PeopleSoft®

EnterpriseOne B73.3.1 Product Costing and Manufacturing Accounting PeopleBook

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Overview

Overview

Maintaining accurate and complete records on the value of inventory is one of the major concerns of most businesses today. Keeping too much of an unprofitable stock, or using inappropriate methods of costing on certain inventory items, can quickly deplete your profits.

The Product Costing system allows you to store and retrieve cost information. It also helps you to manage your costs by providing informational inputs to your company's business plan. With accurate product costing, you can evaluate the following manufacturing processes to determine the impact to your company's bottom line:

- Manufacturing budgets (direct labor, indirect labor, and overhead)
- Product design (design and manufacturing engineering)
- Accounting (gross margin by product line or item)

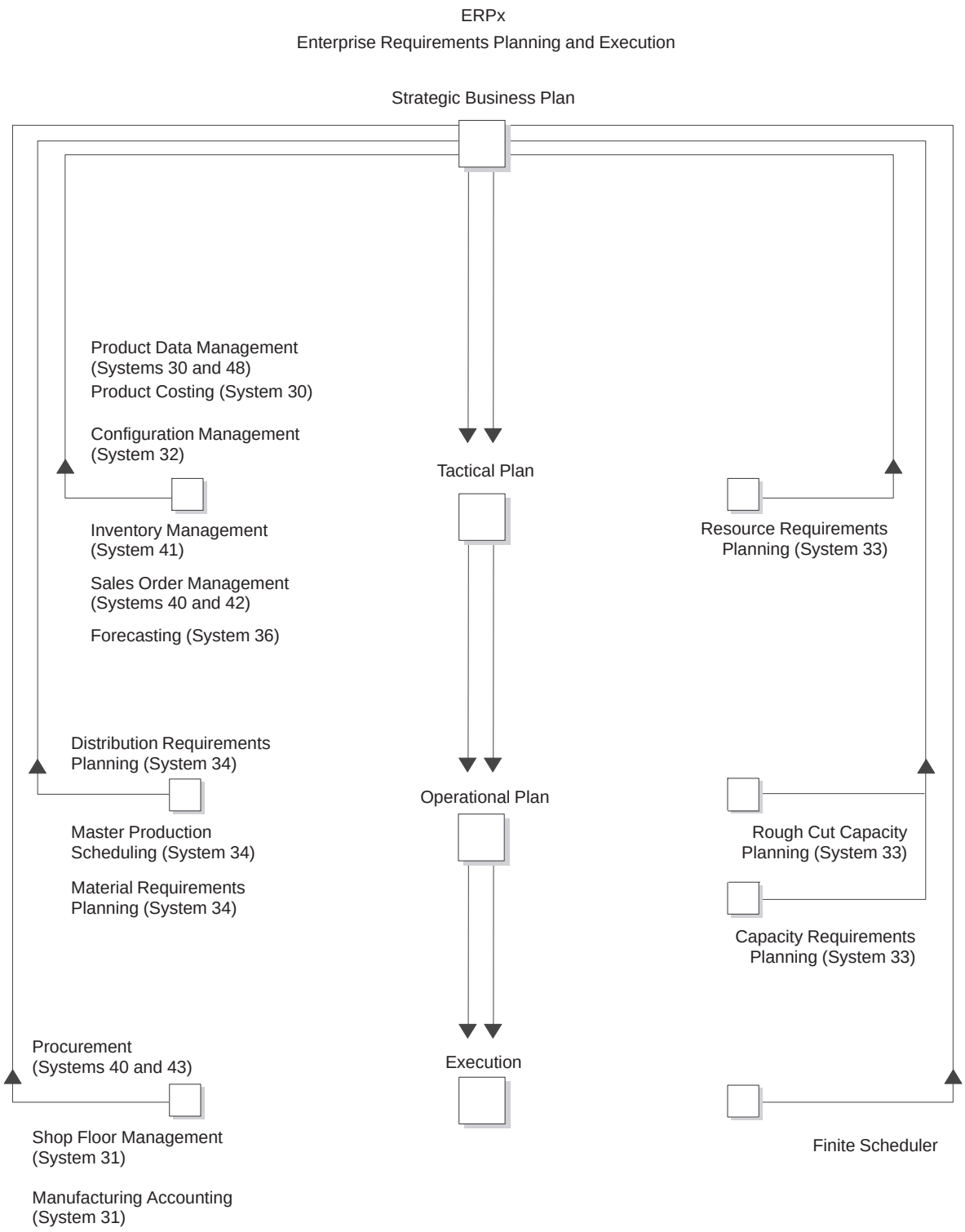
After you establish costs in the Product Costing system, the Manufacturing Accounting system tracks the costs, reports on variances, and posts manufacturing transactions to the general ledger.

System Integration

Product Costing and Manufacturing Accounting are two of the systems that are included in the Enterprise Requirements Planning and Execution (ERPx) system.

ERPx is a closed-loop manufacturing system that formalizes company and operations planning, and the implementation of those plans. Use the ERPx system to coordinate your inventory and labor resources to deliver products according to a managed schedule.

The following diagram shows the systems that make up ERPx and the sequence in which they are implemented.



Features

The Product Costing and Manufacturing Accounting systems provide flexibility to accommodate your manufacturing environment. Some of the benefits and features of these systems are:

User defined cost add-ons	Define and maintain an unlimited number of cost components for tracking specific costs, such as freight, taxes, duty, and electricity.
User defined cost rollup methods	Define an unlimited number of cost methods to use in cost simulation analyses.
User defined cost factors and rates	Allocate cost factors and rates to a specific item. Used with cost add-ons to calculate additional costs.
Cost variances	Print a complete set of reports to compare old costs with new costs before implementing any changes.
Bill of material rollup	Calculate the total material cost by retrieving the bill of material for all items and adding the total cost of the components.
Cost simulation	Run a complete simulation of costs before any live data is updated as the frozen standard.
Multi-facility costing	Maintain cost information at the branch/plant level to allow for cost variances at different locations for identical manufactured items.
Variances	Review four kinds of variances: • Engineering • Planned • Actual (material and labor) • Other
Journal entries for variances	Create detailed or summary journal entries for work order or rate schedule variances.
Journal entries for work order or rate schedule transactions	Create detailed or summary journal entries for work in process or completions.
Automatic accounting instruction (AAI) tables	Charge monetary amounts to specified accounts.

Reports	Print reports listing detailed costs and variances for work orders or rate schedules.

Product Costing and Manufacturing Accounting Integration

Product costing plays a significant role in the manufacturing environment. Before you can implement your Manufacturing Accounting system, you must set up frozen standard cost component values for the products that you produce. To calculate these cost component values, you must consider the following aspects in the manufacturing environment:

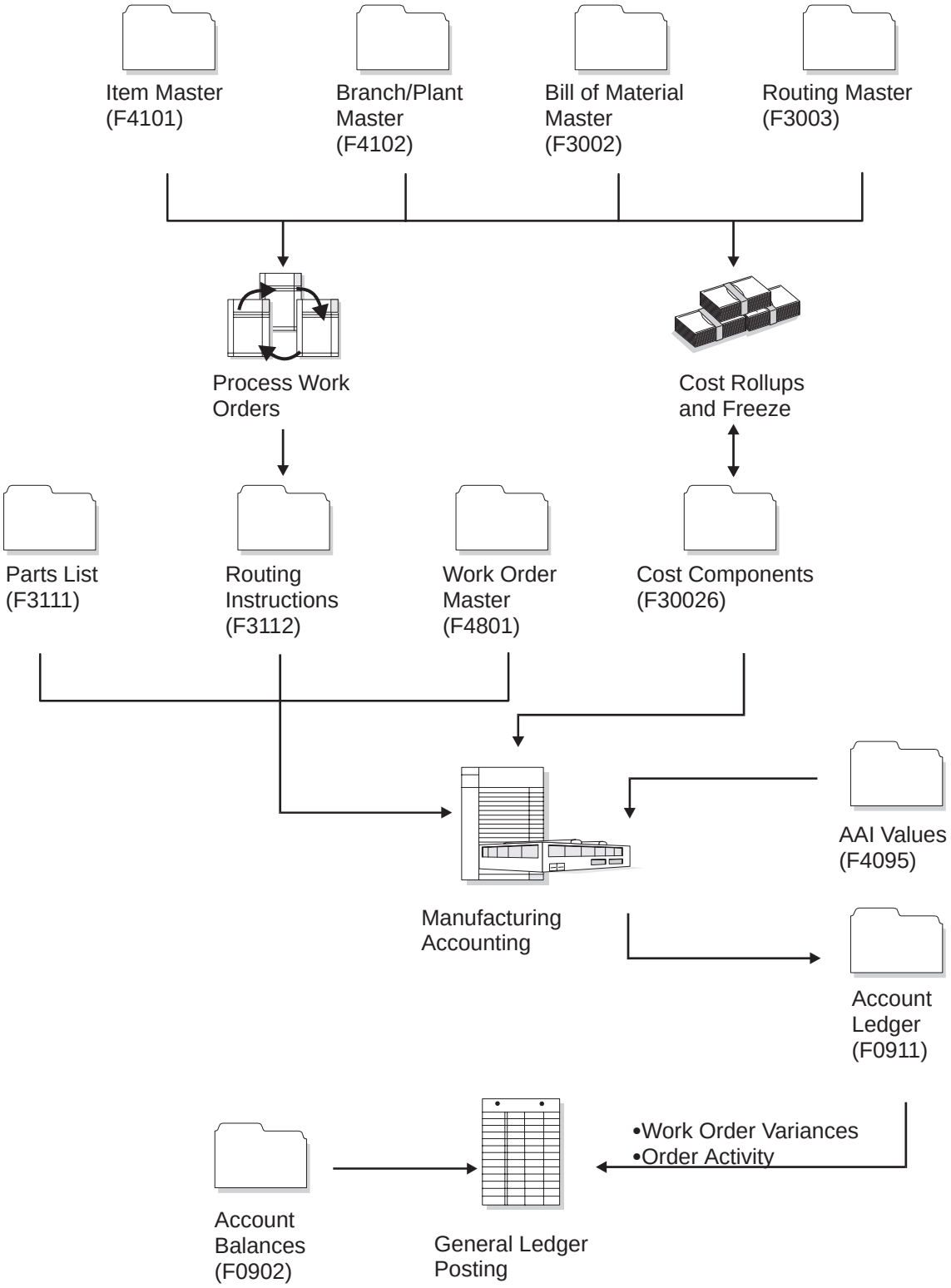
- Cost reporting (what does the item really cost to produce?)
- Variance reporting (actual versus standard costs)
- Product and job costing (detailed information)
    - Materials
    - Labor
    - Overhead

After you calculate your cost component values in a simulated mode and are satisfied with the results, you must establish frozen standard cost components. All shop floor transactions use these frozen standards for calculations, which, in turn, create transactions in your general ledger and are the basis of your inventory valuation.

Certain functions within the Product Costing and Manufacturing Accounting systems overlap with other Manufacturing and Distribution systems, such as Product Data Management and Shop Floor Management. Therefore, it is important that you have a basic understanding of the following tables and how they interact with other systems:

- Item Master (F4101)
- Branch/Plant Master (F4102)
- Bill of Material Master (F3002)
- Routing Master (F3003)
- Work Center Master (F30006)

The following illustration demonstrates the interaction of tables within the Product Costing and Manufacturing Accounting systems.



Achieving Effective Cost Management

Most of the major areas or departments within your manufacturing company contribute information to your product costing activities and, therefore, affect the overall accuracy of your manufacturing budget.

The following table lists examples of departments within your company and the aspects of the Product Costing system that are affected by that department.

Design Engineering	The Design Engineering group is responsible for ensuring that: • The bill of material is complete • The make-buy information is accurate • The engineering change orders (ECOs) have been taken into account
Sales	The sales force contributes important information regarding target markets, as well as the latest trends in manufacturing. For effective cost management, it is important that your sales force provide timely and reasonable forecasts.
Manufacturing Engineering	The Manufacturing Engineering group is responsible for identifying: • Correct processes • Changes to existing processes • Manufacturing overhead • Accurate information about work centers
Purchasing	Your Purchasing department must provide: • Accurate supplier costs • Accurate transportation costs
Manufacturing	Manufacturing operations provide vital information to the product costing effort. For example, they must: • Input their data in a timely and accurate manner • Identify any discrepancies in the bills of material and routings
Accounting	Your Accounting staff must: • Ensure that all items have costs • Identify general and administrative overhead • Produce timely variance reports (standard costs versus current costs)

Several other issues should be considered as you define and manage your manufacturing costs, including:

- When (and how often) do you change standard costs?
- How do you limit access?
- When are new items reflected in the standard?
- How do you account for labor rates and work center overhead?

You might also encounter these typical circumstances as you define costs and perform rollups:

- Not all standards are available before your initial cost rollup
- You have used incorrect units of measure
- Your company inaccurately reports labor hours and costs
- New products are not updated in a timely manner
- Standards are updated too frequently
- Items have been added to or deleted from the bill of material since the last cost update
- Steps in the routing master have been changed since the last cost update

Tables

The following is a list of the tables that are used throughout Product Costing and Manufacturing Accounting.

Account Balances (F0902)	Contains net postings for each period and prior year balances (net and cumulative). There is one record per account, ledger type, subledger, fiscal year, and transaction currency table.
Account Ledger (F0911)	Contains detailed transactions in the general ledger.
Account Master (F0901)	Contains account definitions, including numbers and descriptions.
Address Book (F0101)	Contains information about customers, suppliers, employees, and prospects.
Automatic Accounting Instruction (AAI) Values (F4095)	Contains account numbers that are used to create journal entries and charge monetary amounts to those accounts.

Batch Control (F0011)	Contains system-generated batch header information, including the batch number, batch status, and batch entry date.
Bill of Material Master (F3002)	Contains information at the business unit level about bills of material, such as quantities of components. The system uses this information to calculate material costs.
Branch/Plant Master (F4102)	Defines and maintains warehouse or plant level information, such as branch level category codes.
Business Unit Master (F0006)	Identifies information about business units, such as company names and category codes assigned to the business unit.
Cost Components (F30026)	Contains all cost methods and cost elements for each method for all items.
Cost Ledger (F4105)	Contains the costs of all items as of the last frozen update.
Item Ledger (F4111)	Contains transactions that indicate changes in inventory value.
Item Location (F41021)	Determines G/L class code used in manufacturing accounting transactions.
Item Master (F4101)	Stores basic information about each defined inventory item, such as item numbers, descriptions, category codes, and units of measure.
Manufacturing Constants (F3009)	Stores variables that indicate whether to include efficiency in the cost rollup and which overhead values to use.
Manufacturing Data (F41027)	Stores the accounting cost quantity, which the system uses to determine the allocation of fixed setup costs for an item.
Parts List (F3111)	Contains the parts list that is attached to a work order or rate schedule. It contains one record for each part. The system creates this table interactively or when you run the Process Work Orders program.
Routing Master (F3003)	Stores routing information, including operation sequence, work center, runtime, setup time, and machine time. The system uses this information to calculate labor, machine, and overhead costs.

Sales Flex Accounting (F4096)	Determines how to populate cost objects.
User Defined Codes (F0005)	Contains user defined codes and their descriptions. User defined codes in product costing and manufacturing accounting include: • Cost methods • Cost components • Cost buckets • Operation buckets • Standard rate codes • Standard factor codes
Work Center Master (F30006)	Contains detailed data about all defined work centers, including efficiency.
Work Center Rates (F30008)	Contains all rates for each work center, such as overhead and labor.
Work Order Master (F4801)	Contains all work order header information. The data from this table appears on shop floor paperwork. The system updates this table when completion transactions occur against a work order.
Work Order Routing (F3112)	Contains the routing steps that are attached to a work order or rate schedule. It contains one record for each operation sequence number and work center. The system creates this table interactively or when you run the Process Work Orders program.
Work Order Variances (F3102)	Contains the amounts used for work order or rate schedule variance calculations. The following programs update this table: • Process Work Orders • Journal Entries for Work in Process • Journal Entries for Completions • Journal Entries for Variances

Menu Overview

OneWorld provides access through a menu hierarchy. The hierarchy is organized by system and frequency of use.

Product Costing

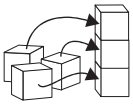
Access Product Costing functions from the Product Data Management menus.

Product Data Management (G30)

Daily Processing (G3010)

- Product Costing (G3014)

Periodic Processing (G3020)



System Setup (G3041)

- Product Costing Setup (G3042)

Fast Path Commands

The following table provides the fast path commands that you can use to move among the Product Costing menus.

Command	Menu	Title
COST	G3014	Daily Product Costing
DPC	G3014	Daily Product Costing
PPC	G3023	Periodic Product Costing
COSTS	G3042	Product Costing Setup
SPC	G3042	Product Costing Setup

Manufacturing Accounting

Access Manufacturing Accounting functions from the Shop Floor Management menus.

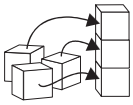
Shop Floor Management (G31)

Daily Processing (G3110)

- Manufacturing Accounting (G3116)

Periodic Processing (G3120)

- Manufacturing Accounting (G3123)



System Setup (G3141)

Fast Path Commands

The following table provides the fast path commands that you can use to move among the Manufacturing Accounting menus.

Command	Menu	Title
DMA	G3116	Manufacturing Accounting
MA	G3116	Manufacturing Accounting
PMA	G3123	Manufacturing Accounting Periodic
SSFC	G3141	Shop Floor Management Setup

Product Costing

Product Costing

Working with the Product Costing system consists of the following tasks:

- ❑ Reviewing bills of material and routings
- ❑ Setting up product costing
- ❑ Creating simulated costs
- ❑ Working with simulated cost components
- ❑ Updating frozen costs
- ❑ Reviewing costing information
- ❑ Working with additional costing features

What Are Standard Costs?

You can work with a variety of cost methods in the Product Costing system. However, the Manufacturing Accounting system uses the standard cost method (07). This method represents the expected (target) cost of an item for a specific period of time, such as quarterly, semi-annually, or annually.

With standard costing, you estimate costs for each end item assembly and manufactured part on a level-by-level basis before production begins. These cost estimates are based on both past performance and analysis of future conditions.

Standard Cost	
Net Added Cost	**Total Cost**
Includes: • Labor • Overhead • Outside operations • Extra costs • Materials (for purchased parts only)	Includes: • This item's net added cost • Total cost of lower-level components

The net added cost represents the cost to manufacture an item at this level in the bill of material. For manufactured parts, the cost includes labor, outside operations, and cost extras, but not materials (lower-level items). For purchased parts, the net added cost includes the cost of materials. The total cost of an item represents the sum of the item's net added cost and the total cost of all components.

Why Maintain Standard Costs?

By defining and monitoring product costs, you can measure your company's current manufacturing performance against your standard (target) costs. Product costing provides information about the monetary investments tied to your materials, work in process, and physical inventory. You can use this information to determine pricing on end items and service components.

Simulated versus Frozen Costs

Simulated costs represent a "what if" analysis for a given cost method. You might want to calculate simulated costs because of changing factors in the business environment, such as labor rates or the cost of raw materials. You can simulate cost change scenarios (rollups) as many times as needed before you finalize the changes.

You finalize the changes by performing a frozen update for the given cost method. A frozen update copies your simulated values and makes them your frozen costs, and updates the Cost Ledger table (F4105) with the total cost. These costs remain in effect until you update them with another frozen update.

You can simulate costs using the standard cost method or any other cost method. However, the Manufacturing Accounting system uses only the standard cost method to establish costs for shop floor transactions.

What Are Cost Components?

Cost components represent the individual costs that make up an item, for example, material, labor, overhead, and extras. Material, labor, and overhead costs are automatically calculated by the system. Extra costs, such as electricity, are manually controlled.

Use cost components to maintain complete item costing information. You can use them to set up simulated cost scenarios to help plan for future cost changes, and to display the simulated or frozen net added and total component costs for any item.

In addition, you can:

- Allow for extra costs related to the manufacturing of a product, such as electricity, insurance, water, or warehouse space.
- Review specific calculations used to determine cost amounts for any item.
- Maintain costs by branch for multi-facility processing. Multi-facility processing allows for different costing values based on regional or business variations.
- Set up costing rates that represent cost elements.
- Define additional cost factors to include in product costing calculations.

Reviewing Bills of Material and Routings

The bill of material and routing for an item contain important information that affects costing. To ensure that this information is set up correctly:

- ❑ Review product costing in bills of material
- ❑ Review routings for product costing

Reviewing Product Costing in Bills of Material

Review your bills of material to understand the bills' input to your material product costs. Only items with a bill type of M are costed.

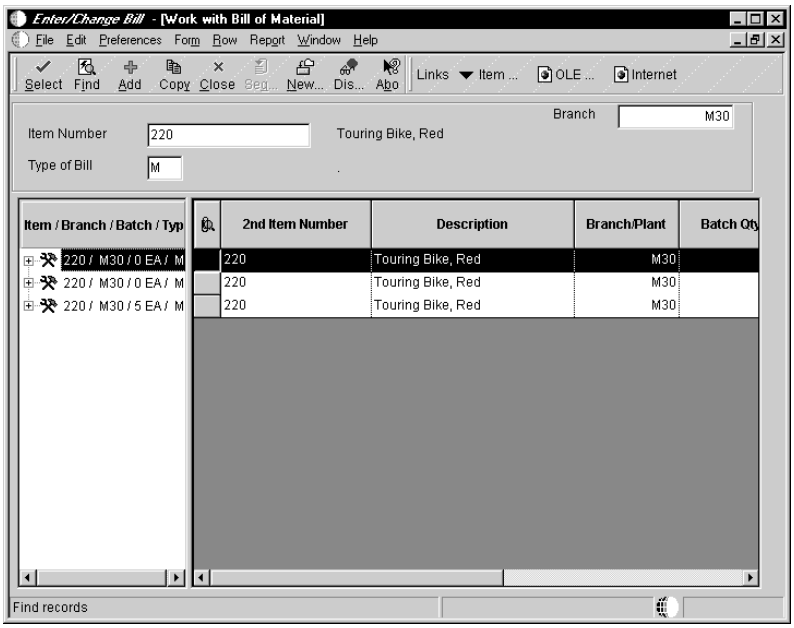
See Also

- *Working with Bills of Material* in the *Product Data Management Guide*

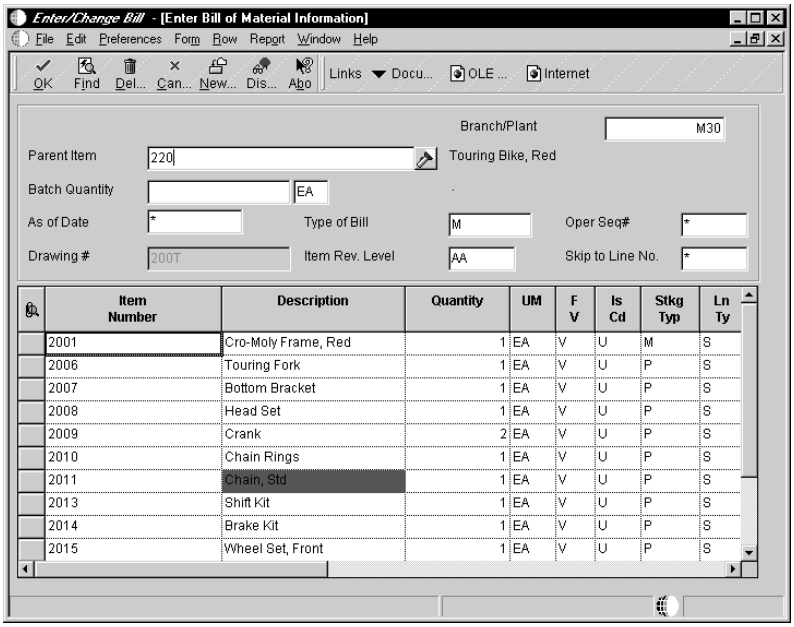
▶ To review product costing in bills of material

From the Daily PDM Discrete menu (G3011), choose Enter/Change Bill.

On Work with Bill of Material



1. Complete the following fields and click Find:
   - Branch
   - Item Number
2. Choose a record and click Select.



3. On Enter Bill of Material Information, review the following fields:
    - Item Number
    - Quantity
    - UM
    - F V
    - Feat Cost %
    - Percent Scrap
    - Operation Scrap Percent

Field	Explanation
Quantity	The number of units that the system applies to the transaction. . . . . . *Form-specific information* . . . . . . A number that indicates how many components you use to manufacture the parent item. A quantity of zero is valid. The default value is 1.
UM	The default value comes from the component and production units of measure from the Item Master table.
F V	A code that indicates if the quantity per assembly for an item on the bill of material varies according to the quantity of the parent item produced or is fixed regardless of the parent quantity. This value also determines if the component quantity is a percent of the parent quantity. Valid values are: F Fixed Quantity V Variable Quantity (default) % Quantities are expressed as a percentage and must total 100% For fixed-quantity components, the Work Order and Material Requirements Planning systems do not extend the component's quantity per assembly value by the order quantity. For percent bills of material, the system treats zero batch sizes as variable quantity components and treats batch sizes greater than zero as fixed quantity components.
Feat Cost %	A percentage that the Simulate Cost Rollup program uses to calculate the cost of a feature or option item as a percentage of the total cost of the parent. Enter the percentage as a whole number, for example, enter 5% as 5.0.

Field	Explanation
Percent Scrap	The percentage of unusable component material created during the manufacture of a particular parent item. During DRP/MPS/MRP generation, the system increases gross requirements for the component item to compensate for the loss. Note: Shrink is the expected loss of parent items (and hence, components) due to the manufacturing process. Shrink and scrap are compounded to figure the total loss in the manufacture of a particular item. Accurate shrink and scrap factors can help to produce more accurate planning calculations. Enter percentages as whole numbers: 5% as 5.0 . . . . . *Form-specific information* . . . . . . The Shop Floor Control and Material Requirements Planning systems inflate component requirements by this percentage. This scrap percentage is unique to the relationship of one parent and one component.
Operation Scrap Percent	A value that the system uses to increase or decrease the amount of materials to account for loss within the operation. The system updates this value on Enter/Change Bill of Material when you run the Planned Yield Update program. The system calculates this value by compounding the yield percentages from the last operation to the first operation. Use a processing option in Enter/Change Routing to enable the system to calculate the component scrap percent. . . . . . *Form-specific information* . . . . . . Product Costing inflates component requirements by this percentage when calculating item costs.

Reviewing Routings for Product Costing

Review your routings to understand their input to your labor and overhead costs.

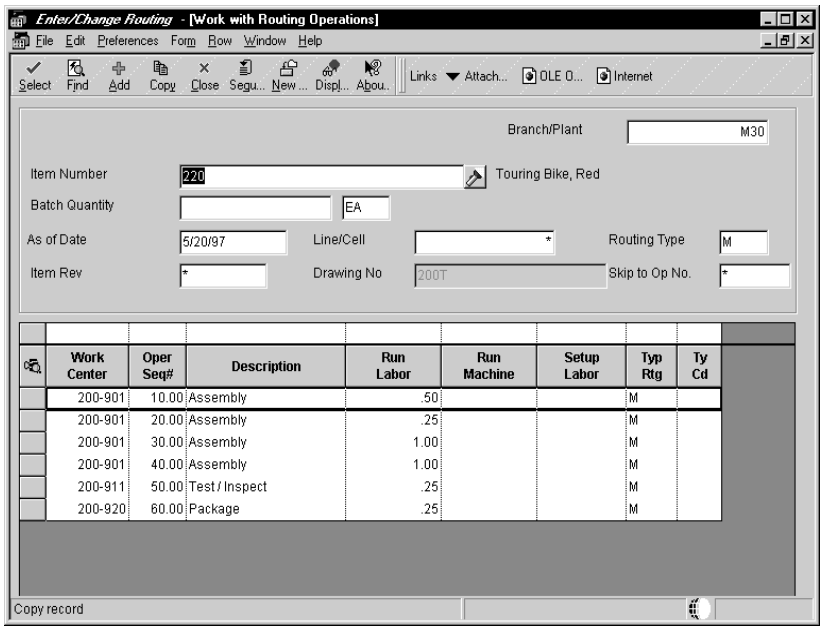
See Also

- *Working with Routings* in the *Product Data Management Guide*

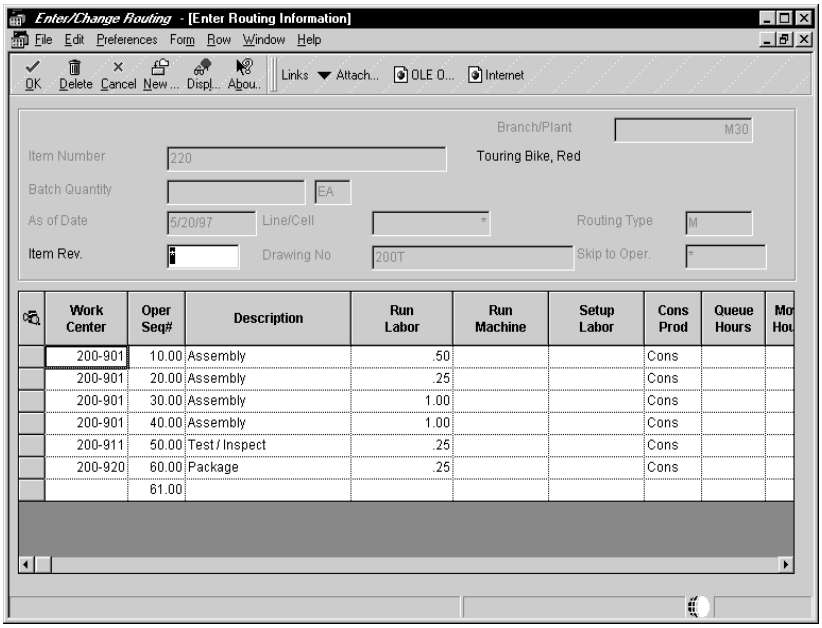
▶ To review routing information

From the Daily PDM Discrete menu (G3011), choose Enter/Change Routing.

On Work with Routing Operations



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
   - Batch Quantity
   - Unit of Measure as Input
   - As of Date
2. Choose Revision from the Form menu.



3. On Enter Routing Information, review the following fields:
   - Work Center
   - Run Labor
   - Run Machine
   - Setup Labor
   - Time Basis
   - Crew Size
   - Cost Type
   - Type Oper
   - Yield %
   - Cum Yield %

Field	Explanation
Work Center	A number that identifies a branch, plant, work center, or business unit. . . . . . *Form-specific information* . . . . . . For Product Costing, this is the work center from which costs are retrieved. For Equipment users, this is the craft or resource responsible for completing the maintenance activity. Manufacturing Accounting does not support journal entries by work center.

Field	Explanation
Run Labor	The standard hours of labor that you expect to incur in the normal production of this item. The run labor hours in the Routing Master table (F3003) are the total hours that it takes the specified crew size to complete the operation. The hours are multiplied by the crew size during shop floor release and product costing. . . . . . *Form-specific information* . . . . . . For Equipment/Plant: This is the estimated number of hours needed to complete a maintenance activity.
Run Machine	The standard machine hours that you expect to incur in the normal production of this item. . . . . . *Form-specific information* . . . . . . For Equipment/Plant Maintenance users: Entering machine hours has several consequences. If you are not using other manufacturing systems, do not enter machine hours. If you are using manufacturing systems, the machine for which the machine hours apply must be set up as a work center. If you enter machine hours in this field, the system indicates a demand for those machine hours, based on the time commitment of the work order. You should plan to take the machine out of service for the entire time necessary to complete the work order. If you enter machine hours, you can optionally complete the Percent of Overlap field to indicate any operations that can overlap previous operations. For planning purposes, the system determines the total duration of the maintenance work order based on values that you enter for machine hours and percent overlap.
Setup Labor	The standard setup hours that you expect to incur in the normal completion of this item. This value is not affected by crew size.
Time Basis	A user defined code (30/TB) that indicates how machine or labor hours are expressed for a product. Time basis codes identify the time basis or rate to be used for machine or labor hours entered for every routing step. For example, 25 hours per 1,000 pieces or 15 hours per 10,000 pieces. You can maintain the time basis codes in Time Basis Codes. The system uses the values in the Description-2 field on the User Defined Codes form for costing and scheduling calculations. The description is what the code represents, but is not used in calculations.

Field	Explanation
Crew Size	The number of people who work in the specified work center or routing operation. The system multiplies the Run Labor value in the Routing Master table (F3003) by crew size during costing to generate total labor amounts. If the Prime Load Code is L or B, the system uses the total labor hours for backscheduling. If the Prime Load Code is C or M, the system uses the total machine hours for backscheduling without modification by crew size. . . . . . *Form-specific information* . . . . . . For Shop Floor Management: The Crew Size field on the Work Order Routing form contains the value entered on the Work Center Revision form (P3006). You can override the value by changing this field on the Work Order Routing form. However, the Work Center Revision form will not reflect this change.
Cost Type	A code that designates each element of cost for an item. An example of the coding structure is as follows: A1 Purchased raw material B1 Direct labor routing rollup B2 Setup labor routing rollup C1 Variable burden routing rollup C2 Fixed burden routing rollup Dx Usually used for outside operation routing rollup Xx Usually used for extra add-ons, such as electricity and water The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure allows you to use an unlimited number of cost components to calculate alternative cost rollups. The system then associates these cost components with one of six user defined summary cost buckets. . . . . . *Form-specific information* . . . . . . For outside operations, indicates the cost component with which to associate costs.
Type Oper	A user defined code (30/OT) that indicates the type of operation. Examples include the following: A Alternate routing TT Travel time IT Idle time T Text (Enter text at Description) . . . . . *Form-specific information* . . . . . . For Product Costing: Only operations with a “blank” type operation code are costed.

Field	Explanation
Yield %	The planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the bill of material and the operation scrap percent in the routing. Materials Requirements Planning uses the step scrap percent and the existing component scrap percent to plan component demand.
Cum Yield %	The cumulative planned output yield percent for a step. The system uses this value to adjust the operation step scrap percent for the components at that operation step. This enables the MRP system to use the operation step scrap percent along with the existing component scrap percent to plan component demand.

Setting Up Product Costing

You can customize the Product Costing system to meet your specific manufacturing environment needs. The system uses the values that you define to determine your product costs.

Setting up product costing consists of the following:

- ❑ Setting up accounting cost quantities
- ❑ Setting up item cost levels
- ❑ Converting item cost levels
- ❑ Setting up item costs
- ❑ Setting up cost components
- ❑ Setting up manufacturing constants for product costing
- ❑ Setting up simulated rates for a work center

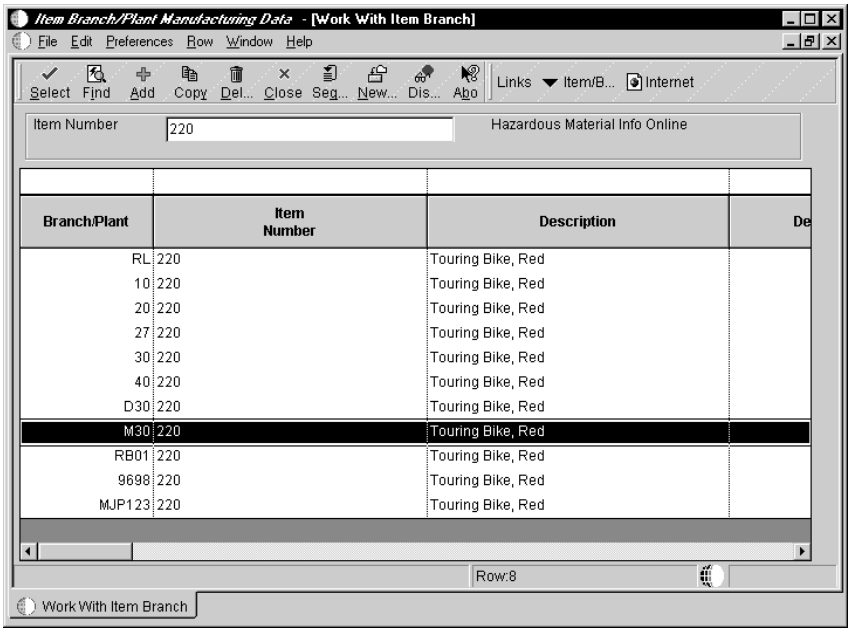
Setting Up Accounting Cost Quantities

The system uses accounting cost quantities to determine the allocation of fixed costs for an item. Accounting cost quantities represent the average quantity of a work order or rate schedule for this item. During cost rollup, the system divides the fixed costs by the accounting cost quantity that you specify to determine a unit fixed cost.

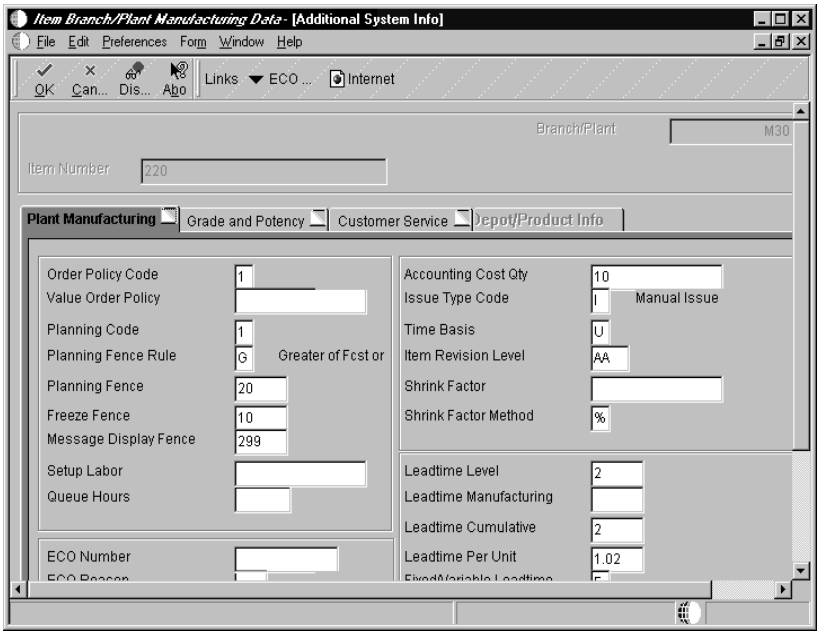
▶ To set up an accounting cost quantity

From the Item Revisions menu (G4112), choose Item Branch/Plant Manufacturing Data.

On Work With Item Branch



1. Complete the following field and click Find:
   - Item Number
2. Choose a record and from the Row menu, choose Additional System Information.



3. On Additional System Information, review the following field:
   - Accounting Cost Qty

Field	Explanation
Accounting Cost Qty	An amount that the system uses in the Cost Rollup program to determine the allocation of setup costs. The system totals the setup costs and divides the sum by this quantity to determine a unit setup cost. The default is 1.

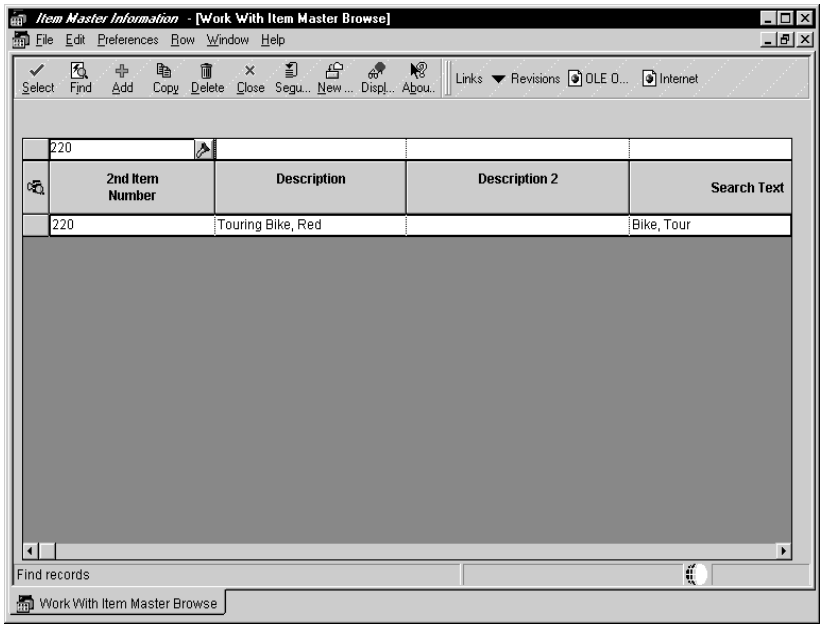
Setting Up Item Cost Levels

The cost level that you assign to an item indicates the level at which the system maintains costs. You determine whether the system maintains one overall cost for an item (cost level 1) or a different cost for the item in each branch/plant (cost level 2). The system can also maintain a different cost for each location and lot within a branch/plant (cost level 3). However, in the Product Costing system, costs at cost level 3 are informational only. All items used in a manufacturing environment should have cost levels of 1 or 2, except configured items, which must be cost level 3.

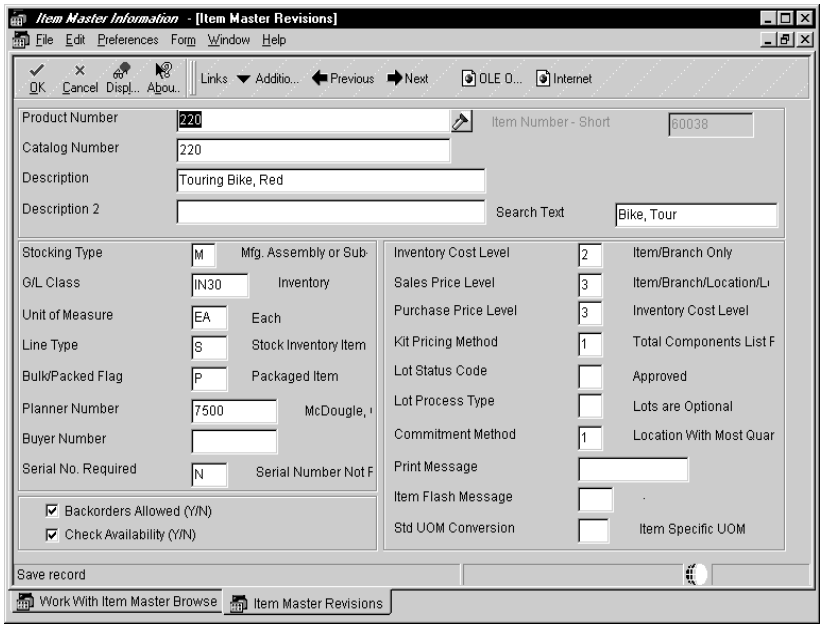
▶ To set up an item cost level

From the Inventory Master/Transactions menu (G4111), choose Item Master.

On Work with Item Master Browse



1. In the Query by Example row, complete the following field and click Find:
   - 2nd Item Number
2. Choose the record and click Select.



3. On Item Master Revisions, complete or review the following field:

   - Inventory Cost Level

   After you have entered cost information, do not change an item's cost level here. To change an item's cost level, use the Item Cost Level Conversion program. See *Converting Item Cost Levels*.

Field	Explanation
Inventory Cost Level	A code that indicates whether the system maintains one overall inventory cost for the item, a different cost for each branch/plant, or a different cost for each location and lot within a branch/plant. The system maintains inventory costs in the Cost Ledger table (F4105). Valid codes are: 1 Item level 2 Item/Branch level 3 Item/Branch/Location level (not recognized by the Manufacturing system, except for configured items)

Converting Item Cost Levels

From the Inventory Advanced & Technical Operations menu (G4131), choose Item Cost Level Conversion.

After you have entered cost information, you might need to change an item's cost level. You must use the Item Cost Level Conversion program to change an item's cost level after cost information has been entered.

When you run this program, it deletes all existing cost records for the item in the Cost Ledger table (F4105) and creates new cost records that correspond to the level. The system uses the sales/inventory cost method for the item to create the new cost records.

The program does not change the cost valuation of items and does not create journal entries. For example, if you change an item's cost level from branch/plant and location to branch/plant, all existing cost records for the branch/plant and location must contain the same sales/inventory cost method and cost.

You can run Item Cost Level Conversion in proof mode or final mode. When you run the program in proof mode, the system generates the Item Cost Level Conversion report, showing errors that need correction. You should always run the program in proof mode first and correct any discrepancies.

When you run the program in final mode, the system updates the following tables:

- Inventory Cost Level field in the Item Master (F4101)
- Cost Ledger (F4105)

Changing your item cost levels changes data throughout the system. You should restrict access to this program.

Before You Begin

- ❑ Back up your data tables completely before you begin the data conversion process. If the results of the conversion are unsatisfactory, you can use the backup tables to restore data tables to their original format.

- ❑ Verify that no users are accessing the Item Master or Cost Ledger tables when this program is running in final mode.

See Also

- *Setting Up Item Cost Levels*
- *R41815, Item Cost Level Conversion* in the *Reports Guide* for a report sample

Processing Options for Item Cost Level Conversion

```
Process

1.  Enter the Cost Level to update to.

      Level – Inventory Cost                          _____________

2.  If updating to cost level '1', enter
    the branch to default the costs
    from.  If updating from a cost level
    '3', the costs will default from the
    primary location.

      Branch/Plant                                    _____________

3.  Enter a '1' to run in final mode and
    update files.  If blank, no file
    updates will occur.

      Update Mode                                     _____________

4.  Enter a '1' to print only exceptions
    on the edit report.  A blank will
    print all items.

      Print Mode                                      _____________
```

Setting Up Item Costs

You must provide cost information for each of your items for the system to track inventory costs. You specify the cost method that the system uses to determine an item's cost for:

- Sales/inventory transactions
- Purchase orders

For example, in a distribution environment, you can specify that the system use the weighted average cost method to determine the inventory cost for an item and use the last-in cost method to determine the item's unit cost for purchase orders. However, in a manufacturing environment, you must use the standard cost method to determine the inventory cost for both raw materials and manufactured items.

For each cost method that you assign to an item, you must also specify a cost. For example, to use the last-in cost method for an item, you must enter an initial cost for that cost method. The system updates the last-in cost based on the cost of the item as of the last receipt date.

For purchased items and outside operations, the main inputs to product costing are entered on Cost Revisions or Cost Components.

To set up item costs, complete the following tasks:

- Set up new cost methods
- Assign cost methods

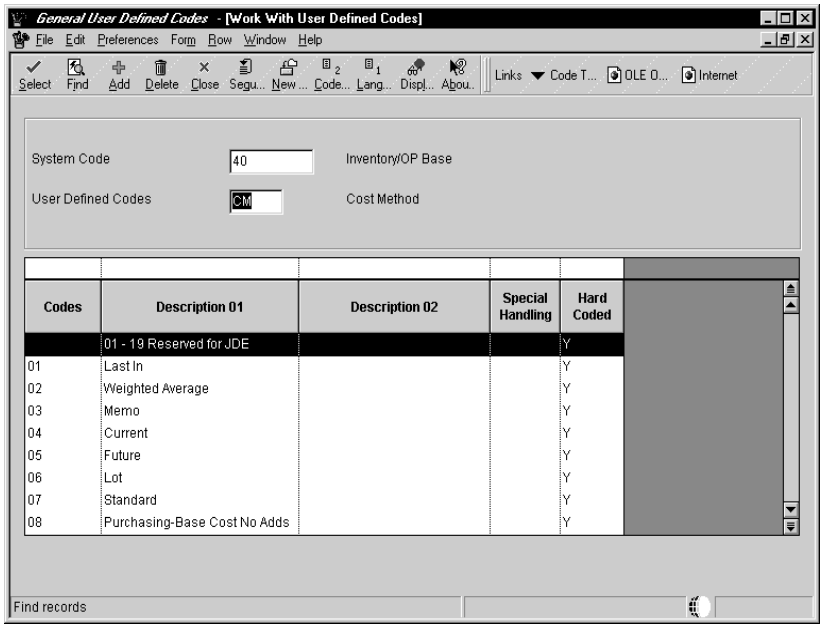
See Also

- *Updating Product Costs*

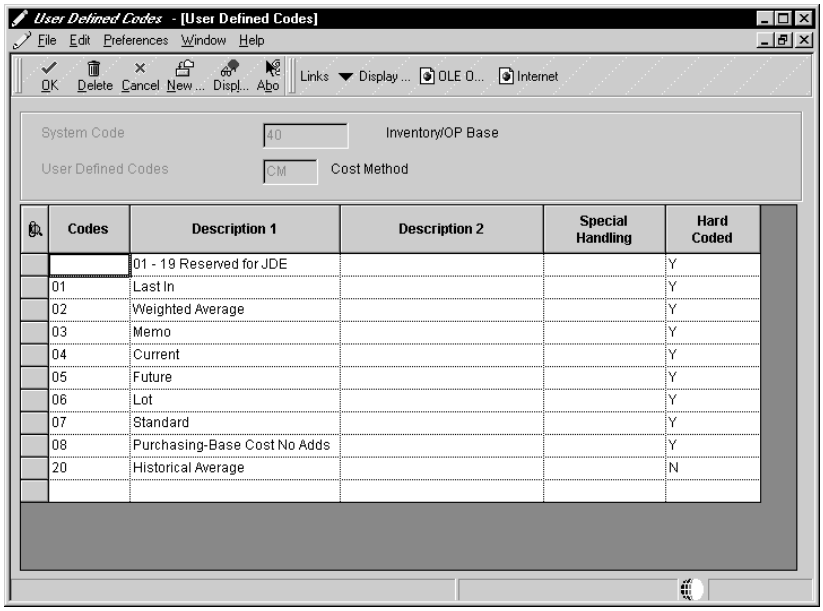
▶ To set up a new cost method

You can set up user defined codes (40/CM) to define your own cost methods. For example, you might want to establish a cost method to maintain a history of last year's costs. Codes 01 through 08 are hard-coded and cannot be altered. Codes 09 through 19 are reserved for J.D. Edwards use.

