

Shop Floor Control

Passport Business Solutions™

V 12.06

Passport Business Solutions
Shop Floor Control User Documentation
Version 12.06
April 2018

If you have any comments about this guide, please send your feedback to:

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Understanding Shop Floor Control

This chapter contains the following topics:

[Product Description](#)

[Key Words and Concepts](#)

PRODUCT DESCRIPTION

PBS Manufacturing Shop Floor Control helps you to efficiently release, schedule, load, and track manufacturing orders at the detail operation level. The PBS Manufacturing Inventory Management package include programs to create Shop Orders with due dates, to explode order quantities into material requirements, and to report material issues and finished production receipts for the orders. Shop Floor Control supplements those functions by providing shop paperwork, scheduling, and reporting procedures for tracking orders through each operational step required for timely completion of the manufacturing process.

Each operation on the Routing for a manufactured item is identified to a Work Center. Shop Floor Control programs convert operation schedules for open shop order quantities into timphased work center loads, usually expressed in total machine hours or labor hours, for reported comparisons to planned Work Center capacities. Work Center daily production outputs and available backlog, in load hours or production units, are also tracked.

Programs to report completed production, rework, and scrap quantities, and labor hours, by operation provide timely updating of Shop Order operations completion status and Work Center loads. Direct and indirect labor hours reporting by employee is optional. Automatic issue of component materials by operation, backflushing of reported production to preceding operations, and automatic receipt to stock at the last operation are also available options.

Shop Floor Control may be used with or without PBS Manufacturing Job Costing. Any Shop Order for which a Job Cost Master record is set up in Job Costing will generate order cost and cost variance reports when the order is closed. If Job Costing is not used for an order, actual material usage cost and actual direct labor hours history by operation may be reported with Shop Floor Control, but no other cost or variance reports are generated.

Major functions of PBS Manufacturing Shop Floor Control are:

- Shop Orders maintenance and releasing. This includes programs to enter Shop Orders, explode order material requirements, check material availability, print order material pick lists, release Shop Order operations for production when material is available, and print order routings. Bar coded routings may be optionally printed to simplify floor reporting procedures. Some of these Shop Order processing functions are also available in other PBS Manufacturing packages, but in this package they are consolidated on a single menu with the additional operation releasing and order routing print functions. Shop Floor Control programs also allow release of item alternate operations for scheduling, to balance Work Center loads.
- Generation of Shop Order operations schedules. Scheduling options include scheduling to infinite or finite Work Center capacities, and calculation of Critical Ratio priority factors in addition to operation Due Dates. Critical Ratio, used to determine relative schedule priorities between different orders, is based on the total time remaining to complete an order by its Due Date and the estimated manufacturing process time remaining for that order.

- Entry of production quantity and labor hours information to update order operation status. Labor hours reporting is optional. Production quantity reporting may be done at selective operations and automatically "backflushed" to preceding operations where production status is not reported; this option allows "unloading" of several related operations by only reporting completions at one of those operations. Inventory transactions for component material issues and stock receipts of finished production units may optionally be automatically generated as a byproduct of operation production reporting.
- Daily management reporting of current order operation schedules, order operations completion status, timephased work center loads vs. capacities, and daily/period to date Work Center output totals in capacity units.
- Optional reporting of actual labor hours history by Item Number and operation, and of direct and indirect labor hours history by employee and date.

Supporting programs include maintenance of Timephased Work Center Capacities, Labor Exception Codes, and Employees.

Some files/tables used by Shop Floor Control are built with other packages. Bill of Material and Routing data, maintained with PBS Manufacturing Product Definition & Costing, are used by the shop order explosion and releasing functions in this package. If you use PBS Accounting, you may optionally use Employees from PBS Payroll to identify valid Employee Numbers for production and labor reporting.

Some of the information entered in Shop Floor Control is also used by other PBS Manufacturing packages.

Production and labor entries made in this package update data used by Manufacturing Job Costing. Timephased Capacities information entered in Shop Floor Control may also be used for reports generated with the Capacity Planning package.

System integration features, including the interfaces with other PBS Manufacturing packages, maximize productivity by eliminating duplicative data entry and posting functions.

KEY WORDS AND CONCEPTS

To understand how to use the Passport Business Solutions Shop Floor Control, you should understand some key concepts and words that are used in this module.

Clear

To clear means to mark an entry as having been recognized and recorded by the bank.

In the case of a check that you write, a check that is cleared is received and recognized by the bank as valid. The bank transfers money from your checking account to the bank in which the payee deposited it (the payee is the person or company to whom you wrote the check).

In the case of any other entry, e.g., a deposit, bank charge, etc., the bank recognizes the deposit or charge and updates your account in its own records.

At the point that an entry is cleared, your account balance (the amount of money you have in your checking account) is changed accordingly.

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/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-xxxx-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 is often referred to as an entry.

Data File

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).

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 **O**pen **D**ata**B**ase **C**onnectivity. 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).

Getting Started

This chapter contains the following topics:

[Preparing to Use Shop Floor Control](#)

[Starting Shop Floor Control](#)

[Passport Training and Support](#)

PREPARING TO USE SHOP FLOOR CONTROL

Before getting started, ensure that the Shop Floor Control software is installed on your computer. Refer to the Passport Business Solutions Vision or SQL installation documentation to install the S/F module before proceeding.

Also, you may want to familiarize yourself with the main features of this module by reading the [Understanding Shop Floor Control](#) 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 Shop Floor Control system.

STARTING SHOP FLOOR CONTROL

To begin using Shop Floor Control, complete the following steps:

Step	Description
1	Study the PBS general features in the <i>System User</i> documentation.
2	Start S/F using the instructions in the Using Shop Floor chapter in this documentation.
3	<i>Company information</i> is set up for you as part of the installation procedure. Use the Company information menu selection, found under CTL, to modify the Company controls. 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 Valid G/L Accounts.
5	Enter your control information. Refer to the Control Information chapter in this documentation.

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 Shop Floor

This chapter contains the following topics:

[Organization of this Documentation](#)

[Starting Shop Floor Control](#)

ORGANIZATION OF THIS DOCUMENTATION

This documentation provides the information you need to use Passport Business Solutions Shop Floor.

Organization

The following chapter is a guide to daily operations. It explains how to use the Passport Business Solutions Shop Floor Control 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 Shop Floor Control 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.

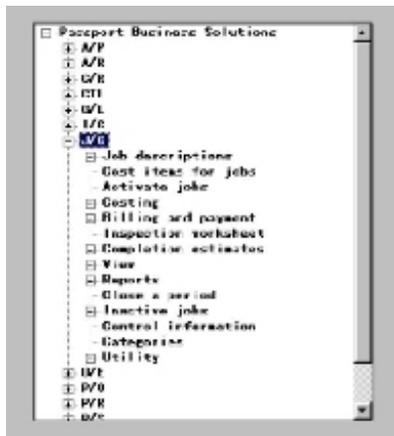
Selecting items from a menu on a computer is the way you tell your computer what you want to do.

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.



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 SHOP FLOOR CONTROL

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

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

PBS requires that you use passwords, (refer to *PBS Users* chapter in the *PBS Administration* documentation), 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.

Exiting Shop Floor

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:

[Shop Floor Control Checklists](#)

[Daily Operations Checklist](#)

[Periodic/Monthly Operations Checklist](#)

SHOP FLOOR CONTROL CHECKLISTS

The following checklists are provided as examples of how you might use Shop Floor Control 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 Shop Floor Control tasks:

Each Day	Each Day as Needed
Enter, explode, and print shop paperwork for any stock Shop Orders.	
	Release Routing Operations for scheduling using Shop Orders, Release Routing Operations.
	Generate Shop Floor schedules using Generate Schedules, Infinite Capacity Schedules.
Collect labor using either Production & Labor, Enter or Bar Coded Data Collection.	
	Close completed shop orders.
Collect time and attendance data using Production & Labor, Time & Attendance. Allows you to print the equivalent of a time card for each employee at the end of the work period.	
If collecting labor in an external application, use Production & Labor, Convert Batch Input to import labor transactions. Run the Edit List and Post once done.	
	Print or view work center schedules using Displays, Schedule & Load, Work Center Dispatch List or the report of the same name under Reports, Schedule & Load.
	Review work center load (capacity) using Displays, Schedule & Load Work Center Load Summary or the report of the same name under Reports, Schedule & Load.

Each Day	Each Day as Needed
	Review schedules for a shop order using Displays, Schedule & Load, Shop Order Schedules or use the report of the same name.
	Review slow moving items using Reports, Items, Slow Moving Items.
	Review a list of all shop orders using Displays, Other, Shop Orders or use the report of the same name under Reports, Other.
	Review material requirements for shop orders using Displays, Other, S.O. Material Reqts or use the report of the same name under Reports, Other.
	See the status of an order, including which operations have been completed, and optionally who worked on each operation, using Displays, Other, S.O. Operation Status or use the report of the same name under Reports, Other.
	Periodically review the history of one or more operations for a given item to compare actual times versus estimated times using Displays, Other, Item Operation History or use the report of the same name under Reports, Other.
	Review labor reported by employees using Displays, Other, Employee Labor or use the report of the same name under Reports, Other.
	Review indirect labor reported by employees using Reports, Other, Indirect Labor.
	Review your reported labor to determine how efficient your employees are working as compared to standard times set in Routings using Reports, Other, Labor Efficiency Report.
	Print a “time card” for each employee for a work period using Reports, Other, Employee Time Summary. This is only applicable if collecting Time and Attendance.
	If using Shop Floor Control to manage load/capacity, and you wish to increase or decrease the available capacity for one or more days, enter Timephased Capacities using Time Phased Capacities, Enter.

Periodic/Monthly Operations Checklist

Use the following guidelines for performing weekly and periodic Shop Floor Control tasks:

Each Period	Each Period as Needed
Close the period at the end of each month and year using Period & Year End.	
	Purge Timephased Capacities using Timephased Capacities, Purge.

Control Information

This chapter contains the following topics:

[Control Information](#)

CONTROL INFORMATION

S/F Control Information is used by other programs in the Shop Floor Control package. You set up these values when you install the package and may modify them later as necessary.

Select

Select *Control information* from the S/F menu.

```

Control information,

      1. Next computer assigned shop order #   25
      2. Maintain item operation history ?     Y
      3. Use PBS PR Employee file ?          N

Scheduling & loading defaults:

      4. Set forward or set back schedules     Back
      5. Default work center queue days       .0
      6. Minimum opn setup & process days     .0
      7. Number of weekly load periods        10

Default capacity distribution percent by daily segment:

      Segment of day  S1  S2  S3  S4  S5  S6  S7  S8
      8. Capacity %   100
    
```

Field number to change ?

Enter the following fields:

1. Next computer assigned shop order

Entry Format: From 1 to 6 numeric digits.

Comments: This is the number that may optionally be assigned to the next shop order entered. Each time you choose to use this automatically assigned number, it is increased by 1.

2. Maintain item operation history ?

Entry Format: Y or N

Comments: A Y answer means that direct labor hours and quantities for Shop Order operations will be written to history when the Shop Order is closed. The operation history can later be retrieved by Item Number. A N answer means that operation information will not be saved after Shop Orders are closed.

3. Use PBS PR employee file ?

Entry Format: Y or N

Scheduling & loading defaults

The following fields will display as default entries for schedule generation or shop load summary reporting programs in this package. The defaults may be changed when you run those programs:

4. Set forward or set back schedules ?

Entry Format: F = Forward, B = Back

Comments: Default entry for "Generate schedules (Infinite capacity schedules)" program.

