

1 PURPOSE

The purpose of this document is to summarize special set-ups required when using nonstandard discrete jobs in Oracle Manufacturing and the major functional differences between standard and nonstandard discrete jobs. Differences at the table level are identified.

The paper also includes important patches in release 11 that correct functional issues relating to nonstandard discrete job.

Material included in this paper came from the Work In Process Reference Manual, Work In Process Technical Reference Manual, Work In Process Users Guide, and the Cost Management Users Guide. The objective of this paper was to consolidate the information in these manuals into one cohesive paper on nonstandard jobs.

2 SCOPE & APPLICATION

This paper is intended for functional analysts involved in using nonstandard jobs in Oracle Manufacturing. It does not identify all of the issues raised when using nonstandard jobs but tries to summarize the important issues documented in release 11.

3 USE OF NONSTANDARD DISCRETE JOBS in ORACLE MANUFACTURING

On a functional basis, there are five major differences between the structure and execution of nonstandard discrete jobs and standard discrete jobs (as outlined in the Work In Process Reference manual). They are:

1. Oracle Work in Process provides more options with nonstandard jobs than with standard jobs.
2. Oracle MRP does not create planned purchase orders or reschedule recommendations for nonstandard jobs. The user must manually define and reschedule these jobs. Once the nonstandard job is defined, Oracle MRP will consider the material requirements and assemblies in its netting process.
3. Oracle MRP does not deduct scrapped assemblies from MRP net quantity nor does it gross down the MRP net quantity by the item shrinkage rate. You must manually adjust planned assembly shrinkage by entering an MRP net quantity that is less than the job quantity.
4. Nonstandard expense jobs are period costed and not subject to cost updates. These jobs do not earn overhead on completion. The material overhead at completion is posted directly to the subinventory material overhead account.
5. Oracle Work In Process will not automatically implement engineering change orders on nonstandard jobs with a status of unreleased – no charges allowed.

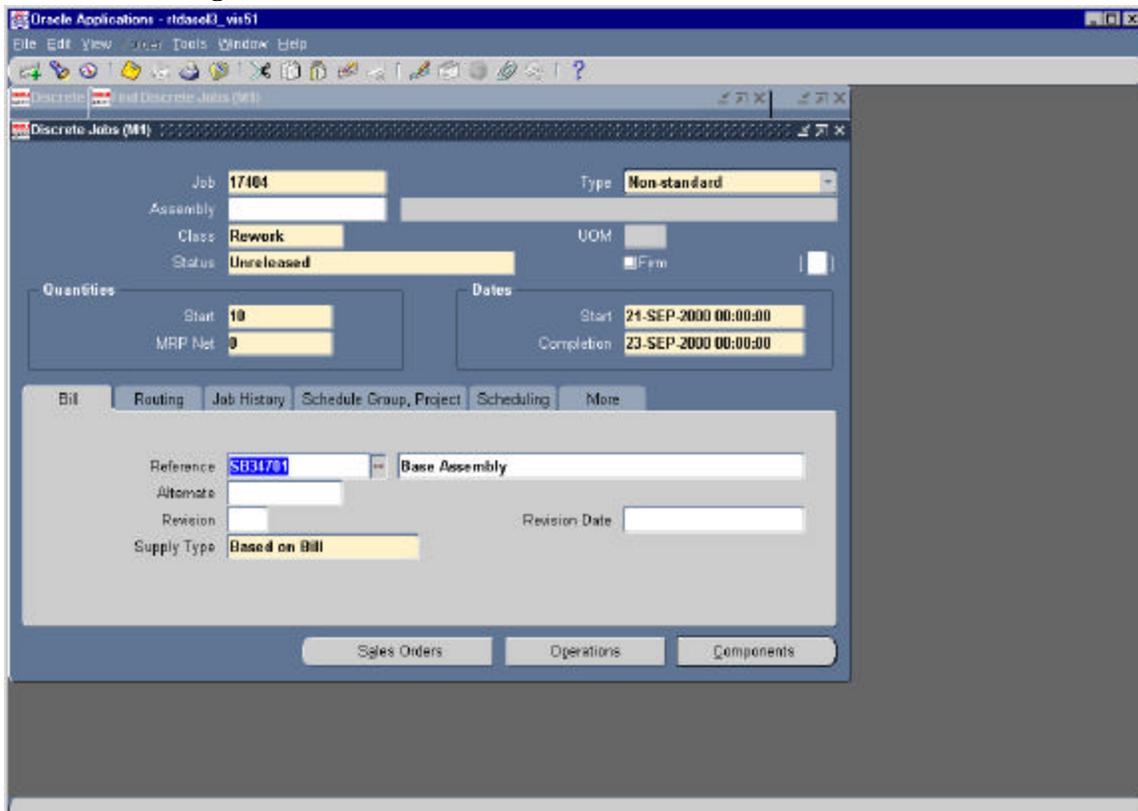
4 DIFFERENCES IN FIELDS ENTERED WHEN CREATING NONSTANDARD JOBS VERSUS STANDARD DISCRETE JOBS

	Standard Discrete Job	Nonstandard Discrete Job
Assembly	Required	Optional Must be entered if you want to perform a move and/or completion

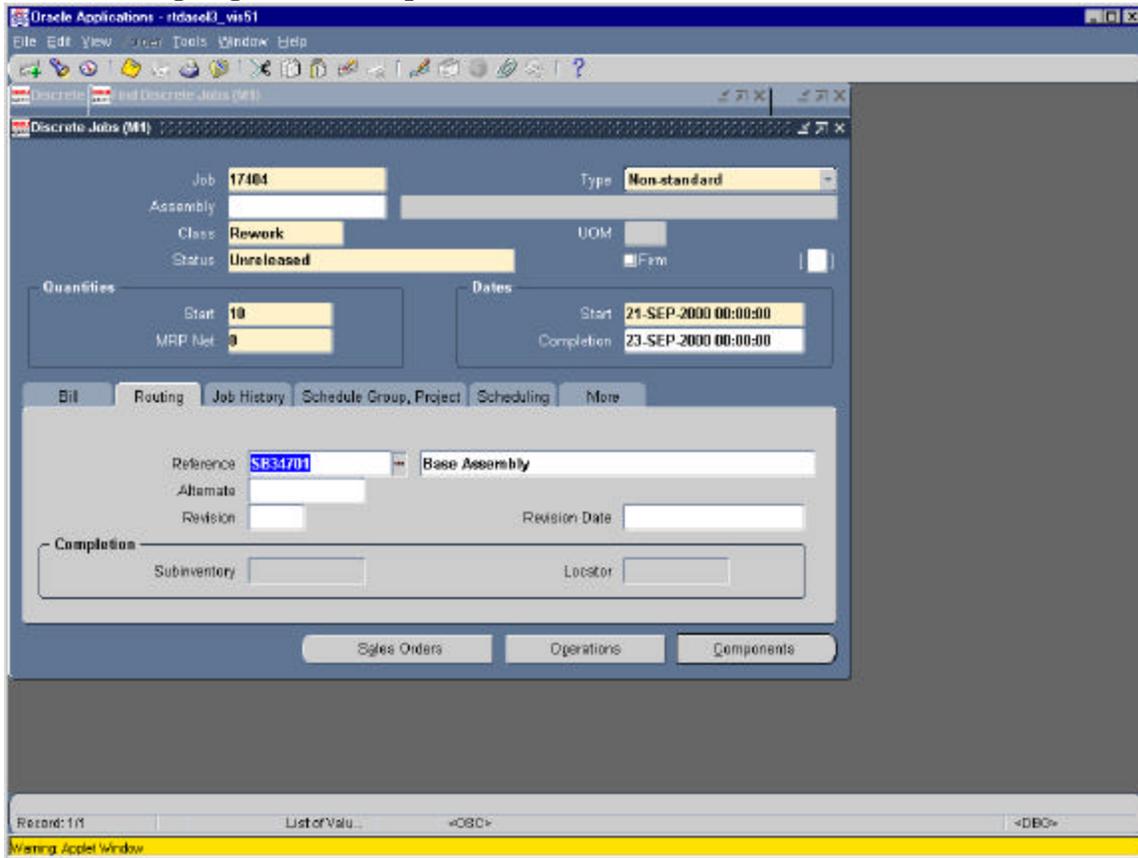
		transaction.
Job Class	Required – job class defined for standard job.	Required, job class defined for nonstandard asset or nonstandard expense job.
Quantity	Required	You can enter a 0 here, as explained later in this article.
MRP Net Qty	Required – Defaults from Qty	Required – Defaults from Qty. If an assembly is not entered, then a value is not populated in this field.
Start Date/Completion Date	Required	Required. If a routing exists for the job, then you can enter either a start or a completion date. If a routing does not exist, you must enter both a start and completion date.
Firm	Defaults to Yes if item is MPS planned. Otherwise, defaults to No.	Cannot enter a value in this field. It defaults to No.
Routing Reference	Cannot enter.	Optional. If you want to perform job scheduling based on a routing, then enter a value.
Bill Reference	Cannot enter a value in this field	Optional. If you want to automatically create material requirements based on a bill of materials, enter a value.
Supply Type	Required. Defaults to Based on Bill.	Required. Defaults to Based on Bill.

4.1 The Wip/Discrete/Discrete (WIPDJMDF) Form

4.1.1 The Bill Region of the Discrete Job Form



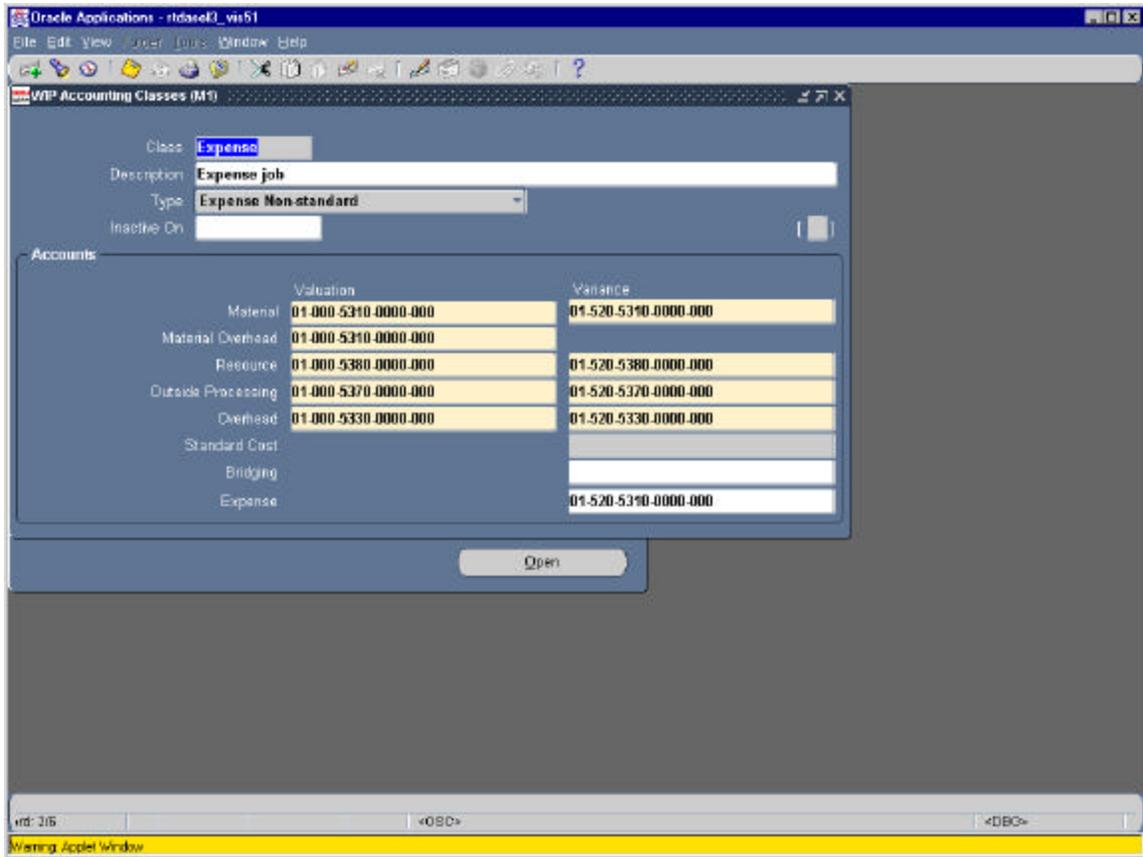
.2 The Routing Region of the Wip Discrete Job Form