On Work with User Defined Codes



1. Complete the following fields and click Find:
   - System Code
   - User Defined Codes
2. Click Add.



3. On User Defined Codes, complete the following fields:

   - Codes

     Defines cost methods that are used in the cost rollup and assigned to items. This is a two-character, alphanumeric field.

   - Description 1

     Identifies the cost method.

   - Description 2

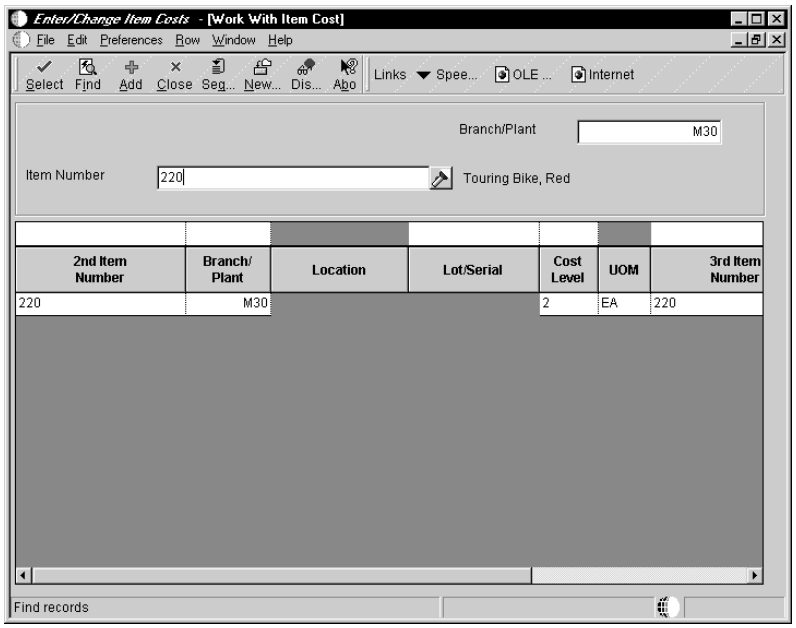
     Identifies additional information about the cost method.

▶ To assign cost methods

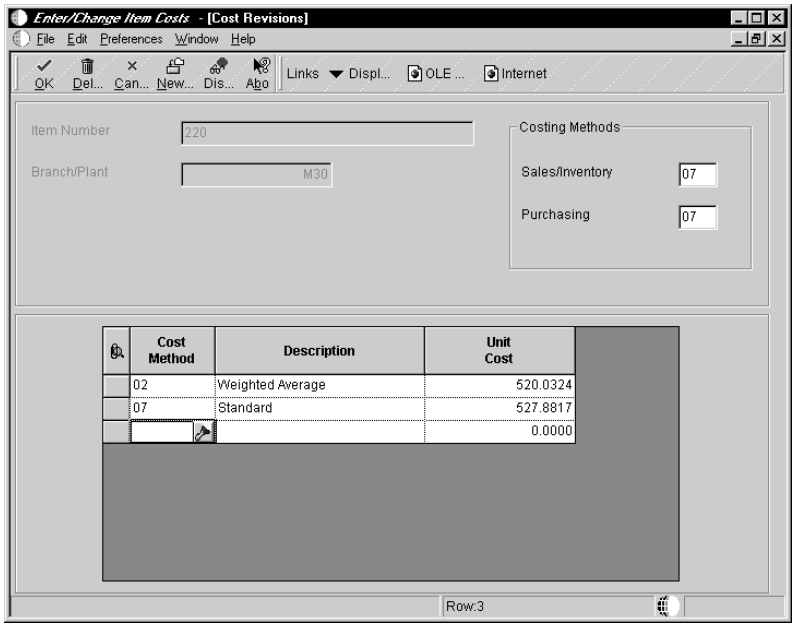
From the Daily Product Costing menu (G3014), choose Enter/Change Item Costs.

Specify which cost methods to apply to an item by assigning a unit cost for each method.

On Work With Item Cost



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
2. Choose a record and click Add.



3. On Cost Revisions, enter the appropriate cost methods in the following fields:
   - Sales/Inventory

- Purchasing

If you assign a cost method for sales/inventory or purchasing that is not set up with a cost amount, a warning message appears. If you do not enter a cost amount for the cost method, the system assigns a zero cost.

4. Complete the following field for each applicable cost method:
   - Unit Cost

Removing a Cost Method

You can remove a cost method for an item if it is no longer applicable. If you try to remove your sales/inventory or purchasing cost method, the system displays a warning message. The system does not delete the cost method, but updates it to a zero cost.

Field	Explanation
Unit Cost	Depending on the cost method, this data can come from various sources, for example, purchasing or the cost rollup. . . . . . *Form-specific information* . . . . . . The cost for one unit of this item, based on the corresponding cost method.
Sales/Inventory	A code (table 40/CM) that indicates the cost method that the system uses to calculate the cost of goods sold for the item. Cost methods 01-19 are reserved for J.D. Edwards use. . . . . . *Form-specific information* . . . . . . If you maintain costs at the item level, the system retrieves the default value for this field from the data dictionary. If you maintain costs at the item and branch/plant level, the system retrieves the default value from Branch/Plant Constants.
Purchasing	A code (table 40/CM) that indicates the cost method that the system uses to determine the cost of the item for purchase orders. Cost methods 01-19 are reserved for J.D. Edwards use. . . . . . *Form-specific information* . . . . . . If you maintain costs at the item level, the system retrieves the default value for this field from the data dictionary. If you maintain costs at the item and branch/plant level, the system retrieves the default value from Branch/Plant Constants.

Processing Options for Cost Revisions

Process

1. Enter a '1' to prevent the standard cost from being changed. _____

Interop

1. Enter the transaction type for the interoperability transaction. If left blank, outbound interoperability processing will not be performed. _____

Setting Up Cost Components

Use cost components to identify and track each element or type of cost for an item. Cost components that begin with A, B, and C are hard-coded by J.D. Edwards and cannot be changed. J.D. Edwards recommends that you use cost component D for outside operations. You can define an unlimited number of additional cost components to account for extra costs for an item, such as electricity or research and development. These user defined cost components can begin with any letter except A, B, or C. You can assign separate cost components by categories that are applicable to your business. J.D. Edwards recommends that you define extra costs with an "X" for easy identification.

Although it might appear that you can set up extra cost components that begin with A, B, or C, the Simulate Cost Rollup program actually deletes these cost components.

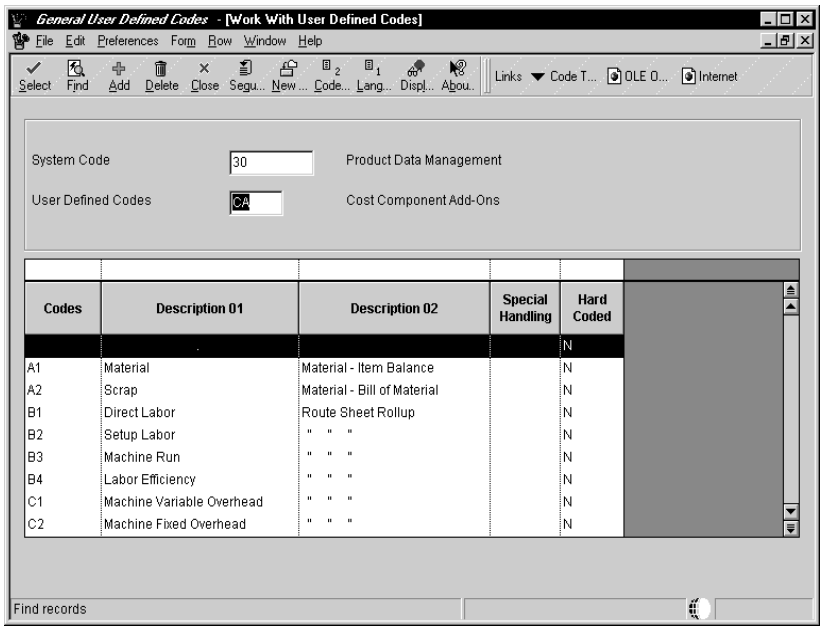
See Also

- *Assigning Values to User Defined Cost Components*
- *Appendix A — Calculations in Cost Rollup*

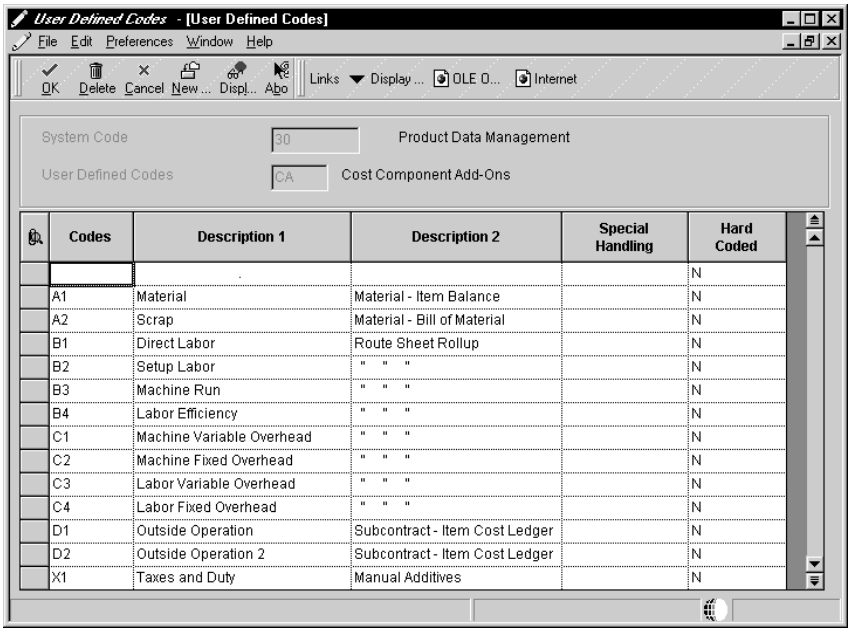
▶ To set up a cost component

From the Product Costing Setup menu (G3042), choose Cost Components.

On Work With User Defined Codes



1. Click Add.



2. On User Defined Codes, complete the following fields and click OK:

   - Codes

     Use this code to identify all of the possible cost components that can be used in the cost rollup for an item.

- Description 1

  Identifies what each cost component represents.

- Description 2

  Additional text that further describes or clarifies the cost components.

- Special Handling

  For outside operations, type a 1 as the first character.

Setting Up Manufacturing Constants for Product Costing

You must establish information that is unique to your branch/plant. Use manufacturing constants to set options that determine:

- How to calculate overhead costs
- Whether to consider work center efficiency when calculating direct labor and overhead
- Whether overheads are entered as percents or rates

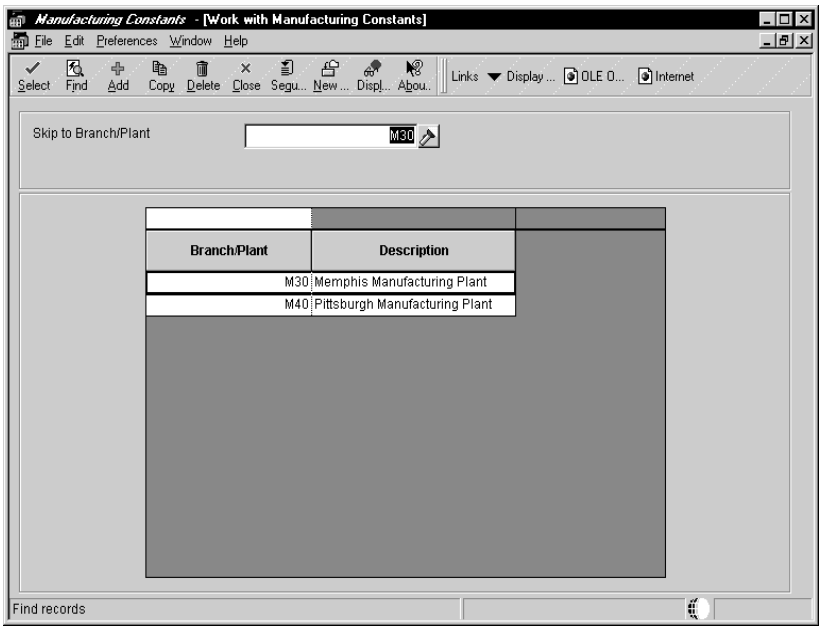
See Also

- *Setting Up Manufacturing Constants* in the *Product Data Management Guide*

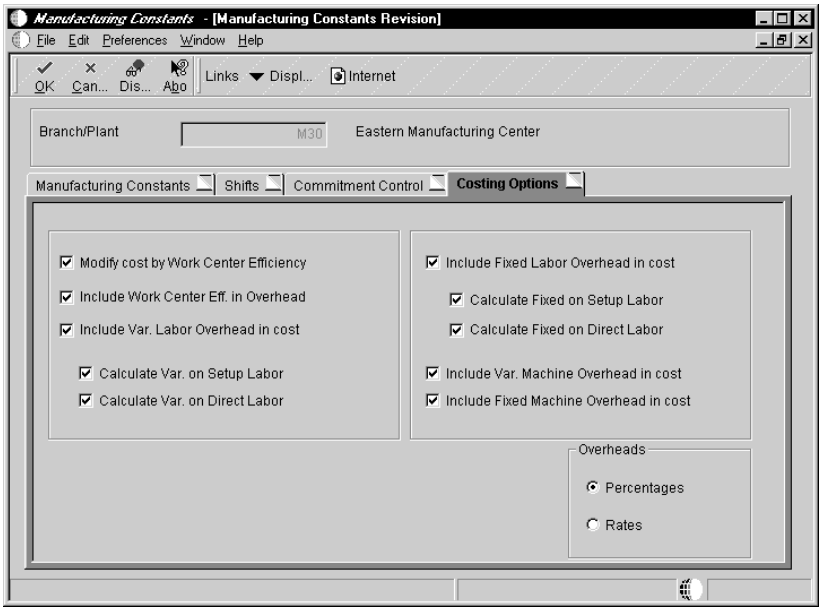
▶ To set up manufacturing constants for Product Costing

From the Product Costing Setup menu (G3042), choose Manufacturing Constants.

On Work with Manufacturing Constants



1. Choose a branch/plant and click Select.



2. On Manufacturing Constants Revision, click the Costing Options tab.
3. Click one of the following options under the Overheads heading:
   - Percentages
   - Rates

4. Click the appropriate costing options and click OK:
   - Modify cost by Work Center Efficiency
   - Include Work Center Eff. in Overhead
   - Include Var. Labor Overhead in Cost
   - Calculate Var. on Setup Labor
   - Calculate Var. on Direct Labor
   - Include Fixed Labor Overhead in Cost
   - Calculate Fixed on Setup Labor
   - Calculate Fixed on Direct Labor
   - Include Var. Machine Overhead in Cost
   - Include Fixed Machine Overhead in Cost

Field	Explanation
Percents or Rates	An option that determines whether values for overhead fields (cost components C1 through C4) in the Work Center Rates table (F30008) are expressed as percents or rates. For World: Valid values are: R Express overhead values as rates (currency values). P Express overhead values as percents. For OneWorld: To specify whether the system expresses the overhead fields as percents or rates, click either Percents or Rates under the Overheads heading.
Modify cost by Work Center Efficiency	An option that determines whether the cost rollup creates cost component B4 (for labor efficiency) based on the direct labor value (cost component B1) and the Work Center Efficiency percent from the Work Center Master table (F30006). For World: Valid values are: Y Yes. Create cost component B4. N No. Do not create cost component B4. For OneWorld: To create cost component B4, click the Modify cost by Work Center Efficiency option under the Costing Options heading.

Field	Explanation
Include Work Center Eff. in Overhead	An option that determines whether the cost rollup includes work center efficiency when calculating overhead values, if you specified that you want to modify costs by work center efficiency. For World: Valid values are: Y Yes. Include work center efficiency. N No. Do not include work center efficiency. For OneWorld: To include work center efficiency, click the Include Work Center Eff. in Overhead option under the Costing Options heading.
Include Var. Labor Overhead in Cost	An option that determines whether the cost rollup creates cost component C3 (for variable labor overhead) in the Item Cost Component Add-Ons table (F30026). For World: Valid values are: Y Yes. Create cost component C3. N No. Do not create cost component C3. For OneWorld: To create cost component C3, click the Include Variable Labor Overhead in cost option under the Costing Options heading.
Calculate Var. on Setup Labor	An option that determines whether the cost rollup includes setup labor expenses (cost component B2) in the total used to calculate variable setup overhead (cost component C3). For World: Valid values are: Y Yes. Include setup labor expenses. N No. Do not include setup labor expenses. For OneWorld: To include setup labor expenses, click the Calculate Var. on Setup Labor option under the Costing Options heading.
Calculate Var. on Direct Labor	An option that determines whether the cost rollup includes direct labor expenses (cost component B1) in the total used to calculate variable labor overhead (cost component C3). For World: Valid values are: Y Yes. Include direct labor expenses. N No. Do not include direct labor expenses. For OneWorld: To include direct labor expenses, click the Calculate Var. on Direct Labor option under the Costing Options heading.

Field	Explanation
Include Fixed Labor Overhead in Cost	An option that determines whether the cost rollup creates cost component C4 (for fixed labor overhead) in the Item Cost Component Add-Ons table (F30026). For World: Valid values are: Y Yes. Create cost component C4. N No. Do not create cost component C4. For OneWorld: To create cost component C4, click the Include Fixed Labor Overhead in cost option under the Costing Options heading.
Calculate Fixed on Setup Labor	An option that determines whether the cost rollup includes setup labor expenses (cost component B2) in the total used to calculate fixed setup overhead (cost component C4). For World: Valid values are: Y Yes. Include setup labor expenses. N No. Do not include setup labor expenses. For OneWorld: To include setup labor expenses, click the Calculate Fixed on Setup Labor option under the Costing Options heading.
Calculate Fixed on Direct Labor	An option that determines whether the cost rollup includes direct labor expenses (cost component B1) in the total used to calculate fixed labor overhead (cost component C4). For World: Valid values are: Y Yes. Include direct labor expenses. N No. Do not include direct labor expenses. For OneWorld: To include direct labor expenses, click the Calculate Fixed on Direct Labor option under the Costing Options heading.
Include Var. Machine Overhead in Cost	An option that determines whether the cost rollup creates cost component C1 (for variable machine overhead) in the Cost Components table (F30026). For World: Valid values are: Y Yes. Create cost component C1. N No. Do not create cost component C1. For OneWorld: To create cost component C1, click the Include Var. Machine Overhead in Cost option under the Costing Options heading.

Field	Explanation
Include Fixed Machine Overhead in Cost	An option that determines whether the cost rollup creates cost component C2 (for fixed machine overhead) in the Item Cost Component Add-Ons table (F30026). For World: Valid values are: Y Yes. Create cost component C2. N No. Do not create cost component C2. For OneWorld: To create cost component C2, click the Include Fixed Machine Overhead in Cost option under the Costing Options heading.

Setting Up Simulated Rates for a Work Center

You can effectively manage changes to a work center by tracking rates for labor and machine costs. You can update simulated rates for machine and labor hours by work center and cost method. The system uses these values in other manufacturing calculations, such as those used in costed routings, labor rate variance reports, and direct labor efficiency reports.

Before You Begin

❑ You must set up your work centers on Enter/Change Work Centers before you can assign rates. See *Working with Work Centers* in the *Product Data Management Guide* for complete information on setting up work centers.

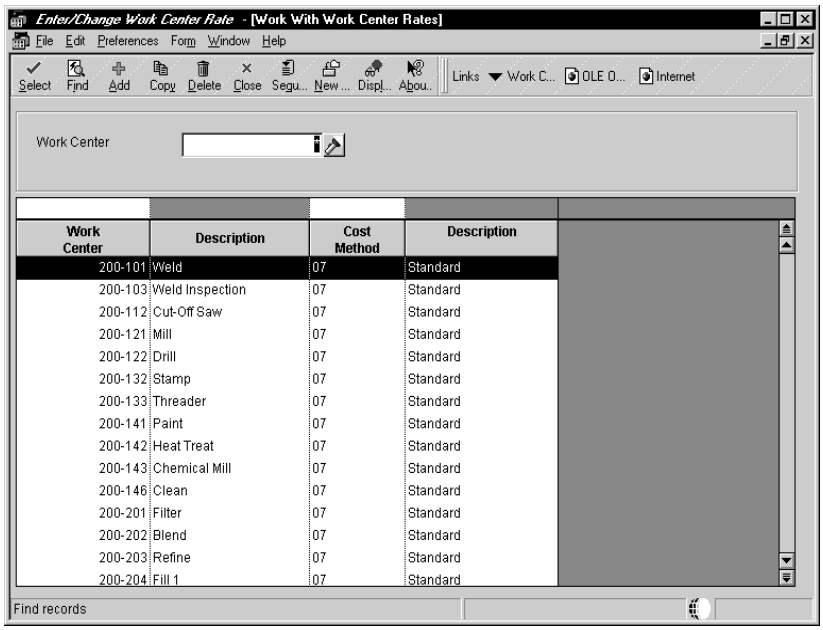
See Also

- *Entering Costing and Accounting Information* in the *Product Data Management Guide*

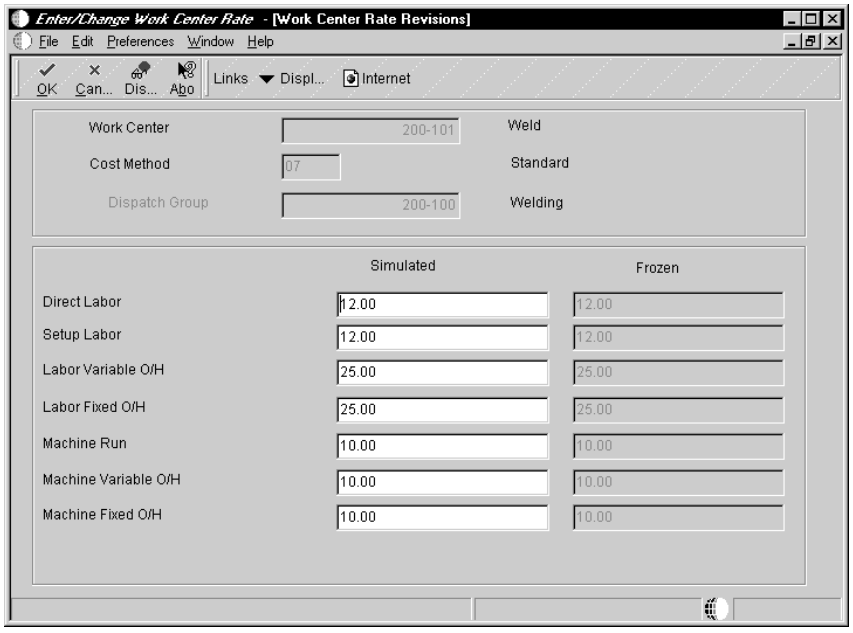
▶ To set up simulated rates for a work center

From the Daily Product Costing menu (G3014), choose Enter/Change Work Center Rate.

On Work With Work Center Rates



1. Complete the following field and click Find:
    - Work Center
2. Choose a record and click Select.



3. On Work Center Rate Revisions, complete the following fields:
    - Direct Labor
    - Setup Labor

- Labor Variable O/H
- Labor Fixed O/H
- Machine Run
- Machine Variable O/H
- Machine Fixed O/H

Field	Explanation
Work Center	A number that identifies a branch, plant, work center, or business unit.
Cost Method	A user defined code (40/CM) that identifies a cost method. Use cost methods to indicate the method for the system to use. Cost methods 01 through 19 are reserved for J.D. Edwards use. . . . . . *Form-specific information* . . . . . . This code was entered on Branch/Plant Constants.
Direct Labor	A rate, in cost per person per hour, that the system uses with the Run Labor hours of the associated routing to calculate the standard run labor cost.
Setup Labor	A rate that the system uses with the Setup Labor Hours of the associated routing to calculate the standard setup labor cost.
Labor Variable O/H	A rate or percent, as determined on Manufacturing Constants, used to calculate the standard variable labor overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of direct labor. Enter percents as whole numbers. For example, enter five percent as 5.00.
Labor Fixed O/H	A rate or percent, as determined on Manufacturing Constants, used to calculate the standard fixed labor overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of direct labor. Enter percents as whole numbers. For example, enter five percent as 5.00.
Machine Run	A rate that the system uses with the Run Machine hours of the associated routing to calculate the standard machine labor cost.
Machine Variable O/H	A rate or percent, as determined on Manufacturing Constants, used to calculate the future standard machine overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of machine run. Enter percents as whole numbers. For example, enter five percent as 5.00.
Machine Fixed O/H	A rate or percent, as determined on Manufacturing Constants, used to calculate the standard fixed machine overhead cost. If this field is a rate, it is the cost per hour. If this field is a percent, it is the percent of machine run. Enter percents as whole numbers. For example, enter five percent as 5.00.

Creating Simulated Costs

You can use the Product Costing system to calculate costs based on hypothetical situations. You can view the effect of any changes you want to incorporate without altering the frozen standard costs. In addition, you can simulate cost change scenarios (rollups) as many times as needed before you finalize the changes during the frozen update process. For example, you can use simulated rollups to:

- Simulate an increase in material costs
- Forecast the impact of changes to labor rates
- Develop strategies for pricing, contractual, or labor negotiation

Creating simulated costs consists of the following:

❑ Creating the Costing Exceptions report

❑ Creating a simulated rollup

The simulated rollup uses information from the following tables to generate costs:

Manufacturing Constants (F3009)	Values from Manufacturing Constants indicate whether overhead should be included in cost component calculations.
Work Center Rates (F30008)	The rollup program uses monetary amounts and percentages for the calculation of labor, machine, and overhead costs.
Routing Master (F3003)	Hours required for each operation, crew size, outside operation costs, and cumulative yield values are from the Routing Master table.
Bill of Material Master (F3002)	The Bill of Material table provides information on the material required at each level of the bill.
Cost Ledger (F4105)	The Cost Ledger table provides costs for purchased items and outside operations.
Item Cross Reference (F4104)	The Item Cross Reference table identifies the master routing.

Work Center Master (F30006)	The Work Center Master table provides the work center efficiency factor.
Item Master (F4101)	The Item Master table stores the lowlevel code. Costs are rolled up from the lowest level to the highest level.
Manufacturing Data (F4102)	The Manufacturing Data table provides the accounting cost quantity.
Generic Message/Rates (F00191)	The Generic Message/Rates table provides rates and factors for extra costs.
Cost Components (F30026)	The Cost Components table provides the calculations for extra costs.

The Simulate Cost Rollup program sums the costs of all the components in each level of the parent item's bill of material to arrive at a total cost for the parent item.

Creating the Costing Exceptions Report

From the Periodic Product Costing menu (G3023), choose Costing Exceptions.

Before you roll up simulated costs, run the Costing Exceptions program. The program generates a report, which lists any problems associated with an item. An example of a problem is an item without a routing. You should correct the problems and run the Costing Exceptions program again before creating a simulated rollup.

The following are examples of errors on which the system searches and the severity level to which they are assigned by J.D. Edwards.

Severity	Message Text
50	Manufactured item with no BOM
40	No rates for work center
30	No labor rate (for selected cost method)
30	No cost component – material cost
30	No setup labor rate (for selected cost method)
30	No variable overhead rate (for selected cost method)
30	No fixed overhead rate (for selected cost method)
30	No work center machine run rate (for selected cost method)

30	No work center machine variable overhead rate (for selected cost method)
30	No work center machine fixed overhead rate (for selected cost method)
20	Purchased part with BOM
20	BOM component with no quantity per
10	Setup hours are zero
10	Machine hours are zero
10	Labor hours are zero
10	Extras at standard and not at current or future or vice versa
10	No accounting lot size set up (future)

See Also

- *R30801, Costing Exceptions* in the *Reports Guide* for a report sample

Processing Options for Costing Exceptions

```
Error Message

Enter the minimum message level to
    appear on the report.

      Error Message                                    _____________

Cost Method:

Enter the cost method to base costing
    errors on (i.e: 01, 02,...).  If
    left blank, cost method 07
    (standard) will be used.

      Cost Method                                      _____________

Enter the Purchasing Cost Method to base
    costing errors on (ie:  07, 02,
    ...).  If left blank, cost method 07
    (standard) will be used.

      Cost Method                                      _____________
```

Creating a Simulated Rollup

From the Daily Product Costing menu (G3014), choose Simulate Standard Rollup.

Use the Simulate Cost Rollup program to calculate costs based on hypothetical situations. Then, you can view the results on Enter Cost Components.

You can perform simulated rollups and frozen updates for any cost method. However, the Manufacturing Accounting system only uses frozen standard costs (cost method 07).

To choose a bill of material and routing, the program searches first for a bill whose batch quantity matches the accounting cost quantity. If no such bill is found, the program uses the zero batch bill.

Before You Begin

❑ Create the Costing Exceptions report

Cumulative Yield

Cumulative yield, defined on the routing, affects labor and machine hours in the rollup calculations. There must be enough hours expended to obtain 100% yield at the last operation. In a series of routings, the hours must be adjusted accordingly. The following example illustrates how costing of hours is affected by cumulative yield:

Cumulative Yield = 85% (0.85)

	Labor	Machine	Setup
Without Yield	5	5	5
With Yield	5.88	5.88	5

For each operation, the labor and machine hours are adjusted by dividing the hours by the cumulative yield. Setup hours are not affected.

Operation Scrap

Operation scrap, defined on the bill of material, affects material cost calculations in the rollup. There must be enough material at each operation in order to obtain 100% yield at the last operation. When material cost is calculated, the quantity of the components is adjusted accordingly. The following example illustrates the effect of operation scrap on costing:

Parent = A
Component = B
Quantity per = 3
Cost of B = 5.00
Operation scrap = 8%
Cost of B rolled into parent item A = 3 x 1.08 x 5 = 16.20.

Master Routings

The program uses the master routing for the item from the Routing Master table (F3003) if all of the following are true:

- The Master Routing field on the Manufacturing Constants form is set to Y for the branch.
- The parent item has a cross-reference item defined for master routing. (The cross-reference item must be defined with a cross-reference type of MR and the Address field must be blank.)
- The cross-reference item has an item routing defined.

Unit of Measure Conversions

The program converts all units of measure to the primary unit of measure for the purpose of the rollup.

When one of the units of measure is a potent unit of measure, the conversion equation includes the standard potency value from Branch/Plant Manufacturing Data. The following example illustrates a conversion involving a potent unit of measure:

- Component = B
- Quantity per = 3
- Primary unit of measure = GA (physical gallons)
- Component unit of measure = GP (potent gallons)
- Standard potency = 50%
- Cost of B = 50.00 (from the Cost Ledger table)
- Cost rolled into parent item = [(3 / .5) x 50] = 300.00

Outside Operations

If your item has an outside operation set up in the routing, verify the following before running the Simulate Cost Rollup program:

- You have set up a branch/plant record for the *OP item
- There is a valid cost in the Cost Ledger table (F4105) for the method specified in the Outside Operations processing option of the Simulate Cost Rollup program

See Also

- *Updating Frozen Costs*
- *Appendix A — Calculations in Cost Rollup*

Processing Options: Cost Simulation

Default Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define the default values for date and cost method.

1. As Of Date

This date is used to determine which routing and bill of material for each item are used in the rollup, based on their effectivity dates. If you leave this field blank, the program uses the current date.

2. Cost Method

This is the cost method that will contain your new simulated costs in the Cost Components table. If you leave this field blank, the program calculates costs for cost method 07 (standard costs).

Processing Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use these processing options to define processing criteria.

1. Single Level

This processing option allows you to simulate costs for a selected item or items, without recosting everything else in the bill of material. For example, you might have a new item that needs to be costed, but you do not want to recost everything else. If you enter 1, the program uses the costs of the lower-level components to roll up the cost for the new item, but does not recost the lower-level components themselves.

If you leave this field blank, the program does a complete rollup of the components. Enter only the parent item numbers in the data selection.

Valid values are:

blank complete rollup.
1 single level rollup.

2. Clear and Recalculate

This processing option controls how the program calculates routing-related costs.

Valid values are:

blank to manually enter B1–C4 costs. Otherwise, the program overwrites manually entered costs.

1 to clear and recalculate labor and overhead for manufactured items. This is the most common option for this program.

2 to clear and recalculate labor and overhead for all items. Use this option if you have purchased parts with routings and you need to recalculate labor costs, for example inspection steps.

3 to clear labor and overhead for all items, but recalculate labor and overhead for manufactured items only. Use this option if a part changes from manufactured to purchased. This ensures that labor and overhead are cleared for the changed items.

3. Cost Method

Purchased items

Use this processing option to specify the cost method to use as the input for the costs of purchased items. If you leave this field blank, the program does not retrieve costs from the Cost Ledger table (F4105).

Outside operations

Use this processing option to specify the cost method to use as the input for the purchased costs of outside operations. If you leave this field blank, the program does not retrieve costs from the Cost Ledger table (F4105).

You should verify the following about your outside operations before you run this program:

- You have set up a branch/plant record for the *OP item, either manually or through the Process Work Orders program.
- There is a valid cost in the Cost Ledger table (F4105) for the method specified here.

Print Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use this processing option to specify which items appear on the Cost Simulation report.

1. Print Items

Use this processing option to specify which items appear on the Cost Simulation report.

Valid values are:

blank print nothing.
1 print all items.
2 print changed items.

Process Mfg Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

If you use process manufacturing, this processing option calculates costs for co-/by-products.

1. Calculate Co-/By-products

If you use process manufacturing, enter 1 to calculate costs for co-/by-products. If you leave this field blank, the program calculates costs just for the parent process.

Valid values are:

blank do not calculate.
1 calculate.

Working with Simulated Cost Components

After you have created simulated costs, review costing information to determine the effects of the current rollup scenario. Revise the costing information as necessary. When costs are correct, run the Frozen Update program.

Working with simulated cost components includes the following:

- ❑ Reviewing and revising simulated cost components
- ❑ Setting up standard rate and factor codes
- ❑ Assigning values to user defined cost components
- ❑ Reviewing the Cost Simulation report
- ❑ Setting up cost bucket codes for costed bills of material
- ❑ Reviewing costed bills of material
- ❑ Setting up operation bucket codes for costed routings
- ❑ Reviewing a costed routing

Reviewing and Revising Simulated Cost Components

You review costing information and set up simulated cost scenarios to help plan for future cost changes.

You can change only simulated costs. You can set a processing option if you want to manually maintain the routing cost components (B and C) and protect them from being overwritten.

For the system to calculate B and C cost components, all of the following conditions must be met:

- A routing operation must have a work center with rates in the Work Center Master table for the cost component to display.
- The type operation code on the routing must indicate a normal operation (that is, the type operation code is blank).
- The effective dates on the routing must be valid. The default for As Of date is today's date.

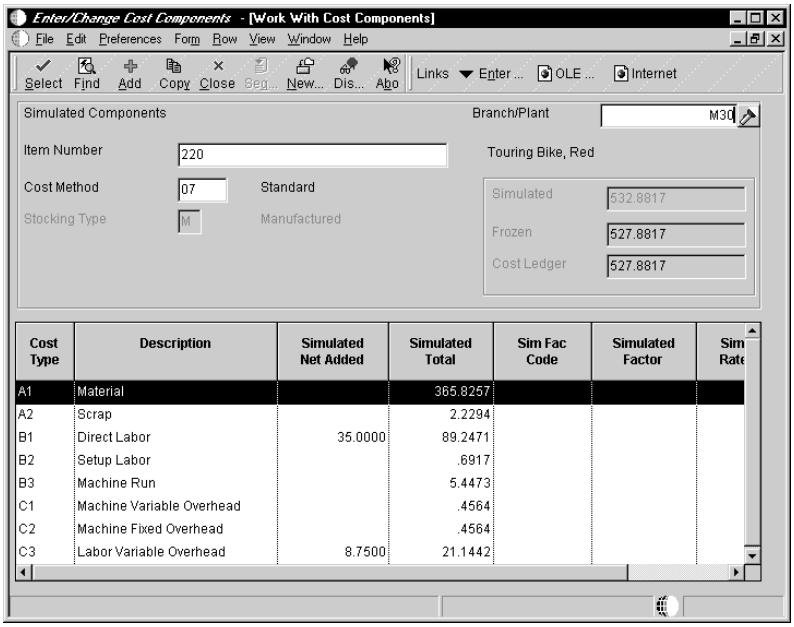
See Also

- *Creating Simulated Costs*
- *Appendix A — Calculations in Cost Rollup*

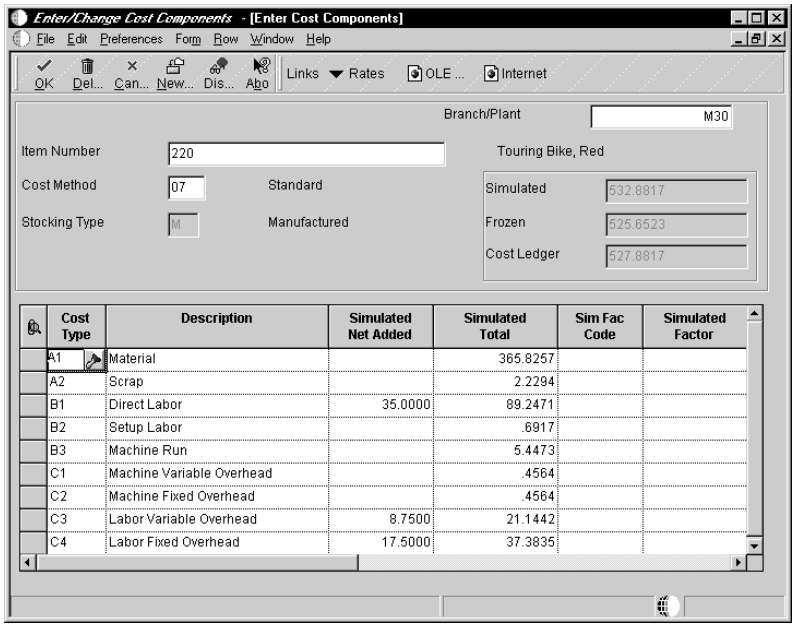
▶ To review simulated cost components

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

On Work With Cost Components



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
2. Click Select.



3. On Enter Cost Components, review the following fields:

   - Simulated
   - Cost Ledger
   - Cost Method

   The Item Cost Total values are the total costs of all cost components as of the last cost simulation for simulated values, and as of the last frozen update for frozen values. Simulated and frozen values are from the Item Cost Components table.

   If the program finds a discrepancy between the Frozen Total and Cost Ledger Total fields, it highlights both fields.

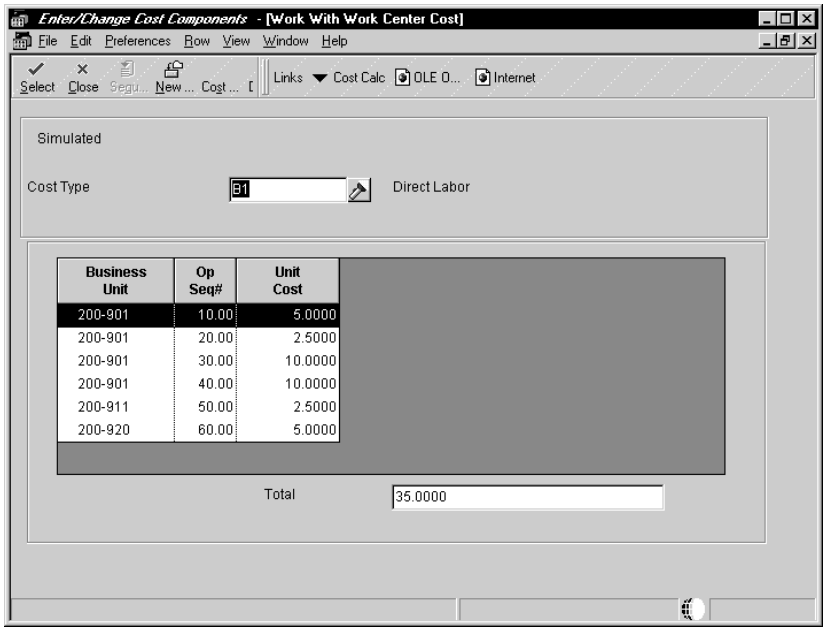
   See *Reviewing the Cost Component / Ledger Integrity Report* for more information on comparing frozen and cost ledger values.

4. Review or revise the following fields:

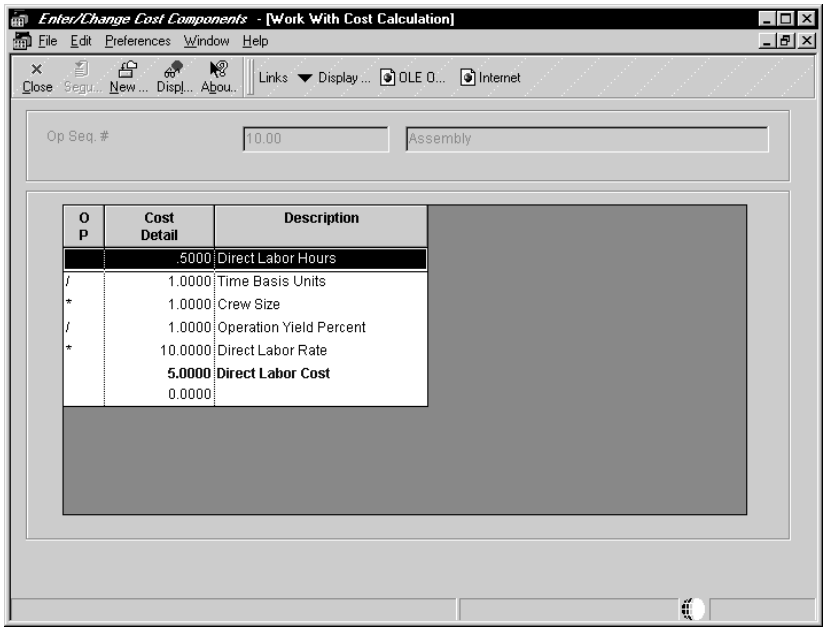
   - Cost Type
   - Simulated Net Added
   - Simulated Total

   You might want to view the detail calculations for one of the net added values. These values are calculated from work center data, work center rates, and manufacturing constants.

5. To access the detail calculations for the net added value of a routing cost component (B or C), choose the row and choose Cost Calculations from the Row menu.



6. On Work With Work Center Cost, choose an operation and click Select.



Work With Cost Calculation shows real-time costs. These costs might be different from those shown on Enter Cost Components, if you have changed the item's routing, work center rates, or manufacturing constants since you last ran the Simulate Cost Rollup program.

Deleting Costs

You must delete costs at the bill of material level at which they occur. For example, you cannot delete costs for lower-level components by locating the parent item. Instead, locate the component item number and remove the costs for the component. The system does not make the corresponding cost change to the higher level components and parent item until you run the Simulate Cost Rollup program.

To delete outside processing costs (usually cost component Dx), delete the cost component from the routing. Then, delete the cost component and net added value from Enter/Change Cost Components.

Field	Explanation
Cost Method	A user defined code (40/CM) that identifies a cost method. Use cost methods to indicate the method for the system to use. Cost methods 01 through 19 are reserved for J.D. Edwards use.
Cost Type	A code that designates each element of cost for an item. An example of the coding structure is as follows: A1 Purchased raw material B1 Direct labor routing rollup B2 Setup labor routing rollup C1 Variable burden routing rollup C2 Fixed burden routing rollup Dx Usually used for outside operation routing rollup Xx Usually used for extra add-ons, such as electricity and water The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure allows you to use an unlimited number of cost components to calculate alternative cost rollups. The system then associates these cost components with one of six user defined summary cost buckets. . . . . . *Form-specific information* . . . . . . The field to the right of the code describes the cost.
Simulated Net Added	Used to calculate cost during the simulation process. . . . . . *Form-specific information* . . . . . . This is the cost to build this item at this level in the bill of material. This cost does not include materials (lower-level components). The heading above the Net Added and Total columns indicates if the costs are simulated or frozen values.

Field	Explanation
Simulated Total	For the designated cost method, used to calculate the cost of all the lower levels during the simulation process. . . . . . *Form-specific information* . . . . . . This is the sum of the net added cost at this level plus the sum of the total costs of the item's direct components (which includes those items' lower-level component costs.) The heading above the Net Added and Total columns indicates if the costs are simulated or frozen values.

Processing Options for Cost Components

```
Process

Enter a '1' to allow input into the
    routing calculated cost types. (i.e.
    cost types: B1, B2, B3, B4, C1, C2,
    C3, C4).

      Routing Cost Entry                    _____

Enter a '1' to allow input into the
    Total Simulated Cost

      Total Cost Entry                      _____
```

What You Should Know About Processing Options

Process (1)

If you want to maintain B1–C4 cost components manually, set this processing option to 1. If you do not set this processing option, you cannot enter data into the B1–C4 fields. The fields are instead calculated by the Simulate Cost Rollup program.

If you do maintain these components manually, the values are overwritten by the Simulate Cost Rollup program, unless you have set the processing options for that program to not calculate labor and overhead.

See also *Creating a Simulated Rollup*.

Setting Up Standard Rate and Factor Codes

Standard rate and factor codes represent overhead costs or other indirect costs that cannot be attributed directly to a certain production process or operation, but must be accounted for in product costing for an item. These types of costs include utilities, insurance, research and development costs, rent or lease costs, or other overhead or general operating costs. Rate and factor codes are user defined.

The Simulate Cost Rollup program uses the rates and factors that you define to calculate some of the costs that appear on Enter/Change Cost Components.