Forward scheduling calculates operation due dates by using the Shop Order Start Date, and adding a calculated allowed time for each operation. Back scheduling sets the last operation's due date to the Shop Order Due date, and subtracts calculated allowed times for each operation to determine the preceding operation's Due Date.

"Back" is the recommended option.

5. Default work center queue days

Entry Format: Up to 2 numeric digits and 1 decimal, or spaces for zero.

Comments: Default entry for "Generate schedules (Infinite capacity schedules)" program. This number of "Queue days" (job waiting time) will be used in calculations of operation lead times if:

- "Average queue days" is zero in the Work Center record for the operation's Work Center Number, or
- You tell the scheduling program to use this value for all operations, ignoring Work Center values.

6. Minimum opn setup & process days

Entry Format: Up to 1 numeric digit and 1 decimal, or spaces for zero.

Comments: Default entry for "Generate schedules (Infinite capacity schedules)" program. If the calculated operation setup time plus run processing time, excluding queue time, is less than this value, this value will be used for scheduling purposes.

You may wish to allow such minimum time for movement of items to the next operation.

7. Number of weekly load periods

Entry Format: Up to 2 numeric digits, between 1 and 60.

Comments: Default entry for programs that display or print Work Center load summaries by weekly periods. Any load that is scheduled beyond this number of future weeks is summarized in a "Beyond" period.

Default capacity distribution percent by daily segment:

These defaults are used to split Work Center daily capacity values into segments of each day. These defaults are used unless other daily segment values are defined in Time-phased Capacities. You only need to split total daily capacity into segments if you plan to use "finite capacity" scheduling options. Otherwise, enter 100% in Segment 1 if you will use "infinite capacity" scheduling.

Segment of day S1 S2 S3 S4 S5 S6 S7 S8

8. Capacity %

Entry Format: Up to 3 numeric digits, between 1 and 100. The sum of entries for each segment must equal 100 %.

Comments: The percentages are used to split total daily capacities, in Time-phased Capacities or Work Centers, into segments of the day for finite capacity scheduling purposes. If finite capacity schedules are generated, a job scheduled to be completed within one capacity segment for a Work Center cannot be scheduled in an earlier segment of the same day at the next operation's Work Center.

After you enter the capacity % for a Segment, the subsequent Segment entry default displayed is the remaining portion of 100 %.

When you have finished making changes to the preceding entries the next screen of Control Information will appear after you select the <Enter> key.

Labor reporting factors:

Shift-time		Fixed-no-pay-break	
Start	End	Start	End

9. 1st shift

10. 2nd shift

11. 3rd shift

Entry Format: 4 numeric digits in HHMM format for Start and End times. Spaces for "None" are allowed in some fields, as explained below.

Enter Shift Start and End times for the 1st shift. You may enter spaces for "None" in the 2nd and 3rd shift Shift Start Times.

If you enter a Shift Start and End Time, you may optionally enter a Start and End Time for a Fixed No Pay Break, or space for "None". Specifying a fixed unpaid break time eliminates the need for employees to report "out" and "in" times for the fixed break period; this break time will be automatically deducted from reported labor activity times that encompass the break period.

The following fields, noted as "for batch transactions", are used to adjust or code production and labor transactions originated by an external shop data collection system, when they are processed by optional batch transaction processing programs in this module.

12. Early start of shift minutes allowed

(for batch transactions)

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

Comments: If the first reported Employee time transaction for the day is within this number of minutes before the Shift Start Time, the Start Time for the transaction is reset to the Shift Start Time.

13. Early end of shift minutes allowed

(for batch transactions)

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

Comments: If the last reported Employee time transaction for the day is within this number of minutes before the Shift End Time, an Indirect Labor "End of Shift Cleanup" transaction is automatically generated for the time difference between the last reported transaction End and Shift End.

14. Late end of shift minutes allowed

(for batch transactions)

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

Comments: If the last reported Employee time transaction for the day is within this number of minutes after the Shift End Time, the End Time for the last transaction is reset to the Shift End Time.

15. Indirect exception code - paid break

(for batch transactions)

Entry Format: Up to 3 alphanumeric characters, or space for "None".

Comments: If not space, this entry must match a valid Indirect Code of the Labor Exception Codes.

Transaction times coded as "Paid Breaks" by the external shop data collection system are assigned this Indirect Labor Code for the PBS Manufacturing Employee Labor transactions created from external data.

16. Indirect exception code - end cleanup (for batch transactions)

Entry Format: Up to 3 alphanumeric characters, or space for "None".

Comments: If not space, this entry must match a valid Indirect code from the Labor Exception Codes.

This code is assigned to automatically generated indirect labor transactions for allowed time between an employee's last transaction End Time and the Shift End Time. Related to Field 13.

17. Minimum unpaid lunch time minutes (for batch transactions)

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

Comments: If employees have an unpaid lunch break that is not defined as a fixed unpaid break for all employees, this parameter is used to adjust employee clock times for the lunch period to this minimum number of unpaid minutes. If employee start and end clock times for lunch represent less than this minimum, ending clock time for the break is adjusted to the minimum allowed time.

18. Include control character in printed barcodes ?

Entry Format: Y or N.

Comments: A Y answer causes a prefix character to be included in each barcode (S in Shop Order Number, R in Release Number, I in Item Number, and O in Operation Number) printed on bar-coded routing sheets. A N answer will cause barcodes to contain only the value of each data field.

Answer Y only if you have an external shop data collection system that uses the leading control characters to validate data input, and strips the leading control characters when formatting batch transactions to be processed by PBS Manufacturing programs.

19. Current period end date

Entry Format: 6 numeric digits in MMDDYY format.

Comments: When you first setup Control Information, enter the ending date of the current period (e.g. the current month). Thereafter, this date will normally be updated by running the Period & Year End function.

Master Information

This chapter contains the following topics:

[Employees](#)

[Labor Exception Codes](#)

EMPLOYEES

Select

Employees from the *Master information* menu.

The following screen displays:

```
Master information (Employees)

* 1. Employee # 
  2. Name

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

Enter the following fields:

1. Employee

Entry Format: Up to 4 numeric digits.

If the entry matches an Employee Number on file, the Employee Name is displayed.

2. Name

Entry Format: Up to 25 alphanumeric characters.

Press <F5> to print an Employee list in either number or name sequence. Enter Starting and Ending values or press <F1> for "All" at the Starting value.

LABOR EXCEPTION CODES

Labor Exception Codes identify valid shop Labor Exception Codes with their respective descriptions and a direct or indirect labor classification.

Direct labor exception codes may be entered with employee production/direct labor transactions, to indicate special problems or conditions that existed for a shop production activity being reported.

Indirect labor exception codes identify type of indirect labor, must be entered on employee indirect labor transactions, and are used for sorting and summing hours on an indirect labor report.

Use this function to identify all Labor Exception codes that can be referred to in production and labor reporting functions. Any time a Labor Exception Code is entered in another program, the code is validated against Labor Exception Codes.

Select

Labor exception codes from the *Master information* menu.

The following screen displays:

```
Master information (Labor exception codes)

* 1. Labor exception code 
  2. Description
  3. Direct or indirect

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

Enter the following fields:

1. Labor exception code

Entry Format: Up to 3 alphanumeric characters.

2. Description

Entry Format: Up to 20 alphanumeric characters.

3. Direct or indirect

Entry Format: **D** = Direct, **I** = Indirect

Comments: Indicates the type of production/labor reporting for which the code may be used.

Press <F5> to print a report of all the Labor Exception codes on file.

Timephased capacities

This chapter contains the following topics:

[Introduction to Timephased Capacities](#)

[Enter](#)

[Purge](#)

INTRODUCTION TO TIMEPHASED CAPACITIES

Use this function to define and list Timephased Capacities by Work Center and date. If you do not define any timephased capacity values for a Work Center, the "Daily capacity" and "Efficiency factor" in the Work Center record is used to determine capacity for all regular schedule dates. Regular schedule dates are all dates that are not on I/M Schedule Exception Dates.

If you define a non-zero timephased capacity for a regular schedule date, other programs will use the Timephased Capacities record value for that day instead of capacity information in the Work Center record. You may also use Timephased Capacities to define Work Center capacities for Schedule Exception Dates, if you plan to operate selected Work Centers on weekend days.

ENTER

This program allows you to quickly define daily Work Center capacities for a seven day period, and optionally use the same daily plan for a specified number of future weeks.

Select

Enter from the *Timephased capacities* menu.

The following screen displays:

```

Timephased capacities (Enter)

* Work center #: 
Capacity UM:          Daily capacity:          Effic factor:
                    Avg net daily capacity:

      Sched-exc  Net-daily  Capacity-distribution-%-by-daily-segment
      Date  date?  capacity   S1  S2  S3  S4  S5  S6  S7  S8

1.
2.
3.
4.
5.
6.
7.

8. Number of future week repetitions of above plan ?

<F1> = next work center
    
```

Enter the following fields:

* Work center

Entry Format: Up to 6 alphanumeric characters, press <F1> for the next Work Center record on file.

Comments: This entry must match a valid Work Center record on file. The Work Center description and Department are displayed.

The following entries are repeated seven times, in Fields 1-7. Each line represents a separate record for the Work Center. Only records with non-zero capacity values are written to the file.

1.-7. Date

Entry Format: 6 numeric digits in MMDDYY format.

Comments: After you enter the first date, the six following dates automatically display. Any capacities previously entered for the 7 days are displayed.

1.-7. Net daily capacity

Entry Format: Up to 5 numeric digits and 2 decimals, or

<F1> = Work center average, or <F2> = skip remaining dates. Zero is allowed.

Comments: If you use <F1> for "Work center average", the net daily capacity is calculated by multiplying the Work Center's "Efficiency factor" by its average "Daily capacity".

1.-7. Capacity distribution % by daily segment (Up to 8 segments)

Entry Format: Up to 3 numeric digits or zero. The sum of all segments cannot exceed 100 %. Entry defaults displayed are from S/F Control Information. See [Scheduling & loading defaults](#).

Comments: If you only plan to use "infinite capacity" scheduling, enter 100 in Segment 1. The percentages are used to split the net daily capacity into segments of the day for "finite capacity" scheduling purposes. If finite capacity schedules are generated, a job scheduled to be completed within one capacity segment for a Work Center cannot be scheduled in an earlier segment of the same day at the next operation's Work Center.

8. Number of future week repetitions of above plan

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

Comments: If you enter a non-zero value, the program automatically creates or updates records for all dates within the specified number of future weeks, repeating the same daily capacity pattern shown on the screen for each of the future 7-day periods.

Use "Field number to change ?" to modify data entered. When you have completed any revisions, press ENTER at that position to post. A separate record is created for each date specified for the Work Center. Records are not created for dates with zero "Net daily capacity". Capacity values entered either create new records or replace previous records on file. A zero "Net daily capacity" entry causes deletion of a previously created record for the date.

