Microsoft Dynamics® GP

Manufacturing Management Functions

Contents

Introduction

You can use Manufacturing to organize and track the daily workings of the manufacturing process, such as taking orders, purchasing raw materials, building finished goods, fulfilling orders, and selling the finished goods.

This introduction is divided into the following sections:

- *Manufacturing documentation*
- *What's in this manual*
- *Symbols and conventions*
- *Resources available from the Help menu*
- *Send us your documentation comments*

Manufacturing documentation

Manufacturing documentation is divided into five manuals. Refer to the following table for an overview of what is included in each of the manuals.

Manual	Modules or other major pieces
Manufacturing Setup manual	System setup User setup
Manufacturing Core Functions manual	Manufacturing Cards Extensions to Inventory Control Bills of Materials Extensions to Sales Order Processing Sales Configurator Manufacturing Reports
Manufacturing Production Functions manual	Routings Manufacturing Orders Outsourcing Work in Process
Manufacturing Management Functions manual	Quality Assurance Engineering Change Management Job Costing
Manufacturing Planning Functions manual	Sales Forecasting Master Production Scheduling Capacity Requirements Planning (CRP) Material Requirements Planning (MRP)

The online help file includes all of the information in the manuals, except installation information. The online help also includes field-by-field descriptions of the windows. You can access online help by pressing F1 whenever a Manufacturing window is active, or by choosing Help >> About this window.

If a Microsoft Dynamics® GP window—such as the Sales Transaction Entry window—is the active window when you access help, online help for Microsoft Dynamics GP will be displayed. You can close that help, open any Manufacturing window, and try again to access Manufacturing-specific help.

What's in this manual

This manual is designed to give you an understanding of how to use the features of Manufacturing, and how it integrates with the Microsoft Dynamics GP system.

To make best use of Manufacturing, you should be familiar with systemwide features described in the System User's Guide, the System Setup Guide, and the System Administrator's Guide.

Some features described in the documentation are optional and can be purchased through your Microsoft Dynamics GP partner.

To view information about the release of Microsoft Dynamics GP that you're using and which modules or features you are registered to use, choose Help >> About Microsoft Dynamics GP.

The manual is divided into the following parts:

* Part 1, **Quality Assurance**, contains information about defining quality assurance procedures and requirements for incoming inspections.

* Part 2, **Engineering Change Management**, describes how you can enter and track progress on engineering change requests and orders.

* Part 3, **Job Costing**, describes tasks you need to complete to define jobs and link elements—such as purchase orders, sales orders, and manufacturing orders—to the job.

Symbols and conventions

For definitions of unfamiliar terms, see the glossary in the manual or refer to the glossary in Help.

Symbol	Description
	The light bulb symbol indicates helpful tips, shortcuts and suggestions.
	The warning symbol indicates situations you should be especially aware of when completing tasks.

This manual uses the following conventions to refer to sections, navigation and other information.

Convention	Description
Creating a batch	Italicized type indicates the name of a section or procedure.
File >> Print or **File > Print**	The (>>) or (>) symbol indicates a sequence of actions, such as selecting items from a menu or toolbar, or pressing buttons in a window. This example directs you to go to the File menu and choose Print.
TAB or ENTER	All capital letters indicate a key or a key sequence.

Resources available from the Help menu

The Microsoft Dynamics GP Help menu gives you access to user assistance resources on your computer, as well as on the Web.

Contents

Opens the Help file for the active Microsoft Dynamics GP component, and displays the main "contents" topic. To browse a more detailed table of contents, click the

Contents tab above the Help navigation pane. Items in the contents topic and tab are arranged by module. If the contents for the active component includes an "Additional Help files" topic, click the links to view separate Help files that describe additional components.

To find information in Help by using the index or full-text search, click the appropriate tab above the navigation pane, and type the keyword to find.

To save the link to a topic in the Help, select a topic and then select the Favorites tab. Click Add.

Index

Opens the Help file for the active Microsoft Dynamics GP component, with the Index tab active. To find information about a window that's not currently displayed, type the name of the window, and click Display.

About this window

Displays overview information about the current window. To view related topics and descriptions of the fields, buttons, and menus for the window, choose the appropriate link in the topic. You also can press F1 to display Help about the current window.

Lookup

Opens a lookup window, if a window that you are viewing has a lookup window. For example, if the Checkbook Maintenance window is open, you can choose this item to open the Checkbooks lookup window.

Show Required Fields

Highlights fields that are required to have entries. Required fields must contain information before you can save the record and close the window. You can change the font color and style used to highlight required fields. On the Microsoft Dynamics GP menu, choose User Preferences, and then choose Display.

Printable Manuals

Displays a list of manuals in Adobe Acrobat .pdf format, which you can print or view.

What's New

Provides information about enhancements that were added to Microsoft Dynamics GP since the last major release.

Microsoft Dynamics GP online

Opens a Web page that provides links to a variety of Web-based user assistance resources. Access to some items requires registration for a paid support plan.

Customer Feedback Options

Provides information about how you can join the Customer Experience Improvement Program to improve the quality, reliability, and performance of Microsoft® software and services.

Send us your documentation comments

We welcome comments regarding the usefulness of the Microsoft Dynamics GP documentation. If you have specific suggestions or find any errors in this manual, send your comments by e-mail to the following address: bizdoc@microsoft.com.

To send comments about specific topics from within Help, click the Documentation Feedback link, which is located at the bottom of each Help topic.

Note: By offering any suggestions to Microsoft, you give Microsoft full permission to use them freely.

Part 1: Quality Assurance

This part of the documentation includes information that will help you set up and maintain the Manufacturing Quality Assurance module. The setup procedures generally need to be completed once, but you can refer to this information at other times for instructions to modify or view existing entries.

Quality Assurance helps you define the inspection processes used in your organization and helps you record the results from the inspections.

The following information is discussed:

- Chapter 1, "Quality Assurance overview," includes information about basic concepts and terms for quality assurance topics.

- Chapter 2, "Quality Assurance sampling," discusses how you can create AQL tables that can help you calculate the sample size you'll need to take from each group of received items, and the number of items in each group that need to pass inspection to meet certain quality levels. You need to complete the procedures in this document only if you're using sampling.

- Chapter 3, "Defect codes, disposition codes, and inspectors," describes how you can set up defect codes, disposition codes, and inspector IDs. You can use these codes as you're entering inspection results, and later you can use them to sort and restrict information on reports.

- Chapter 4, "Inspection procedures," includes information about creating inspection procedures for items.

- Chapter 5, "Inspection results," explains how to enter information about testing results.

- Chapter 6, "Problem and action reports," describes how you can generate Non-Standard Reports (NSRs) and Supplier Corrective Action Requests (SCARs), based on inspection results.

Chapter 1:   Quality Assurance overview

Companies today put great emphasis on quality issues. To increase the quality of their products, manufacturing companies are constantly upgrading, updating, and modifying their processes.

An effective quality assurance program must include measurements. You can use the features within Quality Assurance to record information about the processes you use to inspect items—and the results you get from those inspections. Quality Assurance includes windows that display detailed information about quality measurements that have been recorded. The system also includes special system-administrator settings so you can set up security systems to give access to the information to authorized personnel only.

This information is divided into the following sections:

- *Quality assurance terms*
- *Samples*

Quality assurance terms

Refer here for information about some of the terms related to quality assurance.

Quality assurance   Quality Assurance (QA) is the process of testing items against a standard of quality. Each group of test items—which might be all items in a group or a representative sample of the group—is tested with procedures defined by your organization. Inspectors can record the results of their tests. If the results are acceptable, the item or group of items is approved and its quantities are added to inventory for use in sales or manufacturing. If the results aren't acceptable, decisions must be made about the disposition of the items. For example, you might need to decide to repair an item, return it to the vendor, or use it in its present condition. Rejecting a lot also might mean that another sample must be drawn from the lot for further testing.

Acceptable Quality Level table   An Acceptable Quality Level (AQL) table is a representation of your testing standards and sample sizes. By creating AQL tables and determining which tables are to be used for inspections of specific items, your company's inspectors can quickly determine required sample sizes, the minimum number of accepted items from a lot and the maximum number of failures in a lot.

Tolerance   When you set up inspection procedures, you can enter information about the appropriate values for various tests. If you specify a value that the test results must equal, you also can enter a tolerance—an amount of variation from the exact measurement that is still considered acceptable. For example, suppose you're defining an inspection procedure for measuring the length of a component. The test requirement might be that a certain dimension must equal 2 centimeters. If you enter a tolerance of 0.1 centimeters, then any measurement ranging from 1.9 to 2.1 centimeters would be acceptable.

Defect code   A defect code is an identifier for a particular type of item failure. For example, electrical components might have defect codes for characteristics like resistance, capacitance, and inductance. You can create defect codes for all the characteristics that might cause you to reject items.

Disposition code   A disposition code is an identifier for a method of handling defective items. For example, you might decide to rework some defective items so that they meet quality standards; you might need to return some items to the vendor or strip some items of usable materials and then scrap them. You can create disposition codes for all the methods your company uses to dispose of defective items.

Non-Standard Report   A Non-Standard Report or NSR is a report for internal use that summarizes the defects that have been identified in a group of items. The NSR also might include information about the disposition of the defective items.

Supplier Corrective Action Request   A Supplier Corrective Action Request or SCAR is a formal report you can send to a supplier when you want to involve the supplier in resolving problems with defective parts. SCARs describe the problems you've found—including item numbers, lot numbers, dates, and test results—and might outline possible areas for the supplier to research to prevent the defect from recurring. Suppliers usually are required to respond to the SCAR reports with information about the cause of the defect and steps to take to prevent its recurrence.

Samples

If you have to inspect a large number of items for incoming or final inspections, you might want to use sampling. Sampling is a statistical process of selecting a portion of the item quantity to test. From the sample you select, you can draw inferences about the overall quality of the entire item quantity. Sampling can be rigorous—selecting a large percentage of the items in the item quantity—or slight. The number or percentage of items you'll need to sample will be determined by your company's processes and standards.

You must use AQL tables with sampling. These tables are references you can use to interpret the results of the tests you perform on the sample group. For example, if you inspect a lot of 10,000 units by drawing a sample of 500 units, and 65 of those units don't meet inspection criteria, you'll need to refer to a table to know if the item group has passed or failed the inspection.

Quality Assurance helps you to define AQL tables to use within your company. You can create an unlimited number of AQL tables. You can create different AQL tables to reflect differences in sampling requirements.

For more information about creating AQL tables, refer to Chapter 2, "Quality Assurance sampling."

Chapter 2: Quality Assurance sampling

If you use sampling, you'll need to set up AQL tables for items. You also can use AQL tables if you test all items by setting up AQL tables where the sample size equals the lot size.

This information is divided into the following sections:

- *Creating an Acceptable Quality Level table*
- *Modifying an AQL table*
- *Adding a lot-size range to an AQL table*
- *Deleting a column from an AQL table*
- *Deleting an AQL table*

Creating an Acceptable Quality Level table

If you use samples to inspect or test items, you must define at least one Acceptable Quality Level (AQL) table. Use the Acceptable Quality Level (AQL) Tables window to create AQL tables.

To create an Acceptable Quality Level table:

1. Open the Acceptable Quality Level (AQL) Tables window.
    (Cards >> Manufacturing >> Quality Assurance >> AQL Tables)

2. Enter a name for the table in the AQL Table name field.

3. Enter identification numbers for the AQL field columns. You can enter identification numbers for an unlimited number of fields. To use more than four columns, use the browse buttons at the top of the scrolling window to move right and left, and then add more identification numbers.

If you're using percentages for column names—as many companies do—note that you can't enter numbers greater than 99.99 in the fields.

4. In the first blank line of the Lot Size column, enter a range for the lot size to use with this table. Select the first number in the range and enter a number for the end of the range. Select the second number in the range and enter a number for the beginning of the range. Continue entering lot sizes. The ranges can't overlap; the beginning of the second range must be greater than the end of the preceding range.

   For example, if a widget is received in batches of 100, your first lot size might be 100–200; your second might be 201–300, and so on. The last lot size might be 901–99,999,999, so you can be sure all lot quantities are included.

5. In the Sample Size field for the first blank line in the scrolling window, enter the number of items that should be selected for the sample. The sample size number can't be greater than the beginning of the lot-size range. For example, if the lot-size range is 1-100 items, you can't have a sample size of 10 items because it would be impossible to draw a sample of 10 items from a lot of one item.

6. Enter the maximum number of inspection failures that can occur in the sample for the lot to be accepted in the Accept field.

7. Enter the minimum number of inspection failures that can occur in the sample for the lot to be rejected in the Reject field. The number in the Reject field will always be one more than the number in the Accept field.

8. Repeat steps 5 through 7 until you've entered the sample size and accept and reject criteria for all columns.

You can use the same sample size for all columns, or you can enter different sample sizes for each column.

9. To enter additional rows, repeat steps 4 through 8 for all rows in the table.

10. Choose Save to save the AQL table information. When you've finished, close the window.

Modifying an AQL table

Use the Acceptable Quality Level (AQL) Tables window to change information in an AQL table.

To modify an AQL table:

1. Open the Acceptable Quality Level (AQL) Tables window.
   (Cards >> Manufacturing >> Quality Assurance >> AQL Tables)

2. Enter or select an AQL table.

3. Make changes to the information in the table, as needed. You can change lot sizes, sample sizes, or accept or reject criteria. You also can rename the columns in the table.

4. Choose Save and close the window.

Adding a lot-size range to an AQL table

Use the Acceptable Quality Level (AQL) Tables window to add a lot-size range row to an AQL table.

To add a lot-size range to an AQL table:

1. Open the Acceptable Quality Level (AQL) Tables window.
    (Cards >> Manufacturing >> Quality Assurance >> AQL Tables)

2. Enter or select an AQL table.

3. In the first blank line of the Lot Size column, enter the lot-size range to be used with this table. Select the first number in the range and enter a number that reflects the beginning of the range. Select the second number in the range and enter a number that reflects the end of the range.

4. In the Sample Size field for the new line, enter the number of items that should be selected for the sample. The sample size number can't be greater than the low end of the lot-size range.

5. Enter the maximum number of inspection failures that can occur in the sample for the lot to be accepted in the Accept field.

6. Enter the minimum number of inspection failures that can occur in the sample for the lot to be rejected in the Reject field. The number in the Reject field will always be one more than the number in the Accept field.

7. Repeat steps 3 through 6 until you've entered the sample size and accept and reject criteria for all columns.

8. Choose Save and close the window.

Deleting a column from an AQL table

Use the Acceptable Quality Level (AQL) Tables window to delete an entire column from an AQL table. You might want to do this if you've made errors in defining an AQL table, and you want to clear the column before reentering the information.

To delete a column from an AQL table:

1. Open the Acceptable Quality Level (AQL) Tables window.
    (Cards >> Manufacturing >> Quality Assurance >> AQL Tables)

2. Enter or select an AQL table.

3. Select the column to be deleted and choose the delete icon button at the top of that column. A message appears, and you'll have the option to cancel the process. Choose Cancel to cancel the process. Choose Delete to remove the column from the table.

4. Choose Save and close the window.

Deleting an AQL table

Use the Acceptable Quality Level (AQL) Tables window to delete an AQL table that is no longer needed.

To delete an AQL table:

1. Open the Acceptable Quality Level (AQL) Tables window.
    (Cards >> Manufacturing >> Quality Assurance >> AQL Tables)

2. Enter or select an AQL table.

3. Choose Delete. A message appears, and you'll have the option to cancel the procedure. Choose Cancel to cancel the process, or choose Delete to remove the AQL table from your system.

Chapter 3: Defect codes, disposition codes, and inspectors

When you use Quality Assurance, you can enter, store, and retrieve information about your company's quality testing results. Quality Assurance includes a framework for defining defect codes, disposition codes, and inspection procedures.

This information is divided into the following sections:

- *Creating a defect code*
- *Deleting a defect code*
- *Creating a disposition code*
- *Deleting a disposition code*
- *Creating an inspector ID*
- *Deleting an inspector ID*

Creating a defect code

When you use Quality Assurance to record information about the results of your inspections, you can assign defect codes to help you categorize the reasons why items fail inspection. Defect codes are used as restriction methods for some reports. You'll use defect codes when you enter the results of an inspection procedure. Refer to *Entering final inspection results* on page 34 for more information.

Use the Defect Codes window to create a defect code.

To create a defect code:
1. Open the Defect Codes window.
   (Cards >> Manufacturing >> Quality Assurance >> Defect Codes)
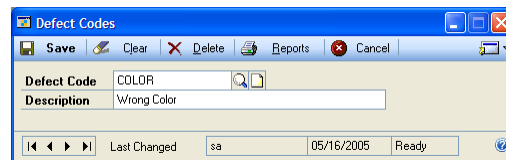
2. Enter a defect code identifier and a brief description of the defect code.

3. You can choose the notes button to enter any additional details about the defect code in the notes window. Choose OK to save the information and to close the notes window.

4. Choose Save and close the window.

Deleting a defect code

Use the Defect Codes window to delete an existing defect code.

To delete a defect code:
1. Open the Defect Codes window.
   (Cards >> Manufacturing >> Quality Assurance >> Defect Codes)

2. Enter or select a defect code.

3. Choose Delete. A message will appear, and you'll have the option to cancel the deletion process. Choose Delete to remove the defect code. Choose Cancel to end the process.

4. When you've finished, close the window.

Creating a disposition code

Use the Disposition Codes window to create disposition codes—identifiers that describe how defective items will be handled. For example, you might have an RTV disposition code for items that should be "returned to vendor." Disposition codes are used as restriction methods for some reports.

To create a disposition code:

1. Open the Disposition Codes window.
    (Cards >> Manufacturing >> Quality Assurance >> Disposition Codes)
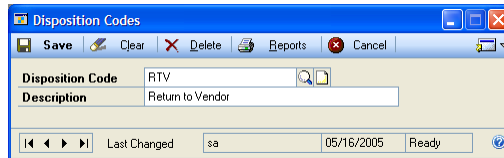
2. Enter a disposition code identifier and a brief description of the disposition method.

3. You can choose the notes button to enter additional details about the disposition code in the notes window. Choose OK to save the information and to close the notes window.

4. Choose Save and close the window.

Deleting a disposition code

Use the Disposition Codes window to delete an existing disposition code.

To delete a disposition code:

1. Open the Disposition Codes window.
    (Cards >> Manufacturing >> Quality Assurance >> Disposition Codes)

2. Enter or select a disposition code.

3. Choose Delete. A message will appear, and you'll have the option to cancel the deletion process. Choose Delete to remove the disposition code. Choose Cancel to end the process.

4. When you've finished, close the window.

Creating an inspector ID

Use the Inspector Setup window to create inspector IDs—identifiers for the persons who complete inspection procedures. Descriptions can be a person's name or user ID. You can use more general descriptions if a group of users share an inspection ID, such as "First shift inspectors."

To create an inspector ID:

1. Open the Inspector Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Inspectors)
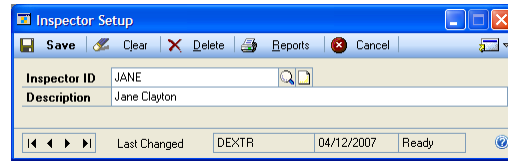
2. Enter an inspector ID.

3. Enter the name or a brief description of the inspector.

4. Choose the notes button to enter any additional details about the inspector ID.
    Choose OK to save the information and to close the notes window.

5. Choose Save and close the window.

Deleting an inspector ID

Use the Inspector Setup window to delete an existing inspector ID.

To delete an inspector ID:

1. Open the Inspector Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Inspectors)

2. Enter or select an inspector ID.

3. Choose Delete. A message will appear, and you'll have the option to cancel the
    deletion process. Choose Delete to remove the inspector ID. Choose Cancel to
    end the process.

4. When you've finished, close the window.

Chapter 4: Inspection procedures

Most manufacturing companies have processes in place for one or more quality systems—systems for testing incoming materials, for testing products at certain points in the manufacturing process, and for testing finished products.

When you use Quality Assurance, you can create inspection procedures—lists of requirements that items must meet to be accepted. An inspection procedure includes information about the tests that must be completed. An inspection procedure also can have attached drawings or other files. You can assign a default inspection procedure to items that need to be inspected. Later, when you're ready to inspect items, you can use the default inspection procedure, or choose a different one.

This information is divided into the following sections:

- *Creating a measurement type*
- *Modifying a measurement type*
- *Deleting a measurement type*
- *Inspection procedure steps*
- *Defining an inspection procedure*
- *Modifying an inspection procedure*
- *Removing a step from a procedure*
- *Checking which items share a default procedure*
- *Deleting an inspection procedure*
- *Attaching a drawing to an inspection procedure*
- *Viewing a drawing attached to a procedure*
- *Viewing the revision history of a procedure*
- *Assigning an inspection procedure to an item*
- *Removing an inspection procedure from an item*

Creating a measurement type

Before you can create inspection procedures, you must define measurement types. Measurement types are features or characteristics of an item that you inspect. Measurement types will vary greatly from industry to industry. An electronics manufacturer might need measurement types such as resistance, capacitance, and inductance. A jewelry manufacturer might have measurement types for carat weight and gemstone color. More typical measurement types might be length or weight.

You can specify more than one unit of measure for a particular measurement type. For example, if your measurement type is length, you might have measurement units such as millimeter, centimeter, and meter.

Use the Measurement Types Setup window to define the measurement types.

To create a measurement type:

1. Open the Measurement Types Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Measurements)
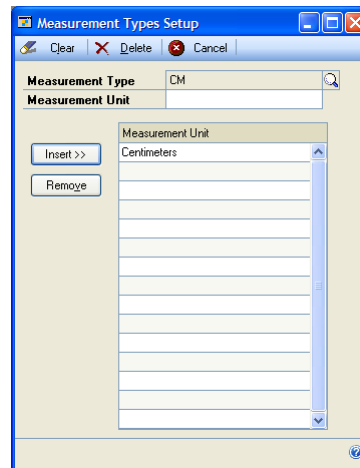
2. Enter a measurement type.

3. Enter a measurement unit.

4. Choose Insert to add the measurement unit to the scrolling window.

5. Continue, repeating steps 3 and 4 to add more units of measure. Each entry automatically is saved as it is added to the scrolling window.

6. Close the window.

Modifying a measurement type

You can add or remove measurement units from a measurement type anytime. Use the Measurement Types Setup window to complete this procedure.

To modify a measurement type:

1. Open the Measurement Types Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Measurements)

2. Enter or select a measurement type.

3. To add a measurement unit, enter the measurement unit in the Measurement Unit field. Choose Insert to add the measurement unit to the scrolling window.

4. To remove a measurement unit from a measurement type, highlight the measurement unit in the scrolling window. Choose Remove. A message appears, and you'll have the option to cancel the process. Choose Cancel to end the process, or choose Remove to delete the measurement unit.

5. When you've finished making changes, close the window to save your changes.

Deleting a measurement type

Use the Measurement Types Setup window to delete a measurement type.

To delete a measurement type:

1. Open the Measurement Types Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Measurements)

2. Enter or select a measurement type.

3. Choose Delete. A message appears, and you'll have the option to cancel the process. Choose Cancel to end the process, or choose Delete to remove the measurement type.

4. Close the window.

Inspection procedure steps

After you've created measurement types and AQL tables, you can define the inspection procedures used by your organization.

The inspection procedures you define can be simple, single-step procedures or they can be complex tests that require equipment calibration and specific test conditions. For example, one inspection procedure might require you to measure a specific dimension. Another inspection procedure might require you to subject items to being dropped, baked, or immersed, so you can see if the items can withstand mistreatment.

The Procedure Setup window helps you to define procedures. Basically, each task that must be completed to measure the quality of an item can be described as a procedure step. Some steps will require you to specify acceptable measurements; for example, "The length of the widget must be between four and five centimeters." Other steps might not require any measurement of a result; for example, "Bake the items for one hour at 350 degrees." That procedure might be a step that prepares items for inspection.

Defining an inspection procedure

Use the Procedure Setup window to create single- or multi-step inspection procedures. Later, you can assign a default procedure to each item that requires inspection. Items that require inspection but that don't have assigned inspection procedures automatically are assigned the first inspection procedure.

Later you can specify default procedures for each item that requires incoming inspection. If no procedure is assigned to an item, the procedure with the lowest procedure number will be assigned to the item. You might want to assign the most commonly used inspection procedure the lowest procedure number—perhaps 001.

To define an inspection procedure:

1. Open the Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter a procedure number. Each procedure must have a unique identifier and can include letters and numbers.

3. Enter a procedure name.

4. Enter a step number. This is especially important when you're defining a multi-step inspection procedure. The step numbers identify the order in which tasks must be completed for the procedure.

    You can't use zero for a step number.

5. You can enter or select a default inspector code. Later, when you're entering inspection results you can change the inspector code.

6. Determine how the inspection procedure will be used.

    Test All Items   Mark Test All Items if the test will be applied to all items in the inspection lot.

    Test Sample   Mark Test Sample if the inspection procedure will be applied only to a representational sample of the item quantity.

    If you mark Test Sample, you must enter or select an AQL table and an AQL level for the inspection procedure step. You can choose from the column headings defined for the AQL table you selected.

7. Determine how much detail should be recorded about the results of the test. The selection you mark determines which fields are available when you enter inspection results.

    Record Statistics for Each Item   Mark Record Statistics for Each Item to be prompted to enter information about each item that is tested.

One Record for Whole Lot/Sample/Receipt   Mark One Record for Whole Lot/Sample/Receipt to be prompted to enter summary information about the test results for the lot or sample group.

8.   Enter a brief Test Definition.

9.   If the step is a setup step, skip to step 13. Otherwise, you must define the acceptable test limits.

10.   Select a qualifier from the list and enter the applicable test limits. Choices include:

N/A   No comparison to specified values needs to be completed. N/A is the default selection, and is the appropriate entry for all setup steps.

=   The test result must equal a number you specify. Enter the number and the tolerance for the value, if any.

>   The test result must be more than a number you specify.

>=   The test result must be more than or equal to a number you specify.

<   The test result must be smaller than a number you specify.

<=   The test result must be smaller than or equal to a number you specify.

<>   The test result must be any value except the one you specify.

between   The test result must be any value between two values you specify. You also must determine if the range is inclusive or exclusive.

- Mark Inclusive if the test value can be any number between or equal to the values you specify.

- Mark Exclusive if the test value can be any number between the values you specify, but can't equal either value.

11.   Select a measurement type and the measurement unit

12.   Choose Insert to add the procedure step to the scrolling window.

13.   Repeat steps 4 through 12 until you've defined all procedure steps.

14.   Choose Save and close the window.

Modifying an inspection procedure

Use the Procedure Setup window to change an inspection procedure.

To modify an inspection procedure:

1.   Open the Procedure Setup window.
     (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2.   Enter or select a procedure number.

3. To change a specific step in the procedure, highlight the step in the scrolling window and choose Select. Information about that step will be displayed in the window.

4. Make changes, as needed.

5. Choose Insert to add the modified step information to the scrolling window.

6. Choose Save. Your changes will be saved and the revision level of the inspection record will be increased. The contents of the window automatically will be cleared. Close the window.

Removing a step from a procedure

Use the Procedure Setup window to remove a step from a procedure. For example, you might get a new piece of equipment that won't need calibration before you begin testing.

To remove a step from a procedure:

1. Open the Procedure Setup window.
   (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number.

3. In the scrolling window, highlight the procedure step to remove. Choose Remove. A message appears, and you'll have the option to cancel the process. Choose Cancel to end the process without deleting the step. Choose Delete to remove the step.

4. Choose Save. Your changes will be saved and the revision level of the inspection record will be increased. The contents of the window will be cleared. Close the window.

Checking which items share a default procedure

Before you can delete an inspection procedure, you should be sure that the procedure is not the default inspection procedure for any item. Use the Item-Procedure Setup window and the Item-Procedure Lookup window to complete this procedure.

To check which items share a default procedure:

1. Open the Procedure Setup window.
   (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number.

3. From the Go To button, choose Item-Procedure Setup to open the Item-Procedure Setup window.
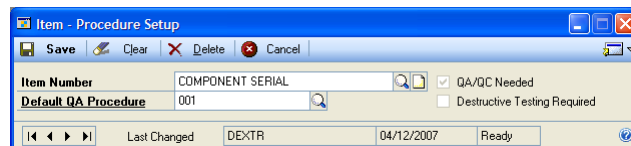
4. Choose the lookup button on the Item Number field to open the Item-Procedure Lookup window.