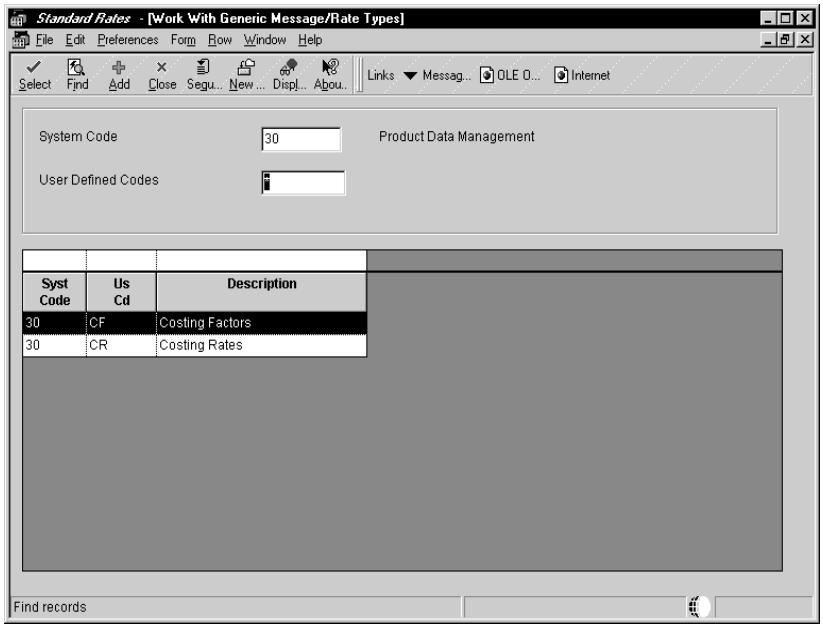
See Also

- *Assigning Values to User Defined Cost Components*

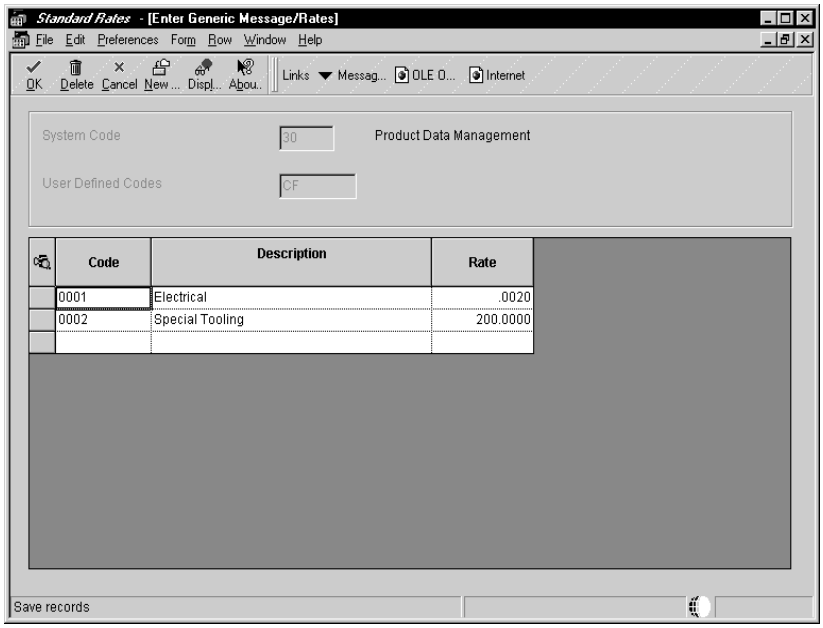
▶ To set up standard rate and factor codes

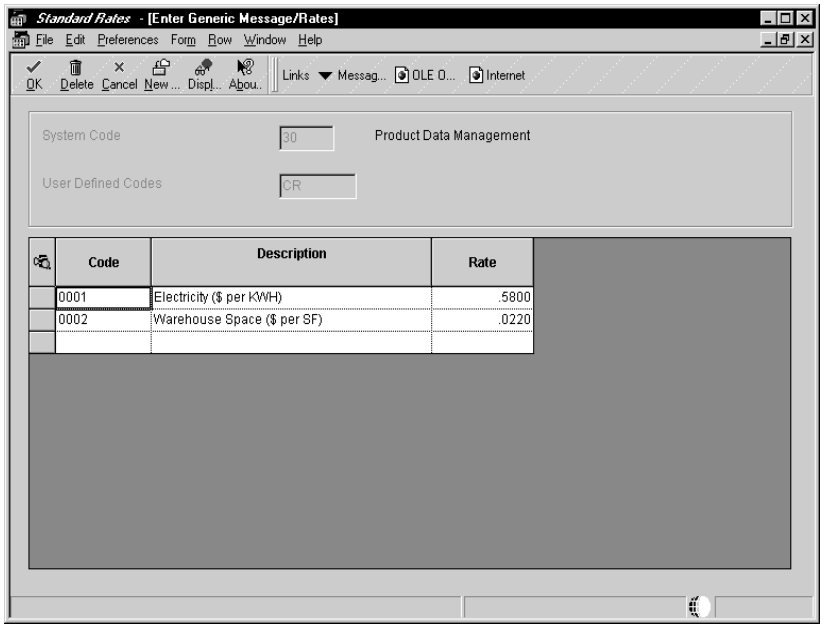
From the Product Costing Setup menu (G3042), choose Standard Rates or Standard Factors.

On Work With Generic Message/Rate Types



1. Enter 30 in the following field and click Find:
   - System Code
2. Choose Costing Factors or Costing Rates and click Select.





3. On Enter Generic Message/Rates, complete the following fields:

   - Code

     A rate or factor code used to define the value in the Rate field, as follows:

     - Rate code — On Enter Cost Components, the value is used in conjunction with the Factor Code and Factor Amount fields to calculate extra costs.

  - Factor code — On Enter Cost Components, the value is used in conjunction with the Rate Code and Rate Amount fields to calculate extra costs.

- Description

  A description of the rate code or factor code.

- Rate

  This rate is used to calculate extra costs.

Assigning Values to User Defined Cost Components

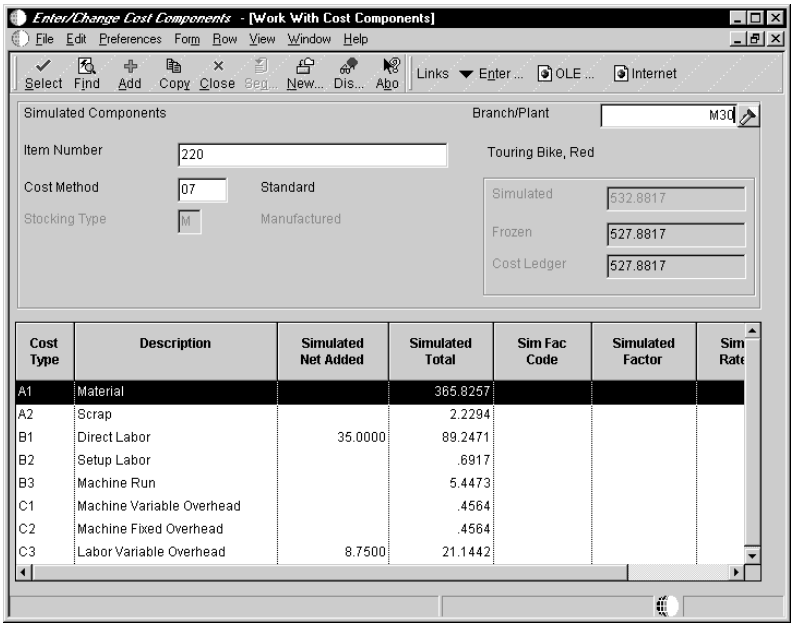
You can define net added values for user defined extra costs in one of the following ways:

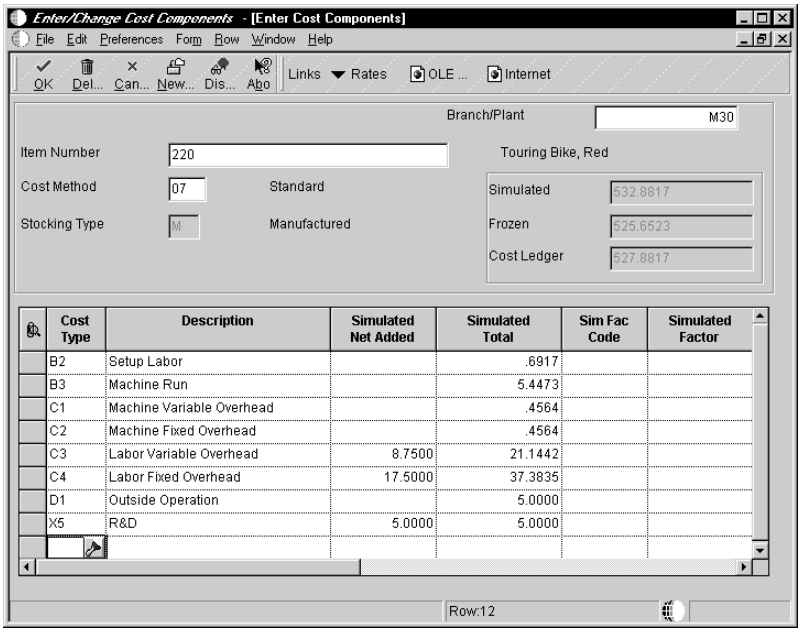
- Assign a net added value manually
- Assign a predefined value
- Assign a calculated value based on another component's total value
- Assign a calculated value based on another component's net added value
- Assign a calculated value by multiplying a rate and factor

You can also change cost information or delete extra cost components.

See Also

- *Setting Up Cost Components*
- *Setting Up Standard Rate and Factor Codes*





▶ To assign a net added value manually

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

On Enter Cost Components, complete the following fields and click OK:

- Cost Type
- Simulated Net Added

The system writes manually entered costs to the Total field when you run the Simulate Cost Rollup program.

▶ To assign a predefined value

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

Use user defined rate codes and factor codes to identify net added costs.

On Enter Cost Components

1. Complete the following field:
   - Cost Type
2. Complete one of the following fields and click OK:
   - Sim Fac Code

     The system retrieves the value that you defined for the factor code (30/CF) in the Generic Rate table (F00191). The system enters this value in the Simulated Factor field. The Simulated Rate field defaults to 1, and the systems multiplies the values in the Simulated Factor and the Simulated Rate fields.

     To view the valid factor codes, use the visual assist or choose Factors from the Form menu.

   - Simulated Rate Code

     The system retrieves the value that you defined for the rate code (30/CR) in the Generic Rate table (F00191). The system enters this value in the Simulated Rate field. The Simulated Factor field defaults to 1, and the systems multiplies the values in the Simulated Rate and the Simulated Factor fields.

     To view the valid rate codes, use the visual assist or choose Rates from the Form menu.

If you complete both fields, the system multiplies the retrieved values for the factor and the rate.

▶ To assign a calculated value based on another component's total value

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

The system can calculate the net added value based on the total for an existing cost component. The system calculates this value when you enter the data on Enter Cost Components. The costs are then rolled up into the cost of the item when you run Simulate Cost Rollup.

On Enter Cost Components

1. Complete the following field:
   - Cost Type
2. Type & followed by the cost component code in the following field:
   - Sim Fac Code

   Because of the way costs roll up, the cost component that you reference must come before the cost component that you are defining. For example, to define cost component X2, you can reference cost component X1 by entering &X1 in this field, but you cannot define cost component X1 by referencing cost component X2.
3. Complete one of the following fields and click OK:
   - Simulated Rate Code
   - Simulated Rate

   The system retrieves the total value for the cost component and multiplies it by the rate value indicated.

▶ To assign a calculated value based on another component's net added value

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

The system can calculate the net added value based on the net added value for an existing cost component. The system calculates this value when you enter the data on Enter Cost Components. The costs are then rolled up into the cost of the item when you run Simulate Cost Rollup.

On Enter Cost Components

1. Complete the following field:
   - Cost Type

2. Type * followed by the cost component code in the following field:

   - Sim Fac Code

   Because of the way costs roll up, the cost component that you reference must come before the cost component that you are defining. For example, to define cost component X2, you can reference cost component X1 by entering *X1 in this field, but you cannot define cost component X1 by referencing cost component X2.

3. Complete one of the following fields and click OK:

   - Simulated Rate Code
   - Simulated Rate

   The system retrieves the net added value for the cost component and multiplies it by the rate value indicated.

▶ To assign a calculated value by multiplying a rate and factor

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

The system can calculate the net added value by multiplying a rate and factor. If you enter both amounts, the system multiplies the two numbers to calculate the net added cost for the cost component for that item.

On Enter Cost Components

1. Complete the following field:

   - Cost Type

2. Complete one or both of the following fields:

   - Simulated Factor
   - Simulated Rate

     Alternatively, you can complete the fields Simulated Factor Code or Simulated Rate Code or both. The system retrieves the values for the codes and multiplies them.

Reviewing the Cost Simulation Report

The Simulate Cost Rollup program generates the Standard Cost Simulation report. The report shows the previous cost of the item, the simulated rolled up cost, and the variance between the two.

After reviewing the simulated costs, you revise incorrect information and create simulated costs again to include the changes.

See Also

- *R30835, Item Cost Component – Frozen Update* in the *Reports Guide* for a report sample

Setting Up Cost Bucket Codes for Costed Bills of Material

You can group similar cost components for inquiry and reporting purposes. For example, you can define A1 and A2 cost components as Purchase. You do this by assigning them the same sequence number in the Description 2 field. The sequence number also determines in what order the groups are displayed on costed bill inquiries and reports. You can then use the costed bill inquiries and reports to review the total costs for the group Purchase.

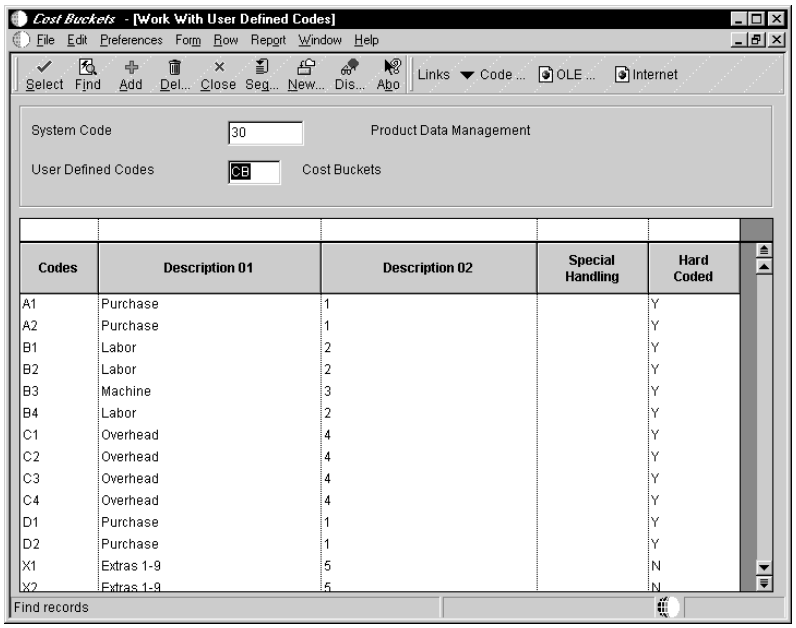
Each cost bucket can contain several defined cost components. For example, you might define the buckets and user defined codes as follows:

Bucket #	Title	Cost Components Included in Buckets
1	Purchase	Cost components A1 (material), A2 (scrap), and D1 (outside operations)
2	Labor	Cost components B1 (direct labor), B2 (setup labor), and B4 (labor efficiency)
3	Machine	Cost component B3 (machine run)
4	Overhead	Cost components C1 (machine variable) and C2 (machine fixed)
5	Extras	Cost components X1 (taxes) and X2 (electricity)

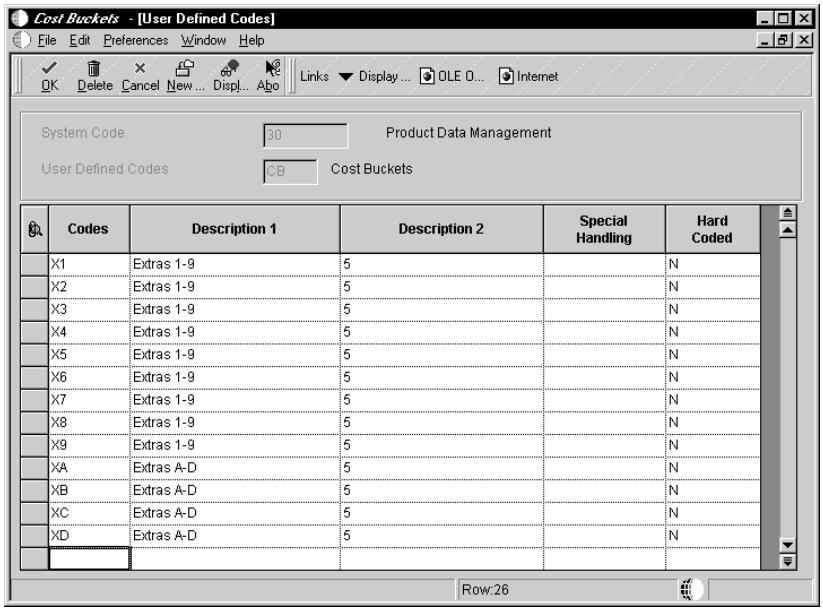
▶ To set up a cost bucket code

From the Product Costing Setup menu (G3042), choose Cost Buckets.

On Work with User Defined Codes



1. Click Add.



2. On User Defined Codes, complete the following fields:
   - Codes

     Designates the cost components to be grouped.

   - Description 1

The name that you want to appear as the heading for the cost bucket column on costed bill inquiries and reports. You only need to enter this title once for each sequence number. If the program finds more than one name for a bucket, it uses the name defined for the last cost component that it accumulates into the cost bucket.

- Description 2

  Specifies in what column (bucket) each cost component is grouped.

Reviewing Costed Bills of Material

Effective cost and profit projection depends on accurate and comprehensive item cost information. Use Costed Bill Inquiry to view costs for both parent items and components to assist you in budgeting resources and planning for future cost of items.

The program displays summarized costs for the direct components of a parent item, and net added and total costs for the parent item:

- For the parent item, the costs displayed are the net added cost components from the Cost Components table.
- For each component, the costs displayed are calculated based on the as of date from the bill of material and the cost method used. The program uses the as of date to ignore obsolete component lines in the bill of material.

For example, you can view all costs of manufacturing a parent item, including assembly, subassembly, and component costs. In addition, the manufacturing cost of a component is divided into five user defined categories for precise costing calculations:

- Purchase
- Labor
- Machine
- Overhead
- Extras

This program calculates the cost associated with each cost component in the same way as the Simulate Cost Rollup program.

See also *Appendix A — Calculations in Cost Rollup.*

The top line (the parent) is the net added cost of the parent from the Cost Components table. The lines for the components are the cost breakdown for all next level components. The totals across the bottom are the total costs of the parent item from the Cost Components table. The rightmost bottom total is the total of all costs for the parent item.

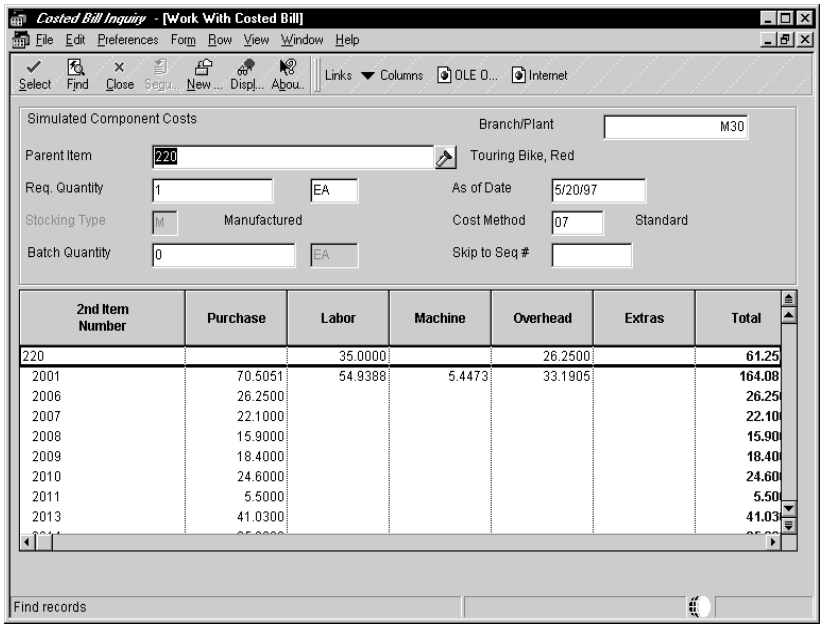
The program can accumulate purchase costs for up to 500 components on each bill of material. Components beyond 500 are not included in the costing process.

The costs on Work with Costed Bill are real-time costs, so they can change if you update the bill of material or routing for an item. The Enter Cost Components form displays the costs computed when you run Simulate Cost Rollup. As a result, the values might differ from those on Work with Costed Bill if you have changed the bill of material, routing, or manufacturing constants since you last ran the rollup.

▶ To review a costed bill of material

From the Daily Product Costing menu (G3014), choose Costed Bill Inquiry.

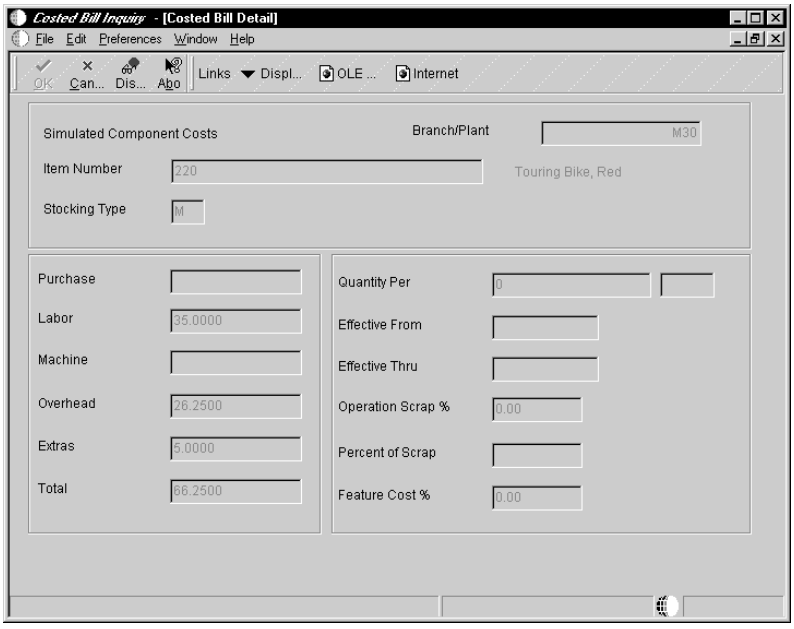
On Work With Costed Bill



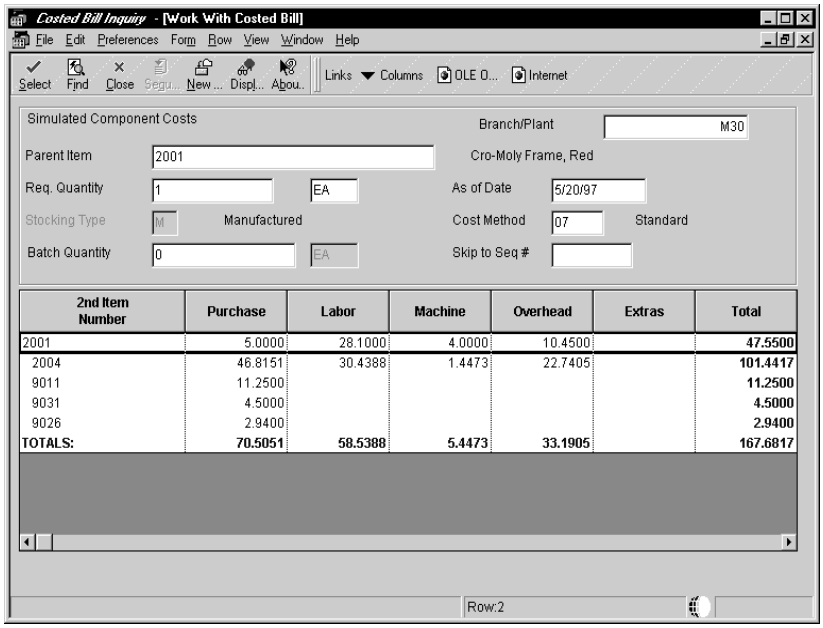
1. Complete the following fields and click Find:
   - Branch/Plant
   - Parent Item
2. Review the following fields:
   - As of Date
   - Cost Method
   - Req. Quantity
   - Unit of Measure as Input
   - Skip to Seq #

- 2nd Item Number
- Purchase
- Labor
- Machine
- Overhead
- Extras
- Total

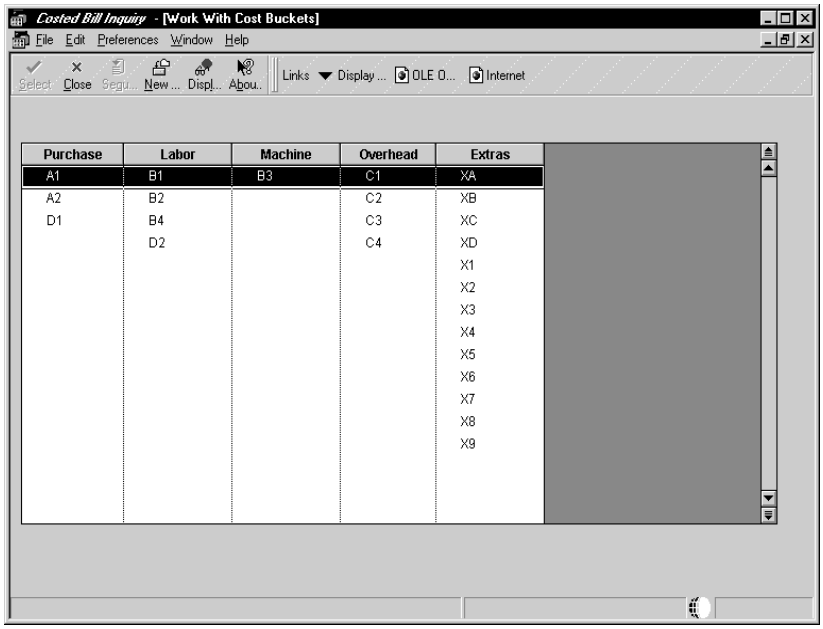
3. Choose a record and choose Details from the Row menu.



4. On Costed Bill Detail, review the following fields:
   - Quantity Per
   - Effective From
   - Effective Thru
   - Operation Scrap %
   - Percent of Scrap
   - Feature Cost %
5. To access the costed bill information for the components, choose a component on Work With Costed Bill and choose Next from the Row menu.



6. To toggle between frozen and simulated costs, choose Frozen or Simulated from the View menu.
7. To review an item's cost buckets, choose Columns from the Form menu.



Field	Explanation
As of Date	The date used for effectivity checking. Enter a specific date to display documents (orders, bills of material, routings, as applicable) that are effective on or after that date. The current system date is the default, but you can enter any future or past date.
Quantity – Requested Quantity	The number of parent items you want to process. The system calculates lower-level values in quantity per the number of parent items requested. For example, if 3 components are needed for a parent item, and the requested quantity is 10, the system plans for 30 components.
Skip to Seq #	A number that indicates the sequence of the components on a bill of material. It initially indicates the relative sequence in which a component was added to a kit or single level bill of material. You can modify this number to change the sequence in which the components appear on the bill of material. Skip To fields allow you to enter a component line number that you want to begin the display of information.
Purchase	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 1 as defined for user defined code 30/CO, Operation Buckets. A processing option controls whether the system adds cost buckets 1 and 2 (at the top of the form) into the grand total of all costs for the parent item at the bottom of the form.
Labor	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 2 as defined for user defined code 30/CO, Operation Buckets. A processing option controls whether the system adds cost buckets 1 and 2 (at the top of the form) into the grand total of all costs for the parent item at the bottom of the form.
Machine	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 3 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the form in the “Totals” row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components that the system adds to determine the total for the work center.

Field	Explanation
Overhead	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 4 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You also can view a detailed breakdown of the cost components added to arrive at the total for the work center.
Extras	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 5 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Total	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 6 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Quantity Per	The number of units that the system applies to the transaction.

Field	Explanation
Effective From	A date that indicates one of the following: • When a component part goes into effect on a bill of material • When a routing step goes into effect as a sequence on the routing for an item • When a rate schedule is in effect The default is the current system date. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.
Effective Thru	A date that indicates one of the following: • When a component part is no longer in effect on a bill of material • When a routing step is no longer in effect as a sequence on the routing for an item • When a rate schedule is no longer active The default is December 31 of the default year defined in the Data Dictionary for Century Change Year. You can enter future effective dates so that the system plans for upcoming changes. Items that are no longer effective in the future can still be recorded and recognized in Product Costing, Shop Floor Management, and Capacity Requirements Planning. The Material Requirements Planning system determines valid components by effectivity dates, not by the bill of material revision level. Some forms display data based on the effectivity dates you enter.
Operation Scrap %	A value that the system uses to increase or decrease the amount of materials to account for loss within the operation. The system updates this value on Enter/Change Bill of Material when you run the Planned Yield Update program. The system calculates this value by compounding the yield percentages from the last operation to the first operation. Use a processing option in Enter/Change Routing to enable the system to calculate the component scrap percent.

Field	Explanation
Percent of Scrap	The percentage of unusable component material created during the manufacture of a particular parent item. During DRP/MPS/MRP generation, the system increases gross requirements for the component item to compensate for the loss. Note: Shrink is the expected loss of parent items (and hence, components) due to the manufacturing process. Shrink and scrap are compounded to figure the total loss in the manufacture of a particular item. Accurate shrink and scrap factors can help to produce more accurate planning calculations. Enter percentages as whole numbers: 5% as 5.0
Feature Cost %	The planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the bill of material and the operation scrap percent in the routing. Materials Requirements Planning uses the step scrap percent and the existing component scrap percent to plan component demand.

See Also

- *Setting Up Cost Bucket Codes for Costed Bills of Material*

Processing Options for Costed Bill of Material Inquiry

```
Display

1.  Enter the number of decimals to use
    for display (0-4).  If left blank, 4
    decimals will be used. (FUTURE)

      Number of Decimal Places                    _____________
```

Setting Up Operation Bucket Codes for Costed Routings

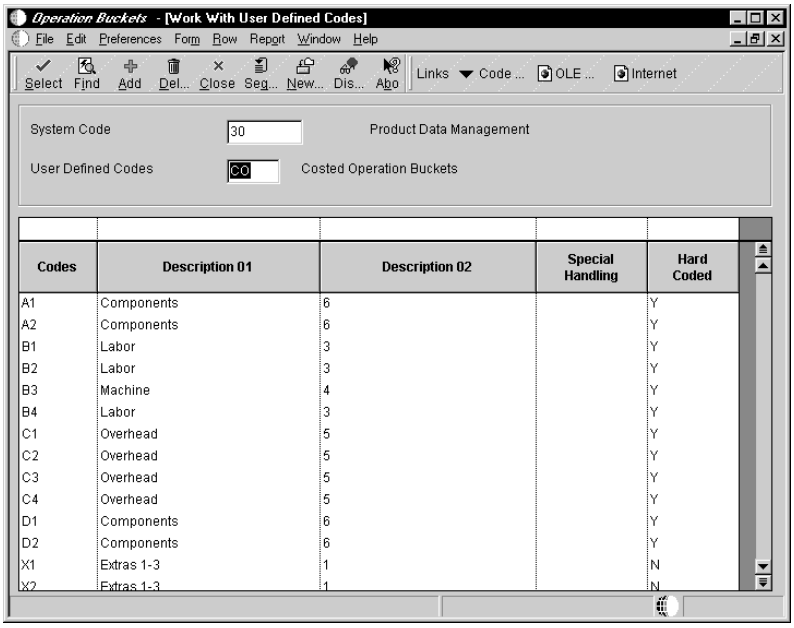
Use operation bucket codes to combine component costs in each step in the routing. That is, you can group operation costs into totals that appear on costed routing inquiries and reports.

For example, you might track labor costs by separate cost components that represent setup, run, and overhead labor for an item. You could combine these cost components into one total cost for labor on the costed routing inquiry or report for the item by assigning the same sequence number to each cost component.

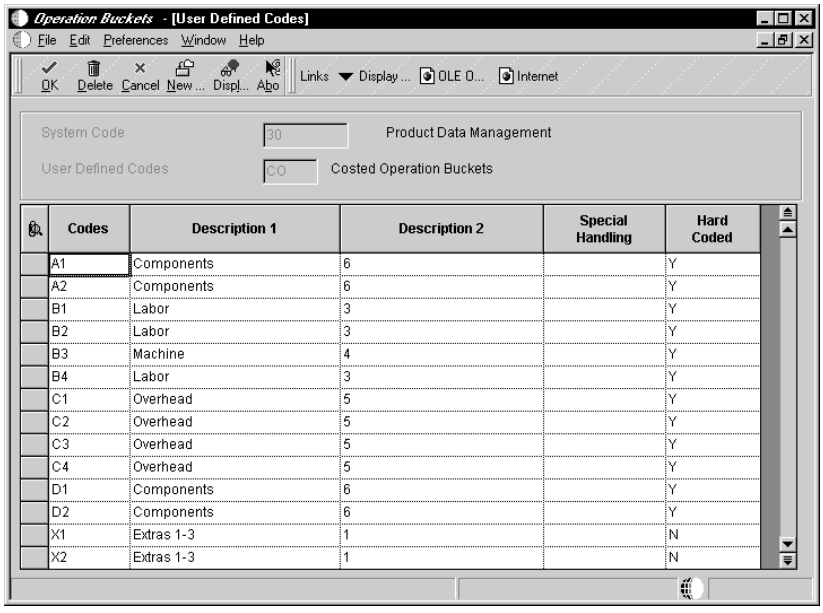
To set up an operation bucket code

From the Product Costing Setup menu (G3042), choose Operation Buckets.

On Work with User Defined Codes



1. Click Add.



2. On User Defined Codes, complete the following fields:

   - Codes

     Designates the cost components to be grouped.

   - Description 1

     The name that you want to appear as the heading for the operation bucket column on costed routing inquiries and reports. You only need to enter this title once for each sequence number. If the program finds more than one name for a bucket, it uses the name defined for the last cost component that it accumulates into the operation bucket.

   - Description 2

     Specifies in what column (bucket) each cost component is grouped. You should reserve buckets 1 and 2 for extra costs (usually cost components Xx) because the system does not calculate cost buckets 1 and 2 based on the routing, and extra costs are not related to a particular operation on the routing. Buckets 1 and 2 appear in the header area of Costed Routing Inquiry and a processing option controls whether or not they are included in the calculation of total costs.

Reviewing a Costed Routing

Use Costed Routing Inquiry to review the summarized costs of an item for each operation in the routing. This information can help you effectively manage production costs. For example, you can:

- View the work center responsible for an operation
- Determine if a work center performs multiple operations
- Display simulated or frozen costs for labor values for cost methods
- Calculate the totals for all costs by cost categories

This program calculates the cost associated with each cost component in the same way as the Simulate Cost Rollup program.

See also *Appendix A — Calculations in Cost Rollup*.

The costs on Work with Costed Routing Inquiry are real-time costs, so they can change if you update the bill of material or routing for an item. The Enter Cost Components form displays the costs computed when you run Simulate Cost Rollup. As a result, the values might differ from those on Work with Costed Routing Inquiry if you have changed the bill of material, routing, or manufacturing constants since you last ran the rollup.

The program can accumulate purchase costs for up to 500 components on each bill of material. Components beyond 500 are not included in the costing process.

Master Routings

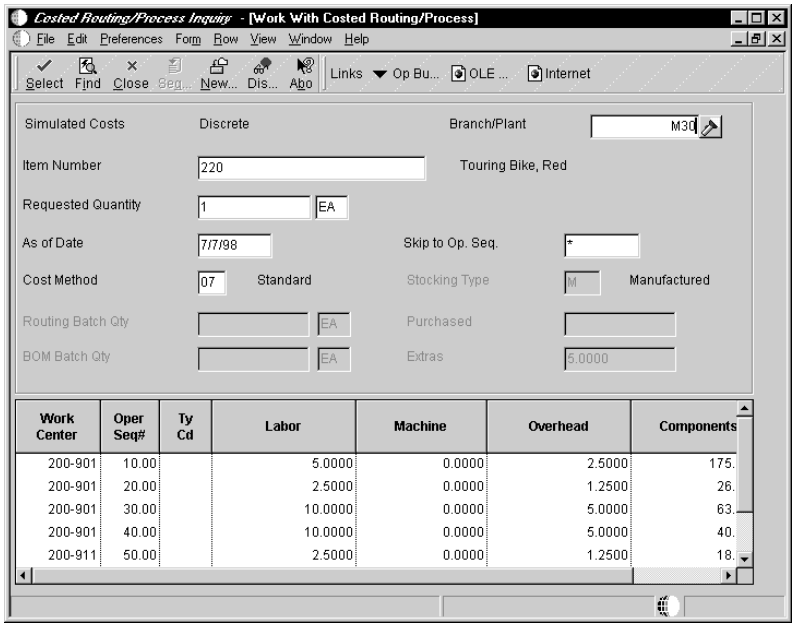
The program uses the master routing for the item from the Routing Master table (F3003) if all of the following are true:

- The Master Routing field on the Manufacturing Constants form is set to Y for the branch.
- The parent item has a cross-reference item defined for master routing. (The cross-reference item must be defined with a cross-reference type of MR and the Address field must be blank.)
- The cross-reference item has an item routing defined.

▶ To review a costed routing

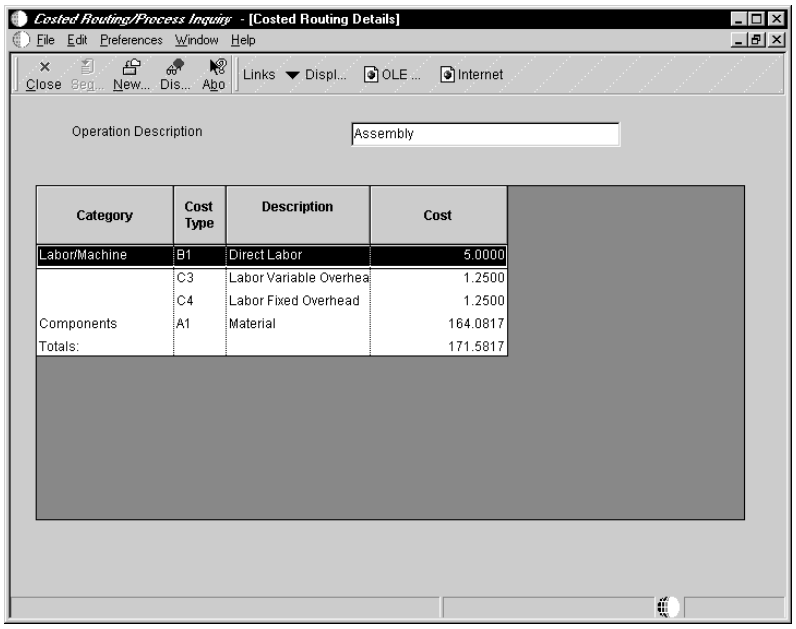
On the Daily Product Costing menu (G3014), choose Costed Routing/Process Inquiry.

On Work With Costed Routing/Process



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number

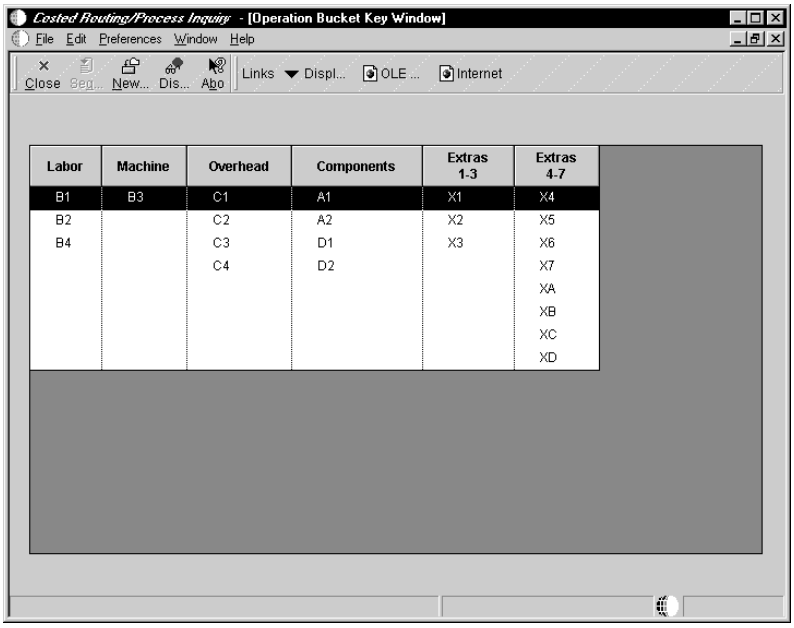
2. Review the following fields:
    - Requested Quantity
    - Unit of Measure
    - As of Date
    - Cost Method
    - Skip to Op. Seq
    - Purchased
    - Extras
    - Work Center
    - Oper Seq#
    - Labor
    - Amount
    - Overhead
    - Components
    - Total
3. To see detailed calculations, choose an operation, then choose Details from the Row menu.



4. On Costed Routing Details, review the following fields:
    - Category
    - Cost Type

- Description
- Cost

5. To toggle between frozen and simulated costs, on Work with Costed Routing/Process, choose Frozen or Simulated from the View menu.
6. To review an item's operation buckets, choose Operation Bucket Window from the Form menu.



Operation Bucket Key Window appears. This form displays the cost components and the buckets into which they are grouped.

See Also

- *Setting Up Operation Bucket Codes for Costed Routings*

Field	Explanation
Quantity – Requested Quantity	The number of parent items you want to process. The system calculates lower-level values in quantity per the number of parent items requested. For example, if 3 components are needed for a parent item, and the requested quantity is 10, the system plans for 30 components. . . . . . *Form-specific information* . . . . . . This is the number of parent items for which you want to see cost breakdowns. Costs are figured in quantity per the parent item.

Field	Explanation
As of Date	This field is used for effectivity checking. Enter a specific date to display documents (orders, bills of material, routings, as applicable) that are effective on or after that date. The current system date is the default, but you can enter any future or past date. . . . . . *Form-specific information* . . . . . . The routing that is effective as of this date is used.
Oper Seq#	A number used to indicate an order of succession. In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation. In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process. In engineering change orders, a number that sequences the assembly steps for the engineering change. For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced. Skip To fields allow you to enter an operation sequence that you want to begin the display of information. You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13. . . . . . *Form-specific information* . . . . . . Top of form: A processing option controls whether “Skip to” or “Up to” operation sequence mode is in effect. In “Skip to” mode, the system uses an entered operation sequence number as the starting point when displaying operations, and displays the total from that point forward on the total line. In “Up to” mode, the system uses an entered operation sequence number as the cutoff for displaying operations. The total for all operations up to and including the operation sequence number entered appears on the total line. Bottom of form: The Op Seq field contains a number that indicates the order of each step in the manufacturing operation.

Field	Explanation
Purchased	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 1 as defined for user defined code 30/CO, Operation Buckets. A processing option controls whether the system adds cost buckets 1 and 2 (at the top of the form) into the grand total of all costs for the parent item at the bottom of the form.
Extras	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 2 as defined for user defined code 30/CO, Operation Buckets. A processing option controls whether the system adds cost buckets 1 and 2 (at the top of the form) into the grand total of all costs for the parent item at the bottom of the form.
Work Center	A number that identifies a branch, plant, work center, or business unit. . . . . . *Form-specific information* . . . . . . This is the business unit assigned to the work center for the operation sequence listed.
Labor Machine	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 3 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the form in the “Totals” row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components that the system adds to determine the total for the work center.
Amount	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 4 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the “Totals” row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You also can view a detailed breakdown of the cost components added to arrive at the total for the work center.

Field	Explanation
Overhead	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 5 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Components	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 6 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Total	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . This column contains system-calculated totals for each row of costs, that is, for each operation sequence. The totals across the bottom of the form are the totals of each cost bucket. The rightmost bottom total is the total of all costs for the routing for an item.

Processing Options for Costed Routing Inquiry

Defaults

1. Enter the cost method (ie., 01, 02, 03) to be used for Sub-Contracted Items. (Blanks will default to a “01”)

   Outside Operations Cost Method _____

2. Enter the cost method (ie., 01, 02, 03) to be used for Purchased Items. (Blanks will default to the cost from the Mode, ie., Standard Cost.)

   Purchased Cost Method _____

Display

1. Enter a ’1’ to display the costs ’UP TO’ and including the operation sequence entered in the ’Skip to ’ form control. If left blank, the costs will be displayed beginning with the entered operation’s costs.

   Skip to flag _____

Process

1. Enter a ’1’ to include cost buckets 1 and 2 in the total. If left blank, the total will only include costs buckets 3-6.

   Include 1 and 2 in total _____

Updating Frozen Costs

From the Daily Product Costing menu (G3014), choose Frozen Update.

After you perform simulated rollups to determine the effect of changes, you can update your frozen costs with simulated values by running a frozen update. Most companies run this program at the beginning of a new fiscal year to create their manufacturing costs for the next fiscal period.

You can perform simulated rollups and frozen updates for any cost method. However, the Manufacturing Accounting system uses frozen standard costs (method 07).

This program uses the costs generated by the most recent version of the Simulate Cost Rollup program. If you have changed information since the last simulated cost rollup, those changes will not be reflected by the frozen update.

The Frozen Update program uses the costs that were generated by the Simulate Cost Rollup program to:

- Update unit costs in the Cost Ledger table (F4105) for the cost method selected
- Update frozen costs in the Cost Components table (F30026) for the cost method selected
- Update labor and overhead rates in the Work Center Rates table (F30008)
- Print report totals by company, branch/plant, and G/L category code
- For on-hand balances, create an Item Balance (IB) record in the Item Ledger table (F4111) if the cost method selected matches the sales/inventory cost method for an item
- For on-hand balances, write journal entries to the Account Ledger table (F0911) in either detail or summary format

  An item ledger record is written if the cost method selected for update is the sales/inventory cost method. The item ledger record indicates a change in inventory value for the updated items. The number of item ledger records written depends on the cost level of the item, which is defined in the Item Master table (F4101). For example, items at cost level 2 would have an item ledger record for each branch/plant at which they are defined, because costs can differ by branch/plant.

Journal Entries for On-Hand Balances

The program creates journal entries in either detail or summary format that match in amount with the item ledger records. Thus the program maintains integrity between the Item Ledger and the Account Ledger. Use the Item Ledger/Account Integrity report to verify this integrity.

The process flow is as follows:

- The program creates a journal entry only if an item ledger record has been written.
- An item ledger record is written only if an item cost ledger record has been updated.
- An item cost ledger record is updated only if a cost component record has been updated.

The program accesses the following AAIs to obtain the object account.

AAI table number	Description	Use
4134	Inventory	Debit to show increase in item cost Credit to show decrease in item cost
4136	Expense or COGS	Debit to show expense or loss Credit to show income or gain

Detail Journal Entries

If you choose detail format, the program creates matching debit and credit account ledger records for every item ledger record created. Use the detail format when you want a detailed audit trail. However, consider that the potential volume is large, possibly causing disk space problems.

Summary Journal Entries

If you choose summary format, the program creates debit and credit records by subtotals of company, general ledger class code, and transaction type. Use the summary format to reduce the amount of detail in the general ledger. You can still run a report to provide a detailed audit trail.

Before You Begin

❑ Ensure that you have set up item cost levels on the initial Item Master Information form. See *Setting Up Item Cost Levels*.

Output

The program produces the following output:

Error messages

The program produces error messages if it finds any general ledger errors while formatting the journal entries. There is one error message for the same combination of AAI number, account number, and G/L class code. Correct any errors and run the Frozen Update program again. You can view messages in the Submitted Jobs Queue in the Employee Work Center.

Item Cost Ledger Update report

This report shows the effect of the inventory revaluation based on the changes made to the cost revisions records for the inventory items. You can print all items or only those that have a cost change. You can run the report in proof mode or final mode. The report provides the following information:

- Old and new costs for each updated item
- Variances between old and new costs
- Item quantity on hand
- Net amount of change in cost
- Summary of the amount changed by item general ledger category (facilitates any manual journal entries required)
- G/L exception errors
- Whether G/L transactions have been written
- Either G/L subtotals by company and G/L class code or G/L class code only

See Also

- *Creating Journal Entries* for more information on detail and summary journal entries
- *R30834, Item Cost Ledger Update* in the *Reports Guide* for a report sample

Processing Options: Frozen Update

Default Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

This processing option specifies the cost method to be updated in the Cost Components and Cost Ledger tables.

1. Cost Method

This processing option specifies the cost method to be updated in the Cost Components and Cost Ledger tables. If you leave this field blank, the program calculates costs for cost method 07 (standard costs).

Processing Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define processing criteria.

1. Update Costs

Enter 1 to update costs. If you leave this field blank, the program creates an exception report, but does not update costs.

Valid values are:

blank do not update.
1 update.

2. Single Level

This processing option allows you to update costs for a selected item or items, without updating everything else in the bill of material. For example, you might have a new item that needs to be costed, but you do not want to recost everything else. After you create simulated costs for the new item, you can update its frozen costs without updating the costs of the lower-level components.

Valid values are:

blank complete rollup.
1 single level rollup.

3. Update Work Center Rates

If you run the program in final mode (specified in the Update Costs processing option), enter 1 here to also update all rates in all work centers in all branch/plants.

4. Use Flex Accounting

If you use flex accounting, enter 1. The program looks for your flex accounting rules to determine how to populate the cost object field.

Process Mfg Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

If you use process manufacturing, this processing option updates costs for co-/by-products.

1. Update Co-/By-Products

If you use process manufacturing, enter 1 to update costs for co-/by-products. If you leave this field blank, the program updates costs just for the parent process.

Valid values are:

blank do not update.
1 update.

G/L Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use these processing options to define your G/L criteria.

1. G/L Date

Use this processing option to specify the date that appears on Item Ledger transactions and journal entries. If you leave this field blank, the program uses the system date.

2. G/L Transactions

Enter 1 to create detailed G/L entries for Item Balance (IB) transactions (one entry for each item). Enter 2 to create summarized G/L entries (one entry for each account). If you leave this field blank, no G/L entries are created.

