



Microsoft Dynamics® GP  
**Manufacturing Planning Functions**

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# 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, Sales Forecasting](#), describes how you can create, activate, and combine sales forecasts for your business. You can base sales forecasts on past performance or enter new projections.
- [Part 2, Master Production Scheduling](#), includes information about creating master production schedules—schedules that help you plan orders to meet anticipated demand.
- [Part 3, Capacity Requirements Planning](#), contains information about how you can define the capacity of your work centers, and how you can monitor how fully work centers are scheduled. You can view capacity information in terms of employee or machine workload.
- [Part 4, Material Requirements Planning](#), describes how MRP (Material Requirements Planning) information is calculated. Information about different methods for updating MRP information is included. Uses of the information and methods for handling anticipated shortages also are included.

## 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
<i>Creating a batch</i>	Italicized type indicates the name of a section or procedure.
File >> Print or <b>File &gt; Print</b>	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](mailto: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: Sales Forecasting

This part of the documentation includes information that will help you create, maintain, and use sales forecasts. You can refer to this information for instructions on modifying or viewing existing entries.

Sales Forecasting helps you to create projections of your anticipated sales. Your projections—which can include estimates for one or more salespeople and one or more products—can later be applied to product manufacturing schedules using Master Production Scheduling.

The following information is discussed:

- [Chapter 1, “Sales forecasts,”](#) describes how you can define sales forecasts for your business.
- [Chapter 2, “Sales forecasts usage,”](#) contains information about how you can combine sales forecasts.
- [Chapter 3, “Sales Forecasting and MRP,”](#) includes information about specifying sales forecasts to be consumed by Material Requirements Planning (MRP) calculations.

# Chapter 1: Sales forecasts

You can use Sales Forecasting to create sales forecasts based on estimates for a single salesperson or group of sales people, for a specific customer or group of customers, and for a specific product or group of products. Your forecasts can be based on sales targets or past performance. Later you can activate the forecasts and roll your projections into production plans.

This information is divided into the following sections:

- [Sales forecast terms](#)
- [Creating a sales forecast](#)
- [Adjusting sales forecast quantities](#)
- [Viewing sales history information](#)
- [Adding items from sales history to a sales plan](#)

## Sales forecast terms

Several terms specific to sales forecasts are used to describe applications in Manufacturing. You can use the following information for reference.

**Demand time fence** A moving point in time. You specify a time fence in terms of days or other periods from the current date. A demand time fence defines the point between when the planning engine—in this case, MRP—considers the greater of actual sales orders or forecasts, and when the planning engine considers only actual sales orders.

**Forecast periods** The period of time that a forecast covers. Depending on your industry and lead times, your forecast periods might be in terms of days, weeks, months, or even years.

## Creating a sales forecast

Each plan has a forecast period or bucket—any period from a day to several years. Each plan also must have a forecast starting date and ending date.

If you're basing the sales forecast on historical information, you can enter the forecast period—maybe January 1 to March 31 of the current year—and then choose the same dates in the past year to have historical sales information about sales captured for the new sales forecast.



*If you're using extended pricing, some pricing information won't be available in the Sales Forecasting window. The expansion button for the item number won't be available, and no list price information will be displayed.*

## To create a sales forecast

1. Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)

2. Enter a plan name and a brief description of the plan.
3. Enter the number of periods for the forecast, and select a unit of time from the list.

The forecast periods are the buckets of time for forecast information—days, weeks, months, quarters, or years. If you enter 4 for the Forecast Periods and choose Month for the bucket, the forecast you create would span a four-month period. All lines within a single forecast must have the same forecast period.



*If you plan to combine sales forecasts—for example, creating individual sales forecasts for different regions or salespeople—be sure the starting and ending dates for all the forecasts are the same.*

4. Enter starting dates and ending dates for the forecast and for sales history. The lengths of the two date ranges must be the same.
5. To create a sales forecast for a specific salesperson or group of salespeople, enter or select a Salesperson ID and choose Insert to insert it into the salesperson list. You can add as many salespeople as you like.

The list of salespeople limits the sales history records that will be reflected in the scrolling window. If you don't select any salespeople, all sales history records for the item during the history period will be included.

6. To create a sales forecast for a specific customer or group of customers, enter or select a customer ID and choose Insert to insert it into the customer list. You can add an unlimited number of customers.

The list of customers limits the sales history records that will be reflected in the scrolling window. If you don't select any customers, all sales history records for the item during the history period will be included.



- In the first blank line in the scrolling window, enter or select an item to include in the forecast.



To add several items in sales order history to a sales forecast, refer to [Adding items from sales history to a sales plan](#) on page 13.

- Repeat step 7 for each item to be included in the sales forecast.

To sort the items in ascending or descending order, click the ITEM NUMBER column heading. To sort the items by unit cost in ascending or descending order, click the UNIT COST column heading.

- Choose Calculate to display sales history information in the scrolling window. You can do this as a reference point for entering sales forecast quantities.



Use the expand button at the top right corner of the scrolling window to view information about the sales order history.

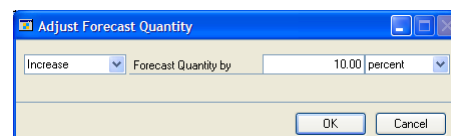
- Enter a forecast quantity for each item for the first period in the forecast.
- To enter a forecast quantity for the item for another period, use the browse buttons at the top of the scrolling window to move among the forecast periods. You can enter forecast quantities for items only for the forecast period in the left-most column.
- Continue, repeating step 11 until you've entered sales forecast quantities for all items and sales forecast periods.
- Choose Save and close the window.

## Adjusting sales forecast quantities

Use the Adjust Forecast Quantity window to increase or decrease all quantities of a specific item in a sales forecast. You can change quantities by a percentage or by a number of units.

### To adjust sales forecast quantities:

- Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
- Enter or select a sales forecast.
- Select the expand button at the top right corner of the scrolling window so that all lines of information for each record are displayed.
- Select the item to adjust forecast quantities for. Choose the calculator icon button in the scrolling window line to open the Adjust Forecast Quantity window.



5. Determine how to adjust forecast quantities for that item.
  - To increase quantities by a certain percentage, select Increase and Percent from the lists and enter the percentage increase.
  - To increase quantities by a certain number of units, select Increase and Units from the lists and enter the number of additional units per forecast period.
  - To decrease quantities by a certain percentage, select Decrease and Percent from the lists and enter the percentage decrease.
  - To decrease quantities by a certain number of units, select Decrease and Units from the lists and enter the number of units to subtract from the forecast numbers.
6. Choose OK. The Adjust Forecast Quantity window closes and the Sales Forecasting window displays the new forecast quantities.
7. Choose Save in the Sales Forecasting window.
8. When you've finished, close the window.

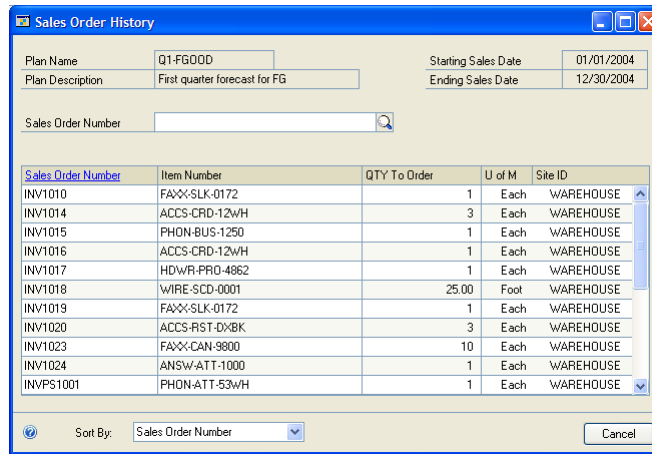
## Viewing sales history information

The Sales Order History window provides historical information about sales activity for any item included in the sales plan. Sales order history can be sorted by sales order number or item number. The plan name, description, and starting and ending dates for the plan will appear at the top of the window. The sales order number, item number, quantity to order, unit of measure, and site ID will be displayed in the scrolling window. You also can review sales performance for the plan.

### To view sales history information:

1. Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
2. Enter or select a sales forecast plan.

- From the Go To button, choose Sales Order History to open the Sales Order History window.



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

### Adding items from sales history to a sales plan

You can quickly add items that appear in sales order history to a sales forecast using the Sales History Item Addition window.

To add sales order line items to a sales forecast, the lines must meet the following requirements.

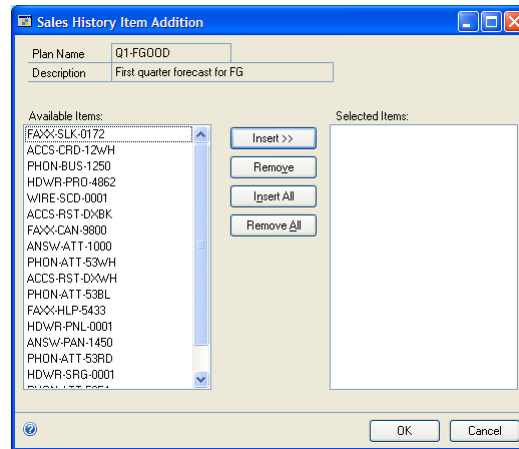
- The promise date must be within the forecast period.
- The sales order must have the same site ID as the forecast.
- The sales order lines can't be canceled.

Items selected from the Available Items list will be added to the sales forecast, just as if they had been added from the Sales Forecasting window.

#### To add items from sales history to a sales plan:

- Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
- Enter or select a sales forecast.

- From the Go To button, choose Sales History Item Addition. The Sales History Item Addition window opens and displays items that can be added to the sales forecast in the Available Items scrolling window.



- Add items to the Selected Items scrolling window.
  - To add one item, highlight it in the Available Items list and choose Insert.
  - To add all items, choose Insert All.
- Choose OK. The selected items will be added to the sales forecast. You can adjust the quantities for the items in the Sales Forecasting window. Refer to [Adjusting sales forecast quantities](#) on page 11 for more information.

# Chapter 2: Sales forecasts usage

After you've created sales forecasts, you can combine them so projected requirements for different items are summarized. You also can activate sales forecasts and transfer them from forecasts into master production schedules (MPS) that can be used to plan production.

You'll use the Sales Forecast Combination window to combine forecasts, and the Sales Forecast Activation window to create an MPS plan.

This information is divided into the following sections:

- [Consolidating several sales forecasts](#)
- [Activating sales forecasts](#)

## Consolidating several sales forecasts

If you've created several sales forecast plans, you might want to combine them. For example, if each of your salespeople has created his or her own sales forecast, you can combine the plans and then roll them into a master production schedule (MPS).

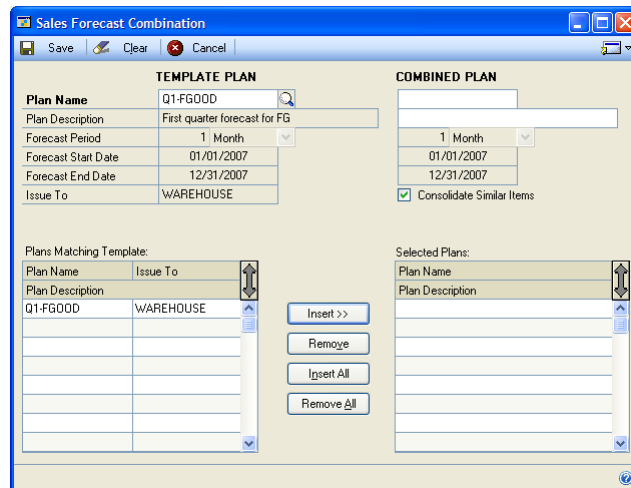


To combine sales forecasts, the forecast period, starting date, and ending date must be the same.

When you consolidate sales forecasts, you can designate any forecast to be a template forecast. Then you can easily identify all other sales forecasts that have the same forecast period, starting date, and ending date, and combine them with the template forecast into a new, combined sales forecast.

### To consolidate several sales forecasts:

1. Open the Sales Forecast Combination window.  
(Transactions >> Manufacturing >> Forecasting >> SF Combination)



2. In the Plan Name field under the Template Plan heading, enter or select a sales forecast.

All sales forecasts with the same forecast period, starting date, and ending date as the template plan will appear in the Plans Matching Template scrolling window.

3. Enter a name for the combined plan and a brief plan description. The forecast period, starting date, and ending date will be copied from the template plan.
4. To combine line items with the same item number, list price, and unit cost, mark the Consolidate Similar Items option.



*The option is not available if you're using extended pricing.*

If you don't mark this option, all line items will appear just as they appear on the individual plans. For example, suppose one plan includes a forecast of 1,000 widgets and another plan includes a forecast for 500 widgets. The combined plan would show separate lines for the two forecast quantities, even though they are for the same item.

5. In the Plans Matching Template scrolling window, highlight a plan to be combined with the template plan.
6. Choose Insert.
7. Repeat steps 5 and 6 until you've added all plans to be combined to the Selected Plans scrolling window.
8. Choose Save and close the window.

## Activating sales forecasts

When you activate a sales forecast, you transfer it from a forecast of projected quantities to a master production schedule (MPS). Production managers can then use the MPS plan as a starting point in their own production plans.



*After you activate a sales forecast, the only link between the forecast and the resulting MPS plan is the name of the sales forecast, which becomes part of the MPS plan description. No adjustments made to either the sales forecast plan will be reflected in the MPS plan, and no adjustments to the MPS plan will be reflected in the sales forecast plan.*

### To activate a sales forecast:

1. Open the Sales Forecast Activation window.  
(Transactions >> Manufacturing >> Forecasting >> SF Activation)

Sales Forecast Plan		MPS Plan	
Plan Name	Q1-FGOOD	Plan Name	Q1-FGOOD
Description	First quarter forecast for FG	Description	First quarter forecast for FG
Forecast Period	1 Month	Forecast Period	Month
Forecast Start Date	01/01/2007	Forecast Start Date	01/01/2007

2. In the Sales Forecast Plan section of the window, enter or select a sales forecast plan name.

3. In the MPS Plan section of the window, enter or select an MPS plan name.
4. Choose Insert to transfer the sales forecast plan to the MPS forecast plan.

The name of the sales forecast plan will be displayed in the Master Production Scheduling window for the MPS plan you've created.

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





## Chapter 3: Sales Forecasting and MRP

When you use Sales Forecasting, you create sales forecast plans that describe the demand you anticipate for a specific period and a specific item or items for that site.

If you're also using Material Requirements Planning (MRP), you can have sales demand consumed by MRP. That is, you can create several sales forecasts and when you regenerate MRP information, those forecasts can be taken into consideration.

For example, suppose that you have a sales forecast for 150 widgets for the North site for the month of June. It's only May now, but already you have actual sales orders for 125 widgets from the North site to be shipped in June. You can set up your sales forecast plans and MRP regeneration so that when MRP information is regenerated, the actual sales are deducted from the sales forecast plan amount; the remaining sales forecast will be reduced to 25 widgets. You'll see that you need actual sales orders for 25 widgets from the North site to meet your June forecast.

This information is divided into the following sections:

- [Requirements for forecasts in MRP calculations](#)
- [Example: How MRP considers sales forecasts](#)
- [MRP treatment of sales forecast plans](#)
- [Specifying forecasts to include in MRP](#)
- [Changing the demand fence for a sales forecast](#)
- [Removing a sales forecast from MRP](#)

### Requirements for forecasts in MRP calculations

The following requirements must be met for any sales forecast plan to be included in MRP calculations:

- The sales forecast must have an issue-to site. Refer to [Creating a sales forecast](#) on page 9 for more information.
- You can choose only one sales forecast plan for each site.
- You must specify a demand time fence for each forecast that's included in MRP, but the demand time fence can be zero.

### Example: How MRP considers sales forecasts

Suppose you are a widget manufacturer. You have just one site, called Factory. You've created a sales forecast plan that includes sales forecast amounts on a month-by-month basis. Now you're preparing to regenerate MRP information for your business. Your beginning information—before you regenerate MRP—looks like the information in the following table:

	June	July	August
Sales forecast plan	110	100	100
Actual sales orders	105	100	90

**Scenario One** Today is May 15. You set the demand time fence to zero periods and update your MRP information. After regenerating MRP, your sales forecast information for widgets at the Factory site would look like this:

	June	July	August
Remaining forecast	5	0	10
Actual sales orders	105	100	90
Quantity planned by MRP	110	100	100

**Scenario Two** (This assumes that you have not completed the steps in Scenario One.) Today is May 15. You set the demand time fence to one period—which means that no sales forecast information from June is taken into account or updated after MRP information is regenerated. After updating MRP information, your sales forecast information for widgets at the Factory site would look like this:

	June	July	August
Remaining forecast	110	0	10
Actual sales orders	105	100	90
Quantity planned by MRP	105	100	100

The quantity that MRP plans for inside the demand time fence will include only actual sales orders.

## MRP treatment of sales forecast plans

All forecast demand will be recognized on the first day of the forecast bucket. The in-house due date for each sales order line is used to determine which forecast bucket the sales amount should be taken from.



*Past-due forecast demand beyond the first forecast period isn't included in MRP calculations.*

The following sales order document types will reduce sales forecast quantities:

- Orders
- Back orders
- Invoices
- Historical invoices

Any of these will affect the Quantity Remaining for the sales forecast plan. Whether sales quotes will also affect the Quantity Remaining depends on how you've set up your MRP preferences. Refer to [Specifying quantities to include in MRP](#) in [Chapter 6, "Manufacturing planning functions setup,"](#) in the Manufacturing Setup documentation for more information.

## Specifying forecasts to include in MRP

Use the MRP Forecasting Selections window to include a sales forecast plan in MRP calculations. You also can set the demand time fence for a forecast plan using this window.

**To specify forecasts to include in MRP:**

1. Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
2. From the Go To button, choose Forecasting Selections to open the MRP Forecasting Selections window.

Plan Name	Site ID	Demand Fence



*You also can open the MRP Forecasting Selections window by choosing Forecasting Selections from the Go To button in the MRP Regeneration window.*

3. Enter the Demand Fence.
  - If the Demand Fence is zero, all sales forecast periods will be included in MRP calculations, *as long as those dates are within the MRP range.*
  - If the Demand Fence is one or more, only sales forecast periods beyond the demand time fence will be included in MRP calculations.
4. Choose Insert to add the sales forecast plan to the scrolling window.
5. Continue, repeating steps 3 and 4, until you've added as many sales forecast plans as needed.