5. Review the information in the window to see which item the inspection procedure has been assigned to.

6. When you've finished, close the windows.

Deleting an inspection procedure

Use the Procedure Setup window to delete an entire inspection procedure from your system.

Before beginning this procedure, be sure that the inspection procedure isn't the default inspection procedure for any item. Refer to Checking which items share a default procedure on page 24 for more information.

To delete an inspection procedure:

1. Open the Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number.

    Choose Delete. If the procedure has been assigned to an item, a message will appear, warning you that deleting the procedure will remove all references to the procedure from the Item-Procedure file. Choose Delete to remove the procedure. Choose Cancel to stop the process.

3. When you've finished, close the window.

Attaching a drawing to an inspection procedure

Some inspection procedures might require inspectors to set up complicated tests, or to compare items to schematics or prints. You can attach drawings or other electronic media files to specific steps in inspection procedures using the Procedure Setup window.

To attach a drawing to an inspection procedure:

1. Open the Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number and a step number.

3. In the scrolling window, highlight the step to which the electronic file should be attached. Choose Select.

You also can select a step in the scrolling window by double-clicking the step.

4. Enter or select a drawing group that includes the file or files to attach to the inspection procedure.

    Refer to *Adding a drawing to a drawing group* in Chapter 4, "Drawings," in the Manufacturing Core Functions documentation for more information about creating drawing groups.

5. Choose Insert to add information about the procedure step to the scrolling window.

6. Choose Save. Your changes will be saved and the revision level of the inspection procedure will increase. The contents of the window will be cleared. Close the window.

Viewing a drawing attached to a procedure

If the computer you're using has been properly set up to view the kind of files you've attached to your inspection steps, you can view them while using Quality Assurance.

Refer to Setting up INI user settings in Chapter 7, "Manufacturing basic user setup," in the Manufacturing Setup documentation for more information about setting up a computer to view drawings.

Use the Procedure Setup window to complete this procedure.

To view a drawing attached to a procedure:

1. Open the Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number.

3. In the scrolling window, highlight a step that has an attached electronic file. Choose Select.

4. Choose the image icon button to open the View Drawings window.

5. Select the drawing or other electronic media file to view. You can highlight the record and choose the image icon button, or you can double-click the record to be viewed. Appropriate software for viewing the file will display the file.

6. When you've finished viewing the image, close the file. You also might want to close the viewing software application.

7. Close the Procedure Setup window.

Viewing the revision history of a procedure

Each time you change an inspection procedure, a summary record of the changes is created. You can use the Revision History window to review the changes to a specific procedure.

To view the revision history of a procedure:

1. Open the Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Procedure Setup)

2. Enter or select a procedure number.

3. Choose the Go To button and select Revision History to open the Revision History window.
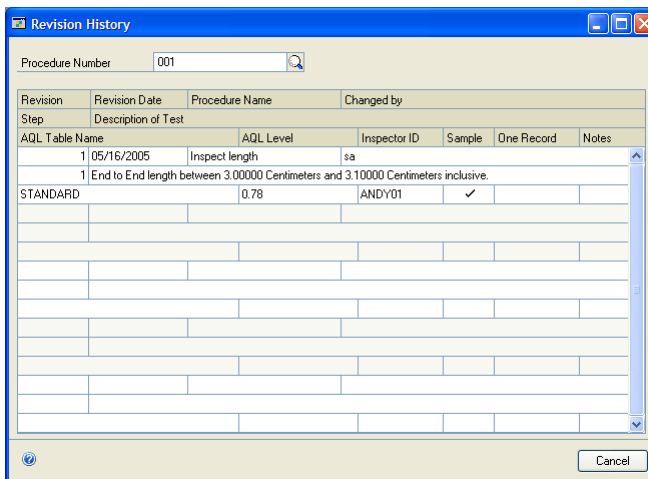
4. Review information about the changes to the inspection procedure. You can enter or select another procedure to review historical information about other inspection procedures, if needed.

5. When you've finished reviewing information, close the window.

Assigning an inspection procedure to an item

After you've defined inspection procedures, you must assign a default inspection procedure to each item that requires inspection. If no default procedure is specified, the first inspection procedure—the first one that appears in the scrolling window of inspection procedures—will be used as the default inspection procedure for the item when you choose the receipt and item in the QA Incoming window.

Use the Item-Procedure Setup window to assign default inspection procedures to items.

The information about the kinds of testing required for the item, if any, comes from the Item Engineering Data window. Refer to *Identifying an item requiring incoming inspection* in Chapter 8, "Item engineering data," in the Manufacturing Core Functions documentation for more information about entering quality assurance requirements for items.

To assign an inspection procedure to an item:

1. Open the Item–Procedure Setup window.
    (Cards >> Manufacturing >> Quality Assurance >> Item-Procedure Setup)
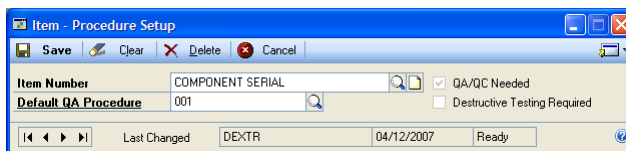
2.   Enter or select an item number. Information about the item—whether an inspection is required for the item and whether destructive testing is required for the item—is displayed in the window.

3.   Enter or select the default inspection procedure for the item.

4.   Choose Save and close the window.

Removing an inspection procedure from an item

To unassign an inspection procedure for an item, use the Item-Procedure Setup window.

To remove an inspection procedure from an item:

1.   Open the Item-Procedure Setup window.
     (Cards >> Manufacturing >> Quality Assurance >> Item-Procedure Setup)

2.   Enter or select an item number.

3.   Choose Delete. A message will appear, and you'll have the option to cancel the procedure. Choose Delete to unassign the procedure from the item. Choose Cancel to stop the process.

4.   When you've finished, close the window.

Chapter 5: Inspection results

Most quality assurance programs rely heavily on detailed and accurate record keeping. Manufacturing includes windows and features that help ensure bought items meet your criteria before they are posted to inventory. Information about the results of tests—actual measurements, the number of defective items identified, and how those items are handled—are all part of the Quality Assurance system.

This information is divided into the following sections:

- *How bought items are steered to quality assurance*
- *Quality assurance workflow*
- *Entering preliminary inspection information*
- *Entering test results*
- *Entering final inspection results*
- *Entering test results for lot-numbered items*
- *Entering test results for serial-numbered items*
- *Modifying inspection results*
- *Deleting a test result entry*
- *Deleting an inspection record*

How bought items are steered to quality assurance

Most manufacturing companies with a quality assurance department will identify which bought items will require inspection and which will not. In those companies, items that require inspection will be routed to the quality assurance site and items that don't require inspection will be sent to inventory sites.

If you've designated a quality assurance site and if you've specified in the Item Engineering Data window that an item requires inspection when it is received, quantities of that item automatically are posted to the quality assurance site when the item is received.

Refer to *Setting up Quality Assurance* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation and *Identifying an item requiring incoming inspection* in Chapter 8, "Item engineering data," in the Manufacturing Core Functions documentation for more information.

Sometimes you might want to inspect items that don't normally require inspection. For example, you can inspect the items you purchase from a particular supplier if you've experienced problems with that supplier in the past.

To steer items that don't usually require inspection to your quality assurance site, select the quality assurance site in the Receivings Transaction Entry window when the items are received, if you've set up system preferences to allow you to change the posting site when items are received. Refer to the Purchase Order Processing documentation for more information about selecting alternate posting sites for received items.

Quality assurance workflow

You can use several Manufacturing windows to enter information about quality-assurance inspections. Refer to this topic for an overview of how the information will flow through the Manufacturing system.

First, you must enter basic information in the QA Incoming window. Use that window to select the receipt transaction that includes the items to be tested. You can choose a different inspection procedure. Refer to *Entering preliminary inspection information* on page 30.

Next, you must enter information about the results of the measurements you perform. Use the second page of the window—Inspection of [item number]—to enter information about the results of each test performed on the items. The system will track which items did and did not meet your test criteria. Refer to *Entering test results* on page 31.

Then you'll use the QA Incoming window to enter information about the number of items passing inspection, failing inspection, and destroyed by the inspection. If you're using sampling, the system will calculate the results of the tests and determine if the group of items passed or failed the inspection. Refer to *Entering final inspection results* on page 34.

If the items you're inspecting are tracked by lot or serial numbers, the procedures for entering test results are slightly different. Refer to *Entering test results for lot-numbered items* on page 35 and *Entering test results for serial-numbered items* on page 37.

If the items didn't meet inspection criteria, you can create an NSR to summarize information about the defects. Use the Non-Standard Report (NSR)–QA Incoming window to create an NSR. Refer to *Creating a Non-Standard Report* on page 41.

If the items didn't meet inspection criteria and you want to involve your supplier in solving the problem, you can create a SCAR. Use the Supplier Corrective Action Request (SCAR) window to create a SCAR. Refer to *Creating a Supplier Corrective Action Request* on page 43.

If the items did meet inspection criteria, use an inventory transfer transaction to move them from the QA site to the site where they're needed. Refer to Inventory Control documentation for more information about transfers.

Entering preliminary inspection information

Use the QA Incoming window to enter preliminary inspection information.

If you entered dates in the Include Purchase Receipts fields in the Item Engineering Data window for items that require inspection, you can restrict the purchase receipts that are displayed in lookup windows based on those dates. If you select QA Required - Restrict By Date from the dropdown list at the bottom of the QA Incoming window, only those purchase receipts that include one or more items that require inspection and that have a date that is within the range you specify will be displayed when you use the Receipt Number lookup button.

To enter preliminary inspection information:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number that includes the items to be inspected.

   • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

   • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

   • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number.

4. Enter or select the number of the item to be inspected. Information about the appropriate sample size and the default inspection procedure will be displayed in the window.

5. You can accept the default inspection procedure, or change it. For example, if you're inspecting items that don't normally require inspection, those items probably won't have assigned default inspection procedures. The default inspection procedure for those items will be the first inspection procedure listed in the lookup window, but you can choose a different inspection procedure.

6. Choose Save and close the window.

Entering test results

After you've specified which items are to be inspected—and which inspection procedure will be used to test the items—you can enter information about the results of the individual procedure steps.

Before beginning this procedure, be sure preliminary information about the inspection has been entered. Refer to Entering preliminary inspection information on page 30 for more information.

To enter test results:

1. Open the QA Incoming window.
    (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number.

    • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

    • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

    • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number.

4. Enter or select an item number.

5. Accept the default procedure or select a different procedure.

6. Choose the page-turn icon button in the lower right corner of the window to open the Inspection of [item number] window.

If no inspection procedure has been selected for the group of items, the No inspection procedure defined window opens. This window is a dimmed version of the Inspection of [item number] window. Close this window, select an inspection procedure in the QA Incoming window, and choose the page-turn icon button again.

7. Enter or select a step number. Information about the procedure step will be displayed in the fields in the top portion of the window.

8. Determine how many measurement records you must enter.

Refer to the table for more information.

	Test All Items is marked	Test Sample is marked
Record Statistics for Each Item is marked	Test all items and enter a separate measurement record for each item received.	Test all items in the sample group and enter a separate measurement record for each item in the sample.
One Record for Whole Lot/ Sample/Receipt is marked	Test all items and enter one measurement record, representing all items.	Test all items in the sample group and enter one measurement record, representing the entire sample.

9. Review the inspector ID, inspection date, and time. You can accept the default entries or change them.

10. If a measurement is required for the test and if the item isn't tracked by serial numbers, enter a measurement number, which is a number you assign to the measurement record. If you must enter multiple test results, you can number the tested items and use those numbers. If you must enter a single measurement record, you might want to enter a 1.

    If no measurement is required for the test—for example, if the step requires only that you check the color of the items—the Passed option will be available and the Measurement Number field will be unavailable.

11. Enter the measurement value, if one is required. If no measurement value is required but the items passed the test, you can mark the Passed option.

    The default measurement quantity is the base unit of measure for the item. If you choose a number above or below the base unit of measure (U of M), you must compute the average manually to get the correct measurement.

12. If the item or items failed the test, enter or select a disposition code and a defect code.

13. You can use the notes button to open a notes window to enter more detailed information about the results of this particular measurement.

14. Choose Insert to add the record to the scrolling window. The measurement information is saved when you add it to the scrolling window.

15. Repeat steps 7 through 14 until you've added the appropriate number of measurement records to the scrolling window for this procedure step. The Step Completed option will be marked when you've entered enough measurement records. The number of records will depend on whether you're using sampling, and whether you're entering one record for all items, or a separate record for each item.

16. If the procedure includes other steps, enter or select the next step. Repeat steps 5 through 13 for all steps in the procedure.

17. Close the window.

Entering final inspection results

After you've entered the measurement results from the individual procedure steps, you can enter the summary information. Use the QA Incoming window to enter final inspection information.

Before beginning this procedure, be sure you've entered preliminary inspection information and test results. Refer to Entering preliminary inspection information on page 30 and Entering test results on page 31 for more information.

To enter final inspection results:

1. Open the QA Incoming window.
    (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select the receipt transaction.

    *   If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

    *   If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

    *   If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number.

4. Enter or select the item number. The QA Completed box should be marked if the appropriate number of measurement records have been entered for each procedure step.

5. Enter the Quantity Passed—the number of inspected items that met the inspection criteria.

6. Enter the Quantity Failed—the number of inspected items that didn't meet the inspection criteria. The sum of the Quantity Passed and the Quantity Failed can't be greater than the number of items tested.

7. Enter the Quantity Destroyed—the number of inspected items that were ruined by the testing procedures and can't be used for production.

    If you're using sampling, the numbers you've entered will be compared to the requirements for accepting or rejecting the lot that were defined in the AQL table. If the items passed the inspection, the Passed Inspection box will be marked.

8. You can use the Defect Notes and Disposition Notes buttons to open notes windows and enter more detailed information about the defects and about the disposition of the items.

9. Choose Save and close the window.

⚠ *When inspection is complete and if the items passed inspection, you must complete an inventory transfer transaction to move the items from the Quality Assurance site to an inventory site. Refer to Inventory Control documentation for more information about inventory transfer transactions.*

Entering test results for lot-numbered items

If you select an item to inspect that is tracked by lot numbers, several fields will appear near the bottom of the QA Incoming window. Use those fields to specify which lot the items you're testing are from.

To enter test results for lot-numbered items:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number.

   • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

   • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

   • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number.

4. Enter or select an item number. Additional fields will appear in the lowest portion of the window when you select an item that is tracked by lot numbers.

5. Be sure the appropriate inspection procedure is displayed. You can accept the default procedure or change it.

6. Enter or select the lot number from which the first items to be tested are taken. If all items received were part of the same lot, the lot number automatically will be displayed.

7. Choose the page-turn icon button in the lower right corner of the window to open the Inspection of [item number] window.

8. Enter or select a step number. Information about the procedure step will be displayed in the fields in the top portion of the window.

9. Determine how many measurement records you must enter. Your selection will depend on if you're using samples and whether separate records—one for each measurement—or a summary record will be used.

    Refer to the table for more information.

	Test All Items is marked	**Test Sample is marked**
Record Statistics for Each Item is marked	Test all items and enter a separate measurement record for each item received.	Test all items in the sample group and enter a separate measurement record for each item in the sample.
One Record for Whole Lot/Sample/Receipt is marked	Test all items and enter one measurement record, representing all items.	Test all items in the sample group and enter one measurement record, representing the entire sample.

10. Enter or accept the default inspector ID and inspection date and time.

11. If a measurement is required for the test, enter a measurement number. If no measurement is required for the test—for example, if the step requires only that you check the color of the items—the Passed option will be available and the Measurement Number field will be unavailable.

12. Enter the measurement value, if one is required. If no measurement value is required but the items passed the test, you can mark the Passed option.

13. If the item or items failed the test, enter or select a disposition code and a defect code.

14. You can choose the notes button to open a notes window where you can enter more detailed information about the results of this particular measurement.

15. Choose Insert to add the record to the scrolling window. Your measurement information is saved when it is added to the scrolling window.

16. Repeat steps 10 through 15 until you've added the appropriate number of measurement records to the scrolling window for this procedure step. The Step Completed option will be marked when you've entered enough measurement records.

17. If the procedure includes other steps, enter or select the next step. Repeat steps 8 through 16 for all steps in the procedure.

18. Close the Inspection of [item number] window.

19. If the items received were from more than one lot, select another lot in the QA Incoming window. Repeat steps 6 through 18 for all lots.

20. Close the window.

⚠ *When inspection is complete and if the items passed inspection, you must complete an inventory transfer transaction to move the items from the Quality Assurance site to an inventory site. Refer to Inventory Control documentation for more information about inventory transfer transactions.*

Entering test results for serial-numbered items

The procedure for entering test results for items that are tracked by serial numbers is almost identical to the standard procedure for entering test results. The only difference is that when you enter test information for serial-number tracked items, you must select a serial number rather than enter a measurement number. This ensures that the information you enter will be linked to a specific item record.

Modifying inspection results

You can change measurement records that have been entered and saved. Use the QA Incoming window and the Incoming Inspection [item number] window to edit inspection results.

To modify inspection results:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number.

   • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

   • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

   • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number and an item number.

4. Choose the page-turn icon button to open the Incoming Inspection [item number] window.

5. Enter or select the procedure step number.

6. In the scrolling window, highlight the measurement record to modify. Choose Select. Information about the measurement will be displayed in the window.

7. Make your changes.

8. Choose Insert to add information to the scrolling window. Your changes automatically are saved.

9. Close the windows.

Deleting a test result entry

Use the QA Incoming window and the Incoming Inspection [item number] window to delete specific measurement records. To retest items for a specific measurement, for example, you must first delete the old test results.

To delete a test result entry:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number.

   • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is not available.

   • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

   • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is not available.

3. If needed, enter or select a purchase order number and an item number.

4. Choose the page-turn icon button to open the Incoming Inspection [item number] window.

5. Enter or select an inspection procedure step.

6. In the scrolling window, highlight the measurement record to be deleted. Choose Remove.

7. Close the windows.

Deleting an inspection record

Use the QA Incoming window to delete an entire inspection record for a receipt.

To delete an inspection record:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number.

   • If all lines in the receipt are for the same purchase order and all lines include a purchase order number, the Purchase Order Number field is unavailable.

   • If lines in the receipt are for different purchase orders, or if some receipt lines have purchase orders and some don't, the Purchase Order Number field is available.

   • If no lines in the receipt include purchase order numbers, the Purchase Order Number field is unavailable.

3. If needed, enter or select a purchase order number and an item number.

4. Choose Delete. A message appears, and you'll have the option to cancel the process. Choose Delete to delete the inspection record. Choose Cancel to stop the deletion process.

Chapter 6: Problem and action reports

After you've identified any problem items, you can create Non-Standard Reports (NSRs) and Supplier Corrective Action Requests (SCARs). NSRs summarize problems and describe how defective items are disposed of—whether they are returned to the vendor, scrapped, reworked, or used as they are. SCARs are formal requests you can send to suppliers, asking them to correct the problems that lead to the defective items.

This information is divided into the following sections:

- *Creating a Non-Standard Report*
- *Modifying an NSR*
- *Deleting an NSR*
- *Creating a Supplier Corrective Action Request*
- *Entering a vendor's response to a SCAR*
- *Deleting a SCAR*
- *Viewing details of an item*
- *Viewing sample size information*

Creating a Non-Standard Report

You can generate Non-Standard Reports (NSRs) that describe why an item or item sample failed inspection tests. Use the Non-Standard Report (NSR)–QA Incoming window to create an NSR.

To create a Non-Standard Report:

1. Open the Non-Standard Report (NSR)–QA Incoming window. (Transactions >> Manufacturing >> QA >> NSR)

You also can open this window by clicking the NSR Number link in the QA Incoming window. If you open the window that way—and if you've entered inspection information and an NSR number—information about the specific inspection results will be displayed in the Non-Standard Report (NSR)–QA Incoming window.

2. Accept the default NSR number, or enter another one. You can use letters and numbers. The Originator field will display your user ID.

3. Enter or select a receipt number.

4. Enter or select an item number. Information from other Quality Assurance windows will be displayed in the fields in the upper portion of the window.

5. The inspection procedure number will be displayed if an inspection has been recorded. You also can select a different inspection step, if needed.

6. Enter information about the inspection, such as which inspector completed the test, how many items passed or failed the test, and how many items were destroyed by testing.

7. You can use the Defect Description, Disposition, and Corrective Action buttons to open notes windows where you can enter more detailed information about the defects, the disposition of the items, and any planned corrective action.

8. To print the report, choose Reports to open the QA Report Options window.

    Refer to *Creating a report option* in Chapter 28, "Manufacturing reports," in the Manufacturing Core Functions documentation for information about using report options windows.

9. When you've finished, choose Save and close the Non-Standard Report (NSR)–QA Incoming window.

Modifying an NSR

Use the Non-Standard Report (NSR)–QA Incoming window to modify existing NSRs.

To modify an NSR:

1. Open the Non-Standard Report (NSR)–QA Incoming window. (Transactions >> Manufacturing >> QA >> NSR)

2. Enter or select an NSR number.

3. Make your changes, as needed.

4. Choose Save and close the window.

Deleting an NSR

Use the Non-Standard Report (NSR)–QA Incoming window to delete an NSR.

To delete an NSR:

1. Open the Non-Standard Report (NSR)–QA Incoming window. (Transactions >> Manufacturing >> QA >> NSR)

2. Enter or select an NSR number.

3. Choose Delete. A message appears, and you have the option to cancel the process. Choose Delete to delete the NSR. Choose Cancel to end the process without deleting the NSR.

4. When you've finished, close the window.

Creating a Supplier Corrective Action Request

When you identify a problem with incoming items, you might want to involve the supplier with researching the cause of the problem and planning ways to prevent the problem from recurring.

Use the Supplier Corrective Action Request (SCAR) window to create a SCAR.

To create a Supplier Corrective Action Request:

1. Open the Supplier Corrective Action Request (SCAR) window. (Transactions >> Manufacturing >> QA >> SCAR)

You also can open this window by clicking the SCAR Number field in the QA Incoming window. If you open the window that way, information about the specific inspection results will be displayed if you've entered the SCAR number in that window.

2. Accept the default SCAR, or enter another one. You can use letters and numbers.

3. Enter or select a receipt number.

4. Enter or select an item number. Information about the inspection of the items will be displayed in the window.

5. Enter information about the vendor, as needed. For example, you can enter the name of a technical contact at the supplier company.

6. You can specify a deadline for the supplier's response.

7. You can use the Defect Description and Suggested Action buttons to open notes windows to enter detailed information about the defects and possible actions for the supplier in those windows.

8. To print the SCAR, choose Reports to open the QA Report Options window.

   Refer to *Creating a report option* in Chapter 28, "Manufacturing reports," in the Manufacturing Core Functions documentation for information about using report options windows.

9. Choose Save and close the window.

Entering a vendor's response to a SCAR

When a supplier responds to a SCAR, you can track that information for your records. Use the Supplier Corrective Action Request (SCAR) window to enter a vendor's response to a SCAR.

To enter a vendor's response to a SCAR:

1. Open the Supplier Corrective Action Request (SCAR) window. (Transactions >> Manufacturing >> QA >> SCAR)

2. Enter or select a SCAR.

3. If you received a written reply, enter the written response received date.

4. Use the Cause of Nonconformance, Immediate Action, and Preventive Action buttons to open notes windows. Use those windows to enter details from the supplier's response about the defects you found.

5. To print the SCAR, choose Reports to open the QA Report Options window.

   Refer to *Creating a report option* in Chapter 28, "Manufacturing reports," in the Manufacturing Core Functions documentation for information about using report options windows.

6. Choose Save and close the window.

Deleting a SCAR

Use the Supplier Corrective Action Request (SCAR) window to delete SCARs.

To delete a SCAR:

1. Open the Supplier Corrective Action Request (SCAR) window. (Transactions >> Manufacturing >> QA >> SCAR)

2. Enter or select a SCAR.

3. Choose Delete. A message will appear, and you'll have the option to cancel the process. Choose Delete to remove the SCAR from your system. Choose Cancel to end the deletion process without removing the SCAR.

4. Close the window.

Viewing details of an item

Use the Item Detail for [item number] window to see quality assurance information for a particular item. You can see basic information about the item—its number, description, and if it's tracked by lot or serial numbers. You also can see information

about the particular receipt of the item, if the item requires inspection and if destructive testing is required.

To view details of an item:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number and an item number.

3. Choose the expansion button on the Item Number field to open the Item Detail for [item number] window.

4. Review information, as needed. When you've finished, close the window.

Viewing sample size information

Use the Sample Detail for [procedure name] to view information about the sample size you must draw to inspect items. Information in the window includes a procedure name, number, and revision level. It also includes the lot quantity and appropriate sample size, if you're using sampling and have set up an AQL table.

To view sample size information:

1. Open the QA Incoming window.
   (Transactions >> Manufacturing >> QA >> Incoming)

2. Enter or select a receipt number and an item number.

3. Choose the page-turn icon button in the lower right corner of the window to open the Inspection of [item number] window.

4. Choose the expansion button on the Sample Size field to open the Sample Detail for [procedure name] window.

5. Review information, as needed. When you've finished, close the window.

PART 2: ENGINEERING CHANGE MANAGEMENT

Part 2: Engineering Change Management

This part of the documentation includes information that will help you set up and maintain Engineering Change Management. The setup procedures generally need to be completed only once but you can refer to this information at other times for instructions on modifying or viewing existing entries.

Engineering Change Management provides a framework you can use to enter information about engineering change requests and engineering change orders and to track who needs to review the requests and orders. You also can specify when messages should be displayed if someone attempts to use or change information that has a pending change order.

The following information is discussed:

- Chapter 7, "Engineering Change Management overview," includes information about terms and concepts you'll need to know before using Engineering Change Management.

- Chapter 8, "Engineering change setup," describes tasks to set up Engineering Change Management, such as specifying users for reviewing requests, creating codes for denied requests, and setting up user-defined fields.

- Chapter 9, "Change requests," contains information about entering and reviewing change requests. Information for adding other affected items to a change request also is included.

- Chapter 10, "Engineering change inquiries," describes how you can view information about your company's engineering change order records.

Chapter 7:   Engineering Change Management overview

Engineering Change Management helps you track changes to specifications for inventory items, and includes three basic systems for tracking the information:

- A framework for entering information about changes. Each change request can include information about the item number to be changed, details about the proposed change and anticipated effects of the change.

- A system for tracking who must review a change request or approve a changed print or specification. The system includes reports that identify who must review or approve a request and the average time needed to get a change reviewed.

- A series of notifications for users who are trying to use information related to the specifications that are being changed. For example, if you've changed the specification for the material used for a specific component, you can set up your system to notify users of the pending change if they attempt to create a new purchase order for that item.

Besides tracking current changes in Engineering Change Management, you can review the history of an item in terms of the changes to its specifications. For each item, you can review information about which change requests were incorporated and which were not—and why.

Engineering Change Management also includes a security system that will allow anyone in your organization to suggest a change—but will place the authority to make decisions about whether suggestions should be incorporated with a few specific people. Allowing users from throughout the organization to suggest changes can be a key factor in a company-wide, continual improvement program.

This information is divided into the following sections:

- *Engineering change management terms*
- *Engineering change management statuses*
- *Engineering change management workflow*
- *Criteria for engineering change notifications*

Engineering change management terms

Before using Engineering Change Management, you should be familiar with terms commonly used in discussions about document control systems.

Engineering change management   Engineering Change Management (ECM) includes all the systems a manufacturing company has in place to ensure that changes to its product specifications are properly monitored.

Engineering change request   Engineering change management programs usually include two distinct stages. In the first, a person who wants to make a change to a specification can propose a change. Information describing the basic change to be made—what item or items would be affected, the reason for the change, possible benefits from implementing the change—is written first. This Engineering Change Request (ECR) is circulated so that various departments or individuals can determine whether a change should be made.

For example, an engineer might suggest using a different component for use in a certain product. The engineer could enter a change request, describing the change and its benefits. Depending on how the company monitors these types of changes, the suggestion might have to be reviewed by several departments:

- The engineering department would have to consider how implementing the request would affect the manufacturing process. Considerations might include the tooling that's required, how the manufacturing processes might need to change, and if the time required to complete a routing sequence changes.

