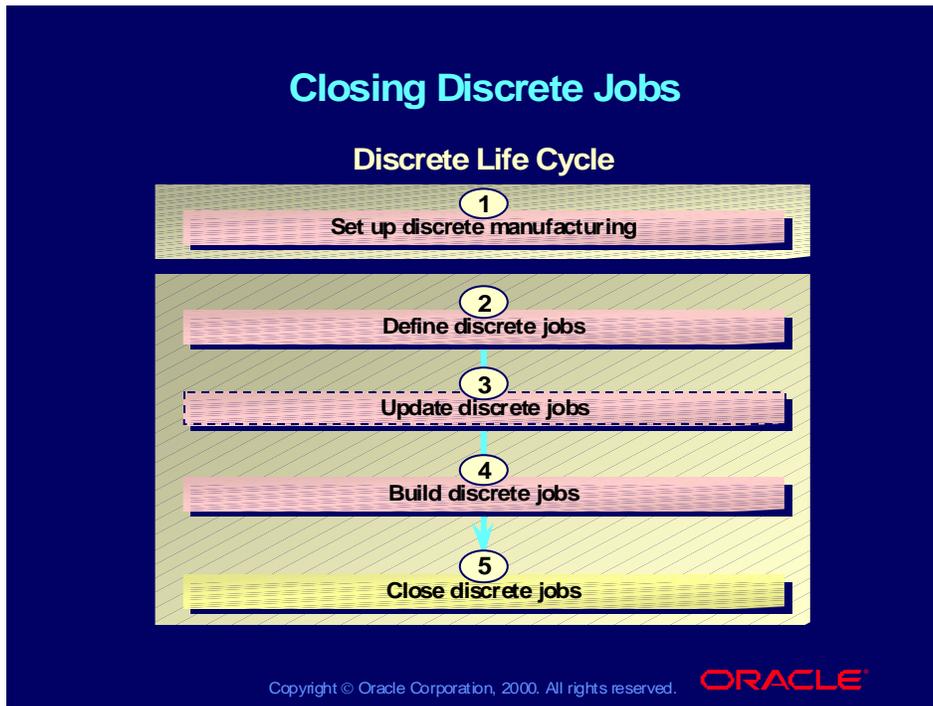
What Happens when You Close a Job

You can close discrete jobs that need to be closed so that the system can calculate final costs and variances automatically. During the close process, the job status becomes Pending Close. When the job close process succeeds, further activity on the job is prevented and the status of the job becomes Closed—No Charges.

The system removes any remaining costs from the job by creating journal entries that charge remaining job costs to the variance accounts.

Assuming a positive balance in the job at the end of the close, here are the accounting entries for a job close:

Account	Debit	Credit
WIP accounting class variance accounts	XX	
WIP accounting class valuation accounts		XX

The remaining balance in the job is zero.

What Should You Do Before Closing a Job?

You should verify that all transactions were performed correctly using the Discrete Job Value report (because Oracle Work in Process cannot close a job with pending transactions). View the transactions from the Discrete Jobs window.

WIP Costing
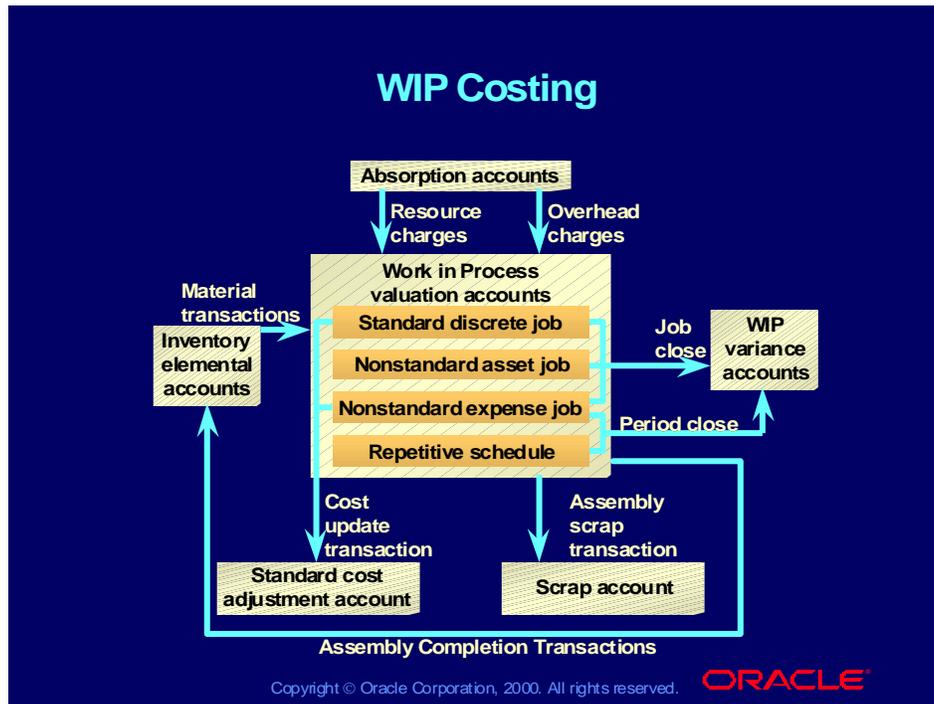
What Happens after You Close a Job?