*You can choose only one sales forecast plan for each site.*

6. Close the window. The next time MRP information is updated, the selected sales forecast plans will be included in calculations as long as they meet demand time fence requirements.

**Changing the demand fence for a sales forecast**

You can change the demand fence for a sales forecast at any time. For example, you can change the demand time fence if your production methods improve and your production lead times become shorter.

Use the MRP Forecasting Selections window to complete this procedure.

### **To change the demand fence for a sales forecast:**

1. Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
2. From the Go To button, choose Forecasting Selections to open the MRP Forecasting Selections window.
3. In the scrolling window, highlight the sales forecast to change.
4. Choose Select to display sales forecast information at the top of the window.
5. Change the demand fence.
6. Choose Insert to add the information to the scrolling window.
7. Close the window.

### **Removing a sales forecast from MRP**

Use the MRP Forecast Selections window to remove sales forecasts from MRP.

#### **To remove a sales forecast from MRP:**

1. Open the Sales Forecasting window.  
(Transactions >> Manufacturing >> Forecasting >> Sales Forecasting)
2. From the Go To button, choose Forecasting Selections to open the MRP Forecasting Selections window.
3. In the scrolling window, highlight the sales forecast to remove from MRP.
4. Choose Remove.
5. Close the window.



# Part 2: Master Production Scheduling

This part of the documentation includes information that will help you set up and maintain Master Production Scheduling (MPS).

You can use MPS to gather information from sales forecasts to form a single, comprehensive production schedule and automatically create manufacturing orders. A master production plan (MPP) is an attempt to identify production requirements for an item based on sales projections or previous performance for that item. An MPS plan can cover a period as short as one day or as long as several years, and it can be adjusted to reflect changes in your requirements.

The following information is discussed:

- [Chapter 4, “Master production schedules,”](#) describes how you can create a master production schedule.
- [Chapter 5, “MPS manufacturing orders,”](#) includes information about generating and updating manufacturing orders to meet the demands of master production plans.

## Chapter 4: Master production schedules

Rather than creating a master production plan based on sales forecasts, you can define one directly in Master Production Scheduling (MPS). A master production plan is a schedule that the company expects to complete to meet its requirements over time—whether it be over the course of days, weeks, months, or even years.

Regardless of whether your MPS plan comes from sales forecasts or is entered directly, you can create manufacturing orders based on the plan.

This information is divided into the following sections:

- [Master production scheduling terms](#)
- [Creating a master production scheduling plan](#)

### Master production scheduling terms

Refer here for information about some of the terms related to Master Production Scheduling.

**Master production plan (MPP)** An attempt to identify production requirements for an item, based on sales projections or previous performance for that item.

**Master production schedule** A high-level production plan, possibly based on sales forecasts, that outlines how demand for finished goods will be met.

**Planning time fence** The number of days required to plan and produce an item. Use planning fences to state the amount of notice needed to produce an item. For example, if the planning fence for a widget manufactured by your company is five days, your company needs five days to produce that item.

**MPS manufacturing order** A manufacturing order based on the master production schedule. You can use the Master Production Scheduling window to create new MPS manufacturing orders or to update the status of existing MPS manufacturing orders.

**Actual demand** The sum of demand from all sales orders linked to the manufacturing order under the selected plan name.

### Creating a master production scheduling plan

Use the Master Production Scheduling window to create a plan. After you've named the plan and defined the forecast period, you can add information for each of the line items in the plan. You'll need to create a unique line item for each item to be included in the plan.

**To create a master production scheduling plan:**

1. Open the Master Production Scheduling window.  
(Transactions >> Manufacturing >> Forecasting >> MPS)

2. Enter a plan name and description. To add details, choose the notes button and enter other information.
3. Choose a forecast period—the size of the time periods or “buckets” to plan for. For example, you might plan production a week or a month at a time.
4. Accept the default plan starting date, or enter a different one.
5. In the first blank line in the scrolling window, enter or select an item number to build.
6. Accept the default routing and scheduling preference, or choose other ones.

You can choose from any of the scheduling methods you’ve defined for your company. Refer to [Setting up scheduling preferences in Chapter 9, “Manufacturing production functions user setup.”](#) in the Manufacturing Setup documentation for more information.

7. Choose the expansion button on the Item Number field to open the Manufacturing Order Options window.



8. Enter or select sites for drawing materials from and posting finished goods to. The default sites will come from the scheduling preference you selected. You can accept the default bill of materials for the item, or you can change it.








*You can change the sites and the bill of materials selection until a manufacturing order has been created for the item.*

9. When you've finished, close the Manufacturing Order Options window.
10. In the scrolling window in the Master Production Scheduling window, enter the quantity to be built for each bucket. Use the browse buttons to view additional buckets.
11. Continue, repeating steps 5 through 10 for any other items to be included in the production plan.
12. When you've finished, choose Save and close the window.





- Beneath the green flag, select the first line of the scrolling window to use to create a manufacturing order.

04/12/2007	
ITEM NUMBER	FCST QTY. 
ROUTING NAME	Mfg. Order
SCHEDULING PREFERENCE	Ending Qty. Status
FINISHED GOOD  	20
AUTOMATED 	
Default 	0

If a manufacturing order can be created for that plan bucket, a green flag appears. If a manufacturing order can't be created—for example, if you haven't specified the routing, scheduling preference, draw-from, and issue-to sites, or if the bucket is inside the planning fence for the item—a message will appear. You might be directed to provide the additional information, or have the option to continue creating the manufacturing order, if it is within the planning fence.

- To create or update manufacturing orders, choose Save. A status window will appear while Manufacturing orders are updated.



*You cannot edit an MPS plan while manufacturing orders are being generated or updated.*

When the manufacturing orders are updated, the status of each manufacturing order will be displayed in the Master Production Scheduling window. A blue O means that the manufacturing order has Open status. A green R means that the manufacturing order has Released status.

If some manufacturing orders couldn't be created, use the MO Transaction window (Inquiry >> Manufacturing >> Manufacturing Orders >> MO Transaction Log) to view more information. Refer to [Viewing warnings for generated manufacturing orders](#) on page 31 for information about using the MO Transaction Log window.



*Any warning messages generated while manufacturing orders are created will be recorded in the transaction log.*

- When processing is complete, close the window.

## Updating the status of an MPS manufacturing order

When you create an MPS manufacturing order, its status is Open. You can change it to Released status in the Master Production Scheduling window.

### To update the status of an MPS manufacturing order:

- Open the Master Production Scheduling window.  
(Transactions >> Manufacturing >> Forecasting >> MPS)
- Enter or select a master production plan that includes at least one MPS manufacturing order with planned status.

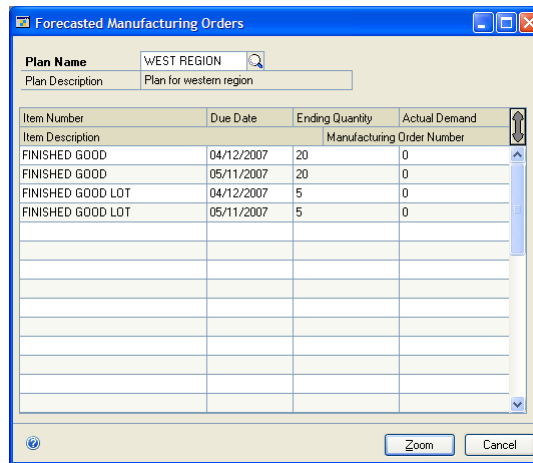
3. Select the blue O. A message is displayed, and you have the option to change the status of the manufacturing order. Choose Yes to update the status. The blue O will change to a green R.
4. When you've finished, close the window.

## Viewing MPS manufacturing orders

The Forecasted Manufacturing Orders window shows all manufacturing orders that have been created based on a master production plan. Information displayed in the window includes the plan name, summary information for each manufacturing order, the ending quantity of an item for each order, and the actual demand for the item produced by the manufacturing order.

### To view MPS manufacturing orders:

1. Open the Forecasted Manufacturing Orders window.  
(Inquiry >> Manufacturing >> Forecasted MO)



2. Enter or select an MPS plan.

The scrolling window will display information about the manufacturing orders associated with the selected plan name.

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

## Viewing warnings for generated manufacturing orders

If your attempt to create a manufacturing order based on a master production scheduling plan isn't successful, the reasons the attempt failed are logged. Use the MO Transaction Log window to review messages about the orders.

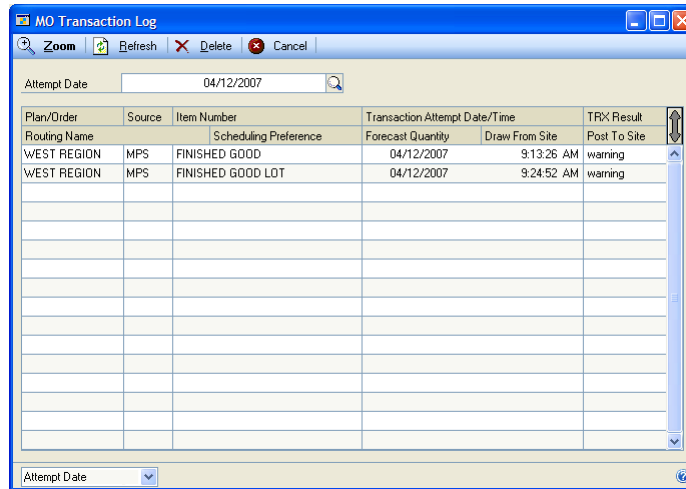


*This window also displays information about manufacturing orders generated through the Sales Configurator.*

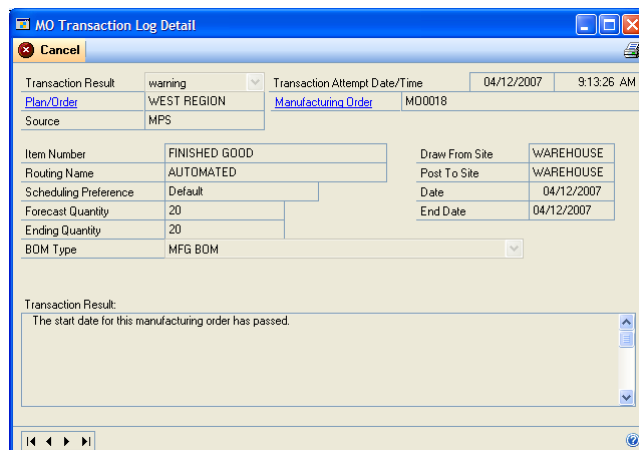
After you've corrected the situation that caused the log entry, you can create the manufacturing order.

**To view warnings for generated manufacturing orders:**

1. Open the MO Transaction Log window.  
(Transactions >> Manufacturing >> Forecasting >> MPS >> Go To button >> MO Transaction Log)



2. Choose a sorting method and select the attempt date, plan name, or item number to view. Information about the transaction attempt will be displayed in the scrolling window
3. To see more details about a record, mark it in the scrolling window and choose Zoom to open the MO Transaction Log Detail window.



The transaction record will list the Master Production Scheduling name, item number, routing name, scheduling preference, quantity to build, Bill of Materials (BOM) Type, and site information. The Transaction Result field will list any messages generated by the system when you created or updated a manufacturing order.

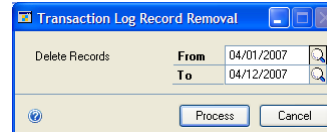
4. When you've finished reviewing the information, close the windows.

## Deleting transaction log records

You can delete transaction log records displayed in the MO Transaction Log window as you solve the problems they described.

### To delete transaction log records:

1. Open the MO Transaction Log window.  
(Inquiry >> Manufacturing >> Manufacturing Orders >> MO Transaction Log)
2. Choose Delete to open the Transaction Log Record Removal window.



3. Enter or select a starting date and an ending date for the range of records to delete. Manufacturing order transaction log records are sorted by the date when you attempted to create a manufacturing order.
4. Choose Process. The Transaction Log Record Removal window will close and the MO Transaction Log window is displayed.
5. Close the window.







# Part 3: Capacity Requirements Planning

This part of the documentation includes information that will help you work with Capacity Requirements Planning (CRP). You can refer to this information for instructions on modifying or viewing existing entries.

CRP deals with establishing and measuring capacity—the ability to do work—in your company. Then CRP compares the capacity you’ve defined for your production floor—through work center calendars, employee, and machine efficiencies, and so on—with the amount of work you want done, as defined through your routing times, manufacturing order requirements, and other specifications.

CRP tracks the employee and machine resources required to complete manufacturing orders. Capacity requirements planning data can be calculated in daily, weekly, or monthly “buckets.” This data can help you identify potential shortages of employee or machine time, so you can adjust capacity or reschedule orders, as needed.

The following information is discussed:

- [Chapter 6, “Viewing CRP data,”](#) includes information about viewing capacity information in buckets of various sizes. Information about viewing CRP information from the perspective of how one work center is affected by several manufacturing orders—or how one manufacturing order affects several work centers—also is included.
- [Chapter 7, “CRP history,”](#) contains information about removing old CRP records.

## Chapter 6: Viewing CRP data

Capacity requirements planning (CRP) is an inquiry program and shows you how much capacity you have in your work centers and how much of that capacity is being used by manufacturing orders. You can use CRP windows and reports to see how your company's capacity is being used by manufacturing orders, but you can't change the amount of available capacity or the amount of work to be done through CRP.

This information is divided into the following sections:

- [CRP terms](#)
- [Adjusting capacity](#)
- [Viewing CRP information](#)
- [Interpreting the CRP View window](#)
- [Viewing CRP information by days, weeks, or months](#)
- [Viewing detailed CRP information](#)
- [Viewing the effects of a manufacturing order](#)

### CRP terms

Several terms specific to CRP are used to describe applications. You can use the following information for reference.

**Capacity** The ability to do work in a specified time period. Employees, machines, work centers, and plants all have capacity.

**Released capacity** The number of employee and machine hours required to fill manufacturing orders with Released status.

**Released + Open capacity** The number of hours required to fill all manufacturing orders with Released or Open status in the designated time period.

### Adjusting capacity

Capacity is the amount of work that can be done by employees and machines in work centers. To get the best picture of the capacity of your production floor, you might need to periodically adjust capacity to reflect the addition or loss of employees or machines, or to show increased or decreased efficiencies.

To adjust the amount of available capacity, you can add or remove work centers, or change the capacity of your work centers. Refer to [Chapter 2, "Work centers,"](#) in the Manufacturing Core Functions documentation for more information.

You also can reschedule manufacturing orders. Refer to [Chapter 9, "Routings and rescheduling,"](#) in the Manufacturing Production Functions documentation for more information about rescheduling options.



*Before working with CRP, be sure to set CRP system settings and user preferences. Refer to [Setting up CRP user preferences](#) in [Chapter 11, "Manufacturing planning functions user setup,"](#) in the Manufacturing Setup documentation for more information.*

## Viewing CRP information

Use the CRP View window to view high-level capacity requirements for a work center.

### To view CRP information:

1. Open the CRP View window.  
(Inquiry >> Manufacturing >> CRP >> View)

	04/12/07		04/13/07		04/14/07		04/15/07		04/16/07	
	Emp.	Mac.	Emp.	Mac.	Emp.	Mac.	Emp.	Mac.	Emp.	Mac.
<b>WC1</b>	1.60	0.0	1.60	0.0					3.42	0.0
Released	5.59	8.0	5.59	8.0					3.77	8.0
	22.3%	0.0%	22.3%	0.0%					47.6%	0.0%
<b>WC2</b>	0.0	0.0	0.0	0.0					10.0	5.0
Released	40.0	8.0	40.0	8.0					30.0	3.0
	0.0%	0.0%	0.0%	0.0%					25.0%	62.5%
<b>WC3</b>	0.0	0.0	0.0	0.0					0.0	0.0
Released	40.0	0.0	40.0	0.0					40.0	0.0
	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%
Released										
Released										
Released										

2. Using the browse buttons near the upper left corner of the scrolling window, set the bucket size to the time period to be displayed for each bucket.
3. In the Find WC field, select the first work center to be displayed.
4. In the Effective Date field, choose the first date for which CRP data will be displayed.



*If the Show Outsourced Work Centers option is marked, data for outsourced work centers will be displayed.*

5. Use the browse buttons to move forward or backward, as needed. Use the inner browse buttons to view buckets in single steps and the outer browse buttons to view buckets in increments of five steps.

Refer to [Interpreting the CRP View window](#) on page 39 for more information about interpreting the information in the window.

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

## Interpreting the CRP View window

The CRP View window shows information about how each work center is scheduled, in terms of both employee time and machine time. When you view information in the window, you'll probably focus on the information for a specific work center.



You can use the buttons near the upper left corner of the window to move forward and back one day or five buckets at a time. Use the hide and show button near the upper right corner of the scrolling window to hide or show the Release + Open information.

04/12/07		
	Emp.	Mac.
<b>WC1</b>	1.60	0.0
Released	5.59	8.0
	22.3%	0.0%
Released	2.20	0.50
+ Open	4.99	7.50
	30.7%	6.3%

The following table is a representation of the information as you'll see it in the CRP View window, but with explanations of the values of the fields.

	Employee	Machine
<b>Released</b>	Employee hours used for released manufacturing orders	Machine hours used for released manufacturing orders
	Available employee hours remaining (difference between all available employee hours and employee hours used for released manufacturing orders)	Available machine hours remaining (difference between all available machine hours and machine hours used for released manufacturing orders)
	Percentage of employee capacity used for released manufacturing orders	Percentage of machine capacity used for released manufacturing orders
<b>Released + Open</b>	Employee hours used for quote/estimate, open, and released manufacturing orders	Machine hours used for quote/estimate, open, and released manufacturing orders
	Available employee hours remaining (difference between all available employee hours and employee hours used for quote/estimate, open, and released manufacturing orders)	Available machine hours remaining (difference between all available machine hours and machine hours used for quote/estimate, open, and released manufacturing orders)
	Percentage of employee capacity used for quote/estimate, open, and released manufacturing orders	Percentage of machine capacity used for quote/estimate, open, and released manufacturing orders

## Viewing CRP information by days, weeks, or months

You can choose to view your CRP information by days, weeks or months. The following information focuses on using the system to see information on a day-by-day basis, but the procedure is basically the same to see the information by weeks or months.

