

Master Scheduling & MRP

Passport Business Solutions TM

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Understanding Master Scheduling & MRP

This chapter contains the following topics:

[Product Description](#)

[Key Words and Concepts](#)

PRODUCT DESCRIPTION

PBS Manufacturing Master Scheduling and MRP (Material Requirements Planning) provides important planning assistance to manufacturing businesses that must build some products or components, or purchase a variety of materials, in anticipation of future customer demand. These functions are also useful to "job shops" that manufacture or purchase a wide variety of items. While some order material planning functions are provided by PBS Manufacturing Inventory Management, Master Scheduling & MRP performs comparisons of current supply vs. demand schedules and alerts you to required order actions.

Increasing competitive pressures have required many "make to customer order" businesses to decrease delivery response time by manufacturing or purchasing selective long lead time components in anticipation of future sales orders. Therefore, Master Scheduling & MRP is appropriate for both "ship from stock" and some "make to order" manufacturers.

Overall concepts of Master Scheduling and MRP procedures are quite simple. These timephased planning routines attempt to accurately match quantities and dates of supply orders with the quantities and dates of known or anticipated demands. Because there are multiple levels in the product structure, bills of material are used to explode net requirements for parent items into related demands for their components.

Supply orders are open or planned shop orders and purchase orders. Known demands are customer order backlog and exploded material requirements for shop manufacturing orders needed to satisfy those backlog requirements. Anticipated demands are shipment forecasts by time period and the exploded material requirements to satisfy those forecasts.

These planning and explosion procedures determine the timephased "net requirements" at each bill of material level by applying available inventory against timephased gross requirements (i.e. total demands) for each item. These "net requirements" are then exploded to the next bill of material level, where the netting/explosion procedure is repeated until all low level purchase requirements and orders have been planned.

Additional procedures are applied to net requirements at each level before they are exploded to component gross requirements. Parent order planning may include lot sizing of timephased net requirements, prior to explosion. The lot sizing process may combine several dated net requirements into a larger planned order quantity with a single due date.

The lead time to build a parent item is also considered to determine component requirement dates, since most components will be required at the start of the parent order manufacturing process. Therefore, parent net requirements are both lot sized and offset by manufacturing lead time before explosion to the next level.

The end objective of Master Scheduling and MRP procedures is to determine reschedules, cancellations, or new releases of supply orders for manufactured and purchased items, based on the most recently defined demands for products sold by the business.

Major functions of PBS Manufacturing Master Scheduling and MRP are:

- Shipment forecasting, if appropriate to your planning procedures. This function offers several planning options, including capability to estimate shipment quantities for individual items or in total for groups of similar items. For any item you may use exponentially smoothed shipments history or user defined projections as forecast input. You may input forecast quantities as daily rates or as totals for each forecast period.
- Master scheduling, used to develop the production plan for your top level products or major subassemblies. Master scheduling options available include use of firm planned orders, and user defined firm schedule period time fences. Time fences may be used to suppress recommended reschedules or new order releases over the short term schedule horizon. For companies with a seasonal product line, a longer term firm schedule period will allow the buildup of seasonal inventories in the master plan.
- The complete MRP explosion process. This function not only replans the top level requirements, but completes the "gross to net" planning procedures for component part and material requirements and orders.
- A variety of useful Master Schedule and MRP reports and displays are provided, many of which are exception oriented. More complete audit listings are available if needed.

Supporting programs include maintenance of Schedule Period and Forecast Period calendar files, Planner/Buyer codes, Branch Warehouse MRP factors, and master Planning Groups. Items to be included on Master Schedule reports, or to be forecasted must be assigned to Planning Groups.

Planning programs in this package also access files maintained by PBS Manufacturing Inventory Management, Product Definition & Costing, and, if used, Customer Order Processing and Purchase Order Processing.

Supply and Demand Orders

Master Scheduling & MRP in and of itself is a fairly complex module. However, this module is only internally complex. There is very little user input required making it a fairly simple to use.

There are some basic concepts that must be covered in order to understand this module. For instance, there are many different types of orders in PBS Manufacturing but really only two categories of orders; Supply orders and Demand orders.

Demand orders are orders that impose some sort of demand on the system. For example, a Sales Order is a demand order. When you place a Sales Order in C/O, you are imposing demand on the system. MRP wants to offset this demand with supply at some point. One form of supply is on-hand inventory. If there is sufficient inventory on-hand to meet the "demand" of the sales order, no further action is required. If, however, there is no on-hand inventory available to be shipped on the order, a "supply" order must be placed to offset the demand. Purchase orders and shop orders are examples of a supply orders. These are orders that will supply additional inventory to your warehouse offsetting demand.

The primary function of MRP is to help you match supply and demand. MRP does this through ORDER ACTION reports. These reports provide you with a series of suggestions or order actions as to which products have insufficient supply to meet your current demand. They may suggest placing new orders if there is not enough product on the shelf and none on order. They may suggest

rescheduling existing orders to better align supply and demand if there is sufficient material on order but due in a different timeframe.

MRP will also suggest canceling supply orders when there is no demand. For instance, if you placed an order for a purchased component because there was one ordered by a customer on a sales order, then the customer cancels their order, after your next MRP run, your order action report will suggest canceling the purchase order. It no longer sees a need for this item so it suggests canceling the order to avoid carrying additional, unnecessary inventory. This can help keep inventory levels low.

While supply is pretty self-explanatory, demand can go a bit deeper. There are many things that may be considered as demand in PBS Manufacturing. Obvious forms of demand are sales orders and raw materials allocated to shop orders through the shop order explosion process. Some less obvious forms of demand are safety stock, reorder points, and forecast. These are also considered demand by the MRP module. Safety stock and reorder points are treated very similarly. These are defined in item master records. If, for instance, you define a reorder point of 100, and your inventory drops to 90 pieces, MRP will suggest placing an order to replenish stock. This will be suggested even if you don't have any other demand in the system. You see, because you have established a reorder point, MRP assumes you wish to keep at least that amount in inventory at all times and will flag you to order more material any time you dip below that number. Safety stock works in a very similar manner. An important thing to remember though, is defining both safety stock and a reorder point will double up your demand as these numbers will be compounded.

Forecast is user-defined demand entered into the MRP module. The Shipment Forecast Enter program is a program that allows you to enter in a forecast for your finished goods inventory. You are not restricted to finished goods, however, these are typically the items forecasted. Your forecast is entered into PBS Manufacturing for various forecast periods. These periods represent some span of time in which you plan to sell and ship some number of items.

It's important to understand your forecast will be consumed by demand. Some people are a little confused by this statement so let's explain. If you define a forecast of 100 UNIT-X for a period (month of June), and you have no orders booked for that period yet, MRP will plan to have sufficient material in stock to build 100 UNIT-X's. Let's say you book orders for 25 UNIT-X's this week (first week within the period). MRP is still going to plan to build 100 pieces. Now, if you look at what's driving that demand, 25 pieces are being built for orders and 75 are being built to forecast still. Once your actual order demand exceeds your forecast, the forecast is no longer considered by MRP. You have consumed your forecast with actual orders and MRP will plan to build to you actual demand.

That leads us to another question, where does the forecast come from? Very often, the marketing department supplies a forecast. This forecast is a projection of how many units they plan to sell in a given period. Generally, the master scheduler or production planner will adjust these numbers based on past experience. This final forecast is then input into MRP and used to plan production for that period. The forecast may be adjusted at any time and the new numbers will be used at the time of the next MRP run. In an environment where you make to order, particularly if you make specific products for specific customers, you may wish to ask your customer to supply their forecast. This will help you plan your production and inventory around their ever-changing needs increasing your ability to meet their customer service expectations.

Take that a step further now. You may wish to supply your VENDOR PURCHASE ACTIONS report to your vendors so they can plan around your needs. This is a concept referred to as "Supply chain management". This is where everyone in the "supply chain" is sharing information to become more efficient.

As you can see, if set up and used properly, MRP can help you reduce inventory and increase on-time deliveries. No easy task if trying to do it manually.

KEY WORDS AND CONCEPTS

To understand how to use the Passport Business Solutions Master Scheduling & [MRP](#), you should understand some key concepts and words that are used in this module.

Transactions

As used in accounting, transaction refers to a business event involving money and goods or services. For example, a transaction occurs each time you put gas in your car, since you pay money in exchange for gasoline (goods).

Because computer software deals primarily with business events that have already taken place, in the Passport Business Solutions software, transaction means the record of a completed business event involving money and goods or services.

The records of sales made and payments received are examples of transactions from the area of accounting called accounts receivable. The records of your purchases and the payments you make for such purchases are transactions from the accounting area called accounts payable. The records of quantities of goods received or sold are transactions from the area of accounting called inventory control.

In the Passport Business Solutions software, when a transaction is entered into the system (into a file or table), it is often referred to as an entry.

Accounting

Accounting is the function, which provides quantitative information about economic entities through the collection, categorization, and presentation of financial records.

General Ledger Account Number

General Ledger account numbers are often formatted as cost centers, main accounts, and subaccounts with each part or segment classifying transactions in different ways. The Passport Business Solutions allows General Ledger account numbers to be configured in a variety of formats to suit the varying needs of different enterprises. Most examples used in the documentation are in Dept.-Main-Sub format. Refer to the *Company Information* chapter in the *PBS Administration* documentation for more information on account number setups or a complete explanation of possible account number arrangements

Cost centers are generally used to gather transactions by lines of authority and responsibility (such as division or department). Main accounts are used for primary designations (such as separating wage expense, rent expense and tax expense). Subaccounts are used to keep separate items in the same general ledger main account (such as notes due to different banks).

The minimum format in the Passport Business Solutions is a single segment account number consisting of a four-digit account number. The maximum format is a four segment account number. When four segments are used, they are sequenced as two cost centers (such as division and department), main account and subaccount. The full account number may not exceed 17 characters, including the characters in all the segments and required separators between segments. Except for the main account, the segments may be omitted or designated in length from one to eight

characters. The main account must be from four to eight characters. Use of letters is allowed on a segment-by-segment basis.

The layout of examples in the documentation is normally Dept.-Main-Sub. The setup is xxx-xxxxx-xxx (dept. of three digits, a dash, main of five letters and subaccount of three letters).

Cost Centers

Refer to the *Cost Center/Sub Accounts* chapter in the *System* documentation for information concerning Cost Center numbers.

Accounts Receivable

Accounts Receivable pertains to sales made by your company and the amount of money it is owed.

Accounts Payable

Accounts Payable pertains to purchases and disbursements made by your company and the money your company owes.

Payroll

Payroll defines the wages you pay as an employer to your employees.

Data Organization

Most of the information you enter into your computer is stored on your disk. In order for computer programs to be able to locate specific pieces of information (within large masses of information), and to be able to process it logically, information must be organized in some predictable way. The Passport Business Solutions accounting software organizes your information for you automatically as it stores it on your disk.

There are five terms you should understand about the way the information is organized:

Character

A character is any letter, number, or other symbol you can type on your computer keyboard.

Field

A field is one or more characters representing a single piece of information. For example, a name, a date, and a dollar amount are all fields.

Record

A record is a group of one or more related fields. For example, the fields representing a customer's name, address, and account balance might be grouped together into a record called the customer record.

Entry

A record in a data file or table is often referred to as an entry.

Data File/Table

A data file is a group of one or more related records. A data file is often referred to simply as a file (without the word data). When using SQL and data file is referred to as a table.

The Customer File in Accounts Receivable is an example of a data file. Such a file is made up of several records, each of which contains the name, address, etc. for one customer.

Each file is kept separately from other files on the disk.

(There are other types of files in addition to data files. For example, programs are stored on the disk as program files. However, references to *file* in this User documentation refer to data file unless specifically stated otherwise.)

Purge

When you purge a file, you permanently remove information from that file. Once the information is purged, it cannot be recovered.

Compress

Compress means to make smaller. The *compress* selection reduces the number of records in a file by adding the dollar amounts of several cleared entries together and creating a single balance forward entry with the same total amount.

Help

Help refers to descriptions of functions which appear on the screen. The help text gives you a quick reference to the highlights of functions while you are running the application.

Select <Ctrl>+<F1> to access help on the graphical mode screens. Select the <F8> key in character mode.

ODBC

(pronounced as separate letters) ODBC is short for **Open DataBase Connectivity**. ODBC is a “pipe” that connects data from Passport Business Solutions files to popular ODBC compliant spreadsheet and reporting applications like MS Excel, Access and Crystal reports. ODBC requires a separate purchase. XDBC™ is the product name that allows PBS to interface with your data via ODBC.

Look-ups

Look-ups refer to a list of available entries for a particular field. There are two kinds of lookups: Data Lookup and Date Lookup.

Data Lookup

Many fields allow you to press a designated key <F8> to show all available data on file. For instance, when entering an invoice you may press this key at the Account number field to bring up a list of all G/L accounts on file. Selecting an entry from this list is often easier and faster than remembering the account number or stepping through all possible entries until the right one is reached.

Date Lookup

The date lookup provides a point and click window for finding and entering date fields.

In Graphical mode the date lookup is available via the <F4> key. In Character mode (Windows only) you may access the date lookup via the <F7> key.

Note

In character mode, depending on where you press <F8>, this function will return a Look-up window or context sensitive Help. If a Look-up window is returned, pressing <F8> a second time will display Help for the field if available.

Spool

SPOOL is a computer term meaning to Save Printer Output Off-Line. Spooling is a technique that allows a report to be printed at a later time. Instead of reports going directly to a printer, they are saved as a disk file, which is usually a lot faster.

When a printer is available, all or some saved reports can be printed in one long run (for example, overnight).

MRP

Material requirements planning (MRP) is a production planning and inventory control system used to manage manufacturing processes.

An MRP system is intended to simultaneously meet three objectives:

- Ensure materials and products are available for production and delivery to customers.
- Maintain the lowest possible level of inventory.
- Plan manufacturing activities, delivery schedules and purchasing activities.

Getting Started

This chapter contains the following topics:

Preparing to Use Master Scheduling & MRP	.....
Starting Master Scheduling & MRP	.....
Regular Use	.....
Passport Training and Support	.....

PREPARING TO USE MASTER SCHEDULING & MRP

Before getting started, ensure that the Master Scheduling & MRP software is installed on your computer. Refer to the Passport Business Solutions *PBS Administration* documentation to install the C/R module before proceeding.

Also, you may want to familiarize yourself with the main features of this module by reading the [Understanding Master Scheduling & MRP](#) chapter in this documentation.

Your Accountant

You should consult with your accountant before using Passport Business Solutions software. Your accountant should be familiar with your accounting software and can advise you on converting from your existing Master Scheduling & MRP system.

STARTING MASTER SCHEDULING & MRP

To begin using Master Scheduling & MRP, complete the following steps:

Pre-Set up

Step	Description
1	Study the PBS general features in the <i>System User</i> documentation.
2	Start M/J using the instructions in the Using Master Scheduling & MRP chapter in this documentation.
3	The Company File is set up for you as part of the installation procedure. Use Company Information to modify the Company File for your company. Refer to the <i>Company Information</i> chapter in the <i>PBS Administration</i> documentation.
4	Enter your valid G/L accounts, using <i>Valid G/L accounts</i> . If you are also using the Passport Business Solutions General Ledger, you can enter your Chart of Accounts first, then use Setup valid G/L accounts within G/L to transfer accounts to the Valid G/L Account File.
5	Enter your control information into the Control File. Refer to the Control Information chapter in this documentation.

Before you install Master Scheduling & MRP:

1. Install PBS including Manufacturing Inventory Management and Product Definition and Costing.
2. If you want to integrate sales order entry and billing with Job Costing and other PBS Manufacturing applications, you must also have Customer Order Processing.
3. If you want to integrate all purchasing functions, including P.O. invoice distribution, with Job Costing and other packages, you must also have Purchase Order Processing.

If you need more comprehensive shop floor control functions than are provided by Manufacturing Job Costing reports, you may use Shop Floor Control before or after you start to use Manufacturing Job Costing.

Set Up Master Scheduling & MRP

You should setup data files in the following order before you proceed with the other functions of this package.

1. Enter the M/J Control Information.
2. If you have not already defined Labor Grades, use Product Definition & Costing to build the Labor Grade Rates File. This will allow you to specify Labor Grades and corresponding rates in the Work Center File.

3. If you have not already defined Work Centers, use Product Definition & Costing to build the Work Center File. Labor & burden rates in this file are used to calculate estimated and actual job costs.
4. If you do not use Payroll, use Manufacturing Job Costing to build the Employee File. If Payroll is installed, the Employee File from that package is used by Manufacturing Job Costing.
5. Build the Miscellaneous Cost Codes File, to define codes for any "non-inventory" costs that may be charged to jobs.
6. Build the Labor Exception Codes File to define any direct labor or indirect labor codes that may be referenced on employee labor transactions and labor reports.

After completing the preceding setup tasks, you may start to maintain job estimates and quotations, and enter and cost manufacturing jobs.

REGULAR USE

The remaining chapters in this documentation show you how to:

- T

PASSPORT TRAINING AND SUPPORT

If you have problems with the Passport Business Solutions software, contact your dealer or authorized consultant.

For the name and location of a Passport Software, Inc. dealer or an authorized consultant near you, contact Passport at 1-800-969-7900.

If you wish to receive support directly from Passport, please call our End User Support Department at 1-800-969-7900.

You can contact your own dealer for training; however, if your dealer does not offer training contact Passport at 1-800-969-7900.

Passport's web site is www.pass-port.com.

Also, if you have any suggestions for improving PBS, you may email us at suggestions@pass-port.com.

Using Master Scheduling & MRP

This chapter contains the following topics:

[Organization of this Documentation](#)

[Starting Master Scheduling & MRP](#)

ORGANIZATION OF THIS DOCUMENTATION

This documentation provides the information you need to use Passport Business Solutions Master Scheduling & MRP.

Organization

The following chapter is a guide to daily operations. It explains how to use the Passport Business Solutions Master Scheduling & MRP to perform various daily, weekly, and periodic tasks.

After the guide, the next few chapters provide instructions on entering basic information to set up the module according to your needs and to prepare you for daily operation.

The remainder of the guide contains chapters that you use most frequently. They describe how to use the Passport Business Solutions Master Scheduling & MRP on a daily basis.

The last few chapters describe selections that you might use periodically, including such selections as compressing cleared entries.

You can obtain additional information from the *System User* documentation, which contains chapters that describe features common to all Passport Business Solutions modules.

- Topics covered in the *System User* documentation include:
- General rules
- Help and Lookups
- Switching companies
- Defining menu selections
- Advanced features
- Using printers for reports and forms
- Glossary of terms

Help

Graphical Mode

Help is accessed via the <Ctrl>+<F1> key.

Character Mode

You can press the <F8> key at any time for on-line help about a task or selection you are currently using.

If a data window is displayed instead of Help, you must press <F8> a second time to retrieve Help.

Menus

A *menu* is a list of things from which something can be selected.

Selecting items from a menu on a computer is the way you tell your computer what you want to do.

The Windows version of Passport Business Solutions can have three different menu types. They are the Tree-view, Windows and Menu-bar types.

The SCO Open Server and Linux versions only use the Menu-bar.

Tree-view

The following screen is an example of the Tree-view menu.

Insert Screen.

The “+” corresponds to expandable menu sections. One click will open the menu selection for the application or the sub-menu of a particular menu entry. Clicking on the “-” closes the menu item. Viewing application menus will cause a vertical slider bar to display: and sometimes depending on size and proportions of the screen and associate font, the slider bar as well. These sliders are mouse enabled.

In addition to the mouse-based menu operation, you can use the keyboard to navigate the tree-view menu. The home, end, page-up, page-down and arrow keys provide a quick and easy method of maneuvering around the menu.

To select the menu program use the Enter key or click on the menu line with the mouse.

Menu bar

The remainder of this section describes the functions of the Menu-bar. To navigate horizontally between individual modules use your keyboard’s left and right arrow keys. Up to ten modules and your Passport Business Solutions System Manager may be displayed on the menu bar. If you are using more than ten modules, a **More** function is added to the menu bar. To access your additional modules, highlight **More** and press your <Enter> key.

To navigate vertically within a module you have two choices. You may use the up and down arrow keys on your keyboard or you may type the first letter of a displayed menu item. If more than one menu item starts with the same letter, pressing the letter again will position your cursor over the next menu item starting with that letter.

STARTING MASTER SCHEDULING & MRP

To start your Passport Business Solutions software, select one of the following options. If you are unsure how to proceed, please contact your supplier.

For Windows

Start -> Programs -> Passport Business Solutions -> PBS

For UNIX/Linux

Ensure you are logged in as a user authorized to use Passport software. Refer to the *PBS Administration* documentation for more information.