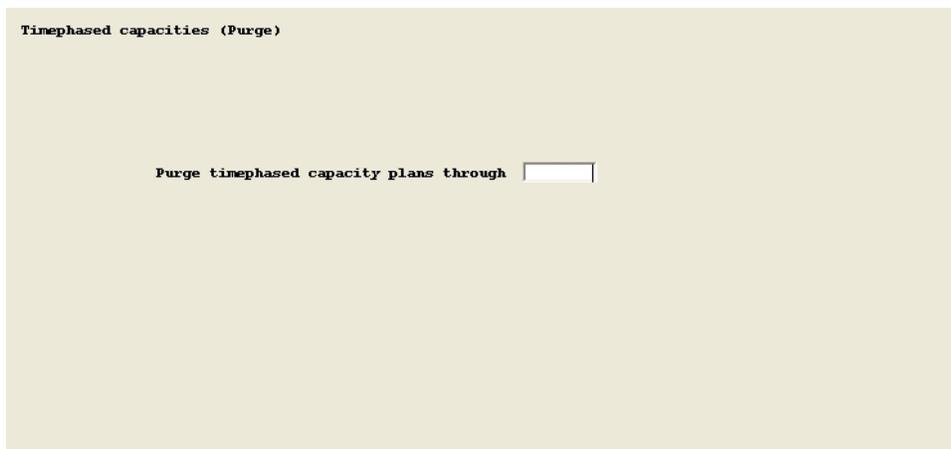
PURGE

Use this program to easily delete all Timephased Capacities on file for prior dates.

Select

Purge from the *Timephased capacities* menu.

The following screen displays:



Timephased capacities (Purge)

Purge timephased capacity plans through

You are prompted with:

Purge timephased capacity plans through _____

Enter a date in MMDDYY format. You will then be asked "Are you sure?". A Y response causes the program to delete the selected records. A N response takes you out of this program.

Shop Orders

This chapter contains the following topics:

Introduction to Shop Orders	.....
Enter	.....
Explode Material	.....
Display Material Availability	.....
Print Pick List	.....
Shop Order Traveler	.....
Release Routing Operations	.....
Print S.O. Routing	.....
Close	.....

INTRODUCTION TO SHOP ORDERS

Use these programs to enter or change Shop Orders, explode Shop Order quantities into component material requirements and allocations, display order material availability, print component materials picking lists for orders, release order routing operations, print Shop Order Routings, print optional bar code reporting documents, and close Shop Orders.

Some of these programs may also be run from the Inventory Management or Manufacturing Job Costing packages. This function combines those programs with other related Shop Floor Control functions.

Releasing order routing operations allows subsequent reporting of production and labor by operation, and generation of released order operation schedules. An order's operations should usually be released only when materials required for the order are available.

ENTER

The combination of Shop Order Number, an optional Release Number, and Item Number establishes a unique Shop Order record. You thereby have the alternative of using the same Shop Order and Release Number for different, but related, manufactured items (for example, a "make to order" product and its manufactured components). You may also setup several Release Numbers, with different Due Dates, for the same Shop Order Number and manufactured Item Number.

Select

Enter from the *Shop orders* menu.

The following screen displays:

Shop orders (Enter) Company 00 XYZ Company

File View Options Tools Help

New Edit Save Save / New Delete Cancel Exit

Select shop order by descending S.O. #

S.O. #	Rls #	Item #	Description	Whse	Status
10		2000	WHEELS, WHITE 6"	Main	Material issued
10		2100	WHEEL HALVES FOR ASSEMBLY	Main	Exploded
10		3000	RED WAGON AXLE	Main	Closed
10		4000	REAR AXLE BRACKETS	Main	Exploded
10		5000	FRONT AXLE HOUSING	Main	Exploded
10		6000	PULL HANDLE ASSEMBLY BLACK	Main	Exploded

General

Shop order # 10 Release #

Item # 2000

Description WHEELS, WHITE 6"

Warehouse Main Main

Sales order #

Quantity ordered 8 EACH

Quantity received 1

Lead time days

Due date 10/24/2012

Start date 10/24/2011

Shop order status: Material issued

Opns released

<F1> = next S.O. #, <F2> = previous S.O. #, <F3> = delete S.O. #, <F6> = Comments

Enter the following fields:

Shop order

Entry Format: Up to 6 alphanumeric characters.

Release

Entry Format: Up to 2 numeric digits, or default of space.

Comments: Use of Release Numbers is optional, allowing Shop Order Numbers with multiple releases for different due dates.

Item

Entry Format: Up to 15 alphanumeric characters.

Validation: The Item Number must match a record in I/M Item Masters.

Comments: Press ENTER to select by description if you wish to search for an Item Number by entering any portion of the first 30 characters of its Description.

Press <F1> to search if you wish to consecutively display Parent Item Numbers for the Shop Order Number and Release Number you have entered.

Description

Entry Format: Up to 30 alphanumeric characters for each line. Entered only from "Field number to change?"

Default: The Item Master description fields are automatically entered when you first add a Shop Order.

Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Default: The item's Primary Warehouse code is displayed as the default entry.

When entering fields to display a record, the Warehouse code in the first Shop Order record on file matching your Shop Order Number, Release Number, and Item Number entries is displayed as the default.

If this entry together with Shop Order Number, Release Number, and Item Number matches a Shop Order record already on file, the remaining data fields will display.

Sales order

Entry Format: Up to 6 numeric digits, or spaces.

Comments: For reference. Not matched to Customer Orders by this program.

Quantity ordered

Entry Format: Up to 8 numeric digits, without a minus sign.

Comments: The item's Inventory Unit Of Measure displays to the right of this entry.

Quantity received

This field is displayed only, since it can only be updated by "Inventory transactions". The program initializes this value to zero when a record is added.

Lead time days

Entry Format: Up to 3 numeric digits without a minus sign, or press ENTER to accept default displayed.

Default: The displayed default is Lead Time Days from the Item Master record.

Due date

Entry Format: 6 numeric digits, in MMDDYY format.

Validation: Must not match a date in Schedule Exception Dates.

Comments: If you change the Due Date of a Shop Order, the program asks "Reschedule other items with same S.O. # and Rls # by same number of days?". Answer Y or N.

If you change the Start Date, or another entry that causes a new Start Date to be calculated, the program asks "OK to change date of S.O. material reqts?". Answer Y or N.

For jobs comprised of multiple Shop Orders, these rescheduling options may be used to make consistent changes to Due Dates and Material Requirements dates for all related Shop Orders.

Start date

Entry Format: 6 numeric digits, in MMDDYY format, or press ENTER to accept default displayed.

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

Validation: This entry must not match a date in Schedule Exception Dates.

Shop order status:

Comments: Order Status is displayed. This code is automatically set to O (Open) and is updated by other applications; it cannot be modified in Enter Shop Orders. Status codes are:

Order Status	Explanation
Opns released	Open Added to Shop Orders, but not exploded.
Exploded	Exploded Shop Order Material Requirement records for components are on file for the Shop Order. Status is changed to E by the Explode Shop Orders program, or by the "Shop order materials" maintenance function.
Material issued	Issued Some or all required components are issued to the Shop Order. Status is changed to I by the Process Inventory Transactions function.
Closed on 99/99/2099	Closed Shop Order has been closed by the Close Shop Orders program and its record can no longer be modified by using Enter Shop Orders.

When you add an order, if Manufacturing Job Costing is installed and a Job Master matching the Shop Order Number is not on file, the program asks: **Add job cost master ?** Answer Y if you want to add the cost master which allows reporting of order costs when you close the order; otherwise answer N.

If order Start Date is changed and Shop Order Material records are on file, the program asks if you want to accordingly change required dates for the Shop Order Materials.

You are only allowed to delete a Shop Order with an Order Status of O (Open) or C (Closed). If the Order Status is E or I, you must first use Close Shop Order to close the order and remove related Material Requirement records before you can delete the order record. You may also use Purge Closed Shop Orders to delete all Shop Order records that were closed on or before a date that you specify.

S.O. comments

Entry Format: Up to 99 lines of 45 alphanumeric characters each, in groups of 10 lines per screen.

Comments: If the answer is "N" to "Use shop order comments" in I/M Control Information, you will not be prompted to add S.O. comments.

If you do use comments, when you are adding or changing comments, press <F1> to put spaces in a comment field and in subsequent fields in the same group of 10. To delete all comments for a group of 10, press <F1> when the cursor is at the top comment field.

You may also press <F2> at the first comment field to copy the item master comments, if any.

EXPLODE MATERIAL

The program explodes Shop Orders into Shop Order Material Requirements records, using Product Structures (bills of material) maintained in Product Definition & Costing. This process also increases the Quantity Allocated in Item Master or Branch Warehouse Item records for the components.

Shop Order Material Requirement records are the detail of a component item's total Quantity Allocated at a Warehouse, and are subsequently used to record actual issue quantity vs. required (planned usage) quantity for each controlled component used in making the parent item.

The program provides a multiple level explosion option which automatically creates Shop Orders as well as Material Requirements records for lower level manufactured components. Component orders are created only if available Quantity On Hand does not cover the new requirement; when created, they are assigned the same Shop Order and Release Numbers as the parent order being exploded.

When you select this program a message informs you that:

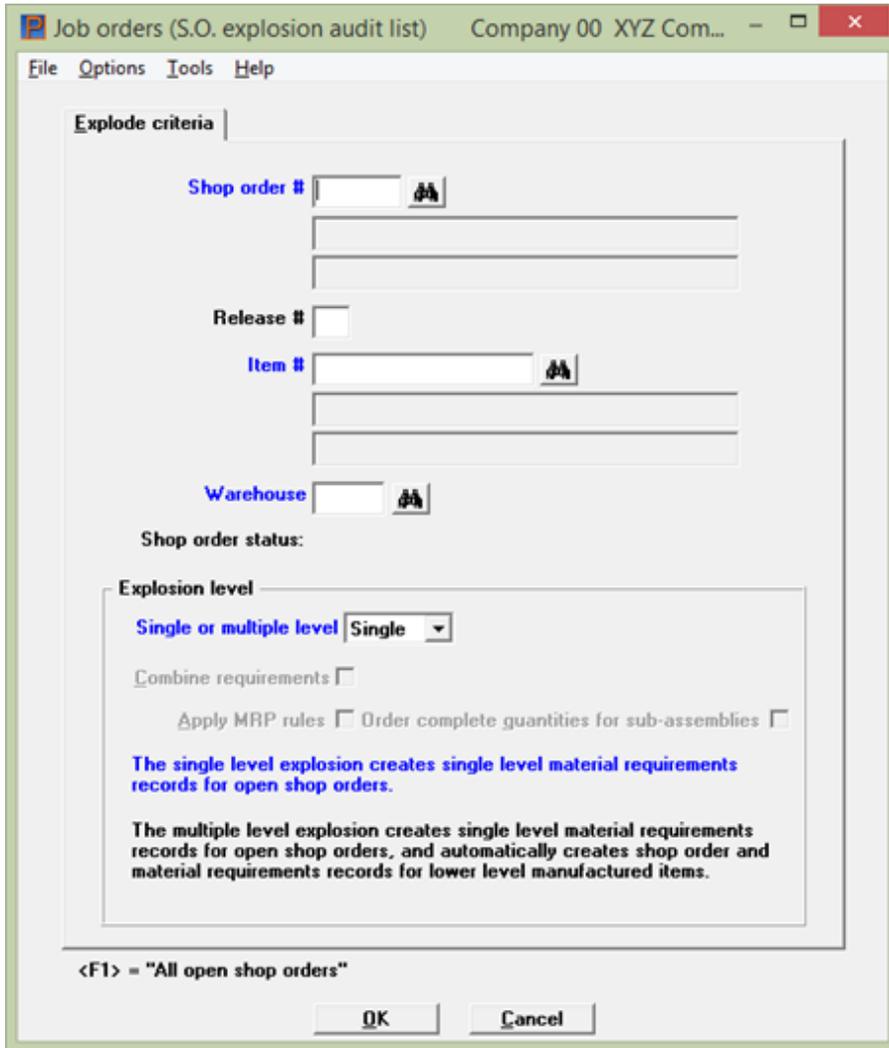
The single level explosion creates single level material requirement records for open shop orders.