**To view CRP information by days, weeks, or months:**

1. Open the CRP by Days window.  
(Inquiry >> Manufacturing >> CRP >> By Days)

WC ID	Employee Hours				Machine Hours				Status
	Scheduled	Available	O.L.	% Load	Scheduled	Available	O.L.	% Load	
WC1	1.60822	5.59178	0.00000	22.3%	0.00000	8.00000	0.00000	0.0%	Released
	2.20822	4.99178	0.00000	30.7%	0.50000	7.50000	0.00000	6.3%	+Open
WC2	0.00000	40.00000	0.00000	0.0%	0.00000	8.00000	0.00000	0.0%	Released
	31.25000	8.75000	0.00000	78.1%	10.25000	2.25000	0.00000	128.1%	+Open
WC3	0.00000	40.00000	0.00000	0.0%	0.00000	0.00000	0.00000	0.0%	Released
	0.00000	40.00000	0.00000	0.0%	0.00000	0.00000	0.00000	0.0%	+Open

2. Select a sorting option. CRP information can be sorted by Work Center, Released Employee Load, Released Machine Load, Released plus Open Employee Load, and Released plus Open Machine Load.
3. In the Find WC field, select the first work center to be displayed.
4. In the Effective Date field, choose the date you want to examine CRP requirements for.

If the Show Outsourced Work Centers option is marked, data for outsourced work centers will be displayed.

If the Show MRP Planned Orders with Open Orders option is marked, MRP-planned manufacturing orders and open manufacturing orders will be included in the total employee hour and total machine hour calculations.

5. Use the hide and show buttons on the scrolling window to adjust the information you're displaying in the window. Contracting the window will show only data for released manufacturing orders. Expanding the window will show released orders and totals for released plus open orders.
6. To view CRP information by weeks or months, open the CRP by Weeks window or the CRP by Months window. Use the same settings and buttons to adjust the information displayed in those windows.

**Viewing detailed CRP information**

After you've opened a window for viewing CRP information in a particular bucket size—CRP by Days, CRP by Weeks or CRP by Months—you can quickly view additional information about the factors that are driving your requirements.

The CRP/MO Detail window shows all manufacturing orders scheduled for a work center for a specific time period. Details for each manufacturing order will be displayed in the scrolling window, including the order number, item number, and time requirements for employees and machines.

The scrolling window contains detailed information for each manufacturing order assigned to the selected work center during the designated time period. This includes the scheduled sequence starting and finishing dates, hours required to complete the sequence, and the manufacturing order status.



*Before beginning this procedure, you must have one of the following CRP windows open: CRP by Days, CRP by Weeks, or CRP by Months.*

**To view detailed CRP information:**

1. In the CRP by Days window, the CRP by Weeks window or the CRP by Months window, use the browse buttons so the particular bucket you want to view is displayed in the scrolling window.
2. Choose any value in the scrolling window to open the CRP/MO Detail window, which displays information about how the specific value you chose is affected by various manufacturing orders.

Manufacturing Order	Sequence	Start Date	Start Time	Finish Date	Finish Time	Status
M00010	1000	04/12/2007	3:30:00 PM	04/12/2007	4:00:00 PM	Open
CONFIGURABLE FINI	0.50000	0.00000	0.00000	0.50000	0.00000	0.50000
M00014	300	04/12/2007	8:00:00 AM	04/12/2007	12:45:00 PM	Open
FINISHED GOOD SER	4.75000	0.00000	0.00000	4.75000	4.75000	4.50000
M00014	400	04/12/2007	9:45:00 AM	04/12/2007	12:45:00 PM	Open
FINISHED GOOD SER	3.00000	0.00000	0.00000	3.00000	0.00000	1.50000
M00014	500	04/12/2007	12:45:00 PM	04/12/2007	1:45:00 PM	Open
FINISHED GOOD SER	1.00000	0.00000	0.00000	1.00000	0.00000	0.50000
M00018	500	04/12/2007	8:00:00 AM	04/12/2007	4:00:00 PM	Open
FINISHED GOOD	8.00000	0.00000	0.00000	8.00000	0.00000	0.50000
M00020	300	04/12/2007	8:00:00 AM	04/12/2007	1:30:00 PM	Open
FINISHED GOOD LOT	5.50000	0.00000	0.00000	5.50000	5.50000	4.50000
M00020	400	04/12/2007	8:00:00 AM	04/12/2007	1:30:00 PM	Open
FINISHED GOOD LOT	5.50000	0.00000	0.00000	5.50000	0.00000	1.50000



*You also can open the CRP/MO Detail window by choosing Inquiry >> Manufacturing >> CRP >> CRP/MO Detail.*

3. Accept the default bucket size, or select another. Choices are Days, Weeks, and Months.



*To choose a different bucket size, use the list at the bottom of the window.*

4. Enter or select a work center.
5. In the first date field, specify the beginning date for the period to display.
6. Specify a period. You can enter an ending date in the second date field, or you can specify a date range size. If you enter a date range size, the ending date will be calculated.

7. Use the browse buttons to adjust the beginning or ending dates, or to move forward or backward by an increment of the selected bucket size. The inner browse buttons affect the beginning and ending dates. The date range can also be adjusted by changing the number in the bucket increment field. Use the outer browse buttons to move forward or backward in one-bucket increments.



*Data will be displayed in daily buckets, so a sequence can appear more than once if it can't be completed in a single day.*

- To see more detailed information about a specific manufacturing order, choose the manufacturing order number in the scrolling window. Information about the manufacturing order is displayed in the Manufacturing Order Closeup window.
  - To see more detailed information about how a single manufacturing order affects several work centers, use the MO/CRP Cross-reference window. Refer to [Viewing the effects of a manufacturing order](#) on page 42 for more information.
8. Mark the Show MRP Planned Orders option to have MRP-planned manufacturing orders displayed in the scrolling window.
  9. When you've finished viewing information, close the window.

## Viewing the effects of a manufacturing order

To view how a single manufacturing order affects work centers, use the MO/CRP Cross-reference window and the MO/CRP Cross-reference Closeup window.

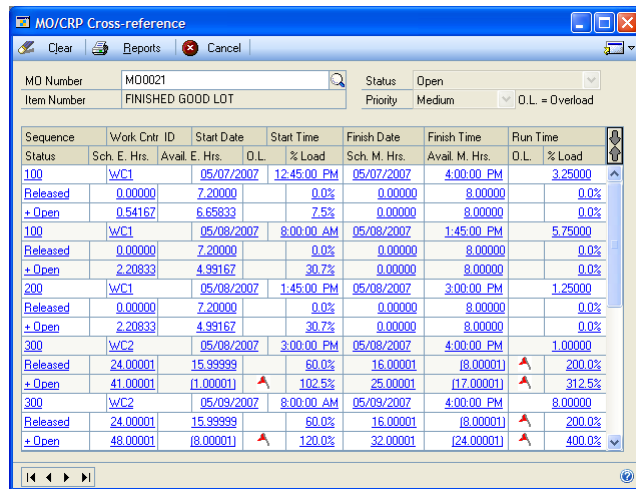
The MO/CRP Cross-reference window will display information about the selected manufacturing order. The order number, status, item number being produced, and priority will appear at the top of the window. The scrolling window will display information about available capacity and capacity in use for the work centers associated with the manufacturing order.

Detailed information about the manufacturing order includes the scheduled sequence starting time and finishing time, run time, employee hours required for the order and available for the work center, machine hours needed for the order and available for the work center, and percentage of capacity currently scheduled for employee and machine hours. A red flag will indicate if that work center is loaded beyond capacity. Data will be displayed for released orders or for released plus open orders.

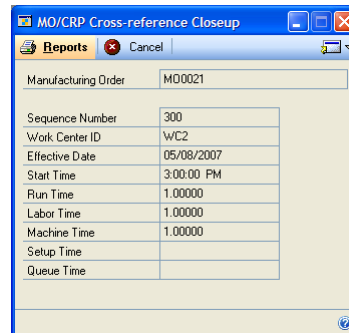


**To view the effects of a manufacturing order:**

1. Open the MO/CRP Cross-reference window.  
(Inquiry >> Manufacturing >> Manufacturing Orders >> MO/CRP Xref)



2. Enter or select a manufacturing order.
3. Select any value in the scrolling window to open the MO/CRP Cross-reference Closeup window to view detailed information about the manufacturing orders that are contributing to the work center load.



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



# Chapter 7: CRP history

Use the Clear CRP History window to delete capacity requirements planning (CRP) history records. You can delete records for one specific date or for a range of dates.

This information is divided into the following sections:

- [Reasons to clear CRP history](#)
- [Clearing CRP history](#)

## Reasons to clear CRP history

CRP history records contain information about activities in a work center for a time period that has elapsed. By periodically removing expired records, you can reduce the amount of storage space required for CRP data.

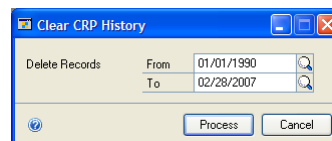
Clearing CRP history records won't clear or delete any other records, such as manufacturing orders or routings. However, after you clear CRP history, you can only restore the information from a backup. You should consider copying history records to some storage media before clearing them.

## Clearing CRP history

When removing CRP history records, be sure the data contained in the records is no longer required for any aspect of your business.

### To clear CRP history:

1. Open the Clear CRP History window.  
(Microsoft Dynamics GP menu >> Tools >> Utilities >> Manufacturing >> Clear CRP History)



2. Enter or select dates in the From and To fields to specify the range of CRP records to delete.
3. Choose Process to remove the records.





# Part 4: Material Requirements Planning

This part of the documentation includes information that will help you calculate Material Requirements Planning (MRP) information and then use that information to prevent material shortages.

MRP is a series of data collection and interpretation procedures that help you to forecast resource requirements over a specified time period—expressed in days, weeks, months, or user-defined buckets.

The following information is discussed:

- [Chapter 8, “MRP overview,”](#) includes information you’ll need to know before using MRP, such as terms and concepts.
- [Chapter 9, “Exclusions,”](#) contains information about specifying sites, items, and item-site combinations to exclude from MRP calculations.
- [Chapter 10, “Regeneration,”](#) describes how you can update—regenerate—your MRP information.
- [Chapter 11, “Pegging,”](#) includes information about using the Pegging Inquiry window to view information about the sources and effects of MRP quantities, and how you can use the window to resolve exception messages, transfer orders, and move in orders.
- [Chapter 12, “Purchase request resolution,”](#) discusses how you can use the purchase request resolution windows to create new purchase orders or add requirements to existing purchase orders to prevent shortages of purchased items.
- [Chapter 13, “MRP inquiries,”](#) includes information about how MRP quantities are calculated, and what Manufacturing records affect the calculations.

## Chapter 8: MRP overview

Material Requirements Planning (MRP) calculates the materials you'll need by tracking manufacturing orders, sales orders, purchase orders, forecasts, and inventory quantities. MRP can help you to identify potential shortages, so you can react quickly.

Individual totals are calculated for purchase orders, sales orders, sales forecasts, and manufacturing orders. Information can be sorted to show requirements for all sites, for a single site, for a planning ID, or for a buyer ID. Individual item summaries can be generated to show totals on hand and on order, and requirements for firmed and planned manufacturing orders.

This information is divided into the following sections:

- [\*Before you begin\*](#)
- [\*MRP terms\*](#)
- [\*MRP quantities\*](#)
- [\*Comparing the purchase order generator and request resolution\*](#)
- [\*Using the purchase order generator and purchase request resolution\*](#)
- [\*Order policies\*](#)
- [\*Planning time fences\*](#)
- [\*Example: Planning time fence in use\*](#)
- [\*How sites are selected for MRP calculations\*](#)

### Before you begin

Before you begin using MRP, you must complete the following tasks:

**Lead times** Identify lead time requirements for your suppliers. Lead time is your vendors' measure of how quickly they can get materials to you, once you've placed an order. You can specify vendor lead times for an item in the Item Vendors Maintenance window. The lead times specified in the Item Vendor Maintenance window apply to item-site combinations that have a primary vendor specified for them. If a primary vendor is not specified, the purchasing lead time specified in Item Resource Planning Maintenance window is used. Refer to Inventory Control documentation for more information.

Lead times also can be specified for items that you make by using the Mfg Fixed Lead Time field and the Mfg Variable Lead Time field in Item Resource Planning Maintenance window. Mfg Fixed Lead Time includes time that is not dependent on the number of goods being produced and typically includes setup time plus queue time. Mfg Variable Lead Time includes time that is dependent on the number of goods produced. It is expressed in the amount of additional time it takes to produce one finished good, and typically includes cycle time plus move time.

**Planning time fences** Identify planning fence times for your items in the Item Resource Planning Maintenance window.

**MRP preferences** Verify that certain MRP system settings are marked before you can use the planning time fence or the move-in, move-out, or cancel capabilities.



*Refer to your Manufacturing Setup documentation for more information about the other MRP setup options.*

**Low-level codes** Before you generate MRP information for the first time, be sure to use the MRP Low-Level Codes window (Utilities >> Manufacturing >> MRP Low-Level Codes) to generate low-level codes.

**Exclusions build** Manufacturing includes a utility that verifies the item, site, and item-site combinations that you've set up. You should use this utility after you've finished any of the following tasks:

- Importing item information directly into your Microsoft SQL Server® tables
- Reconciling inventory
- Checking links for inventory tables

For more information, refer to [Verifying MRP exclusions](#) on page 59.

## MRP terms

Several terms specific to MRP are used to describe how you'll use MRP in your manufacturing environment.

**Regeneration** Recalculation of the MRP information. Manufacturing includes options for recalculating all MRP information—a “full regeneration”—or just updating MRP information—a “net change.” Refer to [MRP processes](#) on page 63 for more information.

**Buckets** Buckets are the daily, weekly or monthly summaries of MRP calculations. You also can generate one bucket in the size that you specify. Depending on the typical lead times of your vendors, you might want to know what materials will be required on a day-by-day, week-by-week, or even month-by-month basis. MRP data can be generated for any bucket size you specify.

Some MRP windows include a “bucketless” option. Bucketless views of MRP information show activity—in the form of manufacturing orders, sales orders, or purchase orders—only when it occurs.

**Exploding** This is the method for determining 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 components included in the manufacture of subassemblies are also included in the requirements. Component quantities to cover shrinkage and the fixed quantity for the bill of materials are also included in the exploded quantities.

**Pegging** The ability to trace an item requirement through the MRP system to find the source of the requirement quantity. Pegging will determine whether a requirement is driven by a manufacturing order, sales order, purchase order, sales forecast, or picklist. Refer to [Overview of pegging](#) on page 69 for more information.

**Order policy** Determines how the order quantity for MRP-planned orders will be calculated. Refer to [Order policies](#) on page 55 for more information about how order policies are used to calculate order sizes.

**Offsetting** Determines when MRP-planned orders should be released to production (for made items) or to a vendor (for purchased items). Offsetting takes into account the date when the items are needed, item lead time, and item planning fence time.



**Lead time** The time it will take to supply an item—the time it will take the primary supplier to deliver a purchased item, or the time needed to make a manufactured item.

**Planning time fence** A period—usually a certain number of days—during which you don’t want to adjust manufacturing order or purchase orders. Refer to [Planning time fences](#) on page 56 and [Example: Planning time fence in use](#) on page 57 for more information.

**Moving in** If MRP calculations uncover a shortage of an item and if there’s an existing order for the item in the future, the order can be flagged to be “moved in” to prevent the shortage. Refer to [Moving or canceling an order](#) on page 77 for more information.

**Moving out** If MRP calculations uncover an overage of an item and if there’s an existing requirement for the item in the future, the order can be flagged to be “moved out” to prevent the overage and to cover the future requirement. Refer to [Moving or canceling an order](#) on page 77 for more information.

**Canceling** If MRP calculations uncover an overage of an item and there’s not an existing requirement for the item in the future, the order can be canceled to prevent the overage. Refer to [Moving or canceling an order](#) on page 77 for more information.

## MRP quantities

MRP includes many supply- and demand-based quantities that are calculated to help you track information about material requirements.

When reviewing these quantity definitions, you should be aware of the following guidelines.

- Quantity information for sales and purchase orders always is displayed in the base unit of measure for an item.
- Drop-ship purchase orders and control lines of blanket purchase orders are not included in supply calculations.
- MRP supply calculations will not include any New lines on purchase orders whose contract expiration date is earlier than the release date for the planned purchase order.

Refer to the table for more information.

Quantity type	Definition	Formula
Acquired Firm	Based on supply from manufacturing orders with Firm status and purchase order lines with Open status.	Made by MO Firmmed + Firm POs
Acquired Planned	Based on supply from all manufacturing orders and purchase order lines with Planned status.	Made by MO Planned + Planned POs
Allocated by MO Firmmed	Based on demand from unissued, allocated components at the issue-from site from picklists for manufacturing orders with Firmmed status. The allocated quantity of an item will be recognized by MRP on the date when the item is required by the manufacturing order.	