5 Wip/Setup/Wip Accounting Classes and Special Setup for Different Manufacturing Activities

5.1 Examples of Different Accounting Classes

5.1.1 Expense Accounting Class



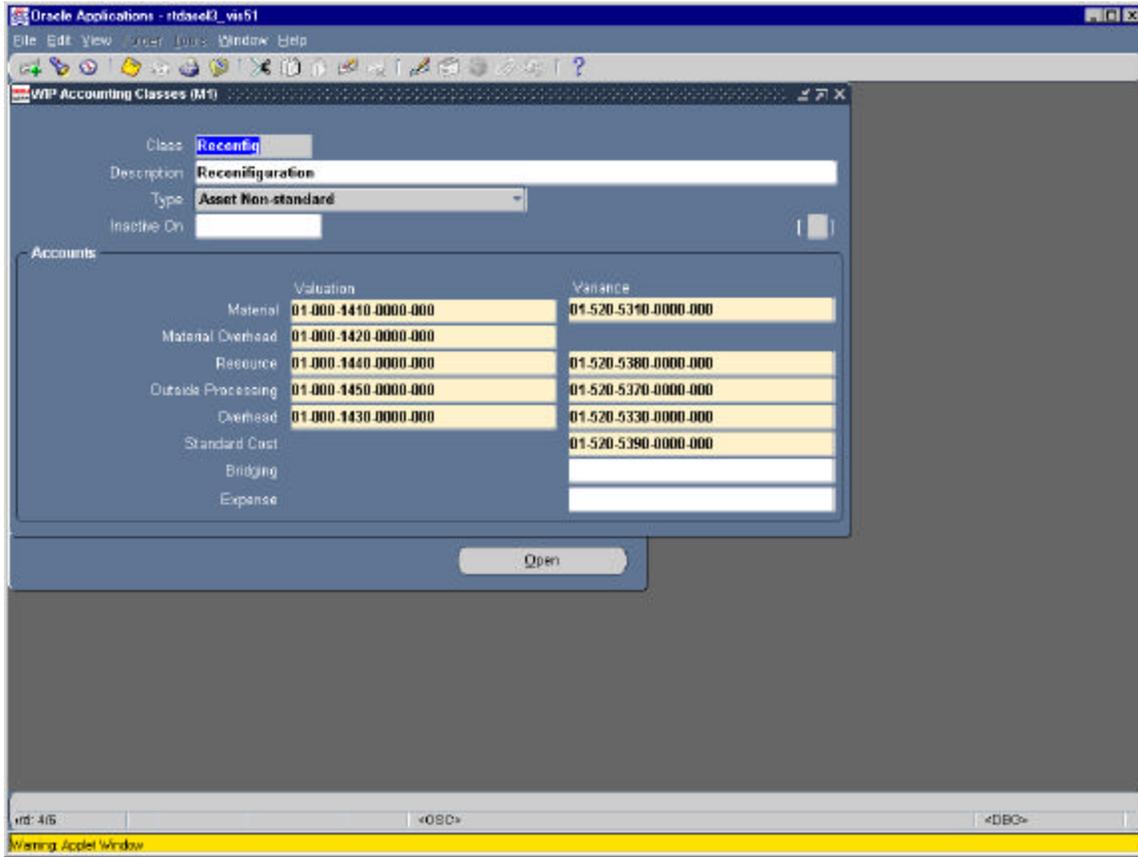
5.1.2 Prototype Accounting Class

The screenshot shows the Oracle Applications 'WIP Accounting Classes (M1)' window. The 'Class' is 'Prototype', the 'Description' is 'Prototype Job Class', and the 'Type' is 'Standard Discrete'. Below this, an 'Accounts' table lists various cost categories with their respective Valuation and Variance values.

Accounts	Valuation	Variance
Material	01.000.1410.0000.000	01.520.5390.0000.000
Material Overhead	01.000.1420.0000.000	
Resource	01.000.1440.0000.000	01.520.5312.0000.000
Outside Processing	01.000.1450.0000.000	01.520.5370.0000.000
Overhead	01.000.1430.0000.000	01.520.5330.0000.000
Standard Cost		01.520.5390.0000.000
Bridging		
Expense		

At the bottom of the window, there is a status bar with 'vrd: 3/5', '<OSC>', and '<DBC>' indicators, and a yellow warning bar that reads 'Warning: Applet Window'.

5.1.3 Reconfig Accounting Class



5.1.4 Rework Accounting Class

The screenshot shows the Oracle Applications 'WIP Accounting Classes (M1)' window. The 'Class' field is set to 'Rework', the 'Description' is 'Rework Job Class', and the 'Type' is 'Expense Non-standard'. Below this, there is a table of accounts with columns for 'Valuation' and 'Variance'.

Accounts	Valuation	Variance
Material	01-000-1410-0000-000	01-520-5390-0000-000
Material Overhead	01-000-1420-0000-000	
Resource	01-000-1440-0000-000	01-520-5380-0000-000
Outside Processing	01-000-1450-0000-000	01-520-5370-0000-000
Overhead	01-000-1430-0000-000	01-520-5330-0000-000
Standard Cost		
Bridging		
Expense		

An 'Open' button is located below the table. The status bar at the bottom shows 'Warning: Aplet Window'.

6 DIFFERENT MANUFACTURING ACTIVITIES AND DISCRETE JOBS (As outlined in the Work in Process Reference manual)

6.1 Disassembling Assemblies

6.1.1 Setup

1. The completed assembly to be disassembled should reside in a nettable finished goods (FGI) subinventory.
2. You should have a standard operation to disassemble, ie Disassembly, with a direct charge resource, ie Tech1
3. Define a nonstandard discrete job for the assembly to be disassembled with quantity of 1.
4. Enter 0 in the MRP Net Quantity field because the assembly will not be completed into inventory as supply
5. Select an accounting class that is an expense type nonstandard because you are not building Wip assets
6. Define the material requirements manually with the assembly itself as a requirement at the Disassembly operation
7. Enter push as the supply type and enter the FGI subinventory in the supply subinventory field
8. Check MRP net since you want to create demand for an assembly that is supplied from the nettable FGI subinventory
9. Create negative component requirements for each of the major components you expect to return to inventory and check Mrp Net so that the MRP planning process sees these negative demands as supply

6.1.2 Transactions

1. Use Wip Material Transactions window to issue the assembly to the nonstandard discrete job.
2. Use the Resource Transactions window to charge resource time incurred.
3. Use the Wip Material Transactions window to return the components to inventory after the dismantling process.
4. Do not use the Completions window since there is nothing to complete.
5. When the disassembly process is over and all the inventory components have been returned to inventory, change the job status to cancelled no charges.

6.1.3 Costing Issues

The ending balance of the job will be equal to the resource and overhead costs incurred during the assembly and disassembly. The costs of materials issued and returned will be equal since all the components were returned to inventory. The resource and overhead are written off as a variance when the job is closed or at period end when expense type nonstandard jobs are automatically expensed.

6.2 REWORKING ASSEMBLIES

6.2.1 Setup

1. The rejected assemblies are in a non-nettable MRB subinventory.
2. You have defined standard rework operations with appropriate resources.
3. You define a nonstandard discrete job with a quantity to be reworked.
4. You enter that quantity in the Mrp Net quantity field.
5. You select an asset nonstandard accounting class because you are building up an asset.
6. After creating the nonstandard job, drill down into the Operations window to manually create a routing for this rework.
7. Drill down into Material Requirements window to manually identify those components required at the first operation. Make it supply type of push to push the additional material required to the first operation.

6.2.2 Transactions

1. Use the Material Transactions window to manually push the component to the first operation.
2. Use the Move Transactions window to move the assembly from one operation to another operation and charge the resources and overhead appropriately.
3. Use the Completion Transactions window to complete the finished and reworked assembly into a nettable finished goods inventory.

6.2.3 Costing

1. The job's ending balance should be equal to the cost of the resource and overhead charges only.
2. The material charges will net to zero balance because the only material was the assembly issued and received from the job.
3. The ending resource and overhead charges are written off as a variance when you close the job.

6.3 BUILDING ENGINEERING PROTOTYPES

6.3.1 Setup

1. Engineers have used the ECO process to define a future open bill with a revision and revision date.

2. You can use a standard routing to build the prototype and build it in the regular production area.
3. There has been no cost rollup on this future item.
4. Use the Discrete Jobs window to define a nonstandard job.
5. Enter a zero in the MRP Net quantity because none of these prototypes will be available as supply.
6. Select an expense nonstandard accounting class.
7. Enter a standard routing into the Routing Reference field to schedule the start and end dates of the job, as well as, to automatically create the operations and resources associated with this job.
8. Enter the revision and revision date into the Bill Revision and Revision date fields to automatically create the component requirements for this job.
9. Note: The WIP: Exclude Open ECOs profile should be set to No so that you can define jobs for open revisions.

6.3.2 Transactions

1. Use the Material Transactions window to issue the components to the nonstandard job.
2. Use the Move and Resource Transactions windows to move the fuel filters from operation to operation and to charge resources and overheads. You can also use these windows to add operations or resources as needed.
3. Use the Completion Transactions window to complete the new item into a non-nettable engineering prototype inventory location.

6.3.3 Costing

1. The job will have an ending balance equal to the cost of material, resources, and overhead charges less the current standard cost for the completed assemblies. Since this future version is the current standard, the balance is written off when you close the job or a period end when expense type nonstandard jobs are automatically expensed.

6.4 There are some other manufacturing activities relating to nonstandard jobs. They are:

6.4.1 Maintaining Plant or Equipment

Engineering defines a non-stockable item and a primary routing for each type of machine to be maintained with all the operations and resources required. The Discrete Job form is used to define a nonstandard discrete jobs without an assembly and a job quantity of 0. Select an expense type of nonstandard accounting class so that variances and charges will be accrued against the correct accounts. You will not be moving thru operational steps but will be using the routing as a task reference list for charging resources. Use the Resource Transactions window to report charges and use the Material Transaction window to issue any material required for maintenance. Since maintenance is performed on a periodic basis, you can leave this job open. The material, resource, and overhead charges incurred during any period will be written off as a variance at period end.

6.1.2 Field Service Repairs

Field Service returns are handled similarly to the above. A defective item is returned via an RMA number. You have placed this item in a non-nettable customer return subinventory. Engineers have defined alternate routings for each type of repair as this occurs frequently. Some standard operations have been included in the alternate routings. You define a nonstandard job with a job quantity of 1 and MRP net quantity of 0. You enter an MRP net quantity of 0 because you do not want MRP to plan for this item. The wip accounting class is an expense type nonstandard accounting class. You can enter the RMA number and Customer in the Description field for the job for traceability. Enter the routing

in the routing reference field to schedule the start and end dates for the job., as well as, create the operations and resources required. You can add components required in the Material Requirements window or by simply issuing more components to the job using the Material Transactions window. Use the Completions Transactions window to complete the repaired item into a non-nettable subinventory for shipment to the customer. The ending balance of the job will be equal to the cost of the repair material, resource, and overhead charges less the repaired item. A variance will be written off when the job is either closed or at period end when expense type nonstandard jobs are automatically expensed.