- The purchasing department might have to consider how the change would affect planned purchases of the existing component. The department might have to study the availability of the new component.

- Someone in the warehouse might need to determine what should become of the existing component or products in stock associated with the older component. The current inventory might need to be scrapped, reworked, sold at a discount, or sold as-is.

Several other departments also might need to be included in the decision. For instance, sales and marketing plans might be affected, or the company might need to notify customers of the change.

Engineering change order   If a change request is approved, an engineering change order (ECO) is created from the change request. When a change request becomes a change order, the order—sometimes called an engineering change notification or ECN—can be put into effect. Drawings, prints, and other specifications can be updated to reflect the change; bills of materials or routings are changed, if needed; existing stock of components or finished goods might need to be dispositioned; customers might need to be notified.

Denial code   You must define denial codes that state why a particular change request wasn't approved. For example, some suggestions might be denied because they're too expensive to implement, so you might have a Cost denial code.

Disposition code   You also must define disposition codes that describe how existing inventories of finished goods, subassemblies, or component items affected by a change order will be treated. For example, you might have disposition codes such as Scrap or Rework.

Routings   In Engineering Change Management, you must create routings that list the users who must review a change request before it becomes a change order, and who must review a change order before it's finalized. You can create an unlimited number of ECM routings. You can use routings as simple lists of users who must review a change request or change order, or you can require users to review the information in the order in which they're listed in the routing.

Refer to *Setting engineering change system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

Engineering change management statuses

As you work with engineering change requests and engineering change orders, you should have an understanding of the various statuses available so you can complete different tasks for requests and orders with different statuses.

New   New is the status for engineering change requests that have been entered but haven't been modified by anyone, and it is the default ECM status in the Engineering Change Request window and the Engineering Change Request Edit window.

In Review   In review describes the engineering change requests that are being reviewed before determining if the change request—which is really just a suggestion—should be implemented. You can manually change the status of a change request from New to In Review, or the change will be made automatically when someone on the ECM routing marks that the request is reviewed.

In Approval   When everyone assigned to an ECM routing has approved a change request that is In Review status, the status of the request automatically will change to In Approval. At this point, the department in your organization that makes the changes to the official print and schematic documents—perhaps an engineering or drafting department—will make the changes to the documents.

Updating   Updating status means that someone is currently working on updating the Manufacturing records that are affected by a change order. For example, if a change order to increase the number of screws needed for the assembly of an item from four to six has been approved, someone would need to verify that the changes were reflected not only in the product prints and schematics, but also in the bill or bills of materials for that item. While this work is going on, the status of the change order should be set to Updating.

Notifications of change orders in other modules will appear only if the status of the change order is Updating and if you've set up your system to provide warnings.

You can manually set the status of a change request to Updating. The status of a request will automatically be changed to Updating when everyone in the ECM routing has marked that the routing is approved, if the status of the change order is In Approval.

Done   Done is the status for finalized engineering change orders. You must manually change the status of an engineering change order to Done. Warnings won't be displayed after the status of the change order is Done.

Denied   If a change request was rejected, the status of the change request will change to Denied.

Postponed   If further action on a change request is delayed—perhaps for additional research or until inventory levels of an affected item are depleted—you can manually change the order or request status to Postponed.

Engineering change management workflow

Processes for handling engineering changes from one industry to another—and even from one company to another—can vary significantly. This section describes a typical workflow using Engineering Change Management. You can adopt this workflow for your own, or you can adapt it to work with your processes.

Any user within your organization can enter a suggestion to improve or refine a product. The suggestion might describe a change to a bill of materials, to a routing sequence, or to any other factor that affects a manufacturing process. When the user enters the ECR, the status of the document is New.

A second user periodically reviews the list of New ECRs. That user—who must have access to the Engineering Change Request Edit window—can manually change the status of the document to In Review. Alternatively, if the second user is part of the routing for the change request, the status of the request automatically will change to In Review as soon as that user has marked the routing. This user also can select an ECM routing to be used for the review of the change request, or can create or modify a different routing.

After the status of the change request is set to In Review, the progress of the request will be tracked through the reviewers listed on the ECM routing. If all reviewers approve the change, the status of the document automatically will change to In Approval.

Change requests that are in approval will probably be handled by your company's engineering or drafting department, as prints, schematics, and other product documents are modified to reflect the changes.

When the changes are complete, the status of the change document can be manually changed to Updating. The status of the document automatically will change to Updating if all reviewers have reviewed and approved the change. Messages in other modules will appear only when the document status is set to Updating. Typically, one or more users will be updating manufacturing records—such as bills of materials, routings, and quality-assurance specifications—while the document status is Updating. When all records are updated, someone must manually change the status of the document to Done.

You also can use two ECM statuses—Denied and Postponed—to show that certain change order requests have been rejected or have been delayed. You must manually change the status of a change document to Denied or Postponed. When you're ready to begin work on a Postponed change request, you must manually change the status of the document to whatever status is appropriate; most should be changed to In Review status.

Criteria for engineering change notifications

You can set up system preferences for the Engineering Change Management module so users are notified of pending changes. The messages that appear won't prevent users from working with the records; whether a procedure should be completed is left to the discretion of the user.

Messages will appear only if all of these criteria are met:

- The module the user is working with has been marked to receive the messages.

  Refer *Specifying modules for ECM warnings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about this system setting. You can choose to have messages displayed for sales orders, purchase orders, manufacturing orders, routings, and bills of materials.

- The status of the engineering change is Updating.

- The specific record—sales order, purchase order, manufacturing order, routing, or bill of materials—hasn't been excluded from the notifications. Refer to *Excluding records from ECM notifications* on page 69 for more information about excluding records from notifications.

Chapter 8: Engineering change setup

Manufacturing companies are constantly improving their products and refining their processes. One way to control the changes that occur to products is through Engineering Change Management (ECM), which gives you the ability to define and account for changes to your products. In addition, security features help ensure that only authorized users create or modify change requests. You also can configure options to match how your company works and you can look at statistics to help measure the engineering change process.

Information in this section describes how to set up ECM routings, denial codes, disposition codes, and user-defined fields for Engineering Change Management. Refer to Chapter 1, "Manufacturing basic setup," Chapter 5, "Manufacturing management functions setup," and Chapter 10, "Manufacturing management functions user setup," in the Manufacturing Setup documentation for more information about setting up system-wide and user-specific options.

This information is divided into the following sections:

- *Creating an ECM routing*
- *Deleting an ECM routing*
- *Creating an ECM denial code*
- *Modifying an ECM denial code*
- *Deleting an ECM denial code*
- *Creating an ECM disposition code*
- *Modifying an ECM disposition code*
- *Deleting an ECM disposition code*
- *Creating ECM user-defined fields*

Creating an ECM routing

Use the Routing Setup window to create an Engineering Change Management routing.

To create an ECM routing:

1. Open the Routing Setup window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Routing Setup)
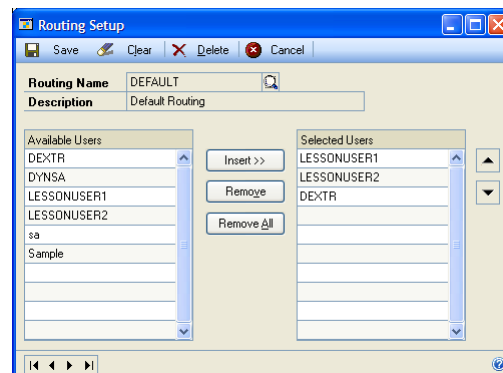
2. Enter or select the routing name and enter a brief description of the routing.

3. In the Available Users scrolling window, mark a user ID to be included in the Routing. Choose Insert to copy the user ID to the Selected Users scrolling window.

4. Repeat the previous step for each user to include in the routing.

User IDs can be inserted into the Selected Users scrolling window more than once. This is helpful if you're requiring users to consider change requests in a particular order, because you might want some users to review the change before it's made and after it's been put in place.

5. If you require users to consider change requests in a particular order, be sure the order in which the users are listed in the Selected Users scrolling window reflects the order you want.

    To move a user ID, highlight it and then choose the up or down arrow button.

6. To remove a single user ID from the Selected Users scrolling window, highlight the user ID and choose Remove. To remove all user IDs from the Selected Users scrolling window, choose Remove All.

7. Choose Save and close the window.

Deleting an ECM routing

Use the Routing Setup window to delete Engineering Change Management routings.

To delete an ECM routing:

1. Open the Routing Setup window.
    (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Routing Setup)

2. Enter or select the routing to delete.

3. Choose Delete.

4. Close the window.

Creating an ECM denial code

As a change request is reviewed, someone might oppose the change. You can create Engineering Change Management denial codes to categorize the reasons why change requests are denied. Use the Denial Codes Definition window to complete this procedure.

Denial codes are used to group denials and will appear in Engineering Change Management reports.

To create an ECM denial code:

1. Open the Denial Codes Definition window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Denial Code Definition)
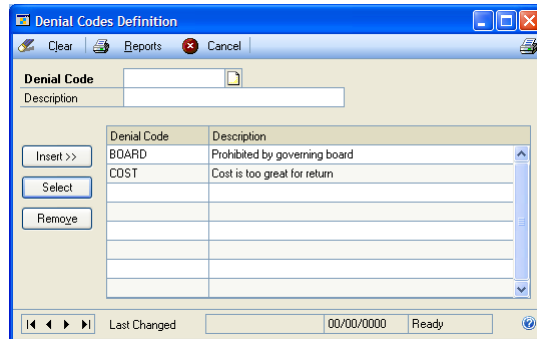
2. Enter a denial code name. Use the notes button to add more detail to the code.

3. Enter a brief description of the denial code.

4. Choose Insert. Your entries will be saved as soon as they are added to the scrolling window. You can create an unlimited number of denial codes.

5. Close the window.

Modifying an ECM denial code

If you need to change an Engineering Change Management denial code to add to the related notes or change its description, use the Denial Codes Definition window.

To modify an ECM denial code:

1. Open the Denial Codes Definition window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Denial Code Definition)

2. In the scrolling window, highlight the denial code to change.

3. Choose Select.

4. Make your changes in the Description field, or use the notes button and make changes there.

5. Choose Insert to add the information to the scrolling window.

6. When you've finished, close the window.

Deleting an ECM denial code

Use the Denial Codes Definition window to delete denial codes.

To delete an ECM denial code:

1. Open the Denial Codes Definition window.
    (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System
    Defaults >> ECM >> Go To button >> Denial Codes Definition)

2. In the scrolling window, highlight the denial code to delete.

3. Choose Remove. A message is displayed and you'll have the option to cancel
    the process. Choose Yes to remove the item. Choose Cancel to stop the process
    without deleting the denial code.

4. When you've finished, close the window.

Creating an ECM disposition code

One of the key decisions you'll need to make when working with engineering
change requests will be to determine what will happen to inventory quantities of
the items already on hand. Use the Engineering Change Disposition Configuration
window to create disposition codes that will specify how quantities of the items
already on hand should be handled.

*Refer to Specifying the disposition of a changed item on page 64 for more information about
assigning disposition codes to show how inventory quantities should be handled.*

To create an ECM disposition code:

1. Open the Engineering Change Disposition Configuration window.
    (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System
    Defaults >> ECM >> Go To button >> Disposition Configuration)
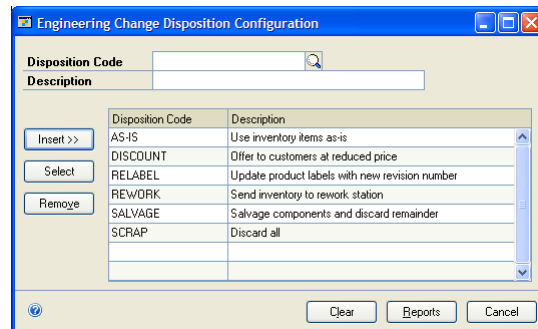
2. Enter the disposition code and a brief description for the code.

3. Choose Insert. Your entries will be saved as soon as they are added to the
    scrolling window. You can create an unlimited number of disposition codes.

4. Close the window.

Modifying an ECM disposition code

Use the Engineering Change Disposition Configuration window to change disposition codes.

To modify an ECM disposition code:

1. Open the Engineering Change Disposition Configuration window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Disposition Configuration)

2. In the scrolling window, highlight the disposition code to change.

3. Choose Select.

4. Change the description of the code.

5. Choose Insert to add the changed information to the scrolling window.

6. When you've finished, close the window.

Deleting an ECM disposition code

Use the Engineering Change Disposition Configuration window to remove disposition codes.

To delete an ECM disposition code:

1. Open the Engineering Change Disposition Configuration window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> Disposition Configuration)

2. In the scrolling window, highlight the disposition code to delete.

3. Choose Remove. A message is displayed and you'll have the option to cancel the process. Choose Yes to remove the code. Choose Cancel to end the process without deleting the code.

4. When you've finished, close the window.

Creating ECM user-defined fields

When change requests are being considered, you might want to include additional information with the request. You can use the ECM User-Defined Fields window to define up to six user-defined fields—two currency fields and four "string" fields—for tracking information related to the change orders.

Use the ECM User-Defined Fields Setup window to label fields to add to the Engineering Change Management system.

To create ECM user-defined fields:

1. Open the ECM User-Defined Fields Setup window.
   (Microsoft Dynamics GP menu >> Tools >> Setup >> Manufacturing >> System Defaults >> ECM >> Go To button >> User-Defined Fields Setup)
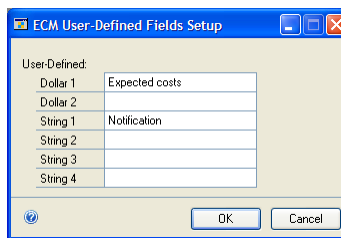
2. To define currency fields, enter prompts in the Dollar 1 and Dollar 2 fields.

3. To define string fields—those that can store alphanumeric characters—enter prompts in the String 1 through String 4 fields.

4. Choose OK to save your entries and close the window.

Refer to Entering information in user-defined ECM fields on page 65 for details about entering information in the fields you've defined.

Chapter 9: Change requests

After you've completed the necessary setup tasks, you can begin entering suggestions—engineering change requests or ECRs. As each change request is entered, the status and progress of the request will be tracked. If a request is approved, you can update your prints and schematics and then use Engineering Change Management to notify users when related records are being updated.

Later, you can view historical information about how item specifications evolved and changed on an item-by-item basis. You can see all the change requests for a specific item, and which were approved and which were denied. Refer to *Viewing change order history for an item* on page 72 for more information about reviewing change order history of items.

This information is divided into the following sections:

- *Entering an engineering change request*
- *How change request statuses can change*
- *Changing the status of a change request*
- *Assigning an ECM routing to a change request*
- *Requiring repeated reviews of change request*
- *Deleting the routing of an engineering change*
- *Specifying the disposition of a changed item*
- *Deleting a change request*
- *Entering information in user-defined ECM fields*
- *Indicating that a review has been completed*
- *How ECM changes affect other items and modules*
- *Listing other items affected by a change request*
- *Specifying the disposition of a secondary item*
- *Removing an item from the affected-items list*
- *Excluding records from ECM notifications*

Entering an engineering change request

Use the Engineering Change Request window to enter a change request.

To enter an engineering change request:

1. Open the Engineering Change Request window.
    (Transactions >> Manufacturing >> ECM >> Request)

2. Accept the default date—which will be the current date—or enter a date.

3. Enter a short description of the change request and enter or select the item you're suggesting to change.

4. You can enter or select a drawing group that includes a drawing that is applicable for the change request. For example, you could accompany a change request for changing a specific dimension for an item with a drawing that shows the dimension.

5. Enter or accept the user ID. The default user ID will be the one used to log into the system.

6. Enter or select the user ID of the person who initiated the change request. This might be an employee, prospect, or customer.

7. Enter a complete description of the engineering change, including reasons for the change, any details that need to be communicated to customers, and any information about the potential impact of the change in the appropriate text fields.

8. Choose Save.

   After you save an engineering change request, you can no longer view it in the Engineering Change Request window. You must view it in the Engineering Change Request Edit window.

An engineering change number will be assigned to the request.

How change request statuses can change

Some status changes will occur automatically; others will need to be made manually, depending on how your system is set up.

Refer to Setting engineering change system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about system settings.

Refer to the following table for information about automatic status changes that can occur.

This status change:	Can occur when this happens:
New >> In Review	The first user in the ECR routing marks the Done check box in the ECM Routing window and saves the change.
In Review >> In Approval	The last user in the ECR routing marks the Done check box in the ECM Routing window and saves the change.
In Approval >> Updating	The last user in the ECR routing marks the Done check box in the ECM Routing window and saves the change.

Changing the status of a change request

You can use the Engineering Change Request Edit window to change the status of a change request. Some status changes will occur automatically; others will need to be made manually, depending on how your system is set up. However, you must manually change the status of a change request if the status should be Done or Postponed.

To change the status of a change request:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request. Information about the change request will be displayed in the window.

3. Select a status for the change request. Choices include In Review, In Approval, Updating, Done, and Postponed. Refer to *Engineering change management statuses* on page 50 for more information.

    - If the status of the document is Updating, Done, or Postponed, you can enter or select an effective date. The effective date will be recorded in the change-order history of the item so you can see on which date a specific change request or change order changed to Updating, Done, or Postponed status.

    - If the status of the document is Denied, the Denial Code field will be active. You must enter or select a denial code. You can choose from denial codes that have been defined for your company. Refer to *Creating an ECM denial code* on page 54 for more information.

    - If the status of the document is Done, the Date Completed field will be available. Accept the default date for completion—the default date will be the current date—or enter or select another date.

      When you change the status of a change order to Done, no more warnings about the specific change order are displayed in Manufacturing modules.

4. Choose Save and close the window.

Assigning an ECM routing to a change request

To have specific users review change requests and change orders, you must assign ECM routings to the change requests. ECM routings are lists of users that must review change requests and orders. You can set up system preferences so that reviewers must examine the document in the order you specify, or in any order at all.

Refer to *Setting engineering change system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about setting up system preferences.

You can assign an already defined ECM routing to a change order, or you can use the ECM Routing window to assign users to a change request. You must have access privileges for the Engineering Change Request Edit window to assign routings or reviewers to a document.

To assign an ECM routing to a change request:

1. Open the Engineering Change Request Edit window.
   (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select a change request.

3. From the Go To button, select Routing to open the ECM Routing window. All available user IDs and all available ECM routings will be displayed in the left scrolling window.
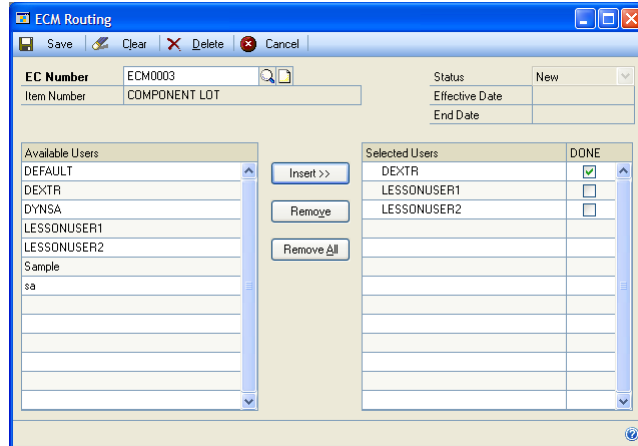
If you've created a default ECM routing and marked the Use Default Routing option in the ECM System Preferences window, the user IDs that are part of the default routing will be listed in the right scrolling window.

4. If needed, add or remove user IDs or ECM routings to the right scrolling window. To add a user ID or ECM routing to the change request, highlight the user ID or ECM routing in the left scrolling window, and then choose Insert.

5. If needed, remove user IDs or ECM routings from the right scrolling window.

    •   To remove a specific user ID or ECM routing, highlight it in the right scrolling window and choose Remove.

    •   To remove all user IDs and ECM routings from the change request, choose Remove All.

6. Choose Save and close the window.

Requiring repeated reviews of change request

Sometimes when reviewers examine a change request, additional changes that should be part of the same change request will be identified.

For example, suppose a manufacturer has to change the epoxy used to assemble finished items. A change request to remove the old epoxy from the affected bills of materials and to add the new epoxy to the bills of materials is started, and perhaps a prototype run of items with the new epoxy is ordered.

During the prototype run, the manufacturer learns that the new epoxy requires a slightly longer cure time before it can be moved to the next work center. To add the additional cure time to the routing sequence, the manufacturer might want to update the existing engineering change—if its status isn't Done—and add the notes about the additional queue time. (If the status of the engineering change is Done, the manufacturer might want to create a new engineering change request.)

Depending on the company's practices for engineering changes, the change request might need to be routed through the list of reviewers beginning with the first reviewer. If this is required, you must delete the current routing from an engineering change to clear all information about prior reviews of an engineering change. After the routing information is deleted, you must reassign a routing to the engineering change.

To require reviewers to review change requests every time the engineering change information is modified, you can set up system preferences so that the routing is cleared each time the status of the engineering change is changed. Refer to Setting engineering change system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

Deleting the routing of an engineering change

Use the ECM Routing window to complete this delete the routing from an engineering change.

To delete the routing of an engineering change:

1. Open the ECM Routing window.
    (Transactions >> Manufacturing >> ECM >> Request Edit >> enter or select an engineering change >> Go To button >> Routing)

2. Choose Delete.

3. A message will be displayed, and you'll have the option to delete the routing. Choose Yes to delete the routing. Choose No to end the task without deleting the routing.

4. When you've finished, close the window.

Specifying the disposition of a changed item

Each time a component, subassembly, or finished good specification is changed, someone must determine how current quantities of the item will be dispositioned or handled. For example, suppose an electronics manufacturer changed the specifications for a subassembly from using two one-ohm resistors to using one two-ohm resistor. Decisions would need to be made about the current stock of the subassemblies using two one-ohm resistors—can they be sold as they are, or do they need to be reworked or scrapped?

You also might have to determine the disposition of other items affected by an engineering change. Refer to *Specifying the disposition of a secondary item* on page 68 for information about dispositioning other items affected by an engineering change.

Use the Engineering Change Request Edit window to enter information about how inventory quantities of an item should be dispositioned.

To specify the disposition of a changed item:

1. Open the Engineering Change Request Edit window. (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request.

3. Enter or select a disposition code. The disposition code is the brief code or identifier that you've created to specify a particular method for handling inventory quantities. Typical disposition methods might include scrapping items, returning items to the vendor, using the items as-is, or even remarking the items with a new revision level.

4. Choose Save and close the window.

Deleting a change request

Use the Engineering Change Request Edit window to delete a change request, but only if you've marked the Allow Deletions option in the ECM System Preferences window. If you haven't marked this option, the Delete button will be dimmed.

Refer to *Setting engineering change system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup Functions documentation for more information about setting system preferences so change requests can be deleted.

To delete a change request:

1. Open the Engineering Change Request Edit window. (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select the change request number.

3. Choose Delete. A message will be displayed, and you'll have the option to cancel the process. Choose Delete to remove the change request. Choose Cancel to end the process without deleting the change order.

4. When you've finished, close the window.

Entering information in user-defined ECM fields

Use the ECM User-Defined Fields window to enter information specific to your business or industry in user-defined fields. To use user-defined ECM fields, you must have set up ECM user-defined field prompts or labels. Refer to *Creating ECM user-defined fields* on page 58 for more information.

To enter information in user-defined ECM fields:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change document.

3. From the Go To button, choose User-Defined Fields to open the ECM User-Defined Fields window.
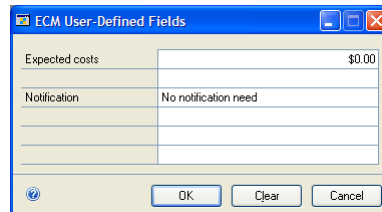
4. Enter information in the fields, as needed.

5. Choose OK to save your entries. Close the window.

Indicating that a review has been completed

You can require reviewers to mark an option in the ECM Routing window to indicate when they've completed their review of a specific change request. You also can have the options marked automatically when each reviewer opens a change request record.

Refer to *Setting engineering change system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about this system preference setting.

If you're using the manual method, use the ECM Routing window to indicate when you've finished reviewing a change request.

To indicate that a review has been completed:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request document.

3. From the Go To button, select Routing to open the ECM Routing window.

4. In the right scrolling window, mark Done for the appropriate line in the scrolling window.

You can set up system preferences to allow one user to indicate that another user's review is complete. Refer to Setting engineering change system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

5. Choose Save and close the ECM Routing window. Close the Engineering Change Request window.

How ECM changes affect other items and modules

Sometimes the changes you make to specifications for a product will affect other inventory items. For example, suppose an electronics manufacturer has been having problems with one of its assemblies. After some investigation, the manufacturer decides the cause of the problem is that the variations in a certain electrical component are too great. To solve the problem, the manufacturer decides to switch from a capacitor with a tolerance of 10% to a capacitor with a tolerance of 5%.

Finished items, component items, and other modules can be affected by a change to one item. Refer to the following information.

Finished items The bill of materials for the item will need to be changed to reflect the component change, and someone will need to determine if the existing stock of the finished item should be retested, sold as-is, discounted for sale, or scrapped entirely.

Component items Existing purchase orders for the capacitor with the 10% tolerance might need to be cancelled. On-hand inventory amounts of the 10% tolerance capacitor will need to be dispositioned—you might want to attempt to return them to their supplier, or you might want to keep them on hand for use in other products.

You can use the Items Affected by Change window to identify and compile a list of other items that might be affected when the specifications of an item are changed. If the status of the change request is updating, users will be notified of the pending change whenever they attempt to use information about any of the items you've listed.

Other modules When you set up tasks for the ECM module, you should have specified which modules will be affected by pending engineering changes. For example, you could choose to have users creating new bills of materials notified if a particular component was being changed.

Refer to Specifying modules for ECM warnings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

If your company has many engineering changes and many products, however, you might not want messages continually appearing each time a user attempts to work with a certain record. For example, all your products might be packaged in a certain container. If your company changes its corporate logo, the box used to package and ship all products might require an engineering change order. You would want to see notifications of the change each time you created a purchase order for the packaging

material, but you probably wouldn't want to be notified of the change each time you create a manufacturing order or sales order.

You can "turn off" ECM notifications for specific manufacturing records. Refer to *Specifying modules for ECM warnings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

Listing other items affected by a change request

Use the Items Affected by Change window to list other items that are affected when a specific item is changed.

The item number that the change request is based on always will be listed and cannot be removed from the list of affected items.

To list other items affected by a change request:

1. Open the Engineering Change Request Edit window. (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request.

3. From the Go To button, select Items Affected by Change to open the ECM Items Affected by Change window. The EC Number, Effective Date, Item for Change, and Status fields will display information about the change request.

4. Enter or select the number of an item that will be affected by the change.

5. Choose Insert to add the item number to the list of items affected by the engineering change.

6. Continue, repeating steps 4 and 5 until you've added as many item numbers to the scrolling window, as needed.

7. Choose OK and close the window.

Specifying the disposition of a secondary item

Some engineering changes affect more than one inventory item. For example, suppose an electronics components manufacturer obtains a special agency approval for a series of electronics components. The manufacturer creates an engineering change request to have the markings on the items changed to reflect the agency approval. The manufacturer might want to have the markings on all items in the product series changed with a single engineering change. An engineering change request could be started for one specific item number, and the manufacturer could use the Items Affected by Change window to have the change also reflected on the other items in the product series.

Use the Items Affected by Change window to enter disposition information for the other items affected by an engineering change.

To specify the disposition of a secondary item:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request.

3. From the Go To button, select Items Affected by Change to open the ECM Items Affected by Change window. The EC Number, Effective Date, Item for Change, and Status fields will display information about the change request.

4. In the scrolling window, highlight the item that requires disposition information.

5. Choose Select. Information about the item will be displayed in the fields above the scrolling window.

6. Enter or select a disposition method.

7. Choose Insert to add the information to the scrolling window. Your changes will be saved as soon as they are entered into the scrolling window.

8. Choose OK and close the window.

Removing an item from the affected-items list

Use the ECM Items Affected by Change window to remove item numbers from a list of affected item numbers.

To remove an item from the affected-items list:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select an engineering change request.