**PART 4 MATERIAL REQUIREMENTS PLANNING**

<b>Quantity type</b>	<b>Definition</b>	<b>Formula</b>
Allocated by MO Planned	Based on demand from allocated components at the issue-from site from picklists for manufacturing orders with Planned status. The allocated quantity of an item will be recognized by MRP on the date when the item is required by the manufacturing order.	
ATP Firm	Available To Promise Firm. The amount on hand at the end of the day, based on firm supply and demand. The inventory quantity is the on-hand quantity in Inventory Control; the allocated quantity is ignored.	Inventory quantity on the MRP regeneration date + Acquired Firm (cumulative to the current day) - Required Firm (cumulative to the current day)
ATP Total	Available To Promise Total. The amount on hand at the end of the day, utilizing all planned and firmed supply and demand. The inventory quantity is the Microsoft Dynamics GP Inventory Control on-hand quantity; the allocated quantity is ignored.	Inventory quantity on the MRP regeneration date + Acquired Planned (cumulative to the current day) + Acquired Firm (cumulative to the current day) - Required Planned (cumulative to the current date) - Required Firm (cumulative to the current date) - Lot Expiration (cumulative to the current date) + MRP Suggestions (cumulative to the current date)
Backorder SOs	The demand from "Quantity to Back order" on sales transactions whose type is Order, Invoice or Backorder.	
Consumed by MO Firmed	Based on demand from all unissued components for firmed manufacturing orders—regardless of allocation status—in the issue-from site, including MRP-planned demand whose status is Firmed.	Allocated by MO Firmed + Required by MO Firmed
Consumed by MO Planned	Based on demand from all unissued components of planned manufacturing orders—regardless of allocation status—in the issue-from site, including MRP-planned demand with Planned status.	Allocated by MO Planned + Required by MO Planned
Firm POs	Based on supply from firm purchase order lines.	
Gross Requirement	Total demand for the day.	Required Firm + Required Planned
Lot Expiration	Includes quantities of lot items which MRP projections indicate will not be used by the lot expiration date.	
Made by MO Firmed	Based on supply from firm manufacturing orders in the post-to site.	
Made by MO Planned	Based on supply from planned and quoted manufacturing orders in the post-to site, including MRP-planned orders (MMOs). If the Include MO Quotes option is marked in the MRP Preference Defaults window, quote manufacturing orders will be included in Made by MO Planned. If the option isn't marked, quote manufacturing orders aren't included in MRP calculations.	
MRP Suggestions	Includes quantities from all MRP Suggestions to move in, move out, or cancel orders.	Quantities suggested to move in - Quantities suggested to move out - Quantities suggested to cancel
Net Requirement	The amount short at the end of the day, based on each item's reorder level and all planned and firmed supply and demand, including MRP-planned demand, MRP Suggestions to move in, move out, or cancel, and Lot Expiration quantities. The reorder level is a number you enter in Inventory Control that determines when each item needs to be restocked.	
On Hand Firm	The amounts on hand at the beginning of the day, utilizing firm supply and demand. The On Hand Firm quantity equals the previous day's ATP Firm quantity. The inventory quantity is the Microsoft Dynamics GP Inventory Control on-hand quantity; the allocated quantity is ignored.	Inventory quantity on the MRP regeneration date + Acquired Firm (cumulative to the previous day) - Required Firm (cumulative to previous day)

Quantity type	Definition	Formula
On Hand Total	The quantity on hand at the beginning of the day, determined by all (planned and firm) supply and demand. The on hand total equals the previous day's ATP Total. The inventory quantity is the Microsoft Dynamics GP Inventory Control on-hand quantity; the allocated quantity is ignored.	Inventory quantity on the MRP regeneration date + Acquired Planned (cumulative to the previous day) + Acquired Firmed (cumulative to the previous day) - Required Planned (cumulative to the previous day) - Required Firmed (cumulative to the previous day) - Lot Expiration (cumulative to the previous day) + MRP Suggestions (cumulative to the previous day)
Order SOs	Based on demand from sales transactions whose type is Order or Invoice.	Order/invoice quantity - (Quantity backordered + quantity canceled)
Planned Order Receipt	Planned order receipts are the same as acquired planned amounts.	
Planned Order Release	The acquired planned amounts displayed in preceding MRP bucket, using lead time offset.	
Planned POs	Based on supply from planned purchase order lines, including MRP-planned orders whose type is MPO.	
Projected Available Balance	The same as the ATP Total quantity.	
Quote SOs	Based on demand from sales order transactions whose type is Quote. If the Include SO Quotes option is marked in the MRP Preference Defaults window, then sales order quote quantities will be included in Quote SOs. Otherwise, sales order quote quantities aren't included in MRP calculations.	Quote quantity - quantity canceled
Required by MO Firmed	Based on demand from unissued, unallocated components for Firmed manufacturing orders in the issue-from site, including MRP-planned demand whose status is Firmed.	
Required by MO Planned	Based on demand from unallocated components for Planned manufacturing orders in the issue-from site, including MRP-Planned demand whose status is Planned.	
Required Firm	Based on demand for picklists for firm manufacturing orders, MRP-planned firm demand and sales transactions. If the Put SO Backorders in Firm Buckets option is marked in the MRP Preference Defaults window, then backorder sales order quantities will be included in Required Firm. Otherwise, those quantities will be included in Required Planned. The Required Firm amount for components doesn't include any demand for items that are alternate items on picklists.	<b>Made items</b> Consumed by MO Firmed + Order SOs + Backorder SOs <b>Component items</b> Picklist quantity - Issued/backflushed quantity
Required Planned	Based on demand from picklists for planned manufacturing orders, MRP-planned demand, sales transactions, and unmet sales forecasts. If the Put SO Backorders in Firm Buckets option is marked in the MRP Preference Defaults window, then backorder sales order quantities will be included in Required Firm. Otherwise, those quantities will be included in Required Planned. If the Include SO Quotes option is marked in the MRP Preference Defaults window, then sales order quote quantities will be included in Quote SOs. Otherwise, sales order quote quantities aren't included in MRP calculations.	Consumed by MO Planned + Backorder SOs + Quote SOs + Unmet sales forecast quantities
Scheduled Receipt	The same as acquired firm amounts.	

## Comparing the purchase order generator and request resolution

You can use the purchase order generator to generate suggested purchase orders. If you're using both Inventory Control and Purchase Order Processing, order quantities, vendors, and default costs for the suggested purchase orders are created based on how you've set up items in Inventory Control. At the same time, MRP

includes purchase request resolution, which you can use to create new purchase orders or to modify existing purchase orders to cover demand for purchased items.

Refer to Inventory Control and Purchase Order Processing documentation for more information about the purchase order generator. Refer to [Chapter 12, “Purchase request resolution,”](#) for more information about purchase request resolution.

It is probably best to learn about both systems, determine which one would work best for your organization, and use it exclusively. However, you can use both systems in your business. Refer to [Using the purchase order generator and purchase request resolution](#) on page 54 for more information.

Refer to the table to compare the purchase order generator and the purchase request resolution part of MRP.

Issue and description	Purchase order generator	MRP purchase request resolution
<b>Planning levels</b> The two systems are set up to consider demand for items at different levels.	The purchase order generator can be set up on a site-by-site basis. For example, you could use one method for calculating order quantities at the North site, and a different method at the South site.	The purchase request resolution part of MRP uses information from specific item-site combinations.
<b>Site information</b> Manufacturing uses the item-site combination for an item’s planning information.	The purchase order generator uses information from specific item-site combinations.	MRP uses information from specific item-site combinations.
<b>Replenishment methods</b> You can choose a replenishment method for each item-site combination in the Item Resource Planning Maintenance window.	Suggested purchase orders are created for all items that are set up with the Use PO Gen order policy, regardless of whether they are Make or Buy.	MRP purchase request resolution won’t suggest that you create or edit purchase orders for items with a Make replenishment method or for a Make or Buy replenishment method and you’ve chosen to treat Make or Buy items as Make. MRP also automatically excludes any item-site combination where the order policy is Use PO Gen or Not Planned.

## Using the purchase order generator and purchase request resolution

It’s probably best to choose one system for working with purchase orders and use it exclusively, but it’s possible to use the purchase order generator with MRP.

- You can use the purchase order generator to create suggested purchase orders for purchased items and use MRP to plan manufacturing orders for made items.
- You can use the purchase order generator to create suggested purchase orders for some purchased items and use MRP to plan purchases for other purchased items.
- You can use the purchase order generator to create suggested purchase orders for an item for some sites, and use the MRP purchase request resolution to handle purchases for other sites.

If you plan to use both the purchase order generator and MRP purchase request resolution, you should consider how you set up item options in Inventory Control. If you set up an item for the purchase order generator—if you select Use PO Gen for the order policy—the item at all of its sites will be excluded from MRP regenerations. MRP uses the order policy specific to the item/site combination.

Default sites for items are used when exploding a bill of materials and the bill of materials itself doesn't specify an issue for the site.

## Order policies

Order policies are the rules for calculating order quantities. When planned orders are created in MRP, the order policy you've chosen is applied to the net requirement for an item to calculate exactly how much of the item to order.

Order policies for bought items come from the primary vendor record (if there is one) and use the minimum, maximum, and economic order quantities to determine order sizes. If there is no primary vendor for the item, the values come from the Item Resource Planning Maintenance window. MRP uses the order policy specific to the item/site combination.

Order policies for made items use the minimum, maximum, and economic order quantities for the item to determine manufacturing order sizes. The values come from the Item Resource Planning Maintenance window. MRP uses the order policy specific to the item/site combination.

The following is a summary of the available order policies and how they'll affect the requirements for your company.

**Not Planned** Use this order policy if an item shouldn't be included in MRP calculations and shouldn't be reordered with the purchase order generator.

**Lot-for-Lot** If you're using this policy, the order quantity can be the exact quantity needed, provided that the order quantity is between the minimum and maximum order quantities. If, for example, you needed 32 items but your minimum order size is five and your maximum order size is 20, MRP will create two orders—one for the maximum of 20 and another for 12—to meet the demand.



*The lot-for-lot order policy consolidates quantity requirements for each day. For example, if your minimum order quantity is 10 and your maximum order quantity is 25. Manufacturing order MO101 has a requirement for eight units and manufacturing order MO102 has a requirement for 12 units on the same date. Because the requirements occur on the same date, they would be considered one shortage of 20 units.*

Refer to the table for examples of how order sizes would be calculated for a Lot for Lot order policy if demand were 200 units.

Minimum	Maximum	Calculated order quantities
Not specified	Not specified	One order for 200 units
Not specified	150	One order for 150 units and another order for 50 units
300	Not specified	One order for 300 units
100	300	One order for 200 units
300	500	One order for 300 units
50	100	Two orders for 100 units

**Fixed Order Quantity** Planned orders will be generated for the fixed quantity whenever there is a net requirement, but the order quantities can be modified by any of the following options:

- Fixed order quantity, which is similar to a minimum order quantity. This quantity can be increased by increments of the order multiple quantity.
- Order multiple, which increases the fixed order quantity by the amount you specify.
- Minimum order size, which is the smallest order possible for items using the Fixed Order Quantity order policy.
- Maximum order size, which limits the quantity you can order at one time. If you need a quantity that is larger than the maximum order size, you'll need to create another order.

Refer to the table for more information about how the fixed order quantity, minimum and maximum order sizes, and order multiple affect order quantities for an item with the Fixed Order Policy when the demand for the item is 250 units.

Fixed order quantity	Minimum order size	Maximum order size	Order multiple	Calculated order quantities
200	Not specified	Not specified	Not specified	One order for 400 units (200 + 200)
200	Not specified	Not specified	100	One order for 300 units (200 + 100)
0	Not specified	Not specified	50	One order for 250 units (50 + 50 + 50 + 50 + 50)
100	100	200	25	One order for 200 units (100 + 25+ 25+ 25 25) and one order for 100 units

**Period Order Quantity** This order policy is like the Fixed Order Quantity order policy, but includes net requirements for several days' worth of requirements. You can determine how many days' requirements are to be reflected in the order when you assign this order policy.

**Use PO Gen** Use the Use PO Gen order policy with the purchase order generator. Refer to Inventory Control and Purchase Order Processing documentation for more information.



You also can refer to [Comparing the purchase order generator and request resolution](#) on page 53 and [Using the purchase order generator and purchase request resolution](#) on page 54 for information about using the purchase order generator in an MRP environment.

## Planning time fences

A planning time fence is a period—usually a certain number of days—during which you don't want to adjust manufacturing orders or purchase orders. Orders are not suggested using MRP if their due dates fall within the fence. Orders also are not suggested to be canceled, moved in, or moved out within the time fence. The release date itself (the due date minus the lead time) may actually fall within the time fence. For example, you may have to order an item today (even if today is in the time

fence) so that the item is available for use on its due date (the day after the time fence).

Using planning time fences helps to make the MRP-planned orders more feasible for your organization. If you have a sudden demand for your finished item—an item that takes two weeks to build, and that requires a component that takes a week to obtain—it probably doesn't make good business sense to have MRP create a planned manufacturing order to begin tomorrow. You probably won't have the necessary components on hand. It's also likely that suddenly releasing the manufacturing order to production will cause problems, such as overloading work centers and requiring a new prioritization of the work on the production floor. Sometimes you might need to start a manufacturing order suddenly—but that should be the exception, not the rule.

When you're entering planning time fence information, you can refer to the following guidelines:

- The planning time fence for an item should be greater than its lead time.
- The planning time fence for a manufactured item should be greater than the planning time fence for any of its components.
- A good planning time fence for a manufactured item is the time to manufacture the standard quantity, plus the lead time of the component with the longest lead time.

You can specify planning time fences for components, for subassemblies, and for finished goods in the Item Resource Planning Maintenance window. Planning time fence information for manufactured items affects the dates for MRP-planned manufacturing orders; planning time fence information for purchased information affects the dates for suggested purchase orders.

If the item is a Make or Buy item, an MRP-planned manufacturing order or purchase order will be suggested, depending on the option you've selected in the MRP Preference Defaults window.



*You must mark the Activate Planning Time Fence option in the MRP Preference Defaults window to use planning time fence information. If the option is not marked, time planning fence information is ignored when MRP information is calculated.*

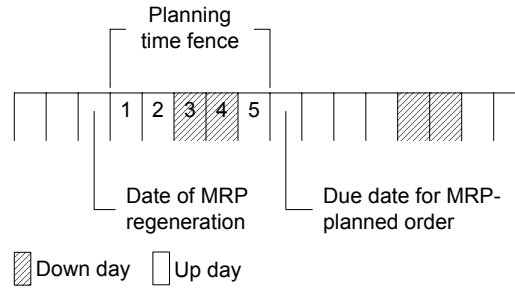
Refer to [Example: Planning time fence in use](#) on page 57 for more information.

## Example: Planning time fence in use

Suppose that you manufacture a finished item with a planning time fence of eight days. A salesperson enters an order for ten of the finished goods, which aren't kept on hand in inventory.

When you regenerate MRP information, the new demand for the finished good will be recognized, and an MRP-planned manufacturing order will be created for the finished item. The release date for the manufacturing order will be the first day *after* the planning time fence for the item has elapsed.

The following illustration shows how the release date for an MRP-planned order would be calculated for an item with a five-day planning time fence.



You should be aware that down days aren't considered in the time planning fence for an item.

### How sites are selected for MRP calculations

MRP processing calculates the supply and demand for items at sites at your company. All MRP calculations are site-specific—that is, whenever supply or demand is calculated, the system is actually calculating the supply or demand for a specific site.

Refer to the following rules for information about how the supply and demand sites are determined.

**Supply** When you enter a purchase receipt or a manufacturing order receipt, you specify the site that the supply should be added to.

**Demand for parent items** When you enter a sales order, you specify the site from which the quantity of the parent item should be taken.

**Demand for component items** The demand site for components is determined based on a series of rules. The rules are slightly different for manufacturing orders that are created by user actions—such as those entered in the Manufacturing Order Entry window or the Quick MOs window—and MRP-planned manufacturing orders. The difference is that MRP-planned manufacturing orders are suggestions for manufacturing orders, not true manufacturing orders. An MRP-planned manufacturing order won't have a picklist until it's transferred to a manufacturing order.

Refer to the table for more information. The site for the component demand will be the first site that's available for the manufacturing order type in the lists in the table.

	Manufacturing orders	MRP-planned manufacturing orders
1	Issue-from site for the component on the picklist, which is based on the bill of materials.	Issue-from site for the component in the bill of materials.
2	Default site for the component item from the Item Quantities Maintenance window.	
3	Default draw-from site for the manufacturing order, which is part of its scheduling method.	Default draw-from site from the scheduling method that's been selected for MRP processing in the MRP Preference Defaults window.
4	NA	Demand site for the parent item.



# Chapter 9: Exclusions

Using exclusions—designating items, sites, or item-site combinations that should not be included in MRP calculations—is optional, but can help make MRP regeneration faster.

This information is divided into the following sections:

- [MRP exclusion types](#)
- [Verifying MRP exclusions](#)
- [Excluding items and sites from MRP calculations](#)
- [Changing or deleting exclusions](#)

## MRP exclusion types

MRP includes three types of MRP exclusions.

- View-only items aren't displayed in windows, but are included in MRP recalculations.
- View & Calculate items aren't displayed in windows and are not included in MRP recalculations.
- Inactive items have no transactions. The effect of using an "inactive" exclusion type is that these lines can be added and removed from the system during recalculation processes.

## Verifying MRP exclusions

Manufacturing includes a utility you can use to verify the item, site, and item-site exclusions for your MRP information. You can use this utility anytime, but you should always use it after importing item information directly into SQL tables, after reconciling inventory quantities, and after checking links in inventory tables.

### To verify MRP exclusions:

1. Open the MRP Exclusions Build window.  
(Microsoft Dynamics GP menu >> Tools >> Utilities >> Manufacturing >> MRP Exclusions Build)
2. Choose Process.
3. When processing is finished, close the window.



*When processing is complete, a message is displayed in the window. The message should read, "The MRP exclusion build was successful." If this message doesn't appear, contact Microsoft Dynamics GP Technical Support team.*

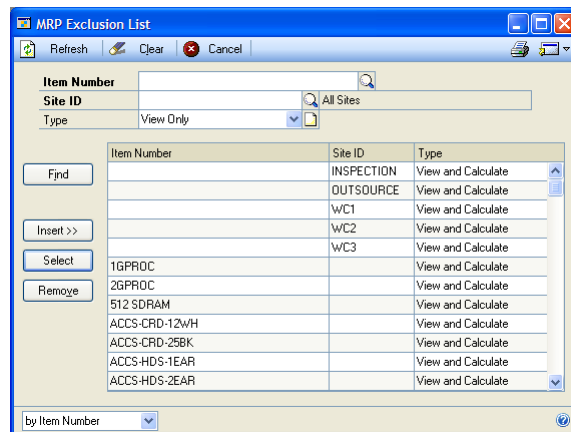
## Excluding items and sites from MRP calculations

You can use the MRP Exclusion List to exclude items, sites, and item-site combinations from MRP calculations. You also can exclude items, sites, and item-site combinations in other Manufacturing, and also Inventory Control windows. Refer to the table for more information.