6.1.3 Other Projects To Be Billed To Customers

These jobs are handled similarly to the jobs defined above.

7 UNDERSTANDING CHARGES INCURRED TO A NONSTANDARD JOB

7.1 Discrete Job Value Report (WIPRDJVR)

Use the Discrete Job Value Report to analyze your standard discrete jobs and nonstandard asset jobs. You can submit the WIP Value Report before submitting this report to review total variances and charges for your jobs. Then, you can submit this report to analyze a summary of the transactions behind the charges and variances for each job.

Attention: This report does not include expense nonstandard jobs. Use the Expense Job Value Report to analyze expense nonstandard jobs.

Please refer to the Oracle Work In Process Reference Manual for further details concerning this report and the columns that appear on the report.

Primary Tables Utilized By This Report

Cst_Item_Costs
Cst_Resource_Costs
Cost_Resource_Overheads
Wip_Scrap_Values
Mtl_Material_Transactions
Wip_Period_Balances

7.2 Wip Value Report (WIPUTVAL)

Use the WIP Value Report to report your work in process inventory in a particular accounting period. Oracle Work in Process prints the value of discrete jobs for the period specified and lists the ending balance for each discrete job in a particular accounting class and subtotals by the accounting class. In addition, Oracle Work in Process summarizes each accounting class by cost element and prints a subtotal for each type of accounting class. You can submit the report using several options. It will display the job's class type if all class types are selected or only those jobs related to a specific class type: Asset nonstandard, Expense nonstandard, Standard Discrete.

Attention: To ensure accurate ending inventory values for discrete jobs, you must close any open periods prior to the one you are using for this report.

Attention: Oracle Work in Process overstates your work in process value by the value in your expense nonstandard jobs. Oracle Work in Process automatically writes off this value at period close.

Primary Table

Wip_Period_Balances

7.3 Expense Job Value Report (WIPREJVR)

Use this report to analyze your nonstandard expense jobs. You can submit the Wip Value Report before submitting this report to review total charges for your jobs. This report includes summarized information on all cost transactions including material, resource, move and resource based overhead, scraps, completions, and period close variances. The report also prints period-to-date summary information as well as complete job header information. Oracle Work in Process groups and subtotals your cost transactions by transaction type.

Attention: Unlike the Discrete Job Value Report, this report prints no standard or variance information. Expense nonstandard jobs typically have no standards and are used only to collect and charge costs.

7.4 Wip Account Distribution Report (WIPUTACD)

Use this report to print detailed account information for several work in process cost transactions, including resource, overhead, and outside processing charges, cost updates, and period close and job close variances. Oracle Work in Process prints detailed information for each charge you make to an account. Oracle Work in Process groups your transactions by job or schedule, by transaction type, and orders your transactions by earliest transaction date.

Note: Oracle Work in Process does not print material cost transactions, such as issues, completions, and scraps, in this report. You can print this information using the Material Account Distribution reports in Oracle Inventory.

8. TABLE DESIGN CONSIDERATIONS

When understanding nonstandard jobs, the following Oracle Work In Process tables should be reviewed:

8.1 Wip_Entities

This table stores information about each discrete job. Each row includes a unique discrete job, the entity type, and the assembly built by the job. Oracle Work in Process uses this information to ensure that you do not enter duplicate job names.

Select wip_entity_id, organization_id, wip_entity_name, entity_type, primary_item_id from wip_entities where wip_entity_name like '<your job number>%';

8.2 Mtl_Parameters

This table maintains a set of default options like general ledger accounts, costing method, organization id, and organization code for each organization defined in Oracle Inventory.

Select organization_id, organization_code from mtl_parameters;

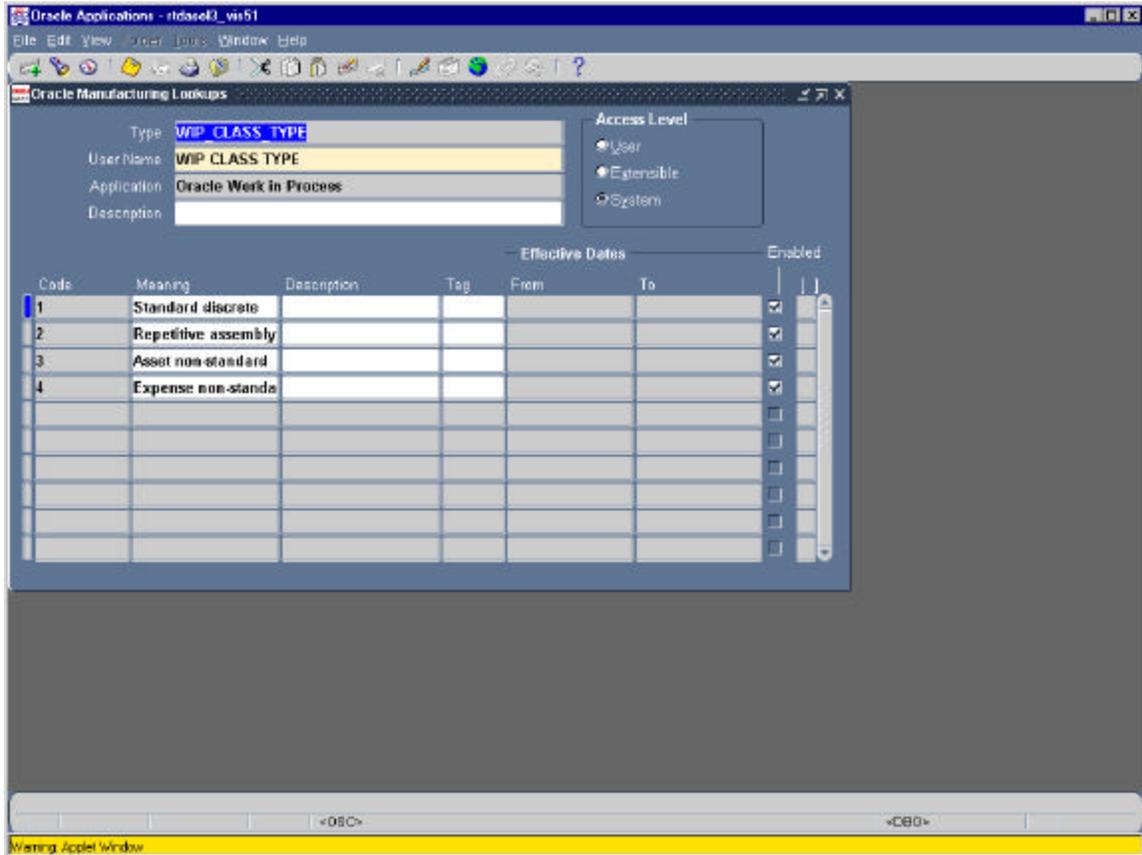
You will be able to identify the current organization's organization_id. The organization_id is an internal number assigned by the system when an organization is created and this id is populated in many of the Oracle database application tables.

8.3 Mfg_Lookups

Stores and maintains the lookups for Oracle Inventory, and Oracle Manufacturing. A lookup is a string of characters that is assigned to a number. This is also referred to as a job type field.

This can be viewed by navigating in WIP/Setup/Lookups

Here are the valid lookup types associated with wip_class_type:



8.4 Wip_Accounting_Classes

Wip_Accounting_Classes stores accounting flexfield information for standard discrete jobs, nonstandard asset jobs, nonstandard expense jobs. Oracle Work In Process stores a general ledger account for each cost element associated with the class. The class_code uniquely identifies each class. Oracle Work in Process uses this information when you create journal entries to post your work in process cost transactions.

This accounting class is associated with the job thru the Discrete Job Form when the job is created and the accounting classes are copied into the jobs in the Wip_Discrete_Jobs table when the job is created.

Select class_code class_type, organization_id from wip_accounting_classes;

```
1 select class_code, class_type, substr(description,1,30)
2* from wip_accounting_classes where organization_id = 207
SQL> /
```

CLASS_CODE	CLASS_TYPE	SUBSTR(DESCRIPTION,1,30)
Discrete	1	Discrete Job Class
Rework	4	Rework Job Class
Prototype	1	Prototype Job Class
Repetitive	2	Repetitive Schedule Class

Note the accounting numbers that are debited or credited when the costs are incurred and during closure or period end for a nonstandard discrete job:

```
1* select material_account, material_variance_account, material_overhead_account,
resource_account, resource_variance_account, overhead_account, overhead_variance_account
from wip_accounting_classes where class_code like 'Rework%';
```

MATERIAL_ACCOUNT	13402
MATERIAL_VARIANCE_ACCOUNT	16882
MATERIAL_OVERHEAD_ACCOUNT	13513

RESOURCE_ACCOUNT	15339
RESOURCE_VARIANCE_ACCOUNT	16296
OVERHEAD_ACCOUNT	15338

OVERHEAD_VARIANCE_ACCOUNT	19457

These accounts are initially copied into the Wip_Discrete_Jobs table when a new wip job is created and an accounting class is associated with the wip job.

To translate this internal accounting number to the actual user defined account, use the table GL_Code_Combinations.

8.5 GL_Code_Combinations

This table stores valid accounting flexfield segment value combinations for each accounting flexfield structure within your Oracle General Ledger application. Associated with each account are certain codes and flags, including whether the account is enabled, whether detail posting or detail budgeting is allowed, and others. Segment values are stored in the segment columns. Note that each Accounting flexfield structure may use different segment columns within the table to store the flexfield value combination. Moreover, the segment columns which are used are not guaranteed to be in any order.

```
SQL> select segment1, segment2, segment3, segment4
2 from gl_code_combinations
3 where code_combination_id = 13402;
```

SEGMENT1	01
SEGMENT2	000
SEGMENT3	2220
SEGMENT4	000

8.6 WIP_DISCRETE_JOBS

Wip_discrete_jobs stores your discrete job information. Each row represents a discrete job, and contains information about the assembly being built, the revision of the assembly, the job quantity, the status of the job, the material control method, accounting information, and job schedule date.

Select job_type, class_code, bom_reference_id, routing_reference_id, common_routing_sequence_id from wip_discrete_jobs where wip_entity_id = <the above wip_entity_id>;

Here is a partial list of the columns associated with the Wip_Discrete_jobs:

SQL> desc wip_discrete_jobs;

Name	Null?	Type

WIP_ENTITY_ID	NOT NULL	NUMBER
ORGANIZATION_ID	NOT NULL	NUMBER
LAST_UPDATE_DATE	NOT NULL	DATE
LAST_UPDATED_BY	NOT NULL	NUMBER
CREATION_DATE	NOT NULL	DATE
CREATED_BY	NOT NULL	NUMBER
LAST_UPDATE_LOGIN		NUMBER
SOURCE_LINE_ID		NUMBER
SOURCE_CODE		VARCHAR2(30)
DESCRIPTION		VARCHAR2(240)
STATUS_TYPE	NOT NULL	NUMBER
PRIMARY_ITEM_ID		NUMBER
FIRM_PLANNED_FLAG	NOT NULL	NUMBER
JOB_TYPE	NOT NULL	NUMBER
WIP_SUPPLY_TYPE	NOT NULL	NUMBER
CLASS_CODE	NOT NULL	VARCHAR2(10)
MATERIAL_ACCOUNT		NUMBER
MATERIAL_OVERHEAD_ACCOUNT		NUMBER
RESOURCE_ACCOUNT		NUMBER
OUTSIDE_PROCESSING_ACCOUNT		NUMBER
MATERIAL_VARIANCE_ACCOUNT		NUMBER
RESOURCE_VARIANCE_ACCOUNT		NUMBER
OUTSIDE_PROC_VARIANCE_ACCOUNT		NUMBER
STD_COST_ADJUSTMENT_ACCOUNT		NUMBER
OVERHEAD_ACCOUNT		NUMBER
OVERHEAD_VARIANCE_ACCOUNT		NUMBER
SCHEDULED_START_DATE	NOT NULL	DATE
DATE_RELEASED		DATE
SCHEDULED_COMPLETION_DATE	NOT NULL	DATE
DATE_COMPLETED		DATE
DATE_CLOSED		DATE
START_QUANTITY	NOT NULL	NUMBER
QUANTITY_COMPLETED	NOT NULL	NUMBER
QUANTITY_SCRAPPED	NOT NULL	NUMBER
NET_QUANTITY	NOT NULL	NUMBER
BOM_REFERENCE_ID		NUMBER
ROUTING_REFERENCE_ID		NUMBER
COMMON_BOM_SEQUENCE_ID		NUMBER
COMMON_ROUTING_SEQUENCE_ID		NUMBER
BOM_REVISION		VARCHAR2(3)
ROUTING_REVISION		VARCHAR2(3)
BOM_REVISION_DATE		DATE

ROUTING_REVISION_DATE	DATE
LOT_NUMBER	VARCHAR2(30)
ALTERNATE_BOM_DESIGNATOR	VARCHAR2(10)
ALTERNATE_ROUTING_DESIGNATOR	VARCHAR2(10)
COMPLETION_SUBINVENTORY	VARCHAR2(10)
COMPLETION_LOCATOR_ID	NUMBER
MPS_SCHEDULED_COMPLETION_DATE	DATE
MPS_NET_QUANTITY	NUMBER
DEMAND_CLASS	VARCHAR2(30)

Note the columns, class_code, routing_revision, routing_revision_date, alternate_routing_designator, and accounting columns. These are the columns we have been referring to throughout this paper.