Type the following:

```
cd /usr/pbs
```

or replace “*/usr/pbs*” with the name of your Passport top-level directory.

Then type the following:

```
pbs
```

Then when the master menu appears, select the module you wish to use from the master menu.

Multiple Companies

If you have set up your software to process information for more than one company (refer to *Define Multiple Companies* in the *PBS Administration* documentation), you will be prompted to enter the Company-ID.

Entering Your Initials

You are prompted to enter your initials.

Entering Passwords

You will be prompted to enter your password. For security, the characters you type will not display on the screen. A user may reset his or her password during login to PBS.

For the initial setup of users and passwords, refer to *PBS Users* chapter in the *PBS Administration* documentation.

Exiting Master Scheduling & MRP

To exit a Passport module, press <Esc> from the main menu. To exit a sub-menu, press <Esc> to return to a main menu. You can also exit out of the Windows menu by clicking on the Exit button.

If you exit PBS improperly, it may cause a data loss.

Guide to Daily Operations

This chapter contains the following topics:

Master Scheduling & MRP Checklists	.....
Daily Operations Checklist	.....
Periodic/Monthly Operations Checklist	.....

MASTER SCHEDULING & MRP CHECKLISTS

The following checklists are provided as examples of how you might use Master Scheduling & MRP to perform various daily and periodic tasks.

While we attempt to present the tasks in a logical order, you should adjust the checklist as necessary to meet your own needs. You may wish to consult with your PBS Manufacturing Trainer for advice on organizing your own checklists to ensure the efficiency and security of your business operations.

Daily Operations Checklist

Use the following guidelines for performing daily and periodic Master Scheduling & MRP tasks:

Each Day	Each Day as Needed
	Review, enter or adjust Forecasts using Shipment Forecasts, Enter.
	Print and review Reports, MRP Explosion, MRP Order actions and review materials requiring action. This report can be used to view all types of items though is typically used to review manufactured goods.
	Print and review Reports, MRP Explosion, MRP Vendor Purchase Actions report to review purchased goods that require action listed by Vendor.
	View Displays, MRP Explosion, MRP Item Summary to see more details about items appearing on the action reports to aid you in the decision making process.
	If you have multiple warehouses, enter or maintain Branch MRP Factors to control how you plan between warehouses using the Branch MRP Factors program.
	Run Explode Requirements, MRP Explosion program periodically. Frequency will vary depending on your needs. Discuss this with your PBS Manufacturing Training Consultant.
	Delete Prior MRP Run Files using the program of the same name if you keep multiple MRP runs on file.

Periodic/Monthly Operations Checklist

Use the following guidelines for performing periodic Master Scheduling & MRP tasks:

Each Period	Each Period as Needed
Shift <i>Schedule</i> Periods to drop past periods and to add new ones for planning.	
Shift <i>Forecast</i> Periods to drop past periods and to add new ones for planning	

Control Information

This chapter contains the following topics:

[Control Information](#)

CONTROL INFORMATION

Control information for Master Scheduling & MRP specifies data used by other programs in the Master Scheduling & MRP package. You enter these values when you install the package and may modify them later as necessary.

Select

Select *Control information* from the M/J menu.

The following screen displays:

```

Control information,

      1. Next firm planned order #   10

      Planning & reporting defaults:
      2. Use item forecasts ?         Y
      3. Reschedule message sensitivity in days  2
      4. Suggest order reschedules within fence ? N
      5. Suggest new orders within fence ?      Y
      6. List planned orders by due or start date Start date
      7. Planned order release look ahead days  5
      8. Use MRP orders pegging option ?       Y
      9. Include safety stock in requirements ? Y
      10. Explode components of purchased items ? N

Field number to change ? 
    
```

Enter the following fields:

1. Next firm planned order

Entry Format: From 1 to 6 numeric digits.

Comments: This is the number that will be assigned to the next firm planned order entered. Each time a new firm planned order is entered, this number is automatically increased by 1.

Planning & reporting defaults:

Whenever you run programs to generate master schedule information or to explode requirements you are asked to specify planning options. The following values will display as default entries when you run those planning programs, but may be changed at run time:

2. Use item forecasts ?

Entry Format: Y or N.

Comments: A Y answer will cause the planning program to access Shipment Forecast information on file to develop item forecast requirements.

If you intend to maintain Shipment Forecasts for some items, set this default to Y; otherwise answer N.

If you maintain item forecasts, you may occasionally want to generate a short range plan without using the forecasts, only considering customer order backlog. You can change this default to N when you run the planning program.

3. Reschedule message sensitivity in days

Entry Format: A single numeric digit from 1 to 9.

Comments: This factor controls the generation of order reschedule messages. If the due date of a supply order needed to cover a net requirement is at least this number of schedule days (+ or -) from the requirement due date, an order reschedule action message will be created. A lower number of sensitivity days will generate more reschedule messages.

4. Suggest order reschedules within fence ?

Entry Format: Y or N.

Comments: A Y answer allows suggested rescheduling of supply orders to dates within an item's firm schedule time fence, applying the reschedule sensitivity factor.

A N answer prevents suggested rescheduling of supply orders to due dates within the firm schedule time fence. If an order with a due date beyond the firm schedule period is needed to cover a net requirement within the firm schedule fence, the program will suggest reschedule to the first schedule day beyond the fence.

5. Suggest new orders within fence ?

Entry Format: Y or N.

Comments: A Y answer allows suggested planned orders to be recommended with due dates that are within the firm schedule fence period.

A N answer prevents suggestion of new planned orders with due dates inside the fence period. Planned orders needed to cover net requirements within the fence will be suggested for a due date that is one schedule day beyond that firm schedule period.

6. List planned orders by due or start date

Entry Format: D = Due Date, or S = Start Date.

Comments: This controls the placement of planned order quantities into time buckets on the timephased item summary reports. Planned order records will always carry both dates, and suggested planned order release action messages will always be based on Start Date, so this is just a summary reporting elective.

Other MRP systems have traditionally listed suggested planned orders by Start Date period, to show the release period and lead time offset. However, this is sometimes confusing because all of the other timephased requirements and orders data listed for an item are by Due Date.

7. Planned order release look ahead days ?

Entry Format: A single numeric digit, from 1 to 9.

Comments: If the Start Date of a Suggested Planned Order is this number of schedule days from the current date, an order release action message will be generated. If you replan weekly and have 5 schedule days/week you would need 5 "look ahead" days to assure timely release of all orders.

8. Use MRP orders pegging option ?

Entry Format: Y or N.

Comments: Answer Y if you wish the MRP explosion program to create additional records that will allow you to run MRP order pegging analysis programs. Otherwise, answer N.

Order pegging analysis allows you to trace ("peg") an open or planned supply order to specific demand requirements or parent item orders for which the supply order is needed, through multiple bill of material levels.

9. Include safety stock in requirements ?

Entry Format: Y or N.

Comments: This answer pertains to those MRP explosion items that are not master schedule items (items not assigned to master Planning Groups). A Y answer causes item Safety Stock Quantity, if any, to be included as a gross requirement in the current schedule period. A "N" answer excludes those item safety stocks from requirements.

For items assigned to master Planning Groups, the inclusion or exclusion of Safety Stock as a requirement is specified for each item by using the Assign Items To Planning Groups program.

Exclusion of defined Safety Stock quantities from planned requirements may be the right decision when current shop workloads, or current vendor workloads, are very high. Temporary exclusion of safety stock will lower short term demands.

10. Explode components of purchased items ?

Entry Format: Y or N.

Comments: This answer determines whether the MRP explosion program will explode planned orders for any purchased item to lower levels, if the purchased item has a bill of material on file. If you subcontract manufacturing of some items to outside vendors, you may also maintain component bills of material for the purchased subcontract items. In that situation, answer Y if you supply all component materials to those vendors, or answer N if the vendors procure the components.

You may answer Y to this question, but also prevent explosion of requirements for selective components by entering N to the "Controlled ?" field of the component Item Masters.

Planner/Buyer Codes

This chapter contains the following topics:

[Introduction to Planner/Buyer Codes](#)

[Entering Planner/Buyer Codes](#)

[Assign to Items](#)

INTRODUCTION TO PLANNER/BUYER CODES

The Planner/Buyer codes entered to Item Master records and to Planning Group records are used by the Master Scheduling & MRP package to sort output information about item requirements and orders by Planner or Planner/Buyer. Planner/Buyer codes are also used by PBS Manufacturing Purchase Order Processing, to identify the buyer for each purchase order.

Use the Assign items program to easily assign Planner/Buyer Codes to ranges of Item Types or Item Numbers in the Item Master File.

ENTERING PLANNER/BUYER CODES

Select

Enter from the *Planner/buyer codes* menu. The following screen appears:

```
Master information (Planner/buyer codes)

* 1. Planner/buyer code  
  2. Planner/buyer name
  3. Purchase order limit

<F1> = Next record, <F2> = Previous record, <F5> = Print
```

The fields you enter are:

1. Planner/buyer code

Entry Format: Up to 3 alphanumeric characters.

2. Planner/buyer name

Entry Format: Up to 20 alphanumeric characters.

Press <F5> to print a report of all Planner/buyer codes on file.

Planner/Buyer Codes List

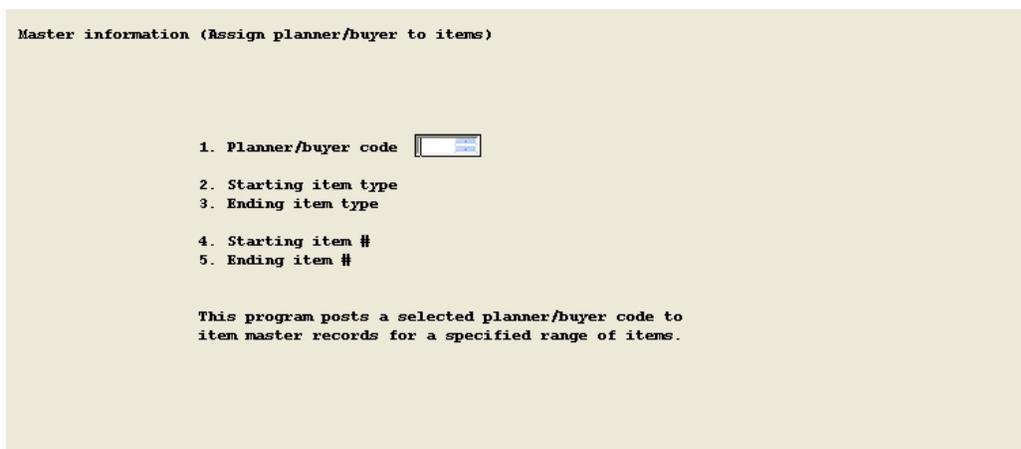
Press <F5> to print a report of all the Planner/Buyer Codes on file.

ASSIGN TO ITEMS

This program posts a selected Planner/Buyer Code to Item Master records for a specified range of Item Types or Item Numbers. The assignment of Planner/Buyer Codes to items is not required for Purchase Order Processing programs. Such assignment to items becomes useful if you use the Master Scheduling & MRP package, where output information about item requirements and orders can be sorted by Planner/Buyer Code.

Select

Assign to items from the *Planner/buyer codes* menu. The following screen appears:



```
Master information (Assign planner/buyer to items)

1. Planner/buyer code 
2. Starting item type
3. Ending item type
4. Starting item #
5. Ending item #

This program posts a selected planner/buyer code to
item master records for a specified range of items.
```

The fields you enter are:

1. Planner/buyer code

Entry Format: Up to 3 alphanumeric characters.

Validation: Must match a Planner/Buyer Code on file.

2. Starting item type

Entry Format: Up to 4 alphanumeric characters, or Blank for Undefined.

3. Ending item type

Entry Format: Up to 4 alphanumeric characters, or Blank = Starting value.

4. Starting item

Entry Format: Up to 15 alphanumeric characters, or <F1> for "All".

5. Ending item

Entry Format: Up to 15 alphanumeric characters, or Blank = Starting value.

When posting is complete, the program tells you the number of Item Masters posted.

Forecast Estimates

This chapter contains the following topics:

[Introduction to Forecast Periods](#)

[Entering Forecast Periods](#)

INTRODUCTION TO FORECAST PERIODS

If you want to maintain shipment forecasts with this package, you need to define the Forecast Periods.

Forecast Periods, defined by ranges of calendar dates, are the time periods used for maintaining and reporting shipment forecast quantities. These periods may differ from Schedule Periods, which are time periods used for other Master Schedule and MRP summary reports. Typically Forecast Periods will be longer (monthly or 4-week/5-week increments) than Schedule Periods (daily or weekly increments) used for manufacturing and purchase planning. You may define up to 14 Forecast Periods and up to 60 Schedule Periods.

Some general recommendations for defining Forecast Periods will permit proper forecast "consumption", and will make it easier to trace Forecast Period quantities to Schedule Periods:

- The current Forecast Period, usually the first or second Forecast Period on file, should correspond to the current Inventory Management period, as defined by the Period End Date on the I/M Control File. This will allow the planning programs to properly consume (reduce) the item total forecasts for the current Forecast Period by the item period-to-date shipments plus item backlog quantities scheduled for that period. Otherwise, planning programs will warn you that a more simplified, and possibly inaccurate, assumption must be made about period-to-date shipments in calculating the forecast quantity balances for the current Forecast Period.
- While some Forecast Periods will usually span several MRP Schedule Periods, align the Forecast Period Start Dates as close as possible to Start Dates of Schedule Periods. This is easy if you use 4-week/5-week fiscal periods for forecasting and Inventory Management statistics, and use daily and/or weekly Schedule Periods. However, you can't exactly align these boundaries if you want to use calendar months for Forecast and Inventory Management periods, but use weekly Schedule periods.
- Avoid defining Forecast Periods that are much shorter than the corresponding Schedule Periods. It's OK to define some of the future Schedule Periods as monthly or quarterly periods, but if you do this then try to align the corresponding future Forecast Periods accordingly.
- The forecast planning horizon, defined by the End Date of the last Forecast Period, should not be less than the schedule horizon, defined by the End Date of the last Schedule Period.

Schedule Periods are initialized by another program. You should determine your initial forecast and schedule periods before you use this program or the program to Initialize Schedule Periods.

ENTERING FORECAST PERIODS

Use this program to initially define, or to completely redefine, your Forecast Periods. After Forecast Periods are initialized, you may use the "Shift forecast periods" program on the menu for "Shipment forecasts" to easily drop the first period and add one new period as you start each new forecasting cycle.

Select

Forecast estimates from the M/S menu. The following screen appears:

Forecast periods				
	Start	End	Mfg days	Sell days
1.	10/01/09	10/31/09	31	31
2.	11/01/09	11/30/09	30	30
3.	12/01/09	12/31/09	31	31
4.	1/01/10	1/31/10	31	31
5.	2/01/10	2/28/10	28	28
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
I/M current period end date 6/30/07				
Re-enter periods ? <input type="checkbox"/>				

Enter the following fields:

1. Start date

6 numeric digits in MMDDYY format.

End date

6 numeric digits in MMDDYY format.

- If this ending date for the first period does not match the I/M Current Period End Date displayed at the bottom of the screen, you are warned about this but you may proceed.

Mfg days

Automatically calculated and displayed. This is total days between Start Date and End Date less any exception days (non-working days) in that period, as defined on the Schedule Exception Dates file.

Sell days

Up to 2 numeric digits but not more than the total number of days between the Start and End dates for the period.

- Default entry displayed is the Manufacturing Days for the period. However, in some periods the number of Selling (Shipping) Days could exceed the number of Manufacturing Days.

The Start Date for the next Forecast Period is automatically calculated and displayed. You may proceed adding up to 14 Forecast Periods, or press <F1> to end entering Forecast Periods.

Note

Warning

If you have previously set up Forecast Periods and already have item shipment forecasts on file, it is not desirable to change or shift Forecast Periods with this program (unless you plan to re-enter all shipment forecasts). Shipment forecasts are stored as total forecast quantities for each Forecast Period, and therefore relate to the Forecast Periods defined at the time of shipment forecast entry.

When there are shipment forecasts on file, you may use the "Shift forecast periods" program to simultaneously shift the forecast calendar and the related shipment forecast quantities by one Forecast Period.

Schedule Periods

This chapter contains the following topics:

[Introduction to Schedule Periods](#)

[Entering Schedule Periods](#)

INTRODUCTION TO SCHEDULE PERIODS

Schedule Periods are the reporting time periods used for Master Schedule and MRP summary lists. You may define up to 60 Schedule Periods, or a lesser number, of equal or varying time spans.

Schedule Periods only define the "time buckets" into which detail dated requirements and orders quantities are summarized on some reports and screen displays. Since actual planning processes are "bucketless", length of defined Schedule Periods does not affect the amount of item lead time offset applied at each planning level.

Master Schedule and MRP explosion planning programs will only generate information about those requirements and orders due within the schedule horizon, as defined by the End Date of the last Schedule Period. The total schedule horizon should therefore cover the longest cumulative purchasing and manufacturing lead time for your end products. Other programs in this package allow you to analyze your cumulative planned lead times for any item.

Schedule Periods for the short to medium range planning are usually defined as daily and/or weekly time increments. You may wish to define some monthly or quarterly schedule periods for longer range planning, beyond the short to medium range horizon

ENTERING SCHEDULE PERIODS

Use this program to initially define or to completely redefine your Schedule Periods. After Schedule Periods are initialized, you may use the "Shift schedule periods" program, on the menus for "Master schedules" and for "Run MRP explosion", to easily drop the first period and add one new period as you start each new schedule planning cycle.

Select

Schedule periods from the *M/S* menu. The following screen displays:

Schedule periods		Period	Mfg	Period	Mfg	Period	Mfg
Period	Mfg	start	days	start	days	start	days
1.	10/01/09	31	16.	31.	46.		
2.	11/01/09	30	17.	32.	47.		
3.	12/01/09	31	18.	33.	48.		
4.	1/01/10	31	19.	34.	49.		
5.	2/01/10	28	20.	35.	50.		
6.	3/01/10	31	21.	36.	51.		
7.	4/01/10	30	22.	37.	52.		
8.			23.	38.	53.		
9.			24.	39.	54.		
10.			25.	40.	55.		
11.			26.	41.	56.		
12.			27.	42.	57.		
13.			28.	43.	58.		
14.			29.	44.	59.		
15.			30.	45.	60.		

Last period end date 4/30/10

Re-enter periods ?

If you previously entered Schedule Periods, they will display and the program asks "Do you wish to re-enter periods ?". If there are no previously defined periods, or you elect to re-enter all periods, you enter:

1. Period start date

6 numeric digits in MMDDYY format.

Enter the next Period Start date after which the **Mfg Days** for the preceding Schedule period will display. **Mfg Days** are the calculated number of manufacturing days between Period Start Dates, excluding exception days (non-working days) on the Schedule Exception Dates file.

Enter up to 60 scheduling periods, or press <F1> to end entering scheduling periods. You then are prompted to enter the Last Period End Date, after which **Mfg Days** are displayed for the last Schedule Period.

There are no restrictions on how frequently you wish to redefine or shift schedule periods. Master Schedule and MRP Explosion planning programs use the Schedule Periods on file at program run time. The MRP Explosion program stores the Schedule Periods effective at run time with the detail MRP output data.

Branch MRP Factors

This chapter contains the following topics:

[Introduction to Branch MRP Factors](#)

[Entering Branch MRP Factors](#)

INTRODUCTION TO BRANCH MRP FACTORS

Master Scheduling and [MRP](#) performs requirements and order planning functions for each item's Primary Warehouse, which is the primary storage and/or producing location for the item.

If you also define Branch Warehouses and Branch Warehouse Items in PBS Manufacturing Inventory Management, then information from Branch Warehouse Items and Branch MRP Factors determines how branch requirements and on hand quantities are handled by Master Scheduling & MRP planning programs.

- A Y answer to "Supply from primary ?" in a Branch Warehouse Item record indicates the item is supplied to that branch from the item's Primary Warehouse. In this situation, net customer order backlog or shop order material requirements (allocations) for the branch become Primary Warehouse gross requirements. Branch "net requirements" are determined by applying the branch On Hand inventory to any branch item requirements on file.
- Branch MRP Factors include the "Primary to branch transfer time" in days. This determines the "transfer lead time offset", if any, applied to branch item net requirements when converting them to Primary Warehouse gross requirements.
- Branch MRP Factors also specify whether branch "net on hand" inventories are available for application to Primary Warehouse requirements. This answer generally depends on the distance between the branch location and the primary location.

ENTERING BRANCH MRP FACTORS

Select

Enter from the *Shop order materials* menu.