To exclude this:	Use this window and option:
Item	Item Engineering Data window Cards >> Manufacturing >> Inventory >> Engineering Data Be sure Calculate MRP option is cleared.
Site	Resource Planning Site Maintenance window Cards >> Inventory >> Site Resource Planning Be sure the Calculate MRP for this site option is cleared.
Item-site combination	Item Resource Planning Maintenance window Cards >> Inventory >> Item Resource Planning >> select item and site ID Be sure the Calculate MRP for this item/site option is cleared.

### To exclude items and sites from MRP calculations:

1. Open the MRP Exclusion List window.  
(Transactions >> Manufacturing >> MRP >> Exclusions)



2. Enter or select items and sites to exclude.
  - To exclude an item at all sites, select an item but not a site ID.
  - To exclude all items at a site, select a site but not an item number. If you exclude all items at a site, you won't be able to see any information about that site while you're using MRP.
  - To exclude a specific item at a specific site, select an item number and a site.
3. Select the kind of exclusion to set for this item, site, or item-site combination. Choices are View Only, View & Calculate, and Inactive. Refer to [MRP exclusion types](#) on page 59 for more information.
4. Choose Insert.

5. Repeat steps 2 through 4 for any items, sites, and item-site combinations to exclude from MRP calculations.
6. When you've finished, close the window.



*Be sure to regenerate MRP information after you change your MRP exclusions.*

## Changing or deleting exclusions

You can change the MRP exclusion list by changing the exclusion type of the individual items, or by deleting an exclusion entirely.

### To change or delete exclusions:

1. Open the MRP Exclusion List window.  
(Transactions >> Manufacturing >> MRP >> Exclusions)
2. Mark the line to work with.

**To change the line** Choose Select. Change the exclusion type and choose Insert. Your changes will be saved automatically.

**To delete the line** Choose Remove.



*You can't remove an item from the exclusions list if its item type is kit, service, miscellaneous, or flat fee. For more information, refer to Inventory Control documentation.*

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



*Be sure to regenerate MRP information after you change your MRP exclusions.*



# Chapter 10: Regeneration

Regenerating or recalculating MRP information is the main function of the MRP system. You can't use other MRP features without first calculating your material requirements at least once. You'll want MRP recalculations to be part of your routine, also, to base business decisions on the most up-to-date information.

You should consider the specifics of your business to determine how frequently MRP should be recalculated. You'll want to take the number of sales orders, purchase orders, and manufacturing orders you generate into consideration; you'll also want to consider your business "planning horizon"—how far ahead your company needs to plan because of the time needed to complete manufacturing orders and to obtain required materials.

This information is divided into the following sections:

- [MRP processes](#)
- [Regenerating MRP information](#)
- [Methods for handling shortages](#)
- [Viewing or removing historical MRP regeneration information](#)
- [Generating low-level codes](#)

## MRP processes

MRP processes determine what records are included in each instance of MRP calculations.

You can use the MRP Regeneration window to specify an MRP process. Refer to [Regenerating MRP information](#) on page 63 for more information.

MRP processes include:

**Full regeneration** A full regeneration is complete recalculation of MRP data, including all sales orders, all purchase orders, sales forecasts, and all manufacturing orders. You must complete a full regeneration of MRP the first time you calculate MRP, but after that you can use a "net-change" regeneration.

When calculating MRP quantities, the requirements for made items are exploded—their component requirements also are calculated—and purchase and manufacturing orders are suggested to cover the potential shortages

**Net regeneration** A net change MRP regeneration updates MRP information based on changes to manufacturing orders, sales orders, purchase orders, inventory quantities, item resource planning values, MRP exclusions, and picklists.

## Regenerating MRP information

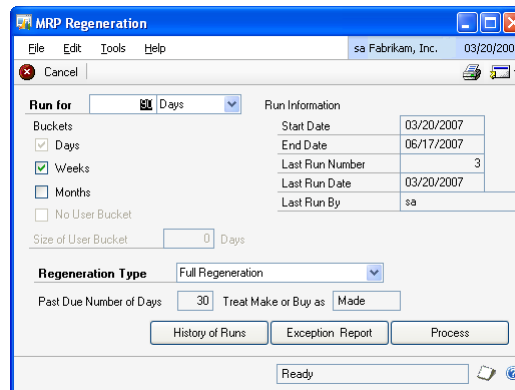
Use the MRP Regeneration window to update MRP information. Before you regenerate MRP information for the first time after upgrading Manufacturing or adding manufacturing records directly into SQL tables, you should generate low-level codes. Refer to [Generating low-level codes](#) on page 66 for more information.



To exclude items, sites, or item-site combinations from MRP planning, refer to [Excluding items and sites from MRP calculations](#) on page 60.

## To regenerate MRP information:

1. Open the MRP Regeneration window.  
(Transactions >> Manufacturing >> MRP >> Regeneration)



2. In the Run for field, specify how far into the future MRP information should be calculated. Enter a number and select days, weeks, or months.
3. Mark buckets to determine how MRP information will be displayed. Days must be one of your choices. The more options you mark, the longer MRP processing will take.
4. From the Regeneration Type list, select a type of MRP process. If you select Full Regeneration, the system will calculate all MRP requirements through the period you've defined.
5. Choose Process to begin the MRP regeneration process. Information from the MRP regeneration process will be saved automatically.

When you choose Process, all of the MRP-planned manufacturing orders—the manufacturing orders that are included in the Capacity Requirements Planning windows when the Show MRP planned orders option is marked—will be removed from the CRP tables.

If the Other Transactions option is marked in the Inventory Control Setup window, expired lots are included when calculating the quantity that will be available on a specific date. If the Other Transactions option isn't marked in the Inventory Control Setup window, expired lots aren't included in the calculation.



*If you encounter a recursion error during routine MRP use, you might need to regenerate your low-level codes—the codes that track the lowest level use of an item in any bill of materials to make MRP calculations more precise. Refer to [Generating low-level codes](#) on page 66 for more information.*

6. When MRP regeneration is complete, the MRP Exception Report will be automatically generated if there are exceptions—item shortages or past-due orders—to report. Otherwise, a message will appear to tell you the process is complete.

The exception report is just one method that's available for viewing information about MRP calculations. You can start with that report to begin work to prevent shortages from occurring. Refer to [Handling an MRP exception](#) on page 72 and

[Interpreting exception messages](#) on page 73 for more information about the exception reports.

## Methods for handling shortages

Manufacturing includes several methods you can use to prevent item shortages from occurring. Refer to the table for more information.

	Description	Reference
<b>MRP-planned orders</b>	MRP-planned orders are order suggestions based on MRP calculations. After you regenerate MRP information, you can use the MRP Quantities Query window to view the MRP-planned orders, and then use the MRP-Planned Orders window to transfer the suggested orders to real manufacturing orders or purchase orders.	Refer to <a href="#">Viewing and transferring MRP-planned orders</a> on page 74.
<b>Purchase request resolution</b>	Purchase request resolution is a series of windows you can use to create new purchase orders or add items to existing purchase orders. You can use purchase request resolution only to prevent shortages of purchased items.	Refer to <a href="#">Chapter 12, "Purchase request resolution."</a>
<b>MOP/SOP link</b>	You can use the MOP/SOP link to create manufacturing orders for specific sales orders, or to match up existing manufacturing orders and sales orders.	Refer to <a href="#">Working with MRP-planned manufacturing orders</a> in <a href="#">Chapter 11, "Manufacturing/sales order link."</a> in the Manufacturing Production Functions documentation.
<b>Order move-in</b>	If a future order that could be used to prevent a shortage already exists, you can use move-in capabilities to expedite the order. After regenerating MRP information, use the MRP Quantities Query window to view orders that MRP has flagged to be moved in. You must mark the Move In option in the MRP Preference Defaults window to have orders flagged to be expedited.	Refer to <a href="#">Moving or canceling an order</a> on page 77.

Order policies—rules applied to item records in the Item Resource Planning Maintenance window—determine how planned order quantities will be calculated. Purchases also can be adjusted to take lot size and economic order quantities (volume discount quantity) into account. If several manufacturing orders are driving your requirements for a specific component, you can consolidate those requirements into a single purchase request.

## Viewing or removing historical MRP regeneration information

To view more detail about each MRP regeneration, you can use the History of MRP Generation window to see the time it took to complete the regeneration and to see a snapshot of the MRP preference values at the time of the regeneration. Much of the information reflects system settings made in the MRP Preference Defaults window at the time you regenerate MRP information

You also can use this window to remove historical MRP regeneration information.

**To view historical MRP regeneration information:**

1. Open the History of MRP Regenerations window.  
(Transactions >> Manufacturing >> MRP >> Regeneration >> History of Runs)

Run Number	Run Date	Regeneration Type	Regeneration Method	Duration
1	02/26/2007	Full Regeneration	Explode and Plan Orders	H: 0 M: 0 S: 1
2	03/20/2007	Full Regeneration	Explode and Plan Orders	H: 0 M: 0 S: 22
3	03/20/2007	Full Regeneration	Explode and Plan Orders	H: 0 M: 0 S: 27
4	03/21/2007	Full Regeneration	Explode and Plan Orders	H: 0 M: 0 S: 13

2. Choose the Show button in the scrolling window to view additional information, such as the run start and end dates, options used during the regeneration, and the user ID of the person who started the regeneration process.
3. Choose the Next and Previous buttons to browse through historical MRP information.
4. Choose Cancel to close the window.

**To remove historical MRP regeneration information:**

1. Open the History of MRP Regenerations window.  
(Transactions >> Manufacturing >> MRP >> Regeneration >> History of Runs)
2. Enter the date to be used when removing MRP history.
3. Choose Process to remove historical MRP information.

**Generating low-level codes**

Low-level codes are assigned to items to prevent problems from occurring when you generate MRP information. The low-level codes are used in MRP processing to ensure that no item is a component of itself, and to make sure that item requirements are processed in the appropriate order.

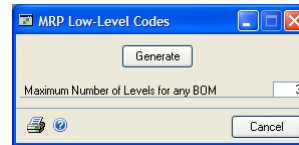


*You should generate low-level codes before regenerating MRP information if you've just upgraded from an earlier release of Manufacturing, or if you're working directly with SQL tables to add item or bill of materials records to your system. We suggest generating low-level codes before regenerating MRP information.*



**To generate low-level codes:**

1. Open the MRP Low-Level Codes window.  
(Microsoft Dynamics GP menu >> Tools >> Utilities >> Manufacturing >> MRP Low-Level Codes)



2. Enter the maximum levels for any bill of materials in your organization.
3. Choose Generate.

If you've already generated low-level codes, a message appears, and you'll have the option to generate the codes or cancel the process.

4. Enter the most levels you've assigned to any bill of materials in your business. The simplest bill of materials would have two levels. If you're not sure how many levels to enter, it's better to overestimate than to underestimate.
5. Choose OK. When processing is done, a message will appear, indicating that the codes have been generated.
6. Close the windows.



# Chapter 11: Pegging

After you've used MRP to get a picture of your material requirements, you need to respond to the information. One of your most important tasks will be identifying places in your schedule where shortages of made or bought items might occur. Then you'll need to prevent those shortages from happening.

This information is divided into the following sections:

- [\*Overview of pegging\*](#)
- [\*Using MRP pegging\*](#)
- [\*Viewing sources of demand\*](#)
- [\*Viewing generated demand\*](#)
- [\*Handling an MRP exception\*](#)
- [\*Interpreting exception messages\*](#)
- [\*Viewing and transferring MRP-planned orders\*](#)
- [\*How dates are calculated for MRP-planned orders\*](#)
- [\*Moving or canceling an order\*](#)

## Overview of pegging

Pegging is viewing the sources and effects of supply and demand in your system. You can use pegging to see potential material shortages far enough in advance so that you can avoid a real shortage. Sometimes, however, you'll need to identify the origin of a material requirement—manufacturing order, sales order, sales forecast, purchase order, picklist, or MRP. For example, you might want to see which manufacturing orders are helping you meet demand for finished goods, or which MRP explosions are adding to demand for components. The Pegging Inquiry window helps you find the source of the requirements for your items because the pegging system can trace the exact source of any quantity calculated by MRP.

Pegging traces a specific calculation from the date of the last MRP regeneration to find the source of the supply or demand quantity. It will indicate the manufacturing orders, sales orders, purchase orders, picklists, or MRP quantities that are reflected in specific MRP quantities.

You can use the Pegging Inquiry window to “peg” the MRP quantity information that you view. For example, suppose you're viewing information about the supply for an item. You can peg the sources of the demand, and view information about the sales orders or manufacturing orders that are creating demand for the item. You can peg the sources of the demand of the parent item, as well.

You also can peg the effects of a manufacturing order, and view the item demand that is caused by a manufacturing order.

## Using MRP pegging

You can use the Pegging Inquiry window to view information about various MRP quantities. You can choose to view information from all sources—manufacturing orders, sales orders, purchase orders, picklists, and inventory quantities—or you can choose to view information from only one of these sources. You can view information for a specific item, or for a specific item-site combination.

This procedure describes how to start working with the Pegging Inquiry window. Start with this procedure, and then refer to the following topics for information

about completing other tasks that use the Pegging Inquiry window as a starting point.

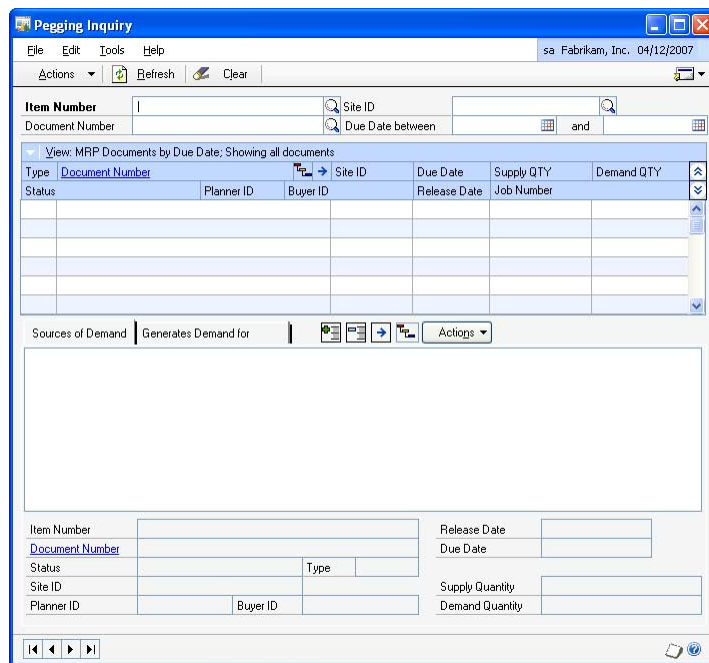
- [Viewing sources of demand](#) on page 71
- [Viewing generated demand](#) on page 72
- [Handling an MRP exception](#) on page 72
- [Moving or canceling an order](#) on page 77



*Pegging information is based on the most recent MRP recalculation. Changes to manufacturing orders, sales orders, purchase orders, and picklists that have occurred since the last MRP recalculation aren't reflected in the Pegging Inquiry window.*

**To use MRP pegging:**

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging Inquiry)



2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.
3. Choose Refresh. The information displayed is from the date of the last MRP regeneration. Changes made since the last MRP regeneration are not reflected in the window.
4. To see more information about almost any record in the scrolling window, you can highlight it and click the Document Number link. The window that opens depends on the record type.

Refer to the table for more information.

Type	Window
MMO	MRP-Planned Orders window
MOP	Manufacturing Order Entry window

Type	Window
MPK	Bill of Materials Entry window in Manufacturing
MPO	MRP-Planned Orders window
PK	Picklist window
POP	Purchase Order Entry window
SOP	Sales Transaction Entry window

5. You can continue, as needed, changing options such as the site ID and due date, and choosing Refresh to update window information.

You also can select document in the scrolling window, and then choose the Actions button to complete tasks, such as pegging or opening another window.

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

## Viewing sources of demand

You can use the Pegging Inquiry window to view information about the sales orders, manufacturing orders, or other sources that are creating demand for an item. When you double-click an order in the scrolling window, the Sources of Demand tab displays a tree view of the order. The tree view provides a multi-level view of all the sources of demand.

For example, if an MRP-Planned picklist component is selected in the scrolling window, the tree view displays the MRP-planned manufacturing order (MMO) which requires the component. You can expand the tree view to see the orders that generated the demand for the preceding level. You can view the top-level sales orders, sales forecasts, or manufacturing orders that generated the demand for the selected order.

### To view sources of demand:

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging)
2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.
3. Choose Refresh. The information displayed is from the date of the last MRP regeneration.
4. Double-click an order in the scrolling window to view information about the source of demand for the order. You also can highlight an order in the scrolling window and choose the Peg this order button in the Document Number field.
5. The tree view provides a multi-level view of all the sources of demand. When you select a component in the tree view, the information below the tree view updates to show the information about the selected component.
6. Expand the tree view to see the orders that generated the demand for the preceding level.

7. You can select a document in the scrolling window, and then choose the Actions button above the tree view to complete tasks, such as pegging or opening another window.
8. When you've finished viewing information, close the window.

## Viewing generated demand

You can use the Pegging Inquiry window to view information about the sales orders, manufacturing orders, or other sources that are creating demand for an item. By double-clicking an order in the scrolling window and choosing the Generate Demand for tab, the order displays in a tree view. The tree view provides a multi-level view of all the demands.

For example, if a manufacturing order is selected in the scrolling window, the tree view displays all the components required for that order. You can expand the tree view to see the planned orders generated to meet the component demand. The tree view will iterate through all levels of the bill of material and allow you to see all planned orders for all components and subassemblies for the selected manufacturing order.

### To view generated demand:

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging)
2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.
3. Choose Refresh. The information displayed is from the date of the last MRP regeneration.
4. The tree view provides a multi-level view of all the demand. When you select a component in the tree view, the information below the tree view updates to show the information about the selected component.
5. Expand the tree view to see the orders which generated the demand for the preceding level.
6. You can select document in the scrolling window, and then choose the Actions button above the tree view to complete tasks, such as pegging or opening another window.
7. When you've finished viewing information, close the window.

## Handling an MRP exception

You can use the Exceptions tab in the MRP Order Detail window to view exception messages about your company's MRP information. Exception messages are notifications of situations that you might need to deal with. The exception messages that you can view in the MRP Order Detail window are the same exception messages that come from the most recent MRP regeneration.