3. From the Go To button, select Items Affected by Change to open the ECM Items Affected by Change window.

4. In the scrolling window, highlight the item number to be removed from the list.

5. Choose Remove. Your change automatically will be saved.

6. Close the window.

Excluding records from ECM notifications

Manufacturing includes five windows you can use to exclude bills of materials, sales orders, purchase orders, routings, and manufacturing orders from ECM notifications for a specific change order.

The procedure described here can be used with any of these windows:

Exclude Bill of Materials   Use this window to choose specific bill of materials records that shouldn't receive notifications of a specific change order.

Exclude Routings   Use this window to choose specific routing records that shouldn't receive notifications of a specific change order.

Exclude Manufacturing Orders   Use this window to choose specific manufacturing orders that shouldn't receive notifications of a specific change order.

Exclude Purchase Orders   Use this window to choose specific purchase orders that shouldn't receive notifications of a specific change order.

Exclude Sales Orders   Use this window to choose specific sales orders that shouldn't receive notifications of a specific change order.

To exclude records from ECM notifications:

1. Open the Engineering Change Request Edit window.
    (Transactions >> Manufacturing >> ECM >> Request Edit)

2. Enter or select a change request or change order.

3. From the Go To button, select Items Affected by Change to open the ECM Items Affected by Change window.

4. From the Go To button in the ECM Items Affected by Change window, select the type of manufacturing record to exclude records from. Choices include Exclude Bill of Materials, Exclude Routings, Exclude Manufacturing Orders, Exclude Purchase Orders, Exclude Sales Orders.

5. Enter or select an item number. If you choose the lookup button to open the ECM Item Number Lookup window, only those item numbers listed in the ECM Items Affected by Change window will be available.

    Records that include the selected item number will be displayed in the left scrolling window.

6. If you're working with routings, manufacturing orders, or sales orders, you can restrict the records that are displayed in the left scrolling window.

    Routings   Mark the type of routing records to be listed. You can select Primary routings, Alternate routings, or Both.

Manufacturing Orders Mark the type of manufacturing orders to be listed. You can select Open, Released, or Both.

Sales Orders Mark the type of sales orders to be listed. You can select Backordered, Ordered, or Both.

7. Highlight a record to be excluded from notifications of this change.

8. Choose Insert to move the record to the right scrolling window.

9. Repeat steps 7 and 8 to add as many records to the right scrolling window, as needed. Your changes will be saved as soon as they appear in the right scrolling window.

If needed, you can choose Insert All to add all records in the left scrolling window to the right scrolling window. You also can choose Remove to remove a single record from the right scrolling window, or Remove All to remove all records from the right scrolling window.

10. Close the window.

Chapter 10: Engineering change inquiries

Besides using Engineering Change Management to manage product changes effectively, you also can use the module to see how your products are evolving. You can see all the change orders that have affected a specific item, and you can view change requests and change orders by status.

You also can view information about the amount of time needed to route a change request through your system to determine which users are holding change orders and how long those users have held them.

This information is divided into the following sections:

- *Handling ECM notifications in other modules*
- *Viewing change order history for an item*
- *Viewing routing information for change requests*
- *Engineering change management statistics*
- *Viewing ECM statistics*
- *Checking the status of a change request*
- *Viewing the effects of a specific change order*
- *Viewing a view-only version of a change order*

Handling ECM notifications in other modules

If you've set up Engineering Change Management system preferences so notifications are displayed when users attempt to work with affected item numbers in certain modules, the messages will appear whenever a user selects an item number affected by a change document. Refer to *Criteria for engineering change notifications* on page 52 for more information about when messages will be displayed.

You can exclude records from the notifications. Refer to *Excluding records from ECM notifications* on page 69 for more information about excluding sales orders, manufacturing orders, purchase orders, routings, and bills of materials from the messages.

Before you begin this procedure, you should be working with a module that you've designated for receiving ECM notifications, and you must select an item number affected by a current change notification.

To handle ECM notifications in other modules:

1. Review the information in the message window.
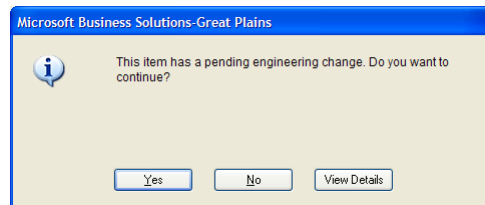
2. You'll have the option to continue your work, cancel the process, or view more details about the engineering change for the item

Yes If you choose Yes, the window you were working in when the message appeared will be displayed and the item number you selected will be displayed in the window.

No If you choose No, the window you were working in when the message appeared will be displayed, but the item number won't be displayed in the window.

View Details If you choose View Details, the Engineering Change Item History window will open and display information about the item's change history. Refer to *Viewing change order history for an item* on page 72 for more information about this window.

Refer to Criteria for engineering change notifications on page 52 for more information about the criteria that determine if a message will be displayed.

Viewing change order history for an item

Use the Engineering Change Item History window to view information about all the change requests and change orders for a specific inventory item.

To view change order history for an item:

1. Open the Engineering Change Item History window.
    (Inquiry >> Manufacturing >> ECM >> Item History)
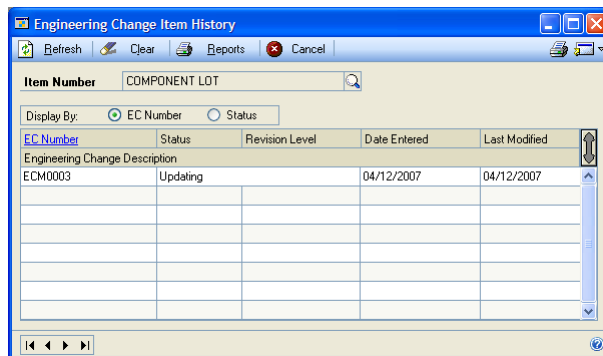
2. Enter or select an item number.

3. Review the information, as needed. All change requests—even those that were denied or postponed—will be displayed in the scrolling window. You can view the EC number, revision level, date entered, date last modified, and a brief description of each change request.

To check the current status of an engineering change in the scrolling window, select the engineering change information. Refer to Viewing a view-only version of a change order on page 77 for more information.

4. When you've finished reviewing the information, close the window.

Viewing routing information for change requests

You can check the progress of a specific engineering change request or all engineering changes in the Engineering Change Routing View window. The window displays information about which reviewer is currently due to review which engineering change.

If the status of a change request is denied or postponed, you can't view routing status information.

To view routing information for change requests:

1. Open the Engineering Change Item History window.
   (Inquiry >> Manufacturing >> ECM >> Request View)

2. From the Go To button, select ECM Routing View to open the Engineering Change Routing View window.

You also can open the Engineering Change Routing View window by double-clicking any record in the scrolling windows in the ECM inquiry windows.

3. To limit the information in the scrolling window to a specific engineering change, enter or select an engineering change document. If you don't specify a specific engineering change, information for all engineering changes—except those with Denied or Postponed status—will be displayed in the scrolling window.

4. Choose Refresh to update the contents of the scrolling window.

You can select a sorting method to display records by engineering change number, status, or the date last modified.

5. Review information in the window. You can review the current status and current routing user, as well as information about earlier statuses and routing users. You also can see the date the change request was last modified.

6. When you've finished, close the window.

Engineering change management statistics

Some companies like to track the amount of time needed to move change orders through their systems. You can use the Engineering Change Statistics window to get an overall picture of the change requests started for your organization. You can review information about the number of change orders that have been started, completed, and denied.
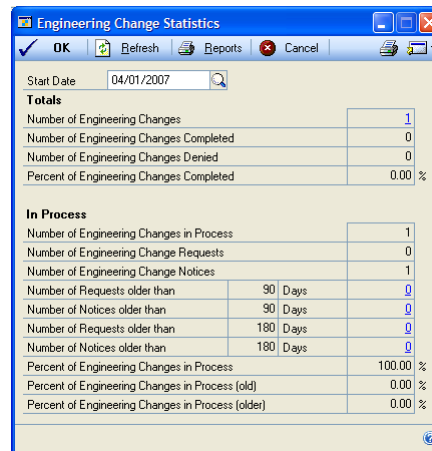
You also can view information about the number of change requests and change notices that are in process. Historical information also is calculated for you, based on your system preferences and the displayed date.

Viewing ECM statistics

Use the Engineering Change Statistics window to view information about engineering change statistics.

To view ECM statistics:

1. Open the Engineering Change Statistics window.
   (Inquiry >> Manufacturing >> ECM >> Statistics)


2. Enter or select a start date.

   Statistical information displayed in the window will be for all change requests and change notices that occurred between the Start Date and the system or user date displayed.

3. Review information in the window.

4. You can click on some values displayed in the window to view more detailed information.

Number of Engineering Changes If you click on the value for the Number of Engineering Changes, the ECM Notices & Requests window will open, where you can view the number of requests, notices, and change-request denials for the period.
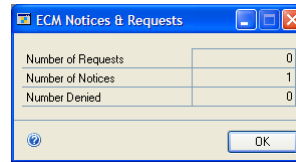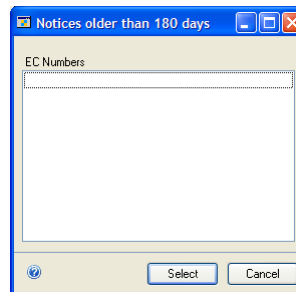

Number of Requests older than X Days If you click on the value for the Number of Requests older than X Days, the Requests older than X days window will open.
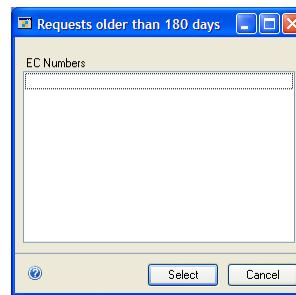
The "X"—the number of days that can pass after the change order's Date Entered before the change request is considered old—is a value determined in your system preferences. Refer to ECM system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

Number of Notices older than X Days If you click on the value for the Number of Notices older than X Days, the Notices older than X days window will open.

The "X"—the number of days that can pass after the change order's Date Entered before the change request is considered old—is a value determined in your system preferences. Refer to ECM system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

Number of Requests older than Y Days If you click on the value for the Number of Requests older than Y Days, the Requests older than Y days window will open. Y is two times X.

Number of Notices older than Y Days If you click on the value for the Number of Notices older than Y Days, the Notices older than Y days window will open. Y is two times X.

5.   When you've finished reviewing information, close the window.

Checking the status of a change request

Use the ECM Change Status–View Only window to see the current status of a particular change request.

To check the status of a change request:

1.   Open the ECM Change Status–View Only window.
     (Inquiry >> Manufacturing >> ECM >> Status View)
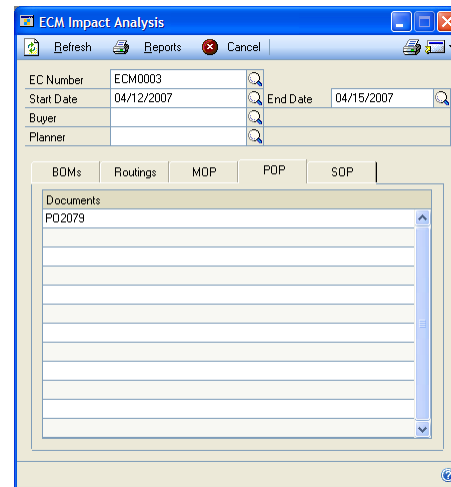

2.   Enter or select an engineering change number.

3.   Review the information.

4.   When you've finished reviewing information, close the window.

Viewing the effects of a specific change order

Use the ECM Impact Analysis window to view lists of the bills of materials, routings, manufacturing orders, purchase orders, and sales orders affected by change orders.

To view the effects of a specific change order:

1. Open the ECM Impact Analysis window.
   (Inquiry >> Manufacturing >> ECM >> Impact Analysis)

2. Use the fields at the top of the window to choose the affected records to view. For example, to see only those records affected by a specific change order, enter or select the engineering change request. If you don't select an engineering change order, records for all the change requests that meet the other criteria you specify will be displayed after you choose Refresh.

3. Choose the tab with the records to view.

Choose Refresh to update the information in the scrolling windows.

4. When you've finished viewing the information, close the window.

Viewing a view-only version of a change order

Use the Engineering Change Request–View Only window to see all information a change request or order.

This window is particularly useful if you're limiting access to the Engineering Change Request and Engineering Change Request Edit windows, but need to make change order information available to all users.

To view a view-only version of a change order:

1. Open the Engineering Change Request–View Only window.
    (Inquiry >> Manufacturing >> ECM >> Request View)

2. Enter or select an engineering change request or order.

3. Review information in the window.

    If needed, you can generate an ECM report. Choose Reports to open the report
    destination window and print the Engineering Change Report.

4. When you've finished reviewing information, close the window.

Part 3: Job Costing

This part of the documentation includes information that will help you set up and maintain Job Costing. The setup procedures generally need to be completed once, but you can refer to this information at other times for instructions on modifying or viewing existing entries.

Job Costing helps you link records and transactions to a specific job and track the costs associated with a specific job. Job Costing doesn't create or affect transactions—it just captures information from transactions.

The following information is discussed:

- Chapter 11, "Job Costing overview," includes information about the terms and concepts you need to know before using Job Costing.

- Chapter 12, "Job Costing setup cards," describes how you can set up job categories, revenue and expense codes, and user-defined fields to track job information.

- Chapter 13, "Jobs," explains how you can create a basic job record. Later you'll link job elements—such as purchase orders and manufacturing orders—to the job record.

- Chapter 14, "Job link maintenance," describes how you can link job elements to a job.

- Chapter 15, "Job link details," includes detailed information about the effects of linking different job elements to a job.

- Chapter 16, "Job summary," contains information about summarizing job information.

Chapter 11: Job Costing overview

You can use Job Costing to group information about manufacturing projects. You can track the expenses and revenues related to a specific job, and you can link manufacturing orders, purchase orders, and inventory transactions to a job. You also can link sales orders and accounts receivable transactions to a job.

For example, suppose your business is constructing modular homes. If you build the homes to customer specifications—if they visit your offices to choose a model or floor plan—you might create a job when the sales order is created. As work on the construction of the home progresses, you can link various kinds of information to the job, beginning with inventory transactions for lumber used to build the house frame and continuing through service charges for delivery and setup of the home.

Manufacturing helps you to track several kinds of information and transactions. For the modular-home builder, those different kinds of information might be:

- Component transactions, such as those to take framing lumber from current stock quantities
- Purchase orders for concrete work, siding, and paint
- Receiving transactions for the items purchased to complete the job
- Payables Management transactions for purchased items
- Manufacturing orders for the construction of walls, windows, and ceilings
- Additional sales orders; for example, if the home buyers wanted to include an optional deck or garage
- Data collection records for tracking machine and labor costs
- Receivables Management transactions for the sale of optional items, such as setup and delivery fees

You can't create transactions in Job Costing, but you can use Job Costing to organize transactions throughout your system for a job or project. Using Job Costing won't affect your transactions or posting processes. You can think of each job you define as a sort of subledger. Job Costing captures information from accounting transactions, but has no effect on General Ledger or any subsidiary ledgers.

This information is divided into the following sections:

- *Job Costing terms*
- *Job links*
- *Job statuses*

Job Costing terms

Refer here for information about some of the terms related to job costing.

Job   A job is a series of business activities that, when completed, will fulfill a high-level objective. For example, a business that customizes trucks or vans might define a job for each van that is ordered, and then link all information about work related to the customization—such as a purchase order for the basic van and a manufacturing order for the customization work—to the job definition.

Job categories   Job categories are groupings you create to organize jobs. Each category can be created using a set of values that apply to all of the jobs in the category. You don't have to create job categories, but they can be useful in helping you to organize and report job information.

You can create up to three different types of categories. Each category can have an unlimited number of values. For example, if you created a category titled REGION so you could track jobs from specific geographical areas, your values might be as simple as East, West, North, and South—or you might create separate regions for states, provinces, countries, or other areas.

Job elements and transactions A Job Costing element is a record that can be linked to a job. The following records are elements that can be linked to jobs:

- Manufacturing orders
- Sales orders
- Purchase order lines
- Receivings lines
- Inventory transaction lines
- Purchasing invoice lines
- Component transaction lines
- Receivables transactions
- Payables transactions
- Data collection entries

Each of these elements might create one or more job transactions. A job transaction is a record that captures a single expense or revenue for a job.

For example, suppose you link Job ABC to a receivables transaction RCV001. The receivables transaction includes $10 for the sales amount, $5 for the freight charge, and $2 for the tax amount. When you post the receivables transaction, a separate job transaction will be created for each of the charges—that is, each of the amounts can be tracked with a separate revenue/expense code. Some companies might want their job information to show expenses categorized as Materials, Freight, and Tax; other companies might want all three transactions to be included in Materials.

Job transactions won't affect the general ledger or any subsidiary ledgers because job transactions aren't accounting transactions. They are used only to capture information for use in Job Costing.

Expenses, revenues, profit, and margin Job Costing helps you to track information about expenses, revenues, and the project profit and project margin—in terms of both estimated and actual amounts. Refer to the table for more information:

Value	Type	Source
Revenue	Actual	Sum of all applied revenue transactions linked to the job.
	Estimated	User enters projection in Job Maintenance window.
Expense	Actual	Sum of all applied expense transactions linked to the job.
	Estimated	User enters projection in Job Maintenance window.
Profit	Actual	Difference between actual revenue and actual expense.
	Estimated	Difference between estimated revenue and estimated expense.
Margin	Actual	[Actual profit / Actual revenue] x 100.
	Estimated	[Estimated profit / Estimated revenue] x 100.

Revenue and expense codes   You can use revenue and expense codes to categorize the expenses and revenues that are linked to a job and to simplify expense and revenue information. For example, if you have three expenses for different materials for a job—and all three transactions have the Materials expense code assigned to them—the total of all three transactions will be displayed as one entry labeled "Materials." You can create as many revenue and expense codes as needed, and include the level of detail that works best for your organization.

You can use the Job Maintenance window to see an itemized list of all revenues or expenses that comprise a total. Refer to Viewing job summary details on page 144 for more information.

Applying a transaction   To apply a transaction or element means that the revenue or expense of the transaction will be reflected in the total revenue or expense of the job. For example, if you apply a transaction for $10 of expenses to an existing job, the expenses of the job would increase by $10.

Double-booking   A situation where a job might inadvertently be charged twice for the same expense is double-booking situation. Messages will be displayed if you try to set up a job transaction list that would allow these kinds of situations. Refer to *Transaction combinations for double-booking* on page 93 for more information.

Job transaction list   A transaction list is a selection of transactions that are to be applied to a specific job. You can use transaction lists to specify the kinds of transactions to apply to jobs and to specify the transactions to automatically apply to jobs.

For more information about job transaction lists, refer to Job transaction lists on page 90.

Job links

Before you use Job Costing, you should understand how the links between jobs and job elements—such as manufacturing orders or sales orders—work.

When you link an element to a job, all the information that is part of that element also is linked to the job. For example, if you link a sales order to a job, and then you link manufacturing orders to the sales order to fulfill the sales order, those manufacturing orders also are linked to the job. If you link a purchase order to a job, the receiving transactions for the purchase order automatically are linked to the job.

Sometimes, however, you must create a link manually between a job and a transaction. For example, a manufacturing order that is created in response to MRP calculations wouldn't be automatically linked to a job because it isn't linked to a sales order. Several other situations and transaction types that will need to be linked manually are listed in the following table.

Element requiring a manual link:	... if this condition exists:
Manufacturing order	Generated from MRP Generated from Master Production Scheduling
Purchase order	Generated from MRP
Purchase order line	Created or linked to Request Resolution shortages
Inventory transactions	Always
Accounts Payable transactions	Always

Element requiring a manual link:	... if this condition exists:
Accounts Receivable transactions	Always
Data collection transactions	Only if the manufacturing order isn't already linked to the job (You must link data collection transactions for indirect labor manually, since indirect labor isn't tied to specific manufacturing orders.)

You can use the Job Link Maintenance window or a right-click menu to link these elements to a job. You also can use the Job Link Maintenance window to view detailed information about jobs and the elements linked to them. Refer to Chapter 14, "Job link maintenance," for more information about using the Job Link Maintenance window and the right-click menu.

Job statuses

The status of a job indicates its progress in a manufacturing system. Refer to these definitions for more information about the statuses that can be assigned to a job.

Quoted The default status for new jobs created in the Job Maintenance window. When the status of a job is Quoted, you can enter information about the job, but you can't link elements to the job.

Linking to a quoted-status job

Module	Documents that can be linked
Accounts Payable transactions	None
Accounts Receivable transactions	None
Data Collection	None
Inventory transactions	None
Manufacturing Order Processing	None
Purchase Order Processing	None
Sales Orders	None

Planned Information about a job has been entered and planned, but the work might not occur. If the status of a job is Planned, you can link only other "planned" elements to the job. For example, you can link sales orders with Quote status, or purchase orders or manufacturing orders with Open status to the job.

Linking to a planned-status job

Module	Documents that can be linked
Accounts Payable transactions	None
Accounts Receivable transactions	None
Data Collection	None
Inventory transactions	None
Manufacturing Order Processing	Manufacturing orders with Quote/Estimate or Open status
Purchase Order Processing	New status purchase order lines
Sales Orders	Quoted sales orders

Firmed   Work will happen, but authorization to begin the work hasn't yet been given. If the status of the job is Firmed, you can link Planned and Firmed elements to the job.

Linking to a firmed-status job

Module	Documents that can be linked
Accounts Payable transactions	None
Accounts Receivable transactions	None
Data Collection	None
Inventory transactions	None
Manufacturing Order Processing	Manufacturing orders with Quote/Estimate, Open, or Released status
Purchase Order Processing	New purchase order lines
Sales Orders	Quoted sales orders

Released   Authorization has been given for work to proceed on a job. If the status of a job is Released, you can link Planned, Quoted, or Firmed elements to it.

Linking to a released-status job

Module	Documents that can be linked
Accounts Payable transactions	Any existing accounts payable transaction can be linked to a job with Released status.
Accounts Receivable transactions	Any existing accounts receivable transaction can be linked to a job with Released status.
Data Collection	Any data collection transactions that exist can be linked to a job with Released status.
Inventory transactions	Any inventory transaction can be linked to a job with Released status.
Manufacturing Order Processing	Manufacturing orders with these statuses: Quote/Estimate, Open, Released, Hold, Canceled, Complete, Partially Received, and Closed can be linked to a job with Released status.
Purchase Order Processing	New, Released, Change Order, Received, Canceled, and Closed purchase order lines can be linked to a job with Released status.
Purchasing invoice transaction	Purchasing invoice transactions can be linked only to a job with Released status.
Receivings transaction	Receivings transactions can be linked only to a job with Released status.
Sales Orders	Sales orders with Quote, Order, Invoice, Return, and Backorder status can be linked a job with Released status.

Complete   A job is complete. You can't change the status of a job to Complete until the status of all elements linked to the job is Complete. If a job has Complete status, you can link only other Complete job elements to it.

Linking to a complete-status job

Module	Documents that can be linked
Accounts Payable transactions	None
Accounts Receivable transactions	None
Data Collection	Any existing data collection transaction to a complete job.
Inventory transactions	None
Manufacturing Order Processing	Manufacturing orders with these statuses: Canceled, Complete, Partially Received, and Closed can be linked to a job with Complete status.
Purchase Order Processing	Canceled and Closed purchase order lines can be linked to a job with Complete status.
Sales Orders	None

Closed   A job is complete and all transactions have been applied to it. You can't link any elements to a job once it is closed.

Chapter 12: Job Costing setup cards

Before you can use Job Costing, you must complete some additional setup tasks. For more information about initial setup tasks—such as specifying a process security set to limit user access to job-costing functions—refer to *Job Costing system preferences* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation.

This information is divided into the following sections:

- *Defining a job category*
- *Modifying a job category value*
- *Deleting a job category*
- *Creating a revenue and expense code*
- *Modifying a revenue or expense code description*
- *Modifying an expense or revenue code*
- *Deleting a revenue or expense code*
- *Job transaction lists*
- *Creating a transaction list*
- *Transaction combinations for double-booking*
- *Specifying job costing transaction details*
- *Modifying a job transaction list*
- *Deleting a transaction list*
- *Defining or modifying user-defined fields*
- *Deleting user-defined job-costing labels*

Defining a job category

Within Job Costing, you can define up to three job categories. It's not necessary to define job categories, but doing so will give you more reporting options. For example, if you've created a job category called REGION that includes the values North and South, you can generate reports based on jobs for those regions.

Use the Job Category Setup window to define a job category.

To define a job category:

1. Open the Job Categories Setup window.
    (Cards >> Manufacturing >> Job Costing >> Categories)
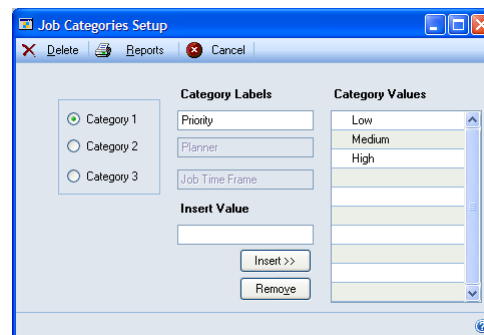
2. Mark the Category 1 option to define the first job category. Enter the category name in the Category Label field.

3. In the Insert Value field, enter a value for the category. For example, if your job category is associated with product lines, you can enter the name of a specific product line. If your category is Regions, you might want to enter names of countries or areas.

4. Choose Insert to add the value to the scrolling window. The information automatically is saved as soon as it appears in the scrolling window.

5. Repeat steps 3 and 4 until you've defined all the values for the category. You can add and remove category values later, if needed.

6. To define additional categories, mark the appropriate category option and enter the category name in the Category Label field.

7. Continue, repeating steps 3 and 4 to define the values for the job category.

8. When you've finished, close the window.

Modifying a job category value

Use the Job Categories Setup window to add or remove values from a job category.

To modify a job category value:

1. Open the Job Categories Setup window.
    (Cards >> Manufacturing >> Job Costing >> Categories)

2. Mark the option for the job category to be edited.

3. In the scrolling window, highlight the value to be modified.

    •   To change the value, enter your changes directly in the scrolling window.

    •   To delete the marked value, choose Remove.

4. To add another value to the job category, enter the value in the Insert Value field and choose Insert.

5. Changes are saved as soon as they appear in the scrolling window. When you've finished, close the window.

Deleting a job category

Use the Job Categories Setup window to delete a job category.

To delete a job category:

1. Open the Job Categories Setup window.
    (Cards >> Manufacturing >> Job Costing >> Categories)

2. Mark the option for the job category to be removed.

3. Remove all values from the job category. To remove a value, highlight it in the scrolling window and then choose Remove.

4. Select the text for the job category label. Use the BACKSPACE or DELETE key to delete the text.

5. When you've finished, close the window.

## Creating a revenue and expense code

You can use Job Costing to link various transactions to a job. For example, you can link accounts payable transactions and inventory transactions.

To make the information linked to a job easier to understand, you can create revenue and expense codes that you can use to label each transaction that is linked to a job. For example, if your customer prepays a portion of the estimated final cost of the job, you might want to label the transaction DOWN PAYMENT. You can create an unlimited number of codes.

Use the Revenue/Expense Code Setup window to create revenue and expense codes.

To create a revenue or expense code:

1. Open the Revenue/Expense Code Setup window.
(Cards >> Manufacturing >> Job Costing >> Rev/Exp Codes)
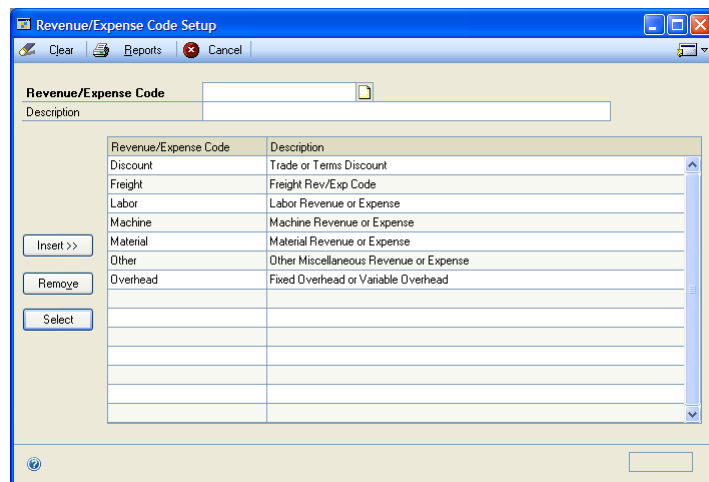
2. In the Revenue/Expense Code field, enter the code name. The code can be up to 20 characters.