The following screen displays:

```
Branch MRP factors

* 1. Primary warehouse      
* 2. Branch warehouse
3. Primary to branch transfer time
4. Apply branch net on hand to primary reqts ?

Branch net on hand is the quantity of item
on hand in excess of total allocations at
the branch warehouse location.

<F1> = Next record, <F2> = Previous record, <F5> = Print
```

Enter the following fields:

1. Primary warehouse

Entry Format: Up to 2 alphanumeric characters, or space for default of "Main".

Validation: Entry other than space must match a warehouse on the Warehouses File that is maintained in Inventory Management. The warehouse description is then displayed.

2. Branch warehouse

Entry Format: Up to 2 alphanumeric characters, or space for default of "Main".

Validation: Entry other than space must match a warehouse on the Warehouses File. The warehouse description is then displayed.

Comments: The branch warehouse cannot equal the primary warehouse.

3. Primary to branch transfer time

Entry Format: Up to 2 numeric digits, or zero, specifying the transportation time in days.

4. Apply branch net on hand to primary reqts ?

Entry Format: Y or N. Default of N is displayed.

Comments: "Branch net on hand" is the quantity of item on hand inventory in excess of total allocations at the branch.

Press <F5> to print a report of all Branch MRP factors on file.

Printing Branch MRP Factors

You may print the Branch MRP Factors from the main screen.

Select

<F5> from the first field on the *Branch MRP factors* screen.

Select a printer.

Planning Groups

This chapter contains the following topics:

[Introduction to Planning Groups](#)

[Entering Planning Groups](#)

[Assign Items](#)

INTRODUCTION TO PLANNING GROUPS

To group items for the purpose of forecasting and/or master schedule reporting, you need to define Planning Groups and assign the appropriate items to those groups.

If you use the Shipment Forecasts function, you must first assign forecasted items to Planning Groups. This enables maintenance and use of the item forecasts by other programs in this package. Items in a forecast Planning Group may be individually forecasted or forecasted as a group. If forecasted as a group, items assigned to the Planning Group should have a uniform Stock Unit of Measure.

If you wish to print or display Master Schedules, you must first assign the Master Schedule items to Planning Groups. To include a product or service part in the MRP Explosion, it is not necessary to assign it to a Planning Group. However, such "unassigned" items will not generate forecast requirements and will not be included on Master Schedule lists.

ENTERING PLANNING GROUPS

Use this function to maintain Planning Groups and assign items to those groups. Other programs allow you to print or display the Planning Group List, print or display Planning Group item assignments, and print unassigned items with customer order backlog.

Select

Enter from *Planning groups* menu.

The following screen displays:

```
Planning groups (Enter)

* 1. Planning group #      |
  2. Group description
  3. Production planner code
  4. Forecast items in group ?
  5. Forecast as a group ?
  6. Forecast planner code

<F1> = Next record, <F2> = Previous record
```

Enter the following fields:

1. Planning Group

Entry Format: Up to 6 alphanumeric characters.

2. Group description

Entry Format: Up to 25 alphanumeric characters.

3. Production planner code

Entry Format: Up to 3 alphanumeric characters. After the initial entry, the last Production Planner Code entered displays as the default.

Validation: Must match record on the Planner/Buyer Code File.

4. Forecast items in group ?

Entry Format: Y or N. Default of Y is displayed.

If N is entered, "Not applicable" is displayed at Fields 5 and 6.

5. Forecast as a group ?

Entry Format: Y or N. (Only entered if Field 4 is Y.)

Comments: A Y answer indicates that the forecasts maintained will be total quantity forecasts for all of the items in the group. A N answer means each item will be individually forecasted.

6. Forecast planner code

Entry Format: Up to 3 alphanumeric characters. After the initial entry, the last Forecast Planner Code entered displays as the default. (Only entered if Field 5 is Y.)

Validation: Must match record on the Planner/Buyer Code File.

ASSIGN ITEMS

Select

Assign items from *Planning groups* menu.

The following screen displays:

```
Planning groups (Assign items)

* 1. Planning group # 
* 2. Item #

3. Firm schedule time fence
4. Safety stock qty

<F1> = Next record, <F2> = Previous record
```

Enter the following fields:

1. Planning Group

Entry Format: Up to 6 alphanumeric characters.

2. Item

Entry Format: Up to 15 alphanumeric characters.

If a Group Item assignment record already exists for the Item and Planning Group, it is displayed.

Validation: Must match Item Master record, from which description and several codes display. You are not allowed to assign an Item Number to more than one Planning Group.

3. Firm schedule time fence (days)

Entry Format: Up to 2 numeric digits. Zero is allowed.

Comments: This is an Item Master field which may also be maintained with this program.

Firm schedule fence days is the period, starting with a planning run date, within which you may optionally prevent order reschedules and/or new order schedules for the item.

Master scheduling and explosion planning programs allow you to use variable time fences for each Master Schedule item (specified in this field), or to use a common "fixed time fence" for all Master Schedule Items.

4. Safety stock qty

Entry Format: Up to 6 numeric digits. Zero is allowed.

Comments: This is an Item Master field which may also be maintained with this program.

The following fields are entered if the Safety Stock Quantity is not zero:

5. Include safety stock in reqts ?

Entry Format: Y or N. Default of Y is displayed.

Comments: You may elect to include or exclude Safety Stock as a requirement in Master Schedule or MRP Explosion planning runs. This answer determines whether the item's Safety Stock will be included as a requirement for the next planning run.

6. Safety stock replenishment time (days)

Entry Format: Up to 2 numeric digits, or <F1> to automatically enter the item's Lead Time Days. Zero allowed.

Comments: This is the number of Manufacturing Days into the future, from any planning run date, that the Safety Stock requirement will be dated.

If you specify a non-zero replenishment time, this lead time should be within the frozen schedule time fence, or within the "reschedule sensitivity days" specified for planning runs. Otherwise, excessive short range order rescheduling may occur, due to always "pushing" the Safety Stock requirement a fixed number of days into the future.

Shift Forecast Periods

This chapter contains the following topics:

Introduction to Shipment Forecasts	.....
Shift Forecast Periods	.....
Entering Shipment Forecasts	.....
Change Item Estimated Rates	.....

INTRODUCTION TO SHIPMENT FORECASTS

Maintenance of item shipment quantity forecasts and use of those forecasts by master schedule and MRP explosion planning programs are optional features. You may elect to forecast selected products or service parts for which demand is predictable with reasonable accuracy. Forecasts allow you to plan item requirements and related supply orders beyond the horizon of booked customer order backlog and open or firm supply orders.

To allow use of forecast information by master scheduling or by MRP explosion planning programs, you must first:

- Initialize and maintain the Forecast Periods.
- Define item Planning Groups, specifying which of the Planning Groups include forecasted items, and if the Group's items are to be forecasted as a total group or as individual items. Assign the appropriate Item Numbers to the defined Planning Groups.
- Enter and update shipment quantity forecasts with this function.

"Estimated average daily sales" rates from Item Master records may optionally be used as defaults when entering shipment forecasts. Item Master estimated daily rates are only used by Master Scheduling & MRP if those rates are converted to shipment forecasts with this package.

When you run other master schedule or MRP planning programs, you will also have the planning run time option of including or excluding shipment forecasts on file in planned requirements.

If you use shipment forecasts, it is recommended that you use PBS Manufacturing Customer Order Processing. Availability of customer order backlog and period-to-date shipments, updated by that package, allows proper calculation of period requirements by the Master Scheduling & MRP planning programs. When a period forecast has been totally "consumed" by period backlog (plus period-to-date shipments for the current period), item requirements will include the backlog but no forecast balance. When a period forecast is only partially consumed, item planned requirements will include backlog plus the unconsumed forecast balance.

Use this function to shift forecast periods, and to add or change shipment forecasts. Other programs allow you to display shipment forecasts, print the shipment forecasts report, and change Item Master estimated daily sales rates

SHIFT FORECAST PERIODS

After you have initialized Forecast Periods, you may use this program to easily drop the first forecast period and add one new period as you start each new forecasting cycle.

Select

Shift forecast periods from the *Shipments forecast* menu.

```

Shipment forecasts (Shift forecast periods)

      Start      End      Mfg Sell
      days      days
1. 10/01/09 10/31/09 31 31
2. 11/01/09 11/30/09 30 30
3. 12/01/09 12/31/09 31 31
4. 1/01/10 1/31/10 31 31
5. 2/01/10 2/28/10 28 28

      I/M current period end date 6/30/07

OK to drop first period and all forecasts for first period ? 
    
```

The forecast periods are displayed, and you are asked if it is "OK to drop first period and all forecasts for first period?". If you answer N, you exit the program. If you answer Y, the screen redisplay with periods shifted to exclude the first period originally displayed.

You are prompted to enter the End Date and Sell Days for the new period at the end of the forecasting horizon. When you answer N to "Any change to period added?", the program asks "Are you sure?". Answer Y to complete the shift, and a short processing time will occur to shift the forecast quantity data in the Planning Group Item records on file.

ENTERING SHIPMENT FORECASTS

Use this program to enter shipment quantity forecasts by Forecast Planner, Planning Group, and Item Number.

Select

Enter from the *Shipments forecast* menu.

```
Shipment forecasts (Enter)
  1. Today's date           
  2. Forecast planner code
  3. Begin update in period

  Period  Start      End
  1  10/01/09  10/31/09
  2  11/01/09  11/30/09
  3  12/01/09  12/31/09
  4  1/01/10   1/31/10
  5  2/01/10   2/28/10
```

1. Today's date

Entry Format: 6 digits in MMDDYY sequence.

Default: System date.

2. Forecast planner code

Entry Format: Up to 3 alphanumeric characters, after which the name is displayed from the Planner/Buyer File.

3. Begin update in period

Entry Format: Up to 2 numeric digits.

Default: The first forecast period with a Starting Date that is greater than the entry for Today's Date.

To enter shipment forecasts, enter:

Planning group

Up to 6 alphanumeric characters, or press <F1> to retrieve the next Forecast Group assigned to the Forecast Planner.

Entry must match a Planning Group on file for which items are forecasted and which references the Forecast Planner Code previously entered.

If a valid entry, the Planning Group description displays and you answer Y to confirm the Group.

Item #

Up to 15 alphanumeric characters, or press <F1> to retrieve the next Item assigned to the Group.

This field is bypassed and "Group forecast" displays if the Planning Group record indicates the group items are forecasted as a group.

The forecast calendar and various reference data, including PTD, YTD, and Last Year quantity sold statistics and previously entered period forecasts are displayed. If you use PBS Manufacturing Customer Order Processing, scheduled backlog quantities by period are also shown. For a total Group Forecast, these are summary values for all items in the group. For an individual item forecast, the Item Master estimated daily rate also displays on this screen. You then specify the forecast quantity entry method as:

Totals or daily rates

T = Totals, or D = Daily rates.

The program will automatically convert period Forecast Totals entered to equivalent Daily Rates, or convert Daily Rates entered to period Forecast Totals by using the period Sell Days factors.

If you select the Totals method of forecast entry, you enter the period total forecast quantities beginning at the period you specified on the previous screen:

Fcst-total

To change a previously entered non-zero total, you must first press <F1> when at the period.

Enter up to 8 numeric digits. Zero is allowed.

Press <F2> to skip all remaining entries.

If you select the Daily Rates entry method, the program asks if you want to enter the same Daily Rate for all periods, starting with the first update period specified on the preceding screen. If you answer Y, you are prompted to type in the desired Daily Rate, up to 6 numeric digits plus 3 decimals, and the updated period rates will then automatically display. If you answer N, you are prompted to enter period Daily Rates, beginning at the first update period specified on the preceding screen:

Daily rates

To change a previously entered non-zero rate, you must first press <F1> when at the period.

Enter up to 6 numeric digits plus 3 decimals, or <F1> to default to the Item Master daily rate. The Item Master daily rate default is not available for total Group forecasts.

Press <F2> to skip all remaining entries.

You are not allowed to change forecast totals or rates for periods earlier than the first update period specified on the preceding screen. Press F3 at "Field number to change ?" to zero out all forecast quantities for all periods.

If items in the Planning Group are forecasted as a Group, a third screen displays all of the items assigned to this Planning Group. On this screen you enter "Daily rates for forecast allocation". These

are the weighting factors assigned to each item in the Group for the purpose of allocating portions of the total Group forecast to individual items. In other planning programs that use this information, these forecast allocation factors are summed for all of the items in the group. The period forecast for an item is determined by multiplying the period forecast for the group by the item's forecast allocation factor, and dividing the result by the sum of the allocation factors for all items in the Group.

The "Item Master estimated rate" of average sales quantity per day is displayed as a reference on the group item allocation screen. To the right of each Item Master rate is the "Sales forecast method code" (**S** = Statistical, **U** = User, **N** = No forecast) pertaining to that daily rate.

The program asks if you wish to "Change all forecast allocation rates to the Item Master estimated rates?". If you answer Y, the forecast allocation rates are automatically set to the Item Master estimated rates. You are allowed to modify the following fields:

Apply fcst?

Y or N. Initially defaults to Y.

This answer determines whether part of the total Group forecast will be assigned to this item by other planning programs. You may wish to only apply the Group forecast to some of the higher volume products in the group, answering N for some of the lower volume items in the Group.

Day-rate-for fcst alloc

Daily rate used for forecast allocation, up to 6 numeric digits plus 3 decimals. Zero is allowed.

CHANGE ITEM ESTIMATED RATES

This program provides a convenient, alternative way to make changes to the Item Master fields for "Estimated average daily sales rate" and "Sales forecast method", rather than using the "Item masters" function in Inventory Management.

Select

Change item estimated rates from the *Shipment forecasts* menu.

Shipment forecasts (Change item estimated rates)

* Item #:

<F1> = Next record, <F2> = Previous record, Blank = look up by desc

Enter the following fields:

* Item

Up to 15 alphanumeric characters, or Blank to look up by description.

Several of the Item Master fields display. You are allowed to change:

1. Est avg daily sales

Up to 6 numeric digits plus 3 decimals.

2. Sales forecast method

N = No forecast, **S** = Statistical, **U** = User forecast.

Master Schedules

This chapter contains the following topics:

Introduction to Master Schedules
Shift Schedule Periods
Display or Print Master Schedules - Common Options
Display Master Schedules
Print Master Schedules
Enter Firm Planned Orders
Purge Firm Planned Orders

INTRODUCTION TO MASTER SCHEDULES

This function allows you to shift schedule periods, display or print Master Schedules with related order action messages. If you use firm planned orders for master planning, you may also maintain or purge firm planned orders.

Each time that you run a program to display or print master schedules, the demand and supply information is regenerated from current data files at the time of your request. This differs from the MRP explosion process, where a separate explosion program is run to generate new report files that are later viewed or printed with other programs.

Master Schedule display or print options include single level explosion of Level 0 (top level) items to Level 1 gross requirements. This allows calculation of total demands and complete master scheduling of supply orders at the top two levels of your bill of material structure. Other lower level items at Level 2 and below, such as forecasted service parts, may appear on Master Schedule reports, but the Master Schedule programs will not plan orders for those lower level items. The complete MRP explosion process is required to develop lower level requirements.

SHIFT SCHEDULE PERIODS

After you have initialized Schedule Periods, you may use this program to easily drop one or more of the earliest periods and to add one or more periods at the end of the schedule horizon, as you start a new planning cycle.

Select

Shift schedule periods from the Master schedules menu.

Master schedules (Shift schedule periods)							
	Period	Mfg	Period	Mfg	Period	Mfg	Period
	start	days	start	days	start	days	start
1.	<input type="text"/>		16.		31.		46.
2.			17.		32.		47.
3.			18.		33.		48.
4.			19.		34.		49.
5.			20.		35.		50.
6.			21.		36.		51.
7.			22.		37.		52.
8.			23.		38.		53.
9.			24.		39.		54.
10.			25.		40.		55.
11.			26.		41.		56.
12.			27.		42.		57.
13.			28.		43.		58.
14.			29.		44.		59.
15.			30.		45.		60.

Last period end date

Enter the following fields:

Schedule Periods are displayed on the screen, and you are prompted to enter the number of periods to drop. The default value displayed will cause the beginning schedule period, after the shift, to coincide with the current date. If you enter zero or press ESC (or TAB), you exit the program. Otherwise, the screen redisplay with the periods shifted, excluding the number of periods you requested to be dropped. You then must enter the new periods at the end of the schedule horizon, including the Start Date of each new period and the End Date of the last Schedule Period.

If you have also defined Forecast Periods and some of the new Schedule Periods entered are incompatible with existing Forecast Period Start Dates, you are warned that inaccurate allocation of forecast quantities may occur. This does not mean that every Schedule Period Start Date must coincide with the beginning of a Forecast Period. It means that each Forecast Period Start Date within the Schedule Periods horizon should match the Start Date of one of the Schedule Periods.

DISPLAY OR PRINT MASTER SCHEDULES - COMMON OPTIONS

Each time that you run a program to display or print master schedules, the demand and supply information is regenerated from current data files.

Select

Display master schedules or *Print master schedules* from the *Master schedules* menu.

```
Master schedules (Display master schedules)

Please enter:

1. Today's date           101510
2. Starting prod planner code
3. Ending prod planner code
4. Starting planning group #
5. Ending planning group #
6. Starting item #
7. Ending item #
8. Use item forecasts ?
9. Reschedule message sensitivity in days
10. Suggest order reschedules within fence ?
11. Suggest new orders within fence ?
12. Fixed fence date for all items ?
13. Planned order release look ahead days
14. List planned orders by due or start date
15. Explode top level reqts for level 1 plan ?
```

Enter the following fields:

1. Today's date

Enter in MMDDYY format, or use the displayed System Date default.

2. Starting prod planner code

Up to 3 alphanumeric characters, or <F1> for "All", or <F2> to default all remaining entries on this screen to the previous report (or display) values, saved from a preceding run. Each time you run the program, it asks if you wish to save your entries.

3. Ending prod planner code

Up to 3 alphanumeric characters, or Blank to default to Starting code.

4. Starting planning group

Up to 6 alphanumeric characters, or <F1> for "All".

5. Ending planning group

Up to 6 alphanumeric characters, or Blank to default to Starting group.

6. Starting item

Up to 15 alphanumeric characters, or <F1> for "All".

7. Ending item

Up to 15 alphanumeric characters, or Blank for Starting item.

8. Use item forecasts ?

Y or N. Default from M/S Control Information.

Comments: A Y answer will cause the planning program to access Shipment Forecast information on file to develop item forecast requirements.

If you maintain item forecasts, you may occasionally want to generate a short range plan without using the forecasts, only considering customer order backlog. You can change this default to N when you run the planning program.

9. Reschedule message sensitivity in days

A single numeric digit, from 1 to 9. Default from M/S Control Information.

Comments: This factor controls the generation of order reschedule messages. If the due date of a supply order needed to cover a net requirement is this number of schedule days (+ or -) from the requirement due date, an order reschedule action message will be created. A lower number of sensitivity days generates more messages.

10. Suggest order reschedules within fence ?

Y or N. Default from M/S Control Information.

Comments: A Y answer allows suggested rescheduling of supply orders to dates within an item's firm schedule time fence, applying the reschedule sensitivity factor.

A N answer prevents suggested rescheduling of supply orders to due dates within the firm schedule time fence. If an order with a due date beyond the firm schedule period is needed to cover a net requirement within the firm schedule fence, the program will suggest reschedule to the first schedule day beyond the fence.

11. Suggest new orders within fence ?

Y or N. Default is from M/S Control Information.

Comments: A Y answer allows suggested planned orders to be recommended with due dates that are within the firm schedule fence period.

A N answer prevents suggestion of new planned orders with due dates inside the fence period. Planned orders needed to cover net requirements within the fence will be suggested for a due date that is one schedule day beyond that firm schedule period.

12. Fixed fence date for all items ?

Y or N.

Comments: A Y answer allows you to define a fixed firm schedule time fence that applies to all master schedule Group Items. This defined fixed fence date will override the Firm Schedule Days factor in related Item Masters.

If you answer Y, you are prompted to enter:

Fence date

Enter in MMDDYY format. This is the first date outside the firm schedule period. All preceding dates are within the firm schedule fence.

13. Planned order release look ahead days

A single numeric digit, from 1 to 9. Default is from M/S Control Information.

Comments: If the Start Date of a Suggested Planned Order is this number of schedule days from the current date, an order release action message will be generated. If you replan weekly and have 5 schedule days/week you would need 5 "look ahead" days to assure timely release of all orders.

14. List planned orders by due or start date

D = Due date, or **S** = Start date. Default is from M/S Control Information.

Comments: This controls the placement of planned order quantities into time buckets on the timephased item summary reports. Planned order records will always carry both dates, and suggested planned order release action messages will always be based on Start Date, so this is just a summary reporting elective.

Other MRP systems have traditionally listed suggested planned orders by Start Date period, to show the release period and lead time offset. However, this is sometimes confusing because all of the other timephased requirements and orders data listed for an item are by Due Date.