Print Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use this processing option to specify which items appear on the Item Cost Ledger Update report.

1. Print Items

Enter 2 to include only changed items. Enter 1 to include all items. If you leave this field blank, no items are included.

Reviewing Costing Information

After you run the Frozen Update program to revalue your inventory, you should review the updated costing information. These costs stay in effect until you run the update again.

Complete the following tasks:

- ❑ Review frozen cost components
- ❑ Review the item ledger
- ❑ Review the Single Level Costed Bill of Material report
- ❑ Review the Multi-Level Costed Bill of Material report
- ❑ Review the Cost Components report
- ❑ Review the Cost Component/Ledger Integrity report

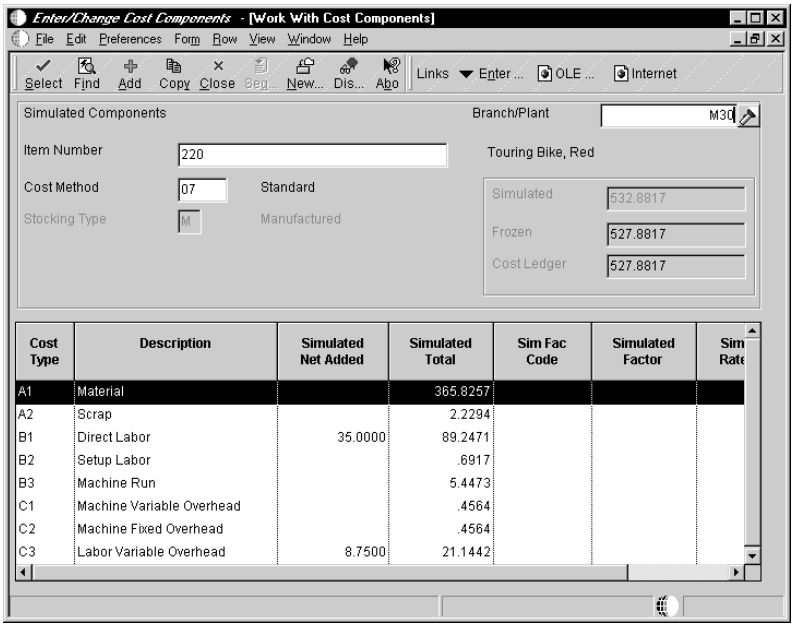
Reviewing Frozen Cost Components

After you run the Frozen Update program to revalue your inventory, review the frozen costs.

▶ To review frozen cost components

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

On Work With Cost Components



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
   - Cost Method
2. Review the following field:
   - Frozen
3. To toggle between frozen and simulated costs, choose Frozen or Simulated from the View menu.

Field	Explanation
Frozen	The accumulated standard cost rolled up from lower levels.

Reviewing the Item Ledger

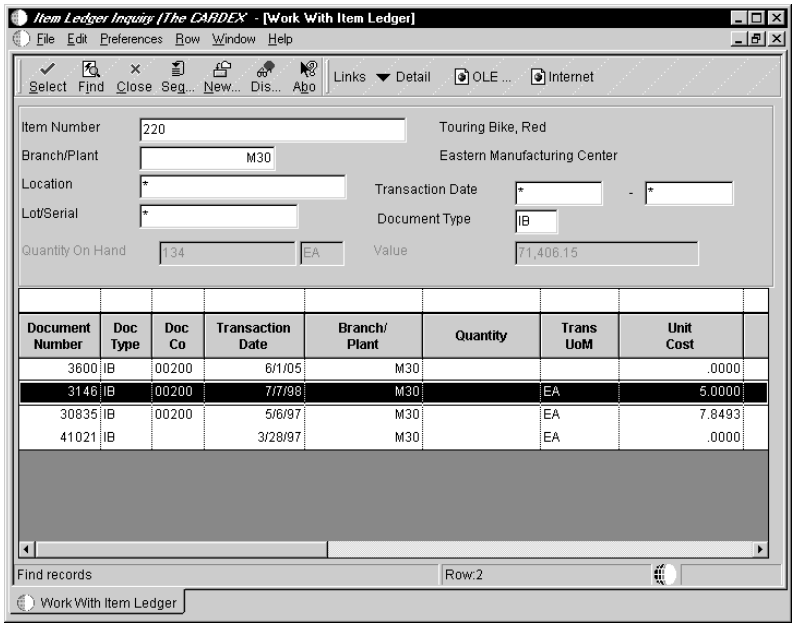
Use Item Ledger to view Item Balance (IB) transactions for an item. The Frozen Update program transfers IB transactions to the item ledger if all of the following are true:

- The frozen cost changes in the Cost Ledger table (F4105) for a given cost method
- That cost method is used as the sales/inventory cost method
- A quantity on hand exists

▶ To review the item ledger

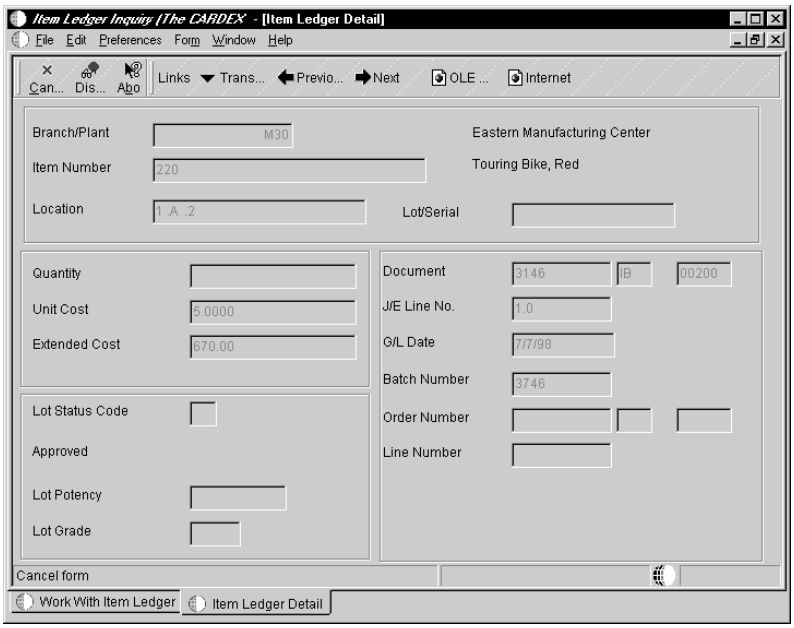
From the Daily Product Costing menu (G3014), choose Item Ledger Inquiry.

On Work with Item Ledger



1. Complete the following field:
   - Item Number
2. Enter IB in the following field and click Find:
   - Document Type
3. Review the following fields:
   - Transaction Date
   - Quantity

4. To review the details of a transaction, choose a record and click Select.



For manufacturing transactions (document types IM and IC), the G/L date and batch number do not appear until you process journal entries for manufacturing accounting. These transactions do not appear in the running balance until you run Journal Entries for Work in Process or Completions.

Field	Explanation
Document Type	A user defined code (00/DT) that identifies the origin and purpose of the transaction. J.D. Edwards reserves several prefixes for document types, such as vouchers, invoices, receipts, and timesheets. The reserved document type prefixes for codes are: P Accounts payable documents R Accounts receivable documents T Time and Pay documents I Inventory conversion issues O Ordering document types The system creates offsetting entries as appropriate for these document types when you post batches.
Transaction Date	The date that an order was entered into the system. This date determines which effective level the system uses for inventory pricing.
Quantity	The available quantity can be on-hand balance minus commitments, reservations, and backorders. This is user defined in branch/plant constants.

Processing Options for Item Ledger Inquiry

```
Default

Enter a Document Type.  If left blank,
    '*' will be the default value and
    all document types will be shown.

      1.  Document Type                                  _____________

Versions

Enter the version to be used for each
    program.  If left blank, ZJDE0001
    will be used.

      1. Load and Delivery Ledger                        _____________
      Inquiry (FUTURE)

Display

      1. Enter a '1' to display Quantity                 _____________
      in Primary Units of Measure along
      with Quantity in Transaction Units
      of Measure.
```

Reviewing the Single Level Costed Bill of Material Report

From the Periodic Product Costing menu (G3023), choose Costed Bill.

Use the Costed Bill program to create a report that lists the total cost of parent items detailed by component costs. Use this information to develop more accurate financial plans by monitoring product costs.

You can customize this report to help you in your analysis. For example, you can:

- Process the report using any valid cost method
- Process the report for simulated or frozen costs
- Specify a date for the program to use as a criterion when accessing information
- Print all product costs and user defined categories on the report
- Print the report for one branch, selected branches, or all branches

This report presents the component costs in five user defined cost buckets. In addition, the program totals the cost buckets for each item. Each cost bucket can contain several cost components, depending on how you set up your user defined codes.

See Also

- *Setting Up Cost Bucket Codes for Costed Bills of Material*
- *R30440, Costed Bill of Material* in the *Reports Guide* for a report sample

Processing Options for Costed Bill of Material Report

```
Defaults

1.  Enter the "As of" date for the Bill
    of Material.  If left blank the
    current date will be used.

      As of Date                                    _____________

Display

1.  Enter the Cost Method to be used
    (ie., 01, 02, 03).  Blanks will
    default to 07 cost method
    (standard).

      Cost Method                                   _____________

2.  Enter the Costs to be printed. '1'
    for Simulated or '2' for Frozen.

      Simulated/Frozen                              _____________

3.  Enter the number of units to Cost.
    (ie., 10,000).

      Quantity – Requested Quantity                 _____________
```

Reviewing the Multi-Level Costed Bill of Material Report

From the Periodic Product Costing menu (G3023), choose Multi-Level Costed Bill.

Use the Multi-Level Costed Bill program to create a report that lists the total cost of parent items detailed by component costs. Use this information to develop more accurate financial plans by monitoring product costs.

You can customize this report to help you in your analysis. For example, you can:

- Specify the number of units that the program costs when you run the report
- Process the report using any valid cost method
- Process the report for simulated or frozen costs
- Specify a date for the program to use as a criterion when accessing information
- Print all product costs and user defined categories on the report
- Print the report for one branch, selected branches, or all branches

This report presents the component costs in five user defined cost buckets. In addition, the program totals the cost buckets for each item. Each cost bucket can contain several cost components, depending on how you set up your user defined codes.

See Also

- *Setting Up Cost Bucket Codes for Costed Bills of Material*
- *R30445, Multi-Level Costed Bill* in the *Reports Guide* for a report sample

Processing Options for Multi-Level Costed Bill Report

```
Defaults

1.  Enter the 'As of Date' for the Bill
    of Material.  If left blank the
    current date will be used.

      As of Date                                    _____________

Display

1.  Enter the cost method to be used.
    Blanks will default to '07'
    (standard).

      Cost Method                                   _____________

2. Enter the costs to be printed
    1 = Simulated   2 = Frozen

      Simulated / Frozen                            _____________

3.  Enter the units to Cost.  (ie.
    10000)

      Quantity – Requested Quantity                 _____________

Print

1.  Enter a '1' to print an indented
    Costed Bill of Material Report.

      Indented Report Switch                        _____________

2.  Enter a '1' to print a "Unit Cost"
    line of detail.  If left blank, only
    one line of detail will be printed
    for each item.

      Unit Cost Detail                              _____________
```

Reviewing the Cost Components Report

From the Periodic Product Costing menu (G3023), choose Cost Components.

Use the Cost Components program to create a report that displays the component costs and total cost for each item. This information comes from the Enter Cost Components form.

You can customize this report to meet your specific needs. For example, you can:

- Process the report using any valid cost method.
- Review the cost type and description by item number.
- Identify items.
- Define the exact information to appear on the report from data selection options. For example, you can select specific items and choose whether to include factors or rates for add-on and extra costs.
- Print the report for a single item, several items, or all items.

You can include any of the cost components that you define for an item in the cost bucket that you specify.

See Also

- *Setting Up Cost Bucket Codes for Costed Bills of Material*
- *R30026P, Cost Components* in the *Reports Guide* for a report sample

Processing Options for Cost Components Report

```
      Default Processing                                    _____________

Defaults

1.  Enter "1" to print Simulated costs,
    "2" to print Frozen Costs.  If left
    blank, simulated costs will print.

      Simulated/Frozen Cost Selection                       _____________
```

Reviewing the Cost Component/Ledger Integrity Report

From the Periodic Product Costing menu (G3023), choose Cost Integrity.

Use the Cost Integrity program to create a report that compares the sum of the frozen standard cost components on the Enter Cost Components form and the unit cost in the Cost Ledger table (F4105) and lists variances. For cost level 3 items, the program uses the unit cost for the primary location of the item in the Cost Ledger table.

See Also

- *R30543, Cost Integrity* in the *Reports Guide* for a report sample

Processing Options for Cost Component/Ledger Integrity

Report Option

Enter a ’1’ to see report detail for all items processed. If left blank, only items with cost discrepancies will be printed.

Selection value _____

Working with Additional Costing Features

You can use several additional features to work with costing information. You can copy costs for an item from one cost method to another. You can reset your simulated costs to their frozen values. You can update the costs in your sales orders with the most current cost values. You can update costs for an item globally, using an amount or a percentage change.

Working with additional costing features consists of:

- Copying costs
- Copying frozen costs to simulated costs
- Updating sales order price/cost
- Updating product costs

Copying Costs

From the Periodic Product Costing menu (G3023), choose Copy Cost Values.

Use Copy Costs to copy the simulated or frozen costs and work center rates from one cost method to another cost method. You can also copy work center rates between cost methods within the same work center.

Based on the processing option values, the program copies information in the Cost Components table (F30026) and the Work Center Rates table (F30008) to update costs and work center rates for the cost method that you specify. You can only replace simulated costs, not frozen costs, in the *copy to* branch. Run the Frozen Update program to update frozen costs.

To ensure acceptable results, J.D. Edwards recommends that you plan your choices carefully and write them down before you enter them. This program does not generate a report of the updated costs.

Processing Options for Copy Cost Values

```
Process

COPY FROM INFORMATION:
1.  Enter a '1' to copy simulated costs
    or a '2' to copy frozen costs.

      Simulated or Frozen                    _____________

2.   Enter the Branch/Plant and Cost
    Method to copy.

      Branch/Plant to copy:                  _____________
      Cost Method to copy:                   _____________

COPY TO INFORMATION:
3.  Enter the Branch/Plant and Cost
    Method to update.

      Branch/Plant to update                 _____________
      Cost Method to update:                 _____________
```

Copying Frozen Costs to Simulated Costs

From the Periodic Product Costing menu (G3023), choose Reset Simulated Costs.

For the cost method and branches you choose, use Reset Simulated Costs to reset simulated costs to their frozen values. Resetting costs allows you to begin a simulation again.

Processing Options for Cost Simulation Refresh

```
Process

1.  Enter the Branch for Cost Reset
    processing ('*' for all branches).

      Branch                                 _____________

2.  Enter a '1' to reset rates in the
    Work Center Rates Table for the
    selected Cost Centers and Cost
    Methods.

      Reset Rates                            _____________
```

Updating Sales Order Price/Cost

From the End of Day Processing menu (G4213), choose Update Sales Price/Cost.

Use the Update Sales Price/Cost program to update the unit and extended cost in your sales orders with the most current cost values specified in the Cost Ledger table (F4105). If multi-currency processing is active in the system, the program updates the Foreign Unit and Extended Cost fields as well. Use data selections to designate particular information to be processed.

When you run this program, the system updates your live sales order detail information. Therefore, J.D. Edwards recommends extreme caution in setting up data selections.

See Also

- *Updating Prices for a Customer* in the *Sales Order Management Guide*

Processing Options for Update Sales Order Price/Cost

```
Cost Options

      Enter a '1' to update sales order                    _____
      with most current unit cost.  (Any
      other value will leave cost
      unchanged. )
      Enter a '1' to update the currency                   _____
      exchange rate (only domestic
      amounts will be recalculated).
      Enter a blank to leave unchanged.
      Enter '1' to update the                              _____
      inter-company currency exchange
      rate. Foreign amounts will not be
      re-calculated. If left blank, will
      not update the inter-company
      exchange rate.

Price Options

      Enter a '1' to update the unit                       _____
      price of the sales order.  Any
      other entry will leave unit price
      unchanged.

'  ' – Transaction Date;  '1' -
    Requested Ship Date;  '2' – Promised
    Ship Date;  '3' – Original Promise
    Date;  '4' – Actual Ship Date;  '5'
    – System Date;  '6' – Invoice Date

      Specify the date on which to base                    _____
      all price recalculations.
      Enter '1' to recalculate the                         _____
      Transfer Price for inter-branch
      sales. The pricing method
      specified when the order was
```

entered will be used.

Adv. Pricing O

Enter the Line Type of the new Sales Detail Line item. This line item will contain the difference between the old sales price and the newly recalculated price. If left blank, will update the new price directly to the item. This must be a non-inventory Line Type. _____

If you have specified in the last processing option to create a sales detail record to record the price difference, enter the Override Next Status of the detail line. If left blank, will use the original detail line's Next Status. _____

Enter '1' to base recalculation on the original order quantity. If left blank, the system will recalculate based on the current quantities of the Order. _____

Versions

Sales Order Entry (P4210) _____

Updating Product Costs

Use Speed Cost Maintenance to update costs for purchased items in the branch/plants, locations, and lots that you choose. You can increase or decrease costs by a percentage or monetary amount, or you can specify a new monetary amount. You also specify the cost method for which you want to update costs.

This program updates costs for purchased items in the Cost Ledger table. Run the Frozen Update program to update costs in the Cost Components table for purchased and manufactured items.

The information that appears on Work with Location Costs depends on the cost level for the item. For example, if an item has a cost level of 2, the system displays costs for all branch/plants. If an item has a cost level of 3, the system displays costs for all locations at the branch/plant that you specify.

See *Setting Up Item Cost Levels*.

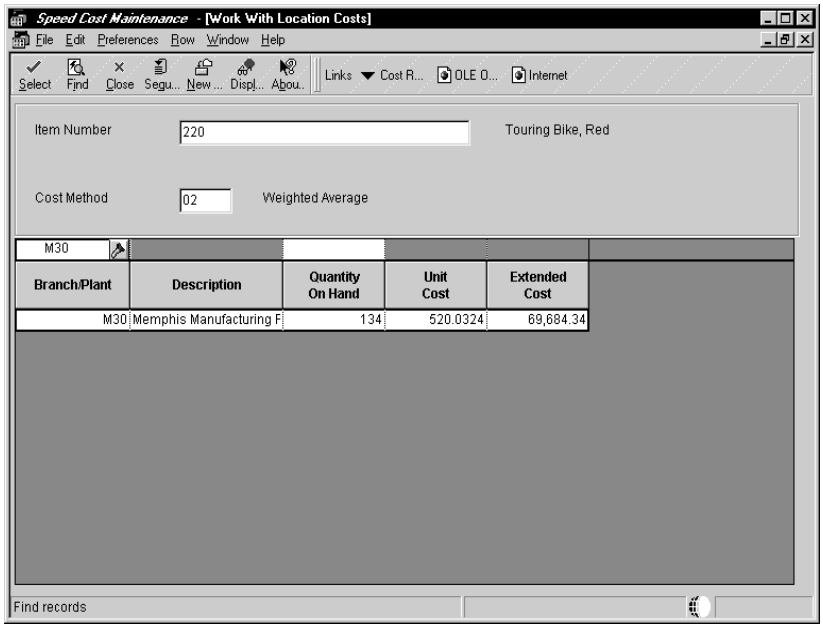
See Also

- *Setting Up Item Costs*
- *Updating Item Costs* in the *Inventory Management Guide*

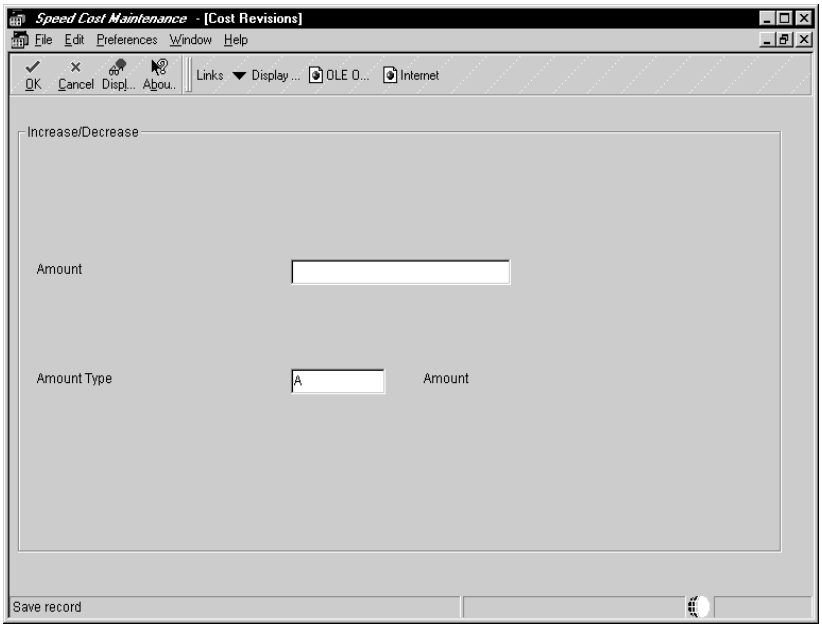
To update a product's cost

From the Inventory Price & Cost Updates menu (G4123), choose Speed Cost Maintenance.

On Work With Location Costs



1. Complete the following fields and click Find:
   - Item Number
   - Cost Method
2. Choose a branch/plant and click Select.



3. On Cost Revisions, complete the following fields:
   - Increase/Decrease Amount
   - Amount Type

Field	Explanation
Increase/Decrease Amount	The dollar amount or percentage by which you want to increase or decrease unit costs for items. You can also indicate a different amount to override current unit costs. The value you specify in the Amount Type field determines whether you enter an amount or a percentage. Note: Enter percentages as whole numbers. For example, enter 10 to increase costs by 10%. To decrease costs, enter a negative sign before the number. For example, enter –10 to decrease costs by 10%. . . . . . *Form-specific information* . . . . . . The system changes all costs for all locations.
Amount Type	A code that indicates whether the number in the Increase/Decrease Amount field is an actual amount or a percentage value. Valid codes are: A Amount % Percentage * Cost Override Amount

Processing Options for Speed Cost Maintenance

Defaults

1. Enter the default cost method to display. _____

Process

1. Enter a ’1’ to prevent the standard cost from being changed _____

Product Costing in ERPx Environments

Product Costing in ERPx Environments

If you use the Product Costing system in any special environment (using batches, kits, processes, or configured items, or in distribution), the system calculates product costs differently.

Understanding product costing in ERPx environments requires the following:

- ❑ Understanding batch product costing
- ❑ Understanding product costing for kit items
- ❑ Working with process industry costing
- ❑ Understanding configured items
- ❑ Working with detail costing in distribution

Understanding Batch Product Costing

For bills of material and routings, you can have a batch quantity for products that are normally built in specific batch sizes, such as chemicals, food, or petroleum.

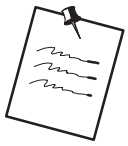
To obtain a correct rollup when you use a batch quantity, the accounting cost quantity, the bill of material batch size, and the routing batch size must match, as follows:

- Labor and overhead costs are rolled up only if the accounting cost quantity and the routing batch size match.
- Material costs are rolled up only if the accounting cost quantity and the bill of material batch size match.

The following table illustrates these possibilities.

Accounting Cost Quantity	Bill Batch Size	Routing Batch Size	Rollup
10,000	10,000	10,000	Complete
5,000	10,000	10,000	None
10,000	5,000	10,000	Labor and Overhead Only
10,000	10,000	5,000	Material Only

If the Simulate Cost Rollup program does not find a bill of material whose batch quantity matches the accounting cost quantity, it uses the zero batch bill.



Most quantities displayed on Work with Costed Bill and Enter Cost Components are expressed per each unit of measure, not batch quantity. Setup quantities are expressed per the batch quantity.

See Also

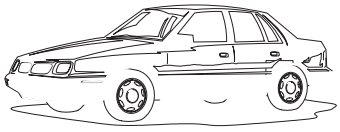
- *Working with Bills of Material* in the *Product Data Management Guide*

Understanding Product Costing for Kit Items

When you use kit items with options, the Simulate Cost Rollup program calculates the average cost of the parent phantom based on the feature costing percentage, as follows:

- The parent phantom must have a stocking type of M (manufactured). The options can be manufactured or purchased.
- The feature costing percentages of the components are user defined on the bill of material.
- The Simulate Cost Rollup program multiplies the feature costing percentage by the cost of the option (from the Cost Ledger table) to determine the option's share of the parent phantom's average cost.
- The program then adds dollar amounts for each option to determine the average cost for the parent phantom.

The following diagram illustrates an example of product costing for a kit item.



ENGINE

	4 Cylinder	6 Cylinder	8 Cylinder	
cost	$1,000	$1,250	$1,500	
X	30%	40%	30%	
=	$300	$500	$450	= $1,250

average cost of engine

Working with Process Industry Costing

Process manufacturing creates a product by mixing, separating, forming, or performing chemical reactions. This is usually a two-step procedure, which consists of a mixing or blending step, followed by a filling or packaging step. This type of manufacturing can also include intermediate steps, such as curing, baking, or fermenting.

Process manufacturing companies create a variety of items, including:

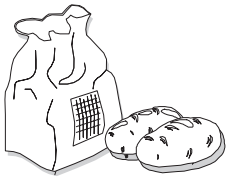
- Liquids
- Fibers
- Powders
- Gases

Pharmaceuticals, foods, and beverages are specific examples.

A process includes ingredients (equivalent to parts on a work order) and a process routing or recipe. The output from a process includes intermediates, by-products, and co-products.

Intermediate	The output from an operation that is used as the input to the next operation. There is no cost associated with an intermediate.
By-product	The material produced incidental to or as a residual of the process.
Co-product	An end item produced as a result of the process. There are usually two or more co-products from a process.

The following illustrates an example of a process.



Process – Potato Chips

Ingredients	Routing	Co–product and By–product
Potato Slices →	10 Starch wash potatoes	
	20 Drain water	BY → Waste Water
	30 Add water, soak	
	40 Drain water	BY → Waste Water
Frying Oil →	50 Deep fry	BY → Used Frying Oil
Seasoning →	60 Add seasoning	
	70 Package	
Nitrogen →	80 Add preservatives	CO → Potato Chips

You define a process item with ingredient relationships. These relationships also determine intermediates, by-products, co-products, and substitutions.

You also define the steps that are required to produce a manufactured item with process routings. These routings determine work centers and labor standards.

Working with process industry costing consists of:

- ❑ Reviewing product costing for processes
- ❑ Reviewing product costing for intermediates
- ❑ Reviewing product costing for ingredients
- ❑ Reviewing product costing for co-/by-products
- ❑ Reviewing a costed process
- ❑ Setting up the Co-/By-Products Planning Table
- ❑ Reviewing percent bills of material, if applicable

See Also

- *Process Manufacturing* in the *Shop Floor Management Guide*

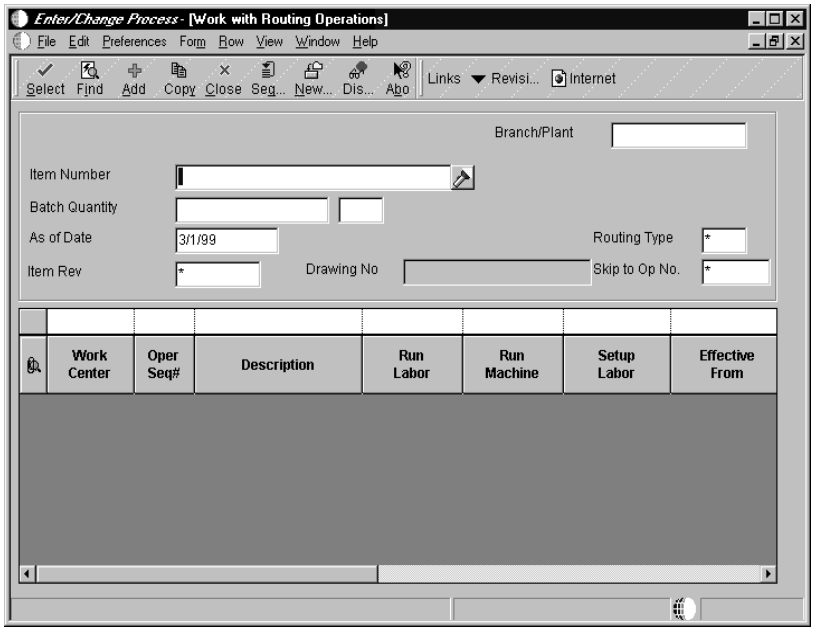
Reviewing Product Costing for Processes

Review process manufacturing to note the differences from discrete manufacturing in the input and output of costing.

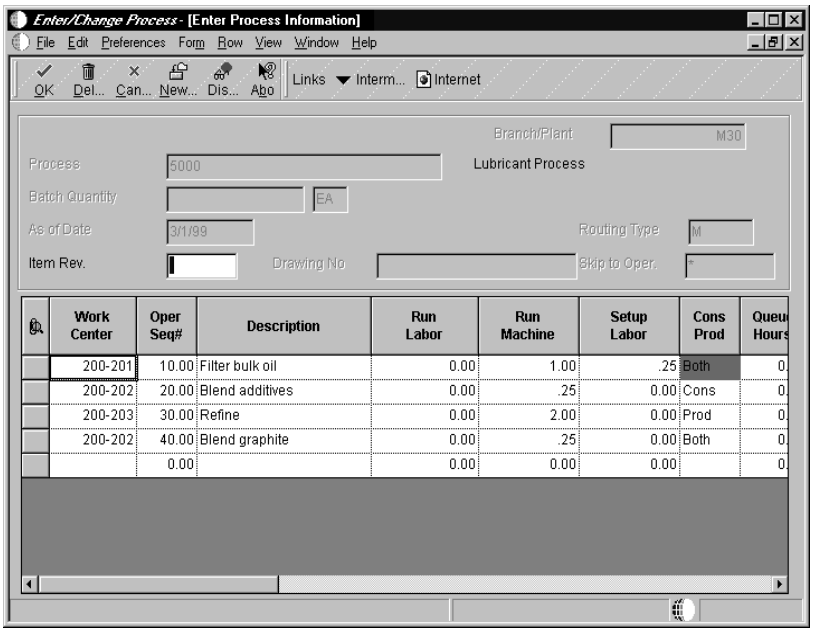
▶ To review product costing for a process

From the Daily PDM Process menu (G3012), choose Enter/Change Process.

On Work with Routing Operations



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
2. Review the following fields:
   - Run Labor
   - Run Machine
   - Setup Labor
3. Choose Routing Revision from the Form menu.



4. On Enter Process Information, review the following fields:
   - Time Basis
   - Crew Size
   - Cost Type
   - Type Oper
   - Yield %
   - Cum Yield %

Field	Explanation
Yield %	The planned output yield percent for a step. The Planned Yield Update program uses this value to update the cumulative percent in the bill of material and the operation scrap percent in the routing. Materials Requirements Planning uses the step scrap percent and the existing component scrap percent to plan component demand.
Cum Yield %	The cumulative planned output yield percent for a step. The system uses this value to adjust the operation step scrap percent for the components at that operation step. This enables the MRP system to use the operation step scrap percent along with the existing component scrap percent to plan component demand.

Reviewing Product Costing for Intermediates

An intermediate is the product of an operation. This product is not the end item of the process, but an input to the next operation. You define intermediates when you need to express them in a unit of measure different from that of the parent item, or when you need to track the quantity of materials at each operation. Only one intermediate is allowed per operation. You cannot define an intermediate for the last operation, because the output of the last operation is the end item of the process.

An example of an intermediate is fermented liquid. A liquid ferments for an extended period of time before being distilled. The fermented liquid is not a finished product. Rather, it proceeds to the next operation.

If you define an intermediate at a particular operation, you also establish a ratio between the intermediate quantity and the parent quantity. The system uses this ratio for costing the operation. A direct relationship exists among hours, the time basis, parent batch quantity, and intermediate operation quantity.

The system uses intermediate quantities to cost only direct labor hours (cost component B1) and direct machine hours (B3) from the routing. These hours are then used to calculate efficiency (B4) and overhead (C1–C4).

The labor and machine hours used for an operation that produces an intermediate are the hours to produce one unit of measure of the intermediate. The hours are then adjusted in the rollup by the total quantity of intermediates produced in that operation. The following example illustrates the effect of intermediates on costing:

Operation 10

Labor Hours = 5

Intermediate quantity produced = 50 pounds

Hours for costing = 5 x 50 = 250

See Also

- *Attaching the Intermediate Items* in the *Shop Floor Management Guide*

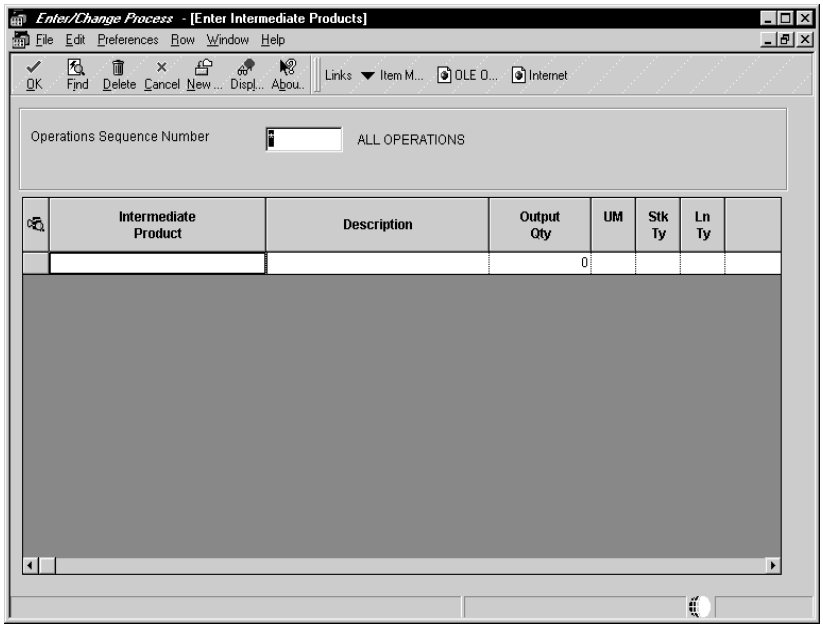
▶ To review product costing for an intermediate

From the Daily PDM Process menu (G3012), choose Enter/Change Process.

While reviewing product costing for a process, you can also review product costing for the intermediates.

On Enter Process Information

1. Choose Intermediates from the Form menu.



2. On Enter Intermediate Products, review the following fields:
   - Output Qty
   - Oper Seq#

Field	Explanation
Output Qty	The number of units that the system applies to the transaction. . . . . . *Form-specific information* . . . . . . The quantity of an intermediate that the system produces at the current step in the process.

Field	Explanation
Oper Seq#	A number used to indicate an order of succession. In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation. In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process. In engineering change orders, a number that sequences the assembly steps for the engineering change. For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced. Skip To fields allow you to enter an operation sequence that you want to begin the display of information. You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13. . . . . . *Form-specific information* . . . . . . For process manufacturing, the sequence number that produces the intermediate product.

Reviewing Product Costing for Ingredients

Ingredients are the components of a process. You attach an ingredients list to a process (in the same way that you attach a parts list to a routing) as part of setup.

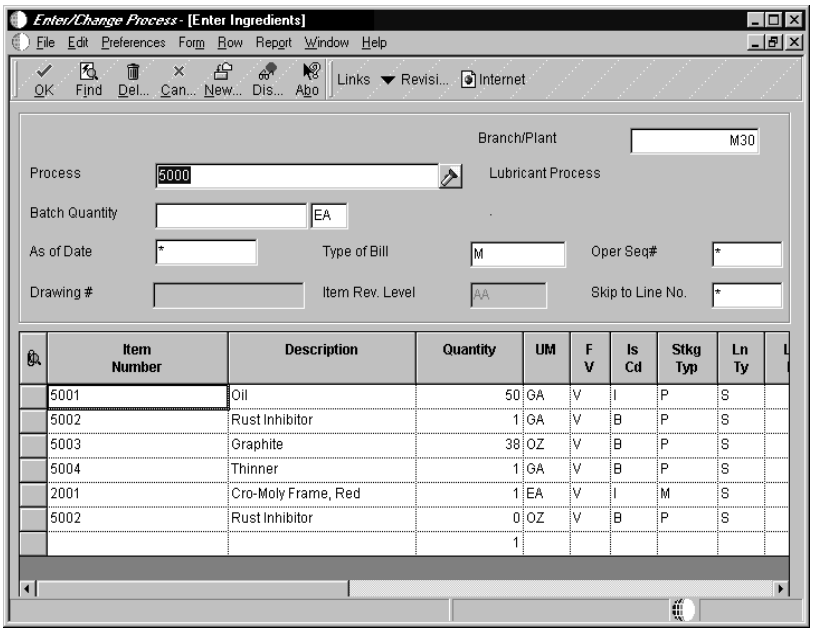
▶ To review product costing for ingredients

From the Daily PDM Process menu (G3012), choose Enter/Change Process.

While reviewing product costing for a process, you can also review product costing for the ingredients.

On Enter Process Information

1. Choose Ingredients from the Form menu.



2. On Enter Ingredients, review the following fields:
   - Item Number
   - Quantity
   - UM
   - F V
   - Feat Cost %
   - Percent Scrap
   - Operation Scrap Percent

Reviewing Product Costing for Co-/By-Products

Co-products are produced, usually together, as a result of a process routing. They are normally the main products (end items) that are then sold to customers.

A by-product is a material of value produced incidental to or as a residual of the production process. By-products can be recycled, sold as-is, or used for other purposes.

Co-products and by-products are costed using the Feature Cost Percent field.

Example: Feature Cost Percent and Co-/By-Product Costing

In the following example:

- Cumulative cost = cost this operation + cost of previous operation − cost of the co-/by-product produced in the previous operation.

- The total of all percentages at an operation cannot exceed 100%.
- The total of all percentages at the last operation must equal 100%.

Operation	Co-/By-Product	%	Cost This Operation	Cumulative Cost	Co-/By-Product Cost
10	By 1	10	100.00	100.00	10.00
20	Co 1	30	100.00	100.00 + (100.00 – 10.00) = 190.00	57.00
	Co 2	20			38.00
30			100.00	100.00 + (190.00 – 95.00) = 195.00	
40	Co 1	60	100.00	100.00 + 195.00 = 295.00	177.00
	Co 2	30			88.50
	Co 3	10			29.50

Reviewing product costing for co-/by-products consists of the following:

- Reviewing inputs to co-/by-product costing
- Reviewing co-/by-product costs

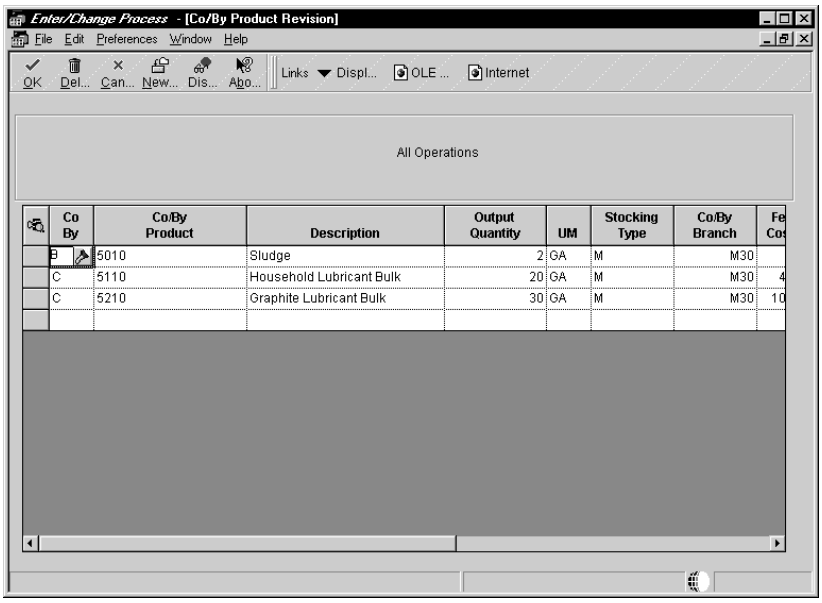
▶ To review inputs to co-/by-product costing

From the Daily PDM Process menu (G3012), choose Enter/Change Process.

While reviewing product costing for a process, you can also review product costing for the co-/by-products.

On Enter Process Information

1. Choose Co/By Revision from the Form menu.



2. On Co/By Product Revision, review the following fields:
   - Output Quantity
   - UM
   - Feat Cost%
   - Resource %

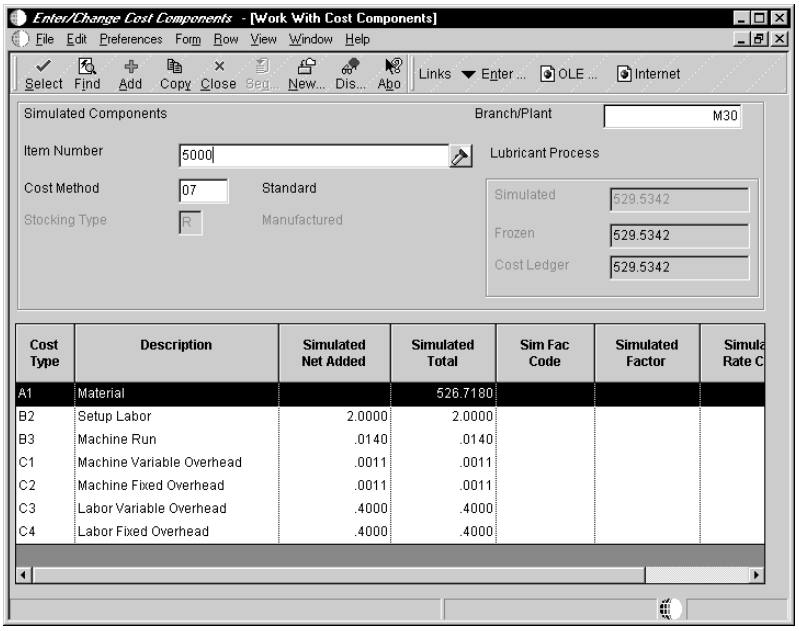
Field	Explanation
Output Quantity	The quantity of finished units that you expect this bill of material or routing to produce. This field allows you to specify varying quantities of components based on the amount of finished goods produced. For example, 1 ounce of solvent is required per unit up to 100 units of finished product. However, if 200 units of finished product is produced, 2 ounces of solvent are required per finished unit. In this example, you would set up batch quantities for 100 and 200 units of finished product specifying the proper amount of solvent per unit.
UM	A user defined code (00/UM) that indicates the quantity in which to express an inventory item, for example, CS (case) or BX (box).

Field	Explanation
Feat Cost%	A percentage that the Simulate Cost Rollup program uses to calculate the cost of a feature or option item as a percentage of the total cost of the parent. Enter the percentage as a whole number, for example, enter 5% as 5.0. . . . . . *Form-specific information* . . . . . . This value is used in Cost Rollup to calculate what percentage of the cost, up to and including the operation, that the co-product and by-product comes out of, is apportioned to the co-products and by-products at that step. The total of all percentages at an operation cannot exceed 100%. All percentages at the last operation must total 100%.
Resource %	A number that indicates what percent of the ingredients should be issued separately to co-products and by-products. . . . . . *Form-specific information* . . . . . . This is used to issue ingredients separately to co-products and by-products at work order completion, rather than a total issue for each ingredient. For co-products and by-products at the final operation, their resource percent must total 100% to issue all ingredients.

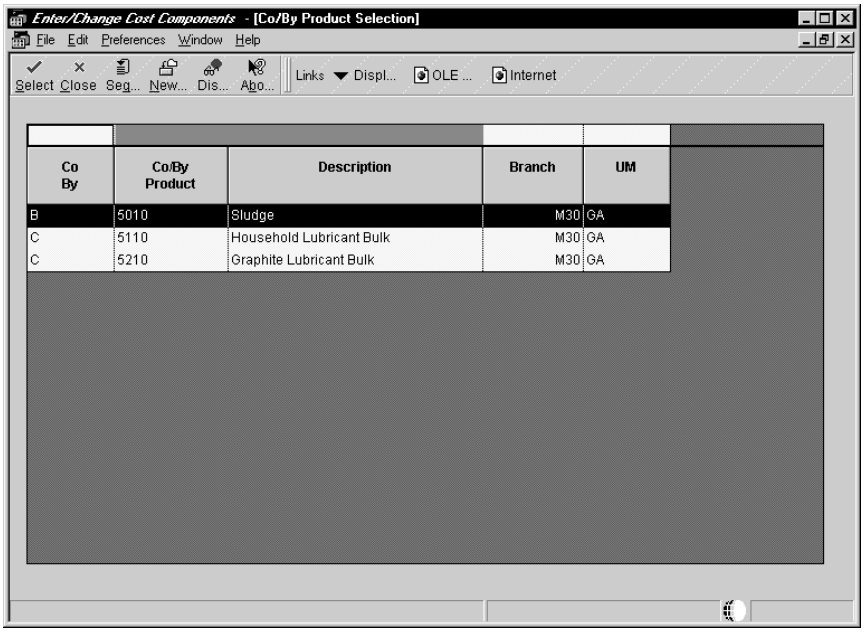
▶ To review co-/by-product costs

From the Daily Product Costing menu (G3014), choose Enter/Change Cost Components.

On Work With Cost Components



1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
2. From the Form menu, choose Co/By Product.



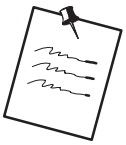
3. On Co/By Product Selection, choose a co-/by-product and click Select. The system returns to Work With Cost Components and displays the costs for the co-/by-product.

Reviewing a Costed Process

Use the Costed Routing/Process program to review the summarized costs of an item for each operation in the process. This information can help you effectively manage production costs. For example, you can:

- View the work center responsible for an operation.
- Determine if a work center performs multiple operations.
- Display simulated or frozen costs for labor, machine, and overhead values by cost method.
- Calculate the totals for all costs by cost categories.
- View the costs of the ingredients.
- View the costs of the co- and by-products.
- View the costs for different quantities and units of measure. This feature allows you to simulate different scenarios and view the costing effect.

This program calculates the cost associated with each cost component in the same way as the Simulate Cost Rollup program.

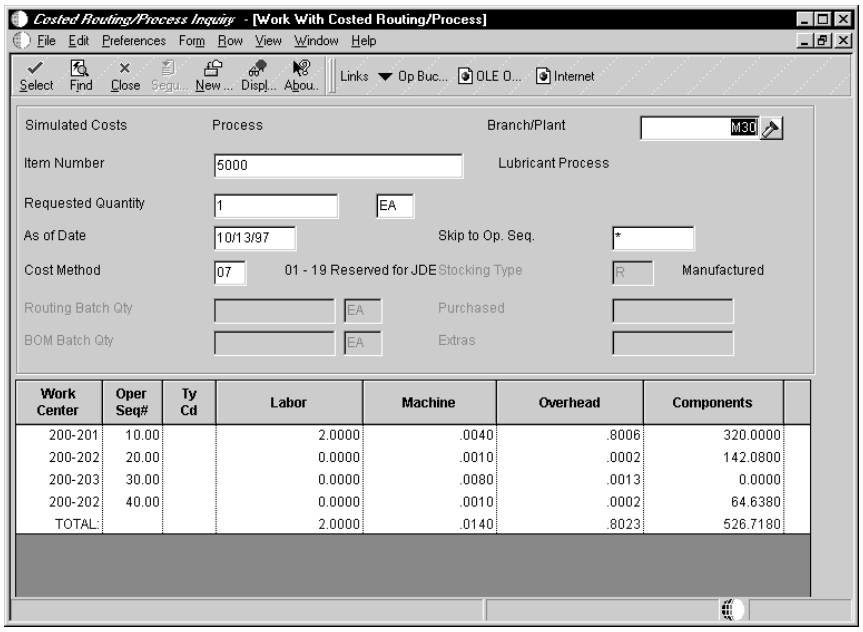


The program can accumulate purchase costs for up to 500 components on each bill of material. Components beyond 500 are not included in the costing.

▶ To review a costed process

From the Daily Product Costing menu (G3014), choose Costed Routing/Process Inquiry.