3. In the Description field, enter a brief description or explanation of the code.

4. Choose Insert to add the information to the scrolling window. The information is saved as soon as it appears in the scrolling window.

5. Repeat steps 2 through 4 to create as many revenue and expense codes, as needed.

6. When you've finished, close the window.

Modifying a revenue or expense code description

Use the Revenue/Expense Code Setup window to change the descriptive information linked to a revenue or expense code. To change the code itself, refer to *Modifying an expense or revenue code* on page 90.

To modify a revenue or expense code description:

1. Open the Revenue/Expense Code Setup window.
   (Cards >> Manufacturing >> Job Costing >> Rev/Exp Codes)

2. Highlight the revenue or expense code to be modified. Choose Select to move information about the code to the fields at the top of the window.

You also can select a code by double-clicking it in the scrolling window.

3. Change the description, as needed.

4. Choose Insert to add the revised code to the scrolling window. Your change is saved as soon as it appears in the scrolling window.

5. When you've finished, close the window.

Modifying an expense or revenue code

If you need to change a code—for example, if you find that you've misspelled a code—you must delete the existing code and then create a new code. Refer to *Deleting a revenue or expense code* on page 90 and *Creating a revenue and expense code* on page 89 for more information.

If you delete a revenue or expense code, the code will be removed from any transactions in your system.

Deleting a revenue or expense code

Use the Revenue/Expense Code Setup window to delete a code from your system.

To delete a revenue or expense code:

1. Open the Revenue/Expense Code Setup window.
   (Cards >> Manufacturing >> Job Costing >> Rev/Exp Codes)

2. In the scrolling window, highlight the code to be removed.

3. Choose Remove. A message is displayed, and you have the option to cancel the process, if needed. Choose Continue to delete the revenue or expense code. Choose Cancel to end the process without deleting the code.

4. When you've finished, close the window.

Job transaction lists

Microsoft Dynamics GP includes many types of transactions, not all of which you'll need or want to complete for every job. Job Costing lets you define various groups of transaction types. Grouping the transactions into lists and then assigning a job transaction list to each job ensures that only the transactions you specify will be applied to jobs.

Transaction lists also help you assign default revenue and expense codes to the same transactions in different lists. For example, if your company uses Job Costing to track all of the projects completed for a single customer, you might want to track transactions for different jobs with different codes. Using the Job Transaction List Setup window, you could create a transaction list for all jobs for that customer, with default revenue and expense codes different from the codes you normally use for other jobs.

You can change the default revenue/expense codes in the Job Link Maintenance window. Refer to Changing a revenue or expense code on page 120 for more information.

When you add a transaction to a transaction list, you'll specify if the transaction should be manually applied or auto-applied. Auto-applied transactions are those whose currency amounts automatically are included in the calculations for the job. To ensure that the calculations for the revenues, expenses, profit, and margin for a job are properly calculated, almost all transactions must be applied. However, you might choose not to apply some transactions because of possible errors, or for other reasons. Not all transactions must be applied immediately—you can set them up to be manually applied when you create the transaction list.

Creating a transaction list

Use the Job Transaction List Setup window to create a transaction list.

When you create a transaction list, you can choose to select specific transactions from various transaction sources. For example, if you select All for the transaction source, all transactions that can be added to a transaction list are displayed. If you choose A/P Trx, only the transactions that have to do with accounts payable are displayed. Refer to the following table for more information.

Transaction source:	Includes these transactions:
All	All transactions
A/P Trx	Only transactions for the Payables Transaction Entry window
A/R Trx	Only transactions for the Receivables Transaction Entry window
Data Collection	Transactions for labor and machine costs from data collection. (Material data collection transactions aren't included.)
Inventory Trx	Only inventory transactions
Manufacturing Order	Only those transactions that come from Manufacturing Order Processing
MO Material	Component transactions for issuing material, plus fixed and variable overhead costs for materials
Purchasing Invoice	Only transactions that come from purchasing invoice transactions
Receivings Trx	Only transactions that come from receivings
Sales Order	Only transactions that come from Microsoft Dynamics GP Sales Order Processing

To create a transaction list:

1. Open the Job Transaction List Setup window.
    (Cards >> Manufacturing >> Job Costing >> Transaction List)
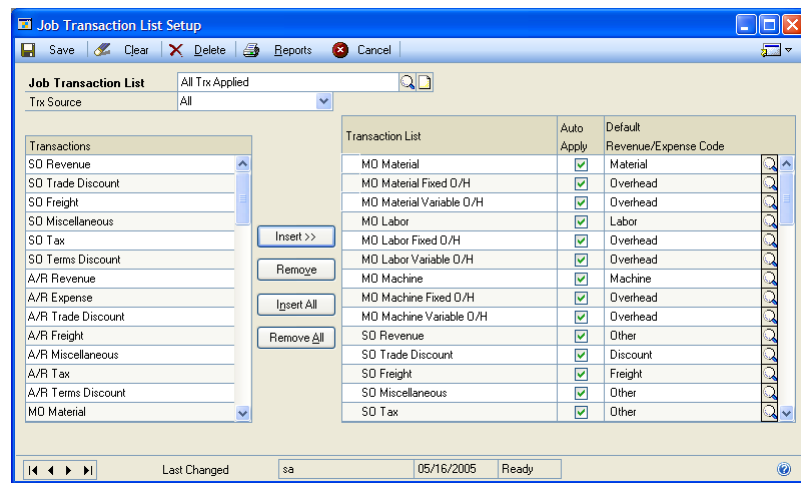
2. Enter a name for the transaction list.

    *Use the notes button to open a notes window where you can enter more detailed
    information about the transaction list.*

3. From the Trx Source list, select the type of transaction to be added to the list.

4. Add transactions to the right scrolling window. You can move all transactions
    in the left scrolling window at once, or you can choose specific transactions to
    include.

    *   To add all transactions in the left scrolling window to the right scrolling
        window, choose Insert All.

    *   To add a specific transaction to the right scrolling window, highlight it in
        the left scrolling window and then choose Insert.

    Some combinations of transactions can result in possible double-booking
    situations, where a customer might be inadvertently charged twice for the same
    expense. If you choose Insert All or if you choose Insert to add a transaction to
    the transaction list that might result in a double-booking situation, a message is
    displayed, asking if you want to add transactions that might create double-
    booking situations—that is, it might overstate expenses. Choose Yes to add the
    transaction type to the job transaction list. Choose No to cancel the process.

    Refer to Transaction combinations for double-booking on page 93 for more information.

5. Continue, repeating steps 3 and 4 as needed, until you've added all transactions
    that you want to be part of the transaction list.

6. When you've finished, choose Save and close the window.

Transaction combinations for double-booking

Some combinations of transactions can result in possible double-booking situations when you select them in the Job Transaction List Setup window.

A customer might be inadvertently charged twice for the same expense. If you choose Insert All or if you choose Insert to add a transaction to the transaction list that might result in a double-booking situation, a message is displayed, asking if you want to add transactions that might create double-booking situations. Choose Yes to add the transaction type to the job transaction list. Choose No to cancel the process.

Refer to the table for combinations of transactions that can result in double-booking situations.

If you include this transaction:	These transactions could cause double-booking:
A/R Expense	Purch. Inv. Non-inventoried Rcv Trx Non-inventoried
MO Labor	DC (Data Collection) Labor
MO Labor Fixed O/H	DC (Data Collection) Labor Fixed O/H
MO Labor Variable O/H	DC (Data Collection) Labor Variable O/H
MO Machine	DC (Data Collection) Machine
MO Machine Fixed O/H	DC (Data Collection) Machine Fixed O/H
MO Machine Variable O/H	DC (Data Collection) Machine Variable O/H
MO Material	ISS (Issued) Material Purch. Inv. Material Rcv. Trx. Material
MO Material Fixed O/H	ISS (Issued) Material Fixed O/H
MO Material Variable O/H	ISS (Issued) Material Variable O/H
Purch. Inv. Material	INV Material ISS (Issued) Material
Rcv Trx Material	INV Material ISS (Issued) Material Purch. Inv. Material
Rcv Trx Non-inventoried	Purch. Inv. Non-inventoried

Specifying job costing transaction details

After you've created a basic job transaction list, you must determine how each transaction will be handled when the transaction list is used. For example, you must specify the revenue or expense code for the transaction, and you must determine if the transaction will be auto-applied.

If a transaction is applied automatically, its value is applied to the job as soon as the transaction information is captured. For example, if you have selected to auto-apply transactions for materials issued to a manufacturing order, then those costs are applied to the job when the pick document with the issuing transaction is posted.

If a transaction is not applied automatically, you must manually apply the value to the job. Refer to *Manually applying a transaction to a job* on page 118.

Use the Job Transaction List Setup window to specify how job costing transactions are handled.

To specify job costing transaction details:

1. Open the Job Transaction List Setup window.
   (Cards >> Manufacturing >> Job Costing >> Transaction List)

2. Enter or select a transaction list.

3. Highlight a transaction in the right scrolling window.

4. To auto-apply the transaction, mark the appropriate Auto Apply option.

⚠️ *Job Costing doesn't track transactions for materials from the Picklist window, but it does track Issue and Reverse Issue component transactions entered in the Manufacturing Component Transaction Entry window.*

5. Select a default revenue or expense code. You can change it later, if needed.

6. Repeat steps 3 through 5 until you've specified details for all transactions in the job transaction list.

7. When you've finished, choose Save and close the window.

Modifying a job transaction list

You can add or remove transactions from a job transaction list or adjust the details of how transactions are handled when they're part of a specific job transaction list.

💡 *If you change a job transaction list, your changes won't be reflected in any jobs that are already using the job transaction list. Only new jobs using the job transaction list will reflect your changes.*

Use the Job Transaction List Setup window to modify a job transaction list.

To modify a job transaction list:

1. Open the Job Transaction List Setup window.
   (Cards >> Manufacturing >> Job Costing >> Transaction List)

2. Enter or select a job transaction list.

3. You can add one or more transactions to the transaction list.

   • To add all transactions in the left scrolling window, choose Insert All.

   • To add a specific transaction, highlight the transaction in the left scrolling window and then choose Insert.

4. You can remove one or more transactions from the transaction list.

   • To remove all transactions, choose Remove All.

   • To remove a specific transaction, highlight the transaction in the right scrolling window and choose Remove.

5. You can change the details of how each transaction is handled. Refer to *Specifying job costing transaction details* on page 93 for more information.

6. When you've finished, choose Save and close the window.

Deleting a transaction list

Use the Job Transaction List Setup window to delete a transaction list.

To delete a transaction list:

1. Open the Job Transaction List Setup window.
   (Cards >> Manufacturing >> Job Costing >> Transaction List)

2. Enter or select a job transaction list.

3. Choose Delete. A message will be displayed, and you'll have the option to end the process. Choose Delete to remove the job transaction list from the system. Choose Cancel to end the process without deleting the list.

4. When you've finished, close the window.

Defining or modifying user-defined fields

Job Costing includes a series of user-defined fields you can set up and use to track information about your jobs. The Extra Fields Setup window includes 25 fields you can set up to record additional information about jobs. You can create up to five fields for each of the following data types.

Date Labels To enter date information about a job—for example, the date you sent a customer a quote for the job.

Numeric Labels Use to enter numeric information about a job—for example, the number of times you've visited a customer site.

Checkbox Labels Use to enter "indicate yes or no"-type information. For example, if you require contracts to be signed before work on a project begins, you can create a Contracts signed option that can be marked when the signing is complete.

Alpha/Numeric Labels Use to enter alphanumeric information. For example, you could record the name of a key contact at the customer's company.

Dollar Labels Use to enter currency information. For example, you could record information about unbilled expenses, such as visits to the customer's site.

Use the Extra Fields Setup window to create labels for the user-defined Job Costing fields.

To define or modify user-defined fields:

1. Open the Extra Fields Setup window.
   (Cards >> Manufacturing >> Job Costing >> Extra Fields)

2. Enter user-defined labels in the appropriate fields, or change them, as needed. The labels you enter will be displayed in the Job Extra Fields window, which is the second page of the Job Maintenance window.

3. Continue to define as many user-defined fields as you like.

4. When you've finished, choose OK and close the window.

Deleting user-defined job-costing labels

You can use the Extra Fields Setup window to delete specific labels or all labels for user-defined job costing fields. Deleting the labels defined in the Extra Fields Setup window will remove all labels from the Job Extra Fields window for all jobs.

To delete user-defined job-costing labels:

1. Open the Extra Fields Setup window.
   (Cards >> Manufacturing >> Job Costing >> Extra Fields)

2. Decide which labels to delete.

   To delete a specific label Use the backspace key to delete the text of the label to remove.

   To delete all labels Choose Delete. A message will be displayed, and you'll have the option to continue or to cancel the deletion process. Choose Delete to remove all the user-defined job-costing field labels. Choose Cancel to end the process without deleting the field labels.

3. When you've finished, close the window.

Chapter 13: Jobs

Before you can link elements to a job, you must define the job itself. You must assign a name or number to the job and then can enter additional information, such as the customer name, estimated revenues and expenses, and estimated start and end dates.

If you define job categories to help you group and organize your jobs, you also can assign the job category values to the job. For example, if you have set up a job category for regions, you can include the region for the job. Later, when the job definition is complete and you're ready to begin actual work on the job, you can link manufacturing orders, sales orders, inventory transactions, and other elements to the job.

This information is divided into the following sections:

- *Creating a job*
- *Entering information in user-defined job fields*
- *Modifying a job*
- *Placing a job on hold*
- *Canceling a job*
- *Activating a job that is canceled or on hold*
- *Deleting a job*

Creating a job

Use the Job Maintenance window to define a job. You must assign a name or number to the job and choose a transaction list. All other fields are optional.

To create a job:

1. In the navigation pane, choose the Manufacturing button, and then choose the Job Costing list.

2. Choose Job to open the Job Maintenance window.

3. Enter an identifier for the job in the Job Number field. The job number can be any combination of up to 30 characters. After you save the record, you can't change the job number.

4. You can enter a brief description or explanation of the job.

5. Accept the default job status or enter or select a new one.

   When you create a new job, the status of the job automatically is set to Quoted, but you can choose another status. Refer to *Job statuses* on page 84 for more information about job statuses.

6. Enter or select a transaction list. Refer to *Job transaction lists* on page 90 for more information about job transaction lists.

   You can specify a default job transaction list for jobs. Refer to Defining Job Costing system settings in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information.

7. You can enter or select a customer ID.

   If a sales order line is linked to a job and if the customer ID field is blank, the customer ID for the sales order line will be displayed in the Customer ID field in the Job Maintenance window.

   If you specify a customer for a job and then try to link the job to a sales order for a *different* customer, a message appears, warning that the customer is different. You'll have the option to cancel the process.

8. You can enter or select estimated starting and ending dates for the job.

9. You can enter estimated revenue and expense information in the Job Summary area.

   When you enter estimated revenue and expense information, the estimated profit and the estimated margin are calculated. The estimated profit is the estimated revenues minus the estimated expenses. The estimated margin percentage is the estimated profit divided by the estimated revenues.

10. Choose Save and close the window.

Entering information in user-defined job fields

If you've set up user-defined fields for tracking additional information about a job, you can use the Job Extra Fields window to record that information.

Use the Job Extra Fields window to enter information in user-defined fields.

To enter information in user-defined job fields:

1. Open the Job Maintenance window.
   Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

3. Choose the page-turn icon button in the lower right corner of the window to open the Job Extra Fields window.

4. Enter information in the fields you've defined, as needed.

5. Choose Save and close the window.

Modifying a job

Use the Job Maintenance window to modify information about a job.

To modify a job:

1. In the navigation pane, choose the Manufacturing button, and then choose the Job Costing list.

2. Select a job and choose Edit to open the Job Maintenance window.

3. Make changes, as needed.

You can't change the job number after the record has been saved.

4. Choose Save and close the window.

Placing a job on hold

Occasionally, you might need to put a job on hold. For example, suppose your customer has ordered one of your modular homes but then finds out that his financing might not be available. The customer might ask you to put the job on hold—delaying further work on it—until the issues are resolved.

When a job is on hold, you can't link additional elements to it, you can't unlink elements from it, and no transactions will be applied to it. If necessary, you still can edit most of the information in the Job Maintenance window. You can continue to process the elements that are linked to the job, as needed; for example, you can complete manufacturing orders and receive purchased items.

Use the Job Maintenance window to place a job on hold.

To place a job on hold:

1. Open the Job Maintenance window.
   (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

3. Mark the On Hold option. When you mark On Hold, the Status list will be dimmed. You can't change the status of a job while it is on hold.

   If a process security set has been selected in the Job Costing Preference Defaults window, you might need to use a user ID that's included in the process security set, or you might need to supply a password to put a job on hold.

   Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about Job Costing setup options. Refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup information for more information about process security.

4. Choose Save and close the window.

Canceling a job

If a job is permanently suspended—that is, if it's very unlikely that work will resume on a job—you can cancel the job.

Canceling a job has the same effect as putting a job on hold—you can't link new elements or unlink existing linked elements, and no transactions will be applied to the job. In addition, you can't edit any of the fields in the Job Maintenance window for a canceled job.

Use the Job Maintenance window to cancel a job.

To cancel a job:

1. Open the Job Maintenance window.
   (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

3. Mark Canceled. All fields in the Job Maintenance window will be dimmed. If a process security set has been selected in the Job Costing Preference Defaults window, you might need to use a user ID that's included in the process security set, or you might need to supply a password to cancel a job.

   Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about Job Costing setup options. Refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup information for more information about process security.

4. Choose Save and close the window.

Activating a job that is canceled or on hold

Use the Job Maintenance window to activate a job.

To activate a job that is canceled or on hold:

1. Open the Job Maintenance window.
    (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

3. Unmark the Canceled or On Hold option. If a process security set has been selected in the Job Costing Preference Defaults window, you might need to use a user ID that's included in the process security set, or you might need to supply a password to activate a job.

    Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about Job Costing setup options. Refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup information for more information about process security.

4. Choose Save and close the window.

Deleting a job

Before you delete a job you must unlink all of its elements and transactions. Refer to Chapter 14, "Job link maintenance," for more information about unlinking elements from a job.

After you've unlinked all of the elements and transactions, use the Job Maintenance window to delete a job.

To delete a job:

1. Open the Job Maintenance window.
    (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job.

3. Choose Delete. A message will be displayed, and you'll have the option to end the task without deleting the job. Choose Delete to remove the job. Choose Cancel to end the task without deleting the job.

4. When you've finished, close the window.

Chapter 14:   Job link maintenance

The jobs you define in Manufacturing can include many types of transactions and elements. Any financial information about expenses or revenues can be linked directly to a job, so you can get an overall picture of how profitable the job is. Refer to *Job links* on page 83 for more information about job links.

Probably the most useful window in Job Costing is the Job Link Maintenance window. You can use this window to complete most routine Job Costing tasks. This document includes procedures for completing many of those tasks, such as linking and unlinking elements, applying and unapplying transactions, and viewing additional information about jobs, elements and transactions.

Job Costing also includes a right-click menu for linking and unlinking elements and jobs. You can link elements to different jobs and quickly access job costing windows using the right-click menu. However, the Job Link Maintenance window does not have a right-click menu like the other Job Costing windows. You must use the action button in the Job Link Maintenance window to link elements and access other Job Costing windows.

This information is divided into the following sections:

- *Uses of the Job Link Maintenance window*
- *Parts of the Job Link Maintenance window*
- *Viewing job, element, and transaction details*
- *View details using the Element Number link*
- *View details using the Number link*
- *View details using the Actions button*
- *Complete tasks using the Actions button*
- *Adding manual transactions to a job*
- *Removing manual transactions from a job*
- *Linking an element or transaction to a job*
- *Restrictions for removing links to jobs*
- *Unlinking an element or transaction from a job*
- *Unlinking all elements or transactions from a job*
- *How linked elements lead to linked transactions*
- *Manually applying a transaction to a job*
- *Manually unapplying a transaction from a job*
- *Changing a revenue or expense code*
- *Managing views of elements and transactions*
- *Job Costing right-click menu*
- *Using the right-click menu to create links to jobs*
- *Using the right-click menu to change a job link*

Information in this document is intentionally generic; for example, procedures for linking and unlinking elements are included, but the specific effects and requirements for linking a sales order to a job aren't addressed here. For more specific information about the issues involved with linking elements and transactions from specific modules, refer to Chapter 15, "Job link details."

Uses of the Job Link Maintenance window

The Job Link Maintenance window displays information about a job and the elements and transaction records linked to the job. You can see the relationships between a job and the linked items and which elements and transactions are linked to the job—and which aren't. You can view detailed information about specific elements.

You also can use the Job Link Maintenance window to complete many of the tasks required when you're using Job Costing. Some of these tasks can be completed by using the Actions button—above the list window—or the buttons above the tree view in the Job Link Maintenance window. Some of these tasks also can be completed by using a right-click menu available in many Manufacturing and Microsoft Dynamics GP windows. The table shows which tasks can be completed in the Job Link Maintenance window and which tasks can be completed using the right-click menu in other Job Costing windows.

Task	Job Link Maintenance window	Right-click menu
View jobs and linked elements and transactions	X	
Link elements to a job	X	X
Unlink elements from a job	X	
Unlink all elements from a job	X	
Link an element to a different job	X You can unlink an element and then link it to another job.	X
View which job an element is linked to	X	X
Apply and unapply transactions	X	

The right-click menu is available in many windows throughout Microsoft Dynamics GP. Refer to *Job Costing right-click menu* on page 121 for a complete list.

Parts of the Job Link Maintenance window

The Job Link Maintenance window has four main parts—the tree view, the job information pane, the linked element information pane, and the list window.

To open the Job Link Maintenance window, choose Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance.
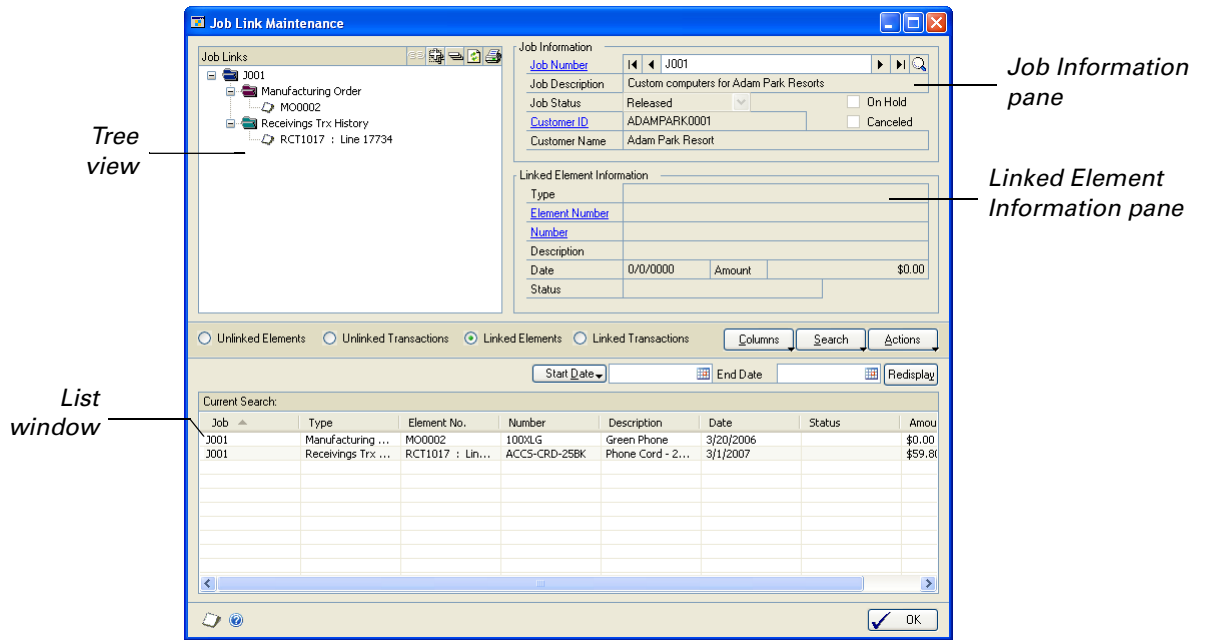
Tree view

The tree view is located in the upper left window of the Job Link Maintenance window. The top level of the tree view is the job selected in the job information pane. The next level of the tree view shows linked elements grouped by category, such as Manufacturing Order, Sales Order History, Manual Transaction. The linked elements are displayed under the category with an icon representing a document. A clear document represents a linked element without any additional links, whereas a grayed document represents a linked element that has additional links. By expanding and collapsing the tree view, you can see information about a specific job—for example, you can see the orders and transactions that are linked to the displayed job.
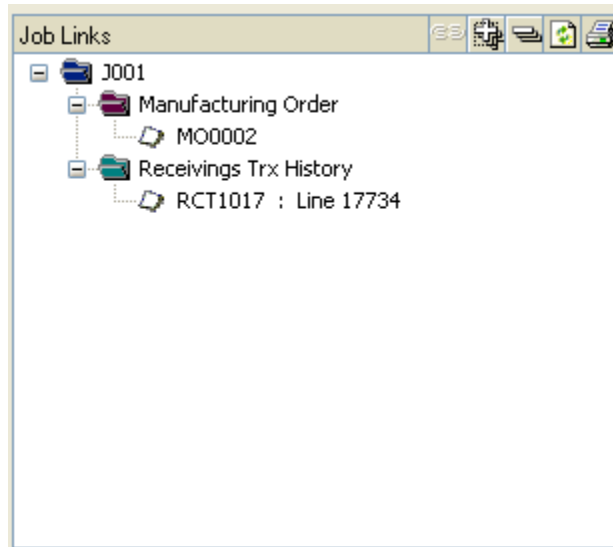
The following linked elements can have additional links:

- Accounts Payable
- Accounts Payable History
- Accounts Receivable
- Accounts Receivable History
- Data Collection
- Inventory Transactions
- Inventory Transaction History
- Manufacturing Order
- Material Data Collection
- Manufacturing Purchase Order
- Manufacturing Receivings
- Manufacturing Order Material
- Manufacturing Order Material History
- Sales Order
- Sales Order History

The following linked elements cannot have additional links:

- Manual Transaction
- Purchase Order
- Purchase Order History
- Receivings Transaction
- Receivings Transaction History
- Purchasing Invoice
- Purchasing Invoice History

By browsing through jobs in the Job Information pane and expanding the tree view, you can see information about each of your company's jobs—for example, you can see the orders and transactions that are linked to each job.

The tree view works much like a Microsoft Windows® file manager; if a record is displayed as a folder with a small plus symbol in front of it, you can open the folder to see more levels of linked elements or transactions.

You can use the buttons at the top of the tree view to adjust the amount of information displayed. You can expand and collapse the tree view, and you can refresh the information in the tree view. You also can unlink elements from jobs, and print job elements reports or job transactions reports.

You can use the tree view of the Job Link Maintenance window to complete these procedures:

Job Information pane

The Job Information pane—located at the top right side of the Job Link Maintenance window—provides job information about the specific job selected. Detailed information will be displayed in the entire window for the job that you selected in this pane.

Linked Element Information pane

The Linked Element Information pane—located under the Job Information pane of the Job Link Maintenance window—provides detailed information about the linked element or transaction selected in the tree view. If you browse to or select a job number in the Job Information pane and then select a linked element in the tree view, for example, detailed information about the element or transaction that you selected will be displayed in the Linked Elements Information pane.

List window

You can use the options above the list window to customize the view of the information displayed in the list window.

Linked elements and transactions   Mark the linked elements or linked transactions option to display linked elements or transactions in the list window for the job displayed in the Job Information pane.