15. Explode top level reqts for level 1 plan ? Y or N.

Comments: If you answer Y, gross requirements for any Group Items at Level 1 will be exploded from Level 0 item supply orders (open and planned orders for the parents of the Level 1 items). This allows complete demand and master schedule supply order planning for the top two levels of your Bills of Material. If you answer N, complete master schedules are only generated for Level 0 items.

Group Items at lower levels will appear on output screens or reports with a message indicating the total net requirements or available inventory are not known to the Master Scheduling function.

Note that only defined Planning Group Items will be included on the Master Schedule display or printed outputs.

See Display Master Schedules next or skip to [Print Master Schedules](#).

DISPLAY MASTER SCHEDULES

This program regenerates and displays summarized Master Schedule information for a requested range of Production Planners, Planning Groups, and Group Items. The summary display allows you to "zoom in" on more detail information about requirements by source or the order action messages for the item you are viewing.

You may minimize the processing delay that occurs before you are allowed to view schedules by restricting the range of groups and items selected for any schedule display run.

Select

Display master schedules from the *Master schedules* menu.

```
Master schedules (Display master schedules)

Please enter:

1. Today's date           101810
2. Starting prod planner code
3. Ending prod planner code
4. Starting planning group #
5. Ending planning group #
6. Starting item #
7. Ending item #
8. Use item forecasts ?
9. Reschedule message sensitivity in days
10. Suggest order reschedules within fence ?
11. Suggest new orders within fence ?
12. Fixed fence date for all items ?
13. Planned order release look ahead days
14. List planned orders by due or start date
15. Explode top level reqts for level 1 plan ?
```

If you have altered entries from the last time this program was used, you will be asked if you want to save the values just entered. Answer Y or N. There will be a period of processing while the program generates the Master Schedules. When this is completed, you are prompted to enter:

Review sequence

I = Item #, or P = Planner, group, & item #

If you review by Item Number, enter:

Item

Up to 15 alphanumeric characters, or <F1> for the next Item Number.

If you review by Planner, Group, & Item, enter:

Prod planner code

Up to 3 alphanumeric characters, or <F1> for the next item in this sequence.

A specific Production Planner Code entry requires you to enter:

Plan group

Up to 6 alphanumeric characters.

Item #

Up to 15 alphanumeric characters, or <F1> for the next Item Number within the Group.

The program will then display the Master Schedule summary information for the Item selected. Press <F1> if there are more periods for display; enter A for a display of Order Action messages, if any; enter R for display a more detailed display of Requirements by Source, if any.

The Master Schedule summary screen displays the following date and timephased quantity information:

Schd-pd

Schedule period.

Gross-reqts

Gross requirements.

Open-ords

Open orders.

Net-avail

Net available. These are timephased forecasts of Inventory available from On Hand and cumulative Open Orders, after subtracting the cumulative Gross Requirements. These values are based on the existing due dates of Open Orders, without considering suggested reschedules.

FP-ords-to-start

Firm planned orders to start (if displayed by start date)

or

FP-ords-due

Firm planned orders due (if displayed by due date)

SP-ords-to-start

Suggested planned orders to start (if displayed by start date)

or

SP-ords-due

Suggested planned orders due (if displayed by due date)

Total-ords-by-due-date

Total orders by due date. This is a summary of open orders, firm planned orders, and suggested planned orders by period due.

The following Order Action data displays in a window:

Ord-type

Order type of Purchase, Shop, Firm Planned ,or Suggested Planned.

Ord-# Rls

Order Number and Release Number.

Qty-due

Order quantity balance due.

Due-date

Due date.

Resched

Suggested reschedule date, for Open or Firm Planned orders.

Start

Start date; only shown for Suggested Planned.

Action-message

Action message of Expedite, De-expedite, Cancel, or Open/release.

The Requirements by Source window displays the breakdown of period total gross requirements quantities by the following sources:

Br-bklog

Branch warehouse customer order backlog.

Br-matl

Branch warehouse shop order material

Pr-bklog

Primary warehouse customer order backlog

Fcst-bal

Forecast balance.

Exploded

Exploded parent requirements.

Safety-stk

Safety stock.

PRINT MASTER SCHEDULES

This program regenerates and prints the Master Schedules By Period summary, with Order Action messages, for a requested range of Production Planners, Planning Groups, and Group Items. You may optionally request to print the action messages separate Order Action List, and to print the Master Schedule Detail By Date report of requirements and orders by type and date.

You are requested to make the same entries described in the preceding section about the common options for Master Schedule displays or reports.

Select

Print master schedules from the *Master schedules* menu.

The following entry is only requested if you answered Y to "Suggest new orders within fence?".

16. Use option to convert suggested planned orders within schedule fence to firm planned orders ?

Y or N. If you answer Y, the program will ask you to confirm this decision after the report prints.

When you have completed these entries, a second entry screen is displayed:

```
Master schedules (Print master schedules)

Please enter:

1. Today's date           101510
2. Starting prod planner code
3. Ending prod planner code
4. Starting planning group #
5. Ending planning group #
6. Starting item #
7. Ending item #
8. Use item forecasts ?
9. Reschedule message sensitivity in days
10. Suggest order reschedules within fence ?
11. Suggest new orders within fence ?
12. Fixed fence date for all items ?
13. Planned order release look ahead days
14. List planned orders by due or start date
15. Explode top level reqts for level 1 plan ?
```

You are prompted to enter:

1. Print separate order action list ?

Y or N, or <F1> to default all remaining entries on this screen to the previous report (or display) values, saved from a preceding run. Each time you run the program, it asks if you wish to save your entries.

2. Print master schedule detail by date list ?

Y or N.

If you answer Y to "Print master schedule detail by date list?", you are prompted to enter:

3. Detail through schedule period starting

Enter in MMDDYY format, or press <F1> for next Schedule Period starting date on file.

4. Detail list to include:

Backlog reqts by warehouse ?

Y or N.

Forecast balances reqt ?

Y or N.

Shop order material reqts ?

Y or N.

Open shop or purchase orders ?

Y or N.

Firm planned orders ?

Y or N.

Suggested planned orders ?

Y or N.

If you have altered the entries from the last time this program was used, you are asked if you want to save the values just entered. Answer Y or N. There will be a period of processing while the program generates the Master Schedules before printing the report(s).

If you selected the option to convert all suggested planned orders within the schedule fence to firm planned orders, the program asks you to confirm this decision after the report is printed. Answer Y to convert those planned orders, or answer N to cancel the conversion to firm planned orders. If you answer Y, a Firm Planned Orders Release Audit List is printed.

ENTER FIRM PLANNED ORDERS

Use this program to maintain Firm Planned Orders if you use Firm Planned Orders in your master scheduling procedures. Unlike Shop Orders, Firm Planned Orders are not used by the Inventory Management package. They are used by Master Scheduling & MRP and Capacity Requirements Planning programs.

Select

Enter firm planned orders from the *Master schedules* menu.

```
Master schedules (Enter firm planned orders)

* 1. FP order #   
  2. Item #

  3. Qty ordered

  4. Lead time days
  5. Due date
  6. Start date

Blank = add order
<F1> = Next record, <F2> Previous record, <F5> = look up by item #
```

The fields you enter are:

1. FP order

To add a Firm Planned order, you must enter spaces to assign the next available Firm Planned Order Number from the M/S Control File.

2. Item

Up to 15 alphanumeric characters.

3. Qty ordered

Up to 8 numeric digits.

4. Lead time days

Up to 3 numeric digits, or press ENTER to accept the Item Master default value displayed.

5. Due date

6 numeric digits, in MMDDYY sequence.

Validation: Must not match a date on the Schedule Exception Dates file.

6. Start date

6 numeric digits, in MMDDYY sequence.

Default: The displayed default is automatically calculated from Lead Time days and Due Date, using the Schedule Exception Dates file to exclude exception dates.

Validation: Must not match a date on the Schedule Exception Dates file.

PURGE FIRM PLANNED ORDERS

This program provides a convenient method of deleting multiple Firm Planned Orders for one or all items, through a specified date.

Select

Purge firm planned orders from the *Master schedules* menu.

```
Master schedules (Purge firm planned orders)

1. Item # 
2. Delete FP orders with due date thru
3. Print purge list ?

<F1> = "All"
```

The fields you enter are:

1. Item

Up to 15 alphanumeric characters, or <F1> = "All".

2. Delete FP orders with due date thru

6 numeric digits in MMDDYY sequence, or <F1> = "All".

3. Print purge list ?

Y or N.

The program then asks "Are you sure". Answer Y when you are ready to begin purging records in the specified range. If you answered Y to the print purge list question, the records to be purged will print. The records in the requested range are then deleted.

Explode Requirements

This chapter contains the following topics:

Introduction to Explode Requirements	.....
Shift Schedule Periods	.....
Run MRP Explosion	.....
Delete Prior MRP Run Files	.....

INTRODUCTION TO EXPLODE REQUIREMENTS

Use this function to shift schedule periods, run an MRP explosion, or delete prior MRP run files.

You must run an MRP explosion to generate MRP report files before you can display or print MRP information from other menus in this package. The explosion program does not in itself generate any reports, except for a one page audit list indicating the explosion options used and resultant MRP report file statistics.

MRP report files are stored on your hard disk until those files are deleted. You may delete prior MRP run report files when you run the next explosion, or by using another program on this menu.

The system allows you to retain report file outputs from prior MRP runs, when you run the next explosion. However, you must have sufficient disk storage space if you plan to do that. When several sets of MRP explosion output files are retained, the MRP display and report programs ask you to specify which of those several MRP run data sets is to be referenced.

The Schedule Periods for each MRP run are stored with the MRP report files. Therefore, changing the Schedule Periods after an MRP run has no effect on the reporting periods for that explosion.

SHIFT SCHEDULE PERIODS

After you have initialized Schedule Periods, you may use this program to easily drop one or more of the earliest periods and to add one or more periods at the end of the schedule horizon, as you start a new planning cycle.

Select

Shift schedule periods from the *Explode requirements* menu.

Explode requirements (Shift schedule periods)							
	Period	Mfg	Period	Mfg	Period	Mfg	Period
	start	days	start	days	start	days	start
1.	<input type="text"/>		16.		31.		46.
2.			17.		32.		47.
3.			18.		33.		48.
4.			19.		34.		49.
5.			20.		35.		50.
6.			21.		36.		51.
7.			22.		37.		52.
8.			23.		38.		53.
9.			24.		39.		54.
10.			25.		40.		55.
11.			26.		41.		56.
12.			27.		42.		57.
13.			28.		43.		58.
14.			29.		44.		59.
15.			30.		45.		60.

Last period end date

Schedule Periods are displayed on the screen, and you are prompted to enter the number of periods to drop. The default value displayed will cause the beginning schedule period, after the shift, to coincide with the current date. If you enter zero or press ESC (or TAB), you exit the program. Otherwise, the screen redisplay with the periods shifted, excluding the number of periods you requested to be dropped. You then must enter the new periods at the end of the schedule horizon, including the Start Date of each new period and the End Date of the last Schedule Period. Then you may use "Field number to change ?" to modify any of the Schedule Period entries, or press ENTER at that position to write the new Schedule Periods calendar.

If you have also defined Forecast Periods and some of the new Schedule Periods entered are incompatible with existing Forecast Period Start Dates, you are warned that inaccurate allocation of forecast quantities may occur. This does not mean that every Schedule Period Start Date must coincide with the beginning of a Forecast Period. It means that each Forecast Period Start Date within the Schedule Periods horizon should match the Start Date of one of the Schedule Periods.

RUN MRP EXPLOSION

If when you select this program some Item Master low level codes require updating, the program will tell you to first perform this function in Product Definition & Costing. You may use the selective low level codes update in that package to satisfy this requirement.

You will also be prevented from starting an explosion run if the Item Master File is in use. Files accessed by this program may not be updated by users until the explosion is completed.

Select

Run MRP explosion from the *Explode requirements* menu.

Insert Screen

The fields you enter are:

1. MRP run date

Enter in MMDDYY format, or press ENTER for the System Date default displayed.

Comments: The run date is used to determine the firm schedule period for each item, if a fixed fence date for all group items is not specified in Field 11. If forecasts are used, the run date also determines the current Forecast Period.

2. Run requested by

Up to 3 alphanumeric characters (your initials), or ENTER for default displayed.

3. Delete all prior MRP run files ?

Y or N, displayed default is Y

4. Explode reqts for this primary whse

Press ENTER to accept the "All" default, or <F1> to change.

Comments: If there is more than one primary warehouse on various Item Master records (e.g. several plant locations), you may run separate explosions for each location by designating a specific explosion warehouse. This approach is OK if there are not significant demand/supply relationships between primary warehouses.

However, if there are important parent/component relationships between several primary warehouses, you should select "All" warehouses for the explosion, to avoid incomplete component requirements generation.

The next two options provide an important opportunity to selectively replan and reschedule only manufactured items through a limited number of levels, before re-running the explosion through more levels. The explosion of Open and Firm Planned Orders to the next level is always based on the existing Due Dates of those higher level orders, not their suggested reschedule dates. Therefore it can be advantageous to run a limited explosion for manufactured items, change their order due dates, possibly cancel some open or firm planned orders, based on order action messages, and then re-

explode through more levels. This may provide a more accurate statement of lower level requirements, and minimizes the total time to perform explosion reruns.

5. Explode to level

Press ENTER to accept the "All" default, or <F1> to change. If you press <F1>, you may then enter up to 2 numeric digits, or again enter <F1> for "All".

6. Include purchased item reqts

Y or N. Default displayed is Y.

Answer N if you only wish to plan manufactured items, including only items identified as Super Bills, Transients, or Manufactured in the Item Master File.

7. Use item forecasts ?

Y or N. Default displayed is from M/S Control Information.

Comments: A Y answer will cause the planning program to access Shipment Forecast information on file to develop item forecast requirements.

If you maintain item forecasts, you may occasionally want to generate a short range plan without using the forecasts, only considering customer order backlog. You can change this default to N when you run the program.

8. Reschedule message sensitivity in days

A single numeric digit, from 1 to 9. Default is from M/S Control.

Comments: This factor controls the generation of order reschedule messages. If the due date of a supply order needed to cover a net requirement is at least within this number of schedule days (+ or -) from the requirement due date, an order reschedule action message will be created. A lower number of sensitivity days generates more messages.

9. Suggest order reschedules within fence ?

Y or N. Default from M/S Control.

Comments: A Y answer allows suggested rescheduling of supply orders to dates within an item's firm schedule time fence, applying the reschedule sensitivity factor.

A N answer prevents suggested rescheduling of supply orders to due dates within the firm schedule time fence. If an order with a due date beyond the firm schedule period is needed to cover a net requirement within the firm schedule fence, the program will suggest reschedule to the first schedule day beyond the fence.

10. Suggest new orders within fence ?

Y or N. Default is from M/S Control Information.

Comments: A Y answer allows suggested planned orders to be recommended with due dates that are within the firm schedule fence period.

A N answer prevents suggestion of new planned orders with due dates inside the fence period. Planned orders needed to cover net requirements within the fence will be suggested for a due date that is one schedule day beyond that firm schedule period.

11. Fixed fence date for group items ?

Y or N.

Comments: A Y answer allows you to define a fixed firm schedule time fence that applies to all master schedule Group Items. This defined fixed fence date will override the Firm Schedule Days factor in related Item Masters for all Group Items.

If you answer Y, you are prompted to enter:

Fence date

Enter in MMDDYY format. This is the first date outside the firm schedule period. All preceding dates are within the firm schedule fence.

12. Planned order release look ahead days

A single numeric digit, from 1 to 9. Default is from M/S Control.

Comments: If the Start Date of a Suggested Planned Order is this number of schedule days from the current date, an order release action message will be generated. If you replan weekly and have 5 schedule days/week you would need 5 "look ahead" days to assure timely release of all orders.

13. Use MRP orders pegging option ?

Y or N.

Comments: Answer Y if you wish the MRP explosion program to create additional records that will allow you to run MRP order pegging analysis programs. Otherwise, answer N.

Order pegging analysis allows you to trace ("peg") an open or planned supply order to specific demand requirements or parent item orders for which the supply order is needed, through multiple bill of material levels.

14. Include safety stock in requirements ?

Y or N.

Comments: This answer pertains to those MRP explosion items that are not master schedule Group Items (items not assigned to master Planning Groups). A Y answer causes item Safety Stock Quantity, if any, to be included as a gross requirement in the current schedule period. A "N" answer excludes those item safety stocks from requirements.

For items assigned to master Planning Groups, the inclusion or exclusion of Safety Stock as a requirement is specified for each item by using the Assign Items To Planning Groups program.

Exclusion of defined Safety Stock quantities from planned requirements may be the right decision when current shop workloads, or current vendor workloads, are very high. Temporary exclusion of safety stock will lower short term demands.

The next screen may display several warning messages about the options selected.

You are always warned that users will be denied access to the Item Master File, used by most PBS Manufacturing programs, until the explosion processing is completed. You should plan lengthy explosion runs for times that users do not need to access the PBS Manufacturing data base. Starting a long run at the end of a work day is advisable, since you may leave this program running unattended.

The program asks if it is "OK to proceed?". Answer N to return to the first entry screen where you may re-enter all explosion parameters, or exit the program, or press <F1> if you wish to review and selectively change the MRP run factors.

You are next prompted to specify the "Explosion start time". Enter 2 digits for hour (from 0 to 24) and 2 digits for minute (from 0 to 59), or <F1> = "Now". Answer Y to confirm the start time.

After the explosions starts, the various phases of this process display on the screen until all steps are completed. A one page MRP Explosion Audit Report is then printed.

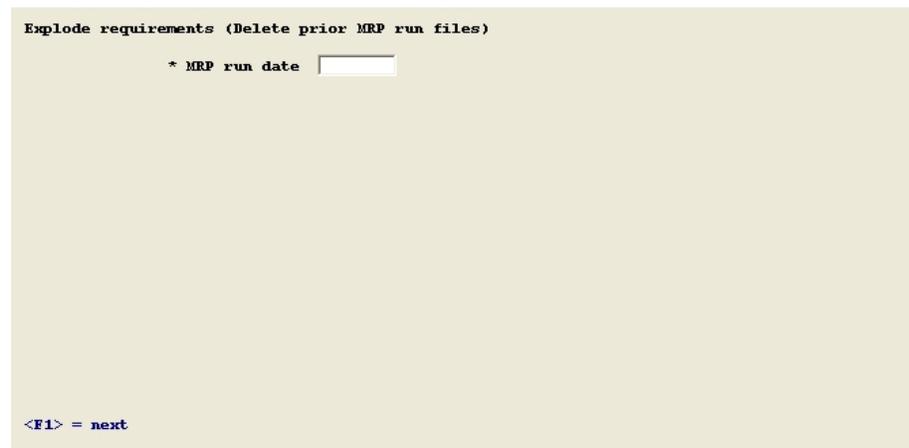
A screen request to select a printer for the brief audit report indicates the MRP run has been completed. Leave your terminal on while this program runs, so that you can see the completion status when you return to that terminal.

DELETE PRIOR MRP RUN FILES

Use this program if you want to delete prior MRP run report files before you request the next explosion, or you want to selectively delete all report files for one of several MRP runs still stored on the hard disk. After you delete the MRP report files from a prior run, you will no longer be able to display or print MRP information generated by that explosion.

Select

Delete prior MRP run files from the *Explode requirements* menu.



```
Explode requirements (Delete prior MRP run files)
* MRP run date 
<F1> = next
```

After you select this program, press <F1> at MRP Run Date to retrieve summary information about any MRP runs still on file. When you find the MRP run you want to delete, answer Y to "OK to delete ?" to erase all output files from that run.

Displays, Master Planning

This chapter contains the following topics:

Planning Groups	.....
Item Group Assignment	.....
Shipment Forecasts	.....
Master Schedules	.....
Firm Planned Orders	.....
Lead Time Analysis	.....

PLANNING GROUPS

This program displays a list of Planning Groups, with or without the assigned items.

Select

Planning groups from the *Displays, master planning* menu.



Displays, master planning (Planning groups)
Starting group #: Display items ?

Enter the following fields:

Starting group #:

Up to 6 alphanumeric characters.

Display items ?

Y or N.

The program then displays the following information about Planning Groups on file starting with the Group Number you entered:

Group

Planning Group Number.

Group description

Planning Group Description.

Prod Planner code

Production Planner Code.

Fcst Planner Code

Forecast Planner Code.

Fcst itms ?

Forecast items in group ?

Fcst grp ?

Forecast as a group ?

If you answered Y to Display Items ? the program displays the following item information for all items assigned to the Planning Group just listed:

Items in group

Item Number, Description, and Primary Warehouse.