Select job type, class_code, bom_reference_id, routing_reference_id from wip_discrete_jobs where wip_entity_id = <wip_entity_id from above query>;

8.7 Wip_Period_Balances

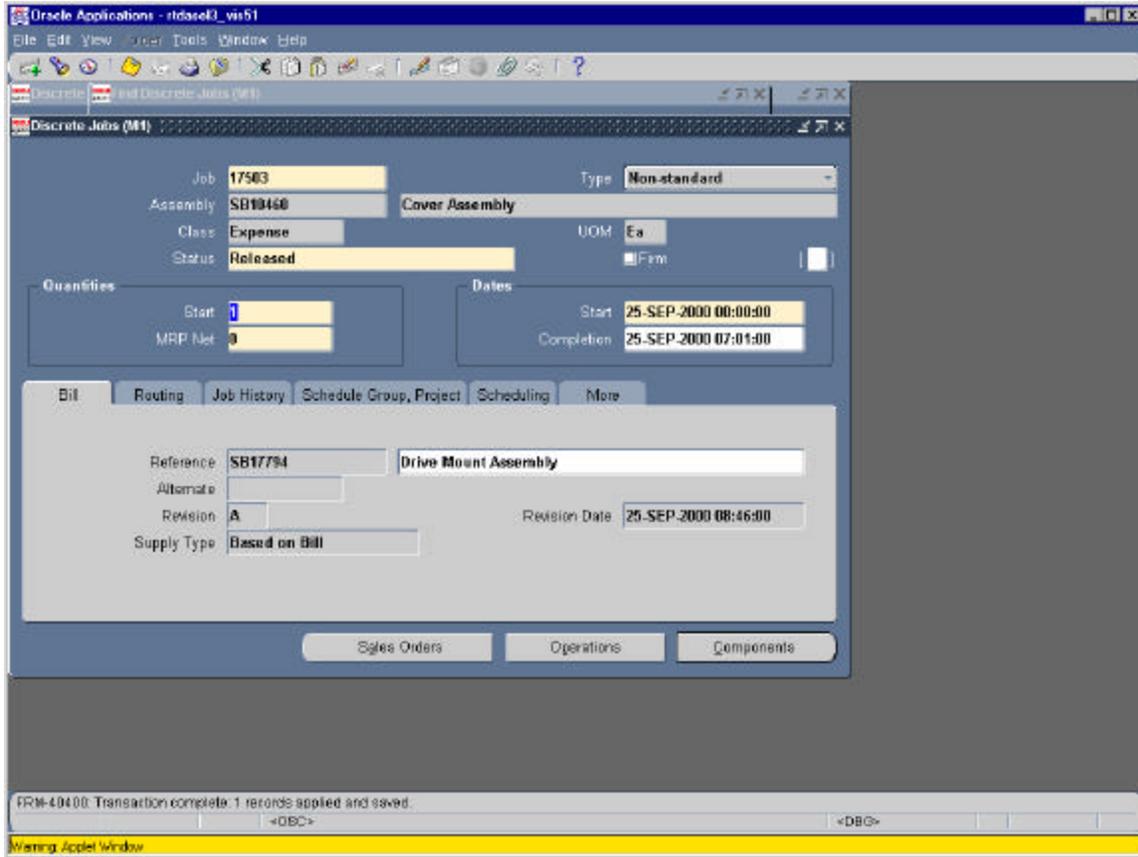
This table stores summary accounting information for your jobs and schedules. Each row represents job charges within a given accounting period, and contains the summary values for each cost element. Oracle Work in Process uses this information to report job and schedule values and to calculate job and period variances.

Name	Null?	Type

ACCT_PERIOD_ID	NOT NULL	NUMBER
WIP_ENTITY_ID	NOT NULL	NUMBER
REPETITIVE_SCHEDULE_ID		NUMBER
LAST_UPDATE_DATE	NOT NULL	DATE
LAST_UPDATED_BY	NOT NULL	NUMBER
CREATION_DATE	NOT NULL	DATE
CREATED_BY	NOT NULL	NUMBER
LAST_UPDATE_LOGIN		NUMBER
ORGANIZATION_ID	NOT NULL	NUMBER
CLASS_TYPE	NOT NULL	NUMBER
TL_RESOURCE_IN		NUMBER
TL_OVERHEAD_IN		NUMBER
TL_OUTSIDE_PROCESSING_IN		NUMBER
PL_MATERIAL_IN		NUMBER
PL_MATERIAL_OVERHEAD_IN		NUMBER
PL_RESOURCE_IN		NUMBER
PL_OVERHEAD_IN		NUMBER
PL_OUTSIDE_PROCESSING_IN		NUMBER
TL_MATERIAL_OUT		NUMBER
TL_MATERIAL_OVERHEAD_OUT		NUMBER
TL_RESOURCE_OUT		NUMBER
TL_OVERHEAD_OUT		NUMBER
TL_OUTSIDE_PROCESSING_OUT		NUMBER
PL_MATERIAL_OUT		NUMBER
PL_MATERIAL_OVERHEAD_OUT		NUMBER
PL_RESOURCE_OUT		NUMBER
PL_OVERHEAD_OUT		NUMBER

PL_OUTSIDE_PROCESSING_OUT	NUMBER
REQUEST_ID	NUMBER
PROGRAM_APPLICATION_ID	NUMBER
PROGRAM_ID	NUMBER
PROGRAM_UPDATE_DATE	DATE
TL_MATERIAL_VAR	NUMBER
TL_MATERIAL_OVERHEAD_VAR	NUMBER
TL_RESOURCE_VAR	NUMBER
TL_OUTSIDE_PROCESSING_VAR	NUMBER
TL_OVERHEAD_VAR	NUMBER
PL_MATERIAL_VAR	NUMBER
PL_MATERIAL_OVERHEAD_VAR	NUMBER
PL_RESOURCE_VAR	NUMBER
PL_OVERHEAD_VAR	NUMBER
PL_OUTSIDE_PROCESSING_VAR	NUMBER

9. EXAMPLE OF NONSTANDARD DISCRETE JOB AND UNDERLYING WIP TABLES



9.1 To translate the job number into a wip_entity_id:

```
SQL> select wip_entity_id, organization_id
  2 from wip_entities
  3 where wip_entity_name like '17503%';
```

```
WIP_ENTITY_ID ORGANIZATION_ID
-----
      32152          207
```

9.2 To translate the item numbers into an inventory_item_id:

The primary assembly for this discrete job:

```
SQL> select inventory_item_id
  2 from mtl_system_items
  3 where organization_id = 207
  4 and segment1 like 'SB10460%';
```

```
INVENTORY_ITEM_ID
-----
          676
```

The bill reference number used on this expense job is:

```
SQL> select inventory_item_id
2 from mtl_system_items
3 where organization_id = 207
4 and segment1 like 'SB17794%';
```

```
INVENTORY_ITEM_ID
-----
          339
```

The routing reference number used is:

```
SQL> select inventory_item_id
2 from mtl_system_items
3 where organization_id = 207
4 and segment1 like 'SB10460%';
```

```
INVENTORY_ITEM_ID
-----
          676
```

9.3 In order to understand the accounts associated with the Accounting Class Code of Expense:

```
1 select material_account, material_variance_account,
2 material_overhead_account, resource_account,
3 resource_variance_account
4 from wip_accounting_classes
5 where organization_id = 207
6* and class_code like 'Expense%'
SQL> /
```

MATERIAL_ACCOUNT	20918
MATERIAL_VARIANCE_ACCOUNT	15341
MATERIAL_OVERHEAD_ACCOUNT	20918
RESOURCE_ACCOUNT	20919
RESOURCE_VARIANCE_ACCOUNT	15342

9.4 To understand those columns populated in the Wip_Discrete_Jobs table when a new job is created:

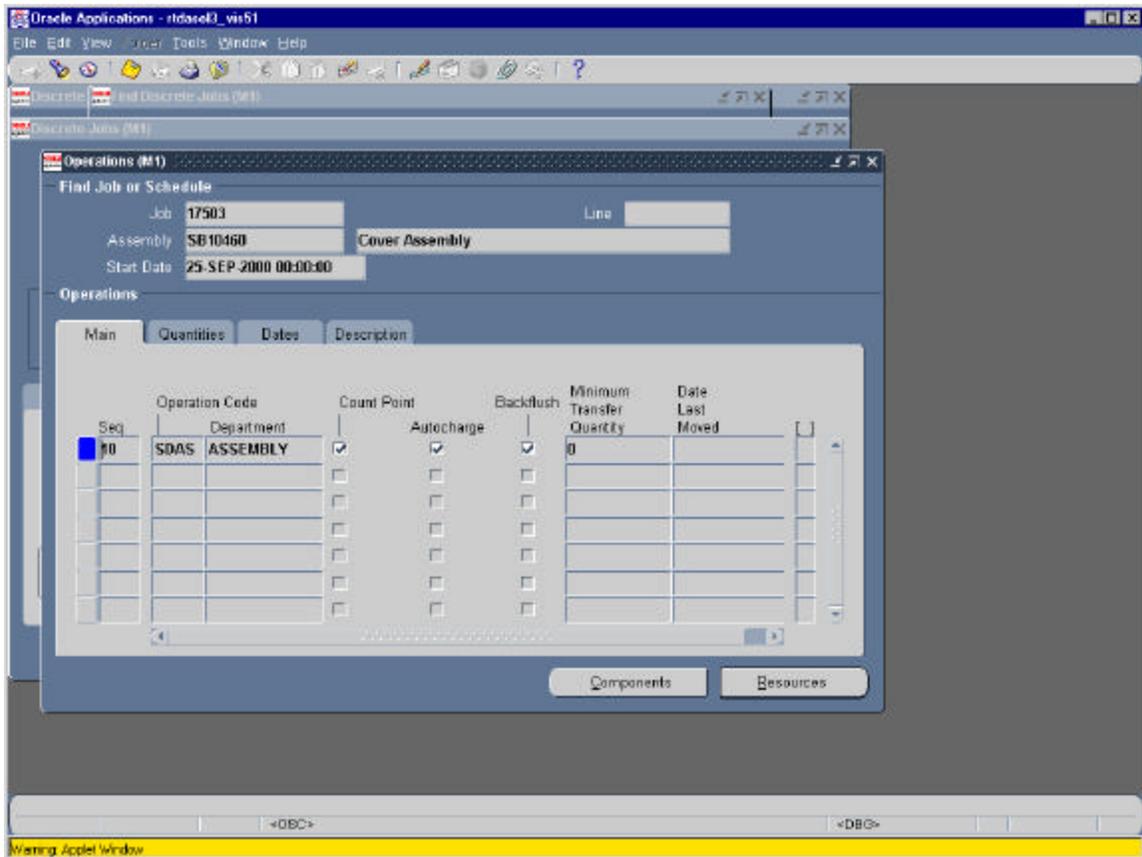
```
SQL> select primary_item_id, bom_reference_id, routing_reference_id,
2 class_code
3 from wip_discrete_jobs
4 where wip_entity_id = 32152;
```

```
PRIMARY_ITEM_ID BOM_REFERENCE_ID ROUTING_REFERENCE_ID CLASS_CODE
-----
          676          339          676          Expense
```