You also can open the MRP Order Detail window from the MRP Quantities Query window and the MRP Projected Available Balance Inquiry window.

**To handle an MRP exception:**

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging)
2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.
3. Choose Refresh. The information displayed is from the date of the last MRP regeneration.
4. Highlight a document that has an exception and choose the Document Number expansion button to open the MRP Order Detail window.
5. Choose the Exceptions tab to view information about the exception messages.
6. After returning the Pegging Inquiry window, choose the appropriate command from the Actions button to solve the exception.

Another window opens with more detailed information about the record. The window that opens depends on the type of the record. For example, if the exception message is "Oversupplied by 10: Review order," you can choose MO Entry from the Actions button to open the Manufacturing Order Entry window.

7. Make changes in the window, as needed, to solve the problem described in the exception message. For example, you might need to change the release date or due date of an order to solve the "Cannot create a past-due order" problem. Be sure to save your changes.
8. Return to the Pegging Inquiry window and continue, repeating steps 3 through 7, as needed.
9. When you've finished, close the window.

**Interpreting exception messages**

The MRP Exceptions Text report includes various flags to help you understand what steps you'll need to take to resolve issues. You can print the report from the MRP Regeneration window. Refer to the table for more information.

<b>Message</b>	<b>Meaning</b>
Item is oversupplied. Review order(s)	The Projected Available Balance (ATP Total) for this item-site combination at some point on the last day in the MRP planning horizon is greater than the Reorder Point plus the Minimum for the item-site combination.
Missing information about this vendor's lead time	No planning lead time has been specified for the primary vendor for the item-site combination.
Move in	An existing planned or released order should be rescheduled to an earlier date so that the item can be replenished before a shortage occurs.
Move out	An existing planned or released order should be rescheduled to a later date so that an overage doesn't occur.
Negative PAB within Planning Time Fence	A net requirement exists for the item-site combination within the planning time fence for the item. Because MRP will not recommend changes to the released or planned orders within the planning time fence, a "negative PAB" situation occurs. That is, you have a net requirement that cannot be covered because of the lead time constraints. Many planners and buyers will treat items with this message as their daily "hot list."

Message	Meaning
No item default site, so quantities not in MRP	A site can't be determined for the item because the bill of materials component does not have an issue-from site in the bill, no default site has been assigned to the item, and the scheduling preference used with MRP doesn't include an issue-from site for components.
Order is Past Due	These unfilled orders are beyond the allowed past-due time frame and aren't included in MRP calculations. They are, however, within the 14-day window of the exception report, and will appear there.
Past Due but is included in MRP Calculations	These unfilled orders are past-due, but were still within the allowed past-due time frame. They will be included in MRP calculations.
Release is Past Due	These are planned orders that should have been released already, but they are still within the allowed past-due time frame.
Release Now, Fence Time is same as time available	These are planned orders that should be released immediately.
Too Late	These are past-due orders that were not fulfilled within the allowed past-due time frame, and are also 14 days or more past the past-due time frame, so they are neither included in MRP, nor do they appear in the exception report.
Used Demand Location for Missing BOM Location	A site can't be determined for the item because the bill of materials component does not have an issue-from site in the bill and no default site has been assigned to the item. Therefore, the demand site for the parent item is used as the issue-from site for the component item.
Used Item Default Site for Missing BOM Location	A site can't be determined for the item because the bill of materials component does not have an issue-from site in the bill. Therefore, the default site for the item is used as the issue-from site for the component item.

## Viewing and transferring MRP-planned orders

When MRP generates a planned order, Manufacturing recognizes only the requirements it generates. The planned orders don't affect the actual order systems until you transfer them to either manufacturing or purchase orders.

Use the MRP-Planned Orders window to review and transfer MRP-generated planned orders. The MRP-Planned Orders window will display information about an item you select in the Pegging Inquiry window. The information will include the item number, a description of the item, the site ID, vendor information, the item's Make/Buy status, the order number, quantity, unit of measure, due date, and order release date.

### To view and transfer MRP-planned orders:

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging)
2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.
3. Choose Refresh. The information displayed is from the date of the last MRP regeneration.



- In the scrolling window, double-click the MRP-planned manufacturing order (MMO) or MRP-planned purchase order (MPO) to transfer. The MRP-Planned Orders window opens.

- If you're working with an MRP-planned purchase order, you must select the vendor to supply the item when you transfer it to a purchase order.



*If you're working with an MRP-planned manufacturing order, continue to step 6.*

**All** Mark All to have all vendors in your system—whether they supply this particular item or not—displayed in the lookup window.

**Assigned** Mark Assigned to restrict the list of vendors to only the vendors that supply the item.

Select a vendor for this order.

- To transfer the MRP-generated planned order to an order that will be fulfilled, choose either Transfer to MO or Transfer to PO.

**Transfer to MO** Choose Transfer to MO if the item is a made item. Order information, including the MO description, quantity, and due date, will be transferred to a manufacturing order and the Manufacturing Order Entry window will open. You can make changes to the order, schedule the order or build a picklist before saving it.



*Refer to [Chapter 7, "Manufacturing order entry,"](#) in the *Manufacturing Production Functions* documentation for information about using the Manufacturing Order Entry window.*

**Transfer to PO** Choose Transfer to PO if the item is a bought item. Order information will be transferred to a purchase order and the Purchase Order Entry window will open. You can make changes to the order before saving it. Refer to Purchase Order Processing documentation for more information about using the Purchase Order Entry window. You must have Purchase Order Processing registered and set up before you can use this option.

7. To delete the MRP-generated order, highlight the order and choose Delete.
  - If the order has been transferred, it will be deleted from the MRP system. You should use the MRP Quantity Pegging window and refresh the view to verify that the order was deleted.
  - If the order has not been transferred, a message appears, stating that the order hasn't been transferred and asking if you're sure you want to delete it. Choose Yes to delete the order without transferring; choose No to cancel the Delete command.
8. When you've finished, close the windows.

## How dates are calculated for MRP-planned orders

When you use the Pegging Inquiry window to create MRP-planned orders, it's helpful to understand how the due date and the release date for each manufacturing order or purchase order is calculated.

Due dates for MRP-planned orders are always the dates when items are needed to fulfill a sales order or to be used as a component in a manufacturing order.

Release dates for MRP-planned manufacturing orders and MRP-planned purchase orders are calculated by subtracting the lead time requirement from the due date (sometimes also called the requirement date). For example, if the purchasing lead time for an item is 3 days and the due date is June 20, then the release date for the MRP-planned purchase order would be June 17.

### Sources

The manufacturing fixed lead time and the purchasing lead time information will come from different sources.

**MRP-planned manufacturing orders** Refer to the table for more information.

Default site	Source for lead time value
Item has no default site.	Manufacturing Lead Time from the default values in the Item Resource Planning Maintenance window
Item has a default site.	Manufacturing Lead Time from the specified default site in the Item Resource Planning Maintenance window
*Use the Item Quantities Maintenance window (Cards >> Inventory >> Quantities/Sites) to see if a default site has been selected for an item.	

You can enter manufacturing fixed lead time values for specific sites in the Item Resource Planning Maintenance window. You also can use the Calculate Manufacturing Lead Times window to update the manufacturing fixed lead time for the default values. Refer to [Calculating lead time for quantities](#) in [Chapter 8, "Item engineering data,"](#) in the Manufacturing Core Functions documentation for more information.



*If you enter manufacturing lead times and then use the Calculate Manufacturing Lead Times window to calculate manufacturing lead time for all items or for that specific item, the information that you entered in the Item Resource Planning Maintenance window will be overwritten.*

**MRP-planned purchase orders** Refer to the table for more information.

Default site	Primary vendor for default site	Source for lead time value
Item has no default site.	Not applicable	Purchasing Lead Time from the default values in the Item Resource Planning Maintenance window
Item has a default site.	No primary vendor is selected for the default site.	Purchasing Lead Time from the specified default site in the Item Resource Planning Maintenance window
	A primary vendor has been selected for the default site.	Planning Lead Time for the item and vendor in the Item Vendors Maintenance window
*Use the Item Quantities Maintenance window (Cards >> Inventory >> Quantities/Sites) to see if a default site has been selected for an item.		

## Down days

The release dates for MRP-planned orders might or might not be adjusted to reflect down days. You can use the Down Days Constraint in the MRP Preference Defaults window to choose which types of items—made, bought, or both—will have release dates that reflect down days.

If down days are included in the calculation, the release date for the MRP-planned order will be earlier than if down days are not included.

Refer to [Setting up general MRP options](#) in [Chapter 6, “Manufacturing planning functions setup,”](#) in the Manufacturing Setup documentation for more information.

## Moving or canceling an order

You can use the Generate MRP Suggestions for Supply Orders options in the MRP Preferences Defaults window to specify whether to generate MRP suggestions to move in, move out, or cancel items on purchase orders or manufacturing orders to prevent shortages or overages.

For example, suppose you have an unexpected sales order for ten finished items. You don't have the items in stock, but there is an existing manufacturing order for the items. In this case, that manufacturing order would be flagged to be moved in, so that the items can be delivered to the customer sooner.



*Be sure you've set up MRP to use the move-in capabilities. Refer to [Setting up general MRP options](#) in [Chapter 6, “Manufacturing planning functions setup,”](#) in the Manufacturing Setup documentation.*




The the orders aren't moved or canceled for you; the orders are flagged in the Pegging Inquiry window. Start there to identify the flagged orders, and then use the Manufacturing Order Entry window, the Purchase Order Entry window, Edit Manufacturing Order Status window, or the Edit Purchase Order Status window to actually complete the move or cancel process.

### To move or cancel an order:

1. Open the Pegging Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Pegging)
2. You can enter or select an item number, site ID, document number, or due date range, as needed, to narrow the search to particular records.

3. Choose Refresh. The information displayed is from the date of the last MRP regeneration.
4. Highlight the order that you want to move or cancel.

Orders that you can move or cancel have the following symbols assigned to them in the Document Number field.

<u>Symbol</u>	<u>Meaning</u>
	The order has a suggestion to cancel.
	The order has a suggestion to move out.
	The order has a suggestion to move in.

5. From the Actions button and choose MO Entry or Purchase Order Entry to move the order. Choose Edit MO Status or Edit PO Status to cancel the order.
  - If you're moving a manufacturing order, you can use the Manufacturing Order Entry window to complete the process. You can enter a new starting date for the order, and then reschedule it.
 

The manufacturing order status must be Quote/Estimate or Planned when you enter a starting date. You might need to change the status before you can change the starting date and reschedule the order.
  - If you're canceling a manufacturing order, you can use the Edit Manufacturing Order Status window to complete the process. The manufacturing order status must be Canceled.
  - If you're moving a purchase order, you can use the Purchase Order Entry window to complete the process. Refer to your Purchase Order Processing documentation for more information about changing dates on purchase orders.
  - If you're canceling a purchase order, you can use the Edit Purchase Order Status window to complete the process. Refer to your Purchase Order Processing documentation for more information about changing dates on purchase orders.
6. Return to the Pegging Inquiry window and continue, repeating steps 3 through 5, as needed.
7. When you've finished, close the window.

## Chapter 12: Purchase request resolution

You can use purchase request resolution to prevent shortages of purchased items. You can create new purchase orders, or add items to existing purchase orders.

This information is divided into the following sections:

- [Using purchase request resolution](#)
- [Creating a purchase order for a shortage](#)
- [Adding to an existing purchase order](#)
- [Blanket purchase orders and request resolution](#)
- [Adding to an existing purchase order line item](#)
- [Effects of changing dates and quantities for request resolution](#)
- [Viewing shortages to be covered by a vendor](#)
- [Restricting the shortage view](#)
- [Purchase request reports](#)

### Using purchase request resolution

You can use the Purchase Request Resolution window to prevent shortages of purchased items.

#### To use purchase request resolution:

1. Open the Purchase Request Resolution window.  
(Transactions >> Purchasing >> Request Resolution)

Item Description	Site ID	Required Date	Release Date	Qty. Req. (Firm)	Vendors
128 SDRAM	FACTORY	04/12/2007	04/12/2007	100	
24K IDE	FACTORY	04/12/2007	04/12/2007	100	
256 SDRAM	FACTORY	04/12/2007	04/12/2007	100	
32 SDRAM	FACTORY	04/12/2007	04/12/2007	100	
32K IDE	FACTORY	04/12/2007	04/12/2007	100	
333PROC	FACTORY	04/12/2007	04/12/2007	100	
4.5HD	FACTORY	04/12/2007	04/12/2007	100	
400PROC	FACTORY	04/12/2007	04/12/2007	100	
40K IDE	FACTORY	04/12/2007	04/12/2007	100	
450PROC	FACTORY	04/12/2007	04/12/2007	100	
500PROC	FACTORY	04/12/2007	04/12/2007	100	
6.5HD	FACTORY	04/12/2007	04/12/2007	100	

2. You can limit the records displayed in the scrolling window by date, item number, and site ID. For example, to view shortages for a specific item only, enter or select the item number in the Item Number field.



You also can create and use advanced queries to limit the information displayed in the window. Refer to [Restricting the shortage view](#) on page 87 for more information.

3. You can choose the order to display records in the left scrolling window. From the Sort by list, choose Required Date, Release Date, or Item Number to choose the order for the records.

- You can edit the Required Date or the Quantity Required, if needed. Refer to [Effects of changing dates and quantities for request resolution](#) on page 86 for more information.

If the contract expiration date for an existing purchase order is earlier than the planned release date for items you need to purchase to prevent a shortage, the system will suggest creating a new purchase order rather than adding to an existing one.

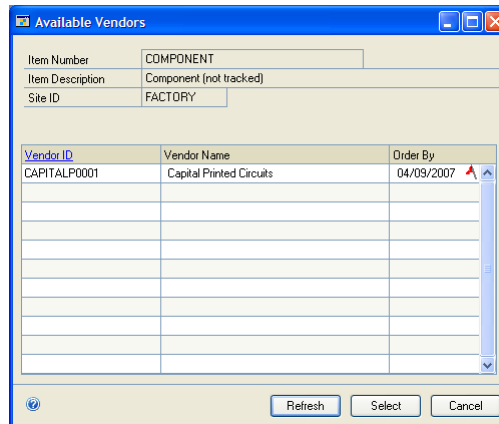
- Select a vendor to cover each shortage.

The options you'll have will depend on whether you mark the Use Primary Vendor option in the window, and whether you've set up a primary vendor for each item-site combination.

Refer to the table for more information.

Use Primary Vendor option		
	Is marked	Is not marked
<b>Primary vendor</b>	The primary vendor automatically is selected without opening the Available Vendors window. Skip to step 7.	The Available Vendors window opens. You can select a vendor from the ones that have been set up for the item.
<b>No primary vendor</b>	The Available Vendors window opens. You can select a vendor from the ones that have been set up for the item.	
You can specify a primary vendor for each item-site combination in the Item Quantities Maintenance window. Refer to your Inventory Control documentation for more information.		

The Available Vendors window displays the vendors that have been set up for the item.



If a primary vendor has been identified, that record is marked with a blue star. If the vendor's lead time for the item is too long—if the lead time is so long that the items couldn't be received before the date of the anticipated shortage—the Order By date will be marked with a red flag.

- Highlight a vendor in the Available Vendors window and choose Select.

7. Review messages, if needed. Messages will appear if any of these situations occur:
  - The order quantity is less than the minimum order quantity for the item or greater than the maximum order quantity.
  - The vendor's lead time is too long to get the items in-house before the shortage will occur.
  - The vendor doesn't have credit.
  - The vendor is inactive.
  - The vendor is on hold.

You can use the vendor even if it's on hold. In all other cases, you must correct the problem—by choosing another vendor, for example—before continuing.



*If no vendors are listed in the window, you might need to specify a vendor for the item-site combination in the Item Quantities Maintenance window. Refer to your Inventory Control documentation for more information.*

8. Be sure that the item to be covered is marked with a dot and that the check box for the vendor you're using to cover the shortage is marked.
9. Decide whether to create a new purchase order or to add to an existing purchase order.

No purchase orders are created or attached when you choose Create or Attach—the combinations are just marked for processing. Purchase orders are created or attached only when you choose OK in the Purchase Request Resolution window.

- Choose Create to mark an item and vendor combination with a C. Refer to [Creating a purchase order for a shortage](#) on page 81
- Choose Attach to mark an item and vendor combination with an A. Refer to [Adding to an existing purchase order](#) on page 82 or [Adding to an existing purchase order line item](#) on page 84.

## Creating a purchase order for a shortage

If you don't want to use an existing purchase order to cover a shortage, you can create a new purchase order.



*Before beginning this procedure, be sure you've identified potential shortages of bought items in the Purchase Request Resolution window, selected the vendor, and identified the order quantity to cover the shortage.*

**To create a purchase order for a shortage:**

1. In the Purchase Request Resolution window, be sure the item number and the vendor ID are both marked. The item number should be marked with a black dot. The vendor ID check box should be marked.
2. Choose Create to mark the combination with a C in the Vendors scrolling window.
3. Choose OK to save your work and to reserve the purchase order number. No purchase order is created until you choose OK.

When you save the information, any sales order requests that were created or attached to a purchase order will be opened.



*After you create a purchase order for a potential item shortage, the item will no longer be displayed in the Purchase Request Resolution window, even if the quantity that you ordered was not enough to prevent the entire shortage. To see the item listed again, you must regenerate MRP information.*

**Adding to an existing purchase order**

To add your item requirements to an existing purchase order, you must decide whether to create a new line item in that purchase order, or to adjust the order quantity in an existing line item. This procedure describes how to add new line items to an existing purchase order. For information about adding to an existing purchase order line, refer to [Adding to an existing purchase order line item](#) on page 84.