P/M

Purchased, Manufactured, Transient, or Super Bill

Safety stock qty

Safety Stock quantity.

UM

Stock Unit of Measure.

Rqt

Indicates whether Safety Stock will be included in item requirements, by planning programs.

RT

Replenishment Time, in days, for safety stock.

Fence days

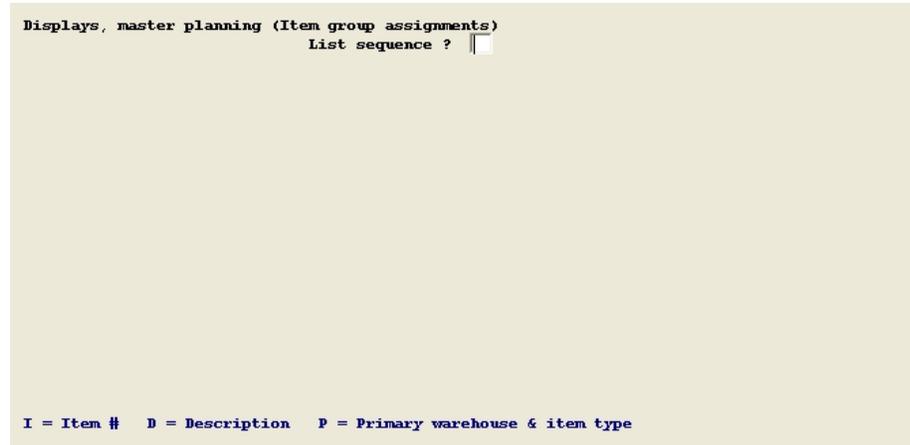
Firm schedule time fence, in days.

ITEM GROUP ASSIGNMENT

This program displays a Item Planning Group Assignments by Item Number, Description, or Primary Warehouse and Item Type.

Select

Item group assignment from the *Displays, master planning* menu.



Enter the following fields:

List sequence ?

I = Item #, D = Item Description, or P = Primary Warehouse & Item Type.

If list sequence is I, enter:

Starting item

Up to 15 alphanumeric characters, or <F1> for "All".

Ending item

Up to 15 alphanumeric characters, or Blank for Starting Item Number.

If list sequence is D, enter:

Starting item desc

Up to 30 alphanumeric characters, or <F1> for "All".

Ending item desc

Up to 30 alphanumeric characters, or Blank for Starting Item Description.

If list sequence is P enter:

Primary warehouse

Up to 2 alphanumeric characters, or Blank for "Main".

Starting item type

Up to 4 alphanumeric characters, or Blank for Undefined, or <F1> for "All".

Ending item type

Up to 4 alphanumeric characters, or Blank for Starting Item Type.

For all list sequences you are asked:

Include unassigned ?

Y or N.

The program then displays the following information about Item Planning Group Assignments on file beginning with the starting value you entered.

Item #

Item Number.

Item description

Item Type Code

Type code.

Prim whse

Primary Warehouse.

Group #

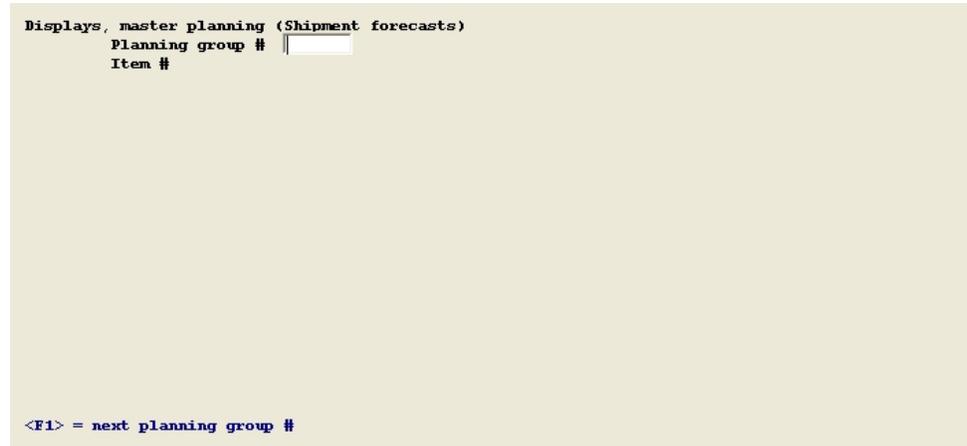
Item's Planning Group Number, or "Unassigned" if "Include unassigned ?" is Y and there is no matching Group Item record for the Item Number.

SHIPMENT FORECASTS

Use this program to display shipment forecasts.

Select

Shipment forecasts from the *Displays, master planning* menu.



Enter the following fields:

Planning group

Up to 6 alphanumeric characters.

Item

Up to 15 alphanumeric characters, or <F1> to display the next item forecast for the Group.

This field is bypassed and "Group forecast" displays if the Planning Group record indicates the group items are forecasted as a group.

The program then displays the shipment forecast for the Planning Group Number and Item Number that you entered, if a forecast is on file. When you display a Group for which the items are forecasted as a group, the program asks if you want to see a list of the items in the group. If you answer Y, the group items and their forecast allocation rates are displayed.

MASTER SCHEDULES

This program regenerates and displays summarized Master Schedule information for a requested range of Production Planners, Planning Groups, and Group Items. The summary display allows you to "zoom in" on more detail information about requirements by source or the order action messages for the item you are viewing.

You may minimize the processing delay that occurs before you are allowed to view schedules by restricting the range of groups and items selected for any schedule display run.

Select

Master schedules from the *Displays, master planning* menu.

```
Displays, master planning (Master schedules)

Please enter:

1. Today's date           101810
2. Starting prod planner code
3. Ending prod planner code
4. Starting planning group #
5. Ending planning group #
6. Starting item #
7. Ending item #
8. Use item forecasts ?
9. Reschedule message sensitivity in days
10. Suggest order reschedules within fence ?
11. Suggest new orders within fence ?
12. Fixed fence date for all items ?
13. Planned order release look ahead days
14. List planned orders by due or start date
15. Explode top level reqts for level 1 plan ?
```

Enter the following fields:

1. Today's date

Enter in MMDDYY format, or use the displayed System Date default.

2. Starting prod planner code

Up to 3 alphanumeric characters, or <F1> for "All", or <F2> to default all remaining entries on this screen to the previous report (or display) values, saved from a preceding run. Each time you run the program, it asks if you wish to save your entries.

3. Ending prod planner code

Up to 3 alphanumeric characters, or Blank to default to Starting code.

4. Starting planning group

Up to 6 alphanumeric characters, or <F1> for "All".

5. Ending planning group

Up to 6 alphanumeric characters, or Blank to default to Starting group.

6. Starting item #

Up to 15 alphanumeric characters, or <F1> for "All".

7. Ending item #

Up to 15 alphanumeric characters, or Blank for Starting item.

8. Use item forecasts ?

Y or N. Default from M/S Control Information.

Comments: A Y answer will cause the planning program to access Shipment Forecast information on file to develop item forecast requirements.

If you maintain item forecasts, you may occasionally want to generate a short range plan without using the forecasts, only considering customer order backlog. You can change this default to N when you run the planning program.

9. Reschedule message sensitivity in days

A single numeric digit, from 1 to 9. Default from M/S Control Information.

Comments: This factor controls the generation of order reschedule messages. If the due date of a supply order needed to cover a net requirement is at least this number of schedule days (+ or -) from the requirement due date, an order reschedule action message will be created. A lower number of sensitivity days generates more messages.

10. Suggest order reschedules within fence ?

Y or N. Default from M/S Control Information.

Comments: A Y answer allows suggested rescheduling of supply orders to dates within an item's firm schedule time fence, applying the reschedule sensitivity factor.

A N answer prevents suggested rescheduling of supply orders to due dates within the firm schedule time fence. If an order with a due date beyond the firm schedule period is needed to cover a net requirement within the firm schedule fence, the program will suggest reschedule to the first schedule day beyond the fence.

11. Suggest new orders within fence ?

Y or N. Default is from M/S Control Information.

Comments: A Y answer allows suggested planned orders to be recommended with due dates that are within the firm schedule fence period.

A N answer prevents suggestion of new planned orders with due dates inside the fence period. Planned orders needed to cover net requirements within the fence will be suggested for a due date that is one schedule day beyond that firm schedule period.

12. Fixed fence date for all items ?

Y or N.

Comments: A Y answer allows you to define a fixed firm schedule time fence that applies to all master schedule Group Items. This defined fixed fence date will override the Firm Schedule Days factor in related Item Masters.

If you answer Y, you are prompted to enter:

Fence date

Enter in MMDDYY format. This is the first date outside the firm schedule period. All preceding dates are within the firm schedule fence.

13. Planned order release look ahead days

A single numeric digit, from 1 to 9. Default is from M/S Control Information.

Comments: If the Start Date of a Suggested Planned Order is this number of schedule days from the current date, an order release action message will be generated. If you replan weekly and have 5 schedule days/week you would need 5 "look ahead" days to assure timely release of all orders.

14. List planned orders by due or start date

D = Due date, or S = Start date. Default is from M/S Control Information.

Comments: This controls the placement of planned order quantities into time buckets on the timephased item summary reports. Planned order records will always carry both dates, and suggested planned order release action messages will always be based on Start Date, so this is just a summary reporting elective.

Other MRP systems have traditionally listed suggested planned orders by Start Date period, to show the release period and lead time offset. However, this is sometimes confusing because all of the other timephased requirements and orders data listed for an item are by Due Date.

15. Explode top level reqts for level 1 plan ? Y or N.

Comments: If you answer Y, gross requirements for any Group Items at Level 1 will be exploded from Level 0 item supply orders (open and planned orders for the parents of the Level 1 items). This allows complete demand and master schedule supply order planning for the top two levels of your Bills of Material. If you answer N, complete master schedules are only generated for Level 0 items.

Group Items at lower levels will appear on output screens or reports with a message indicating the total net requirements or available inventory are not known to the Master Scheduling function.

Please note that only defined Planning Group Items will be included on the Master Schedule display.

If you have altered entries from the last time this program was used, you will be asked if you want to save the values just entered. Answer Y or N. There will be a period of processing while the program generates the Master Schedules.

The data you enter are:

Review sequence

I = Item #, or P = Planner, group, & item #

If you review by Item Number, you next enter:

Item #

Up to 15 alphanumeric characters, or <F1> for the next Item Number.

If you review by Planner, Group, & Item, you next enter:

Prod planner code

Up to 3 alphanumeric characters, or <F1> for the next item in this sequence.

A specific Production Planner Code entry requires you to enter:

Plan group

Up to 6 alphanumeric characters.

Item #

Up to 15 alphanumeric characters, or <F1> for the next Item Number within the Group.

The program will then display the Master Schedule summary information for the Item selected. You will be prompted to press <F1> if there are more periods for display; to enter A for a display of Order Action messages, if any; to enter R for display a more detailed display of Requirements by Source, if any; or to press ESC (or TAB) to reselect the item.

The Master Schedule summary screen displays the following date and timephased quantity information:

Schd-pd

Schedule period.

Gross-reqts

Gross requirements.

Open-ords

Open orders.

Net-avail

Net available. These are timephased forecasts of Inventory available from On Hand and cumulative Open Orders, after subtracting the cumulative Gross Requirements. These values are based on the existing due dates of Open Orders, without considering suggested reschedules.

FP-ords-to-start

Firm planned orders to start (if displayed by start date).

or

FP-ords-due

Firm planned orders due (if displayed by due date)

SP-ords-to-start

Suggested planned orders to start (if displayed by start date)

or

SP-ords-due

Suggested planned orders due (if displayed by due date)

Total-ords-by-due-date

Total orders by due date. This is a summary of open orders, firm planned orders, and suggested planned orders by period due.

The following Order Action data displays in a window:

Ord-type

Order type of Purchase, Shop, Firm Planned ,or Suggested Planned.

Ord-# Rls

Order Number and Release Number.

Qty-due

Order quantity balance due.

Due-date

Due date.

Resched

Suggested reschedule date, for Open or Firm Planned orders.

Start

Start date; only shown for Suggested Planned.

Action-message

Action message of Expedite, De-expedite, Cancel, or Open/release.

The Requirements by Source window displays the breakdown of period total gross requirements quantities by the following sources:

Br-bklog

Branch warehouse customer order backlog.

Br-matl

Branch warehouse shop order material

Pr-bklog

Primary warehouse customer order backlog.

Fcst-bal

Forecast balance.

Exploded

Exploded parent requirements.

Safety-stk

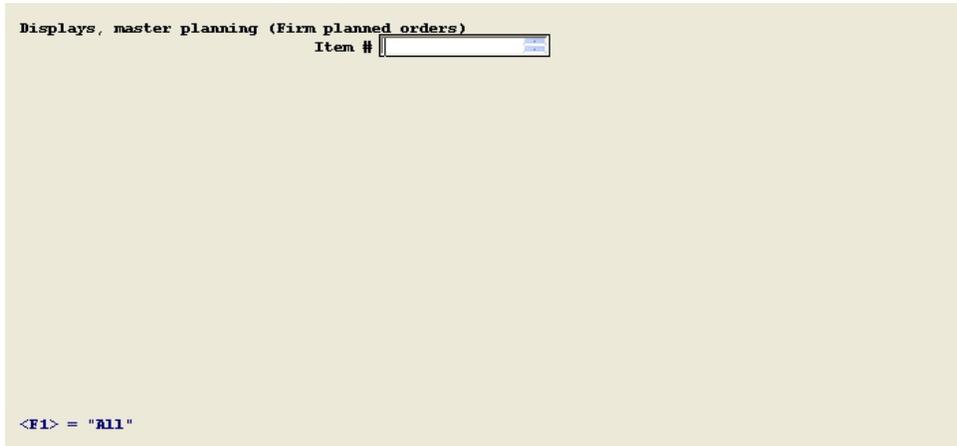
Safety stock.

FIRM PLANNED ORDERS

This program displays a list of Firm Planned Orders.

Select

Firm planned orders from the *Displays, master planning* menu.



Enter the following fields:

Item #:

Up to 15 alphanumeric characters, or <F1> = "All".

The program then displays the following information about Firm Planned Orders on file starting with the Item number you entered:

Item-#

Item Number.

Description

Item description.

FPO-#

Firm Planned Order Number.

Qty-ord

Quantity ordered.

UM

Item inventory unit of measure.

Start/Due

Start date.

Due date.

LEAD TIME ANALYSIS

This program allows you to analyze the longest cumulative planned lead time for a manufactured item, showing the planned lead times at each bill of material level on its "longest lead time path".

You may include or exclude purchased component lead times in this lead time path analysis.

Select

Lead time analysis from the *Displays, master planning* menu.



Enter the following fields:

Item #:

Up to 15 alphanumeric characters, or Blank to lookup by description.

Include purchased components ?

Y or N.

There will be a brief processing time before the following "longest lead time path" information is displayed for parent item:

Lev

Level Number.

Item-#

Item Number.

Description

Item description.

P/M

Purchase/Manufacture code.

LT-days

Lead Time days.

Cum-LT-days

Cumulative Lead Time days.

Cumulative lead time days is summed from the bottom level of the bill of material through the top level item being analyzed.

Displays, MRP Explosions

This chapter contains the following topics:

Introduction to Displays, MRP Explosions	.....
MRP Item Summary	.....
MRP Schedule Detail	.....
MRP Order Actions	.....
MRP Order Pegging	.....

INTRODUCTION TO DISPLAYS, MRP EXPLOSIONS

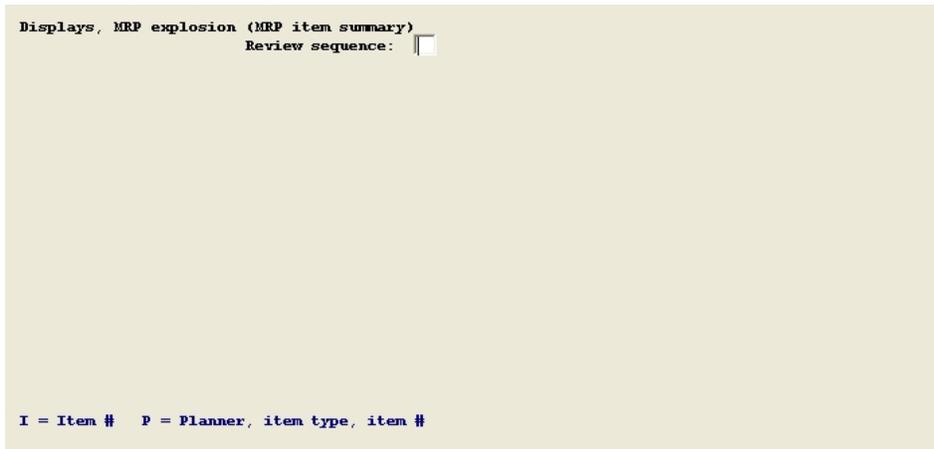
Use these programs to view selective information from the MRP explosion data files created by the "Explode requirements" function.

MRP ITEM SUMMARY

This program allows you to view time period summary information by item, for items included in the MRP explosion output files. The summary display allows you to "zoom in" on more detail information about requirements sources or the order action messages for the item you are viewing.

Select

MRP item summary from the *Displays, MRP explosions* menu. The following screen displays:



After you select an item to be viewed, there may be a processing delay of several seconds while the program summarizes requirements and orders by time period from more MRP data file detail.

Enter the following fields:

Review sequence

I = Item Number, or P = Planner, Group, & Item #

If you review by Item Number, you next enter:

Item

Up to 15 alphanumeric characters, or <F1> for the next Item Number.

If you review by Planner, Group, & Item, you next enter:

Prod planner code

Up to 3 alphanumeric characters, or <F1> for the next item in this sequence.

A specific Production Planner Code entry requires you to type in:

Purch/mfg

P = Purchased, M = Manufactured, T = Transient, or S = Super bill.

Item type

Up to 4 alphanumeric characters, or Blank = Undefined, or <F1> = next Item Type within the requested planner and Purch/Mfg category.

Item #

Up to 15 alphanumeric characters, or <F1> for the next Item Number within the requested Planner and item categories.

For either review sequence, you next enter,

List planned orders by

D = Due date period, or S = Start date period.

The program will then display the MRP summary information for the Item selected. You will be prompted to press <F1> if there are more periods for display; to enter A for a display of Order Action messages, if any; to enter R for display a more detailed display of Requirements by Source, if any; or to press ESC (or TAB) to select another item.

The MRP item summary by period screen displays the following date and timephased quantity information:

Schd-pd

Schedule period start date.

Gross-reqts

Gross requirements.

Open-ords

Open orders.

Net-avail

Net available. These are timephased forecasts of Inventory available from On Hand and cumulative Open Orders, after subtracting the cumulative Gross Requirements. These values are based on the existing due dates of Open Orders, without considering suggested reschedules.

FP-ords-to-start

Firm planned orders to start (if displayed by start date).

or

FP-ords-due

Firm planned orders due (if displayed by due date)

SP-ords-to-start

Suggested planned orders to start (if displayed by start date)

or

SP-ords-due

Suggested planned orders due (if displayed by due date)

Total-ords-by-due-date

Total orders by due date. This is a summary of open orders, firm planned orders, and suggested planned orders by period due.

The Order Action window displays messages in the following format:

Ord-type

Order type of Purchase, Shop, Firm Planned ,or Suggested Planned.

Ord-# Rls

Order Number and Release Number.

Qty-due

Order quantity balance due.

Due-date

Due date.

Resched

Suggested reschedule date, for Open or Firm Planned orders.

Start

Start date; only shown for Suggested Planned.

Action-message

Action message of Expedite, De-expedite, Cancel, or Open/release.

Disp

Disposition code.

The Requirements by Source window displays the breakdown of period total gross requirements quantities by the following sources:

Br-bklog

Branch warehouse customer order backlog.

Br-matl

Branch warehouse shop order material

Pr-bklog

Primary warehouse customer order backlog.

Fcst-bal

Forecast balance.

Exploded

Exploded parent requirements.

Safety-stk

Safety stock.

MRP SCHEDULE DETAIL

Select

MRP item summary from the *Displays, MRP explosions* menu. The following screen displays:

Displays, MRP explosion (MRP schedule detail)

Item #

Through period starting Detail type

The fields you enter are:

Item

Up to 15 alphanumeric characters.

Through period starting

6 digits in MMDDYY sequence, or <F1> for the next MRP schedule date in this run.

Detail type

<F1> = "All"

B = Backlog

F = Forecast balance

S = S.O. material

P = Parent plan exploded

OO = Open orders

FP = Firm planned orders

SP = Suggested planned orders

If the Detail Type selected is "All", FP, or SP, enter:

List planned orders by

D = Due date period, or

S = Start date period.