9.5 Note that the accounts were populated in the wip_discrete_jobs at the time the job was created:

```
SQL> select material_account, material_overhead_account, resource_account,
2 resource_variance_account, material_variance_account
3 from wip_discrete_jobs
4 where wip_entity_id = 32152;
```

MATERIAL_ACCOUNT	20918
MATERIAL_OVERHEAD_ACCOUNT	20918
RESOURCE_ACCOUNT	20919
RESOURCE_VARIANCE_ACCOUNT	15342
MATERIAL_VARIANCE_ACCOUNT	15341



9.6 At the time of job creation, the routing associated with the routing reference field was populated in the Wip_Operations table.

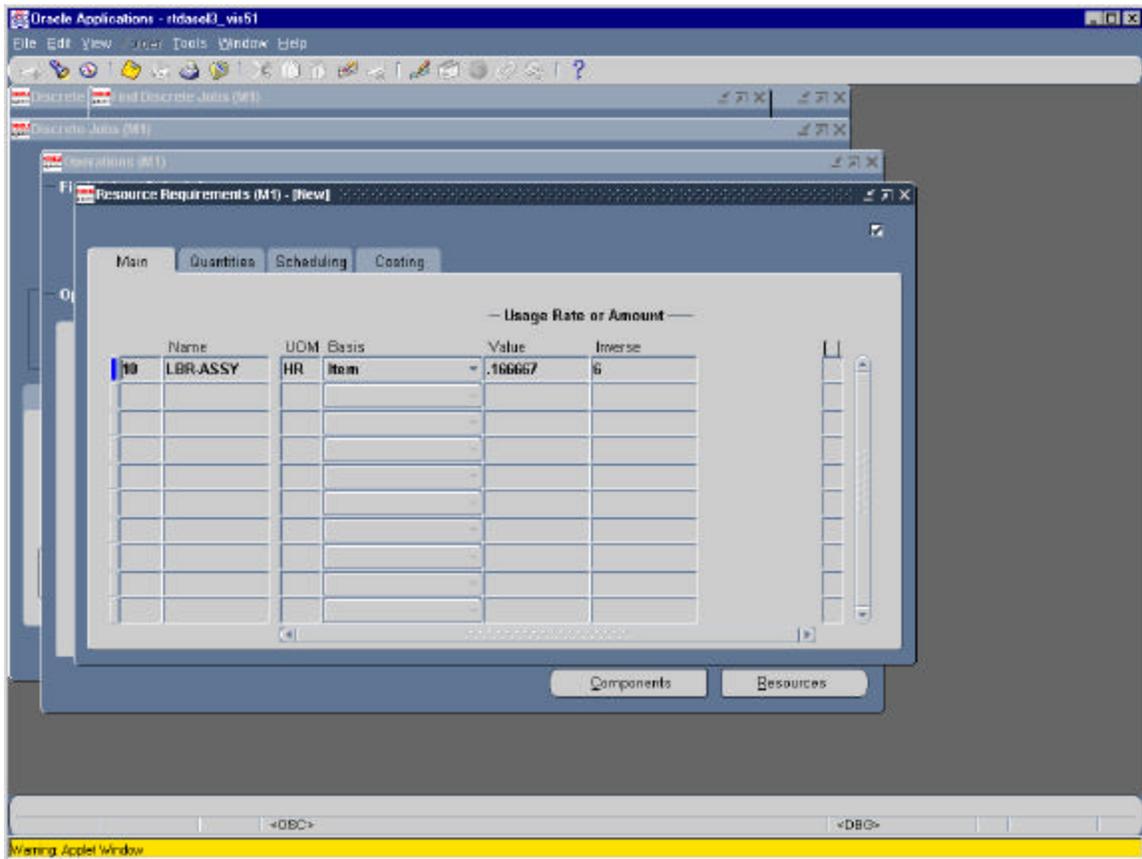
```
1 select operation_seq_num, operation_sequence_id, standard_operation_id,
2 department_id, scheduled_quantity, quantity_in_queue, quantity_running,
3 quantity_completed
4 from wip_operations
5 where wip_entity_id = 32152
6* and organization_id = 207
```

SQL> /

```

OPERATION_SEQ_NUM          10
OPERATION_SEQUENCE_ID     1461
STANDARD_OPERATION_ID      4
DEPARTMENT_ID              1
SCHEDULED_QUANTITY         1
QUANTITY_IN_QUEUE          1
QUANTITY_RUNNING           0
QUANTITY_COMPLETED         0

```



9.7 The resource information associated with the job is stored in the wip_operation_resources table.

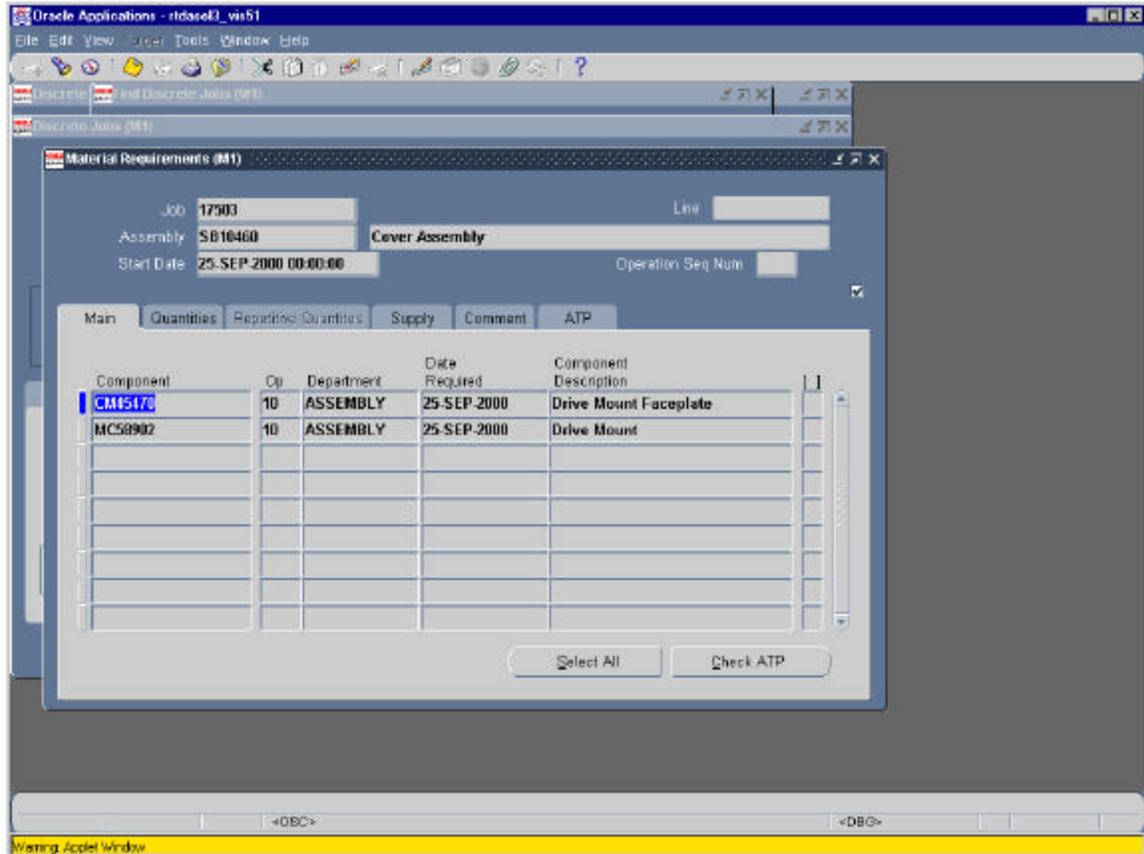
Each row represents a resource and contains a sequence number, the resource's unit of measure, It's usage rate or amount.

```

SQL> select operation_seq_num, resource_seq_num, resource_id,
2 uom_code, basis_type, usage_rate_or_amount
3 from wip_operation_resources
4 where wip_entity_id = 32152 and organization_id = 207;

```

OPERATION_SEQ_NUM	10
RESOURCE_SEQ_NUM	10
RESOURCE_ID	1
UOM	HR
BASIS_TYPE	1
USAGE_RATE_OR_AMOUNT	.166666667



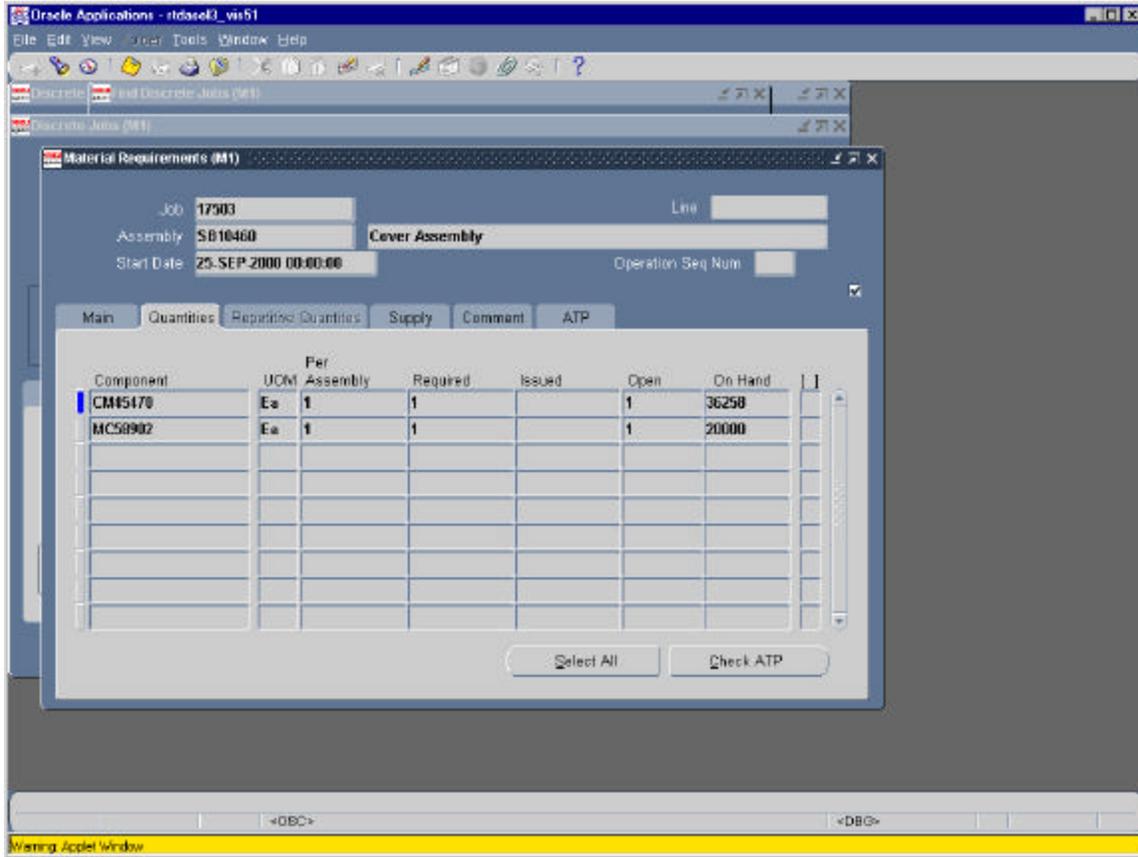
9.8 The components of the Bom_Reference field are copied into the Wip_Requirement_Operations table at the time of job creations.