You can still view job information in the View Discrete Jobs window and Discrete Jobs window.

Can the Status of a Closed Job Be Changed?

- To be able to unclose jobs, the Close Discrete Jobs function security parameter must be set to Y.
- Only jobs closed in error should be unclosed, and you should do this immediately after the close using the Close Discrete Jobs window.
- If assembly costs are rolled up between the time you close and unclose a job, your costs may be incorrect because the unclose process does not revalue the job.
- You cannot unclose a job that is linked to a sales order.
- You cannot unclose a job that was closed in an accounting job that is no longer open.

What Happens If the Job Close Process Fails?

The job is assigned a status of Failed Close. You can examine jobs that could not be closed using the concurrent request log file. You can resubmit jobs that could not be closed.

Flow Charging

When you enter repetitive transactions, you charge the repetitive assembly and line rather than a specific job. Therefore you can also see repetitive costs consolidated across all schedules for an assembly on a line.

Period Costing

- You can use the Inventory Accounting Period window in Oracle Inventory to close a period and perform period costing for your repetitive production.
- Period costs for an assembly are calculated by totaling the charges made during the period and dividing that number by the number of assemblies completed in the period.
- The difference between the period cost and the standard cost is called a variance.
- Oracle Work in Process writes variances to the variance accounts associated with the WIP accounting classes assigned to the assembly/line combination for which a repetitive schedule was defined.
- You can use the parameter Recognize Repetitive Variances to control whether your variances at period end are based only on completed and canceled schedules or on all schedules.

Close Discrete Job Form

Close Discrete Job Form

Use the Close Discrete Jobs Summary window to:
- **close discrete jobs**
- **resubmit jobs that failed to close**
- **unclose Jobs**

(N) Manufacturing & Distribution Manager > WIP > Discrete > Close Discrete Jobs > Close Discrete Jobs (Form)

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(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Discrete Job Close >Closing Discrete Jobs

Technical Note

Closing a discrete job is an accounting close. It is independent of the manufacturing close (completed all transactions against the job), but once the accounting close is done, you can no longer perform transactions against the job.

# Close Discrete Jobs Standard Request Submission (SRS)

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Reports and Processes > Closing Jobs Using Submit Requests

Window Characteristics

- You use the same window to close both standard and nonstandard discrete jobs.
- You can enter selection criteria to close several jobs at the same time. For example, you can choose to close all complete jobs by entering that status in the Status field.
- You can specify a submission date and time in the Run Option region. For example, you might want to run this process during off hours to prevent the additional computing load from slowing down your system.
- It is good practice to review jobs that are to be closed before closing them using the View Discrete Jobs window or discrete job reports.

Note

The window launches a concurrent process that optionally purges all details and move and resource transactions for closed jobs.

Purging Discrete Jobs

Purging Discrete Jobs

Use the Purge Discrete Jobs Summary window to select which closed jobs or information from closed jobs will be purged.

(N) Manufacturing & Distribution Manager > WIP > Discrete > Purge Discrete Jobs > Purge Discrete Jobs (Form)

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Discrete Manufacturing > Discrete Job Purge > Purging Discrete Jobs

> **... > Purging Jobs and Schedules**

> **... > Specifying Purge Options**

> **... > Processing Pending Jobs and Schedules**

> **... > Standard versus Non-Standard Discrete Jobs**

Purge Discrete Jobs Summary

You can purge discrete jobs using the SRS window or the Purge Discrete Jobs window. You have the following reporting options when you purge from the Purge Discrete Jobs window:

- Full: Provides a detailed report
- Summary: Provides a summarized report
- Exception: Reports only exceptions that are raised as a result of the purge operation
- None: Listing only the purge options selected

You can choose the following purge options:

- Report Only
- Purge and Report
- Purge Only

Purging Repetitive Schedules

Purging Repetitive Schedules

Use the Purge Repetitive Schedules Summary window to select which schedules or information from the schedules will be purged.