Unlinked elements and transactions Mark the unlinked elements or unlinked transactions option to display unlinked elements or transactions in the list window. When the unlinked elements or unlinked transactions option is marked, the unlinked elements or unlinked transactions list is available. You can use the list to select the type of information displayed in the list window. For example, to have all manufacturing orders that aren't linked to a job displayed, select Manufacturing Order from the list.
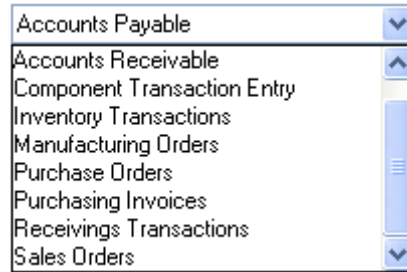
You can use the list window to select elements to link to a job and to open windows with more detailed information about a specific element. Use the list window to complete these procedures:

- *Viewing job, element, and transaction details* on page 108
- *Linking an element or transaction to a job* on page 115
- *Manually applying a transaction to a job* on page 118
- *Manually unapplying a transaction from a job* on page 119
- *Changing a revenue or expense code* on page 120
- *Managing views of elements and transactions* on page 120

Viewing job, element, and transaction details

You can use the Job Link Maintenance window to view detailed information about jobs, elements, and transactions—whether or not the records are linked to a job. Use this procedure to view more information about a job, an element—such as a manufacturing order or receiving line—or a transaction.

The window that you use to view information will depend on the type of record—element, or transaction—that is selected. The process that you use to open the window will depend on whether you select a record in the tree view or in the list window.

For more information, refer to the following topics:

- *View details using the Element Number link* on page 109
- *View details using the Number link* on page 110
- *View details using the Actions button* on page 111
- *Complete tasks using the Actions button* on page 113

To view job, element, and transaction details:

1. Open the Job Link Maintenance window.
   (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance.)
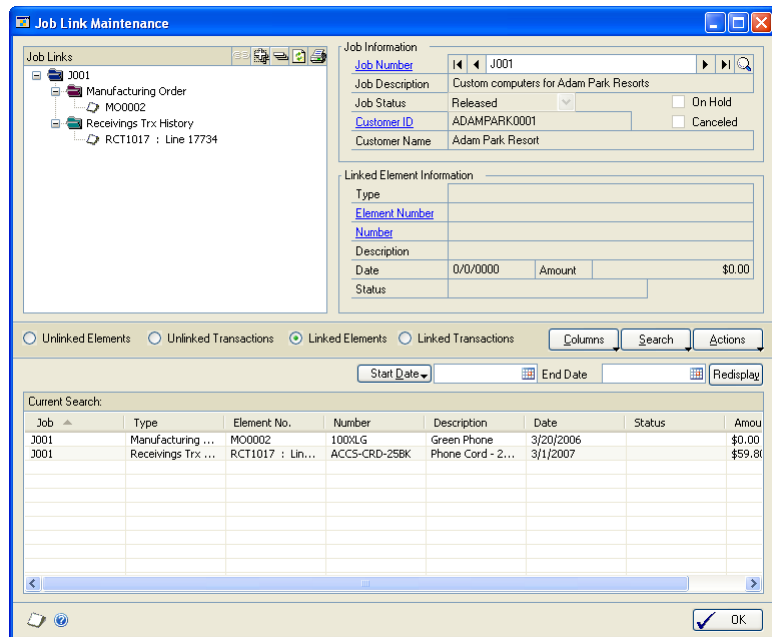
2. Enter or select a job to display in this window.

3. If needed, use the buttons above the list window and tree view to select the information to be displayed. Select an element in the list window or the tree view and use the Actions button, the Element Number link, or the Number link to display more information.

   List window Select an element or transaction in the list window. Choose Actions and select a window to display more information.

   Tree View Select an element in the tree view. Click the Element Number link or Number link, and select a window to display more information.

4. When you've finished, close the windows.

View details using the Element Number link

You can use the Job Link Maintenance window to view detailed information about elements that you select in the tree view. To view more information about the element, you can click on the Element Number link.

You can display more details for each type of record when you select a linked element in the tree view and select the Element Number link in the Linked Element Information pane. Refer to this table to see which windows are available for each type of record.

Select this type of record:	To open this window:
Accounts Payable transaction	Payables Transaction Entry window Payables Transaction Entry Zoom window
Accounts Payable transaction history	Payables Transaction Entry Zoom window
Accounts Receivable transaction	Receivables Transaction Entry window Receivables Transaction Entry Zoom window
Accounts Receivable transaction history	Receivables Transaction Entry Zoom window
Data Collection	Data Collection Summary window
Microsoft Dynamics GP purchase order	Purchase Order Entry window if the order hasn't been received, closed, or canceled Edit Purchase Order Status window Purchase Order Inquiry Zoom window
Microsoft Dynamics GP purchase order history	Purchase Order Inquiry Zoom window
Microsoft Dynamics GP receivings transaction	Receivings Transaction Entry window Receivings Transaction Inquiry Zoom window
Microsoft Dynamics GP receivings transaction history	Receivings Transaction Inquiry Zoom window
Inventory transaction	Item Transaction Entry window
Inventory transaction history	Inventory Transaction Inquiry window
Manual transaction	Job Costing Manual Transaction Entry window
Manufacturing order	Manufacturing Order Entry window if the order hasn't been closed Manufacturing Order Inquiry window Manufacturing Order Summary window if the order is closed, released, complete or partially received
Manufacturing order material	Manufacturing Component Transaction Entry window Manufacturing Component Transaction Inquiry window
Manufacturing order material history	Manufacturing Component Transaction Inquiry window
Manufacturing purchase order	Not available for this type of record
Manufacturing receivings transaction	Not available for this type of record
Material data collection	Material Data Collection Detail window
Purchasing invoice	Purchasing Invoice Entry window Purchasing Invoice Inquiry Zoom window
Purchasing invoice history	Purchasing Invoice Inquiry Zoom window
Sales order	Sales Transaction Entry window Sales Transaction Inquiry Zoom window
Sales order history	Sales Transaction Inquiry Zoom window

View details using the Number link

You can use the Job Link Maintenance window to view detailed information about elements that you select in the tree view. To view more information about the element, you can click the Number link.

You can display more details for each type of record when you select a linked element in the tree view and click the Number link in the Linked Element Information pane.

Refer to this table to see which windows are available for each type of record.

Select this type of record:	To open this window:
Accounts Payable transaction	Vendor Inquiry window
Accounts Payable transaction history	Vendor Inquiry window
Accounts Receivable transaction	Customer Inquiry window
Accounts Receivable transaction history	Customer Inquiry window
Data Collection	Employee Inquiry window if status is Labor; Machine Definition window if status is Machine.
Microsoft Dynamics GP purchase order	Item Inquiry window
Microsoft Dynamics GP purchase order history	Item Inquiry window
Microsoft Dynamics GP receivings transaction	Item Inquiry window if status is Inventoried Receivings line Vendor Inquiry window if status is receivings distribution (freight, tax, etc.) Not available for Non-inventoried Receivings line
Microsoft Dynamics GP receivings transaction history	Item Inquiry window if status is Inventoried Receivings line Vendor Inquiry window if status is receivings distribution (freight, tax, etc.) Not available for Non-inventoried Receivings line
Inventory transaction	Item Inquiry window
Inventory transaction history	Item Inquiry window
Manual transaction	Not available for this type of record
Manufacturing order	Item Inquiry window
Manufacturing order material	Item Inquiry window
Manufacturing order material history	Item Inquiry window
Manufacturing purchase order	Not available for this type of record
Manufacturing receivings transaction	Not available for this type of record
Material data collection	Not available for this type of record
Purchasing invoice	Item Inquiry window if status is Inventoried Receivings line Vendor Inquiry window if status is receivings distribution (freight, tax, etc.) Not available for Non-inventoried Receivings line
Purchasing invoice history	Item Inquiry window if status is Inventoried Receivings line Vendor Inquiry window if status is receivings distribution (freight, tax, etc.) Not available for Non-inventoried Receivings line
Sales order	Customer Inquiry window
Sales order history	Customer Inquiry window

View details using the Actions button

You can use the Actions button—located above the list window—to open windows that display more details about the selected elements or transactions.

Refer to this table to see what windows are available for the selected elements or transactions.

Select this type of record:	To open this window:
Accounts Payable transaction	Job Costing Manual Transaction Entry window Payables Transaction Entry window Payables Transaction Entry Zoom window Vendor Inquiry window
Accounts Payable transaction history	Job Costing Manual Transaction Entry window Payables Transaction Entry Zoom window Vendor Inquiry window
Accounts Receivable transaction	Job Costing Manual Transaction Entry window Receivables Transaction Entry window Receivables Transaction Entry Zoom window Customer Inquiry window
Accounts Receivable transaction history	Job Costing Manual Transaction Entry window Receivables Transaction Entry Zoom window Customer Inquiry window
Component transaction history	Job Costing Manual Transaction Entry window Data Collection Summary window Employee Inquiry window if record is a labor transaction Machine Definition window if record is a machine transaction
Data collection	Job Costing Manual Transaction Entry window Manufacturing Component Transaction Inquiry window Item Inquiry window
Microsoft Dynamics GP purchase order	Job Costing Manual Transaction Entry window Purchase Order Entry window if order isn't received, closed, or canceled Edit PO Status window Purchase Order Inquiry Zoom window Item Inquiry window
Microsoft Dynamics GP receivings transaction	Manual Transaction Entry window Receivings Transaction Entry window Receivings Transaction Inquiry Zoom window Item Inquiry window
Microsoft Dynamics GP receivings transaction history	Job Costing Manual Transaction Entry window Receivings Transaction Inquiry Zoom window Item Inquiry window
Inventory transaction	Job Costing Manual Transaction Entry window Item Transaction Entry window Item Inquiry window
Inventory transaction history	Job Costing Manual Transaction Entry window Inventory Transaction Inquiry window Item Inquiry window
Manufacturing order	Job Costing Manual Transaction Entry window Manufacturing Order Entry window—if order isn't closed Manufacturing Order Inquiry window Manufacturing Order Summary window Item Inquiry window
Manufacturing order material	Item Inquiry window
Manufacturing order material history	Item Inquiry window
Manufacturing purchase order	Not available for this type of record
Manufacturing receipts history	Job Costing Manual Transaction Entry window Manufacturing Order Receipt Inquiry window Item Inquiry window

Select this type of record:	To open this window:
Purchasing invoice	Job Costing Manual Transaction Entry window Purchasing Invoice Entry window Purchasing Invoice Inquiry Zoom window Item Inquiry window
Purchasing invoice history	Job Costing Manual Transaction Entry window Purchasing Invoice Inquiry Zoom window Item Inquiry window
Sales order	Job Costing Manual Transaction Entry window Sales Transaction Entry window Sales Transaction Inquiry Zoom window Customer Inquiry window
Sales order history	Job Costing Manual Transaction Entry window Sales Transaction Inquiry Zoom window Customer Inquiry window

Complete tasks using the Actions button

You can use the Actions button in the Job Link Maintenance window—located above the list window—to complete tasks by selecting elements or transactions in the list window, and then choosing the Actions button.

Refer to this table to see what tasks are available for linked elements and linked transactions.

Select this type of record:	To complete this task:
Linked element	Open the Manual Transaction Entry window and other windows—the available windows depend on which type of record is selected. Refer to *Parts of the Job Link Maintenance window* on page 104 for a list of record types and available windows.
Linked transaction	Apply Unapply Change Revenue/Expense Code Open the Manual Transaction Entry window and other windows—the available windows depend on which type of record is selected. Refer to *Parts of the Job Link Maintenance window* on page 104 for a list of record types and available windows.
Unlinked element	Link to Job Link to Element—if a linked element is selected in the tree view. Open the Manual Transaction Entry window and other windows—the available windows depend on which type of record is selected. Refer to *Parts of the Job Link Maintenance window* on page 104 for a list of record types and available windows.
Unlinked transaction	Link to Job Link to Element—if a linked element is selected in the tree view. Open the Manual Transaction Entry window and other windows—the available windows depend on which type of record is selected. Refer to *Parts of the Job Link Maintenance window* on page 104 for a list of record types and available windows.

Adding manual transactions to a job

Use the Job Costing Manual Transaction Entry window to manually add transactions to a job.

To add manual transactions to a job:

1. Open the Job Link Maintenance window.
    (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance.)

2. Enter or select the job to add transactions to.

3. Choose Actions >> Manual Transaction Entry to open the Job Costing Manual Transaction Entry window.

4. Select Revenue or Expense and enter or select the code.

5. Enter a description.

6. Enter the amount of revenue or expense to record for this transaction.

7. Enter or accept the date.

8. Choose Insert. The transaction is displayed in the list window.

9. Continue to add transactions, as necessary.

10. When you have finished adding transactions, choose OK to close the window and return to the Job Link Maintenance window.

11. Choose Redisplay in the Job Link Maintenance window. The transactions you just entered are listed in the list window.

Transactions that you enter manually are always applied. To unapply a transaction, refer to Manually unapplying a transaction from a job on page 119.

12. In the tree view, choose the Refresh button and then choose the Expand button. A folder titled Manual Entry is linked to the job and is displayed in the tree view with one linked element, which is a combination of all the transactions that you manually entered for this job.

    The total revenue and expense amount for the transactions that you entered is displayed in the Amount field in the Linked Element Information pane. This amount is determined by adding the revenue amounts and subtracting the expense amounts from all the transactions that were manually entered for this job.

13. To remove any of the transactions that you just created, refer to *Removing manual transactions from a job* on page 115.

Removing manual transactions from a job

Use the Job Costing Manual Transaction Entry window to remove any transactions entered in the Job Costing Manual Transaction Entry window from a job. Transactions that are not entered using the Job Costing Manual Transaction Entry window must be removed by deleting the linked element for that transaction.

To remove manual transactions from a job:

1. Open the Job Link Maintenance window.
   (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select the job to remove transactions from.

3. Choose Actions >> Manual Transaction Entry to open the Job Costing Manual Transaction Entry window.

4. Select the transaction or transactions to remove and choose Remove.

5. To remove all of the transactions that you added, choose Remove All.

6. When you've finished removing transactions, choose OK. The Job Link Maintenance window is displayed.

7. Choose Redisplay in the Job Link Maintenance window. The transactions that you just removed are removed from the list window.

Linking an element or transaction to a job

You can use the Job Link Maintenance window to link any element or transaction to a job, as long as the element or transaction and the job have statuses that allow the link to be formed. Refer to *Job statuses* on page 84 for more information about status requirements for linking to jobs.

To link an element or transaction to a job:

1. Open the Job Link Maintenance window.
   (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to display in this window.

3. If you're linking an element to an existing element, select the element that you're linking to in the tree view.

4. Select the Unlinked Elements or Unlinked Transactions option.

5. From the Unlinked Elements or Unlinked Transactions drop-down list, select the kind of element or transaction to link to the job.

6. In the list window, select the element or transaction to link to the job and choose Actions.

You can select several elements and transactions, and then link them to the job at once. To select several items, press and hold CTRL on your keyboard while using your mouse to select elements and transactions in the list window.

When you choose Actions, the tasks that you can complete for the element that you selected are listed. The tasks available depend on the element and on the job, and on the current status of the job and element.

Link Options Not Available   The Link to Job or Link to Selected Element options aren't available if the elements can't be linked. For example, if you're trying to link a manufacturing order to a purchase order—or if the status of the job and the status of the element won't allow the link to be formed.

Link Options Available   The Link to Job or Link to Selected Element options are available if the status of the job and the status of the element allow a link to be formed and if you have an element selected in the tree view.

Refer to *Complete tasks using the Actions button* on page 113 and *Job statuses* on page 84 for more information.

7. Select Link to Job to link the element to the job or select Link to Selected Element to link the element to the element that is selected—creating a secondary link to the element. To verify that the element is linked, expand the job information in the tree view. The linked element will appear beneath the job or element that it is linked to.

8. When you've finished, close the window.

Restrictions for removing links to jobs

Manufacturing includes restrictions that limit which users can unlink elements from jobs and which elements can be unlinked from jobs.

Process security for unlinking from jobs   When you set up Job Costing, you can specify a process security set to restrict authority for unlinking elements from jobs. You can choose to limit the authority for completing this procedure to specific user IDs, or you can require a password. If you don't specify a process security set for Job Costing, all users can unlink elements from jobs.

For more information about process security, refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup documentation. For more information about specifying a process security set for Job Costing, refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation.

Status requirements for unlinking a job You cannot unlink elements from jobs that have Closed status, or that are canceled or on hold.

Unlinking an element or transaction from a job

Use the Job Link Maintenance window to unlink a single element or transaction from a job.

To unlink an element or transaction from a job:

1. Open the Job Link Maintenance window.
    (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to remove an element or transaction from.

3. In the tree view, select the element or transaction to unlink.

4. Choose Unlink. If you've selected the job folder, you can choose Unlink to remove all elements and transactions from the job. If you've selected an element or transaction that has secondary links, the selected element or transaction and all secondary links will be removed.

5. When you've finished, close the window.

Unlinking all elements or transactions from a job

Use the Job Link Maintenance window to unlink all elements and transactions from a job.

You can't unlink material transactions from a job. You must unapply them instead. Refer to Manually unapplying a transaction from a job on page 119.

To unlink all elements or transactions from a job:

1. Open the Job Link Maintenance window.
    (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to unlink all elements or transactions from.

3. In the tree view, select the job to remove all links from.

4. Choose Unlink.

5. When you've finished, close the window.

How linked elements lead to linked transactions

When you link an element—such as a manufacturing order—to a job, transactions related to the element also are linked to the job. For example, if you link a manufacturing order to a job and then complete data collection entries for labor time spent working on the manufacturing order, those data collection transactions will be linked to the job.

Transactions automatically will be linked to a job in any of these situations:

If you link this element:	This action creates a linked transaction:
Sales order line	Posting an invoice-type sales transaction
Manufacturing order	Saving a data collection record
	Component transactions
	Closing or partially receiving a manufacturing order
Receivings transaction	Posting a receiving line
Receivables transaction	Posting an accounts receivable transaction
Payables transaction	Posting an accounts payable transaction
Purchasing invoice	Posting an invoice line

While these transactions are created and linked to the job, they aren't necessarily applied to the job. That is, the financial information—the expense or revenue represented by each transaction—might not be reflected in the expense and revenue totals for the job.

To automatically apply transaction amounts to reflect financial information for the job, be sure the transaction details for the transaction list assigned to the job use the Auto-Apply option. Refer to *Specifying job costing transaction details* on page 93 for more information about specifying those details for transactions.

If you don't apply transactions automatically, you must manually apply them if the transaction amounts are to be reflected in the financial details of the job. Refer to *Manually applying a transaction to a job* on page 118 for more information.

Manually applying a transaction to a job

Use the Job Link Maintenance window to manually apply transactions to a job.

To manually apply a transaction to a job:

1. Open the Job Link Maintenance window.
   (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to apply the transaction to.

3. Mark the Linked Transactions option.

4. If needed, scroll to view information in the Applied column of the list window. You also can select and drag the column to move it. No will be displayed in the Applied column for all unapplied transactions.

5. Select the transaction to be unapplied in the list window, and choose Actions.

You can limit the transactions listed in the list window to just those transactions that are unapplied. Refer to Managing views of elements and transactions on page 120 for more information.

6. From the Actions menu, choose Apply. Yes will be displayed in the Applied column for the transaction you just applied.

7. Continue to apply transactions, as needed.

8. When you've finished, close the window.

After you've applied a transaction, you can check the job information in the Job Maintenance window. Refer to Viewing job summary information on page 143 for more information.

Manually unapplying a transaction from a job

If it's necessary to unapply transactions, you must do so manually. You can unapply transactions regardless of whether they were automatically or manually applied to the job.

Use the Job Link Maintenance window to manually unapply transactions from a job.

To manually unapply a transaction from a job:

1. Open the Job Link Maintenance window.
    (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to unapply the transaction from.

3. Mark the Linked Transactions option.

4. If needed, scroll to view information in the Applied column of the list window. You also can select and drag the column to move it. Yes will be displayed in the Applied column for all applied transactions.

5. Select the transaction to be unapplied in the list window, and choose Actions.

You can limit the transactions listed in the list window to just those transactions that are applied. Refer to Managing views of elements and transactions on page 120 for more information.

6. From the Actions menu, choose Unapply. No will be displayed in the Applied column for the transaction you just applied.

7. Continue to unapply transactions, as needed.

8. When you've finished, close the window.

Changing a revenue or expense code

When you apply a transaction to a job, the revenue or expense amount from the transaction is added to the amounts of other transactions with the same revenue or expense code. For example, suppose the Materials expense for Job XYZ is $100, and then you apply a $25 transaction with the expense code Materials to the job. The new expense total for the job for Materials will be $125.

The default revenue or expense code for each transaction is defined in the Job Transaction List Setup window. You can change the default revenue or expense code for any kind of transaction, if needed. Refer to Specifying job costing transaction details on page 93 for more information.

Use the Job Link Maintenance window to change the revenue or expense code for a specific transaction.

To change a revenue or expense code:

1. Open the Job Link Maintenance window.
    (Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job that includes a revenue or expense code to change.

3. Mark the Linked Transactions option.

4. If needed, scroll to view information in the Code column of the list window. You also can select and drag the column to move it.

5. Select the transaction with the revenue or expense code to change, and choose Actions.

You can limit the transactions listed in the list window to just those transactions that are applied. Refer to Managing views of elements and transactions on page 120 for more information.

6. From the Actions menu, choose Change Revenue/Expense Code.

7. The Revenue/Expense Code Lookup window will open. Select the code to assign to the transaction, and choose Select.

You also can double-click a code to select it.

8. Your changes automatically are saved. When you've finished, close the window.

Managing views of elements and transactions

Depending on the number of elements that you've linked to a job, the result might be many records in the list window in the Job Link Maintenance window. To make the information more usable, you can specify how the information is displayed. You can move, add, or remove columns of information and restrict the information that is displayed in the list window.

To manage views of elements and transactions:

1. Open the Job Link Maintenance window.
(Transactions >> Manufacturing >> Job Costing >> Job Link Maintenance)

2. Enter or select a job to display in this window.

3. In the tree view, select a record that includes linked elements or transactions.

4. Select an option to indicate the kind of records to display.

5. If you select Unlinked Transactions or Unlinked Elements, select a transaction type from the Unlinked Transactions or Unlinked Elements list.

   Determine how information in the window should be changed. Refer to the table for more information.

To change the window this way:	You must complete these steps:
Adding a column	Choose Columns. Select an unmarked column name from the menu.
Moving a column	Select the column to move. Drag the column to the new location.
Removing a column	Choose Columns. Select a marked column name from the menu.
Restricting the record list to elements or transactions that share a common value	Choose Search. Use Quick Search or Advanced Search to restrict the items shown in the list window.
Sorting records	Each time that you click on the column header, the column will alternate the sorting of the records from ascending to descending order. You also can right–click on the header of the column to sort records by and select ascending or descending order.

6. When you've finished, close the window.

Job Costing right-click menu

You can use a right-click menu available in several windows to link elements, such as manufacturing orders and inventory transactions, to a job.
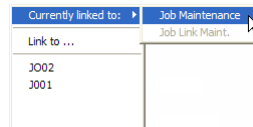
Refer to the following table for a list of windows where the right-click menu is available. In those windows, you can use the right-click menu to open the Job Maintenance window or the Job Link Maintenance window, where information about the job that the transaction or record is linked to will be displayed.

Window with right-click menu	Navigation path
Data Collection window	Transactions >> Manufacturing >> WIP >> Data Collection
Edit Purchase Order Status window	Transactions >> Purchasing >> Edit Purchase Orders
Inventory Transaction Entry window	Transactions >> Inventory >> Transaction Entry
Manufacturing Order Entry window	Transactions >> Manufacturing >> Manufacturing Orders >> Entry
Match Shipments to Invoice window	Transactions >> Purchasing >> Enter/Match Invoices >> Match to Shipment expansion button
Match Shipments to Invoice Inquiry Zoom window	Inquiry >> Purchasing >> Purchasing Order Docs >> click Receipt No. link for an invoice >> Matched to Shipment expansion button
Purchase Item Detail Entry window	Transactions >> Purchasing >> Purchase Order Entry >> item expansion button
Purchase Order Entry window	Transactions >> Purchasing >> Purchase Order Entry
Purchase Order Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> click Purchase Order number link
Purchasing Invoice Entry window	Transactions >> Purchasing >> Enter/Match Invoices
Purchasing Invoice Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> click Receipt No. link for an invoice
Purchasing Item Detail Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> click Purchase Order Number link >> item expansion button
Receivables Transaction Entry window	Transactions >> Sales >> Transaction Entry
Receivings Item Detail Entry window	Transactions >> Purchasing >> Receivings Transaction Entry >> item expansion button
Receivings Item Detail Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> click Receipt No. link >> item expansion button
Receivings Transaction Entry window	Transactions >> Purchasing >> Receivings Transaction Entry
Receivings Transaction Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> click on Receipt No.
Sales Transaction Entry	Transactions >> Sales >> Sale Transaction Entry

Using the right-click menu to create links to jobs

You can use the right-click menu in several windows to link elements and transactions to jobs. This procedure describes how to link a manufacturing order to a job, but the steps would be basically the same to link other elements or transactions to a job.

To use the right-click menu to create a link to a job:

1. Open a window that has the right-click menu capabilities. Refer to *Job Costing right-click menu* on page 121 for window and navigation information.

2. Enter or select an element. For example, to link a manufacturing order to a job, you must select a manufacturing order.

3. If you must specify a line—such as when you're linking an inventory transaction to a job—click in the appropriate line in the scrolling window.

4. Press your right mouse button to open the right-click menu.

5. Select a job to link the manufacturing order to.

    •   To open a lookup window, select Link to. The Job Lookup window will open. You can use that window to select a job.

    •   To link to a job that is listed in the right-click menu, select the job in the menu.

Job numbers that are dimmed in the right-click menu aren't available for linking. Usually this is because the combination of the status of the element and the status of the job can't be linked. Refer to Job statuses on page 84 for more information.

6. Your changes are saved as they're displayed in the window. When you've finished, close the window.

Using the right-click menu to change a job link

You can change the job an element is linked to. Use the right-click menu to change a job link.

Because linking an element is really two tasks—unlinking an element from one job and then linking it to another—you must have security privileges for unlinking an element to complete this procedure.

To use the right-click menu to change a job link:

1. Refer to *Job Costing right-click menu* on page 121 for window and navigation information.

2. Enter or select a linked element.

3. If you must specify a line—such as when you're linking a purchase order line to a job—click in the appropriate line in the scrolling window.

4. Press the right button on your mouse to open the right-click menu.

5. Select a different job to link the element to.

    •   To open a lookup window, select Link to. The Job Lookup window will open. You can use that window to select a job.

    •   To link to a job that is listed in the right-click menu, select the job in the menu.

6.   If a process security set has been selected in the Job Costing Preference Defaults window, you might need to use a user ID that's included in the process security set, or you might need to supply a password to put a job on hold.

Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about Job Costing setup options. Refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup information for more information about process security.

7.   Your changes are saved as soon as they appear in the window. When you've finished, close the window.

Chapter 15: Job link details

Each type of element that can be linked to a job carries a different set of rules and implications. For example, linking a receivings transaction to a job requires an understanding of how costs other than extended line-item totals are distributed when multiple jobs are linked to the receivings transaction. Linking a quote sales document to a job can affect the procedure for transferring the quote to another sales document type.

You can refer to this document for specific information about linking to different types of elements. You also can refer to this document for information about procedures you must complete to ensure that expenses and revenues are accurately reflected in your job information.

This information is divided into the following sections:

- *Expense distributions to jobs*
- *Distributing expenses among jobs*
- *Viewing job distribution information*
- *Manufacturing order links to jobs*
- *Sales order links to jobs*
- *Purchase order links to jobs*
- *Blanket purchase orders and job costing*
- *Receiving links to jobs*
- *Purchasing invoice links to jobs*
- *Payables transaction links to jobs*
- *Inventory transaction links to jobs*
- *Receivables transaction links to jobs*
- *Data collection links to jobs*

Expense distributions to jobs

You can use Job Costing to link receivings transaction lines, purchasing invoice lines, and payables transactions to jobs. Because each of these transactions can be linked to more than one job, you must distribute the other expenses included in these transactions.

For example, suppose the receivings transaction displayed in the following Receivings Transaction Entry window has the first line linked to one job, and the second line linked to another job. The extended costs from the lines are applied to the jobs. However, the receivings transaction also includes other expenses—tax, freight, and miscellaneous charges. You must specify how those charges should be distributed among the jobs linked to this receivings transaction.