On Work With Costed Routing/Process



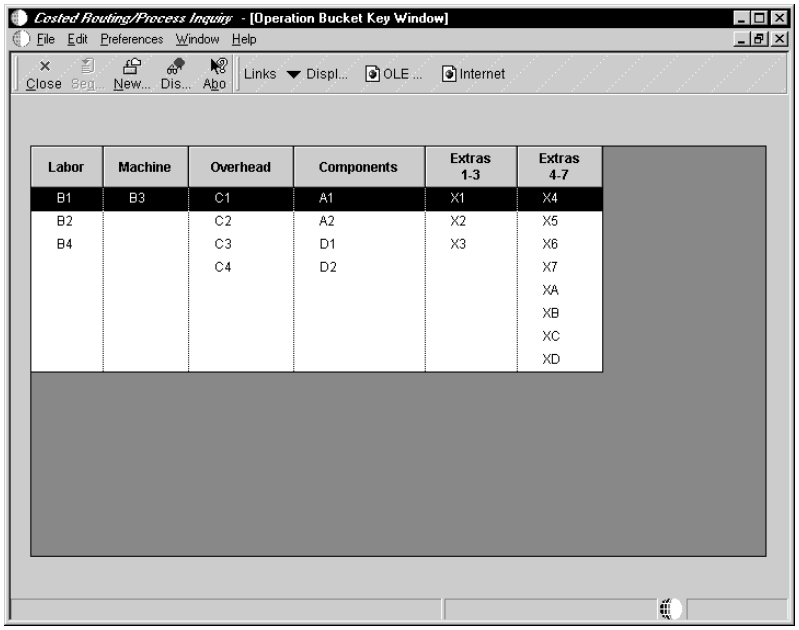
1. Complete the following fields and click Find:
   - Branch/Plant
   - Item Number
2. Review the following fields:
   - Requested Quantity
   - As of Date
   - Cost Method
   - Routing Batch Qty
   - BOM Batch Qty
   - Extras
   - Work Center
   - Oper Seq#
   - Labor

     Labor costs are real-time. They are calculated each time you access this form.

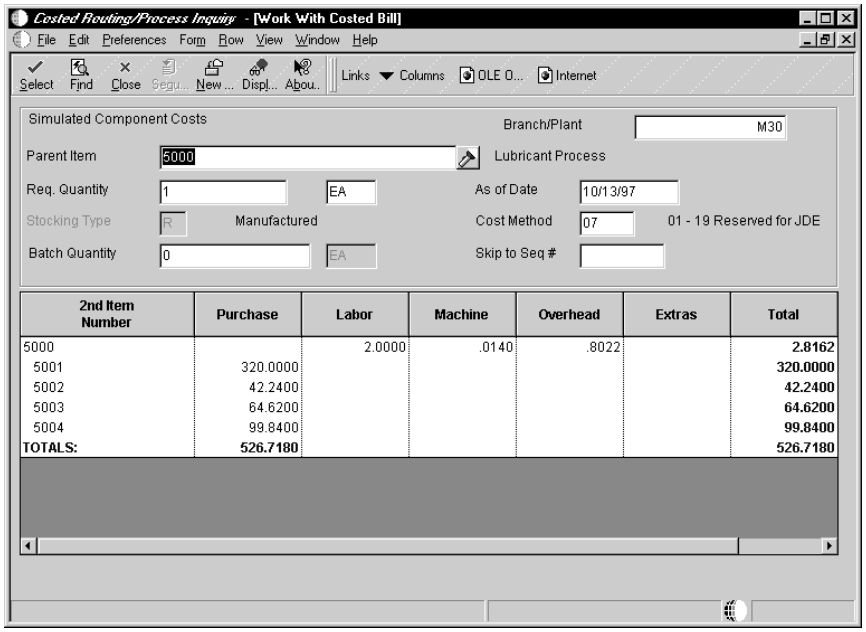
   - Machine
   - Overhead

- Components
- Total

3. To toggle between frozen and simulated costs, choose Frozen or Simulated from the View menu.
4. From the Form menu, choose Operation Bucket Window to review the item's operation buckets.

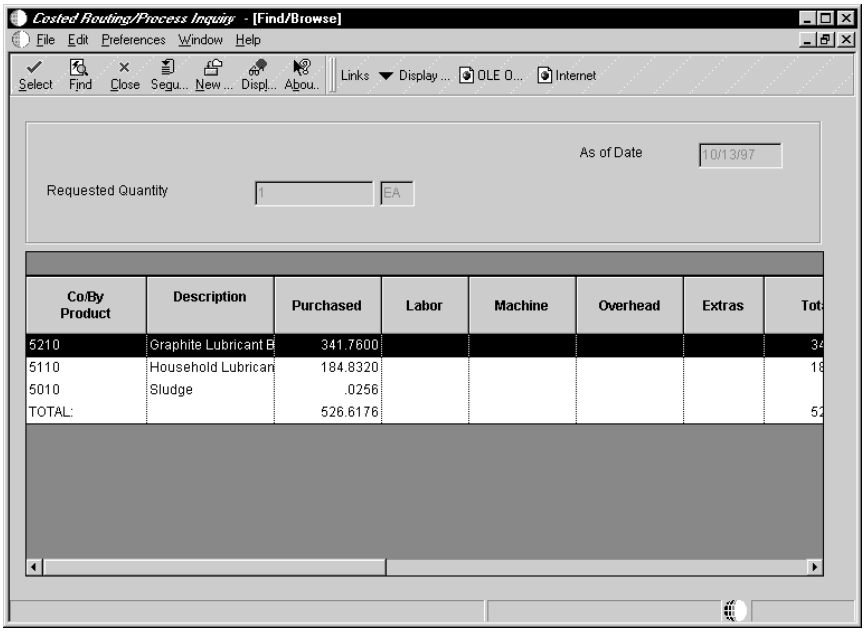


5. On Work with Costed Routing/Process, choose Costed Bill from the Form menu.



On Work With Costed Bill, you can view ingredient costs for a single operation or for all ingredients across all operations in the process. These costs are from the Cost Components table and reflect the last simulated rollup. Thus the costs might differ from those on Work with Costed Routing/Process Inquiry if you have changed the process since the last rollup.

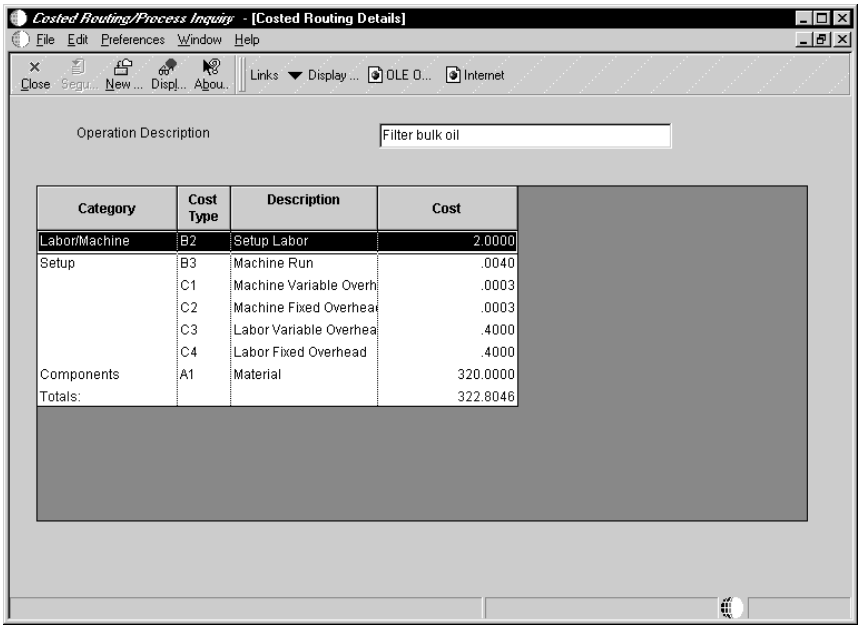
6. On Work with Costed Routing/Process, choose Costed Co-/By-Products from the Form menu.



The system displays all co-/by-products across all operations. If a co-/by-product is made from more than one process, the costs shown are for all processes. These costs are from the Cost Components table and reflect the last simulated rollup. Thus the costs might differ from those on Work with Costed Routing/Process Inquiry if you have changed the process since the last rollup.

You can view co-by-product costs for a single operation by choosing Costed Co-/By-Products from the Row menu on Costed Routing/Process.

7. To view all costs associated with an operation, on Work with Costed Routing/Process, choose Details from the Row menu.



Labor costs that appear are real-time. The cost components are grouped using cost buckets.

Field	Explanation
Requested Quantity	The number of parent items that you want to process. The system calculates lower level values in quantity per the number of parent items requested. For instance, if it takes 3 components per a parent item, then with a requested quantity of 10, the system would plan and cost for 30 components. . . . . . *Form-specific information* . . . . . The number of parent items for which you want to see cost breakdowns. Costs are figured in quantity per the parent item.
As of Date	The date used for effectivity checking. Enter a specific date to display documents (orders, bills of material, routings, as applicable) that are effective on or after that date. The current system date is the default, but you can enter any future or past date.
Cost Method	A user defined code (40/CM) that identifies a cost method. Use cost methods to indicate the method for the system to use. Cost methods 01 through 19 are reserved for J.D. Edwards use.

Field	Explanation
Routing Batch Qty	The quantity of finished units that you expect this bill of material or routing to produce. You can specify varying quantities of components based on the amount of finished goods produced. For example, 1 ounce of solvent is required per unit up to 100 units of finished product. However, if 200 units of finished product is produced, 2 ounces of solvent are required per finished unit. In this example you would set up batch quantities for 100 and 200 units of finished product, specifying the proper amount of solvent per unit.
BOM Batch Qty	The quantity of finished units that you expect this bill of material or routing to produce. You can specify varying quantities of components based on the amount of finished goods produced. For example, 1 ounce of solvent is required per unit up to 100 units of finished product. However, if 200 units of finished product is produced, 2 ounces of solvent are required per finished unit. In this example you would set up batch quantities for 100 and 200 units of finished product, specifying the proper amount of solvent per unit.
Extras	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 2 as defined for user defined code 30/CO, Operation Buckets. A processing option controls whether the system adds cost buckets 1 and 2 (at the top of the form) into the grand total of all costs for the parent item at the bottom of the form.
Work Center	A number that identifies a branch, plant, work center, or business unit. . . . . . *Form-specific information* . . . . . . This is the business unit assigned to the work center for the operation sequence listed.

Field	Explanation
Oper Seq#	A number used to indicate an order of succession. In routing instructions, a number that sequences the fabrication or assembly steps in the manufacture of an item. You can track costs and charge time by operation. In bills of material, a number that designates the routing step in the fabrication or assembly process that requires a specified component part. You define the operation sequence after you create the routing instructions for the item. The Shop Floor Management system uses this number in the backflush/preflush by operation process. In engineering change orders, a number that sequences the assembly steps for the engineering change. For repetitive manufacturing, a number that identifies the sequence in which an item is scheduled to be produced. Skip To fields allow you to enter an operation sequence that you want to begin the display of information. You can use decimals to add steps between existing steps. For example, use 12.5 to add a step between steps 12 and 13. . . . . . *Form-specific information* . . . . . . Top of form: A processing option controls whether “Skip to” or “Up to” operation sequence mode is in effect. In “Skip to” mode, the system uses an entered operation sequence number as the starting point when displaying operations, and displays the total from that point forward on the total line. In “Up to” mode, the system uses an entered operation sequence number as the cutoff for displaying operations. The total for all operations up to and including the operation sequence number entered appears on the total line. Bottom of form: The Op Seq field contains a number that indicates the order of each step in the manufacturing operation.
Labor	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 3 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the form in the “Totals” row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components that the system adds to determine the total for the work center.

Field	Explanation
Machine	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 4 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You also can view a detailed breakdown of the cost components added to arrive at the total for the work center.
Overhead	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 5 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Components	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . Cost bucket No. 6 as defined for user defined code 30/CO, Operation Buckets. The total of this column appears at the bottom of the screen in the "Totals" row. The heading above the columns indicates which costs are displayed: frozen or simulated. You can toggle between simulated and frozen values. You can also view a detailed breakdown of the cost components added to arrive at the total for the work center.
Total	Work Amount field for the Manufacturing System. . . . . . *Form-specific information* . . . . . . This column contains system-calculated totals for each row of costs, that is, for each operation sequence. The totals across the bottom of the form are the totals of each cost bucket. The rightmost bottom total is the total of all costs for the routing for an item.

See Also

- *Appendix A — Calculations in Cost Rollup*
- *Setting Up Operation Bucket Codes for a Costed Routing*
- *Setting Up Cost Bucket Codes for Costed Bills of Material*

Processing Options for Costed Routing/Process Inquiry

```
Defaults

1.  Enter the cost method (ie., 01, 02,
    03) to be used for Sub-Contracted
    Items.  (Blanks will default to a
    "01")

      Outside Operations Cost Method          _____________

2.  Enter the cost method (ie., 01, 02,
    03) to be used for Purchased Items.
    (Blanks will default to the cost
    from the Mode, ie., Standard Cost.)

      Purchased Cost Method                   _____________

Display

1.  Enter a '1' to display the costs 'UP
    TO' and including the operation
    sequence entered in the 'Skip to '
    form control.  If left blank, the
    costs will be displayed beginning
    with the entered operation's costs.

      Skip to flag                            _____________

Process

1.  Enter a '1' to include cost buckets
    1 and 2 in the total.  If left
    blank, the total will only include
    costs buckets 3-6.

      Include 1 and 2 in total                _____________
```

Setting Up the Co-/By-Products Planning Table

You use the Co-/By-Products Planning Table to determine:

- What percentage of the demand for co-products is satisfied from process work orders
- What percentage is satisfied from work orders for the co-products themselves

Normally, all demand for co-/by-products is satisfied from process work orders. However, you can specify a percentage from process work orders and from co-product

discrete work orders. To do so, enter less than 100% in the table, for example, 50% from process work orders. The remainder is automatically satisfied by co-product discrete work orders.

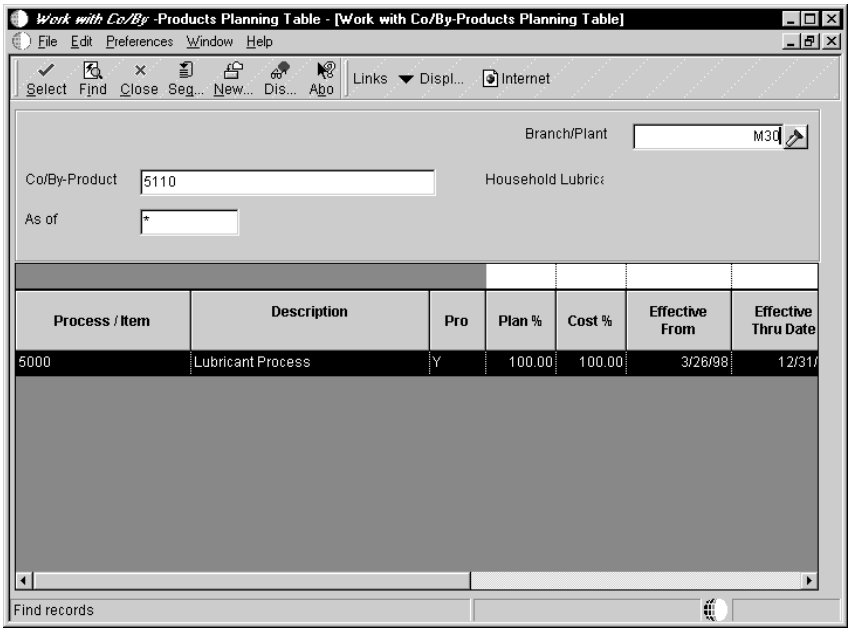
You can also have a co-product that is produced by more than one process. It is possible, for example, to have a 75% to 25% relationship between the two processes. Both processes appear on the Co-/By-Products Planning Table form when you locate the co-product.

Even if all demand for co-/by-products is satisfied from process work orders, you must set up the co-/by-products planning table with a feature cost percent equal to 100. This ensures that the rollup calculates the costs of co- and by-products correctly.

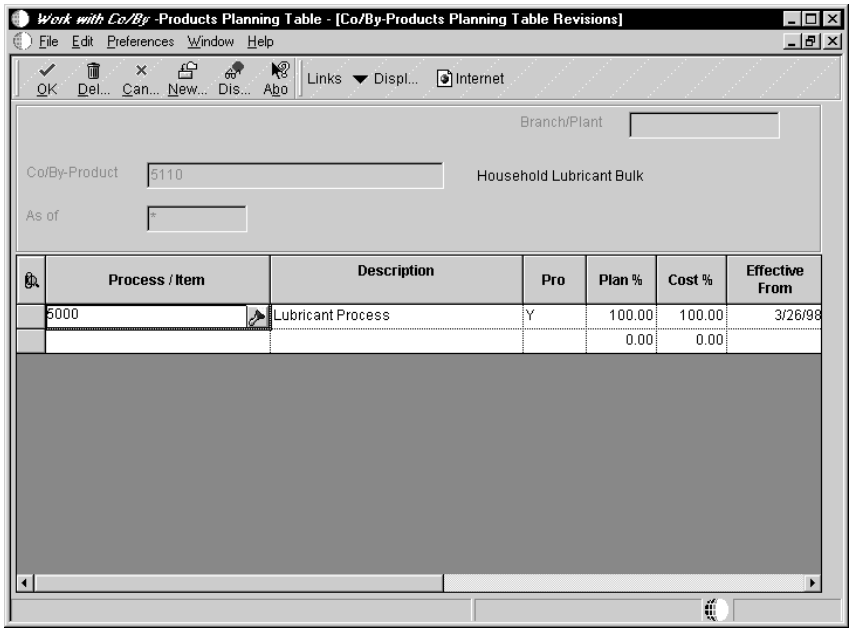
▶ To set up the co-/by-products planning table

From the Product Costing Setup menu (G3042), choose Co/By Products Planning Table.

On Work with Co/By-Products Planning Table



1. Complete the following fields and click Find:
   - Branch/Plant
   - Co/By–Product
2. Choose a process and click Select.



3. On Co-/By-Products Planning Table Revisions, complete the following fields and click OK:
   - Process / Item
   - Plan %
   - Cost %

Field	Explanation
Process / Item	A number that the system assigns to an item. It can be in short, long, or third item number format. . . . . . *Form-specific information* . . . . . . Identifies the parent process item.
Plan %	The percentage of demand for a specified feature based on projected production. For example, a company might produce 65% of their lubricant with high viscosity, and 35% with low viscosity, based on customer demand. The Material Planning system uses this percentage to accurately plan for a process's co-products and by-products. Enter percentages as whole numbers, for example, enter 5% as 5.0. The default value is 0%. . . . . . *Form-specific information* . . . . . . The percentage of supply from a specific process.

Field	Explanation
Cost %	A percentage that the Simulate Cost Rollup program uses to calculate the cost of a feature or option item as a percentage of the total cost of the parent. Enter the percentage as a whole number, for example, enter 5% as 5.0. . . . . . *Form-specific information* . . . . . . Used to calculate the cost of a co-product and by-product when it can be produced from more than one process, or from a combination of a process and a work order. This value determines what percentage of the cost of the co-product and by-product is allocated to the selected process.

Reviewing Product Costing for Percent Bills of Material

You use a percent bill of material to express the ingredients as a percentage of the process quantity.

If you use percent bills of material, the system calculates costs based on the quantities specified in the percent bill. Quantities are expressed in percentages, for example 75 for 75%, and the total of the component quantities must equal 100.

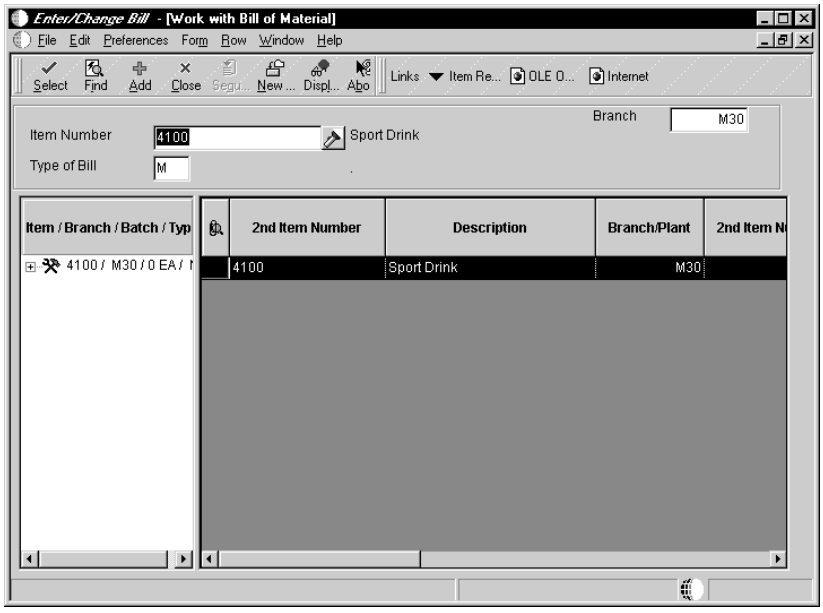
See Also

- *Understanding Bills of Material* in the *Product Data Management Guide*

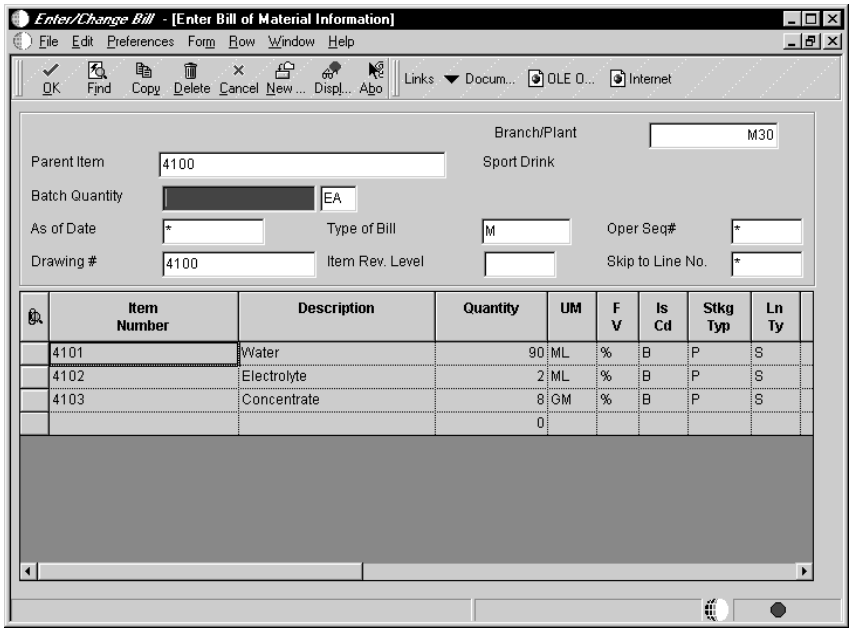
▶ To review a percent bill of material

From the Daily PDM Discrete menu (G3011), choose Enter/Change Bill.

On Work with Bill of Material



1. Complete the following fields and click Find:
   - Branch
   - Item Number
2. Choose a record and click Select.



3. On Enter Bill of Material Information, review the following fields:
   - Quantity
   - F V

Field	Explanation
Quantity	The number of units that the system applies to the transaction. . . . . . *Form-specific information* . . . . . . A number that indicates how many components you use to manufacture the parent item. A quantity of zero is valid. The default value is 1.
F V	A code that indicates if the quantity per assembly for an item on the bill of material varies according to the quantity of the parent item produced or is fixed regardless of the parent quantity. This value also determines if the component quantity is a percent of the parent quantity. Valid values are: F Fixed Quantity V Variable Quantity (default) % Quantities are expressed as a percentage and must total 100% For fixed-quantity components, the Work Order and Material Requirements Planning systems do not extend the component's quantity per assembly value by the order quantity. For percent bills of material, the system treats zero batch sizes as variable quantity components and treats batch sizes greater than zero as fixed quantity components.

Understanding Configured Items

Costing for configured items is different from costing for non-configured items, because configured items do not have a standard bill of material or routing. Because there is no standard configuration, costing cannot be established before you enter the sales order. In other words, there are no standard costs for configured items.

The Process Work Orders program performs a cost rollup when it attaches a parts list and routing to a work order for a configured item. A processing option instructs the program to calculate the costs. When the costs are calculated, they are stored in the Work Order Variances table, not the Cost Components table.

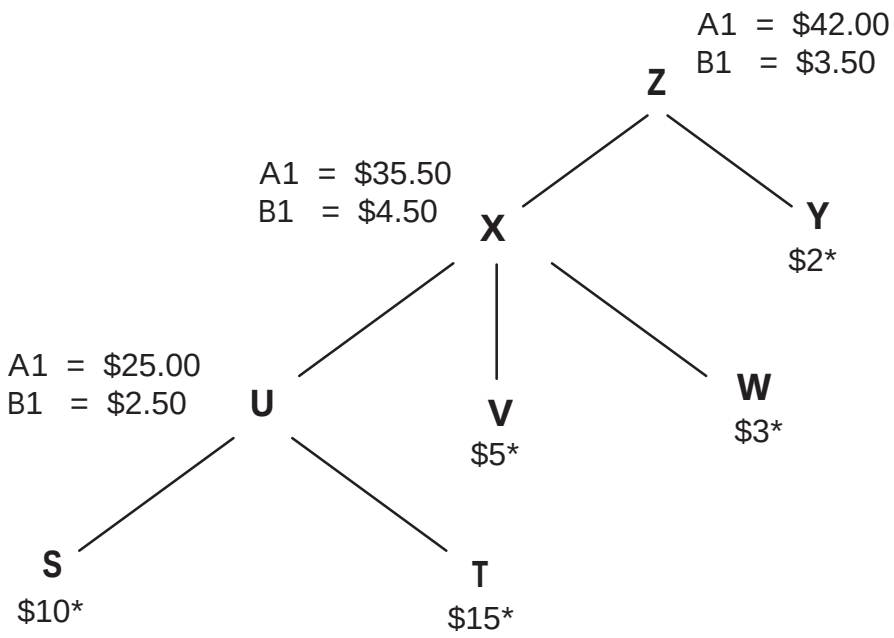
For configured items, the A1 material cost is calculated from the total cost of its direct components. B1 direct labor cost is calculated from that item's routing.

When these costs have been established, the system updates the unit cost and extended cost on the sales order for the top-level configured item only.

Example: Costing a Configured Item

The following example illustrates how the frozen standard costs are calculated for a configured item.

A basic assumption is that you have done a cost rollup for the non-configured items and that frozen standard costs exist on the Cost Components table for those items.



* component's total cost from sum of all cost components
A1 material cost calculated from the total cost of the direct components
B1 direct labor cost calculated from that item's routing

Process Work Orders Program

For the rollup to occur correctly, the data sequence for Process Work Orders must be set as follows.

- The sales order number should display first, and should be in ascending order.
- The sales order line number should display second, and should be in descending order.

On the sales order, the lowest level components have the highest line number. Thus when you specify a descending sequence for the line numbers in the data sequence setup, Process Work Orders runs on the lowest level components first.

To ensure that the costs roll up properly, you must process work orders on the lowest level items first. In the example, you must process the work order for item U before the work order for item X, and the work order for item X before the work order for item Z.

See Also

- *Sales Configurator Overview* in the *Sales Configurator Guide*

Working with Detail Costing in Distribution

In a distribution environment, there are no bills of material or routings from which to calculate costs. Instead, the Simulated Cost Update program uses costs from the Cost Ledger table (F4105) to update costs in the Cost Components table (F30026). Use a processing option to define which cost component contains the costs.

You can specify any cost component to contain the costs. A, B, and C cost components are not hard-coded in this environment.

Working with detail costing in distribution consists of the following:

- ❑ Setting up detail costing in distribution
- ❑ Creating simulated costs for distribution
- ❑ Copying manufacturing cost components

See Also

- *Product Cost Information* in the *Enterprise-Wide Profitability Solution Guide*

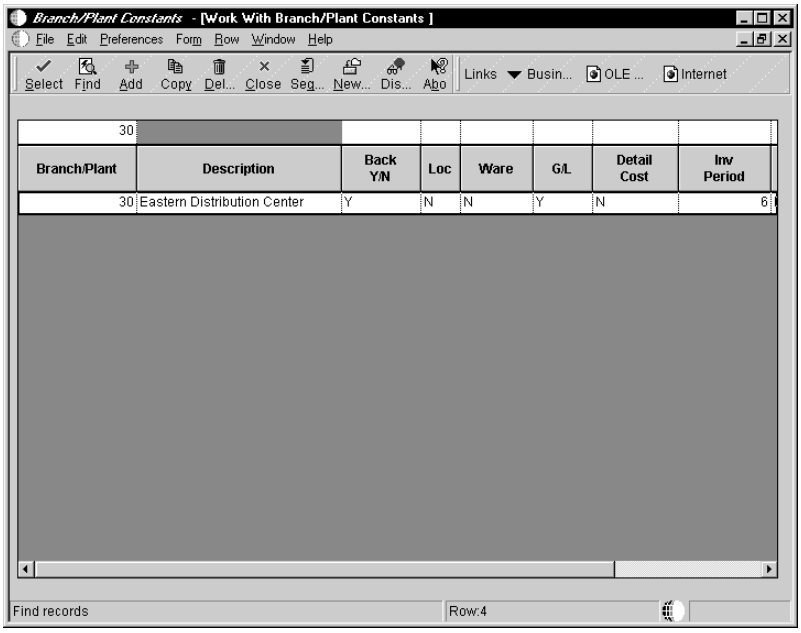
Setting Up Detail Costing in Distribution

From the Inventory System Setup menu (G4141), choose Branch/Plant Constants.

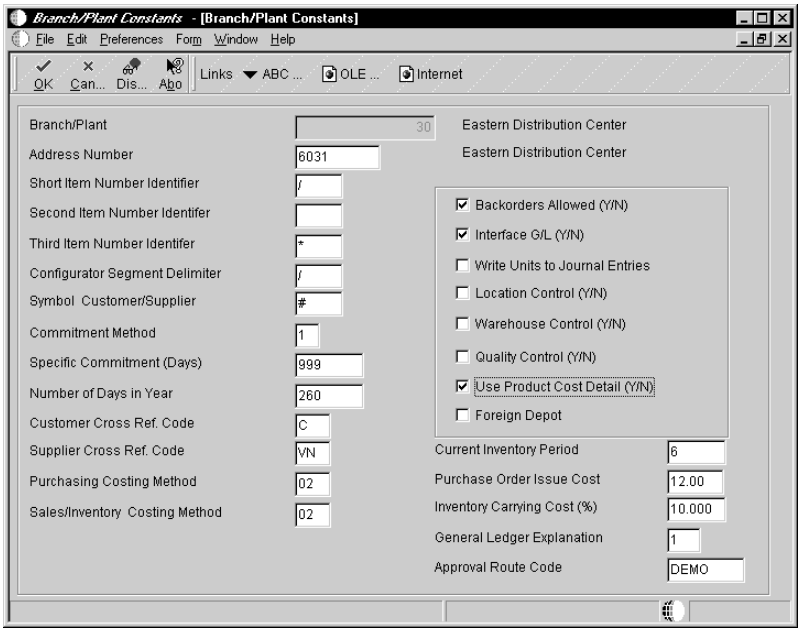
To use distribution costing, you must turn on a branch/plant constant.

To set up distribution costing

On Work With Branch/Plant Constants



1. Complete the following field and click Find:
   - Branch/Plant
2. Choose a row and click Select.



3. On Branch/Plant Constants, choose the following option:
    - Use Product Cost Detail (Y/N)

Field	Explanation
Use Product Cost Detail (Y/N)	Specifies whether distribution programs use total cost or detailed product costs.

Creating Simulated Costs for Distribution

From the Product Cost Detail – Distribution menu (G4125), choose Simulated Cost Update.

The Simulated Cost Update program for distribution is similar to the Simulate Cost Rollup program for manufacturing. Use the Simulated Cost Update program to copy costs from the Cost Ledger table (F4105) to the Cost Components table (F30026).

After you update simulated costs to determine the effect of changes, you can update your frozen costs with simulated values by running a frozen update.

See Also

- *Creating Simulated Costs* for more details on the Simulate Cost Rollup program
- *Updating Frozen Costs*

Processing Options for Simulated Cost Update

```
Process

PURCHASED ITEMS
1.  Enter the cost method (i.e.,
    01,02,03) to move from the Cost
    Ledger to the Cost Components table.
    (Blanks will not move the cost)

      Purchased Cost Method                    _____________

MANUFACTURED ITEMS
2.  Enter the cost method (i.e.,
    01,02,03) to move from the Cost
    Ledger to the Cost Components table.
    (Blanks will not move the cost)

      Manufactured Cost Method                 _____________

3.  Enter the cost type (i.e.,A1,X1) to
    use when bringing cost from the Cost
    Ledger Table(F4105).

      Cost Type                                _____________

Defaults

1.  Enter the Cost Method to calculate
    (i.e., 01,02,03).  Blanks will
    default to '07' (standard).

      Cost Method to Calculate                 _____________

Print

1.  Enter a '1' to print all the items
    selected or a '2' to print only
    changed items.

      Report Selection                         _____________
```

Copying Manufacturing Cost Components

From the Inventory Price & Cost Updates menu (G4123), choose Copy Mfg. Cost Components.

Use this program to copy costs from the Cost Components table (F30026) to the Landed Cost Components table (F41291). You can copy simulated or frozen costs for the cost method that you specify.

Processing Options for Copy Manufacturing Cost Components

From

1. Select the Cost Method to copy (ie., 01, 02, 03). (Blanks will not copy costs.)

   Cost Method _____

2. Select the Costs to be copied: 1 = Simulated, 2 = Frozen

   Costs to be Copied _____

Landed Cost

3. Enter the Effective From date for the cost component. Default is today's date. This date is used for effectivity checking on existing cost components and for writing new cost components.

   Effective From Date _____

4. Enter the Effective Thru date for new cost components. Default is December 31st of the century change year (Default value from CENTCHG in the Data Dictionary).

   Effective Thru Date _____

Default

5. G/L Class Code

   G/L Category Code _____

6. Supplier Number

   Supplier Number _____

Manufacturing Accounting

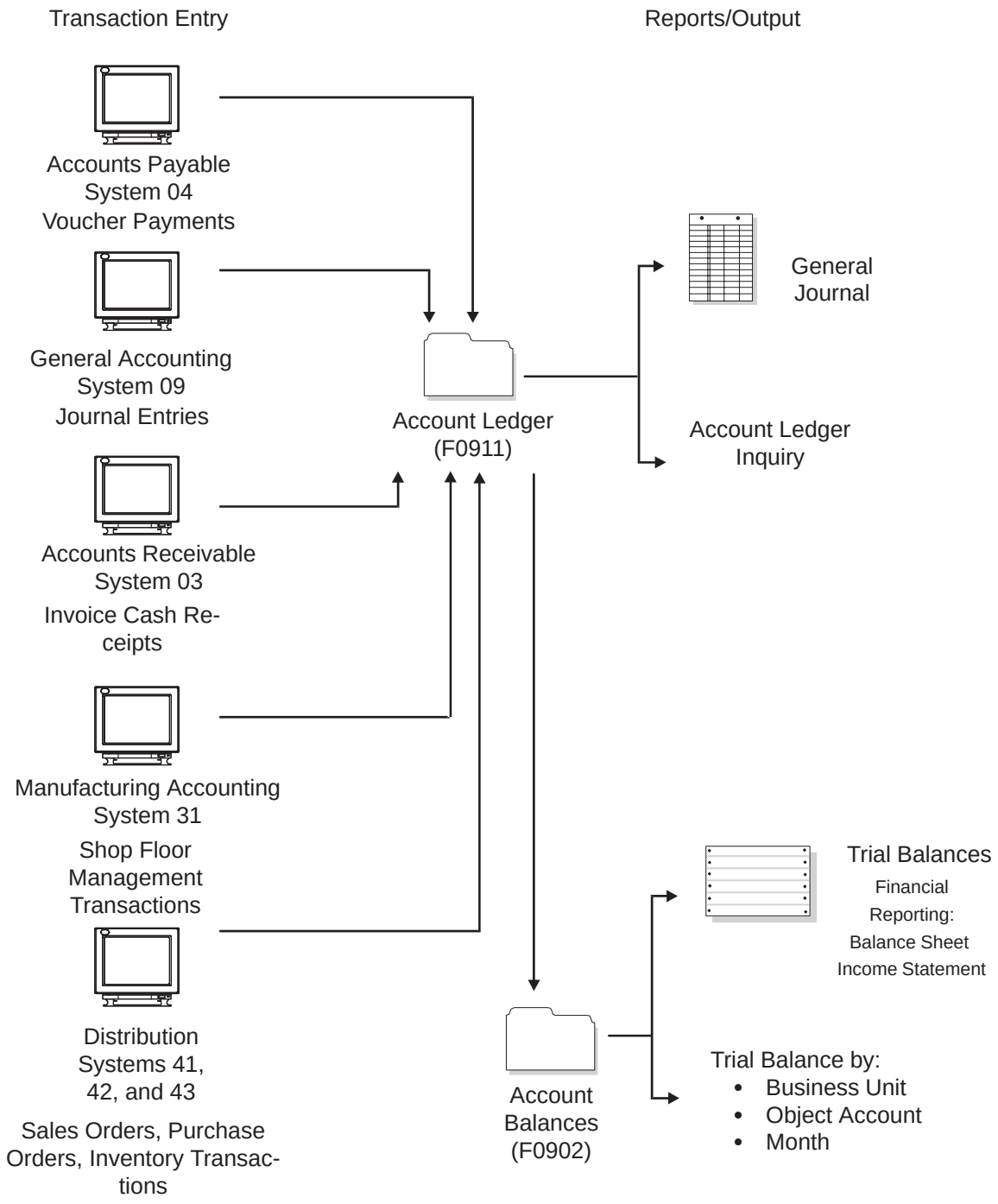
Manufacturing Accounting

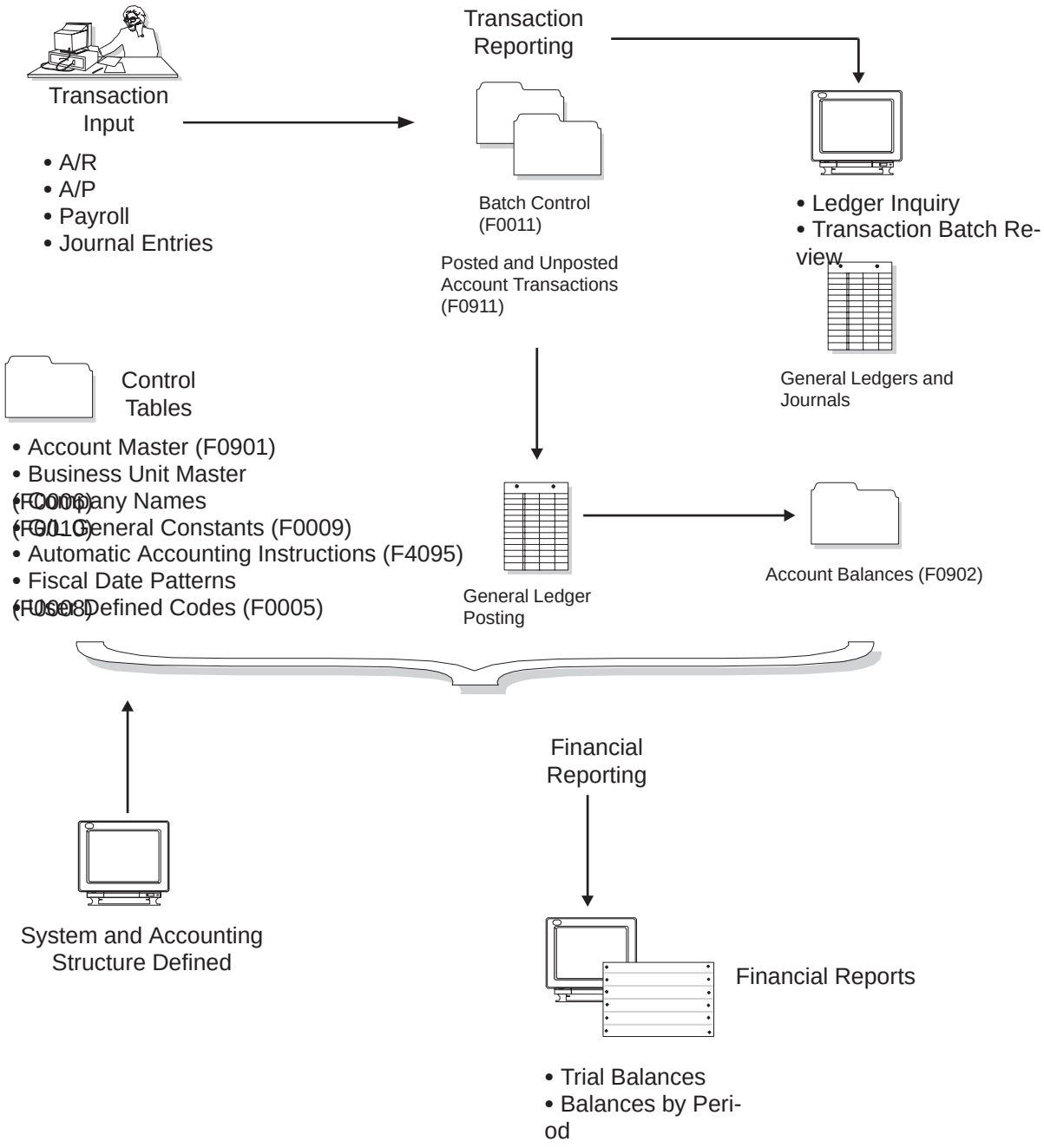
The Manufacturing Accounting system works with the General Accounting system to help you manage the general ledger functions for your organization.

Working with the Manufacturing Accounting system consists of:

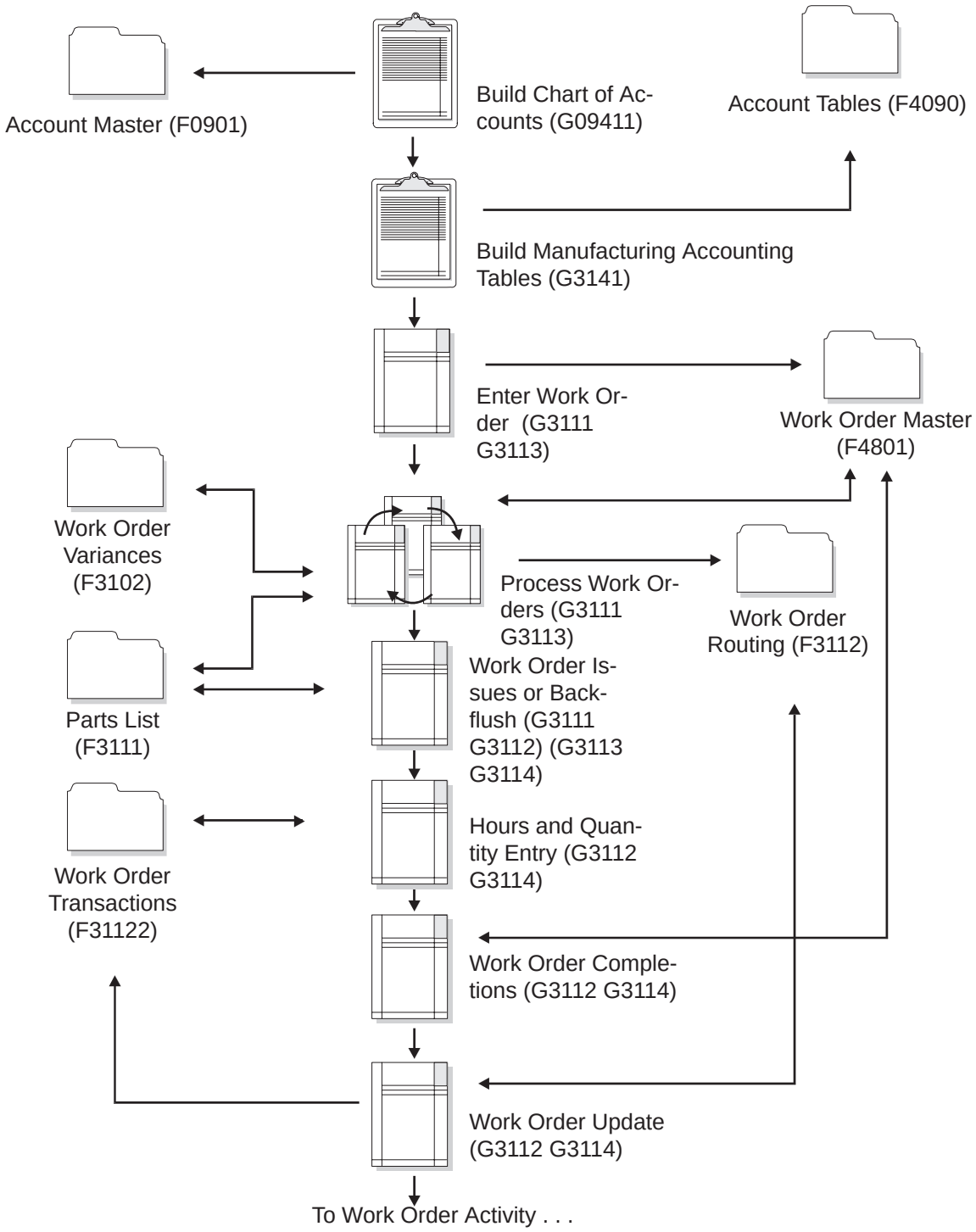
- ❑ Setting up manufacturing accounting
- ❑ Understanding work orders in accounting
- ❑ Creating journal entries
- ❑ Reviewing general ledger batches
- ❑ Posting to the general ledger
- ❑ Understanding process industry accounting

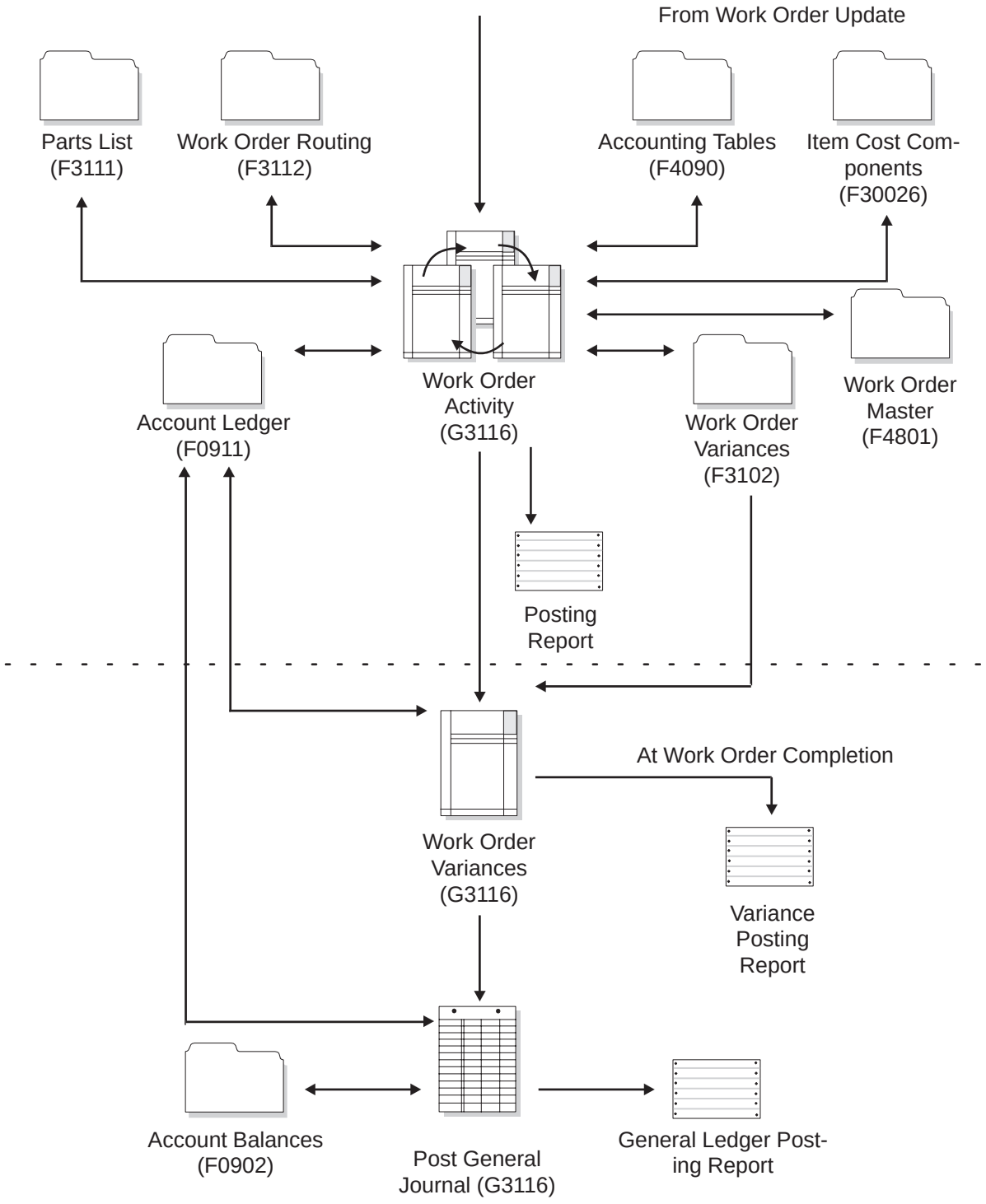
The following two graphics illustrate the interaction between the Manufacturing Accounting system and the General Accounting system.