The multiple level explosion creates single level material requirement records for open shop orders and automatically creates shop order and material requirement records for lower level manufactured items.

Select

Explode material from the *Shop orders* menu.

The following screen displays:



Enter the following fields:

Shop order #

Entry Format: Up to 6 alphanumeric characters, or

<F1> = "All open shop orders" for a warehouse.

If you use the "All open shop orders" option, the entries for Release Number and Item Number are automatically bypassed.

Release #

Entry Format: Up to 2 numeric digits, or default of space.

Validation: Shop Order Number and Release Number must match a Shop Order record already on file.

Item

Entry Format: Up to 15 alphanumeric characters, or press <F1> to search if you wish the program to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered.

Comments: The combination of Shop Order Number, Release Number, and Item Number must match a Shop Order record on file.

Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Default: Warehouse code in the first Shop Order record on file matching your Shop Order Number, Release Number, and Item Number entries is displayed as the default.

Comments: At this point, if you have requested explosion of a specific Shop Order, the program checks to see that Order Status is **O** (Open) for the order matching your entries. If current Order Status is not "Open", the program informs you that the order cannot be exploded and returns you to the Shop Order Number entry position.

Single or multiple level

Entry Format: **Single** = Single Level Explosion, or **Multiple** = Multiple Level Explosion.

Component Effective Dates and Component Fit Times in Product Structure records are used in determining what components are required and the component requirement due dates. Due dates in component Material Requirement records are set equal to the Start Date of the parent order plus any Component Fit Time Days in the component's Product Structure record.

This explosion will "blow through" any component coded as a Transient (Purch/Mfg code in the component Item Master). The components of the Transient are allocated directly to the exploded parent order, and will appear on the parent order pick list.

The Shop Order Explosion Audit List will automatically print when the explosion is completed after which the program returns you to the Shop Order Number entry position.

This report verifies the explosion of the Shop Orders you have selected and lists any exceptions such as "Bill of material not found - Order not exploded".

The audit list for a multiple level explosion will also show any automatically created Shop Orders for manufactured components, or may inform you "Inventory applied - Order not Required" for the lower level manufactured item. If a parent Shop Order is made at a branch warehouse and its manufactured component is supplied by the primary warehouse, "Supplied by primary warehouse - Order not created" will appear for that component on a multiple level explosion audit list.

Another possible exception message on the Explosion Audit List also pertains to the automatic creation of component Shop Orders in a multiple level explosion. The explosion program cannot create a component Shop Order with an identifier (Shop Order Number, Release Number, Item Number, and Warehouse) that matches a Shop Order record already on file. In this situation a message "Duplicate record on file- Order not created" will be listed with the required additional order

quantity for the manufactured component item. This duplicate Shop Order condition can occur if a manufactured component appears more than once in the indented bill of the parent item being exploded through multiple levels. To remedy this situation, you may wish to close the first Shop order created for the manufactured component and then add a shop order for the total requirement quantity.

Combine requirements

When running the explosion it combines requirements for manufactured items.

Apply MRP rules

Safety stock is included when applying MRP rules. It also accounts for quantities already on order on other shop orders in the system. It looks at the overall availability of inventory, what's in stock, what's on order, and what's allocated, and takes these into account first, before it applies your MRP rules defined in the item master in determining the overall quantity you need to order.

Order complete quantities for sub-assemblies

This option is only available when Master Scheduling & MRP is licensed and you want to apply MRP rules. Otherwise, leave it unchecked (set it to "N") which is disabled.

A report is generated that shows the details.

DISPLAY MATERIAL AVAILABILITY

This program displays the inventory availability status of component material items required for a specified Shop Order, or for a "Pending order" Item Number and quantity that you request.

For an existing Shop Order, you may optionally elect to display only those requirements with shortages, or only those components for which there is insufficient on hand inventory to cover the unissued component requirement.

You may also display timephased allocation and supply order detail for selected components.

Select

Display material availability from the Shop orders menu.

The following screen displays:

Enter the following fields:

Shop order

Enter an existing Shop Order Number, or <F1> = a "Pending order".

Rls #

Enter a specific Release Number, if any. Entry is bypassed for a "Pending order".

Item #

Enter the parent Item Number. If you are inquiring about an existing Shop Order Number press <F1> to search, or press <F2> for "All" parent items to be made on that order.

If you use <F1>, the program displays the parent Item Number from the first matching Shop Order on file and asks "Right item ?". Answer Y or N, or press <F1> again to find the next parent Item, if any, for the same S.O. Number and Release Number.

Warehouse

Enter a valid Warehouse code.

For an existing Shop Order inquiry, accept the default warehouse code displayed from the Shop Order record, or enter another code. For a "Pending order" inquiry, enter a valid Warehouse Code or space for "Main".

You are asked the next two questions if you are inquiring about an existing Shop Order:

Shortages only

Checked is Yes or unchecked is No.

A checked answer will restrict the component material requirements displayed to those items for which On Hand inventory does not cover the requirement for the specified Shop Order. This test does not consider requirements of other Shop Orders that require the same component.

If you leave it unchecked to the above question, the program asks:

Unissued components only

Checked is Yes or unchecked is No. A checked answer will restrict the components displayed to items with unissued requirement balances.

For a "Pending order" you enter:

Ord-qty

Parent order quantity to explode.

The program then displays the list of order Material Requirements and the warehouse inventory availability for each component, or informs you that "No reqts on file match entry". If the list of items requires more than one screen, you are asked "Continue display of this list ?" to which you may answer Y or N.

Information listed for each component requirement is:

Seq-#

A sequence number, assigned by this program, to each component item listed.

Comp-item-#

Component Item Number.

Description

Component Item Description.

SO-reqt-bal

Shop Order Requirement Balance. This is the total component Quantity Required less the Quantity Issued for an existing Shop Order, or the extended bill of material quantity for a "Pending order".

UM

Component Inventory Unit of Measure.

Total-required

Warehouse Total Required Quantity for the component, for all orders including this Shop Order or this "Pending order".

Qty-on-hand

Component Quantity On Hand at Warehouse.

Qty-on-order

Component Quantity On Order at Warehouse.

For an existing order, the following displays in the right column:

Ord-on-hand-short

Shop Order Requirement Balance less Quantity On Hand, if a positive value.

Tot-on-hand-short

Total Required less Quantity On Hand, if a positive value.

For a "Pending order", the following displays in the right column:

Tot-avail-short

Total Required less Quantity On Hand less Quantity On Order, if a positive value.

For all calculated shortage values displayed, negative On Hand balances are treated as zero values for those calculations.

A prompt at the bottom of the screen indicates that you may use <F2> to "Display component detail". If you then press <F2>, you are prompted to enter the "Seq #" for a component displayed on this screen. Timephased on hand availability information, reflecting both detail demand allocations and supply orders, are displayed for that component in a screen "window".

The component detail window includes the Component Item Number, Description, Lead Time Days, and current Quantity On Hand followed by a detail list of the component's timephased allocations and open supply orders in Due Date sequence. The component "Running OH balance" displayed for

each detail line indicates how the current On Hand balance for the component will be changed by each demand allocation or supply order. Allocations reduce the Running On Hand Balance and supply orders increase that value.

For a "Pending order", the component Pending Quantity and Available Shortage values are also displayed at the end of the windowed detail list.

PRINT PICK LIST

Use this program to print a stock picking list of component materials or parts required to make a Shop Order. The source of information for the pick list is Shop Order Material Requirements records created by the Shop Order explosion, or with the "Shop order materials" function.

Any component with Pick List Item ? = N in its Item Master record when its Shop Order Material Requirement record was created will be excluded from the Shop Order Pick List.

Select

Print pick list from the *Shop orders* menu.

The following screen displays:

The screenshot shows a software dialog box titled "Shop orders (Print pick list)" for "Company 00 XYZ Company". The dialog has a menu bar with "File", "Options", "Tools", and "Help". The main area is titled "Pick list criteria" and contains several input fields: "Shop order #" with a search icon, "Release #" with a search icon, "Ending Shop order #" with a search icon, "Item #" with a search icon, and "Warehouse" with a search icon. Below these are three checked checkboxes: "Sequence by primary stock location", "List FIFO/On-hand detail for items", and "Print shop order comments". At the bottom, there is a note "<F5> = Range of Shop Orders" and "OK" and "Cancel" buttons.

Enter the following fields:

Shop order

Entry Format: Up to 6 alphanumeric characters.

Release

Entry Format: Up to 2 numeric digits, or default of space.

Validation: Shop Order Number and Release Number must match a Shop Order record already on file.

Item #

Entry Format: Up to 15 alphanumeric characters, or press <F1> if you wish the program to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered.

Or, press <F2> to default to printing pick lists for "All" manufactured items to be made on the Shop Order Number and Release Number that you entered.

Comments: If you entered a specific Item Number, the combination of Shop Order Number, Release Number, and Item Number must match a Shop Order record on file.

Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Default: Warehouse code in the first Shop Order record on file matching your Shop Order Number, Release Number, and Item Number entries is displayed as the default entry.

Shop order status:

If you did not default to "All" in the Item Number entry, the status of the selected order is automatically displayed here.

Sequence by stockroom location

Entry Format: Check box where checked is yes and unchecked is no. The default is checked.

Comments: Checked sequences listed components by the Stock Location Codes in their Item Master records, then by Component Item Number. Unchecked sequences the list by Component Item Number.

If Lot/Serial Number Control options are installed, you enter:

List FIFO detail for lot control items

Entry Format: Check box where checked is yes and unchecked is no.

Comments: If you check the box, on hand detail of components with the Lot # Control Method is listed in FIFO (First In, First Out) sequence of Date Received.

Print shop order comments

Entry Check box where checked is yes and unchecked is no.

Comments: If I/M Control Information indicates Shop Order Comments are used, you may optionally print the comments on the Pick List.

OK or Cancel

Select OK to print the pick list or Cancel to return to the menu.

SHOP ORDER TRAVELER

This is an altered version of the Shop Order Pick List which is a list of items required to manufacture the product being made on a shop order. The information provided on the Pick List includes basic Shop Order information, a list of components and the total quantities required, as well as shop order comments.

The Shop Order Traveler contains all of the same information, and optionally may contain a great deal more information including:

1. Item comments
2. Sales order comments
3. And may even include bar codes for key fields (requires a PCL compliant laser printer to use this feature)
4. Additional information at the top of the form

The Shop Order Traveler will allow you to print a single document for one order, or will optionally allow you to print all documents for a range of orders. When a range is selected, a document will print for all Shop Orders with a status of Exploded (orders that have yet to be exploded, or have been closed, will not print using a range). Closed Shop Orders will not print.