Wip_Requirement_operations stores information about the material requirements for your jobs or schedules. Each row represents a material requirement, and contains information about the component items.

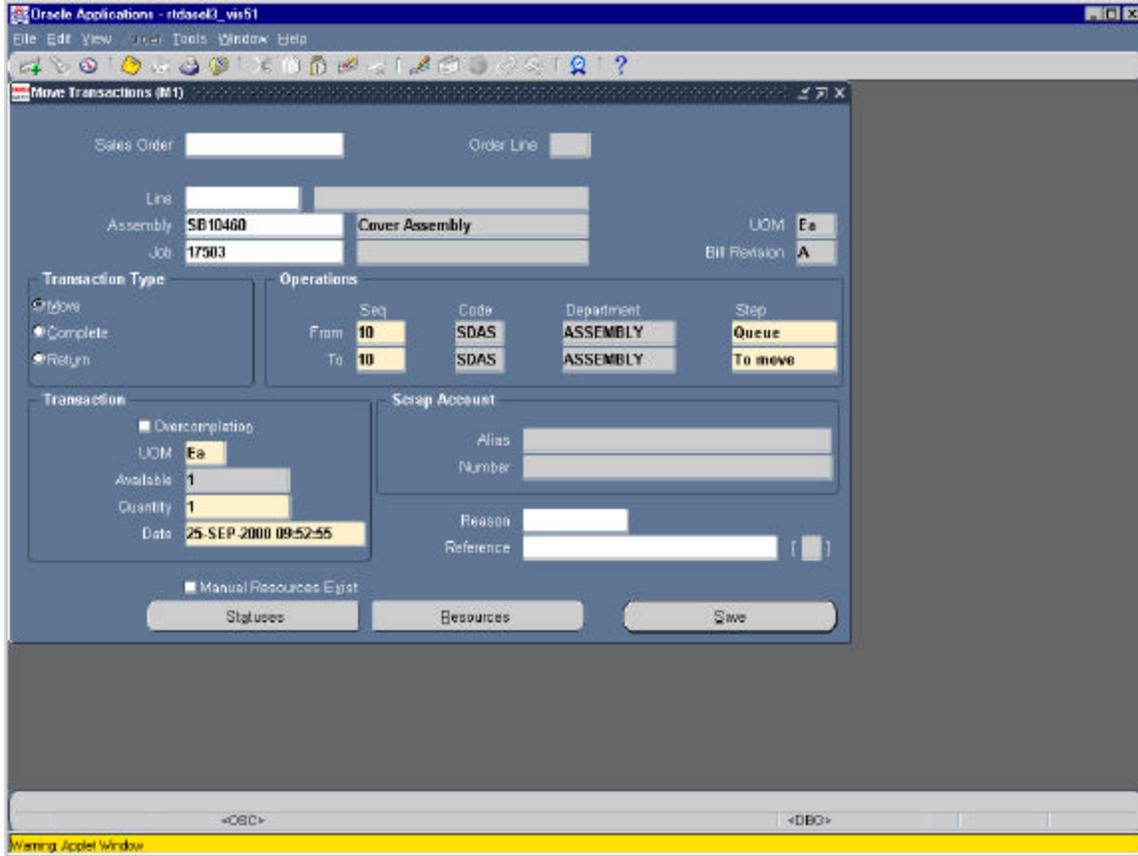
```
SQL> select inventory_item_id, operation_seq_num, component_sequence_id,
2  required_quantity, quantity_issued, quantity_per_assembly
3  from wip_requirement_operations
4  where wip_entity_id = 32152
5  and organization_id = 207;
```

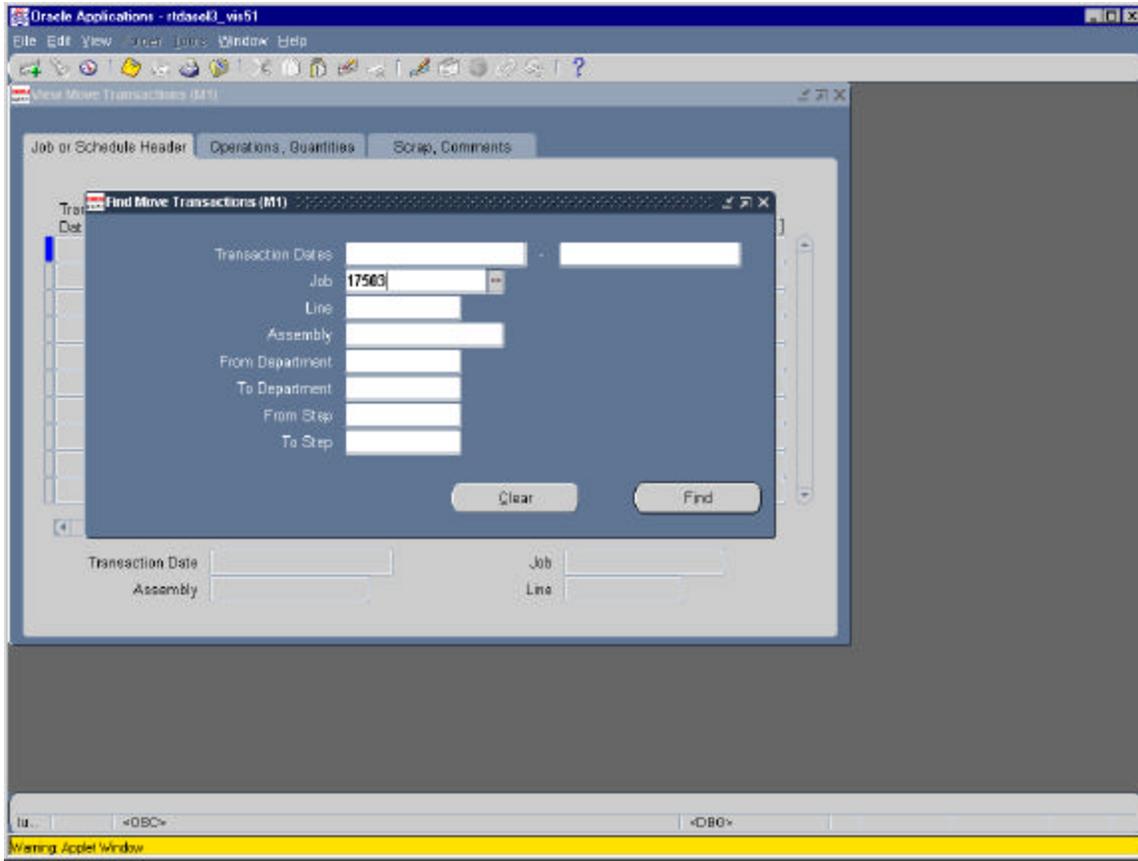
INVENTORY_ITEM_ID	169	341
OPERATION_SEQ_NUM	10	10
COMPONENT_SEQUENCE_ID	472	471
REQUIRED_QUANTITY	1	1