Transaction Input
• A/R
• A/P
• Payroll
• Journal Entries
Transaction Reporting
Batch Control (F0011)
Posted and Unposted Account Transactions (F0911)
• Ledger Inquiry
• Transaction Batch Review
General Ledgers and Journals
Control Tables
• Account Master (F0901)
• Business Unit Master (F0006)
• Company Names (F0010)
• General Constants (F0009)
• Automatic Accounting Instructions (F4095)
• Fiscal Date Patterns (F0008)
• User Defined Codes (F0005)
General Ledger Posting
Account Balances (F0902)
System and Accounting Structure Defined
Financial Reporting
Financial Reports
• Trial Balances
• Balances by Period

The following two-part graphic illustrates the flow of the Manufacturing Accounting system.




From Work Order Update
Parts List (F3111)
Work Order Routing (F3112)
Accounting Tables (F4090)
Item Cost Components (F30026)
Work Order Activity (G3116)
Account Ledger (F0911)
Work Order Variances (F3102)
Work Order Master (F4801)
Posting Report
At Work Order Completion
Work Order Variances (G3116)
Variance Posting Report
Account Balances (F0902)
Post General Journal (G3116)
General Ledger Posting Report

Accounting Fundamentals

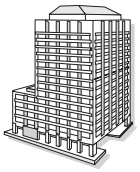
Before you set up your company's Manufacturing Accounting system, you must have a basic understanding of the general ledger and of accounting concepts. After you understand the underlying framework, you can use the Manufacturing Accounting system to:

- Create work order or rate schedule journal entries
- Create variance journal entries

The Accounting Equation

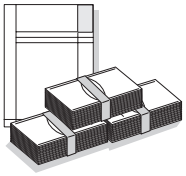
To determine a company's net worth, you must review the results at the end of the previous fiscal period and then take into account changes that have occurred during the year.

You calculate these changes with this basic accounting equation:



ASSETS
What you own

=

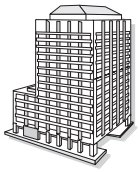


LIABILITIES
What you owe

+

EQUITY
What you owe the owners

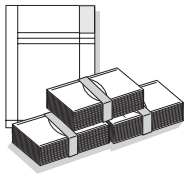
To extend this equation, shareholders' equity is equal to the change in contributed capital plus revenues, minus expenses and dividends. The complete equation is illustrated below:



ASSETS
Current Assets
Cash
Accounts Receivable
Inventory

Long Term Assets
Intangibles
Notes Receivable

=



LIABILITIES
Current Liabilities
Notes Payable
Accounts Payable
Short Term Debt

Long Term Liabilities
Long Term Debt
Other Liabilities

+

SHAREHOLD-
ERS' EQUITY
Contrib Capital
+ Revenues
– Expense
– Dividends

= Shareholders' Equity

What Is the Chart of Accounts?

The chart of accounts is a record of the valid accounts that you assign to the business units within your company's reporting structure. When you set up your chart of accounts, you define the location of the accounts using automatic accounting instructions (AAIs) that indicate which number ranges represent assets, liabilities, and so on.

The chart of accounts begins with the major headings of your transactions and continues with detailed transaction descriptions:

Assets	(Balance Sheet)
Liabilities	(Balance Sheet)
Owners' Equity	(Balance Sheet)
Revenues	(Income Statement)
Expenses	(Income Statement)

The chart of accounts displays the following elements:

- The account number
- The posting edit codes
- The level of detail assigned to the account
- Which accounts are assigned to which business units

Example: Chart of Accounts

Acct	Description	Post Edit	LOD	B/S BU100	DEN BU210
1000	**Assets**	**N**	**3**	**X**	
1001	Current Assets	N	4	X	
1100	Cash	N	5	X	
1110	Cash in Bank	N	6	X	
1130	Short–Term Investments		7	X	
1200	Accounts Receivable	N	5	X	
1210	Trade Accounts Receivable	M	6	6	
1215	Allow for Doubtful Accounts	M	5	X	
1400	Inventory		5	X	
1800	Prepaid Expenses		6	X	
1810	Prepaid insurance	N	6	X	
1890	Other Prepaid Expenses	N	6	X	
2000	**Fixed Assets**	**N**	**4**	**X**	
2001	Property and Equipment	N	5	X	
2020	Buildings		6	X	
2060	Furniture & Office Equipment	N	6	X	
2100	Accumulated Depreciation		6	X	
2160	Accum Depr – Buildings		5	X	
2170	Accum Depr – Office Furniture/Equipment		6	X	
2180	Accum Depr – Computer		6	X	
3900	Other Assets	N	5	X	

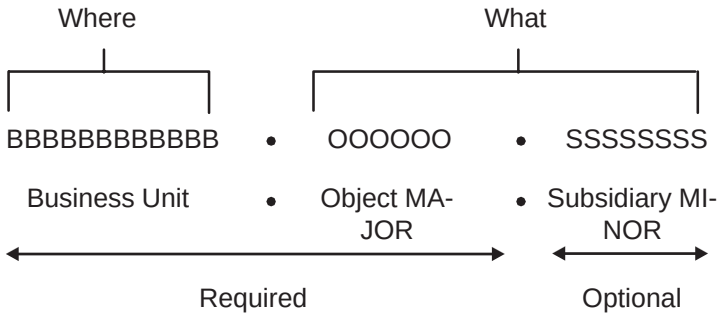
Accounts and Account Numbers

The account code structure provides a method for the system to record transactions to the general ledger. When you set up your system, you must:

- Assign business unit/object/subsidiary codes
- Determine how amounts are posted
- Assign levels of detail that the system uses to structure accounts to roll up balances

Account Numbers

An account number includes both the business unit and object.subsidiary codes. You can use periods (the default), commas, or other user defined symbols to separate the components of the account number.



For example, you can categorize the “Cash in Banks” object (account 1110) into the following subsidiary accounts:

1110.BEAR	Bear Creek National Bank
1110.FIB	First Interstate Bank
1110.FRANCE	First Bank of France

Business Units

Business units are an important part of the basic account structure. Business units identify where general ledger activity occurs. They are the lowest organizational level within your business and the level at which you account for all revenues, expenses, assets, liabilities, and equity.

A company can have several revenue and expense business units, for example:

- Department
- Machine shop
- Drill press

Object and Subsidiary Accounts

Every business unit that you define must have an object and, optionally, subsidiary accounts. The object and subsidiary accounts define the kind of transaction that you are working with (for example, rent, paper supplies, and so on). These items make up your chart of accounts.

Object - “Major Account”

The object, or major account, describes the type of transaction with which you are working. The system requires objects for each transaction entry, such as:

- Rent expense
- Service sales
- Finished goods inventory

You can use up to six alphanumeric characters in this field. To make data entry more efficient, you should consider using only numbers in the object.

Subsidiary - “Minor Account”

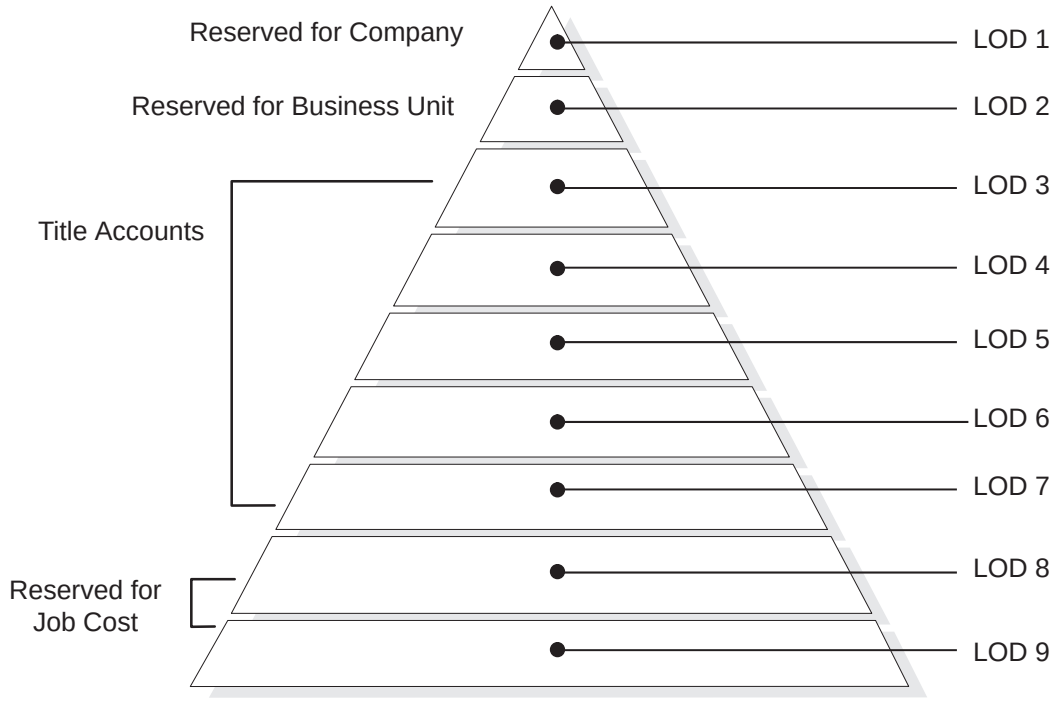
Subsidiary accounts are subdivisions of object accounts. Use a subsidiary account when you need more detailed accounting activity for an object account.

You can use up to eight alphanumeric characters in this field.

Level of Detail

You assign levels of detail (LODs) to control which accounts are subtotaled during the rollup process. The system also displays the level of detail you view online and in printed reports.

Use LOD 3 through 9 for accounts. LOD 1 is reserved for companies and LOD 2 for business units. The system underlines LOD 3 on balance sheet reports and LODs 3 and 4 on income statement reports.



Apply the following guidelines when you assign levels of detail to accounts:

- Assign LODs sequentially and do not skip a level of detail. Non-sequential levels of detail cause rollup errors in financial reports that run at a level you did not use.
- Assign LOD 3 to balance sheet title accounts for assets, liabilities, and equity.
- Assign either LOD 3 or LOD 4 to major title accounts on the income statement. For example:
    - Revenues
    - Direct costs
    - General and administrative expenses
    - Other income and expenses

What Is Subledger Accounting?

In addition to the regular business unit.object.subsidiary method of account coding, you can use subledger accounting. Subledgers are “subdivisions” of account details for categories that you do not want in the permanent chart of accounts.

The subledger and subledger type for a general ledger account work together to provide detailed accounting to the Account Master table (F0901). The subledger numbers become the audit trail for the posted subledger transactions.

You can group and report transactions posted to a general ledger account with subledger types. Subledger types allow you to view account totals in more detail. You can also report on subledgers across accounts (for example, all accounting activity by asset ID or by work order number).

Subledgers differ from subsidiary accounts in the following ways:

- Subledgers do not create additional records in the Account Master table (F0901).
- You enter and post transactions to the same account using different codes in the Subledger and Subledger Type fields rather than to different accounts.
- Subledgers can create additional records in the Account Balances table (F0902). You control this using the posting edit code on the Account Master table.

Subledger Types

There are nine predefined, hard-coded subledger types. Each one edits or validates the subledger number against a master table.

Core Subledger Types

A Address Book number. This number is edited against the Address Book Master table (F0101). It is the most commonly used subledger type and is used for the detail method of intercompany settlements.

C Business Unit number. This number is edited against the Business Unit Master table (F0006).

Other Subledger Types

E Equipment Item number. This number is edited against the Equipment Master table (F1201).

L Lease Item number. This number is edited against the Lease Master table (F1501).

I Item number (short). This number is edited against the Item Master table (F4101).

O Sales Order number. This number is edited against the Sales Order Master table (F4211).

S Structure Subledger. This item is edited against the Chart of Accounts Format table (F0909).

W Work order number. This number is edited against the Work Order Master table (F4801).

M Summarized work order or rate schedule number. This number is used for summarized journal entries.

In addition, there are three subledger types (X, Y, and Z) that you can define with user defined codes (system 00, type ST). These types are not edited against any tables. You set up these types if you want the system to edit values against a format requirement rather than a specific value.

Posting Edit Codes

Use posting edit codes (PECs) to designate which accounts use subledgers and how the system posts accounts. These codes define how the system updates the general accounting tables and the type of information on which you can search or print a report.

Set the PEC on the Account Master table for all accounts that use subledger accounting. For subledger accounting, use one of the following PECs:

S Summary. Posts subledgers in summary format on every transaction that references the account. You see only subledger detail in the Account Ledger table.

This code requires subledger entry.

L Long. Posts subledgers in detailed format. The system stores the subledger in detail in both the Account Ledger and Account Balances tables.

This code requires subledger entry.

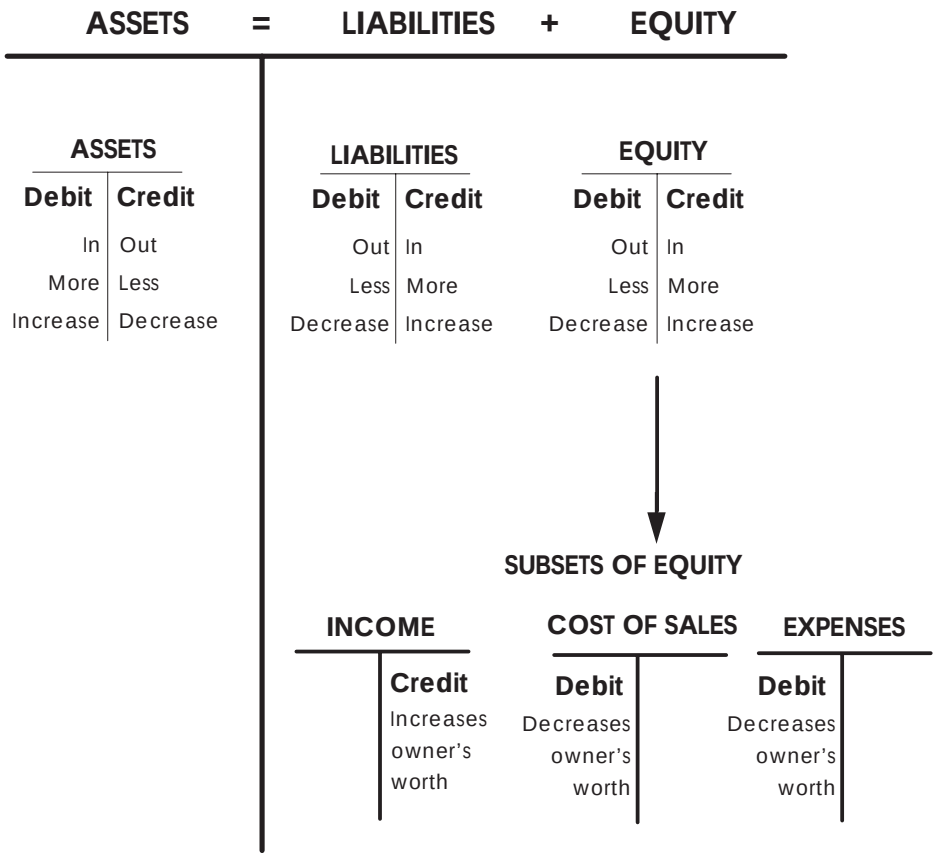
X Does not allow subledger entry for the account.

Blank Allows all posting. The system posts the subledger in detailed format. A blank code does not require subledger entry.

T-Accounts

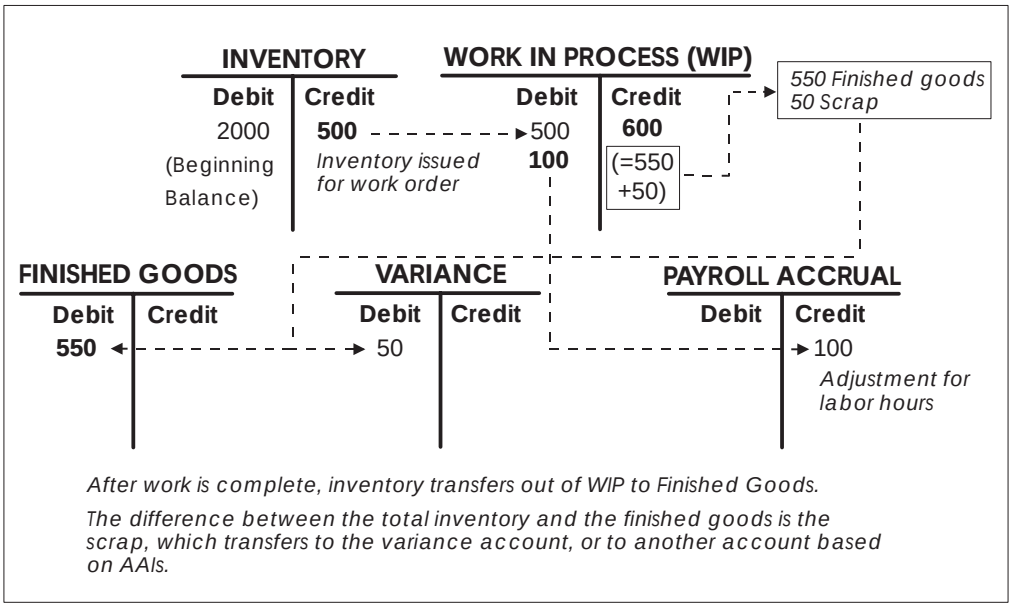
The basis of all accounting systems is the T-account. This bookkeeping device is where you record the increases and decreases of a specific type of asset or liability caused by a business transaction.

T-accounts consist of two types of transactions — debits and credits. In the general ledger, “debit” and “credit” refer only to the position of the columns on the account. For example, you record an increase to an asset account as a debit and an increase to a liability account as a credit. Conversely, you record an increase to a revenue account as a credit and an increase to an expense account as a debit.



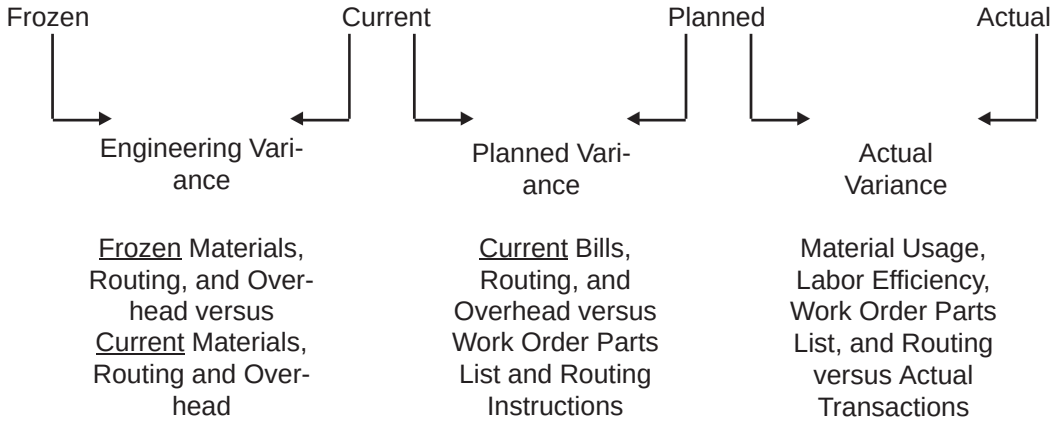
General Ledger Transactions

The following example shows how transactions are recorded in the general ledger.



What Are Manufacturing Variances?

Variances occur when the frozen standard costs differ from other user defined cost methods, such as current costs. These variances can be due to differences in labor or overhead, or changes to the bill of material or routing.



The following describes each variance type.

Engineering

The difference between the frozen standard costs (material, labor, and overhead) at the beginning of the accounting period and the current costs derived from the bills of material, routings, and overhead rates.

Planned

The difference between the current costs derived from the bills of material, routings, and overhead rates and the costs based on the work order or rate schedule parts list and routing instructions. Planned variances can occur when you revise a work order or rate schedule.

Actual

The difference between the cost values derived from the work order or rate schedule parts list and routing, and the material and labor that were actually reported against that work order or rate schedule. Actual variances can occur when you:

- Issue material
- Record hours and quantities
- Record completions

Labor Efficiency (Actual)

The difference between the planned and actual labor costs, based on the work order or rate schedule routing.

Material Usage (Actual)

The difference between the planned and actual material costs, based on the work order or rate schedule parts list.

Other

The difference between the frozen standard costs and the completed (plus scrap) costs. This variance represents the over-completion or under-completion costs of the work order or rate schedule.

Transaction Flow

The following illustrates what fields and tables are updated by manufacturing programs.

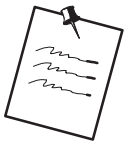
	Work Order Master (F4801)	Parts List (F3111)	Routing Hours (F31122)	Work Order Routing (F3112)	Variances (F3102)	Item Ledger (F4111)	Account Ledger (F0911)	Account Balances (F0902)
Work Order Generation (R31410)	Updates work order status and quantity on order	Updates required quantity		Updates required hours	Updates standard units, standard amounts, current units, and current amounts			
Inventory Issues (P31113)		Updates quantity issued and unaccounted units				Creates IM transactions (no batch number)		
Employee Time Entry (P311221)			Updates hours reported					
Hours and Quantities Update (R31422)			Turns on processed flag	Updates unaccounted units				
Inventory Completion (P31114)	Updates work order status and unaccounted units CMPL and SCRP					Creates IC transactions (no batch number)		
Mfg. Journal Entries (R31802)	Updates work order status, resets unaccounted units to zero	Resets unaccounted units to zero		Resets unaccounted units to zero	Units and amounts for PLN, ACT, CMPL, and SCRP	Updates batch number for IM and IC transactions	Creates IM, IH, and IC transactions	
Variance Journal Entries (R31804)	Updates work order status				Records variances; optionally updates standard, current, and planned amounts and units		Creates IV transactions	
Post General Ledger (R09800)								Updates account balances

Setting Up Manufacturing Accounting

You can customize the Manufacturing Accounting system to meet your specific manufacturing environment needs.

Setting up manufacturing accounting consists of the following:

- ❑ Setting up general ledger (G/L) class codes
- ❑ Reviewing manufacturing automatic accounting instructions (AAIs)



Because the system generates journal entries based on how you set them up, you should define these options carefully.

Setting Up General Ledger (G/L) Class Codes

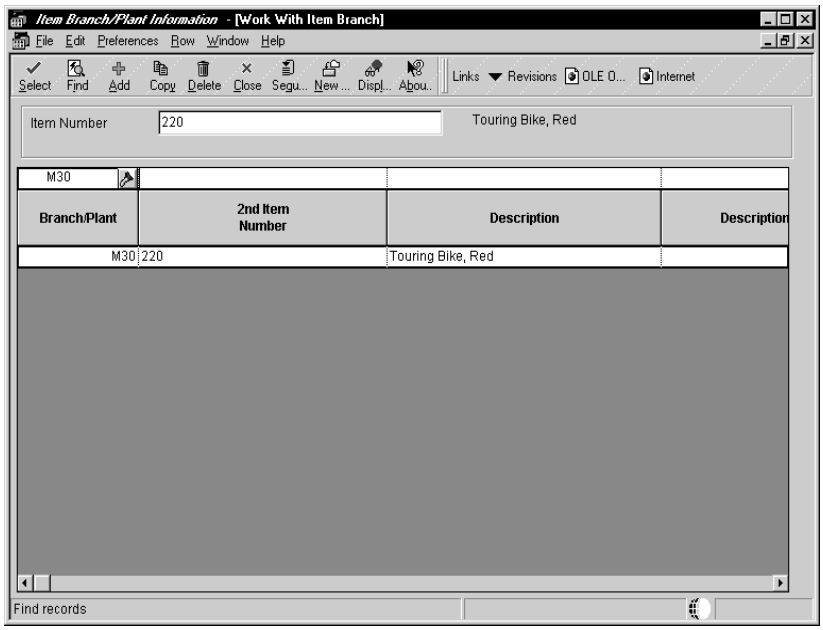
G/L class codes are used by the AAIs to determine to which accounts the system posts transactions.

You set up the G/L class code on Item Branch Revisions. However, the system then copies that value to Item Location, and the AAIs use the G/L class code from the Item Location table.

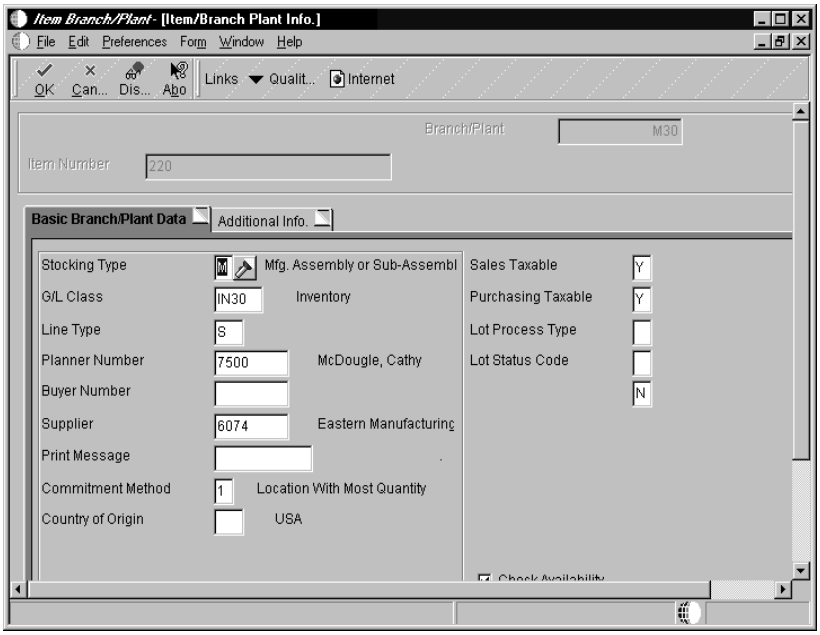
▶ To set up G/L class codes

From the Inventory Master/Transactions menu (G4111), choose Item Branch/Plant.

On Work With Item Branch



1. Complete the following field and click Find:
   - Item Number
2. Choose a branch/plant and click Select.



3. On Item/Branch Plant Info, complete the following field:
   - G/L Class

Field	Explanation
G/L Class	A user defined code (41/9) that identifies the G/L offset that system uses when it searches for the account to which it posts the transaction. If you do not want to specify a class code, you can enter **** (four asterisks) in this field. You can use automatic accounting instructions (AAIs) to predefine classes of automatic offset accounts for the Inventory, Procurement, and Sales Order Management systems. You might assign G/L class codes as follows: IN20 Direct Ship Orders IN60 Transfer Orders IN80 Stock Sales The system can generate accounting entries based upon a single transaction. For example, a single sale of a stock item can trigger the generation of accounting entries similar to the following: Sales–Stock (Debit) xxxxx.xx A/R Stock Sales (Credit) xxxxx.xx Posting Category: IN80 Stock Inventory (Debit) xxxxx.xx Stock COGS (Credit) xxxxx.xx The system uses the class code and the document type to find the AAI.

Reviewing Manufacturing AAIs

Each transaction that creates journal entries has automatic accounting instructions (AAIs) that instruct the program to post to specific G/L accounts. User defined AAIs connect manufacturing accounting, your chart of accounts, and financial reporting. You should create AAIs for each unique combination of company, transaction, document type, and G/L class that you anticipate using.

To create G/L entries for transactions, the AAIs access the following information to find the account number to use:

- Company number
- Document type
- G/L class code
- Cost component
- Branch or business unit

Each AAI or record type points to a specific G/L account consisting of a business unit, an object, and a subsidiary code. J.D. Edwards defines manufacturing AAIs at the 3000 level, as follows:

3110 Raw Materials/Subassemblies	Specifies which balance sheet G/L accounts are used when issuing raw materials or parts from inventory to work in process (document type IM). Also used to issue completed subassemblies from inventory back into work in process.
3120 Work in Process	For debit transactions, increases the material value of work in process by issuing raw materials and parts to work orders or rate schedules (document type IM). Also records increases in direct labor, setup labor, machine time, and overhead by applying them to issued materials. For credit transactions, records the transfer of work order or rate schedule material costs from work in process inventory to some other inventory accounts because of work order or rate schedule completion (document type IC). Also records the transfer of direct labor, setup labor, and overhead from work in process when work orders or rate schedules are complete.
3130 Subassemblies/Finished Goods	Specifies which balance sheet G/L accounts are used when receiving subassemblies or finished goods from work in process into inventory (document type IC) or scrap (document type IS).
3220 Labor Variance **3240 Material Variance** **3260 Planned Variance** **3270 Engineering Variance** **3280 Other Variance**	These five AAIs post debits when there is a difference between actual and standard costs associated with shop floor activities (document type IV). Variances are posted as positive or negative depending on whether they are favorable or unfavorable.
3401 Accruals	Specifies the profit and loss accounts that offset work in process labor transactions to work orders or rate schedules (document type IH).

If you access the Automatic Accounting Instructions program from any manufacturing menu, the system automatically enters 3000 (the beginning of the manufacturing AAIs) in the Skip To AAI field.

Selection of AAIs

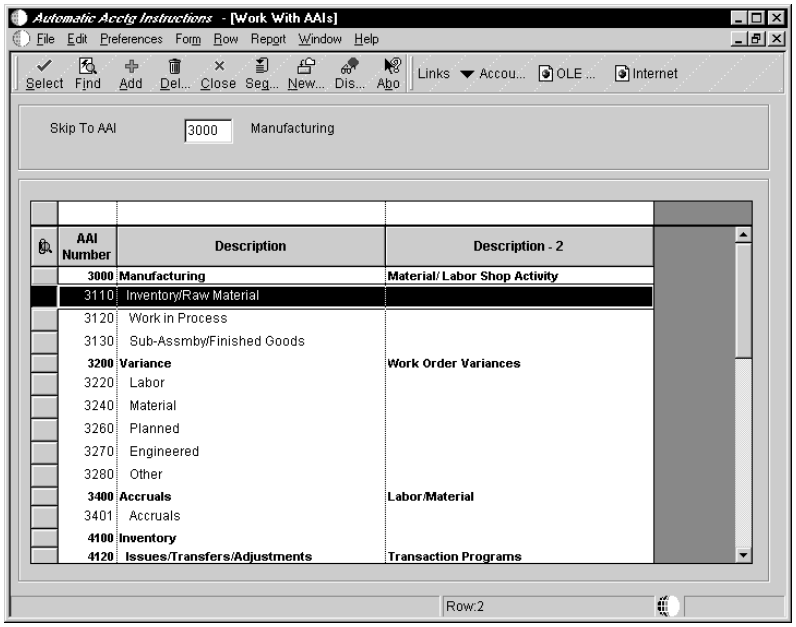
To choose an AAI, the system searches first for an exact match between company and the G/L class code. If it does not find one, it then searches for the default company and

the item's G/L class code. If it does not find a match there, it then searches for the company, and uses **** (four asterisks) for the G/L class code.

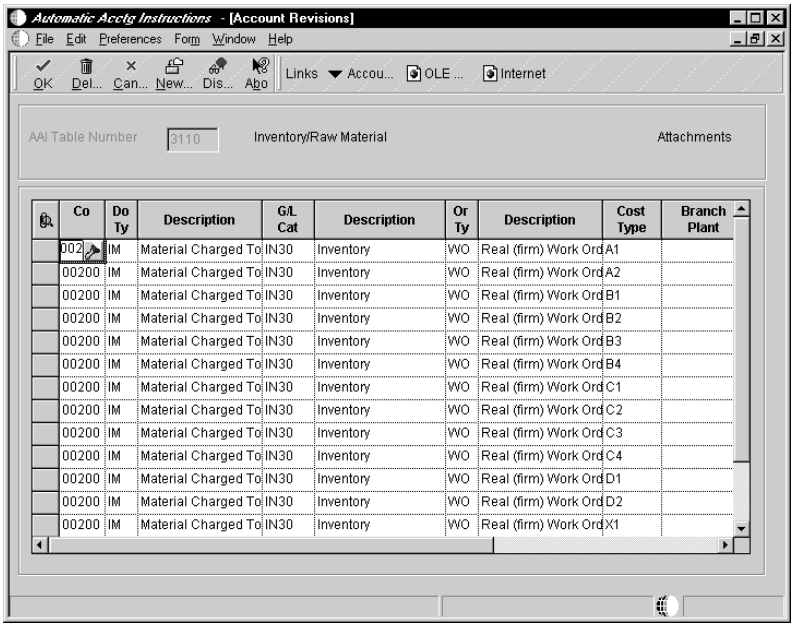
▶ To review AAIs

From Shop Floor Management Setup (G3141), choose Automatic Accounting Instructions.

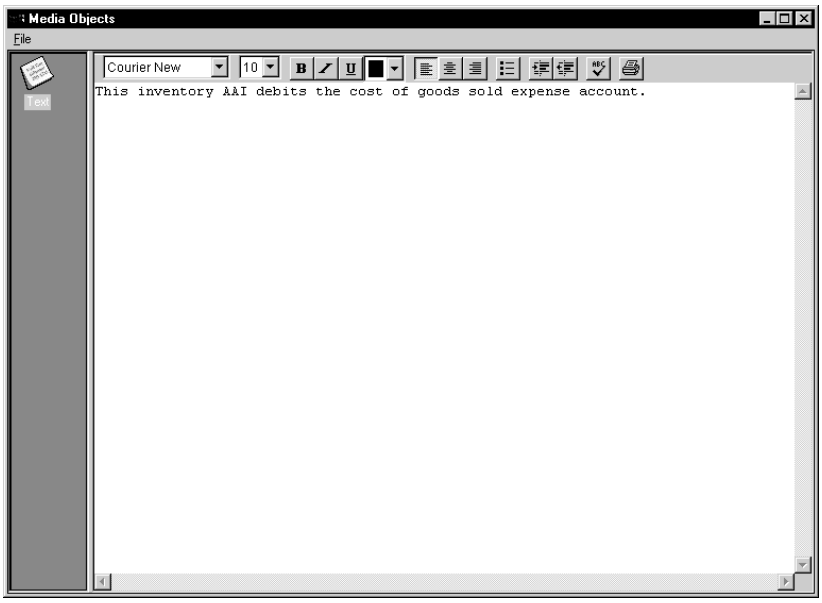
On Work With AAIs



1. Choose a record, and choose Details from the Row menu.



2. On Account Revisions, review the following fields:
   - Co
   - Do Ty
   - G/L Cat
   - Or Ty
   - Cost Type
   - Branch Plant
   - Obj Acct
   - Sub
3. To view an attachment, choose Attachments from the Form menu, then choose Text.



4. On Media Objects, review memo text for the record type.

Field	Explanation
Co	A code that identifies a specific organization, fund, entity, and so on. The company code must already exist in the Company Constants table (F0010) and must identify a reporting entity that has a complete balance sheet. At this level, you can have intercompany transactions. NOTE: You can use Company 00000 for default values, such as dates and automatic accounting instructions (AAIs). You cannot use Company 00000 for transaction entries.
Do Ty	A user defined code (00/DT) that identifies the origin and purpose of the transaction. J.D. Edwards reserves several prefixes for document types, such as vouchers, invoices, receipts, and timesheets. The reserved document type prefixes for codes are: P Accounts payable documents R Accounts receivable documents T Time and Pay documents I Inventory conversion issues O Ordering document types The system creates offsetting entries as appropriate for these document types when you post batches.

Field	Explanation
Or Ty	A user defined code (00/DT) that identifies the type of document. This code also indicates the origin of the transaction. J.D. Edwards has reserved document type codes for vouchers, invoices, receipts, and time sheets, which create automatic offset entries during the post program. (These entries are not self-balancing when you originally enter them.) The following document types are defined by J.D. Edwards and should not be changed: P Accounts Payable documents R Accounts Receivable documents T Payroll documents I Inventory documents O Purchase Order Processing documents J General Accounting/Joint Interest Billing documents S Sales Order Processing documents
Cost Type	A code that designates each element of cost for an item. An example of the coding structure is as follows: A1 Purchased raw material B1 Direct labor routing rollup B2 Setup labor routing rollup C1 Variable burden routing rollup C2 Fixed burden routing rollup Dx Usually used for outside operation routing rollup Xx Usually used for extra add-ons, such as electricity and water The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure allows you to use an unlimited number of cost components to calculate alternative cost rollups. The system then associates these cost components with one of six user defined summary cost buckets.
Branch Plant	An alphanumeric field that identifies a separate entity within a business for which you want to track costs. For example, a business unit might be a warehouse location, job, project, work center, branch, or plant. You can assign a business unit to a voucher, invoice, fixed asset, employee, and so on, for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business units to track equipment by responsible department. Security for this field can prevent you from locating business units for which you have no authority. NOTE: The system uses the job number for journal entries if you do not enter a value in the AAI table. . . . . . *Form-specific information* . . . . . . If you leave this field blank, the system uses the business unit that you entered on the work order, in the Charge to Cost Center field.

Field	Explanation
Obj Acct	The object account portion of a general ledger account. The term “object account” refers to the division of the Cost Code (for example, labor, materials, and equipment) into subcategories (for example, dividing labor into regular time, premium time, and burden). If you are using a flexible chart of accounts and the object account is set to 6 digits, J.D. Edwards recommends that you use all 6 digits. For example, entering 000456 is not the same as entering 456, because if you enter 456, the system will enter three blank spaces to fill a 6-digit object.
Sub	A subdivision of an object account. Subsidiary accounts include more detailed records of the accounting activity for an object account. . . . . . *Form-specific information* . . . . . . If you leave this field blank, the system uses the value you entered on the work order in the Cost Code field.

Processing Options for Manufacturing AAIs

```
Defaults

      AAI Table Number                                  _____________
      Enter a '1' if the cost type field                _____________
      should be available to
      Distribution AAI tables listed
      below:  4122, 4124, 4220, 4240 and
      4310.
```

Understanding Work Orders in Accounting

The Manufacturing Accounting system tracks costs associated with work orders, and creates journal entries for all shop floor transactions. Each step in the work order process can affect manufacturing accounting. The principal effect is that when you complete any step in the process, you create a transaction that can be the source of a variance. The system calculates the variances when you run Journal Entries for Variances.

What Is a Work Order?

A work order is a request to produce a certain quantity of an item by a given date.

A work order consists of:

- A header
- A parts list
- Routing instructions

After you have determined what resources are required to produce an item, you can schedule the work order and begin the work. As you complete the work order, you must track the following:

- Completed items
- Materials used
- Quantities scrapped
- Hours of machine and personnel time used

What Happens When You Create a Work Order?

To create a work order, you identify on the header the item, its branch/plant and quantity, and the requested date for the work order.

About the Parts List and Routing

After you have created a work order header, you must attach a parts list and routing instructions to indicate the parts, personnel, machinery, and time required to make the items. You can attach the parts list and routing instructions in one of three ways:

- Manually.
- Interactively from Enter/Change Order. This method uses the data from the item's bill of material or routing as the default data for the parts list or routing instructions. You can modify the data.
- Automatically through the Work Order Generation program. This method makes copies of the item's bill of material and routing, and uses them for the initial parts list and routing instructions. You can modify the data. This method also allows you to attach the parts lists and routing instructions in a batch.

Regardless of the method that you choose, the system compares the frozen standard costs to the current costs. The frozen standard costs come from the Cost Components table (F30026), based on the original bill of material and routing. The current costs are calculated from the values in the Cost Components table, based on the current parts list and routing instructions. If a discrepancy exists between the frozen standard costs and the current costs, the amount of the discrepancy becomes the engineering variance.

You can view engineering variances after you attach a parts list and routing instructions to a work order.

See Also

- *Reviewing Variances*

What Happens When You Revise a Work Order?

After you create a work order and attach a parts list and routing, you might need to make revisions. If you revise the quantity requested, the parts list, or the routing, you might also revise the cost of the work order. These revised costs are called planned costs.

When you run Journal Entries for Variances, the system compares the current costs to these revised planned costs. The revised planned costs are calculated from the values in the Cost Components table, based on the revised parts list and routing instructions. If a discrepancy exists between the current costs and the revised planned costs, Journal Entries for Variances calculates a planned variance.

If you make no revisions to a work order, there is no planned variance.

See Also

- *Creating Journal Entries for Variances*

What Are Unaccounted Units?

Unaccounted units represent the quantities and amounts of transactions that occur against a work order when you issue parts, or record labor or completions. You cannot view unaccounted units. They are stored by the system until you run Journal Entries for Work in Process or Completions. That program creates journal entries for the unaccounted units and then purges the unaccounted units.

The Parts List table (F3111) stores unaccounted units that are updated by work order issues.

The Work Order Routing table (F3112) stores unaccounted labor units and amounts. These are updated when reporting labor and machine hours.

The Work Order Master table (F4801) stores unaccounted units that are updated by work order completions.

What Happens When You Issue Material?

You must send the required materials to the shop floor for production. The quantities issued to the shop floor are deducted from inventory through an issue transaction. This transaction reports the actual quantities of materials that were used in the production process to the Inventory Management and Manufacturing Accounting systems.

Issue transactions do not have to occur at the same time that the physical transfer of inventory takes place. You can choose the point in the production process where you want your inventory records to reflect the issue of the parts to the work order.

The four ways to issue parts are:

Manual issues	Materials are deducted from inventory when you enter the issue transactions on the Issues form.
Preflushing	Materials are automatically deducted from inventory when a work order is processed through the Process Work Orders program if the processing option is set to do so.
Backflushing	Materials are deducted from inventory when items on the work order are reported complete. This might be when you report partial completions throughout the production process or when you report full completions at the last routing operation.

Super backflushing	Materials are automatically deducted from inventory at operations defined as pay points throughout the routing, when the paypoints are reported as complete or partially complete. The Super Backflush program allows you to backflush materials and labor hours and report items complete at an operation at the same time.

When you issue parts to a work order, the parts are relieved from inventory immediately, and the costs are stored for batch processing. They are stored as unaccounted units in the Parts List table until you run Journal Entries for Work in Process or Completions.

Whatever method you use to issue materials to a work order, when you run Journal Entries for Variances, the program compares the cost of materials issued to the cost of materials specified on the parts list. If there is a discrepancy, the program calculates an actual variance.

What Happens When You Record Hours and Quantities?

As you produce items on a work order, you record the hours spent on production and the number of items completed in that time.

The Manufacturing Accounting system interfaces with Payroll Time Entry so that transaction data is usable in both the Shop Floor Management and Payroll systems. You can record hours and quantities per work request or per employee to accommodate both piece-work and hourly rate employees.

Use the Hours and Quantities Entry program to charge actual hours and quantities to a work order. The header information comes from the Work Order Master table (F4801). The information that you enter is stored in the Work Order Transactions table (F31122).

You can enter hours and quantities data on one of two forms:

- Payroll Time Entry
- Hours and Quantities Entry

Inquiries and reports allow you to review and revise the hours and quantities reported by employee and by work request. After you enter the transactions into the system, you must post them to the Manufacturing Accounting system for further tracking and cost accounting.

After you have entered hours and quantities data, you post the transactions to the Work Order Routing table, where they are used to create journal entries. You can perform the post interactively when you record the hours and quantities, or you can run the Hours and Quantities Update program. The update takes the hours and quantities recorded against work order operations from the Work Order Transactions table (F31122) and updates their respective fields in the Work Order Routing table (F3112). The

transaction data is then available for use by Journal Entries for Work in Process or Completions.

When you record labor and machine hours, unaccounted units are stored in the Work Order Routing table.

When you run Journal Entries for Variances, the program compares the cost of materials and labor reported to the cost of materials and labor as specified on the work order parts list and routing instructions. If a discrepancy exists, the program updates the actual variance.

What Happens When You Record Component Scrap?

After you issue parts to a work order, you might need to report some of them as scrapped. Scrap is unusable material that results from the production process. You specify the amount of material to be scrapped and the reason on Component Scrap.

When you report the quantity of component material scrapped, you create an Item Scrap transaction (IS) in the Item Ledger table (F4111). When you run Journal Entries for Work in Process or Completions, the program calculates the new A2 cost value for the parent. If the amount of the scrapped material differs from the estimated scrap amount on the bill of material, this difference updates the amount of the actual variance.

There are no unaccounted units associated with scrapping components.

What Happens When You Record Completions?

When you finish production of a work order on the shop floor, you must record the completions to inventory. These transactions update records in the Inventory Management system.

Completions occur when you report the products that result from a process and enter them into inventory as complete. The Shop Floor Management system provides several ways to complete products into inventory, including:

- Super backflushing
- Partial completion
- Full completion
- Backflushing at completion

Work Order Completions calculates the final value of the cost components for the parent part and updates the amount of the actual variance in the Work Order Variance table. Completions represent amounts added to inventory.

When you record completions, unaccounted units are stored in the Work Order Master table.

Creating Journal Entries

You create journal entries for work in process (issues, labor entry, and machine run time), completions, and manufacturing variances as the first step towards posting these transactions to the general ledger.

To create journal entries for work order or rate schedule transactions, complete the following tasks:

- ❑ Create journal entries for work in process or completions
- ❑ Review variances
- ❑ Create journal entries for variances
- ❑ Review summarized work orders

If you have extra costs on purchased items, and you want to calculate their costs separately, you need to understand purchase price variance and material burden cost.

See Also

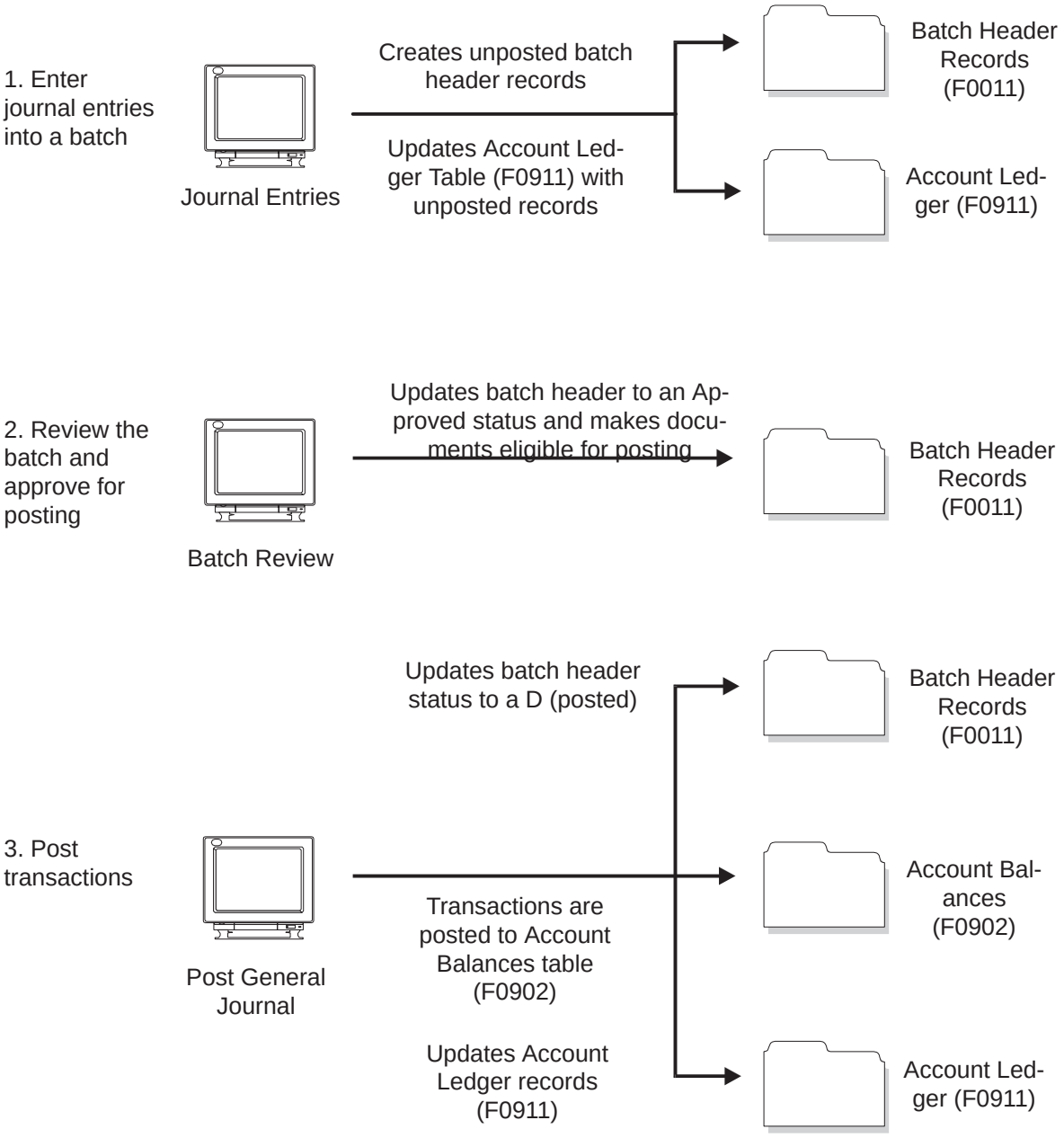
- *Appendix C — Purchase Price Variance*

Journal Entries and the Three-Tier Process

When you enter daily journal entries, you are performing the first of three steps in the J.D. Edwards three-tier process. This process is used throughout all J.D. Edwards entry programs and includes the following steps:

1. Entering journal entries into a batch
2. Reviewing and approving the batch for posting
3. Posting the batch transactions

The following graphic illustrates the three-tier process.