(N) Manufacturing & Distribution Manager > WIP > Repetitive > Purge Repetitive Schedules > Purge Schedules (Form)

(Help) Oracle Manufacturing Applications > Oracle Work in Process > Repetitive Manufacturing > Repetitive Schedule Purge > Purging Repetitive Schedules

... > Purging Jobs and Schedules

... > Specifying Purge Options

... > Processing Pending Jobs and Schedules

Purge Repetitive Schedules Summary

You can purge repetitive schedules using the SRS window or the Purge Repetitive Schedules window. When you purge from the Purge Repetitive Schedules window, you have the following reporting options:

- Full: Provides a detailed report
- Summary: Provides a summarized report
- Exception: Reports only exceptions that are raised as a result of the purge operation
- None: Lists only the purge options selected

You can choose the following purge options:

- Report Only
- Purge and Report
- Purge Only

Purging Jobs and Schedules Standard Request Submission (SRS)

**Purging Jobs and Schedules
Standard Request Submission (SRS)**

**Use the Purge Jobs and Schedules window to submit
the request to purge the information selected in the
Purge Discrete Jobs window.**

**(N) Manufacturing & Distribution Manager > WIP > Discrete >
Purge Discrete Jobs > Purge Discrete Jobs (SRS)**

**(Help) Oracle Manufacturing Applications > Oracle Work in Process >
Reports and Processes > Purging Jobs and Schedules**

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Summary
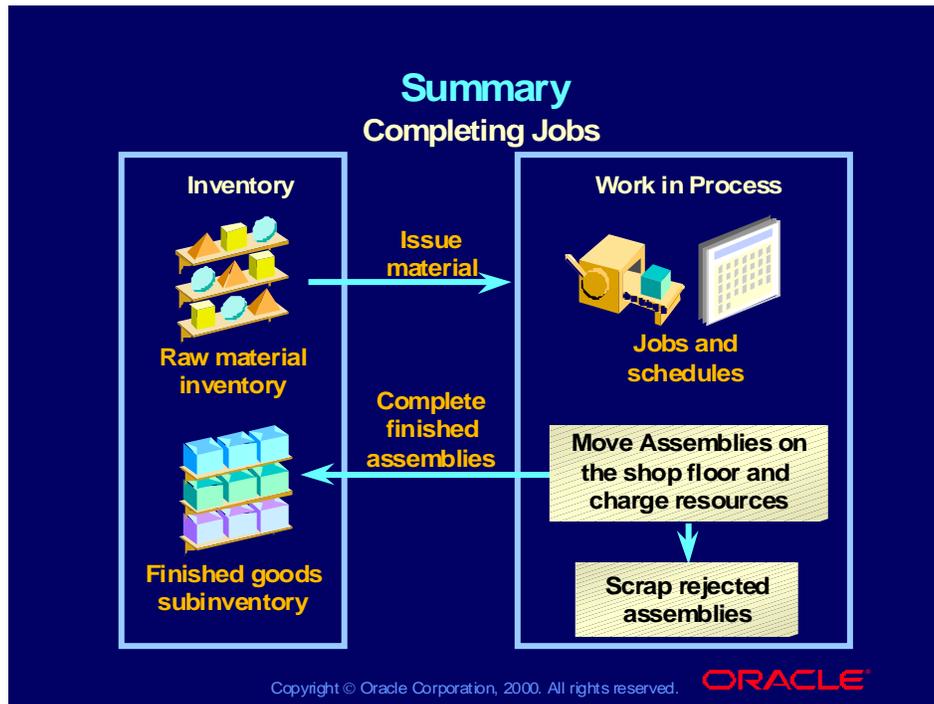
Completing Assemblies

- You can use one of four data-entry methods to complete assemblies to inventory or return assemblies to WIP: the Completion Transactions window, the Move Transactions window, the Material Transaction Interface table, or the Workorder-less Completions window.

- Assembly pull component backflushes are initiated by WIP completion transactions.

- You can roll forward extra material from one schedule to the next upon completion.

- You can overcomplete discrete jobs or repetitive schedules.

- You can return completed assemblies to work in process using the Completion Transactions window.

Discussion Question

Discussion Question

What are some reasons Oracle Work in Process would prevent you from performing a completion transaction?

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Discussion Solutions

Discussion Solutions

What are some reasons Oracle Work in Process would prevent you from performing a completion transaction?

– There is no available quantity in the To Move step of the last operation in the routing.
– There is a shop floor status preventing movement from the To Move step of the last operation in the routing.
– The job/schedule status prevents transactions.
– The item is not transactable.

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