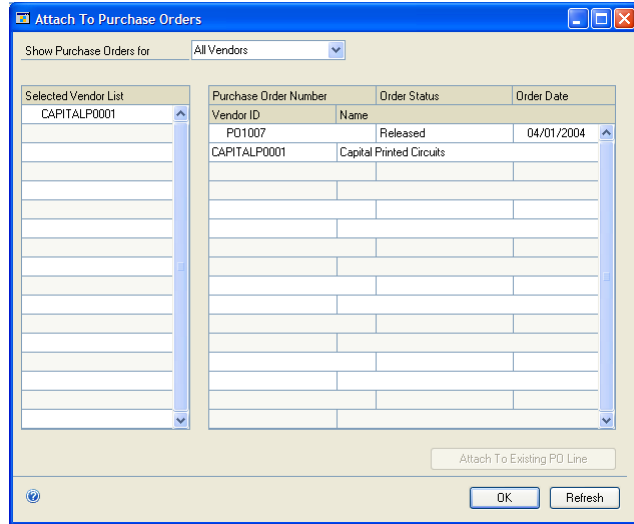
*Before beginning this procedure, you should have identified shortages in the Purchase Request Resolution window, and selected the vendor you want to use to cover each potential shortage.*

**To add to an existing purchase order:**

1. In the Purchase Request Resolution window, be sure the item number and the vendor ID are both marked. The item number should be marked with a black dot. The vendor ID check box should be marked.



2. Choose Attach to open the Attach To Purchase Orders window.
  - To view purchase order information for all vendors, choose All from the Show Purchase Orders for drop-down list.
  - To view purchase orders for selected vendors, choose Selected Vendor from the Show Purchase Orders for drop-down list, and mark vendors in the left scrolling window.



3. Double-click the purchase order to attach requirements to. The vendor and the purchase order will be marked with a dot.
4. Choose OK to add every shortage for the selected vendor to the purchase order as a new line item. The Purchase Request Resolution window is displayed with the shortage items and the vendors you're using to cover the shortages will be marked with an A.
5. Review the order quantity information for the item.
6. Choose OK in the Purchase Request Resolution window to attach the shortages to existing purchase orders. The new item requirements will be attached to the purchase orders and the window will close.

Any sales order requests that were created or attached to a purchase order will be opened.



*After you create a purchase order for a potential item shortage, the item will no longer be displayed in the Purchase Request Resolution window, even if the quantity that you ordered was not enough to prevent the entire shortage. To see the item listed again, you must regenerate MRP information.*

## Blanket purchase orders and request resolution

The following rules apply when you're using blanket purchase orders and request resolution.

### Multiple items

When you're attaching purchase order requirements to an existing purchase order, you can select multiple item numbers to attach to a purchase order. For example, you might want to buy more of both Widget A and Widget B. If you choose multiple items, however, no blanket purchase orders will be displayed in the Attach to Purchase Orders window, because each blanket purchase order can include only one item number. If you select multiple instances of the same item number, however, the blanket purchase orders for that item will be available in the Attach to Purchase Orders window.

### Quantity and currency limits

You can't attach additional purchase order requirements to an existing blanket purchase order—by either creating a new line or by increasing the quantity of an existing line—if the new quantity would cause the blanket purchase order to exceed any quantity or currency limits.

## Adding to an existing purchase order line item

You can increase the order quantity of line items on existing purchase orders. For information about adding lines to an existing purchase order, refer to [Adding to an existing purchase order](#) on page 82.

Before beginning this procedure, you should have identified shortages in the Purchase Request Resolution window, selected the vendor to use to cover each potential shortage, and specified the order quantities.



*If you're using blanket purchase orders, note that you can't increase the line item order quantity of the control line or a drop-ship line. Refer to [Blanket purchase orders and request resolution](#) on page 84 for more information.*

### To add to an existing purchase order line item:

1. In the Purchase Request Resolution window, be sure the item number and the vendor ID are both marked. The item number should be marked with a black dot. The vendor ID check box should be marked.
2. Choose Attach to open the Attach to Purchase Orders window.

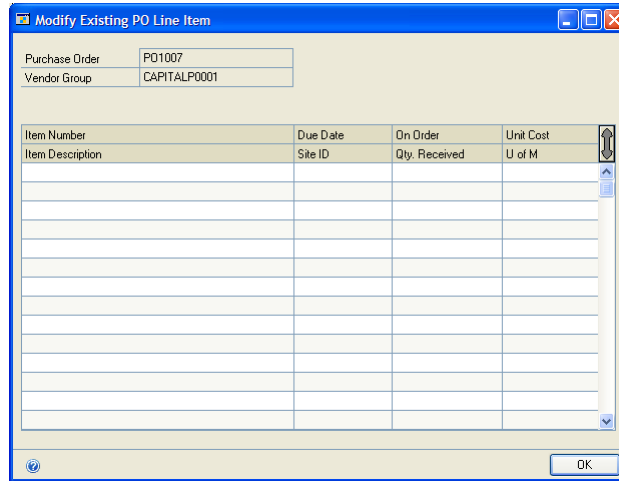
The Attach to Purchase Orders window lists all open purchase orders for the selected vendor or vendors, and includes the purchase order number, order status, order date, and vendor ID. Suppliers for which you'll need to generate purchase orders will be listed in the Selected Vendor List scrolling window.

3. Select the purchase order that includes the line item with the order quantity to increase.



*Be sure the order is marked with both a dot and a highlight. You need both markers to select the order.*

- Choose Attach To Existing PO Line to attach specific shortages to line items that are already part of the purchase order. The Modify Existing PO Line Item window opens.



- Double-click the line to add the line item to add requirements to. A green dot marks the line when it has been properly selected.
- Choose OK.



*Any sales order requests that were created or attached to a purchase order will be opened.*

- Choose OK in the Attach to Purchase Orders window (which should still be open) to attach the new requirements to the purchase order.

When you save the changes in the Purchase Request Resolution window, the PR\_Action report will be automatically generated. This report summarizes the action you've taken to prevent shortages from occurring.

To check your work, open the Purchase Order Entry window and select the purchase order that includes the line you attached the shortage requirements to. The order quantity will reflect the larger order quantity.



*After you create a purchase order for a potential item shortage, the item will no longer be displayed in the Purchase Request Resolution window, even if the quantity that you ordered was not enough to prevent the entire shortage. To see the item listed again, you must regenerate MRP information.*

## Effects of changing dates and quantities for request resolution

When you're using purchase request resolution, some information—such as the required date and the required quantity of each item—is calculated for you. You can accept the default values or change them.

### Required Date

You can edit the Required Date for an item, but the date you enter can't be earlier than the user date. If you change the Required Date for an item, a new Release Date will be calculated for the purchase order, based on the following rules:

- If the site ID where the shortage might occur has a primary vendor in the Item Quantities Maintenance window (Cards >> Inventory >> Quantities/Sites), the new Release Date will be the Required Date minus the planning lead time that's listed for the item and vendor combination in the Item Vendors Maintenance window (Cards >> Inventory >> Vendors).
- If the site ID where the shortage might occur does not have a primary vendor, the new Release Date will be the Required Date minus the Purchasing Lead Time entered for the item-site combination in the Item Resource Planning Maintenance window (Cards >> Inventory >> Item Resource Planning).

### Quantity Required

You also can change the required quantity for any item. The quantity you enter can't be negative, but no other checking is done automatically. That is, even if the quantity you enter doesn't comply with minimum order quantity or other rules, no message will be displayed.

### Viewing shortages to be covered by a vendor

If you're resolving several shortages at once, you can use the Selected Items for Vendor window to view which items are going to be covered by which vendors.



*Before beginning this procedure, you should have already begun using the Purchase Request Resolution window to cover potential shortages, so that vendors are displayed in the Suppliers scrolling window.*

#### To view shortages to be covered by a vendor:

1. In the Purchase Request Resolution window, click a vendor listed in the Vendors scrolling window to open the Selected Items for Vendor window.

Item Number	Site ID	Due Date	Qty. Short (Firm)
COMPONENT	FACTORY	04/12/2007	100

Information in the Selected Items for Vendor window is displayed by item, site, and date.

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

### Restricting the shortage view

Use the Purchase Request Resolution window to view item shortages limited by item number, site ID, and date. To restrict your view of item shortages by vendor, item number, item description, site ID, buyer, item class, and date, you can use the Purchase Request Resolution-Advanced Query window.

The Purchase Request Resolution-Advanced Query window produces a cumulative query. Every entry in the window can narrow your query further.

#### To restrict the shortage view:

1. Open the Purchase Request Resolution window.  
(Transactions >> Manufacturing >> Purchasing/Receiving >> Request Resolution)

- Choose Advanced Query to open the Purchase Request Resolution - Advanced Query window.

- Use fields to restrict your view of item shortages.
  - To restrict the query to a vendor, select the Vendor ID.
  - To restrict the query to a range of item numbers, select the starting and ending item numbers. The query will include the numbers you enter.
  - To restrict the query to items with a certain item description, enter the starting and ending item descriptions. Using item description ranges can produce unexpected results. Ranges you set with other fields in this window are sorted by the numbers or IDs you choose. When you use an item description range, however, the records are still being sorted by the item number.
  - To restrict the query to a range of sites, select the starting and ending location codes. Location codes are the same as site IDs.
  - To restrict the query to a range of buyer IDs, select the starting and ending buyer IDs.
  - To restrict the query to a range of item classes, select the starting and ending item classes.
- When you've finished setting your restrictions, choose OK to run the query and return to the Purchase Request Resolution window. The results of your query will be displayed there.



*To see several views of the item shortages without having to reopen the Purchase Request Resolution–Advanced Query window each time, choose Run Query when you've finished setting your restrictions. The item shortage information will be displayed in the Purchase Request Resolution window and the Purchase Request Resolution–Advanced Query window will stay open.*

## Purchase request reports

MRP includes two purchase request resolution reports.

- The Shortage Request Resolution report lists Actions, which are incidents when purchase orders were created or line items were attached to purchase orders. This report is generated when you choose OK in the Purchase Request Resolution window, if you've chosen to create purchase orders or attach amounts to existing purchase orders.
- The Purchase Resolution Warning Report lists all warnings, including those for resolution steps and minimum orders. If there are no errors, the report won't appear. This report is generated at the same time as the Shortage Request Resolution report.





# Chapter 13: MRP inquiries

Material Requirements Planning (MRP) includes many windows for viewing MRP information. You can view information for several items at once, or you can view more detailed information about specific records.

This information is divided into the following sections:

- [Overview of MRP inquiry windows](#)
- [Viewing MRP information for a specific item](#)
- [Viewing MRP information in buckets and by sites](#)
- [Viewing detailed MRP information for a period](#)
- [Viewing MRP information for all items](#)
- [Viewing point-in-time MRP information](#)
- [Creating a query to view MRP documents](#)
- [Viewing an existing MRP query](#)
- [Viewing projected available balance information](#)
- [Viewing picklist information for MRP](#)
- [Viewing manufacturing order MRP information](#)
- [Viewing sales order information for MRP](#)
- [Viewing purchase order information for MRP](#)

## Overview of MRP inquiry windows

The MRP inquiry window you use to view MRP information depends on your role within your company, and the information you want to view. Most windows include links you can use to view more detailed information.

Refer to the table for descriptions of the MRP inquiry windows.

Window	Description	Reference
MRP Item Inquiry window	Displays information about all MRP quantities for a single item and site. Use it to view MRP information for a specific item-site combination.	<a href="#">Viewing MRP information for a specific item</a> on page 92
MRP View window	Displays information about MRP total quantities for different sites. Use it to compare the MRP quantities for one item from one site to another.	<a href="#">Viewing MRP information in buckets and by sites</a> on page 93 <a href="#">Viewing detailed MRP information for a period</a> on page 94
MRP Workbench window	Displays information about MRP total quantities for one item in date-driven buckets. Use it to view the anticipated quantities for scheduled receipts, net requirements, and planned order receipts and releases for specific dates.	<a href="#">Viewing MRP information for all items</a> on page 95
MRP Detail window	Displays information for the planned, firm, and total quantities for on-hand, required, and acquired amounts. Use it to view information about anticipated quantities on a specific date.	<a href="#">Viewing point-in-time MRP information</a> on page 96
MRP Quantities Query	Displays the query you created using the MRP Quantities Query window to view MRP documents.	<a href="#">Creating a query to view MRP documents</a> on page 96 <a href="#">Viewing an existing MRP query</a> on page 98
MRP Projected Available Balance Inquiry window	Displays the “what-if” scenario you created to compare the MRP values at the time the MRP regeneration or net change was last completed with what the values would be if the you executed MRP suggestions.	<a href="#">Viewing projected available balance information</a> on page 98
Pegging Inquiry window	Displays information about the MRP quantity you choose. Use it if you want to start with a quantity (such as Made by MO Planned) and peg the requirements.	<a href="#">Chapter 11, “Pegging”</a>

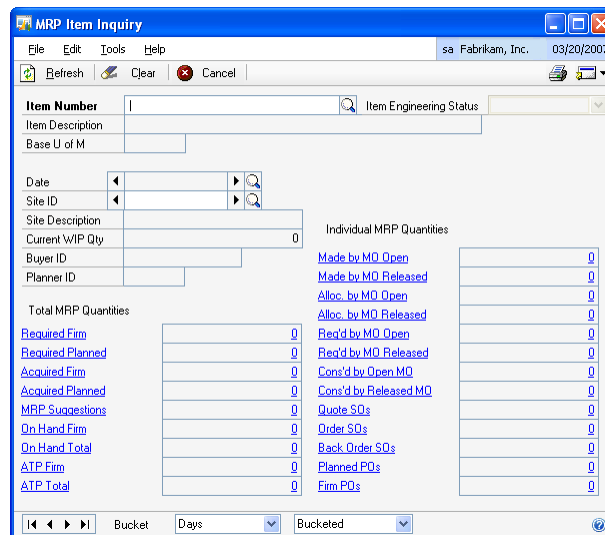
Window	Description	Reference
Picklist Inquiry window	Displays information about the picklists that include a component item you specify. Use it to view how picklists are affecting demand for a component item.	<a href="#">Viewing picklist information for MRP</a> on page 99
Manufacturing Order Inquiry window	Displays information about the manufacturing orders for an item you specify. Use it to view information about manufacturing orders for a specific item.	<a href="#">Viewing manufacturing order MRP information</a> on page 101
Sales Order Inquiry window	Displays information about sales orders for an item you specify. Use it to view information about sales orders for a certain item.	<a href="#">Viewing sales order information for MRP</a> on page 102
Purchase Order Inquiry window	Displays information about purchase orders for an item you specify. Use it to view information about purchase orders for a specific item.	<a href="#">Viewing purchase order information for MRP</a> on page 103

## Viewing MRP information for a specific item

Use the MRP Item Inquiry window to see information about MRP requirements for a specific item.

### To view MRP information for a specific item:

1. Open the MRP Item Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Item Inquiry)



2. Choose the periods to use to summarize the MRP information. You can use the default setting for the bucket option, or you can choose another bucket size.
3. Choose the kind of information to display when you use the browse buttons.
  - To browse from bucket to bucket, seeing activity summarized into periods you've specified, set the second list to Bucketed.
  - To jump to points where activity occurs, set the second list to Bucketless.
4. Enter or select an item number, date, and site ID. If you leave the site ID field empty, a summary of all amounts for the item across all sites is displayed.

- To update the view of information in the window, choose Refresh to reconcile the MRP information for that item.



You can click the link on any quantity except the Current WIP Qty to open the MRP Quantities Query window, where you can see more detailed information about the source of the quantities.

- When you've finished, close the window.

## Viewing MRP information in buckets and by sites

Information in the MRP View window is based on the most recently generated MRP information. Use this window to see specific MRP quantities on a site-by-site basis for whatever bucket size you choose.

### To view MRP information in buckets and by sites:

- Open the MRP View window.  
(Inquiry >> Manufacturing >> MRP >> View)

The screenshot shows the 'MRP View' window with a menu bar (File, Edit, Tools, Help) and a title bar (sa Fabrikam, Inc. 03/20/2007). Below the menu bar are search fields for Site ID, Buyer ID, and Planner ID, and a Date field set to 03/20/2007. The main area is a table with columns for Item Number, Site ID, Buyer ID, Planner ID, and Date. The Date column is split into four sub-columns: 03/20/07, 03/21/07, 03/22/07, and 03/23/07. The Item Number column lists items from ITEM1 to ITEM99. The Quantity column is currently empty. At the bottom, there is a 'Bucket:' dropdown menu set to 'Days'.

Item Number	Site ID	Buyer ID	Planner ID	Date			
				03/20/07	03/21/07	03/22/07	03/23/07
ITEM1			03/20/07				
ITEM2							
ITEM3							
ITEM4							
ITEM5							
ITEM6							
ITEM87							
ITEM88							
ITEM89							
ITEM90							
ITEM91F							
ITEM91P							
ITEM92							
ITEM93							
ITEM94							
ITEM95							
ITEM96							
ITEM97							
ITEM98							
ITEM99							

- Select a bucket size.
- To further restrict the information displayed in the scrolling window about an item, enter or select a buyer ID, planner ID, and site ID. You also can choose to have no restrictions
- Select a date for the information you want to see.

- In the left scrolling window, mark the item number by double-clicking the item.

To quickly search for a particular item, choose the find icon button and enter the item number in the window that appears.



*If totals shown in the right scrolling window don't appear to be correct, check the MRP Exclusion List window to determine if any particular item or site is marked as an exclusion. For more information, refer to [Chapter 9, "Exclusions."](#)*

- Review the information in the window. You can click the link on any quantity displayed in the window to open the MRP Quantities Query window to see more detailed information about the source of the quantities.
- When you've finished viewing information, close the window.

## Viewing detailed MRP information for a period

To see detailed information for a specific day, week, or month, you can choose fields in the MRP View window and open the MRP Quantities Query window to learn what is determining your MRP requirements.

### To view detailed MRP information for a period:

- Open the MRP View window.  
(Inquiry >> Manufacturing >> MRP >> View)
- Select the bucket size to use.
- To further restrict the information displayed in the scrolling window about an item, enter or select a buyer ID, planner ID, and site ID. You also can choose to have no restrictions
- In the left scrolling window, mark the item number to view by double-clicking the item.
- Enter a date that includes the information to view.
- Choose the field in the right scrolling window that you want to learn more about. The MRP Quantities Query window opens.

The MRP Quantities Query window displays information about the sources of supply and demand that are driving MRP calculations.