Journal entries can occur in two ways:

- Manually, when you enter transactions through the General Accounting system, such as:
  - Accruals
  - Adjustments
  - Reclassifications

- Automatically, when the Journal Entries for Work in Process or Completions program generates journal entries based on another system's transactions, such as:
    - Manufacturing Accounting (variances)
    - Shop Floor Management

In the Manufacturing Accounting system, you use programs to create journal entries for various types of shop floor activity, including:

- Material issues
- Labor and machine reporting
- Completions
- Scrap
- Variances
    - Engineering
    - Planned
    - Material usage (actual)
    - Labor efficiency (actual)
    - Other (volume)

Detail and Summary Journal Entries

You can enter detail or summary entries for both debit and credit journal entry transactions. Use the object portion of the account number to control the level of detail of your journal entries.

Detail Journal Entries

To enter detail journal entries for a work order or rate schedule by cost component, enter a different object or subsidiary account number for each cost component.

For example:

Cost Component	Business Unit	Account Number
A1	M30	1341
B1	M30	1342
B2	M30	1343

Summary Journal Entries

To summarize the cost components for an item on a work order into a single journal entry, enter the costs with the same object and subsidiary account number.

For example:

Cost Component	Business Unit	Account Number
A1	M30	1340
B1	M30	1340
B2	M30	1340

In addition, you can set processing options to:

- Summarize material issues (document type IM) by account number within a work order. There is one journal entry for each unique combination of account number and work order number.
- Summarize all journal entries by account number across work orders. There is one entry for the batch for each account. The entry is the sum of all work order transactions for each account by document type.
- Print a summarized Accounting Transaction report.

If you summarize journal entries across work orders, the program batches the appropriate work orders and then assigns a new work order number to the batch. This summarized work order number appears on inquiry forms and reports, but does not refer to an actual work order.

Creating Journal Entries for Work in Process or Completions

From the Manufacturing Accounting menu (G3116), choose Work in Process or Completions.

Journal Entries for Work in Process or Completions creates journal entries for shop floor activity. You can report transactions for material issues, completions, and labor and machine hours reported against a work order or rate schedule.

This program locates unaccounted units in the Parts List table, Work Order Routing table, and Work Order Master table, and creates journal entries for them. The program then purges the unaccounted units.

This program also updates information in the Work Order Variances table (F3102), which Journal Entries for Variances uses to create journal entries for transactions with variances.

The program produces error messages if it finds any general ledger errors while formatting the journal entries. You can view messages in the Submitted Jobs Queue in the Employee Work Center.

This program uses the following AAI tables to match inventory and cost transactions to general ledger accounts.

3110 **Credit inventory, raw materials/subassemblies**	Moves inventory cost from inventory during issue reporting. Not used by variance accounting.
3120 **Debit/credit work in process**	Moves inventory cost to WIP during inventory issue and shop hours report. Also moves inventory from WIP during inventory completion reporting.
3130 **Debit inventory, subassemblies/finished goods**	Moves inventory cost to inventory during the completion reporting. Not used by variance accounting.
3401 **Credit accruals**	Moves shop hour cost to accruals during shop hours reporting. Not used by variance accounting.

The system uses the following data to match the transaction to the AAI account:

- Work order type for the AAI.
- Company number associated with the work order or component branch/plant. If the system does not find a match, it uses 00000.
- Document type associated with the transaction.
- G/L category code for the transaction item. If the system does not find a match, it uses **** (four asterisks).
- Cost component.
- Branch/plant.

Configured Items

After the Process Work Orders program establishes frozen standard costs for configured items, journal entries for configured items are created in the same way as for non-configured items.

See Also

- *Reviewing Manufacturing AAIs*
- *R31802, Manufacturing Journal Entries* in the *Reports Guide* for a report sample

Processing Options: Journal Entries for WIP or Completions

Default Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define default values.

1. Date

Use this processing option to specify the date that appears on journal entries. If you leave this field blank, the program uses the system date.

2. Document Type for Scrapped Items

Use this processing option to specify which document type (00/DT) to assign to scrap transactions. If you leave this field blank, the program uses document type IS.

3. Document Type for Shop Floor Transactions

If you do not use routings, use this processing option to specify the document type (00/DT) for journal entries on extra cost components. If you use routings, the program automatically assigns a document type of IH. If you leave this field blank, the program uses document type IH.

4. Status Code for Work Order

Use this processing option to enter the new status code (00/SS) for the work order. The program updates the work order status whether you run the program in proof mode or in final mode. Enter the new status code or choose it from the Select User Define Code form. If you leave this processing option blank, the status of the work order does not change.

5. Subledger Field

Use this processing option to specify whether the work order number is used as the default in the Subledger field.

Valid values are:

1 Use the work order number as the default.
Blank Do not supply a default value.

Process Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use these processing options to define processing criteria.

1. Final Mode

Use this processing option to indicate proof mode or final mode. In proof mode all calculations and edits are performed and printed in the reports. In final mode, the program creates journal entries and clears unaccounted units.

2. Summarize Material Issues Within Work Order

Use this processing option to summarize material issues by account within a work order. This is useful to summarize IM transactions for multiple items within a work order.

Valid values are :

1 summarize material issues by account within work orders.
Blank does not summarize material issues by account within work orders.

3. Summarize Material Issues Across Work Orders

Use this processing option to summarize all transactions by account across work orders.

Valid values are :

1 summarize by account across work orders. WARNING: This option will reduce the number of journal entries.
Blank do not summarize by account across work order.

4. Flex Accounting

Use this processing option to indicate that this program should search for flex accounting rules to populate cost objects in the Account Ledger table (F0911).

Valid values are:

1 uses flex accounting.
Blank doesn't use flex accounting.

5. IM Credit Charge to Business Unit

The Credit Side of Issues of Material transactions will use the Component Branch Plant as its Business Unit. Use this processing option to have this program use the Charge to Cost Center instead of the Component Branch Plant.

Valid values are:

1 uses the Charge to Business Unit/Cost Center for the Credit side of IM transactions.
Blank uses the Component Branch/Plant for the Credit side of IM transactions.

Print Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use these processing options to define print criteria.

1. Accounting Journal

Use this processing option to print an accounting journal.

Valid values are:

1 prints an accounting journal.
Blank does not print an accounting journal.

2. Subtotals

Use this processing option to print the Subtotals by Document Type and Document Number.

Valid values are:

1 to print subtotals by document type and document number.
Blank does not print subtotals by document type and number.

3. Summarize Material Issues Within Work Order for Report

Use this processing option to specify whether to summarize journal entries from material issues (IM transactions) by account number within a work order on the report. This processing option does not affect the number of journal entries the program creates. You may summarize the journal entries on the report whether or not you summarize the actual journal entries.

Valid values are:

1 Summarize material issue journal entries on the report.

Blank Do not summarize material issue journal entries on the report.

4. Summarize Across Work Orders for Report

Use this processing option to specify whether to summarize all journal entries by account across work orders on the report. This processing option does not affect the number of journal entries the program creates. You may summarize the journal entries on the report whether or not you summarize the actual journal entries.

Valid values are:

1 Summarize all journal entries on the report. This option reduces the report output.

Blank Do not summarize all journal entries on the report.

Reviewing Variances

Variances occur when the frozen standard costs differ from other user defined cost methods, such as current costs. These variances can be due to differences in labor or overhead, or changes to the bill of material or routing.

The following describes each variance type.

Engineering	The difference between the frozen standard costs (material, labor, and overhead) at the beginning of the accounting period and the current costs derived from the bills of material, routings, and overhead rates.
Planned	The difference between the current costs derived from the bills of material, routings, and overhead rates and the costs based on the work order or rate schedule parts list and routing instructions. Planned variances can occur when you revise a work order or rate schedule.

Actual	The difference between the cost values derived from the work order or rate schedule parts list and routing, and the material and labor that were actually reported against that work order or rate schedule. Actual variances can occur when you: • Issue material • Record hours and quantities • Record completions **Labor Efficiency (Actual)** The difference between the planned and actual labor costs, based on the work order or rate schedule routing. **Material Usage (Actual)** The difference between the planned and actual material costs, based on the work order or rate schedule parts list.
Other	The difference between the frozen standard costs and the completed (plus scrap) costs. This variance represents the over-completion or under-completion costs of the work order or rate schedule.

Review variances to identify errors before you run Journal Entries for Variances. For example, if you did not issue parts to a work order or rate schedule, a large actual variance appears. You can issue the parts, rerun Journal Entries for Work in Process or Completions, and review the variances again. After you correct any errors, run Journal Entries for Variances.

Variance Inquiry displays the costs and variances associated with a work order or rate schedule. You can view variances by comparing amounts calculated in one mode to amounts calculated in another mode. Modes include:

- Frozen
- Current
- As planned
- Actual
- Completed

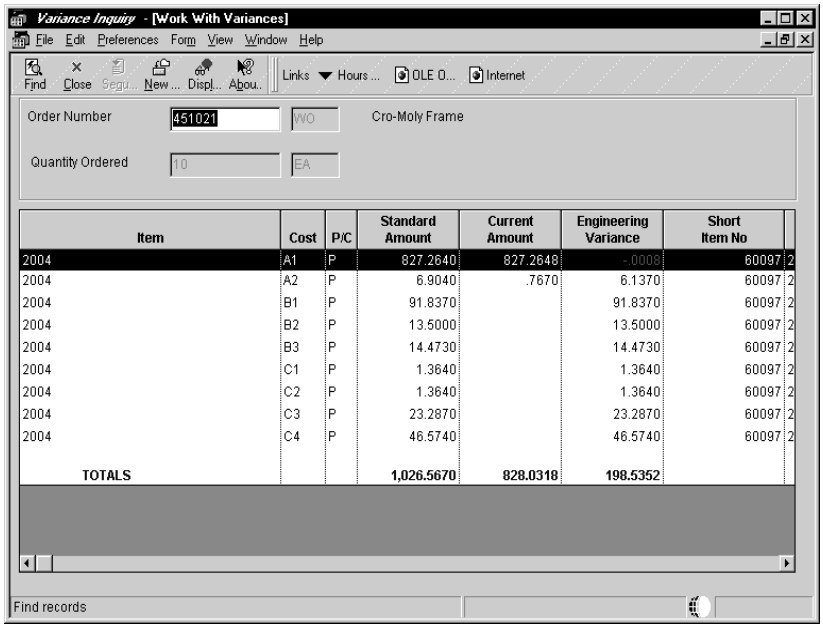
Configured Items

If you manufacture configured items, no engineering variance exists because there is no bill of material.

To review variances

From the Manufacturing Accounting menu (G3116), choose Variance Inquiry.

On Work With Variances



1. Complete the following field and click Find:
   - Order Number

   The system displays standard amounts, current amounts, and the engineering variance.

2. To display other variances, choose an option from the View menu.
3. Review the following fields:
   - Item
   - Cost
   - P/C
   - Standard Amount
   - Current Amount
   - Planned Amount
   - Actual Amount
   - Completed Amount
   - Engineering Variance

- Std – Planned Variance
- Mfg Variance
- Other Variance

Field	Explanation
Cost	A code that designates each element of cost for an item. An example of the coding structure is as follows: A1 Purchased raw material B1 Direct labor routing rollup B2 Setup labor routing rollup C1 Variable burden routing rollup C2 Fixed burden routing rollup Dx Usually used for outside operation routing rollup Xx Usually used for extra add-ons, such as electricity and water The optional add-on computations usually operate with the type Xx extra add-ons. This cost structure allows you to use an unlimited number of cost components to calculate alternative cost rollups. The system then associates these cost components with one of six user defined summary cost buckets. . . . . . *Form-specific information* . . . . . . This code indicates which cost element, or type of cost, the amounts are for.
P/C	A code that indicates if the parent item number has a child item number associated with it. Valid codes are: Blank No relationship has been defined. P Parent number. C Child number. B Co-/By-Product

See Also

- *Appendix B — Calculations for Variances*

Creating Journal Entries for Variances

From the Manufacturing Accounting menu (G3116), choose Variances.

Journal Entries for Variances creates detailed or summary journal entries for work order or rate schedule variances. These include engineering, planned, actual, and other variance transactions for the following items:

- Material issues
- Hours entry

- Material completions

The program produces error messages if it finds any general ledger errors while formatting the journal entries. You can view messages in the Submitted Jobs Queue in the Employee Work Center.

You can set processing options to:

- Indicate to which general ledger date to post entries
- Indicate the document type for the manufacturing variances
- Use the work order number as the subledger number
- Update the status of the work orders processed
- Run the program in proof or final mode
- Summarize journal entries
- Print an accounting journal report that details the journal entries
- Use flex accounting
- Calculate the variances using either the:
    - Completed (plus scrapped) quantity, or
    - Ordered quantity

When you run this program in final mode, the system creates a batch of journal entries for posting to the general ledger.

This program creates journal entries for variances using the following calculations.

Engineering	Standard (frozen) cost – current cost Results from a change to the standard bill of material or standard routing.
Planned	Current cost – planned cost Results from a change to the parts list or routing instructions, or from a shrink factor.
Material usage (actual) **Cost components A1 and A2**	Planned cost – actual cost Results from over- or under-issues.
Labor efficiency (actual) **All cost components except A1 and A2**	Planned cost – actual cost Results from having actual hours that differ from the standard hours.

Other (to clear out WIP)	Completed cost – standard cost Results from doing a cost rollup in the middle of the cycle, or generated when the quantity completed + quantity scrapped does not equal the work order or rate schedule quantity.

The program uses the following AAI tables to match inventory and cost transactions to general ledger accounts:

3220 Debit Variances, Labor

3240 Debit Variances, Material

3260 Debit Variances, Planned

3270 Debit Variances, Engineered

3280 Debit, Other

The system uses the following data to match the transaction to the AAI account:

- Work order type for the AAI.
- Table number for the AAI. If the system does not find a match, it uses table 3280.
- Company number associated with the work order or component branch/plant. If the system does not find a match, it uses 00000.
- Document type associated with the transaction.
- G/L category code for the transaction item. If the system does not find a match, it uses **** (four asterisks).
- Cost component.

Before You Begin

❑ Run one or more reports to review your production costs and variances. See *Reviewing Reports for Manufacturing Accounting*.

See Also

- *Reviewing Manufacturing AAIs*
- *R31804, Variance Journal Entries* in the *Reports Guide* for a report sample

Processing Options: Journal Entries for Variances

Defaults Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define default values.

1. General Ledger Date

Use this processing option to specify the date that appears on journal entries. If you leave this field blank, the program uses the system date.

2. Document Type for Manufacturing Variance

The user defined code (00/DT) that identifies the purpose of the document. The program assigns this document type to variance journal entries. Typically, the document type is IV (variance calculated for work orders).

3. Subledger Value

Use this processing option to specify whether the work order number is used as the default in the Subledger field.

Valid values are:

1 Use work order number as the default.
blank Do not supply a default value.

4. Work Order Status Code

Use this processing option to enter the new status code (00/SS) for the work order. The program updates the work order status whether you run the program in proof mode or in final mode. Enter the new status code or choose it from the Select User Define Code form. If you leave this processing option blank, the status of the work order does not change.

Process Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define processing criteria.

1. Journal Entries Mode

Use this processing option to specify whether the program runs in proof mode or final mode.

Regardless of which method you select, the status code on the work order is updated according to the value you enter in the Work Order Status Code processing option.

Valid values are:

1 Final mode. The program creates journal entries and clears unaccounted units.
Blank Proof mode. The program performs all calculations and edits, and prints them in the reports.

2. Summarize Across Work Orders

Use this processing option to specify whether to summarize all journal entries by account across work orders.

Valid values are:

1 Summarize all journal entries. This option will reduce the number of journal entries.
Blank Do not summarize.

3. Flex Accounting

Use this processing option to indicate whether this program searches for flex accounting rules to populate cost objects in the Account Ledger table (F0911). Flex accounting is required to attach cost objects to the journal entries.

Valid values are:

1 Use flex accounting.
Blank Do not use flex accounting.

Print Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

These processing options define print criteria.

1. Accounting Journal

Use this processing option to specify whether to print an Accounting Journal report.

Valid values are:

1 Print an Accounting Journal report.
Blank Do not print an Accounting Journal report.

2. Subtotals

Use this processing option to specify whether to print the subtotals by document number.

Valid values are:

1 Print the subtotals by document number.
Blank Do not print subtotals by document number.

3. Summarize Report Across Work Orders

Use this processing option to specify whether to summarize all journal entries by account across work orders on the report. This processing option does not affect the number of journal entries the program creates. You may summarize the journal entries on the report whether or not you summarize the actual journal entries.

Valid values are:

1 Summarize all journal entries on the report. This option reduces the report output.
Blank Do not summarize all journal entries on the report.

OverUnderComp Tab

For information about a processing option, right-click the processing option field and choose What's This from the menu. Or, click the processing option field and press F1.

Use these processing options to specify the status to use for a closed work order and whether the system restates costs.

1. Restate Production Costs

Use this processing option to specify whether to restate the costs. This eliminates variances that are caused by over/under completions or scrapped end items.

Valid values are:

1 Restate the standard, current, and planned production costs based on completed and scrapped quantity.
Blank Do not restate costs.

2. Closed Work Order Status

Use this processing option to specify the status used to close a work order. Closed work orders do not generate additional journal entries. If you leave this field blank, a status code of “99” is used for a closed work order.

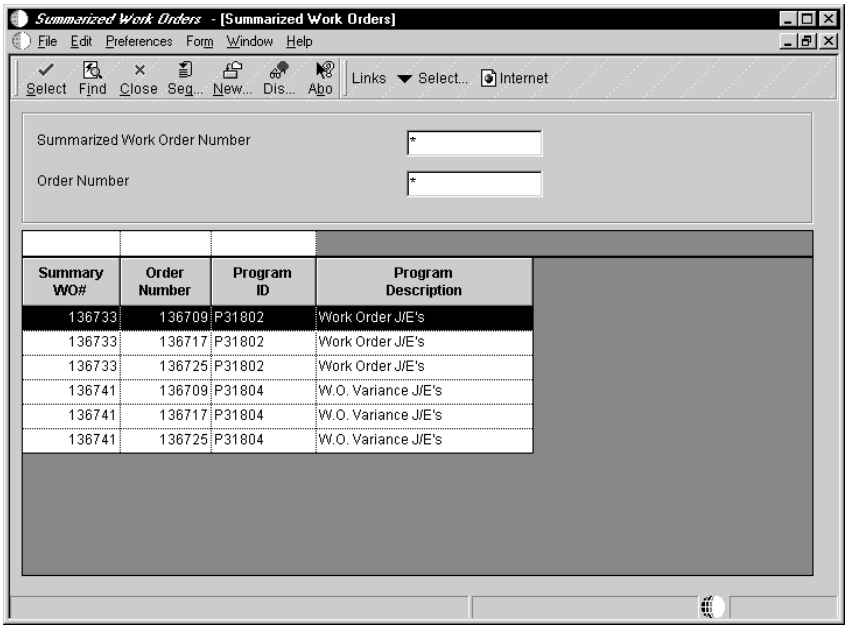
Reviewing Summarized Work Orders

You can view which work orders were summarized into a particular batch.

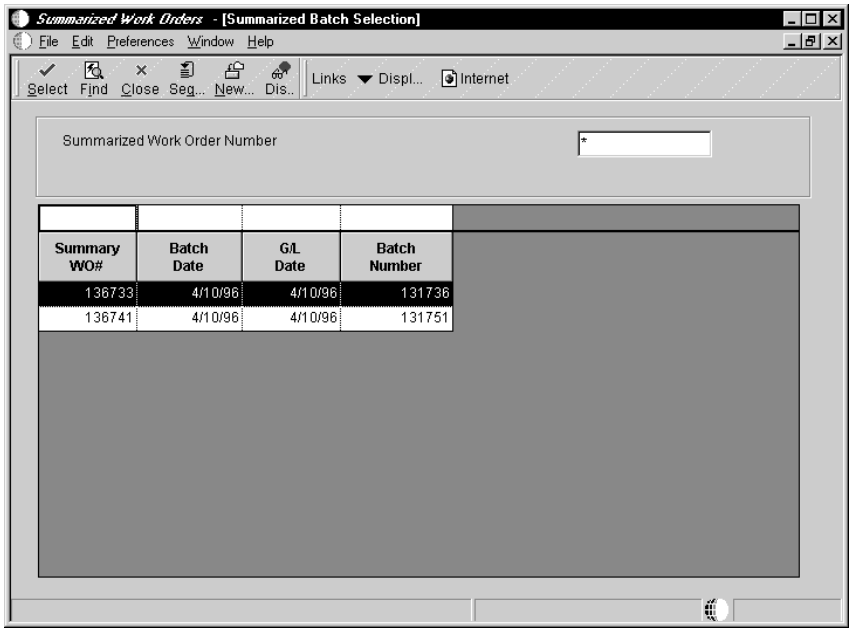
▶ To review summarized work orders

From the Manufacturing Accounting menu (G3116), choose Summarized Work Orders.

On Summarized Work Orders



1. Complete one of the following fields and click Find:
   - Summarized Work Order Number
   - Order Number
2. To locate the summarized work order number, choose Select Work Order from the Form menu.



Summarized Batch Selection displays summarized work orders, their batch dates, and their general ledger dates, in descending date order.

3. Choose a summarized work order and click Select to return to Summarized Work Orders.
4. On Summarized Work Orders, review the following fields:
   - Summary WO#
   - Order Number
   - Program ID
   - Program Description

Field	Explanation
Summary WO#	The document number assigned as a batch work order number when you summarize manufacturing work order journal entries. The number indicates the work order into which the journal entries were summarized. The system writes this number to the DOCO field in the General Ledger (F0911).

Reviewing General Ledger Batches

From the Manufacturing Accounting menu (G3116), choose G/L Review.

After you generate journal entries, you review and approve them before posting them to the general ledger. This review is the second step in the J.D. Edwards three-tier process.

When you review G/L batches, you can:

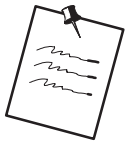
- Review all or specific batches
- Review G/L batch detail
- Review the original journal entry document

Each batch of journal entries has one of the following status codes:

- Pending
- Approved
- Error

The status that the system assigns depends on how you set the management approval in Application Constants (a form exit from Work With Branch/Plant Constants). If a batch has an error status, the system prevents it from posting.

The system updates information in the Batch Control (F0011) and the Account Ledger (F0911) tables.



If you change, void, or add transactions to a posted batch, the system automatically changes the batch status from posted to the default entry status of pending or approved. You must then repost the batch. The post only processes changed transactions.

Before You Begin

- ❑ Verify that you have set up your general accounting system properly.
- ❑ Set the management approval in Application Constants for approving journal entries for posting. This depends on the workflow and responsibility controls you establish for your organization. Access Application Constants from Work With Branch/Plant Constants.

See Also

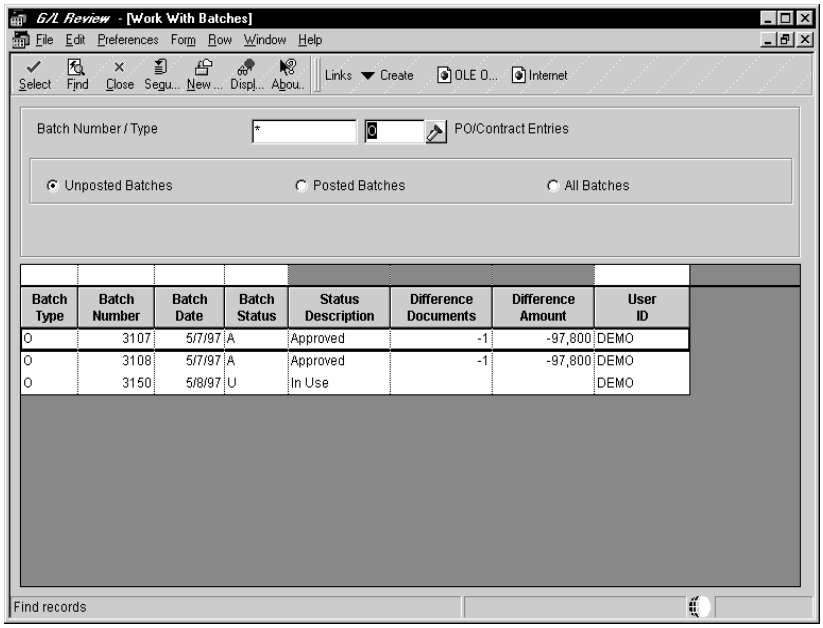
- *Creating Journal Entries*
- *Reviewing Journal Entries* in the *General Accounting Guide*

▶ To review all or specific G/L batches

When you review all or specific journal entry batches, you can also:

- Approve a batch for posting (if allowed)
- Change the status of a batch
- Select a particular batch of journal entries to review the batch detail

On Work With Batches



Review the following fields:

- Batch Type
- Batch Number
- Batch Date
- Batch Status
- User ID

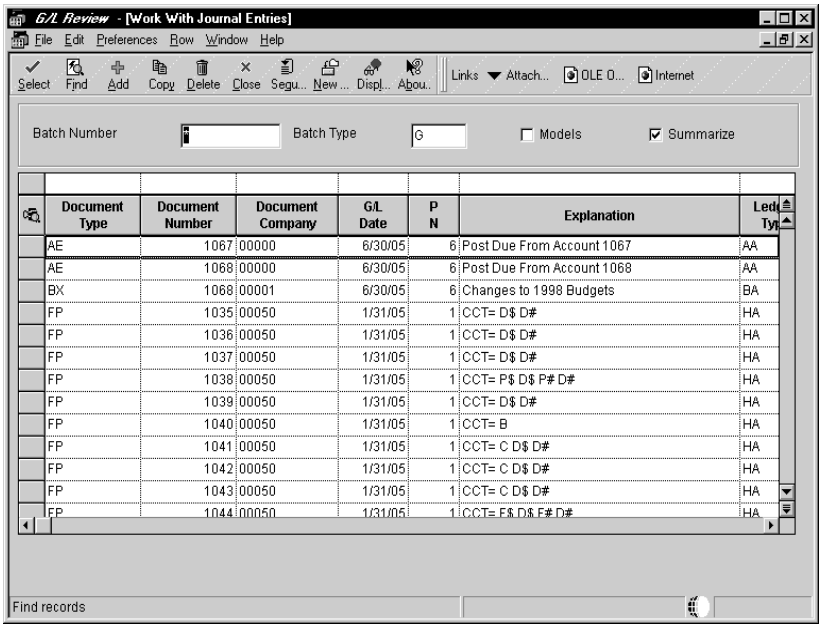
Field	Explanation
Batch Type	A code that indicates the system and type of entries for a batch. This is a user defined code (98,IT). . . . . . *Form-specific information* . . . . . To limit your search to specific transactions, such as G for general accounting entries or V for accounts payable vouchers, enter the transaction batch type in this field. If you want to see a specific batch, you must enter both the batch number and type.
Batch Number	A number that identifies a group of transactions that the system processes and balances as a unit. When you enter a batch, you can either assign a batch number or let the system assign it through Next Numbers. When you change, locate, or delete a batch, you must specify the batch number.
Batch Date	The date of the batch. If you leave this field blank, the system date is used.
Batch Status	A user defined code (system 98/type IC) that indicates the posting status of a batch. Valid values are: blank Unposted batches that are pending approval or have a status of approved. A Approved for posting. The batch has no errors, is in balance, but has not yet been posted. D Posted. The batch posted successfully. E Error. The batch is in error. You must correct the batch before it can post. P Posting. The system is posting the batch to the general ledger. The batch is unavailable until the posting process is complete. If errors occur during the post, the batch status is changed to E (error). U In use. The batch is temporarily unavailable because someone is working with it. . . . . . *Form-specific information* . . . . . Click one of the following options to show records by batch status: • Unposted Batches • Posted Batches • All Batches
User ID	For World, the IBM-defined user profile. For OneWorld, the identification code for a user profile.

To review G/L batch detail

You can review detailed batch header information and general journal entry information (one line per document) for a batch. You can also select a specific journal entry from the batch to review or revise.

On Work with Batches

1. From the Form menu, choose Transaction Applications, and then choose Journal Entry.



2. On Work With Journal Entries, review the following fields:
   - Document Type
   - Document Company
   - G/L Date
   - Explanation

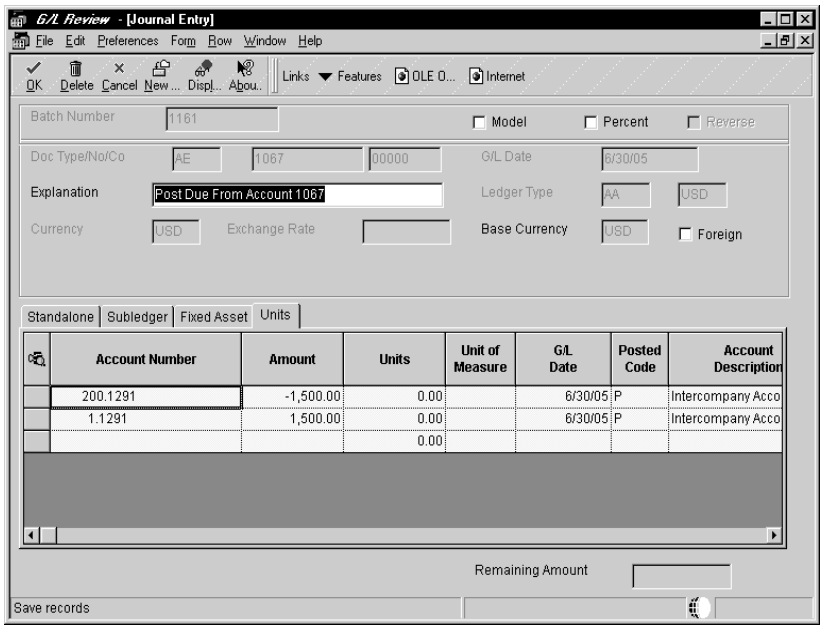
Field	Explanation
Document Type	A user defined code (00/DT) that identifies the origin and purpose of the transaction. J.D. Edwards reserves several prefixes for document types, such as vouchers, invoices, receipts, and timesheets. The reserved document type prefixes for codes are: P Accounts payable documents R Accounts receivable documents T Time and Pay documents I Inventory conversion issues O Ordering document types The system creates offsetting entries as appropriate for these document types when you post batches. . . . . . *Form-specific information* . . . . . . The document type for journal entries is JE. The document type of a model percent journal entry is %. It changes to JE when you create an actual journal entry from the model.
Document Company	A number that, with the document number, document type and G/L date, uniquely identifies an original document, such as invoice, voucher, or journal entry. If you use the Next Numbers by Company/Fiscal Year feature, the Automatic Next Numbers program (X0010) uses the document company to retrieve the correct next number for that company. If two or more original documents have the same document number and document type, you can use the document company to locate the desired document.
G/L Date	A date that identifies the financial period to which the transaction will be posted. The company constants table for general accounting specifies the date range for each financial period. You can have up to 14 periods. Generally, period 14 is used for audit adjustments. . . . . . *Form-specific information* . . . . . . To keep the periods in balance when you void reversing journal entries, use the same date in the voiding entry as shown for the corresponding journal entry you are voiding.

▶ To review the original journal entry document

You can review the original journal entry document. You can also make changes to the accounting distributions, as well as add a new transaction to an existing batch.

On Work with Journal Entries

1. Choose a record and click Select.



2. On Journal Entry, review the following fields:
   - Account Number
   - Amount
   - Subledger – G/L
   - Subledger Type
   - Units
   - G/L Date

Field	Explanation
Account Number	A field that identifies an account in the general ledger. You can use one of the following formats for account numbers: • Standard account number (business unit.object.subsidiary or flexible format) • Third G/L number (maximum of 25 digits) • 8-digit short account ID number • Speed code The first character of the account indicates the format of the account number. You define the account format in the General Accounting Constants program. . . . . . *Form-specific information* . . . . . . Depending on your general accounting constants, you might be able to accept an invalid account number. Insert # as the first character in front of the invalid account number. For example, #90.1107
Amount	A number that identifies the actual amount. Enter debits with no sign or a plus sign. Enter credits with a minus sign either before or after the amount. You can use decimals, dollar signs, and commas. The system ignores nonsignificant symbols. . . . . . *Form-specific information* . . . . . . For a percent journal entry or a model for percent journal entries, you do not enter the amount. The system calculates the amount based on the amount to be distributed and the percentage that you enter in the % field for that account.
Subledger – G/L	A code that identifies a detailed auxiliary account within a general ledger account. A subledger can be an equipment item number or an Address Book number. If you enter a subledger, you must also specify the subledger type.
Subledger Type	A user defined code (00/ST) that is used with the Subledger field to identify the subledger type and how the system performs subledger editing. On the User Defined Codes form, the second line of the description controls how the system performs editing. This is either hard-coded or user defined. For example: A Alphanumeric field, do not edit N Numeric field, right justify and zero fill C Alphanumeric field, right justify and blank fill
Units	The quantity of something that is identified by a unit of measure. For example, it can be the number of barrels, boxes, cubic yards, gallons, hours, and so on.
G/L Date	A date that identifies the financial period to which the transaction will be posted. The company constants table for general accounting specifies the date range for each financial period. You can have up to 14 periods. Generally, period 14 is used for audit adjustments.

Posting to the General Ledger

Update your account balances with amounts from journal entries by posting the journal entries to the general ledger. After posting, the system provides several reports that you can use to view the journal entries that have been posted.

Complete the following tasks:

- ❑ Post manufacturing journal entries
- ❑ Review the Item Ledger/Account Integrity report
- ❑ Review reports for manufacturing accounting

Posting Manufacturing Journal Entries

From the Manufacturing Accounting menu (G3116), choose Post General Journal.

After you enter, review, and approve journal entries, use Post General Journal to post the journal entries to the general ledger.

You can only run one post at a time. You must ensure that all post menu selections are routed to the same job queue and that the job queue only allows one job to process at a time.

J.D. Edwards strongly recommends that you do not customize the post program.

The post is the third step of the J.D. Edwards three-tier process. The post itself consists of two phases, the pre-post process and the post process.

Pre-Post Process

The pre-post process consists of several elements:

Selection — The Post General Journal program selects unposted, approved transactions with a batch type 0 and other criteria specified in the processing options. These transactions come from the Account Ledger table (F0911).

Detail edit

The program edits each transaction to determine whether:

- The account exists in the Account Master and is a posting account.
- The business unit is valid in the Business Unit Master table (F0006).
- The G/L date is valid.
- Intercompany transactions exist.
- Detail currency restatement should be done.

Batch edit

The program edits each batch to ensure that it is approved and in balance. If the program finds any errors, it does not post the batch.

Posting Edit report

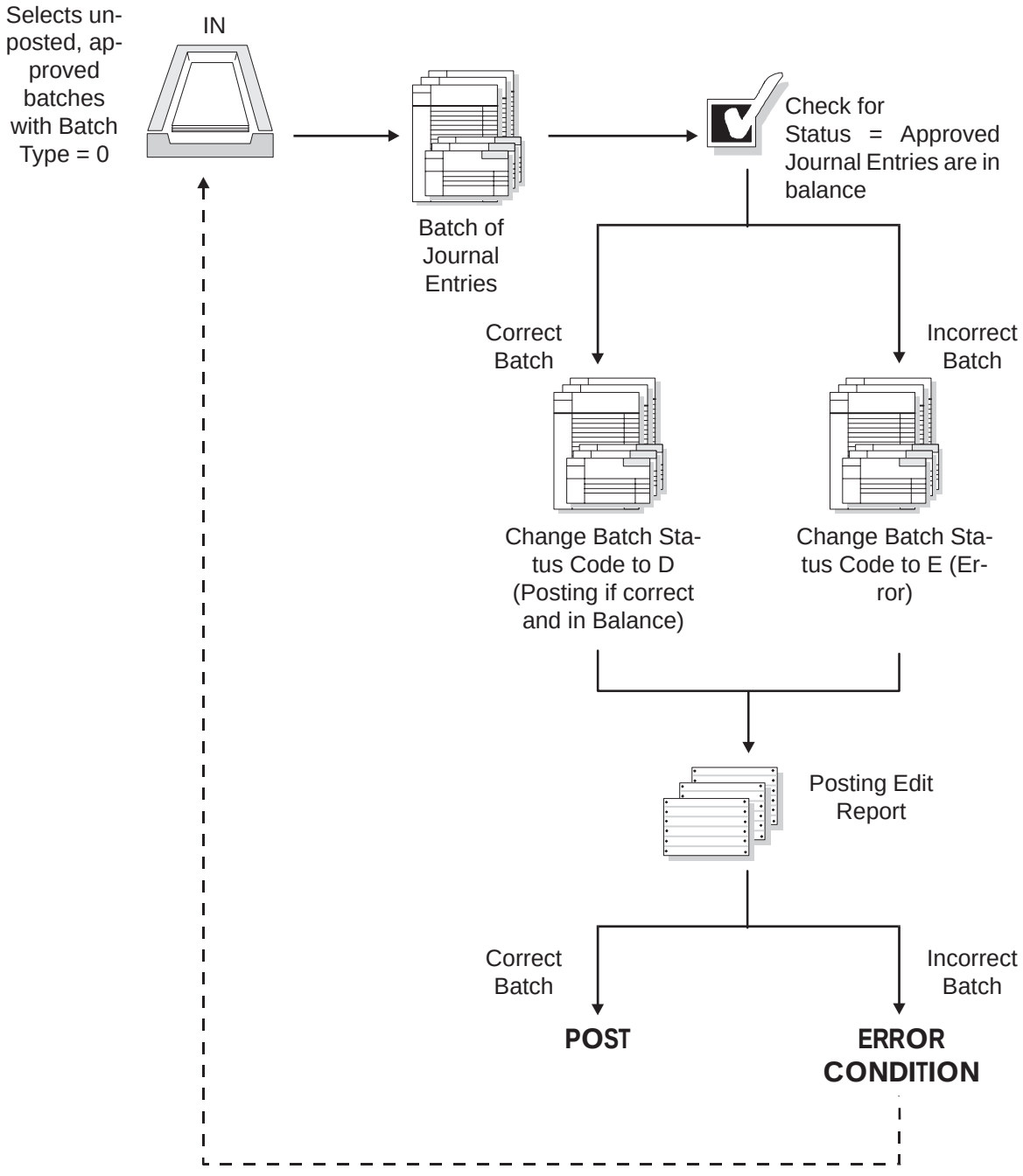
This report lists all batch errors that have occurred. It prints in batch sequence.

Error conditions

If any transaction in the batch is in error, the program places the entire batch in error, which prevents it from posting.

You should not make changes to the accounts, automatic accounting instructions (AAIs), intercompany settlements, general accounting constants, or processing options when you run the post.

The following graphic illustrates the pre-post process.

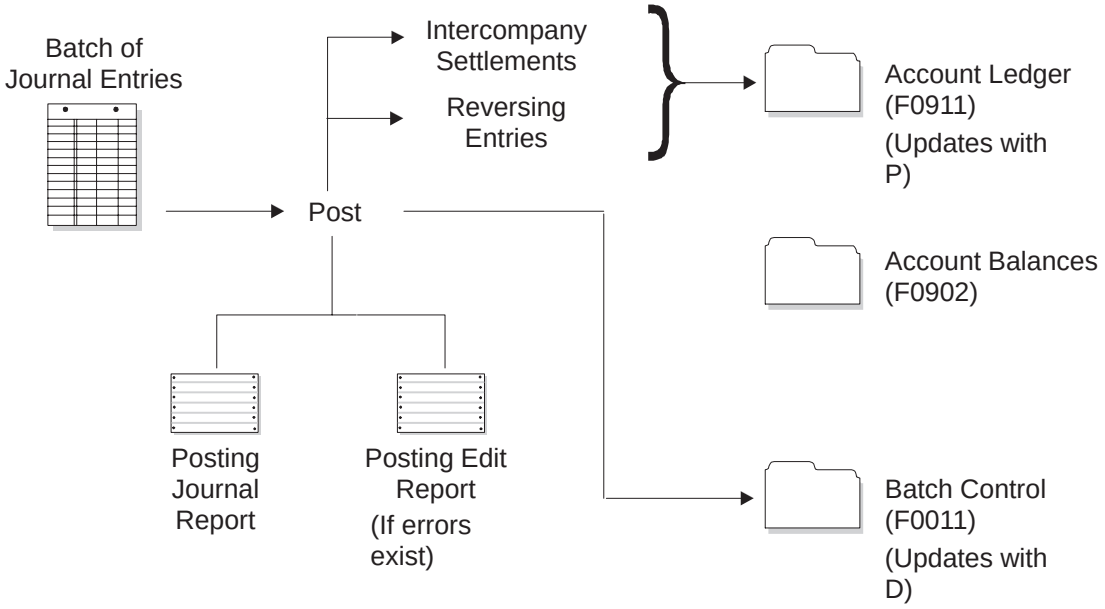


Post Process

The Post General Journal program only posts batches when no errors are found in the pre-post process. In general, the program:

- Posts transactions to the Account Balances table (F0902) and marks each transaction and the batch header as posted in the Account Ledger table and the Batch Control table (F0011)
- Changes the batch status for the Batch Control table to D
- Marks each transaction with a status of P (posted)
- Performs intercompany settlements for ledger types AA (actual amounts), XA, YA, CA, AZ, and ZA (detailed currency restatement amounts), if requested
- Creates reversing entries, if requested

The following graphic illustrates the post process.



Reports

Post General Journal also produces two reports.

Posting Edit Report

This report lists errors detected during the post. If the program finds errors, it does not post the batch. You must correct all errors in order for the batch to be posted.

The following table lists common posting errors and their causes.

Batch not approved for posting	This error message is caused by a batch with a pending or error status.
Account not set up in Account Master table (F0901)	Two situations can cause this error message: • An undefined account number (designated as # during journal entry) was entered. To correct this, locate the document number and line number on the Journal Entries form. Change the # on the detail line to the valid account number. • An undefined account number was not set up prior to posting, or it does not meet the model account criteria to be automatically created by the system. Add the G/L account number on Accounts by Object.
Batch journal entries out-of-balance	This error message occurs when debits do not equal credits. If the out-of-balance journal entry was entered in error, correct the error and post the batch again. Other situations can cause a journal entry to be out-of-balance. For example: • A power failure might have occurred during entry or posting. • A valid, one-sided journal entry might have been entered to correct a conversion error made during setup.

Posting Journal Report

This report lists the transactions posted to the Account Balances and the Account Ledger tables.

Before You Begin

❑ Verify that the batch has an approved status.

❑ Verify that the post is submitted to a single-threaded job queue.

See Also

- *Creating Journal Entries*
- *Posting Journal Entries* in the *General Accounting Guide*

Processing Options for Post General Ledger

Print

1) Enter which Account Number to print on the report. '1' = Structured Account; '2' = Short Account ID; '3' = Unstructured Account; ' ' = Default Account Format.

Account Format _____

Versions

1) Enter a version of the Detailed Currency Restatement (R11411) to execute. If left blank, Detailed Currency Restatement entries will not be created. (i.e. ZJDE0001)

Detailed Currency Restatement Version _____

2) Enter a version of the Fixed Asset Post (R12800) to execute. If left blank, Fixed Asset Post will not be executed. (i.e. ZJDE0001)

Fixed Asset Post Version _____

3) Enter a version of the 52 Period Post (R098011) to execute. If left blank, 52 Period Post will not be executed. (i.e. ZJDE0001)

52 Period Post Version _____

Edits

1) Enter a '1' if you wish to update Account ID, Company, Fiscal Year, Period Number, Century, and Fiscal Quarter in records being posted, prior to editing and posting the records.

Update Transaction _____

Taxes

1) Enter when to update the Tax File (F0018). '1' = V.A.T. or Use Tax only; '2' = for all Tax Amounts; '3' = for all Tax Explanation Codes; ' ' = no update to Tax File (Default).

Update Tax File _____

2) Adjust V.A.T. Account for Discount Taken. The Tax Rules file must be set to Calculate Tax on Gross Amount, including Discount and Calculate Discount on Gross Amount,

```
    including Tax.  Tax explanation must
    be a 'V'.

      '1' = Update VAT only;  '2' =                    _____________
      Update VAT, Ext. Price and
      Taxable

3)  Adjust V.A.T Account for Receipt
    Adjustments and Write Offs.  Tax
    explanation must be a 'V'.

      '1' = Update VAT only;  '2' =                    _____________
      Update VAT, Ext. Price and
      Taxable

Process

Enter a '1' if you wish to explode
    parent item time down to the
    assembly component level. Component
    billing rates will be used.  (This
    applies to batch type 'T' only.)

      Explode parent item time.                        _____________
```

Reviewing the Item Ledger/Account Integrity Report

From the Inventory Reports menu (G41111), choose Item Ledger/Account Integrity.

The Item Ledger/Account Integrity report lists discrepancies between the Item Ledger and Account Ledger tables. If the data in the two tables is in agreement, no lines print.

The lines that print are summary lines, that is, the amounts on a line represent the total for a specific document type, document number, and key company. No other total lines print. You can run this report as many times as needed because no tables are updated.

If you use summarized journal entries for work orders, the program ignores material issue transactions (IM), completions (IC), and scrap transactions (IS) against those summarized work orders because they are not actual work orders.

Before You Begin

❑ Verify that you have set up exception rules (41/IN).

See Also

- *Printing the Item Ledger/Account Integrity Report* in the *Inventory Management Guide*
- *Creating Journal Entries* for more information on summarized journal entries
- *R41543, Item Ledger/Account Integrity* in the *Reports Guide* for a report sample

Processing Options for Item Ledger/Account Integrity

```
Report Display

1. Enter the beginning Item Ledger
    Date.

      Date – For G/L (and Voucher)                    _____________

2. Enter the ending Item Ledger Date.
    If it is left blank, the current
    date would be the default.

      Date – For G/L (and Voucher)                    _____________
```

Reviewing Reports for Manufacturing Accounting

These reports help you review your production costs and variances. You might want to run them before you run Journal Entries for Variances, or you can run them after Journal Entries for Variances to verify the accuracy of the journal entries.

Complete the following tasks:

- ❑ Review Work Order Activity – Amounts
- ❑ Review Work Order Activity – Units
- ❑ Review Engineering Variance
- ❑ Review Planned Variance
- ❑ Review Material Usage Variances
- ❑ Review Efficiency Variances
- ❑ Review Total/WIP and Other Variances
- ❑ Review Completed Work Order Valuation
- ❑ Review Work Order Amount Variances
- ❑ Review Accounting Summary (Closed Work Orders)
- ❑ Review Purchase Price Variance
- ❑ Review Material Usage Variances
- ❑ Review Labor Rates Variances
- ❑ Review Direct Labor Efficiency

Reviewing Work Order Activity – Amounts

From the Manufacturing Accounting menu (G3116), choose Work Order Activity – Amounts.

This report lists standard, current, planned, actual, and completed amounts of work orders. The reports lists the components' costs first, and then the parents' costs.

See Also

- *R31812A, Work Order Activity – Amounts* in the *Reports Guide* for a report sample

Reviewing Work Order Activity – Units

From the Manufacturing Accounting menu (G3116), choose Work Order Activity – Units.

This report lists standard, current, planned, actual, and completed units of work orders.

See Also

- *R31812B, Work Order Activity – Units* in the *Reports Guide* for a report sample

Reviewing Engineering Variance

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Engineering Variance.

This report lists work orders, their standard and current amounts, and their engineering variances.