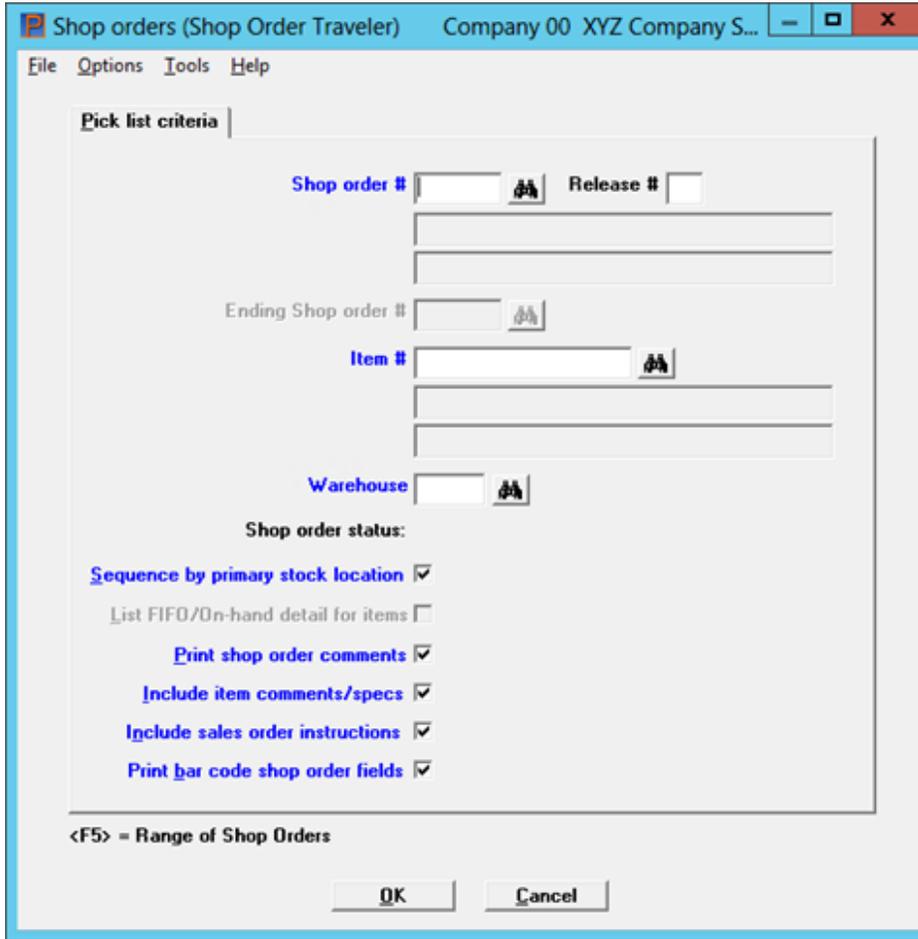
How to Use

Select

Shop order traveler from the *Shop orders* menu.

The following screen displays:

Graphical Mode



Character Mode

The primary difference between Graphical Mode and Character Mode, other than appearance, is items 4-9 are Y/N questions in Classic view while in the GUI view they are represented as check boxes. A checked box is the equivalent of entering Y in the Classic view. With that in mind, we will approach this from the GUI perspective noting any differences for the Classic view.

Enter the following:

Shop order

Select which Shop Order you wish to print a pick list for. Note, there are multiple options for achieving this:

1. Enter Shop Order number, release number, item, and the warehouse it's being produced in, for the order you are planning on producing. NOTE: If there is no release (or a release 0 is indicated), you may leave Release # blank. Also, if you use only Main warehouse, leave warehouse blank as well.

2. Use the lookup for Shop Order number and select the order you wish to print a Traveler for. In Graphical mode and Character mode you can press <F8> while on the *Shop order #* field to invoke the lookup. In Graphical mode you may click on the Binoculars as well.
3. If you wish to print Shop Order Travelers for a range of orders, while on the Shop Order Number field, press the <F5> button and you will then be prompted for a range of orders. The selection criteria changes a bit. You will no longer be prompted for item as the assumption is you will be printing on a range of the high level Shop Order numbers. If you have a "job" that contains many Shop Orders sharing the same number, this technique will allow you to use the same starting and ending Shop Order number to print all of the Travelers for all exploded orders within the "job":

Sequence by primary stock location

If you wish to have your materials list print in the order by primary location (entered in Item Masters), you may do so by checking off this box or indicating Y in character mode. If you don't check this box, or indicate N, your materials list will print in order by item number.

List FIFO/On-hand detail for items

For lot or serialized items, the on-hand detail information (which lot or serial numbers are in stock) may optionally be printed below the item on the materials list. This can be useful for deciding which lot or serialized item you should be picking from. It will list these in First In First Out Order if you choose to list them. This means your earliest receive lot or serial number will be listed first.

Print shop order comments

If you enter comments on your Shop Orders (you may enter up to 99 lines on each), you may opt to include those on this document. If you choose to do so, they will print at the bottom of the document below the materials list.

Include item comments/specs

If you wish to include the notes/comments you have defined for the item being produced, you may do so by checking this box or indicating Y in Classic view. This will result in a section appearing on your report called "Item Master Specs".

With this selection, you will find ALL of the comments available for the item. This may be up to 99 lines of data allowing you to create detailed specifications for any item you produce.

NOTE: This selection will only appear if comments are available.

Include sales order instructions

5. If you wish to include the notes/comments you have defined for the Sales Order line that this Shop Order was produced from (assumes you are creating orders from Sales Order Lines), you may do so by checking this box or indicating Y in Character Mode. This will result in a section appearing on your report called "Sales Order Instructions". In this section, you will find ALL of the comments available for the Sales Order line item. This may be up to 99 lines of data allowing you to create detailed specifications or special instructions that production may need to see for this customer's order.

NOTE: This section will only appear if comments are available.

Print bar code shop order fields

If you wish to include bar codes on key fields, allowing you to scan information into your system and reduce the risk for data entry errors, you may do so by checking this final box or indicating Y in the Character mode. Assuming you have bar code scanners available on some or all of the computers you perform inventory transactions on, you can opt to scan Shop Order Number, Release, and Item from your document. This can speed up data entry and reduce errors.

NOTE: This option limits which printers you may use; they must be company defined printers, and they must be a PCL5 or later compliant laser printer.

OK or Cancel

Once you have entered your information, and confirmed/selected your options, you can press OK to print your document(s) or Cancel not to print and return to the menu.

Press Enter at "Field number to change" in Character mode.

You will then be provided with your valid printer options. Again, if no bar codes are included all valid printers are available. If bar codes have been selected, you will only see company defined printers listed, Windows Printers will not be an option.

RELEASE ROUTING OPERATIONS

Releasing routing operations for an order copies current P/D Routing data for an item to Shop Order Operations. This allows subsequent reporting of order production and labor by operation, and generation of released order operation schedules. An order's operations should usually be released only when it is known that materials required for the order are available.

Shop Order Operations are not automatically scheduled when you release them with this program, but will be included in schedules the next time you use "Generate schedules" function to regenerate operation schedules.

Select

Release routing operations from the *Shop orders* menu.

The following screen displays:

Shop orders (Release routing operations) Company 00 XYZ Company

File Options Tools Help

Release routing criteria

Shop order # [] [Search]

Release # [] [Search]

Item # [] [Search]

Warehouse [] [Search]

Shop order status []

Release all alternate operations

Use bill & routing to build estimates for costed job order

<F1> = All unreleased orders with specified status

OK Cancel

Enter the following fields:

Shop order

Entry Format: Up to 6 alphanumeric characters, or press <F1> to default to "All unreleased orders with specified status".

If you use the "All" default, the entries for Release Number and Item Number are automatically bypassed.

Release

Entry Format: Up to 2 numeric digits, or default of space.

Validation: Shop Order Number and Release Number must match a Shop Order record already on file.

Item

Entry Format: Up to 15 alphanumeric characters, or press <F1> to search if you wish the program to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered.

Comments: The combination of Shop Order Number, Release Number, and Item Number must match a Shop Order record on file.

Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Default: Warehouse code in the first Shop Order record on file matching the Shop Order Number, Release, and Item Number entries is displayed as the default.

Comments: At this point, if you have requested release of a specific Shop Order, the program checks to see if the order is already released, and if so, informs you about that condition.

Shop order status

Entry Format: Drop down list box with the choices of Open, Exploded or Material issued.

Comments: Order Status is only entered if you requested release of "All unreleased orders with specified status". Otherwise, the status of the specified Shop Order is displayed.

Release all alternate operations

Entry Format: Check box, yes is checked and unchecked is no.

Comments: If you check the box, all alternate operations for the Item Number in P/D Routings will be copied to Shop Order Operations at this time. This allows production and labor to be reported for any defined alternate operation that may subsequently be used for this order. You may defer the release of alternates, and later use the "Shop order operations" function to release selective alternate operations for the order.

Releasing alternate operations does not cause alternates to be scheduled by the "Generate schedules" programs, unless you use "Shop order operations" to define the alternates that should be scheduled.

The following question displays only if the Manufacturing Job Costing package is installed on your system:

Use bill & routing to build estimates for costed job order

Entry Format: Check box, yes is checked and unchecked is no.

Comments: A checked box will cause the program to use the item Bill of Material, if found, and the item Routing to calculate estimated Material, Labor and Burden costs used by job costing programs. This option simplifies the process of entering estimates for costed orders.

OK or Cancel

Select OK to release the routing operations or Cancel to return to the menu.

PRINT S.O. ROUTING

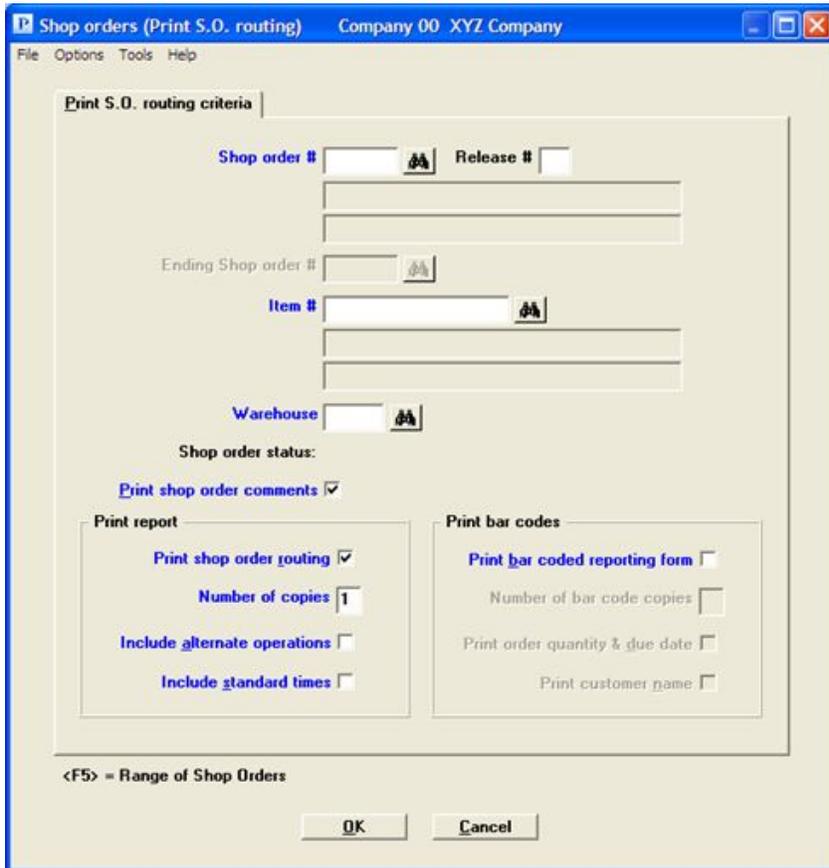
The source of information printed on Shop Order Routings and optional barcoded reporting documents is P/D Routings and Shop Orders. Therefore, before you can print an order routing with this program, you must have previously defined the item's operations in Routings and entered the Shop Order.