QUANTITY_ISSUED	0	0
QUANTITY_PER_ASSEMBLY	1	1

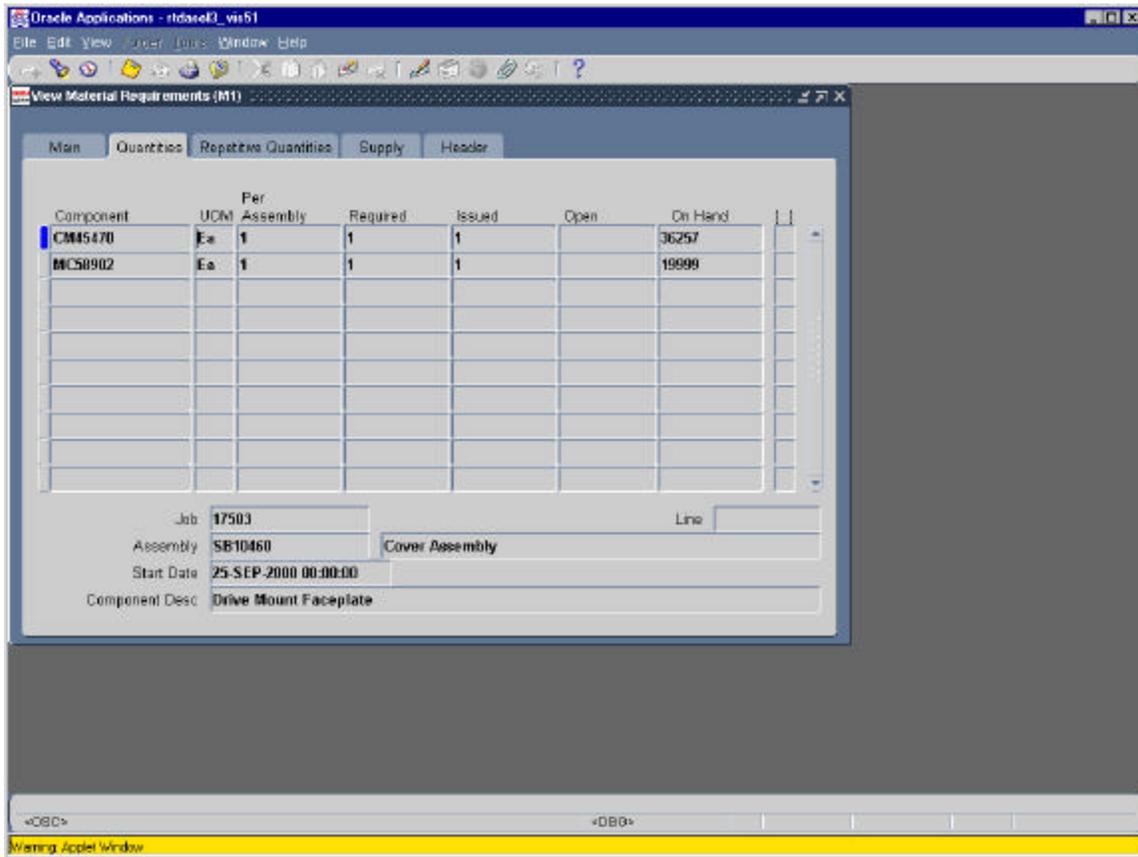


10. MOVING THE ASSEMBLY THRU THE OPERATION AND INCURRING MATERIAL COST WITH OPERATION PULL SUPPLY TYPE





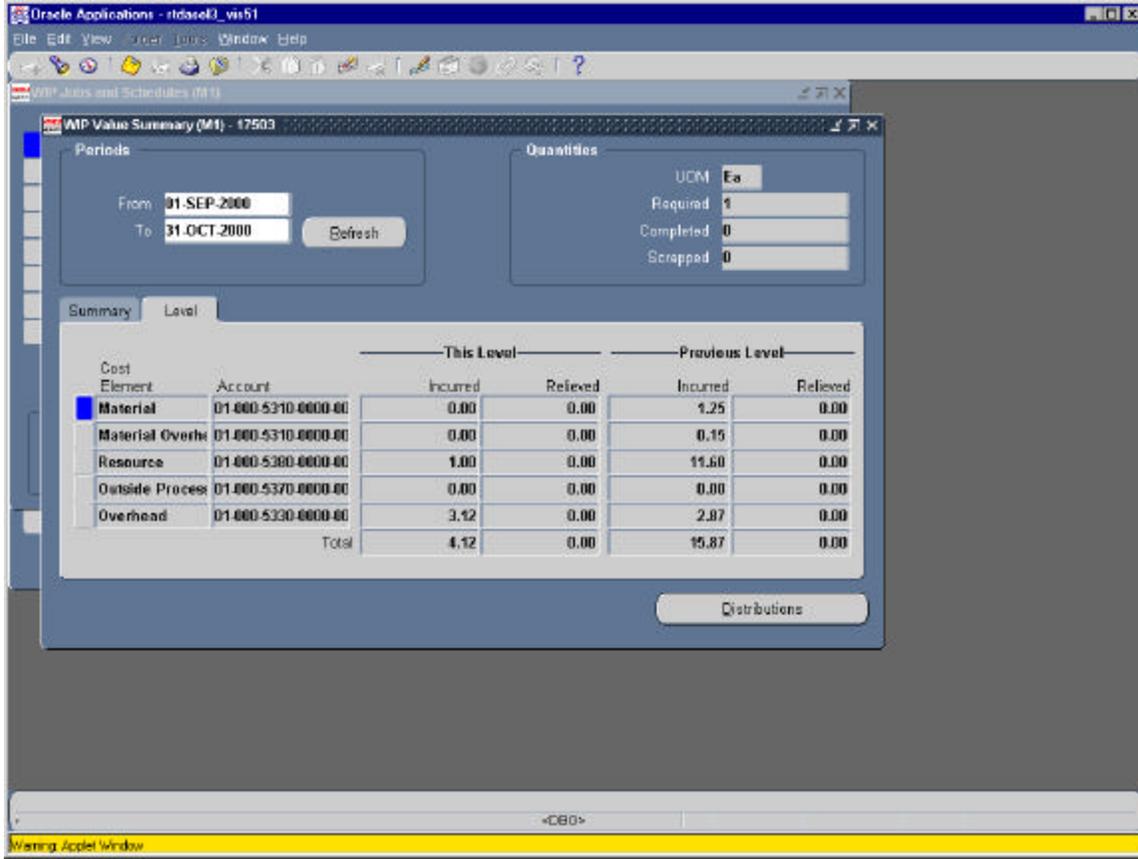
10.1 Components are Operation Pull



10.2 Costs Are Incurred As A Result of Moving the Job thru operation 10

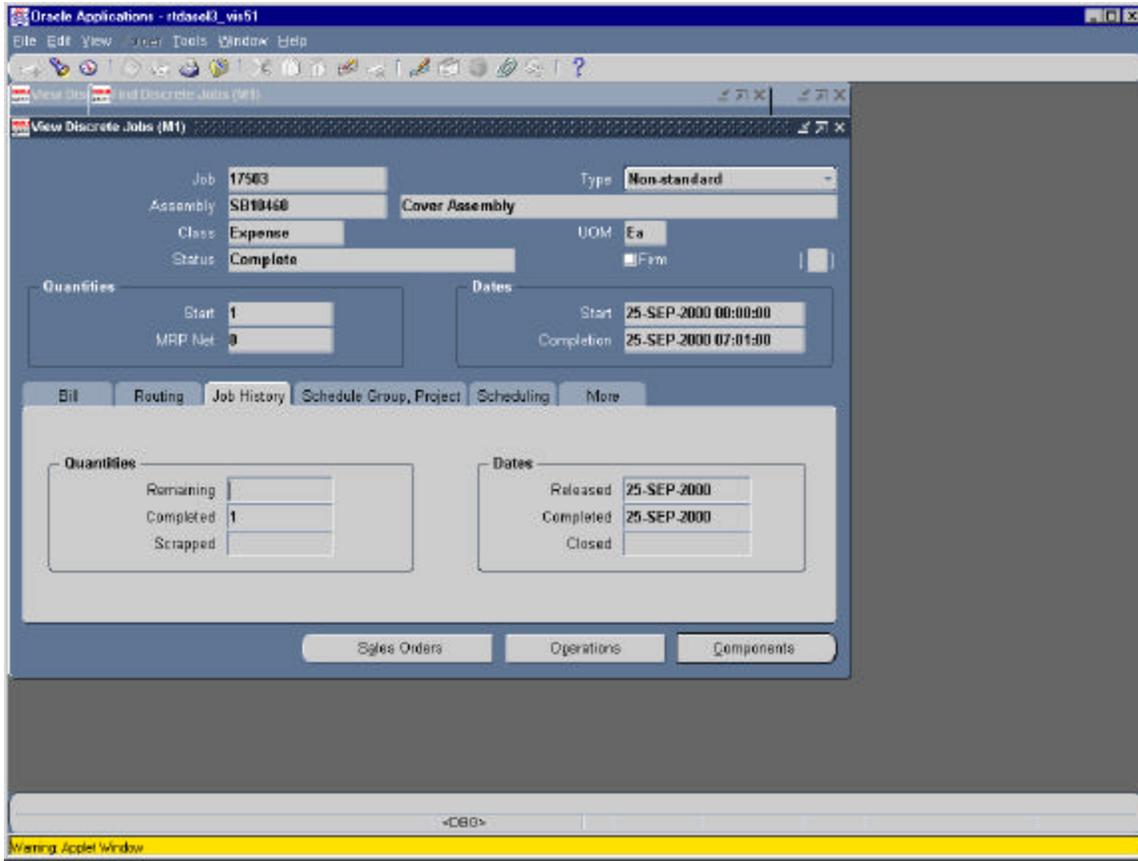
The screenshot shows the Oracle Applications 'WIP Value Summary' window for job 17503. The window title is 'Oracle Applications - rtdare3_vis1'. The 'Periods' section shows 'From: 01.SEP.2000' and 'To: 31.OCT.2000' with a 'Refresh' button. The 'Quantities' section shows 'UCM: Ea', 'Required: 1', 'Completed: 0', and 'Scrapped: 0'. The 'Summary' tab is active, displaying a table of cost elements. The table has columns for 'Cost Element', 'Account', 'Costs Incurred', 'Costs Relieved', 'Variances Relieved', and 'Net Activity'. The data rows are: Material (1.25), Material Overhead (0.15), Resource (12.60), Outside Process (0.00), and Overhead (5.99). A 'Total' row shows 19.99 for Costs Incurred and 0.00 for Costs Relieved, Variances Relieved, and Net Activity. A 'Distributions' button is located at the bottom right of the table area. The status bar at the bottom shows '<C60>' and 'Warning: Applet Window'.

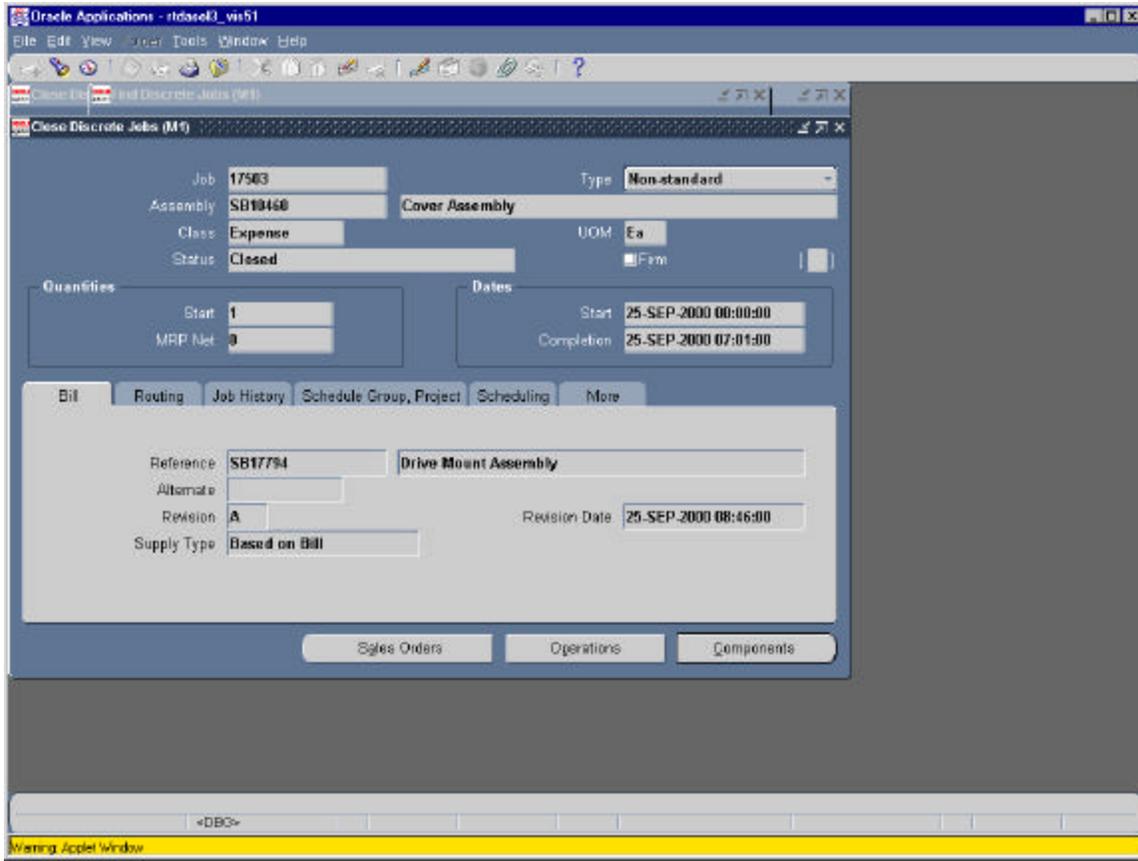
Cost Element	Account	Costs Incurred	Costs Relieved	Variances Relieved	Net Activity
Material	01.000.5310.0000.00	1.25	0.00	0.00	1.25
Material Overhead	01.000.5310.0000.00	0.15	0.00	0.00	0.15
Resource	01.000.5380.0000.00	12.60	0.00	0.00	12.60
Outside Process	01.000.5370.0000.00	0.00	0.00	0.00	0.00
Overhead	01.000.5330.0000.00	5.99	0.00	0.00	5.99
Total		19.99	0.00	0.00	19.99



```
SQL> select pl_material_in, tl_resource_in, tl_overhead_in
2 from wip_period_balances
3 where wip_entity_id = 32152;
```

```
PL_MATERIAL_IN          1.25          0          0
TL_RESOURCE_IN          1            0          0
TL_OVERHEAD_IN         3.12          0          0
```





10.3 When the job is closed, variances are posted.

The screenshot shows the 'WIP Value Summary (M) - 17503' window. It includes a 'Periods' section with 'From: 01-SEP-2000' and 'To: 31-OCT-2000', and a 'Quantities' section with 'UCM' and 'Ea' tabs. The 'Summary' tab is active, displaying a table with columns: Cost Element, Account, Costs Incurred, Costs Relieved, Variances Relieved, and Net Activity. The table data is as follows:

Cost Element	Account	Costs Incurred	Costs Relieved	Variances Relieved	Net Activity
Material	01-000-5310-0000-00	1.25	9.75	8.50	0.00
Material Overhead	01-000-5310-0000-00	0.15	0.44	0.29	0.00
Resource	01-000-5300-0000-00	12.60	12.60	0.00	0.00
Outside Process	01-000-5370-0000-00	0.00	0.00	0.00	0.00
Overhead	01-000-5330-0000-00	5.99	5.99	0.00	0.00
Total		19.99	28.78	8.79	0.00

At the bottom of the window, there is a 'Distributions' button and a status bar showing '<DBO>' and 'Warning: Aplet Window'.

```
SQL> select acct_period_id, tl_resource_in, tl_overhead_in,
2 pl_material_in, pl_material_overhead_in, pl_resource_in,
3 pl_overhead_in, tl_material_out, tl_material_overhead_out, tl_resource_out,
4 pl_material_out, pl_resource_out, tl_material_var,
5 tl_material_overhead_var, tl_overhead_var, pl_material_var
6 from wip_period_balances
7 where wip_entity_id = 32152;
```

ACCT_PERIOD_ID	703
TL_RESOURCE_IN	1
TL_OVERHEAD_IN	3.12
PL_MATERIAL_IN	1.25
PL_MATERIAL_OVERHEAD_IN	.15
PL_RESOURCE_IN	11.6
PL_OVERHEAD_IN	2.87
TL_MATERIAL_OUT	0
TL_MATERIAL_OVERHEAD_OUT	0
PL_MATERIAL_OUT	1
PL_RESOURCE_OUT	11.6

TL_MATERIAL_VAR	0
TL_MATERIAL_OVERHEAD_VAR	0
TL_OVERHEAD_VAR	0
PL_MATERIAL_VAR	-8.5

10.4 Work in Process Standard Cost Transactions

10.4.1 Component Issue Transactions

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

Subinventory accounts are defined in the Define Subinventories window in Oracle Inventory.
WIP elemental accounts are defined in the WIP Accounting Classes window in Work in Process.