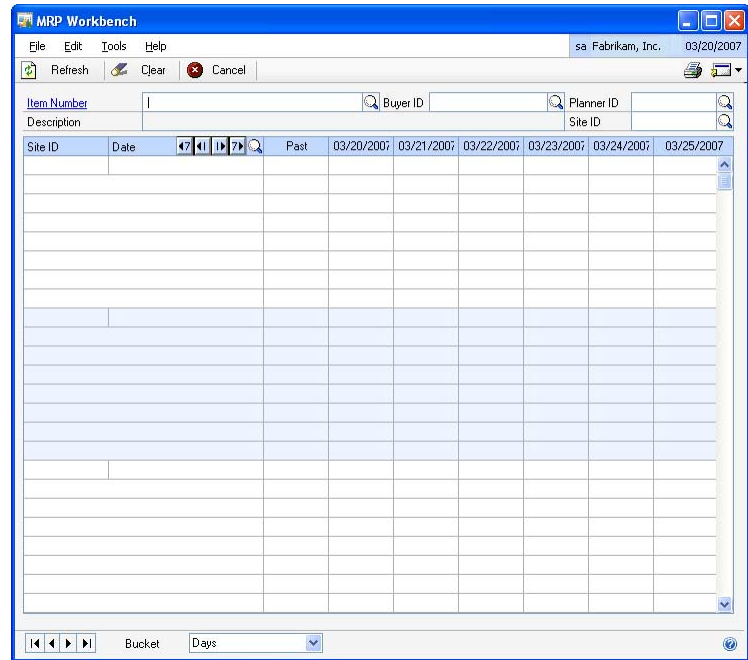
- When you've finished viewing the information, close the windows.

## Viewing MRP information for all items

Use the MRP Workbench window to review the status of all of your company's material items, sorted into various buckets—days, weeks, or months.

### To view MRP information for all items:

1. Open the MRP Workbench window.  
(Inquiry >> Manufacturing >> MRP >> Workbench)



2. Use the Bucket list to select the time frame for grouping the information.
3. Enter or select an item. The scrolling window will display information about the item.
4. To further restrict the information displayed in the scrolling window about the item, enter or select a buyer ID, planner ID, and site ID. You also can choose to have no restrictions
5. Review the Date buckets using the browse buttons, or select a starting date using the lookup button.
6. Each cell in the MRP Workbench window—except for those for Net Requirements and Planned Order Releases—is linked to the MRP Quantities Query window. If you choose a cell, the MRP Quantities Query window opens with the bucket for that cell. You'll see which orders are affecting that quantity for that time bucket.
7. When you've finished viewing the information, choose Cancel to close the window.

## Viewing point-in-time MRP information

You can use the MRP Detail window to view information about all item numbers. Information will be displayed in the scrolling window.

You can select the expand button in this window to see additional information about the quantities. The first record will show the aggregate quantities for all sites.

### To view point-in-time MRP information:

1. Open the MRP Detail window.  
(Inquiry >> Manufacturing >> MRP >> Detail)

Item Information	MRP QTY.	Planned	Firm	Total
Item: COMPONENT	On Hand	(444)	900	456
Site ID: COMPONENT	Required	0	20	20
Planner: Buyer:	Acquired	100	0	100
Item: COMPONENT	On Hand	0	0	0
Site ID: FACTORY	Required	0	0	0
Planner: Buyer:	Acquired	100	0	100
Item: COMPONENT	On Hand	(444)	900	456
Site ID: WAREHOUSE	Required	0	20	20
Planner: Buyer:	Acquired	0	0	0
Item: COMPONENT	On Hand	0	0	0
Site ID: WCI	Required	0	0	0
Planner: Buyer:	Acquired	0	0	0

2. Select an MRP viewing period. Choices are days, weeks, months, and user-defined periods.
3. Choose the starting date for the viewing period.
4. You can use the Display From field to select the first item to view in the MRP Detail window. If you don't select a first item, all items will be displayed in the scrolling window.

Several records for each item number will be displayed. The first record will show the total requirements for the item for all orders and sites; other records for the same item number will show requirements at individual sites.



*You can zoom on any quantity displayed in the window to open the MRP Quantities Query window to see more detailed information about the source of the quantities.*

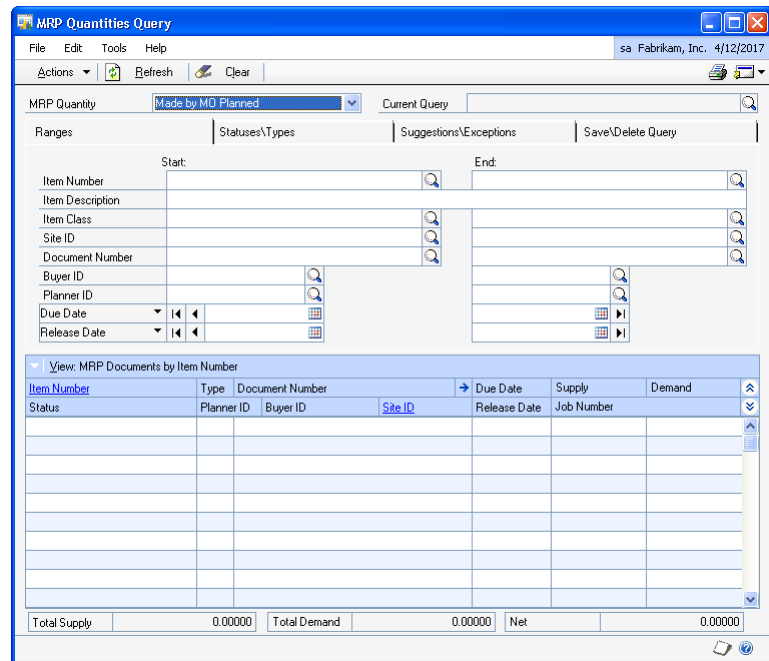
5. When you've finished viewing information, close the window.

## Creating a query to view MRP documents

Use the MRP Quantities Query window to enter ranges to create a query for viewing MRP documents. You can select elements or transactions in the window, and then choose commands from the Actions button to complete tasks, such as pegging and creating orders. You can save and reuse queries after each MRP regeneration.

**To create a query to view MRP documents:**

1. Open the MRP Quantities Query window.  
(Inquiry >> Manufacturing >> MRP >> Quantities Query)



2. Select an MRP quantity.
3. In the Ranges tab, select the ranges you want to include in your query.
4. In the Statuses\Types tab, select the statuses and types you want to include in your query. The statuses and types available depend on the MRP quantity you selected.
5. In the Suggestions\Exceptions tab, select the statuses and types you want to include in your query.
6. In the Save\Delete Query tab, select a due date range and a release date range.
7. Choose Refresh to display MRP documents. You can perform one of the following options.
  - Modify the ranges to narrow your query and choose Refresh again.
  - Select a document in the scrolling window, and then choose commands from the Actions button to complete tasks, such as pegging or opening another window.
  - Select a document in the scrolling window, and then choose the Document Number expansion button to open the MRP Order Detail window. You can view the original order dates, suggested move dates, exceptions, or suggestions that exist for the order.
8. When you've finished viewing information, close the window.

## Viewing an existing MRP query

Use the MRP Quantities Query window to run MRP queries that you've previously defined.

### To view an existing MRP query:

1. Open the MRP Quantities Query window.  
(Inquiry >> Manufacturing >> MRP >> Quantities Query)
2. Select an existing query using the Current Query lookup button.
3. MRP information displays in the window. You can perform one of the following options.
  - Modify the ranges to narrow your query and choose Refresh again.
  - Select a document in the scrolling window, and then choose commands from the Actions button to complete tasks, such as pegging or opening another window.
  - Select a document in the scrolling window, and then choose the Document Number expansion button to open the MRP Order Detail window. You can view the original order dates, suggested move dates, exceptions or suggestions that exist for the order.
4. When you've finished viewing information, close the window.

## Viewing projected available balance information

Use the MRP Projected Available Balance Inquiry window to create "what-if" scenarios. You can compare the MRP values at the time the MRP regeneration or net change was last completed with the values that would be available if you chose to perform a MRP suggestion.

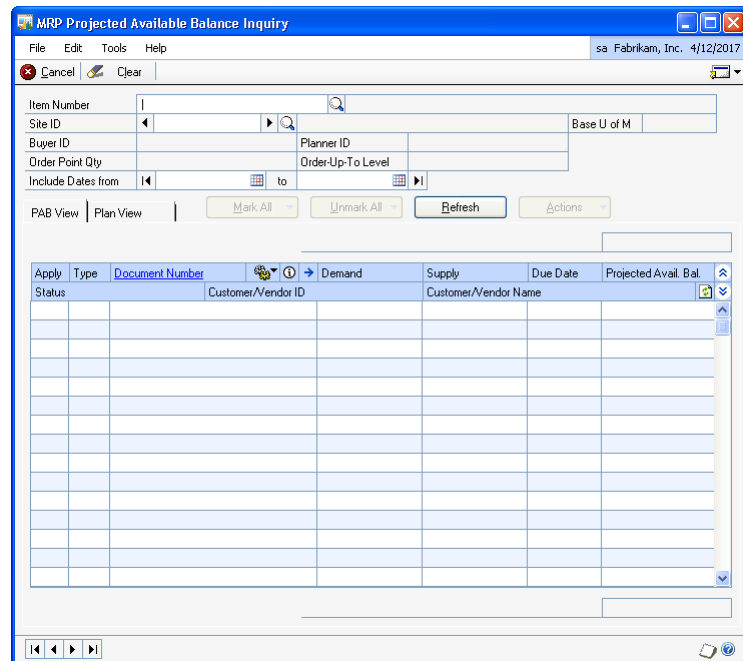
You also can add, remove, or move a manufacturing order, sales order, or purchase order included in MRP calculations to see what effect doing so would have on the projected available balance for that item.

As you make changes to orders and suggestions, a checklist of the actions needed to be taken is created automatically. To implement a given "what-if" scenario, complete the actions on the checklist and regenerate MRP values.



**To view projected available balance information:**

1. Open the MRP Projected Available Balance Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> PAB Inquiry)



2. Select an item number and a site ID.
3. Specify a range of dates to restrict the information that appears in the scrolling window.
4. Choose Refresh to display MRP documents. In the PAB View tab, you can view projected available balance information in the scrolling window.

Marked items are recommended changes such as moving an order or canceling a purchase order. Marked items are included in the calculated projected available balance. Unmark items that you don't want to be included in the calculated projected available balance.

5. Choose the Plan View tab to view all the modifications to real orders and all marked MRP suggestions within the Include Date from and to dates. If you processed all the items in the view and regenerated MRP or net change, the new projected available balance would closely reflect what was estimated in the PAB view.

To display information in the window, choose Refresh.

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

**Viewing picklist information for MRP**

The Picklist Inquiry window displays information about the manufacturing order picklists that contribute to component material requirements.

**To view picklist information for MRP:**

1. Open the Picklist Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> Picklist Inquiry)

The screenshot shows the 'Picklist Inquiry' window with the following data in the table:

MD Number	Site ID	Due Date	Status	Planner/ Buyer
40	WAREHOUSE	03/20/2007	Open	/
M00014	WAREHOUSE	COMPONENT		/
4	WAREHOUSE	04/10/2007	Open	/
M00019	WAREHOUSE	COMPONENT		/
40	WAREHOUSE	04/18/2007	Open	/
M00011	WAREHOUSE	COMPONENT		/
100	WAREHOUSE	04/17/2007	Partially Received	/
M00013	WAREHOUSE	COMPONENT		/
20	WAREHOUSE	04/12/2007	Released	/
M00015	WAREHOUSE	COMPONENT		/
30	WAREHOUSE	04/12/2007	Released	/
M00016	WAREHOUSE	COMPONENT		/
40	WAREHOUSE	04/12/2007	Released	/

2. Choose a sorting method.
3. Use other fields to limit the information, as needed.



*Leave fields blank if you don't want to limit your view based on that field. For instance, to see picklists for manufacturing orders of all statuses, leave the Status field blank.*

- To see picklist requirements for a specific item number, choose an item number.
  - To see picklist requirements for a specific site, choose a site.
  - To see picklist requirements tied to manufacturing orders with specific statuses, choose a status.
  - To see picklist requirements beginning on a certain due date, choose a starting date.
  - To see picklist requirements ending by a certain due date, choose an ending date.
  - To see picklist requirements associated with a specific planner, choose a planner ID.
  - To see picklist requirements associated with a specific buyer, choose a buyer code.
4. Choose Refresh to update the information in the scrolling window. Each time you change your restriction settings, you must choose Refresh to update the scrolling window contents.

5. To display more information about a record, mark it in the scrolling window and then choose Zoom. The Picklist window will open, displaying the picklist that is driving that component requirement.
6. When you've finished reviewing information, close the windows.

## Viewing manufacturing order MRP information

The Manufacturing Order Inquiry window displays information about the manufacturing orders that help you to meet item requirements for made items.

### To view manufacturing order MRP information:

1. Open the Manufacturing Order Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> MO Inquiry)

MO Number	End Quantity	Site ID	Due Date	Status	Planner/ Buyer
MO0011				FINISHED GOOD	/
50		WAREHOUSE	06/14/2007	Partially Received	
MO0013				FINISHED GOOD	/
10		WAREHOUSE	04/12/2007	Released	
MO0018				FINISHED GOOD	/
20		WAREHOUSE	04/12/2007	Open	
MO0019				FINISHED GOOD	/
20		WAREHOUSE	05/11/2007	Open	

2. Select a sorting method.
3. Use the fields at the top of the window to specify the list of manufacturing orders to be displayed.



*Leave fields blank if you don't want to limit your view based on that field. For instance, to see picklists for manufacturing orders of all statuses, leave the Status field blank.*

- To see manufacturing orders for a specific item, choose an item number.
- To see manufacturing orders for a specific site, choose a site.
- To see manufacturing orders with a specific status, choose a status.
- To see manufacturing orders beginning on a certain due date, choose a starting date.
- To see manufacturing orders ending by a certain due date, choose an ending date.
- To see manufacturing orders for a specific planner, choose a planner code.
- To see manufacturing orders for a specific buyer, choose a buyer code.

4. Choose Refresh to update the information in the scrolling window. Each time you change your restriction settings, you must choose Refresh to update the scrolling window contents.
5. To see more about a record, mark it in the scrolling window and then choose Zoom. The Manufacturing Order View window will open, displaying information about the marked manufacturing order.
6. Close the windows when you've finished reviewing the information.

## Viewing sales order information for MRP

The Sales Order Inquiry window displays information about the sales orders that contribute to your finished-goods requirements.

### To view sales order information for MRP:

1. Open the Sales Order Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> SO Inquiry)

The screenshot shows the 'Sales Order Inquiry' window with a table of sales orders. The table has the following columns: Sales Order Number, Item Number, Quantity, QTY Allocated, QTY Fulfilled, Due Date, Site ID, and Planner/Buyer. The data is as follows:

Sales Order Number	Item Number	Quantity	QTY Allocated	QTY Fulfilled	Due Date	Site ID	Planner/Buyer
00007	FINISHED GOOD				04/12/2006	Order	
		35	35			WAREHOUSE	/
00008	FINISHED GOOD				04/12/2006	Order	
		1	1			WAREHOUSE	/
00001	FINISHED GOOD				04/12/2007	Order	
		2	2			WAREHOUSE	/
00001	FINISHED GOOD				04/12/2007	Order	
		3	3			WAREHOUSE	/
00005	FINISHED GOOD				04/12/2007	Order	
		5	5			WAREHOUSE	/

2. Enter or select a sorting method.

3. Use the fields at the top of the window to specify the list of manufacturing orders to be displayed.



*Leave fields blank if you don't want to limit your view based on that field. For instance, to see picklists for manufacturing orders of all statuses, leave the Status field blank.*

- To see sales orders for a specific item, choose an item number.
  - To see sales orders for a specific site, choose a site.
  - To see sales orders with a specific status, choose a status.
  - To see sales orders beginning on a certain in-house due date, choose a starting date.
  - To see sales orders ending by a certain in-house due date, choose an ending date.
  - To see sales orders associated with a manufacturing order associated with a specific planner, choose a planner code.
  - To see sales orders associated with a manufacturing order associated with a specific buyer, choose a buyer code.
4. Choose Refresh to update the information in the scrolling window. Each time you change your restriction settings, you must choose Refresh to update the scrolling window contents.
  5. To see more about a record, mark it in the scrolling window and then choose Zoom. The Sales Transaction Inquiry Zoom window will open, displaying information about the marked sales order.
  6. Close the windows when you've finished reviewing the information.

## Viewing purchase order information for MRP

The Purchase Order Inquiry window displays information about the purchase orders that are helping you to meet requirements for bought items.

**To view purchase order information for MRP:**

1. Open the Purchase Order Inquiry window.  
(Inquiry >> Manufacturing >> MRP >> PO Inquiry)

Order Number	Item Number	Item Status	Qty to Order	Qty Received	Site ID	Due Date	Planner/Buyer
PO1007	COMPONENT	Planned	50	0	WAREHOUSE	04/01/2004	/

2. Select a sorting method.
3. Use the fields at the top of the window to specify the list of purchase orders to be displayed.



*Leave fields blank if you don't want to limit your view based on that field. For instance, to see picklists for manufacturing orders of all statuses, leave the Status field blank.*

- To see purchase orders for a specific item, choose an item number.
  - To see purchase orders for a specific site, choose a site.
  - To see purchase orders with a specific status, choose a status.
  - To see purchase orders beginning on a certain due date, choose a starting date.
  - To see purchase orders ending by a certain due date, choose an ending date.
  - To see purchase orders associated with a specific planner, choose a planner code.
  - To see purchase orders associated with a buyer, choose a buyer code.
4. Choose Refresh to update the information in the scrolling window. Each time you change your restriction settings, you must choose Refresh to update the scrolling window contents.
  5. To see more about a record, mark it in the scrolling window and then choose Zoom. The Purchase Order Entry window will open, displaying information about the marked sales order.
  6. Close the windows when you've finished reviewing the information.

# 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 or Buy item**

An item that can be bought or manufactured by your company.

**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 out**

To reschedule certain manufacturing orders or purchase orders to prevent stock overages on the current due date. An appropriate future date to move the order to cover a future net requirement is proposed

**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 services 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 ID**

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.

The number of hours spent waiting for an 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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