See Also

- *R31813, Engineering Variance* in the *Reports Guide* for a report sample

Reviewing Planned Variance

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Planned Variance.

This report lists all work orders and their planned variances (current amounts compared to planned amounts). Journal entries for planned variances are calculated in the same way.

See Also

- *R31814, Planned Variance* in the *Reports Guide* for a report sample

Reviewing Material Usage Variances

From the Manufacturing Accounting Periodic menu (G3123), choose Material Usage Variances.

This reports lists the planned and actual material (A1) quantities, extended by standard cost, and a total monetary variance for items on your work orders.

See Also

- *R31426, Material Usage Variances* in the *Reports Guide* for a report sample

Reviewing Efficiency Variance

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Labor Efficiency Variances.

This report shows planned and actual labor hours (all cost components except A1), extended by standard rates, and the monetary amount of variance by work order and item number.

See Also

- *R31816, Efficiency Variance* in the *Reports Guide* for a report sample

Reviewing Total/WIP and Other Variances

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Total/WIP and Other Variances.

This report shows the standard, actual, and completed amounts, and total and other variances by cost component and item for your work orders.

See Also

- *R31817, Total/WIP and Other Variances* in the *Reports Guide* for a report sample

Reviewing Completed Work Order Valuation

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Completed Order Valuation.

This report shows the standard, actual, completed, and outstanding balance amounts by cost component and item for your completed work orders. The Journal Entries for Work in Process or Completions and Journal Entries for Variances programs have already been run for these work orders. The program calculates the total for each type of cost by work order and a grand total of each cost for all of the work orders listed.

See Also

- *R31811, Completed Work Order Valuation* in the *Reports Guide* for a report sample

Reviewing Work Order Variances – Amounts

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Completed Order Variances.

This report shows detailed production costs and variance amounts for your work orders.

See Also

- *R31818, Work Order Variances – Amounts* in the *Reports Guide* for a report sample

Reviewing Accounting Summary (Closed Work Orders)

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Summary of Costs by Order or Process Summary of Costs by Order.

Summary of Costs by Order lists completed work orders and their accumulated costs. This report lists the total standard and total actual costs and the variance between the two. Actual costs are detailed by material, labor, and overhead.

Calculations

- Labor and miscellaneous costs come from values in the Hours and Quantities table (F31122) for the work order.
- Overhead costs are the machine costs (type 3) in the Hours and Quantities table (F31122) multiplied by the overhead rates entered for the work center in the Work Center Rates table (F30008).
- The total actual cost is the accumulated values detailed for labor, overhead, material, and miscellaneous costs.
- The total standard cost is the number of items completed on the work order multiplied by the parent item's frozen standard cost from the Cost Ledger table (F4105).

See Also

- *R31401, Accounting Summary (Closed Work Orders)* in the *Reports Guide* for a report sample

Reviewing Purchase Price Variance

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Material Price Variance or Process Material Price Variance.

The Purchase Price Variance report lists the actual price paid for an item, the standard price you estimated for the item, and the variance between the two. It also lists a percent of variance for each item, and total costs by item and for the entire report.

Calculations

- Standard costs come from the Cost Ledger table (F4105).
- Actual costs come from the Purchase Order Receiver table (F43121).

See Also

- *R31425, Purchase Price Variance* in the *Reports Guide* for a report sample

Reviewing Material Usage Variances

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Material Usage Variance – Standard or Process Material Usage Variance – Standard.

The Material Usage Variances report lists the standard costs on a work order parts list and the actual costs recorded for the parts issued. The report contains the following elements:

- The standard units required on a work order
- The actual units consumed
- The variance between the two in both units and cost

Calculations

- The standard units are the parent quantity specified on the work order or the quantity of the component specified on the work order's parts list. When the work order is completed (status 99), the report lists the work order quantity completed rather than the original parent quantity ordered.
- The variance percentage is the actual units or amounts divided by the standard units or amounts. The variance percentage provides an accuracy value. For example, an accuracy value of 100.00 would indicate that the

planned quantity or amount was the same as the actual quantity or amount used.

See Also

- *R31426, Material Usage Variances* in the *Reports Guide* for a report sample

Reviewing Labor Rate Variance

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Labor Rate Variance or Process Labor Rate Variance.

The Labor Rate Variance report lists current and standard labor rates, and hours or amounts. It details labor rate variances between the standards estimated and the actual rates charged, and lists the percentage of variance.

Calculations

- The standard rates come from the Work Center Rates table (F30008).
- The standard hours come from the Work Order Routing table (F3112).
- The actual amounts are the actual hours from the Hours and Quantities table (F31122) multiplied by the standard rate.

See Also

- *R314271, Labor Rate Variance* in the *Reports Guide* for a report sample

Reviewing Work Order Labor Efficiency

From the Manufacturing Accounting Periodic menu (G3123), choose Discrete Labor Efficiency or Process Labor Efficiency.

The Work Order Labor Efficiency report is a detailed analysis of direct labor efficiency hours accumulated for a work order. It lists standard and actual hours, and calculates the cost of the variance between them based on standard labor rates. To select work orders for the report by status, enter a range of statuses in the processing options.

Calculations

- The actual values are the values from the Hours and Quantities table (F31122) for the operation sequence and employee.
- The frozen standard hours are from the Work Order Routing table (F3112).
- The frozen standard labor rates are from the Work Center Rates table (F30008) based on the type code for the operation sequence.

See Also

- *R31428, Work Order Labor Efficiency* in the *Reports Guide* for a report sample

Understanding Process Industry Accounting

The main difference between discrete manufacturing accounting and process manufacturing accounting is that with a process, completions are reported against the co- and by-products themselves and not against the parent process. You can set a processing option to allow completions of unplanned co- and by-products. Variances are still reported against the process.

About Unaccounted Units in Process Industry Accounting

Unaccounted units represent the quantities and monetary amounts of transactions that occur against a work order or rate schedule when you issue parts, or record labor or completions. You cannot view unaccounted units. They are stored by the system until you run the Journal Entries for Work in Process or Completions program. This program creates journal entries for the unaccounted units and then purges the unaccounted units.

In the process industry, unaccounted units are stored in the same tables as in the discrete industry. Unaccounted units are stored in the following tables:

Work Order Master (F4801)	When you complete a work order or record scrap against a work order, unaccounted units are stored in the Work Order Master table.
Parts List (F3111)	When you issue material to a work order, unaccounted units are stored in the Parts List table.
Work Order Routing (F3112)	When you record hours against a work order, unaccounted units are stored in the Work Order Routing table.

About Calculated Amounts in Process Industry Accounting

Variance Inquiry can display small engineering variances because the frozen amounts differ slightly from the current amounts. However, Journal Entries for Variances rounds the amounts, and no variances print on the report.

Amounts are calculated in the process industry as follows:

Frozen amounts	Frozen amounts are based on the cost of the process, from the Cost Components table (F30026).
Actual amounts	The actual costs of the ingredients issued are added to calculate the actual A1 cost of the process.
Completed amounts	For each cost component, the completed costs of the co- and by-products are added to calculate the completed cost of the process for that cost component. For example, the completed B1 cost of all co- and by-products are added. Their sum is the completed B1 cost of the process.

Appendices

Appendix A — Calculations in Cost Rollup

The following provides information about how hard-coded cost components are generated in the cost rollup process. These calculations can vary according to your manufacturing constants and your processing option choices.

The program adjusts direct labor hours and direct machine hours by time basis, crew size, and cumulative yield, as appropriate. The program adjusts component material quantities by operation scrap. Hours and quantities are also converted to the primary unit of measure.

See Also

- *Assigning Values to User Defined Cost Components*

Material Cost Components

A1 (Purchased Material Cost)

- If you enter a cost method in the Purchased Item processing option on the Simulate Cost Rollup program, the program uses that cost method to retrieve the cost from the Cost Ledger table.
- If you leave the processing option blank, the program uses the values entered manually on Enter Cost Components.

A2 (Material Scrap)

- Used for items that have a percent of scrap defined in their bill of material.
- Net added cost comes from scrap incurred when the components are assembled.
- Component material scrap cost = % of scrap from bill of material x quantity per parent item x the total cost of the component.

Routing Cost Components

Routing cost components (cost components B and C) can be controlled manually or through the Simulate Cost Rollup program.

B1 (Direct Labor)

- Parent direct labor costs = sum of direct labor calculations for all operations on the item's routing.
- Operation direct labor cost = (((operation direct labor hours / operation time basis) x operation crew size) / (operation cumulative yield % / 100)) x work center direct labor rate.

B2 (Setup Labor)

- Parent setup labor cost = sum of all setup labor calculations for all operations on the item's routing.
- Operation setup labor cost = (operation setup labor hours x work center setup labor rate) / accounting cost quantity (if the accounting cost quantity is not zero).

B3 (Machine Run)

- Parent machine run cost = sum of machine run calculations for all operations on the item's routing.
- Operation machine run cost = ((operation machine run hours / operation time basis) / (operation cumulative yield / 100)) x work center machine run rate.

B4 (Labor Efficiency)

- Increases or decreases the cost of the labor required to produce an item. If you have set the manufacturing constants to modify costs by work center efficiency, the program creates a cost component (B4) for labor efficiency when you run Simulate Cost Rollup. In addition, if the efficiency for a work center is equal to zero, then no calculation is performed for that work center. Labor efficiency is only calculated for direct labor hours.
- Parent labor efficiency cost = sum of all efficiency calculations for all operations on the item's routing.
- Operation labor efficiency cost = operation direct labor hours – (operation direct labor hours x (work center efficiency / 100)) x work center direct labor rate.

C1, C2 (Variable/Fixed Machine Overhead)

- Calculated only if you have set the Manufacturing Constants table (F3009) to include variable and fixed machine overhead in the cost. In this table, you must also determine whether machines' overhead costs are calculated from manually entered rates in the Work Center Master table (F30006) or as a percent of machine run costs.
- Parent variable/fixed machine overhead cost = sum of all variable/fixed machine overhead calculations for the item's routing.
- Operation variable/fixed machine overhead cost by percent = machine run hours x (work center variable/fixed machine overhead percent / 100) x work center machine run rate.
- Operation variable/fixed machine overhead cost by rate = machine run hours x work center variable/fixed machine overhead rate.

C3, C4 (Variable/Fixed Labor Overhead)

The following calculations are displayed as rates. If you indicate on Work Center Master that variable/fixed labor overhead costs should be calculated as a percent of labor costs, multiply the work center labor rate by the percent / 100 to obtain the labor overhead rate. For example:

> Operation variable labor overhead rate = (work center variable labor overhead percent / 100) x work center direct labor rate

- Calculated only if you have set the Manufacturing Constants table (F3009) to include variable and fixed labor overhead in the cost. In this table, you must also determine whether labor overhead costs are calculated from manually entered rates in the Work Center Master table (F30006) or as a percent of labor costs. In addition, you can set the manufacturing constants to factor labor overhead by work center efficiency.
- Parent variable/fixed labor overhead cost = sum of all variable/fixed labor overhead calculations for all operations on the item's routing.
- Variable/fixed labor overhead cost = direct labor overhead cost + setup labor overhead cost:
  - Direct labor overhead cost by rate:
    - Without labor efficiency: direct labor hours x work center variable/fixed labor overhead rate
    - With labor efficiency: (direct labor hours + work center efficiency) x work center variable/fixed labor overhead rate

      Work center efficiency = labor hours – ((work center efficiency percent / 100) x labor hours)

  - Setup labor overhead cost by rate = (operation setup labor hours / accounting cost quantity) x work center variable/fixed labor

overhead rate. Accounting cost quantity is factored if it is not equal to zero.

Outside Operation Cost Components (Usually Dx)

- Can be entered manually on Enter Cost Components or retrieved from the Cost Ledger table (F4105) when you run Simulate Cost Rollup.
- The Process Work Orders program creates item numbers for outside operations as follows:
    - Parent*OPxx. Parent = the parent item number and xx = the whole-number portion of the outside operation's operation sequence number.

      For example, for item 333, an outside operation at operation sequence number 30 receives an item number of 333*OP30.

- If you enter a cost method in the Outside Operations processing option on the Simulate Cost Rollup program, the program uses that cost method to retrieve the cost from the Cost Ledger table. If the value is zero and a value previously existed in the Cost Components table, the original value remains.
- If you leave the processing option blank, the program uses the values entered manually on Enter Cost Components.

Appendix B — Calculations for Variances

Variance Inquiry displays costs from the Work Order Variance table (F3102). How the system calculates each cost component is explained here.

Standard Costs

A1

Sum of rolled costs minus sum of net added costs = component material cost. Component material cost multiplied by work order quantity.

All other cost components

Net added cost x work order quantity

These costs are created under the following conditions:

- When you run Process Work Orders
- When the Parts List Revisions program copies the bill of material
- When the Work Order Routing program copies the routings
- When you generate journal entries for work order activity

Current Costs

A1

The sum of total rolled costs for each item in the current bill of material. The cost of components is based on the quantity before scrap is added.

This value is created under the following conditions:

- When you generate a parts list with Process Work Orders
- When you generate journal entries for work order activity

A2

The sum of the total rolled costs for each item that is scrapped.

This value is created under the following conditions:

- When you generate a parts list with Process Work Orders
- When Parts List Revisions copies the bill of material

B1–C4 Calculated in the same manner as the Simulate Cost Rollup using the hours from the current routing.

This value is created under the following conditions:

- When you generate a parts list with Process Work Orders
- When Work Order Routing copies the routing

All other cost components Net added cost x work order quantity

These costs are created under the following conditions:

- When you generate work order routing with Process Work Orders
- When Work Order Routing copies the routing

You must run the Journal Entry program in update mode to create standard and current variance values. Running the program in proof mode does not generate these values.

Planned Costs

A1 The sum of total rolled costs for each item in the current parts list.

This value is created when you generate journal entries for work order activity.

A2 The sum of the total rolled costs for each item that is scrapped.

This value is created when you generate journal entries for work order activity.

B1–C4 Calculated in the same manner as the Simulate Cost Rollup using the hours from the work order routing.

This value is created when you generate journal entries for work order activity.

All other cost components The net added cost x work order quantity.

This value is created when you generate journal entries for work order activity.

Actual Costs

A1	Generated based on actual work order issues. This value is created when you generate journal entries for work order activity.
A2	The cost of the components actually scrapped using the Component Scrap form.
B1–C4	Calculated in the same manner as Simulate Cost Rollup using the hours from the work order routing. This value is created when you generate journal entries for work order activity.
All other cost components	The net added cost x work order quantity This value is created when you generate journal entries for work order activity.

Completed/Scrapped Costs

A1	Sum of rolled costs – sum of net added costs = component material cost. This amount includes completed and scrapped quantities.
All other cost components	Net added cost x work order quantity. This value is created when you generate journal entries for work order activity.

Appendix C — Purchase Price Variance

For purchased items, if the standard cost differs from the actual purchase price, you have a purchase price variance (PPV). If you use extra costs on purchased items, the total standard cost might differ from the A1 (material) cost. This difference is the material burden cost.

When you receive a purchase order, the system updates the accounts payable account using the price on the purchase order. The system updates the inventory account with the standard item cost from the Cost Ledger table (F4105). Any difference between the two costs is made up of PPV and material burden. PPV is the difference between the frozen A1 cost and the purchase order cost. Material burden cost is the difference between the total standard cost from the Cost Ledger table and the A1 cost, as follows:

PPV = A1 cost – purchase order unit cost

Material burden cost = total standard cost – A1 cost

Example: Purchase Price Variance and Material Burden

Cost Ledger Table (F4105)

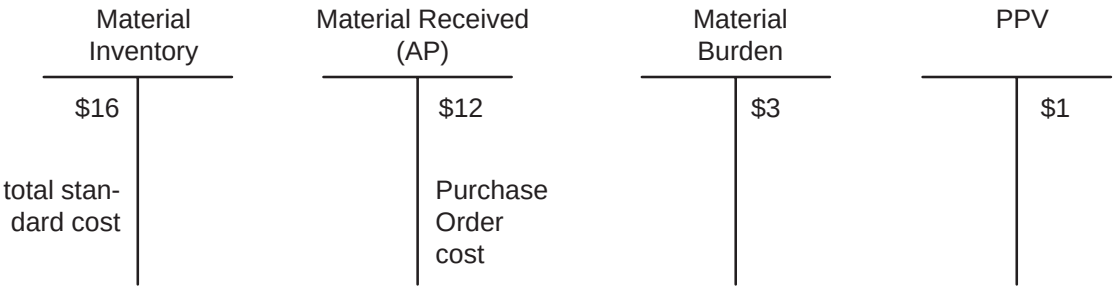
Average cost = $14

Standard cost = $16

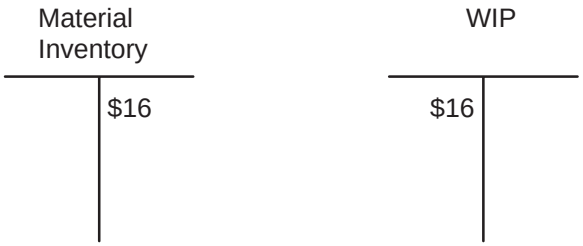
Cost Components Table (F30026)

A1 cost = $13

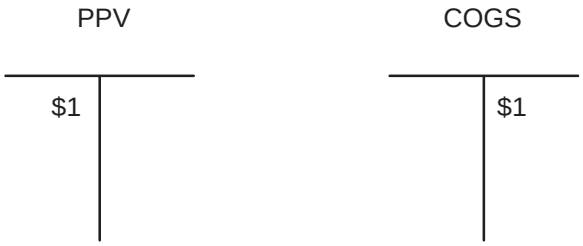
X1 cost = $3



Material issued to the work order relieves the inventory account and posts to the WIP account with the fully loaded standard cost for the item.



At period end, a manual journal entry closes the PPV to the Cost of Goods Sold account.



There is an additional AAI table (4337) to handle posting of the material overhead.

If you have multiple cost extras and you want to post to different accounts for each of them, you must use landed cost.

See Also

- *Setting Up Landed Costs* in the *Procurement Guide*

Glossary

Glossary

actual demand. Actual customer orders and allocations of items/ingredients/raw materials to production or distribution.

aggregate leadtime. See cumulative leadtime.

aggregate planning. The sum of all forecasted demand (customer, distribution, manufacturing) for all items in a family for purposes of planning gross requirements.

alternate operation. Replacement for a normal operation or routing for an item in the manufacturing process.

alternate routing. A routing, less preferred than the primary routing, that results in an item identical to that produced by the primary routing.

application. A computer program or set of programs used to accomplish a task. In OneWorld, there are interactive applications and batch applications. Interactive applications are made up of a set of forms through which the user interacts with OneWorld. Interactive application identifiers begin with "P." For example, Address Book Revisions (P01012) is an interactive application. Batch applications run without user interaction. Reports and table conversions are examples of batch applications. Batch application identifiers begin with "R." For example, the Print Mailing Labels report (R01401) is a batch application.

assemble-to-order product. A product for which key components (bulk, semi-finished, intermediate, subassembly, fabricated, purchased, packaging, and so on) are planned and stocked in anticipation of a customer order. Contrast with make-to-order product.

assembly. A group of items or subassemblies that, when put together, constitute an end item.

assembly inclusion rule. A logic statement that specifies the conditions for using a part, adjusting the price or cost, performing a calculation, or using a routing operation for configured items.

associated service type. See linked service type.

audit trail. The detailed, verifiable history of a processed transaction. The history consists of the original documents, transaction entries, and posting of records and usually concludes with a report.

automatic accounting instruction (AAI). A code that refers to an account in the chart of accounts. AAIs define rules for programs that automatically generate journal entries, including interfaces between the Accounts Payable, Accounts Receivable, Financial Reporting, and General Accounting systems. Each system that interfaces with the General Accounting system has AAIs. For example, AAIs can direct the General Ledger Post program to post a debit to a specific expense account and a credit to a specific accounts payable account.

availability. For packaged product, the system checks availability. For bulk product, you can assume it is in stock and available for sale.

backflush. To deduct from inventory records the components or ingredients as a result of the production process. See also super backflush.

batch bill of material. A recipe or formula in which the quantity of each component is based on the standard batch quantity of the parent.

batch control. A feature that verifies the number of transactions and the total amount in each batch that you enter into the system.

batch input. A group of transactions loaded from an external source.

batch job. A task or group of tasks you submit for processing that the system treats as a single unit during processing, for example, printing reports and purging files. The system performs a batch job with little or no user interaction.

batch processing. A method by which the system selects jobs from the job queue, processes them, and sends output to the outqueue. Contrast with interactive processing.

batch quantity. See standard batch quantity.

batch type. A code assigned to a batch job that designates to which system the associated transactions pertain, thus controlling which records are selected for processing. For example, the Post General Journal program selects for posting only unposted transaction batches with a batch type of O.

bill of material (BOM). A listing of all the subassemblies and raw materials that make up a parent assembly. The BOM is used with the master

production schedule to determine the items for which purchase requisitions and production orders must be released. Display formats for bills of material include single level, multi-level, indented, planning, and costed.

broadcast message. 1) An e-mail message that you send to multiple recipients. 2) A message that appears on a form instead of in your mailbox.

bucketed system. A material requirements planning, distribution requirements planning, or other time-phased system in which all time-phased data is accumulated into time periods, or buckets. If the period of accumulation is one week, then the system is said to have weekly buckets.

bucketless system. A material requirements planning, distribution requirements planning, or other time-phased system in which all time-phased data is processed, stored, and displayed using dated records rather than defined time periods, or buckets.

bulk issue. Items issued from stores to work-in-process inventory, based on quantities estimated to cover requirements of individual work centers and production lines instead of individual job orders. A bulk issue can be used to cover a period of time or to fill a fixed-size container.

business unit. See facility.

by-product. A material of positive or negative value produced as a residual of or incidental to the production process. The ratio of by-product to primary product is usually predictable. By-products might be discarded, sold as is, or used for other purposes. See also co-product and restricted by-product.

capacity requirements planning (CRP). The function of establishing, measuring, and adjusting limits or levels of capacity by determining in detail how much labor and machine resources are required to accomplish the tasks of production. Open shop orders and planned orders in the Material Requirements Planning system are inputs to CRP, which “translates” these orders into hours of work by work center and by time period.

category code. A type of user defined code for which you can provide the title. For example, if you were adding a code that designated different sales regions, you could change category code 4 to Sales Region, and define E (East), W (West), N (North), and S (South) as the valid codes. Sometimes referred to as reporting codes. See also user defined code.

certificate of analysis (COA). A document that includes all of the tests performed and resulting test data for an item lot.

chart of accounts. The structure for general ledger accounts. The chart of accounts lists types of accounts, describes each account, and includes account numbers and posting edit codes.

committed material. Material on hand or on order that is assigned to specific future production or customer orders. Sometimes referred to as reserved material.

component. A raw material, ingredient, or subassembly that is used as an element of another assembly, process, or item. A component might be packaging material for a finished item.

component changeout. See component swap.

component swap. In Equipment/Plant Management, the substitution of an operable component for one that requires maintenance. Typically, you swap components to minimize equipment downtime while servicing one of the components.

composite leadtime. See cumulative leadtime.

configuration management. A rules-based method of ordering assemble-to-order or make-to-order products, in which characteristics of the product are defined as part of the Sales Order Entry process. Characteristics are edited using Boolean logic and then translated into the components and routing steps required to produce the product. The resulting configuration is also priced and costed, based on the characteristics defined.

configured item segment. A characteristic of a configured item defined during sales order entry. For example, a customer may specify a type of computer hard drive by stating the number of megabytes of the hard drive, rather than a part number.

constants. Parameters or codes that you set and that the system uses to standardize the processing of information by associated programs.

consuming location. The point on the production line where a component or subassembly is used in the production process. Consuming location is used in kanban processing.

corrective maintenance. Any maintenance work that falls outside the scope of preventive or predictive maintenance. Corrective maintenance can be planned, unplanned, or emergency, for example,

to respond to equipment failure. Contrast with preventive maintenance and predictive maintenance.

corrective work order. A work order that is used to formally request corrective maintenance, and to communicate all details pertaining to the corrective maintenance task.

cost component. An element of an item's cost, for example, material, labor, or overhead.

cost rollup. A simulated scenario in which work center rates, material costs, and labor costs are used to determine the total cost of an item.

costed bill of material. A bill of material that extends the quantity per of every component by the cost of the components. See also bill of material.

co-product. An end item produced as the result of a process. There are usually two or more co-products. See also end item and by-product.

crew size. The number of people required to perform an operation.

critical path leadtime. See cumulative leadtime.

cross segment edit. A logic statement that establishes the relationship between configured item segments. Cross segment edits are used to prevent ordering of configurations that cannot be produced.

cumulative leadtime. The longest planned length of time needed to accomplish the activity in question. For any item planned through material requirements planning, cumulative leadtime is determined by reviewing the leadtime for each bill of material path below the item. The path with the longest leadtime defines the cumulative leadtime. Sometimes referred to as critical path leadtime, aggregate leadtime, or composite leadtime.

current cost. The cost associated with an item at the time a parts list and routing are attached to a work order or rate schedule. Current cost is based on the latest bill of material and routing for the item.

data dictionary. A database table that OneWorld uses to manage the definitions, structures, and guidelines for the usage of fields, messages, and help text. J.D. Edwards has an active data dictionary, which means that it is accessed at runtime.

database. A continuously updated collection of all information that a system uses and stores. Databases make it possible to create, store, index, and cross-reference information online.

date pattern. A period of time set for each period in standard and 52-period accounting.

default. A code, number, or parameter that the system supplies when the user does not specify one.

detail. The specific information that makes up a record or transaction. Contrast with summary.

detail area. An area of a form that displays detailed information associated with the records or data items displayed on the form. See also grid.

direct labor. Labor that is applied to the product being manufactured.

direct material. Measurable quantities of material that becomes a part of the final product.

dispatch list. A list of sequenced work orders or rate schedules that contain detailed information on location, quantity, and capacity requirements. Dispatch lists are usually generated daily and are oriented by work center or line.

effectivity date. The date on which a component or an operation is to be added or removed from a bill of material or an assembly process. Effectivity dates are used in the planning process to create demands for the correct items. Normally, bills of material and routings provide for an effectivity start date (from) and stop date (through), signifying the beginning and end of a particular relationship. Sometimes referred to as effective date.

electronic commerce. See Electronic Data Interchange.

Electronic Data Interchange (EDI). The paperless, computer-to-computer exchange of business transactions, such as purchase orders and invoices, in a standard format with standard content.

engineering change order (ECO). A work order used to implement and track a change in a manufactured product. This includes changes in design, quantity of items required, and assembly or production process.

enterprise resource planning (ERP). A closed-loop, integrated system that enables manufacturers and distributors to coordinate all of the activities necessary to fulfill customer demand. This includes activities associated with suppliers, customers, inventory, shop floor, product costing and accounting, forecasting, and planning and scheduling.

Enterprise Workflow Management. A OneWorld system that provides a way of automating tasks,

such as notifying a manager that a requisition is waiting for approval, using an e-mail-based process flow across a network.

expedite. To process production or purchase orders in less than the normal leadtime.

explosion. The process of calculating the demand for the components of a parent item by multiplying the parent item requirements by the quantity per specified in the bill of material. Sometimes referred to as requirements explosion. Contrast with implosion.

exponential smoothing. A forecasting technique in which past observations are geometrically discounted according to their age. The heaviest weight is assigned to the most recent data. The smoothing is termed exponential because data points are weighted in accordance with an exponential function of their age.

facility. An entity within a business for which you want to track costs. For example, a facility might be a warehouse location, job, project, work center, or branch/plant. Sometimes referred to as a business unit.

family. See master planning family.

feature. A characteristic of a product or service, such as an option, accessory, or attachment.

field. 1) An area on a form that represents a particular type of information, such as name, document type, or amount. 2) A defined area within a record that contains a specific piece of information. For example, a supplier record consists of the fields Supplier Name, Address, and Telephone Number.

file. A set of information stored under one name. See also table.

finished good. See end item.

firm planned order (FPO). A work order that has reached a user defined status. When this status is entered in the processing options for the various manufacturing programs, messages for those orders are not exploded to the components.

first in, first out (FIFO). A method of inventory valuation for accounting purposes, based on the assumption that oldest inventory (first in) is the first to be used (first out). There is no relationship with the actual physical movement of specific items.

fixed cost. An expense that does not vary with the production volume, for example, setup cost.

fixed order quantity. A lot-sizing technique in MRP or inventory management whereby the system generates planned or actual orders for a predetermined quantity. If the net requirements for a period exceed the fixed order quantity, the system generates orders for multiples of the fixed order quantity.

fixed overhead. Manufacturing costs that continue even if products are not produced. Although fixed overhead is necessary to produce the product, it cannot be directly traced to the final product.

fixed quantity. A value that indicates that the amount of a component or ingredient used in the manufacturing process of an end item remains the same, regardless of the quantity of the end item produced. Contrast with variable quantity.

forecast. An estimate of future demand, determined by mathematical means using historical data, subjective estimates from informal sources, or a combination of both.

forecast consumption. The reduction of forecast demand, based on actual sales orders received or shipped, up to the forecast quantity.

form. The element of the OneWorld graphical user interface by which the user exchanges data with interactive applications. Forms are made up of controls, such as fields, options, and the grid. These controls allow the user to retrieve information, add and revise information, and navigate through an application to accomplish a task.

frozen cost. The cost of an item, operation, or process, after the frozen update program is run, that is used by the Manufacturing Accounting system.

frozen update program. A program that freezes the current simulated costs, thereby finalizing them for use by the Manufacturing Accounting system.

Gantt chart. A control chart that shows graphically the relationship between planned performance and actual performance.

grade. A rating assigned to an item, based on how well the item meets required specifications.

grid. A control that displays detail information on a form. The grid is arranged into rows, which generally represent records of data, and columns, which generally represent fields of the record. See also detail area.

header. Information at the beginning of a table or form. Header information is used to identify or

provide control information for the group of records that follows.

indented bill of material. A multi-level bill of material that lists the highest level parent items at the left margin and all the components going into the patents indented to the right of the margin. All subsequent levels of components are indented farther to the right. If a component is used in more than one parent within a given product structure, it will appear under every subassembly in which it is used.

indented where-used. A bill of material listing for one component, every parent item and subassembly, and the respective quantities required. Each of these parent items calls for the given component item in a bill of material table. The component item is shown closest to the left margin of the listing in the bill, with each parent indented to the right, and each of their respective parents indented even further to the right.

ingredient. In process manufacturing industries, the raw material or component of a recipe or formula.

integrity test. A process used to supplement a company's internal balancing procedures by locating and reporting balancing problems and data inconsistencies.

interactive processing. Processing actions that occur in response to commands that you enter directly into the system. During interactive processing, you are in direct communication with the system, and it might prompt you for additional information while processing your request. Contrast with batch processing.

intermediate. Material processed beyond raw material and used in higher level items. Intermediates are not stocked in inventory, sold to customers, or planned by material requirements planning.

in-process inventory. See work-in-process (WIP).

item master. A record for an item. The item master contains descriptive data and control values (leadtimes, lot sizes, and so on), and might contain data on inventory status, requirements, planned orders, and costs. Item master records are linked together by product structure records that define the bill of material for an item.

job queue. A group of jobs waiting to be batch processed. See also batch processing.

Just-in-Time (JIT). A method of manufacturing based on planned elimination of all waste and continuous improvement of productivity. The primary elements of Just-in-Time manufacturing are to have only the required inventory when needed; to improve quality to zero defects; to reduce leadtimes by reducing setup times, queue lengths, and lot sizes; to revise incrementally the operations themselves; and to keep costs to a minimum.

kanban. Information cards attached to a group or bin of items that travel in and out of a work center. Kanbans indicate to producing work centers what has been consumed and what needs to produced next. Some companies use various shapes, sizes, and colors of cards for ease of recognition and to indicate an item's priority. OneWorld uses electronic kanbans.

labor cost. The monetary amount of labor performed during manufacturing.

ledger type. A code that designates a ledger used by the system for a particular purpose. For example, all transactions are recorded in the AA (actual amounts) ledger type in their domestic currency. The same transactions may also be stored in the CA (foreign currency) ledger type.

level. The code used for every item or assembly in a product structure to signify the relative level in which that item or assembly is used within the product structure. Normally, the end items are assigned to level 0 with the components and subassemblies of the item assigned to level 1 and so forth. The material requirements planning explosion process starts from level 0 and proceeds downward, one level at a time.

linked service type. A service type that is associated with a primary service type. Linked service types are cancelled and the maintenance tasks are performed when the primary service type to which they are linked comes due. You can specify whether the system generates work orders for linked service types, as well as the status the system assigns to work orders that have already been generated. Sometimes referred to as associated service types. See also primary service type and service type.

lot. A quantity produced together that shares the same production components. Lots are uniquely identified to allow for traceability.

lot number control. Assignment of unique numbers to each instance of receipt. This number carries forth into subsequent manufacturing processes. Thus, in

review of an end item lot, each lot consumed can be identified as having been used for the manufacture of the specific end item lot.

maintenance loop. See maintenance route.

maintenance route. A method of performing PMs for multiple pieces of equipment from a single preventive maintenance work order. A maintenance route includes pieces of equipment that share one or more identical maintenance tasks that can be performed at the same time for each piece of equipment. Sometimes referred to as maintenance loop.

maintenance work order. In J.D. Edwards systems, a term used to distinguish work orders created for the performance of equipment and plant maintenance from other work orders, such as manufacturing work orders, utility work orders, and engineering change orders.

make-to-order product. A product that is produced after receipt of a customer's order. The final product is usually a combination of standard purchased items and items specially designed to meet the needs of the customer. Frequently, long leadtime components are planned prior to the order arriving to reduce the delivery time to the customer. Contrast with assemble-to-order product. See also make-to-stock product.

manufacturing and distribution planning. Planning that includes Resource and Capacity Planning and Material Planning Operations. Resource and Capacity Planning allows you to prepare a feasible production schedule that reflects your demand forecasts and production capability. Material Planning Operations provides a short-range plan to cover material requirements that are needed to make a product.

manufacturing calendar. See work day calendar.

master planning family. Products that are grouped together for material planning purposes, based on shared characteristics.

Master Production Scheduling (MPS). The act of creating a master schedule. See also master schedule.

master schedule. A detailed statement of how many items are planned to be produced and when. The master schedule focuses on products to be made and, through the detailed planning system, identifies the resources (materials, work force, plant equipment, and capital) needed and the timing of the need. See also material requirements planning.

master table. A database table used to store data and information that is permanent and necessary to the system's operation. Master tables might contain data, such as paid tax amounts, supplier names, addresses, employee information, and job information.

material requirements planning (MRP). A set of techniques that uses bill of material, inventory data, and the master schedule to calculate the time-phased net material requirements for every component item and subassembly. MRP suggests a replenishment plan to support the production of the quantities that are specified in the master schedule. See also master schedule.

menu masking. A security feature that lets you prevent individual users from accessing specified menus or menu selections.

model work order. In Equipment/Plant Management, a work order that functions as a template for the creation of other work orders. You can assign model work orders to service types. When the service type comes due, the system automatically generates a work order based on information from the model work order.

net added cost. The cost to manufacture an item at the current level in the bill of material. Thus, for manufactured parts, the net added cost includes labor, outside operations, and cost extras applicable to this level in the bill of material, but not materials (lower-level items). For purchased parts, the net added cost also includes the cost of materials.

next numbers. A feature used to control the automatic numbering of items such as new G/L accounts, vouchers, and addresses. Next numbers provides a method of incrementing numbers.

nonconforming product. Items that do not meet the requirements of a relevant specification, contract, regulation, or quality test.

nonsignificant item numbers. Item numbers that are assigned to each item but do not convey any information about the item. They are identifiers, not descriptors. Contrast with significant item numbers.

operation sequence. The sequential steps that an item follows in its flow through the plant. For instance, operation 10: cut bar stock; operation 20: grind bar stock; operation 30: shape; operation 40:

polish; operation 50: inspect and send to stock. This information is maintained in the routing table.

operation yield. The planned percent of output at an operation. For example, if the operation yield is 90% and 100 units are started at that operation, planned output is 90 units that will be available to the next operation.

output queue. See print queue.

overlap. The percentage by which an operation overlaps the previous operation in the sequence. For example, a 20% overlap means that a step can begin when the previous step is 80% complete.

parameter. A number, code, or character string you specify in association with a command or program. The computer uses parameters as additional input or to control the actions of the command or program.

parent item. See end item.

parent/child relationship. See parent/component relationship.

parent/component relationship. 1) In Equipment/Plant Management, the hierarchical relationship of a parent piece of equipment to its components. For example, a manufacturing line could be a parent and the machinery on the line could be components of the line. In addition, each piece of machinery could be a parent of still more components. 2) In Product Data Management, a hierarchical relationship of the components and subassemblies of a parent item to that parent item. For example, an automobile is a parent item and its components and subassemblies include: engine, frame, seats, and windows. Sometimes referred to as parent/child relationship.

pay on consumption. The method of incurring a liability for items received from a supplier only when the material is used in the production process.

phantom bill of material. A bill of material used primarily for non-stocked items that represents an item that is physically built, but rarely stocked. The item is instead used in the next step or level of manufacturing. Material requirements planning uses the phantom bill of material to explode the requirements through the phantom item to its components. See also explosion.

planning bill of material. An artificial grouping of items or events in bill of material format, used to facilitate master scheduling of material planning, and forecasting. Sometimes referred to as pseudo bill of material.

planning calendar. See work day calendar.

planning family. A means of grouping end items whose similarity of design and manufacture facilitates being planned in aggregate.

PM. Maintenance tasks and procedures that are routine and repetitive, such as periodic lubrications and filter replacements. Preventive maintenance procedures are designed to eliminate breakdowns and the need for corrective maintenance. Contrast with corrective maintenance and predictive maintenance.

potency. Identifies the percent of a process item in solution. For example, 80% solution could be used in a process that called for 100%, but would require 25% more in terms of quantity to meet the requirement (100 / 80 = 1.25).

predictive maintenance. A maintenance strategy that uses computerized data collection and analysis of equipment operating parameters to predict the point at which equipment is expected to fail and then schedules the appropriate procedures just before the expected equipment failure. Predictive maintenance can significantly reduce costs and equipment downtime by eliminating unnecessary preventive maintenance procedures. In addition, by predicting and averting catastrophic equipment failure, predictive maintenance reduces overall maintenance costs and allows for equipment to be operated for its full service life. Contrast with corrective maintenance and preventive maintenance.

preference profile. The ability to define default values for specified fields for a user defined hierarchy of items, item groups, customers, and customer groups.

preflush. To deduct materials from inventory when the parts list and routing are attached.

preventive maintenance (PM). One or more service types that are due to be performed for a piece of equipment, based on the service intervals for each service type. When you complete a preventive maintenance, a new preventive maintenance cycle begins for the service types included in the preventive maintenance.

preventive maintenance cycle. The sequence of events that make up a preventive maintenance task, from its definition to its completion. Because most

preventive maintenance tasks are commonly performed at scheduled intervals, parts of the preventive maintenance cycle repeat, based on those intervals.

preventive maintenance schedule. The combination of service types that apply to a specific piece of equipment, as well as the intervals at which each service type is scheduled to be performed.

primary location. The designation of a certain storage location as the standard, preferred location for an item.

primary service type. A service type to which you can link related service types. For example, for a particular piece of equipment, you might set up a primary service type for a 1000-hour inspection and a linked service type for a 500-hour inspection. The 1000-hour inspection includes all tasks performed at 500 hours. When a primary service type is scheduled to be performed, the system schedules the linked service type. See also linked service type.

print queue. A list of tables, such as reports, that you have submitted to be written to an output device, such as a printer. The computer spools the tables until it writes them. After the computer writes the table, the system removes the table identifier from the print queue.

priority. 1) The relative importance of jobs in a queue. 2) The sequence in which jobs should be completed.

processing option. A feature that allows you to direct the functions of a program. For example, processing options allow you to specify defaults for certain forms, control the format in which information prints on reports, and change how information appears on a form or in a report.

Product Data Management (PDM). In J.D. Edwards software, the system that enables a business to organize and maintain information about each item it manufactures. Features of this system, such as bills of material, work centers, and routings, define the relationships among components and how they can be combined to manufacture an item. PDM also provides data for other manufacturing systems including Manufacturing Accounting, Shop Floor Management, and Manufacturing and Distribution Planning.

product family. See master planning family.

product line. A group of products whose similarity in manufacturing procedures, marketing characteristics, or specifications allow them to be aggregated for planning, marketing, and occasionally, costing. See also master planning family.

production line. A series of work centers or machines allocated to the production of a limited number of items with similar routings.

projected cost. The target expenditure in added value for material, labor, and so forth during manufacture. See also standard cost.

pseudo bill of material. See planning bill of material.

purchased part. An item bought from a supplier.

purge. The process of removing records or data from a system table.

queue. The jobs waiting to be processed at a given work center. As queues increase, so do average queue time and work-in-process inventory.

recipe. See bill of material.

record. A collection of related, consecutive fields of data that the system treats as a single unit of information.

repetitive manufacturing. Producing items in high-volume concentration, often with entire production lines dedicated to a family of products.

replacement parts. Parts that can be used as substitutes. They differ from completely interchangeable service parts in that they require some physical modification, such as cutting, drilling, and so forth, before they can replace the original part.

replenishment point. The location on or near the production line where additional components or subassemblies are to be delivered.

requirements explosion. See explosion.

reserved material. See committed material.

resource requirements planning (RRP). The process of converting the production plan into capacity needs for key resources, such as workforce, machinery, warehouse space, suppliers' capabilities, and in some cases, money. Comparison of capacity required of items in the master schedule to available capacity is usually done for each key resource.

restricted by-product. A restricted secondary or incidental product produced while making another product. Such by-products cannot be sold because

they are restricted from sale by government policies. The company might have to forego making a product if a restricted by-product is produced.

revision level. A number or letter representing the number of times a document or item has been changed.

rollup. See cost rollup.

rough cut capacity planning (RCCP). The process of converting the master schedule into capacity needs for key resources, such as workforce, machinery, warehouse space, suppliers' capabilities, and in some cases, money. Comparison of capacity required of items in the master schedule to available capacity is usually done for each key resource.

run size. See standard batch quantity.

safety stock. 1) A quantity of stock planned to be on hand to protect against fluctuations in demand or supply. 2) In Master Production Scheduling, the additional inventory or capacity planned as protection against forecast errors or short-term changes in the backlog. Overplanning can be used to create safety stock.

scheduling workbench. A multiple-function program that allows the sequencing of work orders, rate schedules, or both on a production line. Sequencing can be manual or automatic, based on user defined category code definition. Sequencing includes forward, finite scheduling, including the option to cross shifts or days.

scrap. Unusable material that results from the production process. Scrap is material outside of specifications and of such characteristics that rework is impractical.

scrap rate. See scrap factor.

sequencing. Determining the order in which a facility processes different jobs.

serial number. A unique number assigned to identify a specific item with a lot size of one.

service interval. The frequency at which a service type is to be performed. Service intervals can be based on dates, periods, or statistical units that are user defined. Examples of statistical units are hours, miles, and fuel consumption.

service type. An individual preventive maintenance task or procedure, such as an inspection, lubrication, or overhaul. Service types can apply to a specific piece of equipment or to a class of equipment. You can specify that service types come due based on a predetermined service interval, or whenever the task represented by the service type becomes necessary.

setup cost. The labor costs associated with setting up an operation for the next product.

shop calendar. See work day calendar.

Shop Floor Management. A system that uses data from Product Data Management, Master Production Scheduling, and Material Requirements Planning to create, maintain, and communicate status on shop orders (work orders).

shrink factor. A percentage factor in the item master record that compensates for expected loss during the manufacturing cycle either by increasing the gross requirements or by reducing the expected completion quantity of planned and open orders. The shrink factor differs from the scrap factor in that the former affects all uses of the part and its components and the scrap factor relates to a single component. Sometimes referred to as shrinkage rate.

shrinkage rate. See shrink factor.

significant item numbers. Item numbers that are intended to convey certain information, such as the source of the part, the material in the part, the shape of the part, and so forth. Contrast with nonsignificant item numbers.

simulated cost. After a cost rollup, the cost of an item, operation, or process according to the current cost scenario. This cost can be finalized by running the frozen update program. You can create simulated costs for a number of cost methods, for example, standard, future, and simulated current costs. See also cost rollup.

single level where-used list. A type of bill of material that lists each parent in which a specific component is directly used and in what quantity it is used.

specification. A statement of the technical requirements of an application or item and the process involved to ensure the requirements are met.

spool. The function by which the system stores generated output to await processing.

standard cost. The expected, or target cost of an item, operation, or process. Standard costs represent only one cost method in the Product Costing system. You can also calculate, for example, future costs or current costs. However, the Manufacturing Accounting system uses only standard frozen costs.

standard costing. A costing method that uses cost units determined before production. For management control purposes, the system compares standard costs to actual costs and computes variances.

standard hours. The length of time that should be required to 1) set up a given machine or operation and 2) run one part, assembly, batch, or end product through that operation. This time is used in determining machine and labor requirements. It is also frequently used as a basis for incentive pay systems and as a basis for allocating overhead in cost accounting systems.

subassembly. An assembly that is used at a higher level to make up another assembly.

substitution. To use alternate components in production when primary items are not available.

summary. The presentation of data or information in a cumulative or totaled manner in which most of the details have been removed. Many systems offer forms and reports that summarize information stored in certain tables. Contrast with detail.

super backflush. To create backflush transactions against a work order at pay points defined in the routing. By doing so, you can relieve inventory at strategic points throughout the manufacturing process. See also backflush.

supplier scheduling. A process of providing suppliers with consistent shipping information and advanced demand profiles to support just-in-time production and delivery. The supplier scheduling system includes a business agreement and delivery schedule for each supplier. Supplier scheduling includes a formal priority planning system and EDI functionality to provide the supplier with valid due dates.

supply chain. The link from the initial raw materials to the consumption of the finished product.

supplying location. The location from which inventory is transferred once quantities of the item on the production line have been depleted. Used in kanban processing.

system. A group of related applications identified by a name and a system code. For example, the Address Book system code is 01. All applications, tables, and menus within a system can be identified by the system code.

system code. A code that identifies a system, for example, 01 for the Address Book system and 31 for the Shop Floor Management system.

table. In database environments, a two-dimensional entity made up of rows and columns. All physical data in a database are stored in tables. See also file.

threshold percentage. In Equipment/Plant Management, the percentage of a service interval that you define as the trigger for maintenance to be scheduled. For example, you might set up a service type to be scheduled every 100 hours with a threshold percentage of 90 percent. When the equipment accumulates 90 hours, the system schedules the maintenance.

traceability. The ability to trace the production history of a product for quality or warranty purposes. This is usually done through the use of lot or serial numbers to link raw materials from the supplier to the end product. Lot/serial number traceability can be a government requirement in certain regulated industries, such as the pharmaceutical or automotive industries. See also lot.

unit cost.The total cost of labor, material, and overhead for one unit of production.

unit of measure. The standard quantity by which an item is managed, such as by weight, box, package, case, each, and so forth.

user defined code (UDC). A code that users can define, assign code descriptions, and assign valid values. Examples of such codes are unit-of-measure codes, state names, and employee type codes.

user defined code type. The identifier for a table of codes with a meaning that you define for the system, such as ST for the Search Type codes table in Address Book. OneWorld provides a number of these tables and allows you to create and define tables of your own.

value added. Amount of increased worth of inventory through manufacturing, processing, or packaging.

variable quantity. A value that indicates the amount of a component or ingredient that varies based on the quantity of the end product produced. Contrast with fixed quantity.

variance. 1) In Product Costing and Manufacturing Accounting, the difference between two methods of costing the same item. For example, the difference between the frozen standard cost and the current

cost is an engineering variance. Frozen standard costs come from the Cost Components table, and the current costs are calculated using the current bill of material, routing, and overhead rates. 2) In Equipment/Plant Management, the difference between revenue generated by a piece of equipment and costs incurred by the equipment.

vocabulary overrides. A feature that you can use to override field, row, or column title text on forms and reports.

work day calendar. A calendar, used in planning functions, that consecutively lists only working days so that component and work order scheduling can be done based on the actual number of work days available. Sometimes referred to as planning calendar, manufacturing calendar, or shop floor calendar.

work order life cycle. In Equipment/Plant Management, the sequence of events through which a work order must pass to accurately communicate the progress of the maintenance tasks it represents.

work-in-process (WIP). One or more products in various stages of completion throughout the plant, including all material from raw material that has been released for initial processing up to completely processed material awaiting final inspection and acceptance as finished product. Sometimes referred to as in-process inventory.

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