The program will display the MRP schedule detail. Information shown includes:

Detail-type

Description of requirement or order type.

Whse

Warehouse Code.

Det-date

Date of detail requirement or order.

Quantity

Requirement or order quantity.

MRP ORDER ACTIONS

This program displays the order action messages created by the MRP Explosion.

Select

MRP order actions from the *Displays, MRP explosions* menu. The following screen displays:



The fields you enter are:

Review sequence

I = Item #, or P = Planner, group, & item #

If you review by Item Number, you next enter:

Item

Up to 15 alphanumeric characters, or <F1> for the next Item Number.

If you review by Planner, Group, & Item, you next enter:

Prod planner code

Up to 3 alphanumeric characters, or <F1> for the next item in this sequence.

A specific Production Planner Code entry requires you to enter:

Plan group

Up to 6 alphanumeric characters.

Item

Up to 15 alphanumeric characters, or <F1> for the next Item Number within the Group.

The program will then display the MRP order action information for the Item selected:

Ord-type

Order type of Purchase, Shop, Firm Planned ,or Suggested Planned.

Ord-# Rls

Order Number and Release Number.

Qty-due

Order quantity balance due.

Due-date

Due date.

Resched

Suggested reschedule date, for Open or Firm Planned orders.

Start

Start date; only shown for Suggested Planned.

Action-message

Action message of Expedite, De-expedite, Cancel, or Open/release.

Disp

Disposition code, if any, that has been posted with the "Process order action requests" function.

MRP ORDER PEGGING

Use this program to trace the orders for a selected item to its related requirements or its related parent item orders and requirements.

Select

MRP order pegging from the *Displays, MRP explosions* menu. The following screen displays:

```
Displays, MRP explosion (MRP order pegging)
Pegging type || Item #
Starting due date Order type

E = End item M = Multilevel
```

The fields you enter are:

Pegging type

E = End item, M = Multilevel

Item

Up to 15 alphanumeric characters, or Blank to look up by description.

Starting due date

6 numeric digits in MMDDYY sequence, or <F1> for "Earliest"

Order type

Select either <F1> = "All", OP = Open purchase, OS = Open shop, PF = Planned firm, or PS = Plan suggested

The program will then display the MRP order pegging information for the Item selected.

Rel lev

Relative level number.

Rqt/Ord

Requirement, or Order.

Due-date

Requirement or Order due date.

Item-#

Item Number.

Item-description

R/O-total-qty

Requirement (or Order) total quantity.

UM

Item Inventory Unit of Measure.

R/O-type

Requirement (or Order) Type.

Ord-#

Order Number.

RI

Release Number.

P/M

Purchased, Manufactured, Transient, or Super Bill

Qty-affected

Quantity affected.

Reports, Master Planning

This chapter contains the following topics:

Introduction to Reports, Master Planning	.....
Planning Groups	.....
Item Group Assignments	.....
Unassigned Item Backlog	.....
Shipment Forecasts	.....
Master Schedules	.....
Firm Production Plan	.....
Firm Planned Orders	.....
Lead Time Analysis	.....

INTRODUCTION TO REPORTS, MASTER PLANNING

This function allows you to print selective master planning information from the data files maintained by other Master Scheduling & MRP programs.

PLANNING GROUPS

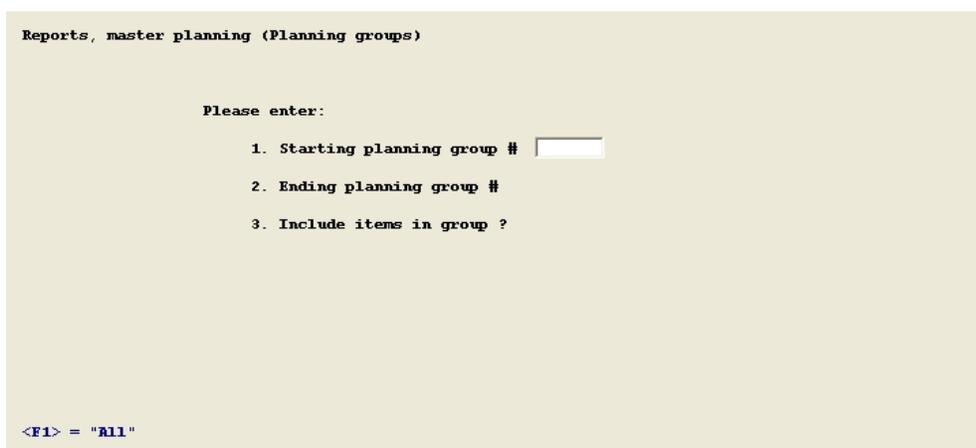
This report prints the Planning Group List, with or without the items assigned to each group.

See a [Planning Group List](#) example in the *Sample Reports* appendix.

Select

Planning groups from the *Reports, master planning* menu.

The following screen displays:



```
Reports, master planning (Planning groups)

Please enter:

1. Starting planning group # 
2. Ending planning group #
3. Include items in group ?

<F1> = "All"
```

Enter the information as follows:

1. Starting planning group

Up to 6 alphanumeric characters, or <F1> = "All".

2. Ending planning group

Up to 6 alphanumeric characters, or Blank = Starting value.

3. Include items in group ?

Y or N.

ITEM GROUP ASSIGNMENTS

This report prints a list of Item Planning Group assignments.

Select

Item planning assignments from the *Reports, master planning* menu.

The following screen displays:

Reports, master planning (Item group assignments)

Please enter:

1. Primary warehouse
2. List sequence
3. Starting item type
4. Ending item type
5. Starting product category
6. Ending product category
7. Starting item #
8. Ending item #
9. Include unassigned items ?

<F1> = "All"

Enter the information as follows:

1. Primary warehouse

Up to 2 alphanumeric characters or <F1> = "All".

2. List sequence

I = Item #, D = Item Description, or P = Product category, T = Item Type

3. Starting item type

Up to 4 alphanumeric characters, or Blank = Undefined, or <F1> = "All".

4. Ending item type

Up to 4 alphanumeric characters, or Blank = Starting value.

5. Starting product category

Up to 5 alphanumeric characters, or

Blank = Undefined, or

<F1> = "All".

6. Ending product category

Up to 5 alphanumeric characters, or Blank = Starting value.

7. Starting item #

Up to 15 alphanumeric characters, or <F1> = "All".

8. Ending item #

Up to 15 alphanumeric characters, or Blank = Starting value.

9. Include unassigned items ?

Y or N.

UNASSIGNED ITEM BACKLOG

When you use PBS Manufacturing Customer Order Processing, this program allows you to list those items with customer order backlog which are not yet assigned to a Planning Group. It is useful for identifying additional items that could be assigned to Planning Groups.

Select

Unassigned item backlog from the *Reports, master planning* menu.

The following screen displays:

Reports, master planning (Unassigned items backlog)

Please enter:

1. Primary warehouse
2. Starting item type
3. Ending item type
4. Starting product category
5. Ending product category

<F1> = "All"

Enter the information as follows:

1. Primary warehouse

Up to 2 alphanumeric characters, or <F1> = "All".

2. Starting item type

Up to 4 alphanumeric characters, or Blank = "Undefined", or <F1> = "All".

3. Ending item type

Up to 4 alphanumeric characters, or Blank = Starting value.

4. Starting product category

Up to 5 alphanumeric characters, or Blank = "Undefined", or <F1> = "All".

5. Ending product category

Up to 5 alphanumeric characters, or Blank = Starting value.

SHIPMENT FORECASTS

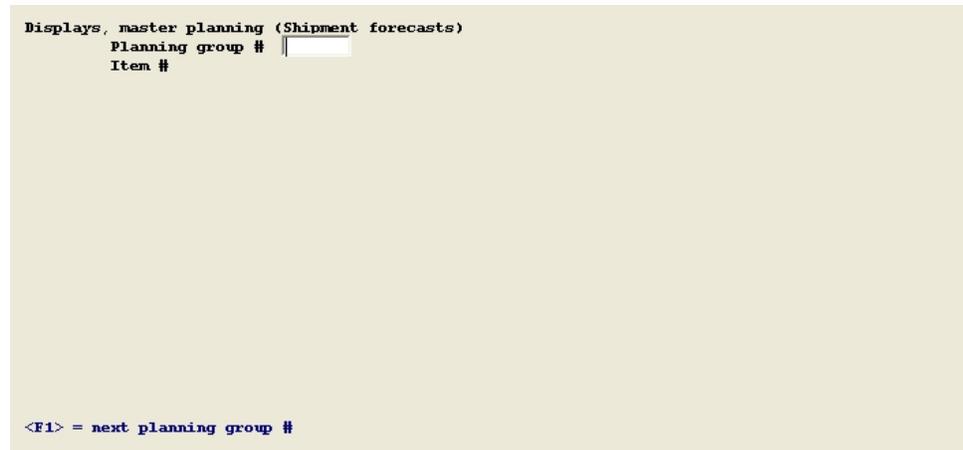
This report prints the Shipment Forecasts by Planning Group and Forecast Planner. You have the option to print all forecast periods or only the current period.

If you print this report for the current period only, just before you close each period in Inventory Management, you will get the comparison of actual quantity sold vs. forecast for the period.

Select

Shipment forecasts from the *Reports, master planning* menu.

The following screen displays:



Enter the information as follows:

1. Starting planning group

Up to 6 alphanumeric characters, or <F1> = "All".

2. Ending planning group

Up to 6 alphanumeric characters, or Blank = Starting value.

3. Starting forecast planner

Up to 3 alphanumeric characters, or <F1> = "All".

4. Ending forecast planner

Up to 3 alphanumeric characters, or Blank = Starting value.

5. Report format

A = All forecast periods, **C** = Current period only.

MASTER SCHEDULES

This program regenerates and prints the Master Schedules By Period summary, with Order Action messages, for a requested range of Production Planners, Planning Groups, and Group Items. You may optionally request to print the action messages separate Order Action List, and to print the Master Schedule Detail By Date report of requirements and orders by type and date.

Select

Master schedules from the *Reports, master planning* menu.

The following screen displays:

```

Reports, master planning (Master schedules)

Please enter:

1. Today's date           102910
2. Starting prod planner code
3. Ending prod planner code
4. Starting planning group #
5. Ending planning group #
6. Starting item #
7. Ending item #
8. Use item forecasts ?
9. Reschedule message sensitivity in days
10. Suggest order reschedules within fence ?
11. Suggest new orders within fence ?
12. Fixed fence date for all items ?
13. Planned order release look ahead days
14. List planned orders by due or start date
15. Explode top level reqts for level 1 plan ?
    
```

You are requested to select the range of items and the master schedule planning options as follows:

1. Today's date

Enter in MMDDYY format.

2. Starting prod planner code

Up to 3 alphanumeric characters, or <F1> = "All", or <F2> to default all remaining entries on this screen to the previous report (or display) values, saved from a preceding run. Each time you run the program, you are asked if you want to save your entries.

3. Ending prod planner code

Up to 3 alphanumeric characters, or Blank = Starting value.

4. Starting planning group

Up to 6 alphanumeric characters, or <F1> = "All".

5. Ending planning group

Up to 6 alphanumeric characters, or Blank = Starting value.

6. Starting item #

Up to 15 alphanumeric characters, or <F1> = "All".

7. Ending item #

Up to 15 alphanumeric characters, or Blank = Starting value.

8. Use item forecasts ?

Y or N. Default is from M/S Control Information.

Comments: A Y answer will cause the planning program to access Shipment Forecast information on file to develop item forecast requirements.

If you maintain item forecasts, you may occasionally want to generate a short range plan without using the forecasts, only considering customer order backlog. You can change this default to N when you run the planning program.

9. Reschedule message sensitivity in days

A single numeric digit, from 1 to 9. Default from M/S Control Information.

Comments: This factor controls the generation of order reschedule messages. If the due date of a supply order needed to cover a net requirement is at least this number of schedule days (+ or -) from the requirement due date, an order reschedule action message will be created. A lower number of sensitivity days generates more messages.

10. Suggest order reschedules within fence ?

Y or N. Default from M/S Control Information.

Comments: A Y answer allows suggested rescheduling of supply orders to dates within an item's firm schedule time fence, applying the reschedule sensitivity factor.

A N answer prevents suggested rescheduling of supply orders to due dates within the firm schedule time fence. If an order with a due date beyond the firm schedule period is needed to cover a net requirement within the firm schedule fence, the program will suggest reschedule to the first schedule day beyond the fence.

11. Suggest new orders within fence ?

Y or N. Default is from M/S Control Information.

Comments: A Y answer allows suggested planned orders to be recommended with due dates that are within the firm schedule fence period.

A N answer prevents suggestion of new planned orders with due dates inside the fence period. Planned orders needed to cover net requirements within the fence will be suggested for a due date that is one schedule day beyond that firm schedule period.

If you answered N to the preceding question about rescheduling within the fence period, you should probably answer N to this question. This will prevent suggestion of new planned orders due within

the fence, when you could instead reschedule existing supply orders to dates within the firm schedule period.

12. Fixed fence date for all items ?

Y or N.

Comments: A Y answer allows you to define a fixed firm schedule time fence that applies to all master schedule Group Items. This defined fixed fence date will override the Firm Schedule Days factor in related Item Masters.

If you answer Y, you are prompted to enter:

Fence date

Enter in MMDDYY format. This is the first date outside the firm schedule period. All preceding dates are within the firm schedule fence.

13. Planned order release look ahead days

A single numeric digit, from 1 to 9. Default is from M/S Control Information.

Comments: If the Start Date of a Suggested Planned Order is this number of schedule days from the current date, an order release action message will be generated. If you re-plan weekly and have 5 schedule days/week you would need 5 "look ahead" days to assure timely release of all orders.

14. List planned orders by due or start date

D = Due date, or **S** = Start date. Default is from M/S Control Information.

Comments: This controls the placement of planned order quantities into time buckets on the timephased item summary reports. Planned order records will always carry both dates, and suggested planned order release action messages will always be based on Start Date, so this is just a summary reporting elective.

Other MRP systems have traditionally listed suggested planned orders by Start Date period, to show the release period and lead time offset. However, this is sometimes confusing because all of the other timephased requirements and orders data listed for an item are by Due Date.

15. Explode top level reqts for level 1 plan ?

Y or N.

Comments: If you answer Y, gross requirements for any Group Items at Level 1 will be exploded from Level 0 item supply orders (open and planned orders for the parents of the Level 1 items). This allows complete demand and master schedule supply order planning for the top two levels of your Bills of Material. If you answer N, complete master schedules are only generated for Level 0 items.

Group Items at lower levels will appear on output screens or reports with a message indicating the total net requirements or available inventory are not known to the Master Scheduling function.

Please note that only defined Planning Group Items will be included on the Master Schedule display or printed outputs.

When you have completed these entries, a second entry screen is displayed. The data you enter are:

1. Print separate order action list ?

Y or N, or <F1> to default all remaining entries on this screen to the previous report values, saved from a preceding run. Each time you run the program, it asks if you wish to save your entries.

2. Print master schedule detail by date list ?

Y or N.

If you answer Y to "Print master schedule detail by date list?", you are prompted to enter:

3. Detail through schedule period starting

Enter in MMDDYY format, or <F1> = next Schedule Period starting date on file.

4. Detail list to include:

Backlog reqts by warehouse?

Y or N.

Forecast balances reqt ?

Y or N.

Shop order material reqts ?

Y or N.

Open shop or purchase orders ?

Y or N.

Firm planned orders ?

Y or N.

Suggested planned orders ?

Y or N.

If you have altered the entries from the last time this program was used, you are asked if you want to save the values just entered. Answer Y or N. There will be a period of processing while the program generates the Master Schedules before the printing the report(s).

FIRM PRODUCTION PLAN

This report prints the Firm Production Plan for a selected range of Production Planners and Planning Groups. It summarizes the Open Orders and Firm Planned Orders for the range of planning group items selected, printing totals for each Planning Group.

Select

Firm production plan from the *Reports, master planning* menu.

The following screen displays:

```
Reports, master planning (Firm production plan)

Please enter:

1. Starting prod planner code 
2. Ending prod planner code
3. Starting planning group #
4. Ending planning group #
5. Include purchased items in group ?
6. Only print planning group totals ?

<F1> = "All"
```

Enter the information as follows:

1. Starting prod planner code

Up to 3 alphanumeric characters, or <F1> = "All".

2. Ending prod planner code

Up to 3 alphanumeric characters, or Blank = Starting value.

3. Starting planning group

Up to 6 alphanumeric characters, or <F1> = "All".

4. Ending planning group

Up to 6 alphanumeric characters, or Blank = Starting value.

5. Include purchased items in group ?

Y or N.

A Y answer will exclude purchased items, such as purchased service parts in Planning Groups.

6. Only print planning group totals ?

Y or N.

A Y answer will exclude printing of orders for each item in the groups.

FIRM PLANNED ORDERS

This report prints the Firm Planned Orders on file.

Select

Firm planned orders from the *Reports, master planning* menu.

The following screen displays:

```
Reports, master planning (Firm planned orders)

Please enter:
1. Starting item #
2. Ending item #
3. Starting primary whse
4. Ending primary whse
5. Starting due date
6. Ending due date

<F1> = "All"
```

Enter the information as follows:

1. Starting item

Up to 15 alphanumeric characters, or <F1> = "All".

2. Ending item

Up to 15 alphanumeric characters, or Blank = Starting value.

3. Starting primary whse

Up to 2 alphanumeric characters, or <F1> = "All".

4. Ending primary whse

Up to 2 alphanumeric characters, or Blank = Starting value.

5. Starting due date

6 numeric digits in MMDDYY sequence, or <F1> = "Earliest".

6. Ending due date

6 numeric digits in MMDDYY sequence, or Blank = Starting value, or <F1> = "Latest".

LEAD TIME ANALYSIS

This report allows you to analyze the longest cumulative planned lead times for a range of parent items, showing the planned lead times at each bill of material level on the parent "longest lead time path". You may include or exclude purchased component lead times in this lead time path analysis.

On this report, cumulative lead time days is summed from the bottom level of the bill of material through the top level item being analyzed.

Select

Lead time analysis from the *Reports, master planning* menu.

The following screen displays:

Reports, master planning (Lead time analysis)

Please enter:

1. Report sequence
2. Starting
3. Ending
4. Include purchased components ?

I = Item # P = Planning group

Enter the information as follows:

1. Report sequence

I = Item #, or P = Planning Group

If the report sequence is by Item #:

2. Starting item

Up to 15 alphanumeric characters

3. Ending item

Up to 15 alphanumeric characters, or Blank = Starting value.

If the report sequence is by Planning Group:

2. Starting planning group

Up to 6 alphanumeric characters

3. Ending planning group

Up to 6 alphanumeric characters, or Blank = Starting value.

4. Include purchased components ?

Y or N.

Reports, MRP Explosions

This chapter contains the following topics:

Introduction to Reports, MRP Explosions
MRP Item Summary
MRP Schedule Detail
MRP Order Actions
MRP Vendor Purchase Actions
MRP Order Pegging

INTRODUCTION TO REPORTS, MRP EXPLOSIONS

Use these programs to print selective information from the MRP explosion data files created by the "Explode requirements" function.

If output files from more than one MRP explosion run have been saved, each of these programs will ask which MRP run you wish to access. If this occurs, use the <F1> key to display information about the various MRP runs and then enter the Run Number you want.

MRP ITEM SUMMARY

This report prints time period summary information for items included in the MRP explosion output files. You may also elect to include order action messages on this report.

Select

MRP item summary from the *Reports, MRP explosions* menu.

The following screen displays:

The screenshot shows a software window titled "Reports, MRP explosion (MRP item summary) Company 00 XYZ Company". The window has a menu bar with "File", "Tools", and "Help". The main area is divided into two tabs: "MRP item summary criteria" (selected) and "MRP rules".