If you have installed the PBS Manufacturing bar code print utilities, this program also allows you to print bar coded routing documents used to simplify shop floor reporting of employee production and labor.

Select

Print S.O. routing from the *Shop orders* menu.

The following screen displays:



Enter the following fields:

Shop order # and Ending shop order #

Up to 6 alphanumeric characters.

Select <F5> to allow entry for the Ending shop order # field to print a range of shop orders.

Release #

Up to 2 numeric digits, or default of space.

Shop Order Number and Release Number must match a Shop Order record already on file.

Item #

Up to 15 alphanumeric characters, or press <F1> if you wish the program to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered

Or, press <F2> to default to printing routings for "All" manufactured items to be made on the Shop Order Number and Release Number you entered.

If you enter an Item Number, it and the preceding entries must match a Shop Order on file.

Warehouse

Up to 2 alphanumeric characters, or default.

Warehouse in the first Shop Order record on file matching the Shop Order Number, Release Number, and Item Number entries displays as default.

Print shop order comments

Y or N.

If I/M Control Information indicates you use Shop Order Comments, you may optionally print them on the routing and barcode reports.

Print shop order routing

Y or N.

Answer N if you only want to print barcoded forms, in which case entries for Fields 6 to 8 are bypassed.

Number of copies

One numeric digit (1-9).

Include alternate operations

Y or N.

Include standard times

Y or N.

If you wish to print a barcoded reporting document, answer Y to the following question:

Print bar coded reporting form

Y or N.

Number of bar code copies

One numeric digit (1-9).

Entry is bypassed if the answer to the preceding question is N.

Print order quantity & due date

Y or N. Pertains to barcoded document.

If you use the C/O package and the Sales Order reference in the Shop Order matches an open Customer Order, the program asks:

Print customer name

Y or N. Pertains to barcoded document.

OK or Cancel

Select OK to print the shop order routings or Cancel to return to the menu without printing.

CLOSE

Use this program to close any Shop Order, including costed orders with a Job Master defined in Manufacturing Job Costing.

The program performs the following functions:

- Provides an option to automatically issue remaining component material requirements for the order. This feature automatically creates and posts issue transactions for previously unissued component requirement balances. When you select this option, you later select additional alternatives to issue balances of "Controlled items on pick list" and/or "Controlled items not on pick list". This feature should only be used for components where such estimation of actual usage is reasonably accurate.
- Optionally prints a Shop Order Material Usage Variance Analysis indicating actual vs. required (planned) issue quantities for each controlled component and the total materials usage cost variance for the order.
- Optionally creates Material Usage Variance History records, used to report total material usage variances by parent item.
- Adjusts Quantity On Order for the item ordered and Quantity Allocated for components, if there are remaining balances for the Shop Order at the time that it is closed. These adjustments are made to related Item Master or Branch Warehouse Item records.
- Deletes Shop Order Material Requirements records.

For costed jobs, for which a Job Master record has been defined in Manufacturing Job Costing:

- Prints final cost variance reports for the order, and optionally prints order cost detail lists for material and outside costs, or for labor operations, or for miscellaneous costs.
- Summarizes cost detail by Cost Type and direct labor hours in the Shop Order record, and changes Shop Order Status to Closed.
- Deletes Shop Order Purchase and Miscellaneous Cost detail records for the order. Detail labor records remain on file for the purpose of Employee labor retrievals, until they are purged with another program.
- Optionally allows posting of actual unit costs to Item Masters.

Select

Close from the *Shop orders* menu.

The following screen displays:

Enter the following fields:

*** Close date**

Press ENTER for default System Date displayed, or enter another date in MMDDYY format.

1. Warehouse

Entry Format: Up to 2 alphanumeric characters, or Blank = Main

2. Shop order #

Entry Format: Up to 6 alphanumeric characters, or <F1> = "All completed orders"

Comments: "All completed orders" means all orders for which Quantity Received equals or exceeds Quantity Ordered.

Rls

Entry Format: Up to 2 numeric digits, or space.

3. Item

Entry Format: Up to 15 alphanumeric characters, or press <F1> if you wish the program to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered, until you find the Item Number you want.

Or, press <F2> to default to "All" manufactured items made on the Shop Order Number and Release that you entered.

Validation: For a specific Item Number entry, the combination of Shop Order Number, Release, Item Number, and Warehouse must match a Shop Order on file.

At this point, if you did not specify "All completed orders" for Shop Order Number and did not default to "All" for Item Number and a Shop Order on file matches your entries, the following order information is displayed:

Qty Ordered

Qty Received

Due Date

Order Status

If the displayed Order Status is already C (Closed), the program will return you to the Shop Order Number entry position; otherwise, you are prompted to enter:

4. Issue remaining component material requirements ?

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

5. Print shop order material usage analysis ?

Entry Format: Y or N.

6. Post shop order material usage variance ?

Entry Format: Y to post to Material Usage Variance History, or N to not post. Defaults to answer in Field 5.

If Manufacturing Job Costing is installed and you are closing a single Shop Order that is costed, or you specified "All completed orders" for Shop Order Number, you are prompted to answer the following:

For costed job:

7. Print purchase cost variances ?

Entry Format: Y or N. If you answer Y, you are then asked "Print cost detail?". Answer Y again if you also want an actual cost detail transaction list.

8. Print labor & burden variances ?

Entry Format: Y or N. If you answer Y, you are then asked "Print cost detail?". Answer Y again if you also want an actual cost detail transaction list.

9. Print misc cost variances ?

Entry Format: Y or N. If you answer Y, you are then asked "Print cost detail ?". Answer Y again if you also want an actual cost detail transaction list.

A message will warn you that cost detail will be deleted after the final cost reports are printed for the order, and the program asks "Are you sure ?". Answer Y to proceed.

If you answered Y to "Issue remaining component material requirements ?", you are next taken to the "Issue All Materials To a Shop Order" program and requested to enter:

5. Issue controlled items on pick list ?

Y or N.

6. Issue controlled items not on pick list ?

Y or N.

7. Round up fractional requirement qtys ? (to a whole number)

Y or N.

Answer Y or N to "Are you sure ?". After issues processing is completed, you are automatically returned to the Close Shop Order program.

If you answered Y to "Print shop order material usage analysis ?", that report is printed. Shop Order cost variance reports, with any detail transaction lists you requested, are printed. The program then asks "OK to close shop order ?". Answer Y to complete the file updating process, or N to cancel the order closing.

If Job Costing is installed and the M/J Control Information answer is Y to

"Use option to postactual costs to Item Master ?"

and a costed Shop Order being closed contains a non-zero Quantity Received, the program then displays Item Master cost update information and asks

"OKto update item master unit costs ?"

The screen display includes "Updated item unit costs" that are calculated using actual costs per unit received for the Shop Order, and also shows the "Old item master unit costs". Answer Y to post the "Updated item master unit costs", or N to retain the "Old item master unit costs".

Shop Order Materials

This chapter contains the following topics:

[Introduction to Shop Order Materials](#)

[Enter](#)

[Delete All Requirements For S.O.](#)

INTRODUCTION TO SHOP ORDER MATERIALS

This Inventory Management function is also included on the Shop Floor Control Menu for convenient access. Use these programs to create, change or delete component Requirement records for Shop Orders.

Shop Order Material Requirements are the detail of a component item's total Quantity Allocated at a Warehouse. These "pegged" requirement records, identified to specific parent item Shop Orders, are also used to record actual issue quantity vs. required (planned) quantity for each controlled component used in the parent. To enable posting and reporting of job purchased material costs, you must create Shop Orders Material Requirement records.

If your bills of material are very simple, you may use this function to define component material requirements for each parent order added in the Enter Shop Orders function, instead of using the Explode Shop Orders program to create these records with a computer bill of material.

If you use the Explode Shop Orders program, you may wish to use this function to adjust exploded Shop Order Material Requirements for subsequent bill of material revisions or for minor component changes related to a specific Shop Order. If no material has been issued to an exploded Shop Order, you may also delete all related Material Requirements with a single transaction and then re-explode the order using an updated bill of material.

ENTER

Maintaining Shop Order Material Requirements also updates other files/tables as follows:

- Addition of a Material Requirement record increases Quantity Allocated in the component Item Master or Branch Warehouse Item record by the Component Quantity Required. Change of Component Quantity Required in a Material Requirement record adjusts item Quantity Allocated. Deletion of a Material Requirement record decreases item Quantity Allocated.
- Addition of a Material Requirement record changes the Order Status code in the parent Shop Order record to E (Exploded), if Order Status was O (Open) before the Material Requirement was added. Deletion of all Material Requirement records for a Shop Order changes the Order Status code to O (Open) in the parent Shop Order record.

The combination of Shop Order Number, Release Number, Parent Item Number on the order, and Component Item Number establishes a unique Shop Order Material Requirement record.

Select

Enter from the *Shop order materials* menu.

The following screen displays:

```
Shop order materials (Enter)
* 1. Shop order #  ls #
* 2. Parent item #

* 3. Warehouse
   Parent qty ordered      Order due date
* 4. Component item #
                        Order start date

5. Component qty per
6. Scrap allowance pct
7. Component due date
Component qty reqd
WIP qty scrapped
Qty issued
Issued date
Returned date
Pick list item ?
Control method
<F1> = Next record, <F1> = Previous record
```

Enter the following fields:

1. Shop order

Entry Format: Up to 6 alphanumeric characters.

Rls

Entry Format: Up to 2 numeric digits, or default of space.

Validation: The combination of Shop Order Number and Release Number must match a Shop Order record on file.

2. Parent item

Entry Format: Up to 15 alphanumeric characters, or

Press F1 to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered.

Validation: The combination of Shop Order Number, Release Number, and Parent Item Number must match a Shop Order record on file.

3. Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Default: The Warehouse code in the first Shop Order record on file matching your Shop Order Number, Release Number, and Item Number entries is displayed as the default.

Validation: This entry together with Shop Order Number, Release Number, and Parent Item Number must match a Shop Order record on file.

At this point, the program will tell you if the parent Shop Order you have identified is closed, in which case you are returned to the Shop Order Number entry position. If the Shop Order is not closed, the following data is displayed from the Parent Shop Order:

Parent Qty Ordered Order Due Date

Order Start Date

The data you enter are:

4. Component item

Entry Format: Up to 15 alphanumeric characters.

Validation: This field must match an Item Master record.

When the combination of Shop Order Number, Release Number, Parent Item Number, and Component Item Number matches a record on file, then the remaining fields are displayed.

Comments: Enter spaces to select by description if you wish to search for an Item Number by entering any portion of the first 30 characters of its Description.

Press F1 to search to consecutively display component Item Numbers for the Shop Order Number, Release Number and Parent Item Number you have entered.

5. Component qty per

Entry Format: Up to 3 numeric digits, plus 4 decimals.

Comments: If Product Definition & Costing is installed and the P/D Control Information entry is Y for "Use option to define product structure component qty per 1000 parent units ?", you are prompted to enter a parent quantity code (M for 1000 or space for 1 parent units) just before you enter the "Component quantity per" value.

The program will multiply this quantity by the Parent Order Quantity to calculate Component Quantity Required. If you entered a parent quantity code of "M", the Parent Order Quantity is divided by 1000 in this calculation.