Job Costing includes two methods for distributing expenses among jobs linked to transactions.

Automatically through system settings   When you set up system preferences for Job Costing, you can specify if the default method for distributing those costs and payment terms will be manual or by the number of jobs. You can always change the distribution of these expenses, regardless of the default distribution method you specify.

Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about these options.

Manually   If you choose to distribute expenses manually, refer to *Distributing expenses among jobs* on page 126 for information that describes the procedure.

To view distribution of the other expenses related to receivings transactions, purchasing invoice transactions, or payables transactions, refer to *Viewing job distribution information* on page 130.

Distributing expenses among jobs

Because you can link receivings transactions, purchasing invoices, and payables transactions to various jobs, you need a method of splitting amounts—other than extended line amounts—among jobs. Use the Job Distribution Entry window to distribute expenses among jobs.

Information about the transaction type and transaction number are displayed in the Job Distribution Entry window. The information displayed depends on the window used to open the Job Distribution Entry window. For example, if you open the window through the Receivings Transaction Entry window, the Transaction Type field in the Job Distribution Entry window will display "Receivings Transaction," and will display the receipt number in the Transaction Number field. Refer to the table for information about what information is displayed in each field in the Job Distribution Entry window, depending on the window used to open the Job Distribution Entry window.

Window	Transaction type	Transaction number
Receivings Transaction Entry window	Receivings Transaction	Receipt number
Purchasing Invoice Entry window	Purchasing Invoice	Receipt number
Payables Transaction Entry window	Payables Transaction	Voucher number

Job Costing settings include options for determining if expenses for linked elements should be distributed manually, or if distributions should be calculated based on the number of jobs an element is linked to. For example, suppose a receivings transaction includes two lines and each line is linked to a different job. If your system setting is "Number of Jobs," then expenses would be split evenly between the two jobs—as long as both jobs had transaction lists that included the transaction for each kind of expense, such as Freight and Miscellaneous.

Refer to *Job Costing system preferences* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about specifying the default distribution method for Job Costing.

To distribute expenses among jobs:

1. Open the Job Distribution Entry window.

    You can open this window through the Additional menu in these windows:

Window	Navigation
Receivings Transaction Entry window	Transactions >> Purchasing >> Receivings Transaction Entry (Type must be "Shipment/Invoice".)
Purchasing Invoice Entry window	Transactions >> Purchasing >> Enter/Match Invoices
Payables Transaction Entry window	Transactions >> Purchasing >> Transaction Entry
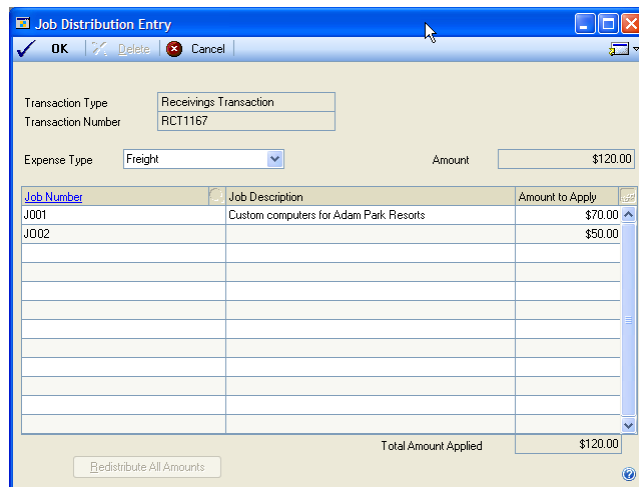
2. Enter or select an expense type. The available expense types will depend on the window open when you selected Job Distribution Entry from the Additional menu.

    Refer to the table for more information.

Window	Available expense types
Receivings Transaction Entry	Freight, Miscellaneous, Tax, Terms Discount, Trade Discount
Payables Transaction Entry	Freight, Miscellaneous, Purchases, Tax, Terms Discount, Trade Discount
Purchasing Invoice Entry	Freight, Miscellaneous, Tax, Terms Discount, Trade Discount

    When you select an expense type, information about all jobs linked to the specific transaction number will be displayed in the scrolling window. Information in the Amount to Apply column in the scrolling window will show the amount that has been applied to each job, based on default settings or previously saved distributions.

3. Review distribution information to determine if amounts should be redistributed. If your system is set up to distribute expenses by the number of jobs, you have the following options. (If you're distributing all expenses manually, just reenter the distribution amounts in the scrolling window.)

   • To redistribute amounts for only the selected expense type, choose the Redistribute Displayed Amounts icon button—located in the upper right corner of the scrolling window. Enter the new distribution amounts directly in the scrolling window.

   • To redistribute amounts for all expense types, choose Redistribute All Amounts. Enter new distribution amounts directly in the scrolling window.

   The total of all amounts in the Amount to Apply column is displayed in the Total Amount Applied field. The total amount that can be applied is displayed in the Amount field. The Total Amount to Apply can't be greater than the Amount.

4. Repeat steps 2 and 3 until the distribution amounts are appropriately split.

5. When you've finished, choose OK and close the window.

Viewing job distribution information

Use the Job Distribution Inquiry window to view information about how expenses related to receivings transactions, payables transactions, and purchasing invoices are split among jobs.

To view job distribution information:

1. Open the Job Distribution Inquiry window.

    You can open this window through these windows:

Window	Navigation
Receivings Transaction Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> select at least one Include option >> Redisplay button >> select a shipment or shipment/invoice >> Receipt No. link >> Additional >> Job Distribution Inquiry
Purchasing Invoice Inquiry Zoom window	Inquiry >> Purchasing >> Purchase Order Documents >> select at least one Include option >> Redisplay button >> PO Number link >> Additional >> Job Distribution Inquiry; or Inquiry >> Purchasing >> Transaction by Document >> click Document Number column >> Additional >> Job Distribution Inquiry
Receivings Transaction Inquiry Zoom window	Inquiry >> Purchasing >> Transaction by Vendor >> click Document Number column >> Additional >> Job Distribution Inquiry
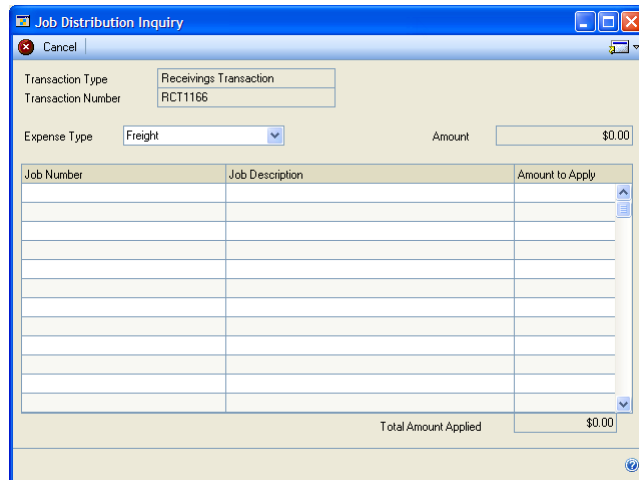
Information about the Transaction Type and Transaction Number are displayed when the Job Distribution Inquiry window opens. The information displayed depends on the window used to open the Job Distribution Inquiry window.

Window	Transaction type	Transaction number
Receivings Transaction Inquiry Zoom window	Receivings Transaction	Receipt number
Purchasing Invoice Inquiry Zoom window	Purchasing Invoice	Receipt number
Payables Transaction Inquiry Zoom window	Payables Transaction	Voucher number

2. Enter or select an expense type.

3. Review information. When you've finished, close the window.

Manufacturing order links to jobs

When you link a manufacturing order to a job, all financial information associated with that manufacturing order is linked to the job, as well. For example, when you close a manufacturing order, the transactions automatically are linked to the job. If a manufacturing order linked to a job includes outsourced sequences and you create a purchase order for the outsourced services, the purchase order will be linked to the job.

If you're linking manufacturing orders as you create them, the easiest way to link a manufacturing order to a job is through the right-click menu. You can use the menu to link a manufacturing order to a job. You also can open the Job Maintenance window and Job Link Maintenance window through the menu. Refer to *Job Costing right-click menu* on page 121 for more information about the right-click menu.

You also can link manufacturing orders to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

The following table describes the combinations of manufacturing order statuses and job statuses that can be linked.

Manufacturing order status	Job status
Quote/Estimate	Planned, Firmed, Released
Open	Planned, Firmed, Released
Released	Firmed, Released
Hold	Released
Canceled	Released, Complete
Complete	Released, Complete
Partially Received	Released, Complete
Closed	Released, Complete

If a manufacturing order is linked to a job, a job number will be displayed when you view information about the manufacturing order in the Manufacturing Order Entry window.

As you're working with links between manufacturing order line items and jobs, you should be aware of the following information.

Manufacturing order receipts history   When linking a manufacturing order receipts history line item to a job in the Job Link Maintenance window, these line item details also are linked to the job.

- Material
- Fixed material overhead
- Variable material overhead
- Labor
- Fixed labor
- Variable labor
- Machine
- Fixed machine overhead
- Variable machine overhead

You cannot link multiple receipts from the same manufacturing order to different jobs.

Manufacturing order material history   When linking a component transaction entry history line item to a job in the Job Link Maintenance window, these line item details also are linked to the job.

- Material
- Fixed material overhead
- Variable material overhead

If an inventory transaction record associated with the pick document for standard cost line items is not found, the material transaction only will be created.

Sales order links to jobs

If you're using Job Costing, you can link sales orders to a job. Each sales order can be linked to only one job, but you can link as many sales orders to a job, as needed. When you link a sales order to a job, the history of the sales document also is linked to the job. For example, if you link a quote sales document to a job and then transfer the quote to an order, the quote sales document will be linked to the job as a sales history document, and the sales order automatically will be linked to the job.

The easiest way to link a sales order to a job is through the right-click menu in the Sales Transaction Entry window. You can use the menu to link a sales order to a job, and then link it to a different job. You also can open the Job Maintenance window and the Job Link Maintenance window through the menu. Refer to *Job Costing right-click menu* on page 121 for more information about using the right-click menu.

You also can link line items to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

This table describes the combinations of sales order statuses and job statuses that can be linked:

Sales order document type	Job status
Quote	Planned, Firmed, Released
Order	Released
Invoice	Released
Return	Released
Backorder	Released

If one sales order line is linked to a job, all lines for that sales order are linked to the job. When you transfer a sales document that's linked to a job, the document type you're transferring the sales document to and the status of the job must be a combination that can be linked. For example, if you have a quote sales document linked to a job and you need to transfer the quote to an order, you must first be sure that the status of the job is Released—because only jobs that have Released status can be linked to order-type sales documents. If you link a sales order to a job and then auto-generate a manufacturing order for that sales order, that manufacturing order also is linked to the job.

In the Job Link Maintenance window, only the cost of the line item being linked will be added to the job. To add additional costs to the job, you can use the Job Costing Manual Transaction Entry window. Refer to Adding manual transactions to a job on page 114 for more information.

When linking a sales order history line item to a job in the Job Link Maintenance window, the following line item details also are linked to the job.

- Revenue
- Trade discount
- Freight
- Miscellaneous
- Tax
- Terms discount

Refer to Job statuses on page 84 for more information about job statuses.

If the status of the job isn't Released, you must change the status of the job to Released before you can transfer the sales document to the order type.

Refer to Microsoft Dynamics GP Sales Order Processing documentation for more information about transferring sales documents.

Purchase order links to jobs

If a purchase order line is linked to a job, a visual cue—a small link icon—will be displayed in the scrolling window in the Purchase Order Entry window. The icon also is displayed in the Purchasing Item Detail Entry window.

You also can link purchase orders to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

Refer to Blanket purchase orders and job costing on page 134 for more information about how using blanket purchase orders affects Job Costing.

This table describes the combinations of purchase order line statuses and job statuses that can be linked.

Purchase order line status	Job status
New	Planned, Firmed, Released
Released	Released
Change order	Released
Received	Released
Canceled	Released or Completed
Closed	Released or Completed

As you're working with links between purchase order lines and jobs, you should be aware of the following information.

On-hold or Canceled statuses You can't link or unlink a purchase order line to a job that is on hold or canceled. However, you can link a purchase order line to a job if the purchase order is on hold.

History lines You can't link purchase order history lines to a job, but purchase order history lines might be linked to a job if the purchase order lines were linked to a job before the lines were moved to history.

Item types You can link any purchase order line item to a job, regardless of the item's type. You can even link and unlink items that don't exist in the Inventory module.

Standard and drop-ship purchase orders You can link a purchase order line to a job regardless of whether the purchase order is a standard or drop-ship purchase order.

Deleting or voiding purchase orders or lines The user who deletes the order or lines must have authority to unlink elements from a job. Refer to *Restrictions for removing links to jobs* on page 116 for more information about requirements for unlinking elements from a job.

If you void a purchase order and are keeping history, information about the voided purchase order is moved to history and is still linked to the job. If you void a purchase order and aren't keeping history, you must have authority to unlink the purchase order line from the job.

Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about Job Costing setup options. Refer to *Process security* in Chapter 2, "Security," in the Manufacturing Setup information for more information about process security.

Blanket purchase orders and job costing

Additional rules apply if you're using blanket purchase orders and Job Costing.

For information about how job costing links work with purchase orders that are not blanket purchase orders, refer to Purchase order links to jobs on page 133.

How links work

When you create a new line item for a blanket purchase order, any job costing links that have been assigned to the control line of the purchase order automatically will be assigned to the blanket line item. After the blanket line item has been created, rules for modifying it are the same as they would be for any other purchase order line that is linked to a job.

If you change the job link for the control line of a purchase order, however, the change will not be reflected in blanket line items that already exist on the purchase order.

Deleting blanket purchase order lines

If a control line has any blanket line items that are linked to a job, you can't delete the purchase order.

If a control line is linked to a job, you can delete it only in the following situations:

- The control line is linked to a job, but it has no blanket line items.

- The control line is linked to a job, but none of its blanket line items are.

If you try to delete a blanket line item, a message will be displayed, warning you that deleting the line also will remove the link to the job. You'll have the option to continue or cancel.

Receiving links to jobs

If a receivings transaction line is linked to a job, a visual cue—a small link icon—will be displayed in the scrolling window in these receivings windows:

- Receivings Transaction Entry window
- Receiving Item Detail Entry window
- Receivings Transaction Inquiry Zoom window
- Receivings Item Inquiry Zoom window

You also can link transactions to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

When you link a receivings transaction to a job, you can capture information about several kinds of expenses related to the transaction, whenever the transaction is posted:

- Extended cost of each receivings transaction line
- Trade discount
- Freight
- Miscellaneous
- Tax
- Terms Discount Available

The extended cost of each transaction line automatically is captured for a single job. However, because the other lines in the receivings transaction might be linked to other jobs, you can distribute the other expenses of the receivings transaction— freight and miscellaneous costs, for example—among several jobs, *if the receivings transaction is a Shipment/Invoice.* When you link a history transaction line item in the Job Link Maintenance window, only the cost of the line item being linked will be added to the job. To add additional costs to the job, you can use the Job Costing Manual Transaction Entry window. Refer to *Adding manual transactions to a job* on page 114 for more information.

Refer to the table below for more information about the transactions that are captured for the job when a receivings transaction is posted.

Receivings transaction type:	Line value:	Job transaction type:
Any	Sales Inventory or Discontinued.	Receiving Transaction Material
Any	Non-inventoried but linked to a job. This might be purchase of non-inventoried items, or the expenses related to the purchase of inventory items (miscellaneous, service, or flat-fee expenses).	Receiving Transaction Non-inventoried
Shipment/Invoice	Trade Discount, distributed in the Job Distribution Entry window.	Receiving Transaction Trade Discount
Shipment/Invoice	Freight, distributed in the Job Distribution Entry window.	Receivings Transaction Freight
Shipment/Invoice	Miscellaneous, distributed in the Job Distribution Entry window.	Receivings Transaction Miscellaneous
Shipment/Invoice	Tax, distributed in the Job Distribution Entry window.	Receiving Transaction Tax
Shipment/Invoice	Terms Discount, distributed in the Job Distribution Entry window.	Receivings Transaction Terms Discount

To reflect costs from these transactions in the financial information for a job, each transaction type must be part of the transaction list assigned to the job, and must be applied to the job.

You can choose to distribute the costs manually—specifying how much of the other expense should be applied to each job—or you can choose to distribute the costs by the number of jobs—so that other expenses are shared equally between all jobs linked to a receivings transaction.

Refer to *Defining Job Costing system settings* in Chapter 5, "Manufacturing management functions setup," in the Manufacturing Setup documentation for more information about system settings that determine how distributions are to be made. Refer to *Manually applying a transaction to a job* on page 118 for more information about manually distributing costs among jobs.

As you're working with links between receivings transactions and jobs, you should be aware of the following information.

Job status   To link a receiving transaction to a job, the status of the job must be Released. The job can't be on hold or canceled.

Receivings transactions for linked purchase order lines   When a receivings transaction is created for a purchase order line already linked to a job, the receivings transaction automatically is linked to the job. In this case, the link will be formed regardless of the status of the job, and regardless of whether the job is on hold or canceled.

You can use the right-click menu to link a receivings transaction line to a job other than the job that the purchase order is linked to.

Receivings Transaction History   When linking a receivings transaction history line item to a job in the Job Link Maintenance window, these line item details also are linked to the job.

- Material
- Non-inventoried

Item types   You can link any receivings transaction to a job, regardless of the item's type. You can even link and unlink items that don't exist in the Inventory module.

Costing method   When a receivings transaction is applied to a job, the actual costs of the transaction are applied to the job, regardless of whether the item received is periodically or perpetually valued.

Unlinking a receivings transaction from a job   You can't unlink a receivings transaction from a job if the job is closed, on hold or canceled.

Deleting a linked receivings transaction or transaction line   Users who attempt to delete a receivings transaction that includes linked lines must have authority to unlink elements from a job. Refer to *Restrictions for removing links to jobs* on page 116 for more information.

Purchasing invoice links to jobs

When you link a purchasing invoice line to a job, you can capture information about the following kinds of expenses related to the transaction, whenever the transaction is posted.

- Extended cost of each purchasing invoice line
- Trade discount
- Freight
- Miscellaneous
- Tax
- Terms Discount Available

You can link transactions to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

The extended cost of a purchasing invoice line is distributed to the job or jobs linked to it, based on the number of units invoiced for each job. For example, suppose a manufacturer ordered 100 widgets for use in various jobs. The widgets are received in three transactions: one for 50 widgets for Job A, another for 30 widgets for Job B, and a third for 20 widgets for Job C. Then a purchasing invoice is created and matched to the three receivings transactions. In this case, 50 percent of the extended cost of the widgets would be applied to Job A because that job received half of the order quantity. Thirty percent of the extended cost would be applied to Job B and 20 percent would be applied to Job C.

The other expenses that are part of the purchasing invoice—trade discount, freight, miscellaneous, tax, and terms discount—can be distributed among all jobs linked to the purchasing invoice. Refer to *Expense distributions to jobs* on page 125 for more information. When you link a history transaction line item in the Job Link Maintenance window, only the cost of the line item being linked will be added to the job. To add additional costs to the job, you can use the Job Costing Manual

Transaction Entry window. Refer to *Adding manual transactions to a job* on page 114 for more information.

As you're working with links between purchasing invoice lines and jobs, you should be aware of the following information.

Job status   To link a purchasing invoice to a job, the status of the job must be Released. The job can't be on hold or canceled.

Item types   Purchasing invoice lines can be linked to jobs regardless of the Item Type on the line. This includes purchasing invoice lines for items that are not in Inventory.

Purchasing invoice history   When linking a purchasing invoice history line to a job in the Job Link Maintenance window, these transactions also are linked to the job.

• Material
• Non-inventoried

Drop-ship purchase orders   When a purchasing invoice is created for a drop-ship purchase order line that is linked to a job, the purchasing invoice line automatically is linked to the job, regardless of the status of the job and regardless of whether the job is on hold or canceled.

You can link a purchasing invoice line to a different job only if the purchasing invoice line is for a drop-ship purchase order line.

Payables transaction links to jobs

If you're using Job Costing, you can link payables transactions to jobs. For example, you might need to do this if you're paying for a purchase made without a purchase order.

You can link each payables transaction to more than one job, and you can link an unlimited number of payables transactions to a job. However, you can link payables transactions only to jobs that have Released status.

You can link payables transactions in the Payables Transaction Entry window (Transactions >> Purchasing >> Transaction Entry) by choosing Job Distribution Entry from the Additional menu. You also can link transactions to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

In the Job Link Maintenance window, only the cost of the line item being linked will be added to the job. To add additional costs to the job, you can use the Job Costing Manual Transaction Entry window.

When linking a payables transaction line item to a job in the Job Link Maintenance window, the following line item details also are linked to the job.

• Revenue
• Trade discount
• Freight
• Miscellaneous
• Tax
• Terms discount

Inventory transaction links to jobs

If you're using Job Costing, you can link an inventory transaction line to a job. You might need to do this if you're transferring materials from inventory for use in a job, for example.

You can link each inventory transaction line to only one job, but you can link an unlimited number of inventory transaction lines to a job. You can link lines in a single inventory transaction to different jobs, and you can link adjustment or variance transaction lines to jobs. However, you can link inventory transaction lines only to jobs that have Released status.

To link inventory transaction lines in the Item Transaction Entry window (Transactions >> Inventory >> Transaction Entry) you can use the right-click menu. Refer to *Using the right-click menu to create links to jobs* on page 122 for more information. You also can link these elements to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

When linking an accounts receivable transaction that's been moved to history to a job in the Job Link Maintenance window, the following details also are linked to the job.

• Material
• Fixed material overhead
• Variable material overhead
• Labor
• Fixed labor overhead
• Variable labor overhead
• Machine
• Fixed machine overhead
• Variable machine overhead

If an inventory transaction record for standard cost is not found, the material detail only will be created.

Receivables transaction links to jobs

If you're using Job Costing you can link receivables transactions to a job. For example, you might need to do this if a customer pays you for a portion of a job for which there is no sales order, such as a down payment, or a deposit to show intent to continue a job.

You can link each receivables transaction to only one job, but you can link an unlimited number of receivables transactions to a job. You can link any type of

receivables transaction—such as debit or credit memos, finance charges, or returns—to a job, but the status of the job must be Released.

To link receivables transactions to jobs, you can use the right-click menu in the Receivables Transaction Entry window (Transactions >> Sales >> Transaction Entry). Refer to *Using the right-click menu to create links to jobs* on page 122 for more information. You also can link these elements to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

In the Job Link Maintenance window, only the cost of the line item being linked will be added to the job. To add additional costs to the job, you can use the Job Costing Manual Transaction Entry window.

When linking an accounts receivable history line item to a job in the Job Link Maintenance window, the following line item details also are linked to the job.

• Revenue
• Expense
• Trade discount
• Freight
• Miscellaneous
• Tax
• Terms discount
• Return discount

Data collection links to jobs

If you're using Job Costing, you can link data collection transactions to a job. You might need to do this if you're using data collection to capture information about the labor or machine time that has been directed toward a specific job.

You can link each data collection record to only one job, but you can link an unlimited number of data collection records to a job. Different types of data collection information can result in different transactions linked to jobs. As you're working with links between data collection line items and jobs, you should be aware of the following.

Labor data collection   When linking a labor data collection line item to a job, these line item details also are linked to the job.

• Actual labor
• Fixed labor overhead
• Variable labor overhead

Machine data collection   When linking a machine data collection line item to a job, these line item details also are linked to the job.

• Machine
• Fixed machine overhead
• Variable machine overhead

You can choose to apply an unlimited number of these amounts to the job. However, the status of the job must be Released when the link is formed.

You can use the right-click menu—available in the Data Collection window (Transactions >> Manufacturing >> WIP >> Data Collection)—to link data collection records to jobs. Refer to *Using the right-click menu to create links to jobs* on page 122 for more information. You also can link transactions to a job using the Job Link Maintenance window. Refer to *Linking an element or transaction to a job* on page 115 for more information.

Records from automatic data collection are linked to a job automatically if the manufacturing order is linked to a job.

Chapter 16: Job summary

As transactions are applied to a job, you can view information about the total expenses and revenues for a job. You can compare the estimated revenues and expenses with actual amounts and you can view detailed information about the sources of the revenue and expense amounts.

This information is divided into the following sections:

- *Viewing job summary information*
- *Viewing job summary details*

Viewing job summary information

Use the Job Maintenance window to see how applied expense and revenue transactions affect the financial information of a job.

To view job summary information:

1. Open the Job Maintenance window.
    (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

3. Review the information, as needed.

4. When you've finished, close the window.

Viewing job summary details

Use the Job Maintenance window to access more detailed information about the revenue and expense transactions that have been applied to a job.

To view job summary details:

1. Open the Job Maintenance window.
    (Cards >> Manufacturing >> Job Costing >> Job Maintenance)

2. Enter or select a job number.

    • To view detailed revenue information, choose the expansion icon button on the Actual Job Revenue field. The Actual Revenue by Code window will open, showing the total amount of revenues—by revenue/expense code—that have been applied to the job.

    • To view detailed expense information, choose the expansion icon button on the Actual Job Expenses field. The Actual Expenses by Code window will open, showing the total amount of expenses—by revenue/expense code—that have been applied to the job.

    • To view detailed profit information, choose the expansion icon button on the Actual Job Profit field. The Actual Profit by Code window will open, showing information about the expenses and revenues—by revenue/expense code—that have been applied to the job.

3. When you've finished reviewing information, close the window.

Glossary

Acceptable Quality Level table

A representation of testing standards and sample sizes. AQL tables include information about appropriate sample sizes and the maximum number of pieces that can fail inspection in an acceptable lot. You'll probably set up several AQL tables to reflect different inspection standards for different items.

Active routing

See Manufacturing order routing.

Actual costing

An inventory tracking method that involves constantly updating inventory each time an item is added or removed.

Actual demand

The total quantity of an item requested on all firm manufacturing orders.

Actual expenses (Job Costing)

The total of all applied expense transactions linked to a job.

Actual margin (Job Costing)

A measure of the overall profitability of a specific job. The actual margin for a job is calculated by dividing the actual profit by the actual revenue, and then multiplying the result by 100.

Actual profit (Job Costing)

The difference between actual expenses and actual revenues for a job.

Actual revenues

The total of all applied revenue transactions linked to a job.

Allocate

To reserve materials needed for a manufacturing order.

Alternate routing

Any planning routing for an item other than the primary routing.

Alternate work center

A work center to which work can be shifted if the customary work center for a specific task is not available. If the primary work center is temporarily shut down, or if demand exceeds the capacity of the primary work center, the work load can be shifted to the alternate work center.

Apply

To add the amount of a revenue or expense linked to a job to the financial information about the job. If a transaction isn't applied to a job, its amount won't be reflected in the overall financial information about the job. Applying transactions in Job Costing can happen manually or automatically.

AQL table

See Acceptable Quality Level table.

ARCH BOM

See Archived bill of materials.

Archived bill of materials

A bill of materials stored in a separate area of your computer system. Bills of material might be archived as they become obsolete.

Assemble to order

A type of manufacturing facility that puts a group of components together according to customer specifications.

Back order

An order to be fulfilled when stock for items in shortage is replenished.

Backflushing

A method of accounting for the use of resources—labor and machine time, and items—based on standards you've defined. Transactions to account for the use of backflushed resources are created when a manufacturing order is closed.

Backward finite scheduling

A scheduling method that starts from a due date and works out a plan for the flow of work through the plant with the assumption that there are only a limited number of resources (machines and workers) available to complete the task.

Backward infinite scheduling

A scheduling method that starts from a due date and works out a plan for the flow of work through the plant with the assumption that the plant has unlimited machine and worker capacity.

Batch cards

See Manufacturing order.

Bill of materials

A list of the components and subassemblies needed to build one unit of a product. The bill of materials also shows quantities for each component.

Bill of operations

See Routing.

Bin

A storage device to hold discrete items.

Blanket purchase order

A purchase order that is delivered gradually to the buyer.

Bucket

A time period used for calculating MRP requirements. Manufacturing supports daily, weekly, and monthly bucketing options.

Buy items

Items that are supplied to your plant by a supplier.

Buyer ID

Code that identifies the person who purchases the item from a supplier.