Under the "MRP item summary criteria" tab, there is a box containing the following information:

- MRP run number 1 req by PSI
- Run date 12/12/2012 Number of schedule periods: 2
- Start time 14:02:29 Scheduled periods: 12/01/2012 - 01/31/2013

Below this box is a "Change MRP data" button. Underneath are two checked checkboxes:

- Print order action messages
- Print order action items only

There are two dropdown menus:

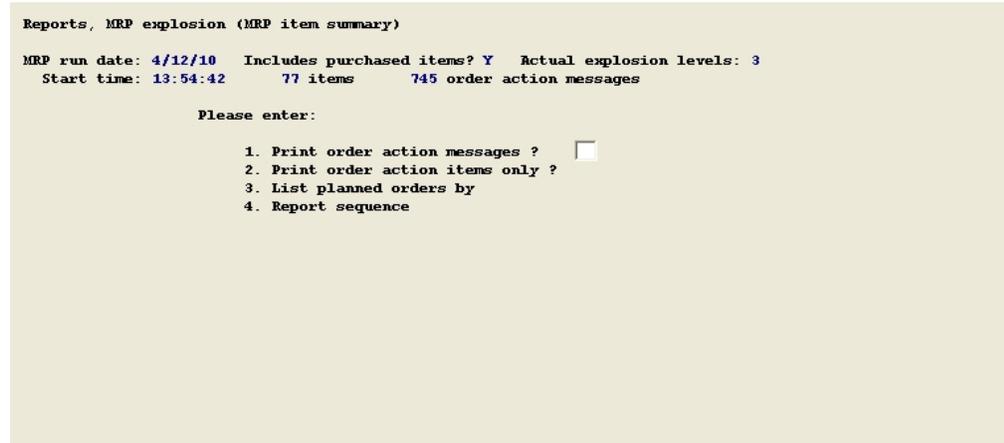
- Planned orders by: Start date period
- Report Sequence: Planner/Buyer

Below these are several input fields with icons:

- Starting planner / buyer: "All" (with a person icon)
- Ending planner / buyer: (empty) (with a person icon)
- Purch/Mfd code: "All" (with a dropdown arrow)
- Starting item type: "All" (with a person icon)
- Ending item type: (empty) (with a person icon)

At the bottom of the dialog, there is a legend: "<F1> = 'All', Blank = Undefined". At the very bottom are "OK" and "Cancel" buttons.

Character Mode



Enter the information as follows:

Change MRP data (button)

This button is only active if there is more than one MRP run saved. If there are multiple MRP runs on file, you may click this button and scroll from one to the next. If there are no prior runs saved this button is inactive.

Normally, an MRP run is done and saved only until the next time you run the MRP. For some, who do forecasting or even Capacity Planning, you may change around forecasts and other parameters in the run to see the impact on the end results. In those rare cases, when you attempt to do an MRP Explosion, you will save the prior one(s) so you can compare the results, one to the other.

Print order action messages

Check box where checked is yes and not checked is no. The default is checked.

Using character mode enter Y or N.

Print order action items only

Check box where checked is yes and not checked is no. The default is checked.

Using character mode enter Y or N. The default is Y.

Planned order by

From the drop down list select either *Due date period* or *Start date period*.

Using character mode, enter D for Due date period or S for Start date period.

Report sequence

From the drop down list select either *Item number* or *Planner/Buyer*.

Using character mode, enter either I for Item # or P for Planner/buyer.

Planner/Buyer Sequence

If report sequence is *Planner/Buyer* enter:

Starting planner / buyer

Enter up to 3 alphanumeric characters. Use a *blank* entry for Undefined or hit <F1> for "All".

Ending planner / buyer

Up to 3 alphanumeric characters or use *blank* for same as the Starting value.

Purch/Mfd code

Using the drop down list, select either Purchased, Manufactured, Super bill, Transient, or "All".

Using character mode, enter either P for Purchased, M for Manufactured, S for Super bill, T for Transient, <F1> for "All".

Starting item type

Enter up to 4 alphanumeric characters. Use a *blank* entry for Undefined or hit <F1> for "All".

Ending item type

Up to 4 alphanumeric characters or use *blank* for same as the Starting value.

Item number sequence

If report sequence is *Item number* enter:

Starting item number

Enter up to 15 alphanumeric characters or hit <F1> for "All".

Ending item number

Enter up to 15 alphanumeric characters or leave it Blank to match the *Starting item number* value.

If the report sequence is *Item number*, also enter the Starting and Ending planner / buyer range as described above.

OK or Cancel

Select OK to display a list of printers and print the report. Select Cancel to return to the menu without printing the report.

MRP SCHEDULE DETAIL

This report prints detail information about the requirements and orders within each schedule period.

Select

MRP schedule detail from the *Reports, MRP explosions* menu.

The following screen displays:

```
Reports, MRP explosion (MRP schedule detail)
MRP run date: 4/12/10  Includes purchased items? Y  Actual explosion levels: 3
Start time: 13:54:42    77 items      745 order action messages

Please enter:

1. Item # 
2. Through schedule period beginning

Detail to include:
3. Backlog reqts by warehouse ?
4. Forecast balance reqts ?
5. Shop order material reqts ?
6. Parent plan exploded reqts ?
7. Open shop or purchase orders ?
8. Firm planned orders ?
9. Suggested planned orders ?
10. List planned orders by
```

Enter the information as follows:

1. Item

Enter up to 15 alphanumeric characters.

2. Through schedule period beginning

Enter 6 numeric digits in MMDDYY format or press <F1> for the next MRP run schedule period date.

Detail to include:

3. Backlog reqts by warehouse ?

Y or N.

4. Forecast balance reqts ?

Y or N.

5. Shop order material reqts ?

Y or N.

6. Parent plan exploded reqts ?

Y or N.

7. Open shop or purchase orders ?

Y or N.

8. Firm planned orders ?

Y or N.

9. Suggested planned orders ?

Y or N.

10. List planned orders by

Enter D for Due date period or S for Start date period.

MRP ORDER ACTIONS

This report prints order action messages created by the MRP explosion.

Select

MRP order actions from the *Reports, MRP explosions* menu.

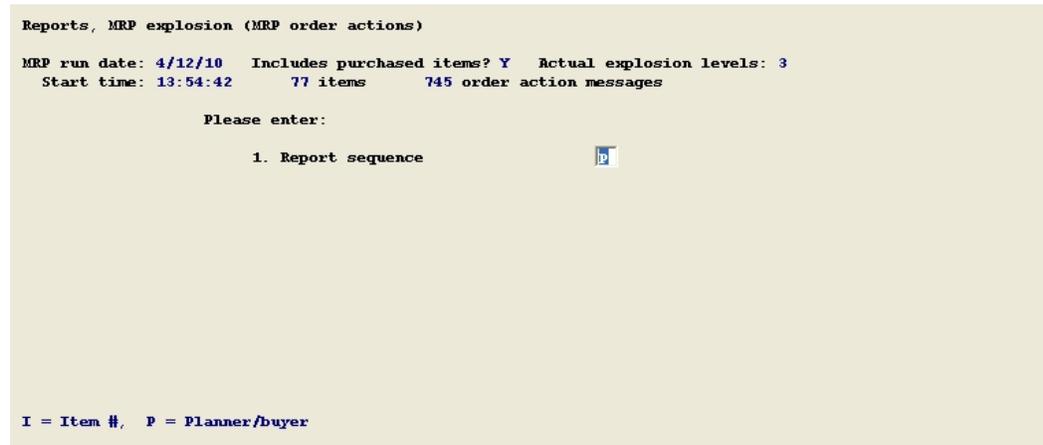
The following screen displays:

The screenshot shows a software window titled "Reports, MRP explosion (MRP order actions) Company 00 XYZ Company". The window has a menu bar with "File", "Tools", and "Help". The main content area is titled "MRP order actions criteria" and contains the following fields and controls:

- MRP run number 1 req by PSI**
- Run date 12/12/2012** **Number of schedule periods: 2**
- Start time 14:02:29** **Scheduled periods: 12/01/2012 - 01/31/2013**
-
- Report Sequence**
- Starting planner / buyer**
- Ending planner / buyer**
- Purch/Mfd code**
- Starting item type**
- Ending item type**

At the bottom of the dialog, there is a legend: "<F1> = 'All', Blank = Undefined". At the very bottom of the window are two buttons: and .

Character Mode



Enter the information as follows:

Change MRP data (button)

This button is only active if there is more than one MRP run saved. If there are multiple MRP runs on file, you may click this button and scroll from one to the next. If there are no prior runs saved this button is inactive.

Normally, an MRP run is done and saved only until the next time you run the MRP. For some, who do forecasting or even Capacity Planning, you may change around forecasts and other parameters in the run to see the impact on the end results. In those rare cases, when you attempt to do an MRP Explosion, you will save the prior one(s) so you can compare the results, one to the other.

Report sequence

From the drop down list, select either *Item number* or *Planner/buyer*.

Using character mode enter either **I** for *Item #* or **P** for *Planner/buyer*.

Item sequence

If the report sequence is *Item number* enter:

Starting item number

Up to 15 alphanumeric characters. Use <F1> for "All".

Ending item number

Up to 15 alphanumeric characters. Use Blank for the same as the *Starting item number*.

Planner/Buyer sequence

If the report sequence is *Planner/buyer* enter:

Starting planner / buyer

Up to 3 alphanumeric characters. Use Blank for Undefined or <F1> for "All".

Ending planner / buyer

Up to 3 alphanumeric characters. Use Blank for the same value as the *Starting planner / buyer*.

Purch/Mfg code

Using the drop down, select either Purchased, Manufactured, Super bill, Transient or "All".

Using character mode, enter either P for Purchased, M for Manufactured, S for Super bill, T for Transient or hit <F1> for "All".

Starting item type

Up to 4 alphanumeric characters. Use Blank for Undefined or hit <F1> for "All"

Ending item type

Up to 4 alphanumeric characters. Use Blank for the same value as the *Starting item type*.

OK or Cancel

Select OK to display a list of printers and print the report. Select Cancel to return to the menu without printing the report.

MRP VENDOR PURCHASE ACTIONS

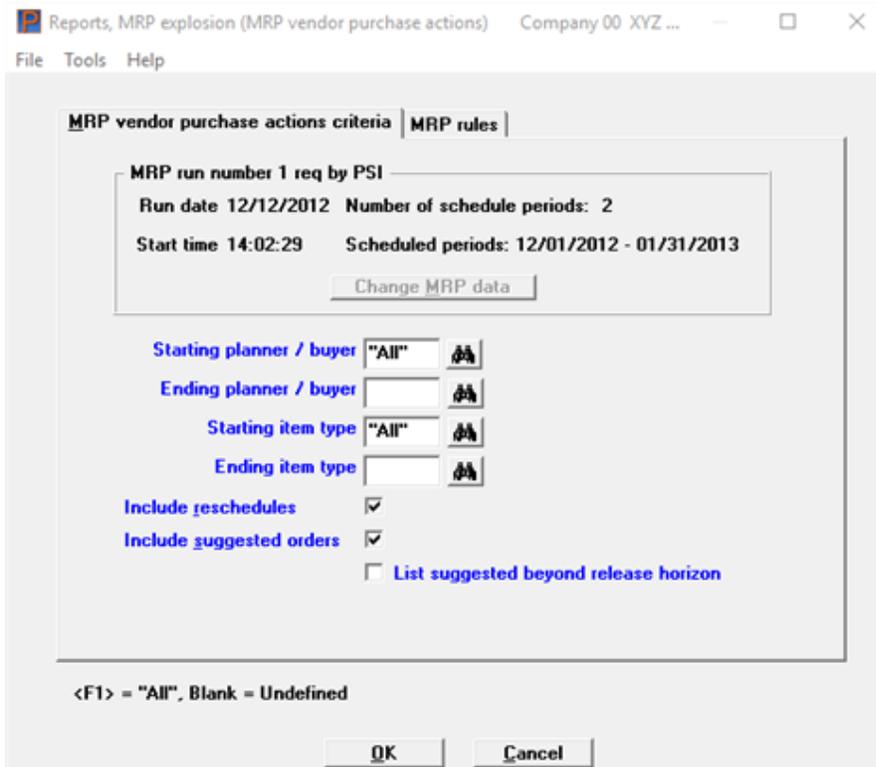
This report prints purchase order action messages by vendor.

For suggested planned order releases, the order actions are listed by Primary Vendor in Item Masters. If available, Vendor contact and telephone numbers from matching A/P Vendor records and Vendor Item Numbers and last purchase price from matching P/O Item Source records are included.

Select

MRP vendor purchase actions from the *Reports, MRP explosions* menu.

The following screen displays:



Character Mode

```
Reports, MRP explosion (MRP vendor purchase actions)
MRP run date: 4/12/10  Includes purchased items? Y  Actual explosion levels: 3
Start time: 13:54:42

Please enter:

1. Starting planner/buyer code 
2. Ending planner/buyer code
3. Starting item type
4. Ending item type
5. Include reschedules ?
6. Include suggested orders ?

This report only includes purchased items.

Planned orders are listed by primary vendor #
specified in the Item Master File.

<F1> = "All", Blank = Undefined
```

Enter the information as follows:

Change MRP Data Button

This button is only active if there is more than one MRP run saved. If there are multiple MRP runs on file, you may click this button and scroll from one to the next. If there are no prior runs saved this button is inactive.

Normally, an MRP run is done and saved only until the next time you run the MRP. For some, who do forecasting or even Capacity Planning, you may change around forecasts and other parameters in the run to see the impact on the end results. In those rare cases, when you attempt to do an MRP Explosion, you will save the prior one(s) so you can compare the results, one to the other.

Starting planner / buyer

Enter up to 3 alphanumeric characters. Use Blank for Undefined or hit <F1> for "All".

Ending planner / buyer

Enter up to 3 alphanumeric characters. Use Blank for the same value as *Starting planner / buyer*.

Starting item type

Enter up to 4 alphanumeric characters. Use Blank for Undefined or hit <F1> for "All".

Ending item type

Enter up to 4 alphanumeric characters. Use Blank for the same value as *Starting item type*.

Include reschedules

Check the box for yes or leave unchecked for no. The default is checked.

Using character mode, enter Y or N. The default is Y.

Include suggested orders

Check the box for yes or leave unchecked for no. The default is checked.

Using character mode , enter Y or N. The default is Y.

If you use the default of checked to *Include suggested orders*, the following field may be entered:

List suggested beyond release horizon

Check the box for yes or leave unchecked for no. The default is unchecked.

Using character mode , enter Y or N. The default is N.

A yes answer to this question means that if there are suggested orders for an item within its release action horizon, any other suggested orders for the item which are beyond the release horizon will also be listed without an action message.

OK or Cancel

Select OK to display a list of printers and print the report. Select Cancel to return to the menu without printing the report.

MRP ORDER PEGGING

Use this report to trace the orders for selected items to related requirements or to related parent orders and requirements.

Select

MRP order pegging from the *Reports, MRP explosions* menu.

The following screen displays:

The screenshot shows a software window titled "Reports, MRP explosion (MRP order pegging) Company 00 XYZ Company". The window has a menu bar with "File", "Tools", and "Help". The main area is divided into two tabs: "MRP order pegging criteria" (selected) and "MRP rules".

Under the "MRP order pegging criteria" tab, there is a box containing the following information:

- MRP run number 1 req by PSI
- Run date 12/12/2012 Number of schedule periods: 2
- Start time 14:02:29 Scheduled periods: 12/01/2012 - 01/31/2013

Below this box is a "Change MRP data" button. The main area contains several fields:

- Pegging type:** End item (dropdown menu)
- Order Types:** "All" (dropdown menu)
- Starting due date:** "Earliest" (text field with a calendar icon)
- Ending due date:** "Latest" (text field with a calendar icon)
- Report Sequence:** Item number (dropdown menu)
- Starting item number:** (text field with a magnifying glass icon)
- Ending item number:** (text field with a magnifying glass icon)

At the bottom of the window are "OK" and "Cancel" buttons.

```
Reports, MRP explosion (MRP order pegging)
MRP run date: 4/12/10  Includes purchased items? Y  Actual explosion levels: 3
Start time: 13:54:42

Please enter:

1. Pegging type      
2. Order type
3. Starting due date
4. Ending due date
5. Report sequence

E = End item,  M = Multilevel
```

Enter the information as follows:

Change MRP Data *Button*

This button is only active if there is more than one MRP run saved. If there are multiple MRP runs on file, you may click this button and scroll from one to the next. If there are no prior runs saved this button is inactive.

Normally, an MRP run is done and saved only until the next time you run the MRP. For some, who do forecasting or even Capacity Planning, you may change around forecasts and other parameters in the run to see the impact on the end results. In those rare cases, when you attempt to do an MRP Explosion, you will save the prior one(s) so you can compare the results, one to the other.

Pegging type

Using the drop down, select either *End item* or *Multilevel*.

Using character mode, enter either E for End item or M for Multilevel.

Order types

Using the drop down, select either *Open purchase*, *Open shop*, *Planned firm*, *Planned suggested* or *"All"*.

Using character mode, enter either OP for Open purchase, OS for Open shop, PF for Planned firm, PS for Planned suggested or hit <F1> for "All".

Starting due date

Enter 6 numeric digits in MMDDYY sequence. Use <F1> for "Earliest".

Ending due date

Enter 6 numeric digits in MMDDYY sequence. Use Blank for the same as the *Starting due date* value or hit <F1> for "Latest".

Report sequence

Using the drop down, select either *Item number* or *Planner/buyer*.

Using character mode, enter either I for Item # or P for Planner/buyer.

Item number sequence

If report sequence is *Item number* enter:

Starting item number

Up to 15 alphanumeric characters.

Ending item number

Enter up to 15 alphanumeric characters. Use Blank = Starting value.

Planner/buyer sequence

If report sequence is *Planner/buyer* enter:

Starting planner / buyer

Enter up to 3 alphanumeric characters. Use Blank for Undefined.

Ending planner / buyer

Enter up to 3 alphanumeric characters. Use Blank = Starting value.

Purch/mfd code

Using the drop down, select either Purchased, Manufactured, Super bill, Transient or "All".

Using character mode, enter either P for Purchased, M for Manufactured, S for Super bill, T for Transient or hit <F1> for "All".

Starting item type

Enter up to 4 alphanumeric characters. Use Blank for Undefined or hit <F1> for "All".

Ending item type

Enter up to 4 alphanumeric characters. Use Blank for the same value as the *Starting item type*.

OK or Cancel

Select OK to display a list of printers and print the report. Select Cancel to return to the menu without printing the report.

Process Order Actions

This chapter contains the following topics:

[Process Order Actions](#)

PROCESS ORDER ACTIONS

This function is currently under development and will later be released as an enhancement to this package.

These programs will provide planners the capability to more easily execute the order reschedule and release actions recommended by the MRP explosion and reporting programs. This includes easy selection of recommended actions to be executed; automatic posting of selected order reschedule due dates to shop order, shop order material, or purchase order files; automatic conversion of selected planned orders to open shop orders or vendor purchase requisitions; and optional conversion of vendor purchase requisitions to new purchase orders.

Sample Reports

This appendix contains sample Manufacturing Job Costing reports.

JOB ORDER ESTIMATE LIST

Date 06/15/2010 Time 14:07:23

XYZ Company

Report-#0000 Page 0093

J O B O R D E R E S T I M A T E S L I S T

Job #: 11 Entry date: 1/28/10 Cust name: Req ship date: Split
 Whse: Main Sales ord #: "None" Cust P.O.: Quote value: Not specified

 S.O.-# Item-# Open/ Due-date Quantity --Estimated-unit-costs-and-hours-added-at-this-level-- Est-order-hrs
 Description Clsd Est-order-cost

10 AT02100402H21 Open 1/27/10 Order: 10.123 EACH Matl: .00 Labr:120,000.8167 Hours: 9,999.999 101,229.990
 K A36M 1" X 36" X 4" Recvd: 0 Outs: .00 Burd:999,999.9999 Misc: .00 11,337,768.27
 ANCHOR BOLT PART GALV

Labor/burden Seq Work Operation-description SU-hrs Run-hrs Per Lab-hrs Unit-lab Unit-lab-cost
 estimates: # ctr-# /run-hr hours Unit-burd-cost

30 P110 BLANK, PUNCH, FORM .250 1.000/ 100 EACH 1.00 .035 .5204
 .6505

40 SAW Test op .250 .050/ 1 EACH 1.00 9,999.999 120,000.2963
 Stk/prod ratio: 0 999,999.9999

1 shop orders for job; 1 open, 0 closed
 Job

Job total est hours: 101,229.990
 total est costs: 11,337,768.27

1 jobs listed

-- End of report --

PLANNING GROUP LIST

Date 09/28/2014 Time 21:23:32

Company 00

Report-#0000000 Page 0001

P L A N N I N G G R O U P L I S T

Planning group # range: "All"

Include items in group ? Y

Group-#	Group-description	Planner-cd	Item-#	Description	Prim whse	P/M	Item type	Prod cat	Fence days	--Safety-stock-- Qty	UM	Rqt	RT
1	WAGONS Fcst items? Y Fcst grp? N	1	1 MLRW-2	WAGONS Wagon	Main	M	WG	WAG	0	0	EACH		

1 planning groups listed

-- End of report --

Running an MRP Explosion and Basic Use

This chapter contains the following topics:

Running an MRP Explosion and Basic Use Tutorial	.....
Exploding your MRP	.....
Other Tools You May Use	.....

RUNNING AN MRP EXPLOSION AND BASIC USE TUTORIAL

This document assumes you have set up the M/S module previously. If you haven't, please see the document that covers setting up the M/S module.