6. Scrap allowance pct

Entry Format: Up to 3 numeric digits plus 1 decimal, or press ENTER for default of zero.

Comments: The calculated value of Component Quantity Required will be automatically inflated by this percentage.

9. Component due date

Entry Format: 6 numeric digits, in MMDDYY sequence, or default.

Default: Displayed default is Start Date of the parent Shop Order.

Validation: Must not match a date in Schedule Exception Dates.

After these entries the following additional data is automatically displayed from the Material Requirement record:

Component qty reqd

Automatically calculated by the program as:

Parent Qty Ordered x Component Qty Per
x (Scrap Allowance Pct / 100)

WIP qty scrapped

Set to zero when adding a record.

Qty issued

Set to zero when adding a record.

Issued date

Set to spaces when adding a record.

Returned date

Set to spaces when adding a record.

Pick list item ?

Set to Item Master value when adding a record.

Controlled item ?

Set to Item Master value when adding a record.

Except for indirect change to Component Qty Req'd by changing its calculation factors, you are not allowed to change the unnumbered fields which are updated by other Inventory Management programs.

You are not allowed to remove a Material Requirement record with a non-zero Qty Issued value. You must first return issued material to stock with the I/M "Inventory transactions" function before the deletion is allowed.

DELETE ALL REQUIREMENTS FOR S.O.

Use this program to remove all Material Requirements records for a parent Shop Order that has a current Order Status Code of E (Exploded).

Select

Delete all reqts for S.O. from the Shop order materials menu.

The following screen displays:

```
Shop order materials (Delete all reqts for S.O.)

1. Shop order #  Rls #
2. Parent item #
3. Warehouse
Order status
```

Enter the following fields:

- 1. Shop order # and Rls #**
- 2. Parent item #**
- 3. Warehouse**

Enter these identifiers in the same manner as described for other programs. The program then displays the Order Status. If the Order Status is not E (Exploded), a message will inform you that "Delete not allowed for this order status".

You may also automatically delete Shop Order Material Requirements for orders with a status of E (Exploded) or I (Issued) by closing the parent Shop Order with the "Close shop orders" program.

Shop Order Operations

This chapter contains the following topics:

[Introduction to Shop Order Operations](#)

[Alternate Operations](#)

[Delete All Operations For S.O.](#)

INTRODUCTION TO SHOP ORDER OPERATIONS

Use this function to designate Routing alternate operations to be added, deleted, scheduled, or unscheduled for specified Shop Orders. Alternate operations from Routings may be used and scheduled for production, instead of the normally used regular operation and Work Center.

You may also use this menu to delete all regular and alternate Shop Order Operations previously released for an order. Deletion of all operations "unreleases" those Shop Order Operations, allowing you to later release operations from the most recent Routing on file. Select

ALTERNATE OPERATIONS

Alternate operations are "substitute" production procedures, usually performed in different Work Centers than the regular Routing operations that they replace. Alternates may be used when the capacity of the regular operation's Work Center is overloaded, or if the regular operation's Work Center is temporarily disabled.

An alternate operation for an item is defined by the Operation Sequence Number plus a two digit Alternate Number. There may be more than one alternate production procedure for a single regular operation. The first digit of the Alternate Number designates the substitute procedure number. If more than one alternate operation is required to replace a single regular operation, the second digit of the Alternate Number specifies the Alternate Sequence Number. If Alternate Numbers 10, 21 and 22 are defined for Operation Sequence 30, this means that either Alternate 10 or the combination of Alternates 21 and 22 can be used instead of the regular procedure for Operation Sequence 30.

This program allows you to designate Routing alternate operations to be added, deleted, scheduled, or unscheduled for specified Shop Orders. When you initially use "Release S.O. operations" on the Shop Orders menu, that program gives you the option of copying all of the item's alternate operations to Shop Order Alternate Operations.

You may add all available alternates to Shop Order Alternate Operations when you initially release order operations, or you may add alternates for selected operations with this program. The released alternates will not be scheduled by the "Generate schedules" programs until you use this program to specify that the alternate should be scheduled instead of the regular operation.

Alternates may also be added to Shop Order Alternate Operations to allow production quantity and hours reporting for the alternate operations, even if they are not formally scheduled.

Select

Alternate operations from *Shop order operations* menu.

The following screen displays:

```
Shop order operations (Alternate operations)

Please enter:

1. Shop order #      s
2. Item #

3. Warehouse
   Order status

4. Operation seq #

5. Alternate action

6. 1st digit of alt #
```

Enter the following fields:

1. Shop order

Entry Format: Up to 6 alphanumeric characters.

Rls

Entry Format: Up to 2 numeric digits, or default of space.

Validation: The combination of Shop Order Number and Release Number must match a Shop Order record on file.

2. Item

Entry Format: Up to 15 alphanumeric characters, or press <F1> to consecutively display Item Numbers with the Shop Order Number and Release Number you have entered.

Validation: The combination of Shop Order Number, Release Number, and Parent Item Number must match a Shop Order record on file.

3. Warehouse

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

Validation: This entry together with Shop Order Number, Release Number, and Parent Item Number must match a Shop Order record on file.

At this point, the program checks to see if the Shop Order you have identified has any operations on file. If there are operations on file, you are prompted to enter:

4. Operation seq

Entry Format: Up to 3 numeric digits, or

<F1> = next operation sequence #.

Validation: Must match a regular operation, already released, in Shop Order Operations.

5. Alternate action

Entry Format: A = Add, D = Delete, S = Schedule, U = Unschedule

Comments: Alternates to be added to Shop Order Alternate Operations must be in P/D Routings.

Alternates to be scheduled the next time you run "Generate schedules" must already be released to the Shop Order Alternate Operations, or be in P/D Routings.

Alternates to be deleted must already be in Shop Order Alternate Operations. The program warns you if any production quantity or labor hours is already posted to these records.

When you unschedule alternates that were previously designated as scheduled, the regular operation will be scheduled the next time you use "Generate schedules".

6. 1st digit of alt

Entry Format: Up to 1 numeric digit, or

<F1> = next, <F2> = "All" (Add or Delete only)

Validation: For Add, must match a Routing alternate for the Item and Operation Sequence.

The number of alteration operations added, deleted, scheduled, or unscheduled are displayed.

DELETE ALL OPERATIONS FOR S.O.

Use this program to delete all regular and alternate Shop Order Operations previously released for a specified order. Deletion of all of an order's operations "unreleases" them. You may want to do this to temporarily remove the order from released order schedules and loads generated by other programs, or you may wish to subsequently replace the deleted order operation records with operations copied from a more recent copy of the item's Routing.

Select

Delete all opns for S.O. from Shop order operations menu.

The following screen displays:

```
Shop order operations (Delete all opns for S.O.)

Please enter:

1. Shop order # s
2. Item #
3. Warehouse

Qty ordered
Qty received

Order status
```

Enter the following fields:

1. Shop order

Up to 6 alphanumeric characters

Rls

Release # default is space.

2. Item

Up to 15 alphanumeric characters, or

<F1> = next parent item this order

3. Warehouse

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

The Shop Order quantity ordered, quantity received, and the order status are displayed.

If some operations for this order include reported production or labor, you are warned that deletion will remove the production or labor posted for the S.O. operations.

Recovering Production And Labor Posted To Deleted Operations

These programs allow you to delete Shop Order Operations and/or Shop Order Alternate Operations to which production and labor has already been posted. If you later re-release those same operations, you may restore previously reported production and labor summary values to the order operation records by running "Reset S.O. operation data", described in the [Utility](#) chapter.

Production and Labor

This chapter contains the following topics:

Introduction to Production and Labor	.....
Enter	.....
Bar coded data collection	.....
Convert Batch Input	.....
Batch Edit List	.....
Post Converted Batch	.....

INTRODUCTION TO PRODUCTION AND LABOR

Use this function to enter employee production quantities and direct labor hours for Shop Orders, and employee indirect labor hours by indirect Labor Exception Code. Programs to alternatively post transaction batches from an external shop data collection system are also included.

If you also use Manufacturing Job Costing, transactions for costed jobs are internally converted to labor and burden dollar amounts. Transactions for all released Shop Orders are accepted to update operation schedule quantities and Work Center loads, and to accumulate actual hours history by Shop Order operation.

Hours reporting is optional, but is usually desirable. Production quantity and completion code reporting will update schedule and load balances, without actual hours input.

Operation production transactions posted with this function can also generate automatic component issues, stock receipts, and "backflushing" of reported production quantities to preceding operations where production is not reported. Generation of inventory and prior operation transactions is dependent on the "Shop Floor Control Factors" in Routing and Shop Order operation records. These factors may be listed for released order operations with the "S.O. Operation Status" report program.

Labor Collection Log

You may opt not to do real time labor collection on the floor on the computer. Below is a link to a Labor Collection Log that you may print and distribute to staff that they fill out each day.

[Labor Collection Log.pdf](#)

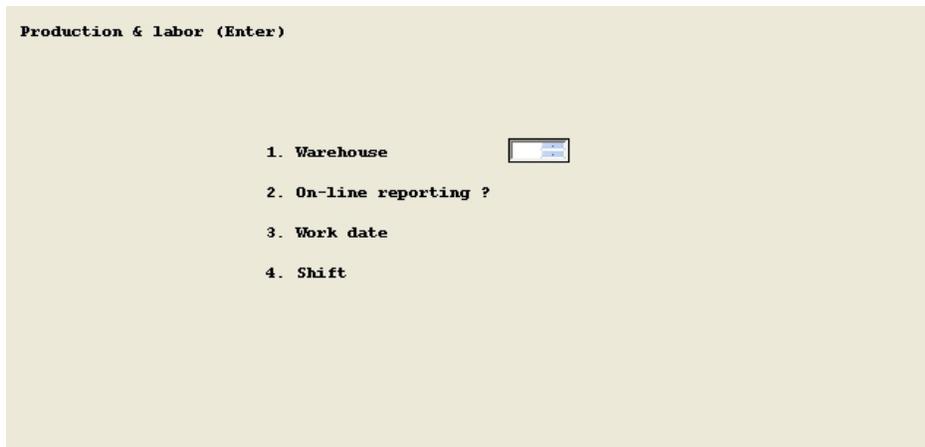
ENTER

Use this program to directly enter production and labor transactions to Shop Floor *Control information*. Transactions may be entered with on-line computer work stations or terminals on the Shop Floor, or from daily employee production and time report forms submitted to an office data entry person.

Select

Enter from the *Production & labor* menu.

A screen like the following displays:



```
Production & labor (Enter)

1. Warehouse
2. On-line reporting ?
3. Work date
4. Shift
```

Enter the following fields:

1. Warehouse

Entry Format: Up to 2 alphanumeric characters, or Blank = "Main".

2. On-line reporting ?

Entry Format: Y or N.

Comments: Answer Y if transactions will be entered on-line from the shop floor and you want the End Time for each transaction to default to the computer System Time. You will have the option to override that default. Answer N if you do not wish to display the default End Time entry.

3. Work date

Entry Format: 6 digits in MMDDYY format.

Validation: The date entered cannot be later than the System Date. If you answer Y to the previous question, the System Date displays as the default here.

4. Shift

Entry Format: Enter 1, 2, or 3.

Comments: The shift work times are defined in Control information. See the [Labor reporting factors](#).

If I/M *Control Information* indicates multiple inventory locations are used, the following additional data are entered"

5. Component issue from location code

Entry Format: Enter up to 6 alphanumeric characters.