By-product

A finished good that is created incidentally to another finished good.

Child part

See Component.

Class

A method for grouping similar parts or products.

Co-product

See By-product.

Company data

Company data is the information you enter about your organization, such as its applicants, employees, benefits systems, training programs, and organizational structure.

Component

Items used to build a product. Component parts can be items (nuts, screws, diodes) or subassemblies (axles, circuit boards).

Component transaction

A line on a pick document to allocate, reverse allocate, issue, reverse issue, scrap, or reverse scrap components for a manufacturing order.

CONFIG BOM

See Configured bill of materials.

Configuration data

In Bill of Materials, information about the product's overall design. It includes the design authority for the product, the unit of measure, and the revision level.

Configured bill of materials

A bill of materials that is built by selecting options from a super bill of materials.

Configured cost

The calculated cost of building a specific configured item, depending on the options a customer selects. The configured cost reflects the cost of the component items and the labor required to manufacture the item.

Configured price

The suggested price to charge the customer for a configured item, based on your finished goods price schedule and the selected options.

Configured routing

A routing based on the selected options. For example, if you created a configured bill of materials for office chairs and chose plastic components rather than wooden ones, the routing would be modified to exclude the sequences for staining and varnishing the wooden components. Also known as a "configured working routing."

Configured Working Routing
See Configured routing.

Consume
To use up the quantity that has been issued to WIP—for materials, labor time, or machine time—for a manufacturing order.

Cost variance
The difference between the actual costs—for materials, machine time and labor—and the estimated costs for a manufacturing order. Cost variances can be positive or negative.

Customer record
A record that shows all the information you need to conduct sales transactions, such as address information, billing and shipping instructions, credit history and other data for that customer.

Cycle time
The total amount of time it takes to make one part, such as setup time, labor time, machine time, queue time and move time.

Default inventory site
The location commonly used to store raw materials or finished goods.

Defect code
An identifier for a particular type of item failure. For example, if an item is too long and fails a specification for length, you might create a defect code called LENGTH. Defect codes are used in Manufacturing reports to help summarize information.

Denial code
An identifier for the reason why an engineering change request wasn't approved.

Destination routing
A routing that you copy from another routing. You can add sequences to the destination routing.

Direct labor
The time spent by one or more production workers on filling a specific manufacturing order.

Discrete item
An item that is manufactured as a distinct unit. Examples of discrete items include computers, automobiles, and radios.

Disposition code
An identifier for a method for handling defective items. For example, you might decide to scrap certain defective items, and might assign a SCRAP disposition code to those items.

Double-booking
A situation where a job might inadvertently be charged twice for the same expense.

Down day
A day when the facility—the entire shop floor or a specific work center—is not in production.

Drawing
A schematic or other illustration. You can "attach" electronic drawing files—such as CAD illustrations, bitmaps and even .AVI movies—to records.

Drawing group
A set of related drawing files. For example, a drawing group might include several views of the same item.

Due date
The date when the items on a sales order should be ready to ship.

ECM
See Engineering change management (ECM).

ECO
See Engineering change order (ECO).

ECR
See Engineering change request (ECR).

Either item
Item that can be bought or manufactured by your company.

Element
An order or transaction that can be linked to a job, such as a manufacturing order, a sales order, a purchase order line, a receiving line, or inventory transaction.

Employee allocation
The assignment of workers to work areas. Each employee can be assigned an efficiency rating for a particular task. The number of hours per shift spent on a task can also be specified. Total scheduled employee hours for the work center are also displayed.

Employee efficiency percentage
A ranking of how an employee performs a given task. You can use this field different ways, depending on how your organization handles its employee efficiencies. Some organizations complete time studies of various tasks, and set task goals for workers based on those figures. Employees earn efficiency ratings based on their ability to meet those criteria. In other organizations, the top producer is assigned a value of 100% (or less) and all other employees would be ranked in comparison to the top producer.

ENG BOM
See Engineering bill of materials.

Engineering bill of materials
A proposed bill of materials. Designs that are only in the prototype stage of development, for example, may have engineering bills of materials. In this way, the costs of producing a design can be studied without impacting the material requirements that the system generates.

Engineering change management (ECM)
The systems that a company has in place to ensure that changes to its product specifications are properly monitored.

Engineering change order (ECO)
The second stage of the engineering change management process. An engineering change order is a change that has been approved for incorporation.

Engineering change request (ECR)
The proposal stage of the engineering change management process. An engineering change request is a proposed change.

Estimated expense
A projection of the expenses for a job, entered in the Job Maintenance window.

Estimated margin
A job costing calculation based on estimated revenues and estimated expenses for a specific job. The estimated margin is calculated by dividing the estimated profit by the estimated revenues, and the multiplying the result by 100.

Estimated profit
The difference between the estimated expenses and the estimated revenues for a specific job.

Estimated revenue
A projection of the revenues for a job, entered in the Job Maintenance window.

Exclusions (MRP)
A method of marking an item, site or item-site combination so it isn't included in MRP calculations.

Exclusions (Sales Configurator)
Options that are disallowed because of another option selection.

Expensed floor stock
A bill of materials component that has been designated—regardless of its issue-to and issue-from sites—as a floor stock item. The cost of expensed floor stock is applied to an expense account, rather than to the cost of the finished item. *See also* Floor stock.

Explode

To determine the total quantities of components needed for a manufactured item. To explode a bill of materials, the quantity ordered is multiplied by the quantity used for each of its components. Exploding continues throughout the bill of materials, so component requirements for subassemblies are also calculated.

Filled order

An order that has had all its requirements met and can be closed.

Finished goods

An item that is manufactured for sale. Also, the final products that a company sells.

Finite scheduling

A scheduling method that assumes that limited capacity for labor and machines is available.

Fixed order quantity

An order policy type that calculates order size for a day's requirements based on one or more of these variables: standard order quantity, order increment size, minimum order size, and maximum order size.

Fixed quantity

The quantity of a component that is required for each manufacturing order, regardless of how many finished goods are produced with the order. For example, if you use two widgets to calibrate equipment each time you begin a new manufacturing order, the fixed quantity for widgets would be 2 for the finished good bill of materials.

Floor stock

A bill of materials component that uses the same site for its issue-from and issue-to sites. The cost of this type of floor stock is applied to the cost of the finished item. *See also* Expensed floor stock.

Forecasted demand

An estimate of how much of an item should be produced over a specific period of time.

Forward infinite scheduling

A scheduling type based on a starting date for an order, with the assumption that the plant has unlimited machine and worker capacity for the work order.

Full regeneration

An MRP process that recalculates your MRP data, including all sales orders, purchase orders, sales forecasts, and manufacturing orders. *See* Net change regeneration.

Functional currency

The currency type (such as dollars or pounds) used by your organization for its accounting. *See also* Originating currency.

General ledger variance

The difference between costs that have been added to WIP and the costs that have been removed from WIP for a specific manufacturing order.

Header record

The information that ties the pieces of a larger record together. For example, the header record of a routing includes information about the type of routing, the routing name, the date the routing was created and so on. This information ties sequence records together to create one routing record.

Hours per shift

The amount of time per shift actually spent working on the assigned tasks. To determine hours available per shift, subtract any non-task related activities from the total number of available hours. For example, if an employee is scheduled for an eight-hour shift but has a one-hour meeting and two quarter-hour breaks that day, the total available time would be 6.5 hours.

Inclusions

Option items automatically added to a configured bill of materials when a customer selects a certain option. For example, a computer manufacturer might offer a computer system in tan and black. If the customer selects the option for a tan computer, the computer manufacturer might set up the super bill of materials so that the tan keyboard automatically is included as part of the purchase.

Indirect labor

The time spent on tasks that are not directly related to filling a specific manufacturing order. Examples of indirect labor include meetings and training.

Instruction sheet

See Routing.

Infinite scheduling

A scheduling method that assumes that all required capacity for labor and machines is always available.

Invoice history

The information tracked about past invoices. Invoice history allows you to determine what historical information you will need for tracking sales activity. History information can include transaction detail and/or account distributions.

Issue

A type of component transaction. When components are issued for a manufacturing order, they are removed from inventory and added to WIP.

Issue-from location

The site where the components used in the manufacturing process are stored prior to beginning the manufacturing order, such as with a vendor, or in a department, a warehouse, or another plant.

Issue-to location

The site where the finished product will be stored prior to delivery to the customer, such as in a department, a warehouse, or another plant.

Item type

A code to designate the accounting class for the item, such as inventory, discontinued, and misc. charge.

Item-specific inventory valuation

An accounting method that places a value on each item that you produce, based upon either standard cost or current cost.

Job

A series of business activities that, when completed, will fulfill a high-level objective.

Job category

Groupings that you can create to organize the titles and descriptions of jobs within your company. Each job category must include a set of values that can be used to sort all jobs. For example, you might create a job category called REGION so you could track jobs from specific geographical areas. Values for that job category might be East, West, North and South-or might be states, provinces, countries/regions or other areas.

Job costing element

A type of element that can be linked to a job.

Job costing transaction

An instance of a job element that is linked to a specific job, capturing information about a specific revenue or expense associated with the job. Job costing transactions aren't accounting transactions: they won't affect the General Ledger or any subsidiary ledgers.

Job order

See Manufacturing order.

Job transaction list

A selection of transactions to be applied to a specific job. You can use transaction lists to specify the kinds of transactions that should be applied to jobs, and to specify the transactions to be applied automatically to jobs.

Kit

A group of finished items that compose a set.

Labor code

A code that is used to tie a job function to a specific pay grade. Usually, jobs requiring fewer skills have lower pay grades and are compensated at lower rates. Jobs requiring more skills or education have higher pay grades and higher pay rates.

Labor time

The number of employee hours required to complete the operation.

Lead time

The minimum amount of time required for production of an item.

Location

A work site. Some businesses are organized as a single company or division, but may have multiple sites.

Lot-for-lot

An order policy for ordering the exact quantity needed, provided that the order quantity is between the minimum and maximum order quantities.

Lot-numbered item

Any inventoried item that is part of a group that is assigned a unique identifier, which can be letters, numbers or a combination of letters and numbers.

Lot-number–tracked item

See Lot-numbered item.

Lot-sample size

The number of item units that should be inspected to determine if a group of items meets specifications.

Lot-tracked item

See Lot-number–tracked item.

Low-level code

A code that identifies the deepest level an item has in any bill of materials in your manufacturing records.

Machine

Any tool, device or implement that you use in your manufacturing process.

Machine allocation

The assignment of a machine to a work area. Each allocation record displays available machine hours, the efficiency rating, and utilization rate for that machine. Total scheduled machine hours for the work center are also displayed.

Machine definition

The record of a machine in your plant that allows you to track statistics for each machine, including vendor information, warranty period, and operating costs.

Machine efficiency

A measure of how a machine is suited for a specific task. The higher the efficiency rating, the more effectively the machine works.

Machine time

The number of machine hours needed to complete the operation.

Machine utilization

A measure of how much of the available machine capacity is actually being used. For example, if a machine is capable of producing 100 items per eight-hour day and you are only producing 80 items, the machine utilization rate is 80 percent.

Make item

An item that is produced by your plant.

Make to order

An order fulfillment method for made items. When make-to-order items are sold, manufacturing orders to build the items required to fulfill the manufacturing orders are created. Manufacturing orders are used to respond to specific sales orders.

Make to stock

An order fulfillment method for made items. When make-to-stock items are sold, the quantities required to fulfill the sales order are taken from inventory quantities. Manufacturing orders are used to keep inventory levels up so that sales orders can be fulfilled.

Manufacturing bill of materials

The bill of materials used to build a parent part in your organization. A manufacturing bill of materials is the "real" bill of materials, and is used to figure material requirements for your organization.

Manufacturing data sheets

See Routing.

Manufacturing order

A set of documents conveying the authority to manufacture parts or products in specified quantities. Manufacturing orders are also called batch cards, job orders, production orders, run orders, shop orders, or work orders.

Manufacturing order receipt

A document where material, labor, and machine costs in WIP are applied to finished goods that are received in inventory. Costs for backflushed materials, labor, and machine time also are applied to the finished goods cost.

Manufacturing order routing

A routing used to complete a specific manufacturing order, which includes all the necessary requirements to fill the order, such as workers, machine time, and raw materials. Also known as "manufacturing routing."

Manufacturing picklist

A list of the items and quantities of items that are required to fill a manufacturing order.

Material Requirements Planning

A series of data collection and interpretation procedures that allow you to forecast resource requirements over a specified time period (days, weeks or months).

Maximum order size

One of the variables that can be used to calculate order quantities for fixed or period order quantity order policies. Maximum order size puts a limit on the size of automatically generated purchase and manufacturing orders. If demand is greater than the maximum order size, an additional order will be created.

MFG BOM

See Manufacturing bill of materials.

Minimum order size

One of the variables that can be used to calculate order quantities for fixed or period order quantity order policies. It is similar to standard order quantity, and is used in its place if the standard order quantity is zero. If the standard order quantity is greater than zero, the standard order quantity supersedes the minimum order size.

Module security

A way to see if other users are working with records that prevent you from completing certain processes. Module security also allows you to unlock records and remove users from MRP.

Move in

To adjust the due dates of existing manufacturing orders and purchase orders to meet potential shortages identified by MRP calculations. If MRP calculations uncover a shortage of an item and if there's an existing order for the item in the future, the order will be flagged to be "moved in" to prevent the shortage.

Move time

The number of hours needed to physically move an item to the next operation.

MRP

See Material Requirements Planning.

MRP shortage

A lack of resources to produce the required amount of an item to fill outstanding orders. Manufacturing orders can be entered regardless of current stock of available materials.

Multi-level bill of materials

A bill of materials that lists all the components directly or indirectly involved in building the parent part, together with the required quantity for each item. For example, if a subassembly is used in the parent part, the multi-level bill of materials will show all the components needed to build the subassembly, including purchased parts and materials. *See also* Single-level bill of materials.

Negative WIP

The situation that occurs if you enter and post a manufacturing order receipt where more is consumed from WIP than was in WIP for the manufacturing order. When finished goods are received into inventory before materials have been issued to the order or before labor or machine time data collection transactions have been completed, this can occur. You must set up Manufacturing Order Processing to be able to enter receipts that would cause negative WIP.

Net change regeneration

An MRP process that updates MRP information based on changes to manufacturing orders, sales orders, purchase orders, and inventory quantities. *See also* Full regeneration.

Nettable item

An item, site or item-site combination that is included in MRP calculations.

Non-nettable item

Any item, site, or item-site combination that is not included in MRP calculations.

Non-Standard Report

A report for internal use that summarizes information about defects identified in a group of items. An NSR might also include information about the disposition of the defective items.

NSR

See Non-Standard Report.

Op code

See Operation code.

Operation

A specific task within the manufacturing process. You can use operations as templates for routing sequences.

Operation chart

See Routing.

Operation code

A code assigned to a particular task within the manufacturing process. For example, in a company that makes electrical components, the operation code for testing the validity of a certain characteristic might be "110." Also, op code.

Operation list

See Routing.

Operations sheets

See Routing.

Option

In sales configurator, an option is one of the available choices for some aspect of a configured item. For example, a computer manufacturer might offer 15-, 17- and 21-inch monitors as options for a computer.

Option bill of materials

A bill of materials for a component signifying that the component won't be identical in all finished products.

Option category

A group of related items that customers can choose from, such as various sizes of computer monitors.

Option setting

A setting that controls the information that appears on a report, such as sorting method, detail level, and range restriction.

Order increment

A variable that can be used to calculate order quantities for fixed or period order quantity order policies. The order increment is the number of item units that can be added to the standard order quantity to increase the order size to meet demand.

Order policy

A method for calculating the order sizes of automatically generated purchase and manufacturing orders. Manufacturing includes three order policies: lot-for-lot, fixed order quantity and period order quantity.

Originating currency

The alternate currency that a multicurrency transaction was conducted in. *See also* Functional currency.

Outsourced item

A finished good that requires one or more outsourced services.

Outsourced service

A service that is part of manufacturing processes that is purchased from a vendor.

Outsourcing

The practice of using outside vendors to perform certain manufacturing tasks.

Outsourcing routing

A routing that includes one or more sequences that are completed by an outsourcing vendor.

Outsourcing vendor

A vendor that you purchase outsourced services from.

Outsourcing work center

A work center where outsourced services are performed. An outsourcing work center can be on-site or can be at the vendor site.

Overhead

Costs incurred that cannot be directly related to the products or serviced produced. These costs, such as light, heat, supervision, and maintenance can be grouped and distributed to units of products or services by some standard allocation method.

Parallel routing

A routing that includes some routing sequences that run concurrently.

Parent part

An item built from the component parts. A parent part can be a subassembly or a final product.

Pegging

To trace an item requirement through the MRP system to find the source of the requirement quantity. Pegging will reveal whether a requirement is driven by a manufacturing order, sales order, purchase order or picklist.

Period order quantity

An order policy type that calculates order size for requirements for a period you specify, based on one or more of these variables: standard order quantity, order increment size, minimum order size and maximum order size.

Periodic costing

See Standard costing.

Periodic inventory

An inventory tracking method that involves taking inventory on a recurring basis, such as monthly, quarterly or yearly. This is the same as "standard" costing.

Perpetual inventory

An inventory tracking method that involves constantly updating inventory each time an item is added or removed.

Phantom bill of materials

A bill of materials used to describe the components of a parent part that will be built as part of a higher-level parent part. The term "phantom" is used to indicate that the part never really exists as a stocked item, but is built along with the production of the higher-level part that is driving an overall production order. Creating bills of materials as phantoms allows the manufacturing order picklist and the Material Requirements Planning (MRP) features to explode through the phantom item down to the lower-level parts.

Pick document

A group of component transactions that share a type such as Allocate, Issue, Reverse Issue, and that are posted together. A pick document can include component transactions for multiple manufacturing orders, items, or sites.

Picklist

A list of the items and quantities of items that are required to fill a manufacturing order.

Planner code

A code that identifies the individual responsible for the production of the item.

Planning routing

A routing used to determine resource requirements for a potential manufacturing order. If negotiations with the customer are successful, the planning routing can be converted into an active routing and used to fill a manufacturing order.

Pointer routing

A pointer routing is used to outline a series of steps that are common to all items produced by your plant. For example, if each item needs to be tested by quality assurance, packaged and shipped, a routing can be defined to cover these steps for all items that you manufacture.

Post-to site

The site where the finished product will be stored prior to delivery to the customer. This location can be a department, a warehouse, or another plant.

Primary routing

A routing that provides the instructions for building an item. It is a basis for scheduling and resource estimates. The primary routing information is used to determine the required lead time for manufacturing the product. Each item can have only one active primary routing.

Process security

A type of security that allows you to restrict access to certain procedures or processes within Manufacturing.

Process security set

A password or list of user IDs you define to restrict authority for completing a Manufacturing process. You can use one process security set for all restricted procedures, or you can create different process security sets for different procedures.

Production variance

The difference between the actual and estimated costs for a manufacturing order, based on the working routing, the picklist, and labor and machine codes.

Promise date

The date that the customer has been told to expect receipt of the order.

Promotion

Special pricing offered on a particular option for a configured item.

A special pricing offered on a particular option for a configured item.

Purchase order

A formal request for goods or services. The purchase order shows the quantity of goods ordered, expected receipt date, and supplier name. The purchase order may also include other information pertaining to the delivery of the item, such as Free On Board (F.O.B.) points.

QA Required

A designation for purchased items that must pass a quality inspection before being added to your inventory.

Quantity damaged

The total items, if any, damaged during shipping.

Quantity ordered

The amount of the item requested on a single purchase order.

Quantity received

The amount of the item received from the supplier.

Quantity to fill

An amount of a product that was ordered but has not been received.

Query

A search through a specific set of records for certain information.

Queue time

The number of hours spent waiting for the operation to begin.

Quick manufacturing order

A manufacturing order that doesn't require you to collect information about labor and machine time and material costs when the order is closed.

Quote

A company's offered price for an item that a customer or a potential customer has requested. Quotes can be transferred to another document type, deleted or voided.

Raw materials

Items used to build products. They can be individual items like nuts, screws and diodes, or they can be subassemblies.

Record

A group of computer data tied together by a common key. (All of one item's information—from quantity and site information to engineering data to bill of materials data—is the item's record.)

Reference designator

Information that specifies where components should be used in an assembly, such as the placement of four resistors on a printed circuit board.

Regular bill of materials

A simple, single-level bill of materials.

Replaced item

An item in a mass update to bills of materials that is removed from bills of materials. A replacement item might or might not be substituted for the replaced item.

Replacement item

An item in a mass update to bills of materials that is added to bills of materials. A replacement item might be an addition to a bill of materials, or might be a substitution for a replaced item.

Return

An item or merchandise returned by a customer to your company. A return decreases the customer's balance on account and, if you choose, increases inventory quantities.

Revalue

To finalize rolled-up standard cost changes. Revaluing replaces existing standard cost information with new standard cost information, which is used in your accounting processes. As you change your standard cost information, you might roll up costs several times, but probably will revalue items only at certain points.

Revenue/expense code

A short identifier used to categorize expenses and revenues linked to a job.

Reverse allocate

A component transaction type where items that have been allocated to a manufacturing order are unallocated. *See also* Allocate.

Reverse Issue

A component transaction type where components that were issued to a manufacturing order (which removes them from inventory and adds them to WIP) are removed from WIP and put again in inventory. *See also* Issue.

Reverse Scrap

A component transaction type where components that were scrapped for a manufacturing order are restored to the issued (and not scrapped) quantity for the order. *See also* Scrap.

Roll up

To apply calculations based on changes to standard cost information to items. If you change the cost of a raw material that is part of several subassemblies and finished goods, "rolling up" that change will result in calculations that will determine the new standard costs of the subassemblies and finished goods.

As you change your standard cost information, you might roll up costs several times, but probably will revalue items only at certain points.

Routing

A detailed set of instructions that describes how to create a particular item. Routings include operations to be performed, the scheduling sequence, machines and work centers involved, and hours required for setup and run times. Routings also can include information about tooling, operator skill levels, inspection needs, testing requirements, and so on.

In engineering change management, a routing is a list of users who must review an engineering change request before it becomes a change order, and who must review a change order before it's finalized.

Routing preference

An individual user choice on how information is displayed or processed for update in the routings subsystem. Preferences can control such actions as substituting one description for another or appending work center operations notes on to routing notes.

Routing sequence

A single step in the manufacturing process. Some routings will contain multiple steps while others will have only a single step. Examples of a sequence include assembly, painting, drying, etc.

Routing sheets

See Routing.

Run labor code

A labor code that identifies the skill requirements to perform the operation as defined.

Run orders

See Manufacturing order.

Sales order

A request for goods or services. Sales orders can be Open (ready to be filled) or Planned (hold pending credit check or other criteria).

Sampling

A statistical process of selecting a portion of a large group of items to be inspected. From the sample you select—and your inspection results for the sample—you can draw inferences about the overall quality of the entire item quantity.

SCAR

See Supplier Corrective Action Request.

Scheduling data

The lead time needed to manufacture an item on a bill of materials and the amount of scrap materials produced by the manufacturing process.

Scheduling preference

A user preference that controls the allocation of resources to a particular manufacturing order. Scheduling preferences identify additional resources that may be available and define waiting periods for a sequence.

Scrap

A component transaction type where components that are issued to a manufacturing order are flagged to be scrapped. Scrapped component costs are applied to the manufacturing order costs, but the quantities aren't.

Sequence number

A number assigned to a particular step in a routing. Each step (or sequence) represents an operation in the manufacturing process. The sequence number controls the order in which steps are executed.

Serial-numbered item

An inventoried item that is assigned a unique identifier, which can be letters, numbers, or a combination of letters and numbers.

Serial-number–tracked item

See Serial-numbered item.

Serial-tracked

See Serial-numbered item.

Setup cost

The cost of preparing a work area for production. Setup costs might include the cost of calibrating machines or gathering the necessary tools and resources.

Setup labor code

A labor code that identifies the skill requirements for the person preparing the work area prior to performing the manufacturing task.

Setup time

The number of hours needed to prepare the work area prior to the operation.

Ship date

The date when a sales order leaves your warehouse or office.

Shipping method

The manner in which the items are transported from the supplier to the manufacturer. Examples of shipping methods include FedEx, rail, air freight, etc.

Shop calendar

A calendar of up and down days—days when the plant is in production and when it isn't—for an entire manufacturing facility.

Shop order

See Manufacturing order.

Shop rate

The average pay rate for the pay grade. It is the figure that is used when labor costs are estimated for a manufacturing order.

Shrinkage

The loss of materials. You might have raw material shrinkage—such as when some component items are defective and can't be used in manufacturing—or you might have parent part shrinkage—such as when not all manufactured items meet your product standards.

Single-level bill of materials

A bill of materials that lists components and subassemblies, including the quantities of each, that make up the parent part. *See also* Multi-level bill of materials.

Site

A location that you have defined for storing items. A site could be a department, a plant, or a warehouse. The number of sites depends on your organizational structure.

Source routing

A previously defined routing that contains one or more steps that you want to use in a new routing.

Standard cost variance

The difference between the actual costs for a manufacturing order for a standard cost item, and the standard cost of the item.

Standard costing

An accounting method used by some businesses to value their inventories. A company that uses standard costing—also known as "periodic costing"—revalues its inventory periodically to reflect significant changes in the cost of its items.

Standard order quantity

A variable that can be used to calculate order quantities for fixed or period order quantity order policies. It is similar to a minimum order quantity, requiring no less than a set amount for an order, but it can be increased, either by increments or multiples of the standard order quantity.

Subassembly

A part that is both a component and a parent part. An assembly that is used in the manufacture of a higher-order assembly.

Super bill of materials

A list of all the component items that can possibly be included the bill of materials for a finished item. For example, a computer manufacturer might develop a super bill of materials that includes several options for hard disks, RAM, monitors, keyboards, mice and other peripherals. No computer can include all the options, but all the options must be included in the super bill of materials.

SUPER BOM

See Super bill of materials.

Supplier

A person or company that supplies goods or services to a manufacturer.

Supplier Corrective Action Request

A formal report to be sent to a supplier to involve the supplier in resolving problems with defective parts. SCARs describe the problems you've found—including item numbers, lot numbers, dates and test results—and might outline possible areas for the supplier to research to prevent the defect from recurring. Suppliers usually are required to respond to the SCAR reports with information about the cause of the defect and the steps to be taken to prevent its recurrence.

Template

A routing outline that you can use to quickly and efficiently build new routings. Each time you need to create a new routing, you can customize the template and give it a unique routing name.

Time fence

The minimum amount of time required for production of an item. When MRP is used to create planned manufacturing orders or purchase orders, the orders automatically are scheduled outside the time fence.

Total costs

The cumulative total of all expenses associated with a manufacturing order, plus any overhead that might not be directly connected to the order.

Trade discount

A price reduction, usually granted to a certain customer because of the customer's special status. Customers with an excellent credit history might be offered a trade discount.

Unit costs

The value of time and resources consumed to create one unit of product for this order.

Unmet forecasted demand

The difference between forecasted demand (the anticipated amount of an item that will be required to meet projected orders) and actual production.

Up day

A day when the facility—the entire shop floor or a specific work center—is in production.

User-defined field

A field that can be used to track information specific to your company.

Valuation method

The process used to track inventory value (FIFO Perpetual, FIFO Periodic, LIFO Perpetual, LIFO Periodic, Average Perpetual).

Variance

The difference between two values, such as the difference between estimated and actual expenses.

Where used

A Manufacturing query that scans your bills of materials and routings to find where items, machines and other things you've defined are used. If you performed a "where used" search for all items in your plant that use a certain machine, for instance, the system would generate a list of all items that have a step involving that machine.

Window security

A system that allows you to specify which windows each user in your organization will be able to use.

WIP

See Work In Process (WIP).

Work center

A self-contained unit of the manufacturing process, or an entire plant. A work center might be an assembly area, a shipping and receiving area or a painting area. Machines and employees are the main components of work centers.

Work center calendar

A calendar of up and down days—days when the plant is in production and when it isn't—for a specific work center.

Working routing

See Manufacturing order routing.

Work In Process (WIP)

A system that helps you to track and analyze the costs associated with a particular manufacturing order and view the progress of the manufacturing order.

Work order

See Manufacturing order.

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