10.4.2 Move Transactions

Backflush Material Transactions

Account	Debit	Credit
WIP accounting class valuation accounts	XX	XX

10.4.3 Resource Charges

Work in Process support four resource autocharging methods: Manual, WIP Move, PO Move and PO Receipt

Costing Resource Charges at Resource Standard
Resource charges increase work in process valuation

Account	Debit	Credit
WIP accounting class resource valuation account	XX	
Resource absorption account		XX

If autocharge is set to WIP Move, work in process and labor are charged at standard.

Costing Labor Charges at Actual

Account	Debit	Credit
WIP accounting class resource valuation account	XX	
Resource absorption account		XX

If the standard rates check box is checked and you enter an actual rate for a resource, the system charges the job at standard. If autocharge is set to manual and actual rates and quantities are recorded, a rate variance is recognized immediately for any rate difference. Any quantity difference is recognized as an efficiency variance at period close. The accounting entries for the actual labor charges are:

Account	Debit	Credit
WIP accounting class resource valuation account	XX	
Resource rate variance account (Debit when actual rate is greater Than the standard rate. Credit when the actual rate is less than The standard rate.)	XX	XX
Resource absorption account		XX

10.4.4 Assembly Completion Transactions

Account	Debit	Credit
Subinventory elemental accounts	XX	

Wip accountign class valuation accounts XX

Material Overhead

Nonstandard discrete jobs do not earn overhead on completion. Since you have already earned overhead to produce the assemblies as you are repairing or reworking, Work in Process prevents you from double earning material overhead on these assemblies.

The accountign entries for material overhead on completion transactions for nonstandard expense and nonstandard asset jobs are:

Account	Debit	Credit
Subinventory material overhead account	XX	
Wip accountign class material overhead account		XX

10.4.5 Job Close Transactions

Work in Process recognizes variances when you close a job. The close process writes off the balances Remaining in the WIP elemental valuation accounts to the elemental variance accounts you defined by accounting class, leaving a zero balance remaining in the closed job. If there is a positive balance in the job at the end of the close, the accounting entries for a job close are:

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

10.4.5 Period Close Transactions

Costing Nonstandard Expense Job Period Close Transactions

You can close discrete jobs and recognize variances for nonstandard expense jobs at any time. In addition, The period close process automatically recognizes variances on all nonstandard expense job charges incurred during the period. Therefore, open nonstandard expense jobs have zero WIP accounting balances at the start of a new period. If there is a positive balance in the job at the end of the period, the accounting entries for nonstandard expense jobs at period close are:

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

10.4.6 Standard Cost Update Transactions

The standard cost update process revalues standard and nonstandard asset discrete jobs. Nonstandard expense jobs do not get revalued by the cost update. The cost update creates accounting transactions By job and cost element valuation account. Each standard and nonstandard asset discrete job is Updated using the following formula:

Standard cost update adjustment=[new costs in (material, resource, outside processing, and Overhead charges) – new costs out (scrap and assembly completion charges)] – [old costs in (material, Resource, outside processing, and overhead charges) – old costs out (scrap and assembly completion charges)]

If the result of the cost update is an increase in the standard cost of the job, the accounting entries for a cost update transaction are:

Account	Debit	Credit
WIP accounting class valuation accounts	XX	
WIP Standard cost adjustment account		XX

If the result of the cost update is a decrease in the standard cost of the job, the accounting entries for a cost update transaction are:

Account	Debit	Credit
WIP Standard cost adjustment account	XX	
WIP accounting class valuation accounts		XX

WIP Account Distribution Report

This report prints detailed account information for several work in process transactions including resource, overhead, and outside processing charges, cost updates, and period close and job variances. Oracle Work in Process prints detailed information for each charge you make to an account.

The primary tables used in this report are wip_transactions and wip_transaction_accounts.

Oracle Work in Process does not print material cost transactions, such as issues, completions, and scraps in this report. You can print this information using the Material Account Distribution reports in Oracle Inventory.

```
SQL> select lookup_code, substr(meaning,1,30)
2  from mfg_lookups
3  where lookup_type like 'CST_ACCOUNTING_LINE_TYPE%';
```

LOOKUP_CODE SUBSTR(MEANING,1,30)

```
-----
1 Inv valuation
10 Inter-org receivables
11 Inter-org transfer credit
12 Inter-org freight charge
13 Average cost variance
14 Intransit Inventory
15 Encumbrance Reversal
16 Accrual
17 Invoice Price Variance
18 Exchange Rate Variance
19 Special Charge Expense
```

LOOKUP_CODE SUBSTR(MEANING,1,30)

```
-----
2 Account
20 Expense
21 Lot Based Split
22 Lot Based Merge
23 Lot Based Translate
24 Lot Based Split/Merge Cost Upd
25 Lot Based Bonus
26 Lot Based Update Quantity
3 Overhead absorption
4 Resource absorption
5 Receiving Inspection
```

LOOKUP_CODE SUBSTR(MEANING,1,30)

```
-----
6 Purchase price variance or rat
7 WIP valuation
8 WIP variance
9 Inter-org payables
99 Unknown
```

```
SQL> select transaction_id, reference_account, accounting_line_type,
2 base_transaction_value from wip_transaction_accounts
3 where wip_entity_id = 32152 and organization_id = 207;
```

TRANS_ID	REFERENCE_ACCT	ACCOUNTING_LINE_TYPE	BASE_TRANS_VALUE
587945	15344	3	-1.67
587945	20921	7	1.67
587982	20918	7	8.79
587982	20919	7	0
587982	20920	7	0
587982	20921	7	0
587982	15341	8	-8.79
587982	15342	8	0
587982	15343	8	0
587982	19453	8	0
587946	19451	3	-.1
587946	20921	7	.1
587946	19451	3	-.1
587946	20921	7	.1
587947	15344	3	-1
587947	20921	7	1
587945	20897	4	-1
587945	20919	7	1
587945	19451	3	-.25
587945	20921	7	.25

Material Account Distribution Report

The primary tables used in this report are mtl_transaction_accounts and mtl_material_transactions Table.

```
SQL> select transaction_id, reference_account, inventory_item_id,
2 base_transaction_value
3 from mtl_transaction_accounts
4 where transaction_source_id = 32152;
```

TRANSACTION_ID	REFERENCE_ACCOUNT	INVENTORY_ITEM_ID	BASE_TRANSACTION_VALUE
1536953	13401	169	-1.17
1536953	13513	169	-.15
1536953	20918	169	1.32
1536954	13401	341	-.08
1536954	15339	341	-11.6
1536954	15338	341	-2.87
1536954	20918	341	.08
1536954	20919	341	11.6
1536954	20921	341	2.87
1536993	13401	676	9.75
1536993	13513	676	6.43

TRANSACTION_ID	REFERENCE_ACCOUNT	INVENTORY_ITEM_ID	BASE_TRANSACTION_VALUE
----------------	-------------------	-------------------	------------------------

1536993	15339	676	12.6
1536993	20918	676	-10.19
1536993	20919	676	-12.6
1536993	20921	676	-5.99

15 rows selected.

IMPORTANT PATCHES RELATING TO NONSTANDARD DISCRETE JOBS IN RELEASE 11

Bug 772961 (fixed in 11.0WIP E, 1189534) and 11.5, 783454

Problem Description

You cannot create a nonstandard discrete job for a non-asset subinventory using WIP mass load program. You get an error message indicating the completion subinventory is invalid.

Problem Solution

The bug is fixed to make the completion subinventory validation consistent with the Discrete job form. The logic of including the profile option INV:EXPENSE_TO_ASSET_TRANSFER is added in the Subinventory validation. If the profile option is Yes the asset item assembly can have either expense Or asset subinventory, but if the profile is No, it will only have asset subinventory.

757109 (fixed in 11.0Wip E) and 11.5

Problem Description

You are unable to over return assembly to a nonstandard job without a routing. You are salvaging parts from returns and you receive the following error message:
APP-5407 Quantity will drive inventory negative, selects ok and receives the message
Total transaction quantity must be less than or equal to job completed quantity

Problem Solution

Apply the above patch. One can over-return on a nonstandard job without a routing.

687073

Problem Description

You are using the Discrete Job Value report. You perform a scrap transaction and find a total job balance of \$0.00 on the standard job but find a negative total on an asset nonstandard job. It looks like the WIP scrap transaction is being added back into the total balance when the job is closed.

Problem Solution

Apply the above patch that corrects updates made to wip_period_balances for scrap transactions. Once updates to wip_period_balances for scrap transactions occur, the job close program will calculate the correct variances that will result in a zero job balance after job close for nonstandard jobs.

823186

Problem Description

Cannot link nonstandard jobs to sales orders. Functionality existed in 10.7 but was lost in release 11.

Problem Solution

Apply this patch that includes a library routine modification that is called by the Discrete Job form.

794660**Problem Description**

When creating a new discrete job, if you change the job type from standard to nonstandard, the Assembly field becomes non-updatable. Therefore, you cannot define an assembly for a nonstandard job.

Problem Solution

This bug is fixed in 1.0 WIP E, bug 1189534

1072213.6**Problem Description**

MRP does not plan for components of a nonstandard discrete job.

Problem Solution

To tell MRP to plan for components on a nonstandard discrete job, ensure the "MRP Net" box is checked in the material requirement screen for each component you want MRP to plan.

1. Navigate to Work In Process/Job Schedule Details/Material Requirements
2. Query up your nonstandard job
3. Go to the supply alternate region
4. Check the MRP Net boxes for each component you want MRP to plan
5. Rerun MRP
6. Now MRP will plan for the nonstandard discrete job components

1076470.6**Problem Description**

You are reworking a serialized item for repair. The item is received using an RMA receipt into a To Be Repaired subinventory. You create an unreleased work in process job nonstandard via the Wip mass load process. Then you navigate into WIP, release the job, add the repair parts to be Used via the job/schedule details/material window.

These parts are set up to backflush upon job completion.

When the job is complete, you perform a completion move using completion transaction window To move the repair part into a repaired, ready to ship subinventory. At this point you get a message That there is already the same serial number out there, and you cannot complete the transactions.

Problem Solution

Issue the serialized item to the job before attempting the wip completion transaction. Do not try to Backflush the repairable item while doing the WIP completion transaction, this will give a duplicate Serial number error message.

<Enter main article text here.>

RELATED DOCUMENTS

Work In Process Reference Manual
Work In Process Users Guide
Work In Process Technical Reference Manual
Cost Management Users Manual

<<End_of_Article>>