A little background on MRP

There's no place in the system that "junk in - junk out" pertains more than in the Master Scheduling & MRP module. In other words, your MRP will only be as good as the data available at the time of the MRP explosion. If your settings aren't good, you have incorrect or inaccurate orders/forecast the resulting reports will be printing inaccurate recommendations.

The PBS Manufacturing's Master Scheduling & MRP module is what is called a Regenerative MRP, which means that in order to change/update your MRP recommendations you must regenerate (explode) your MRP. It is also considered a "bucketless" MRP system. This means we're making precise recommendations based on actual dates as opposed to making recommendations for a "bucket" or broader time period. This leads to a more accurate schedule allowing you to more precisely meet your customer's demand.

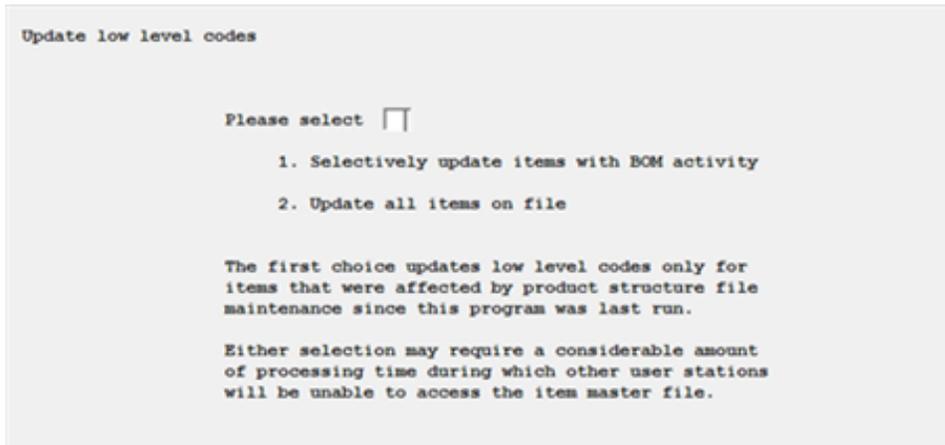
As you may have noted during setup, there are time periods for both scheduling and forecasting, but these are solely for more logically organizing high level information on some reports and displays. The actual recommendations (order action messages) will be precise to the need. In other words, if a sales order has a required ship date of 8/1/14 we will plan to have the item(s) available in order to ship on 8/1/14 as opposed to the week that this ship date falls into, which would be the case in a bucketed MRP system.

How often should you re-explode your MRP?

That is completely up to you and should be determined based on how you plan your inventory in your plant. For some companies, once or twice per month is sufficient while others will run their MRP Explosion once or twice per week. The choice is yours. Just understand that each time you regenerate your MRP, you will need to have exclusive access to the PBS Manufacturing database. That means nobody should be in entering orders of any kind, performing inventory transactions or any other activity in the inventory database. The good news is that in most cases, the MRP Explosion process takes just a few short minutes as opposed to the hours. The overall time is dependent on the amount of data you have in your system and the speed of your hardware and network.

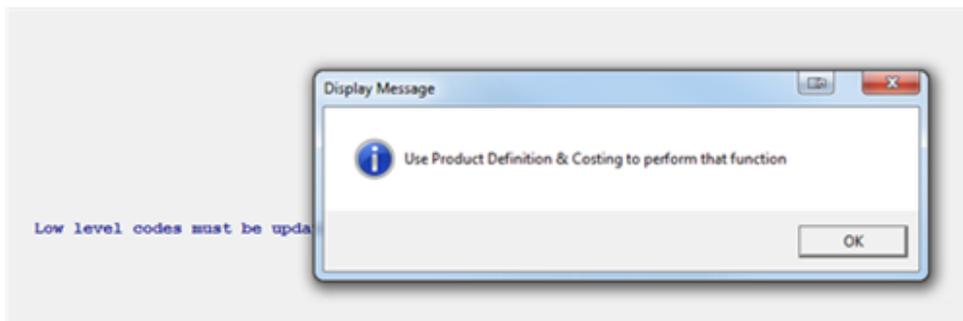
EXPLODING YOUR MRP

If this is your first time using the MRP module, we recommend you get everyone out of the manufacturing system, go to P/D, Update Low Level Codes, and run the update on all items (#2 below):

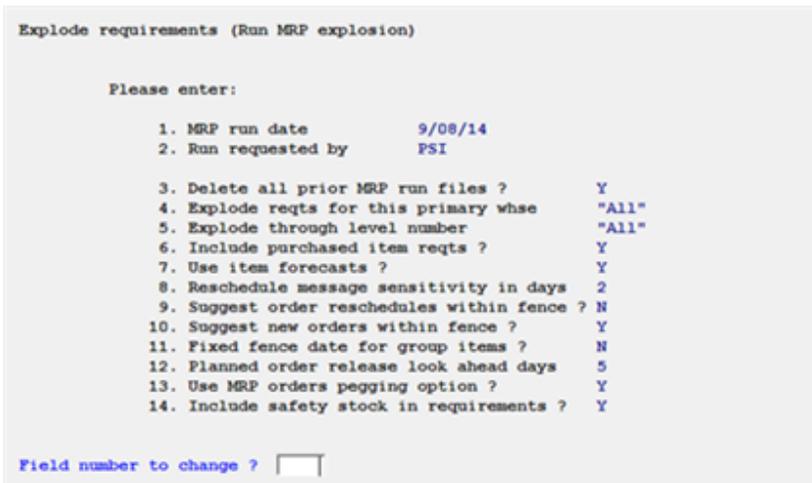


This will run for a short period of time (depending on the number of item and product structure records in your database). If you've done this previously, we recommend performing this task prior to trying to run your MRP explosion and select #1. This should be done prior to your explosion each time.

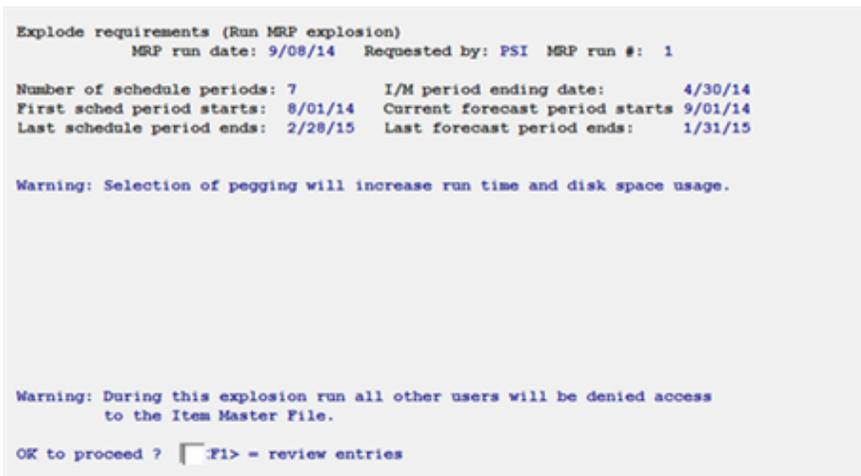
Once done, proceed to the M/S module. Run M/S, Explode Requirements > MRP Explosion. If you failed to run the prior step, you may see the following message and should return to step 1:



Otherwise, you will be presented with the following screen. After you've set up your *M/S Control information* properly you will be able to accept the defaults by pressing Enter for each of the field with the exception of #11. If you are using a "fixed fence" to prevent planning within that time period, you should say Y here and enter the fixed date in the next field. If not, which is more typical, then enter N here and proceed accepting or overriding your defaults the rest of the way:



At field number to change, review your settings prior to pressing Enter. If changes are needed make them now or proceed by pressing Enter. You will then be presented with a screen showing a few settings and a warning or two. You may review. If you decide you need to make changes to the prior screen before proceeding, press <F1> and move back to it. Otherwise, when you are ready to proceed enter Y and press the Enter key.



Finally, you will be asked if you'd like to start your MRP Explosion now or if you'd like to set a time to run this later, you can do so now by entering Hour and Minute for your start time. Choosing to run later is a great option unless someone happens to forget to get out of the inventory system. Should that occur, the MRP run won't be able to execute at the allotted time. If you wish to run immediately, press <F1> and confirm you wish to continue.

The system will begin the explosion process and will continue until it's done. You'll know it's done when you're asked for a printer to send the audit report. The audit report will show the settings you used for the explosion, some statistics on the explosion, and finally, if it noticed any problems they will appear at the bottom. For instance, if it finds an item coded as a manufactured item that didn't have a bill of material, you will be notified of this condition. This won't prevent MRP from completing.

Once you're done, your staff can begin using the inventory system again. MRP has just taken a snapshot of the orders, inventory, and forecasts and created a series of records for generating order action reports within MRP. It makes no changes to the orders or inventory during this process.

Using the Data

Now that the MRP explosion is complete, you can begin running reports and reviewing what it is MRP is recommending you do. Below is but one way you may choose to use these report, though it's also a fairly typical approach:

Review Purchased Requirements By Vendor

There are several action reports available to you, one of which is called the MRP Vendor Purchase Actions and is found under M/S, Reports > MRP Explosion. This report focuses solely on goods coded as Purchased and it organizes this information by primary vendor, as defined in the Item Master file. If no primary vendor is defined, an order action will appear under a section labeled "Undefined" which will require the user to make a determination as to where they wish to purchase the material.

Again, there is more than one way to use this but for the purpose of this tutorial, we're going to assume you have a single planner/buyer, and wish to see all item types. With that in mind, we typically recommend running this report twice and working each one separately. Doing so allows you to work more efficiently as you can isolate all new order actions, in other words, each recommendation to place a new order, separate from the reschedule actions. That means you can place all of your new orders, then proceed to start contacting vendors about rescheduling existing ones separately. You may opt to do this differently. Here are the typical settings to use this approach:

Reschedules:

```
Reports, MRP explosion (MRP vendor purchase actions)
MRP run date: 9/08/14  Includes purchased items? Y  Actual explosion levels: 5
Start time: 10:53:26

Please enter:

1. Starting planner/buyer code  "All"
2. Ending planner/buyer code
3. Starting item type          "All"
4. Ending item type
5. Include reschedules ?      Y
6. Include suggested orders ? N

This report only includes purchased items.

Planned orders are listed by primary vendor #
specified in the Item Master File.

Field number to change ? 
```

New Order Actions:

```
Reports, MRP explosion (MRP vendor purchase actions)

MRP run date: 9/08/14  Includes purchased items? Y  Actual explosion levels: 5
Start time: 10:53:26

Please enter:

1. Starting planner/buyer code      "All"
2. Ending planner/buyer code
3. Starting item type              "All"
4. Ending item type
5. Include reschedules ?          N
6. Include suggested orders ?      Y
   List suggested beyond release horizon ? N

This report only includes purchased items.

Planned orders are listed by primary vendor #
specified in the Item Master File.

Field number to change ? 
```

The resulting reports will provide you with all of the MRP order actions for the respective settings above. We recommend you carefully review these and then enter new orders or start rescheduling existing ones accordingly.

Review Manufactured Good’s Requirements

For manufactured goods, we recommend using the M/S, Reports, MRP explosion > MRP order actions. This report is similar to the *Vendor purchase actions*, though it can be run for purchased goods (no vendor grouping in this report), manufactured goods, or both. In this case, we’re going to use the report to target specifically manufactured goods.

This report can be run by Item or by Planner Buyer. Changing the selection here may change the options during the report execution. We’re going to use the same assumption as the prior report. We have a single buyer but we wish to target manufactured goods only. To achieve this use the settings below:

```
Reports, MRP explosion (MRP order actions)

MRP run date: 9/08/14  Includes purchased items? Y  Actual explosion levels: 5
Start time: 10:53:26  188 items  3,117 order action messages

Please enter:

1. Report sequence                 Planner/buyer
2. Starting planner/buyer code      "All"
3. Ending planner/buyer code
4. Items with this Purch/Mfd code   Manufactured
5. Starting item type              "All"
6. Ending item type

Field number to change ? 
```

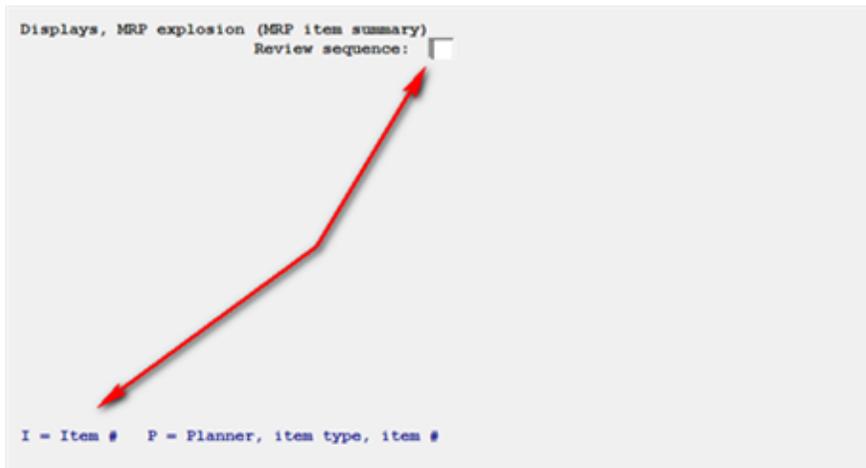
The resulting report will provide you with a complete list of actions required by you to make your supply meet your demand. At that point you can begin entering new shop orders, or delete, adjust or reschedule existing ones accordingly.

OTHER TOOLS YOU MAY USE

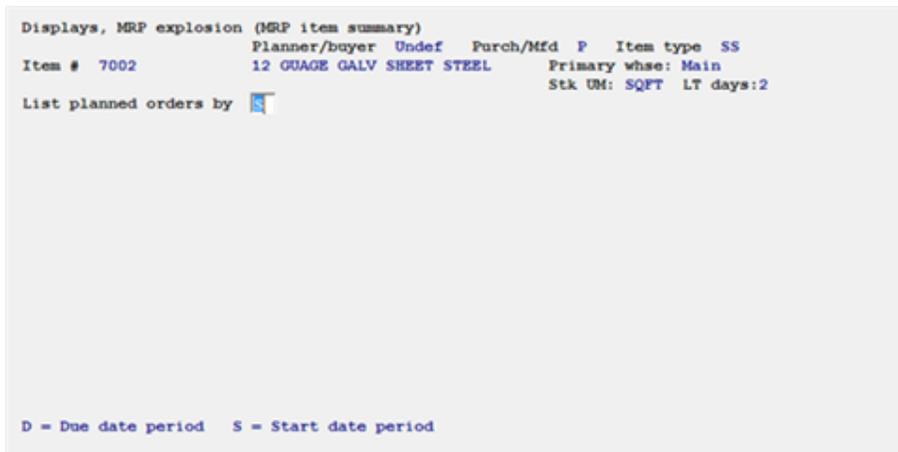
The above reports are the bottom line reports you will use to do your planning. However, there may be times you wish to research an item to learn more about why a recommendation is being made. You can use the IM, Displays > *Inventory availability* display to do some research on an item. However, you must remember, the MRP module took a snapshot of all of your inventory related information as of the moment the explosion was run so the numbers may be different.

That said, you can use the M/S, Displays, MRP explosion > *MRP item summary* to quickly see information on a given item as of the moment of the explosion. This can often help you determine why a recommendation was made.

This display can be used many ways, though we'll cover a few basics here. Assuming you are simply working your MRP report and wish to see more information on an item you are questioning. Go into the display and select the *Item #* as the review sequence:



On the next screen, enter the item number you wish to review and press Enter, confirm this is correct, then choose how you wish to view the data (by due date period or start date, the default from the control file should appear):



You will then be presented with the screen below. At the top of the display, you see any rules that were taken into account during the explosion (defined in the item master file) such as order minimum, order multiple, and order up to. You will also see how much was on hand at the time of the explosion as this may have changed since.

The data at the bottom is grouped by schedule period that will include information like open orders for the period, net available (a running value from period to period), FP or Firm Planned Orders you may have entered into MRP, SP or Suggested Planned Orders MRP may have made (these would be your order action suggestions), and then total orders by due date:

```

Displays, MRP explosion (MRP item summary)
Planner/buyer 1      Purch/Mfd P  Item type SS
Item # 7001          MILD SHEET STEEL 14GA  Primary whse: Main
                                                Stk UM: SQFT  LT days:3
Level: 3  Ord qty min: 0      Molt: 0      Up to: 0      Fence date: None
Held backlog: 0      Primary OH: 1,058      Branch OH to apply: 0

Schd-pd  Gross-reqts  Open-ords  Net-avail  FP-ords  SP-ords  Total-ords
          to-start    to-start    by-due-date
Prior    18485.085    2374.250
8/01/14   37.530          0 15089.870-  0   37.530    37.530
9/01/14  1157.175          0 16247.045-  0  1157.175  1157.175
10/01/14    0                0 16247.045-  0    .000     0
11/01/14    0                0 16247.045-  0    .000     0
12/01/14    0                0 16247.045-  0    .000     0
1/01/15     0                0 16247.045-  0    .000     0
2/01/15     0                0 16247.045-  0    .000     0

A = order action, R = reqts by source, <ESC> = reselect item
    
```

Take note at the bottom of the screen, you can drill in and get more information about this particular item in this display such as a list of your order actions (image 1 below) or you can review your requirements by source (second image below):

```

Displays, MRP explosion (MRP item summary)
Planner/buyer 1      Purch/Mfd P  Item type SS
Item # 7001          MILD SHEET STEEL 14GA  Primary whse: Main
                                                Stk UM: SQFT  LT days:3
Level: 3  Ord qty min: 0      Molt: 0      Up to: 0      Fence date: None
Held backlog: 0      Primary OH: 1,058      Branch OH to apply: 0

  Ord-type  Ord-#  Rls  Qty-due  Due-date  Resched  Start  Action-msg  Disp
  -----  -
  Purchase  104    6.250  11/19/09  2/01/10
  Purchase  101    15    11/25/09  2/01/10
  Purchase  103   12.500  11/25/09  2/01/10
  Purchase  106   12.500  11/25/09  2/01/10
  Purchase  109    2.500  11/30/09  2/01/10
  Purchase  113    2    12/23/09  2/01/10
  Purchase  114    2.500  12/31/09  2/01/10
  Purchase  116    3.750  1/27/10  2/01/10
  Purchase  115    25    1/29/10  2/01/10
  Purchase  117    2.500  3/17/10  2/01/10
  Expedite

<F1> = more order actions, <ESC> = return to summary
    
```

```

Displays, MRP explosion (MRP item summary)
Item # 7001          Planner/buyer 1      Purch/Mfd P  Item type SS
                  MILD SHEET STEEL 140A      Primary whse: Main
Level: 3  Ord qty min: 0      Mult: 0      Up to: 0      Stk UM: SQFT  LT days:3
Held backlog: 0      Primary OH: 1,058      Fence date: None
                                      Branch OH to apply: 0
    
```

Schd-pd	Gross-reqt	Pr-bklog	Exploded	S.O. matl
		Main	Main	Main
Prior	18485.085	6.255	2246.720	16232.110
8/01/14	37.530	0	0	37.530
9/01/14	1157.175	0	1157.175	0
10/01/14	0	0	0	0
11/01/14	0	0	0	0
12/01/14	0	0	0	0
1/01/15	0	0	0	0
2/01/15	0	0	0	0

<ESC> = return to summary

The order actions are self-explanatory. They should match what you are seeing on your order action reports. The requirements by source section will provide you with information you can't see on those reports though. In this example, you will see that the information aligns with it's proper period. Each period will have its own requirements breakdown. In the image below, we've isolated the center of the display, the one that was presented when you chose to review the requirements by period:

Pr-bklog	Exploded	S.O. matl
Main	Main	Main
6.255	2246.720	16232.110
0	0	37.530
0	1157.175	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

<ESC> = return to summary

Note, the first column provides you with a list of all of the requirements being driven by the backlog (open sales order requirements) in your primary warehouse.

The second column provides you with a summary of requirements that were created by exploding a planned parent. In other words, MRP saw a need for a parent item, suggested creating an order for that parent item, and did a virtual explosion of it. During the virtual explosion, it saw the need for this material in order to meet the virtual demand for the parent item.

The last column (and there could be more for requirements drive by Safety Stock for instance), includes all actual requirements against real shop orders that were entered prior to the MRP explosion.

This highlights a great deal of information for you and will typically tells you enough information to determine why MRP made an order action suggestion.

In the above example, you will note that most of our requirements are coming from prior periods or are actually overdue. This data is from a demo system which has older information in it. At the same time, you'll see that in the first actual planning period, we have several requirements against real shop orders which are driving demand in that period. The next period contains a good deal of demand that was generated by higher level recommendations the MRP is making for us.

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