Comment: For order operations where production reporting also creates automatic material issue transactions, all components will be issued from this location. All material inventory should be received or re-located to this location code before related parent production is reported.

6. Parent received at location code

Entry Format: Enter up to 6 alphanumeric characters.

Comment: For order final operations where production reporting also creates automatic stock receipt transactions, inventory of the manufactured item will be received to this location.

The transaction screen then displays:

```
Production & labor (Enter)
Work date 10/11/10 Shift 1 Warehouse: 1 On-line ? Y

* 1. Employee # 
  2. Shop order #
  3. Item #
  4. Opn sequence #
    Wk center #
  5. Setup or run
    Lab hrs/run hr
  6. Production qty
  7. Completed ?
  8. Exception code
* 9. Start time

Blank = look up by name
```

Here you enter:

1. Employee

Entry Format: Up to 4 numeric digits

If you use the name lookup option, enter part or all of the Employee Name as it appears in Payroll *Employees*. The program will then display the first full Employee Name on file, if any, matching your entries. You may select that record or press <F1> to find more matching records.

Validation: This entry must match a record in Employees.

2. Shop order

Entry Format: Up to 6 alphanumeric characters, or

<F1> = next transaction for this employee & date,

Blank = Indirect labor.

Comment: If space is entered here for "Indirect labor", entries for Fields 3-7 are bypassed.

Rls #

Entry Format: Up to 2 numeric digits, or spaces.

3. Item #

Entry Format: Up to 15 alphanumeric characters, or

<F1> = next item this order

Validation: There must be a Shop Order on file that is not Closed for you to proceed beyond this entry.

4. Opn sequence #

Entry Format: Up to 3 numeric digits, or

<F1> = next S.O. operation on file, or

<F2> = enter alternate operation

If you press <F2>, you are prompted to enter an Alternate Number of 2 numeric digits after you enter the Operation Sequence Number.

Validation: The program checks for a matching Shop Order Operation or Alternate Operation record on file that matches your entries. If found, information from that record is displayed.

5. Setup or run

Entry Format: R = Run, S = Setup.

If you enter "Run", and Labor Hours/Run Hour in the S.O. Operation or Alternate Operation record is not 1.00, you are allowed to change the displayed ratio:

Lab hrs/run hr

Entry Format: Up to 1 numeric digits plus 2 decimals.

6. Production qty (or Rework qty or Scrap qty)

Entry Format: Up to 8 numeric digits plus 3 decimals.

Comments: If you are adding a new record, you may press <F1> to enter Rework Quantity or <F2> to enter a Scrap Quantity. When this field then redisplay as "Rework" or "Scrap" quantity, you may optionally press <F1> to change the entry definition back to "Production" quantity.

"Rework" or "Scrap" entered is assumed to be item quantities previously reported as "Production" at this operation. Time reported with Scrap entries should only represent the time incurred to sort out and/or report the scrap, not including the original Production time. Likewise, time reported for performing Rework should exclude the original Production time at the operation.

Warning messages display if a reported Rework or Scrap Quantity causes total reported Rework or Scrap for the operation to exceed the total Production Quantity reported for the operation.

A warning displays if a reported Production Quantity causes total Production Quantity reported for this operation to exceed the Shop Order quantity ordered.

7. Completed ?

Entry Format: Y or N .

Comments: For a Setup transaction, Y indicates estimated remaining Setup Hours is zero for this operation.

For a Run transaction, Y indicates Quantity Balance Due and estimated remaining Run Hours are zero for this operation. A Y entry here will force the planned production balance to zero for this operation, even if the full order quantity has not yet been completed.

8. Exception code

Entry Format: Up to 3 alphanumeric characters. Space allowed only for Shop Order transactions, that are not Scrap Quantity transactions.

Validation: Must match a record in Labor Exception Codes. If you are entering Indirect Labor, the Labor Exception Code record must indicate the code is used for Indirect Labor. If you are entering this code for Direct Labor, the Labor Exception Code must be for Direct Labor.

Comments: You may optionally use "Field number to change ?" to enter a direct labor Exception Code for Shop Order transactions that are not for Scrap.

For ease of employee reporting, all time entries in this program are Start and End "clock times" for labor activities. For example 2:00 PM is entered as 2:00, not 14:00. The program automatically appends times entered with AM or PM, and calculates elapsed hours from the clock Start and End times.

The entry format for clock times is numeric in HHMM or HMM format. You must enter one or two digits for hour, between 1 and 12, and two digits for minute, between 00 and 59.

9. Start time

Entry Format: 3 or 4 numeric digits in HMM or HHMM format, or <F1> = No hours. The "No hours" option is not allowed for Indirect Labor transactions.

Default: When adding transactions, the Start Time for the first record added for an Employee and Date defaults to the Shift Start Time. Start Time for subsequent consecutive transactions added for the same employee defaults to End Time of the previous transaction. You may override the displayed default.

End time

Entry Format: 3 or 4 numeric digits in HMM or HHMM format

Comments: The program automatically enters the AM or PM designators, based on Shift Start Time, and calculates and displays the elapsed Hours. If the times span a Fixed Unpaid Break period defined for the shift, break hours are automatically deducted in the elapsed hours calculation.

If you answered Y to "On line reporting ?" on the previous screen, this entry is displayed as the present computer clock time.

This field is bypassed if you entered "No hours".

If a production quantity reported automatically generates component issue or parent receipt transactions, a message informs you that these additional inventory transactions have also been posted.

To find and display a transaction previously posted for the Employee and Work Date, press <F1> when the cursor is at the Shop Order Number entry position. You may then change or delete the previously posted transaction, thereby updating all related files for such changes or deletions.

BAR CODED DATA COLLECTION

Use this program to directly enter production and labor transactions to Shop Floor Controls files/tables. Transactions may be entered with on-line computer work stations or terminals on the Shop Floor, or from daily employee production and time report forms submitted to an office data entry person.

Select

Bar coded data collection from the *Production & labor* menu.

A screen like the following displays:

```
Production & labor (Enter)

1. Warehouse
2. On-line reporting ?
3. Work date
4. Shift
```

Enter the following fields:

1. Warehouse

Entry Format: Up to 2 alphanumeric characters, or Blank = "Main".

2. Shift

Entry Format: Enter 1, 2, or 3.

Comments: The shift work times are defined in Control information.

If I/M Control Information indicates multiple inventory locations are used, the following additional data are entered"

3. Component issue from location code

Entry Format: Enter up to 6 alphanumeric characters.

Comment: For order operations where production reporting also creates automatic material issue transactions, all components will be issued from this location. All material inventory should be received or re-located to this location code before related parent production is reported.

4. Parent received at location code

Entry Format: Enter up to 6 alphanumeric characters.

Comment: For order final operations where production reporting also creates automatic stock receipt transactions, inventory of the manufactured item will be received to this location.

The transaction screen then displays:

```
Production & labor (Enter)
Work date 10/11/10 Shift 1 Warehouse: 1 On-line ? Y

* 1. Employee # 
2. Shop order #
3. Item #

4. Opn sequence #

Wrk center #
5. Setup or run
Lab hrs/run hr
6. Production qty
7. Completed ?
8. Exception code
* 9. Start time

Blank = look up by name
```

Here you enter:

1. Employee

Entry Format: Up to 4 numeric digits

If you use the name lookup option, enter part or all of the Employee Name as it appears in Employees. The program will then display the first full Employee Name on file, if any, matching your entries. You may select that record or press <F1> to find more matching records.

Validation: This entry must match a record in Employees.

2. Shop order

Entry Format: Up to 6 alphanumeric characters, or

<F1> = next transaction for this employee & date,

Blank = Indirect labor.

Comment: If space is entered here for "Indirect labor", entries for Fields 3-7 are bypassed.

Rls

Entry Format: Up to 2 numeric digits, or spaces.

3. Item

Entry Format: Up to 15 alphanumeric characters, or

<F1> = next item this order

Validation: There must be a Shop Order on file that is not Closed for you to proceed beyond this entry.

4. Opn sequence

Entry Format: Up to 3 numeric digits, or

<F1> = next S.O. operation on file, or

<F2> = enter alternate operation

If you press <F2>, you are prompted to enter an Alternate Number of 2 numeric digits after you enter the Operation Sequence Number.

Validation: The program checks for a matching Shop Order Operation or Alternate Operation record on file that matches your entries. If found, information from that record is displayed.

5. Setup or run

Entry Format: R = Run, S = Setup.

If you enter "Run", and Labor Hours/Run Hour in the S.O. Operation or Alternate Operation record is not 1.00, you are allowed to change the displayed ratio:

Lab hrs/run hr

Entry Format: Up to 1 numeric digits plus 2 decimals.

6. Production qty (or Rework qty or Scrap qty)

Entry Format: Up to 8 numeric digits plus 3 decimals.

Comments: If you are adding a new record, you may press <F1> to enter Rework Quantity or <F2> to enter a Scrap Quantity. When this field then redisplay as "Rework" or "Scrap" quantity, you may optionally press <F1> to change the entry definition back to "Production" quantity.

"Rework" or "Scrap" entered is assumed to be item quantities previously reported as "Production" at this operation. Time reported with Scrap entries should only represent the time incurred to sort out and/or report the scrap, not including the original Production time. Likewise, time reported for performing Rework should exclude the original Production time at the operation.

Warning messages display if a reported Rework or Scrap Quantity causes total reported Rework or Scrap for the operation to exceed the total Production Quantity reported for the operation.

A warning displays if a reported Production Quantity causes total Production Quantity reported for this operation to exceed the Shop Order quantity ordered.

7. Completed ?

Entry Format: Y or N .

Comments: For a Setup transaction, Y indicates estimated remaining Setup Hours is zero for this operation.

For a Run transaction, Y indicates Quantity Balance Due and estimated remaining Run Hours are zero for this operation. A Y entry here will force the planned production balance to zero for this operation, even if the full order quantity has not yet been completed.

8. Exception code

Entry Format: Up to 3 alphanumeric characters. Space allowed only for Shop Order transactions, that are not Scrap Quantity transactions.

Validation: Must match a record in Labor Exception Codes. If you are entering Indirect Labor, the Labor Exception Code record must indicate the code is used for Indirect Labor. If you are entering this code for Direct Labor, the Labor Exception Code must be for Direct Labor.

Comments: You may optionally use "Field number to change ?" to enter a direct labor Exception Code for Shop Order transactions that are not for Scrap.

For ease of employee reporting, all time entries in this program are Start and End "clock times" for labor activities. For example 2:00 PM is entered as 2:00, not 14:00. The program automatically appends times entered with AM or PM, and calculates elapsed hours from the clock Start and End times.

The entry format for clock times is numeric in HHMM or HMM format. You must enter one or two digits for hour, between 1 and 12, and two digits for minute, between 00 and 59.

9. Start time

Entry Format: 3 or 4 numeric digits in HMM or HHMM format, or <F1> = No hours. The "No hours" option is not allowed for Indirect Labor transactions.

Default: When adding transactions, the Start Time for the first record added for an Employee and Date defaults to the Shift Start Time. Start Time for subsequent consecutive transactions added for the same employee defaults to End Time of the previous transaction. You may override the displayed default.

End time

Entry Format: 3 or 4 numeric digits in HMM or HHMM format

Comments: The program automatically enters the AM or PM designators, based on Shift Start Time, and calculates and displays the elapsed Hours. If the times span a Fixed Unpaid Break period defined for the shift, break hours are automatically deducted in the elapsed hours calculation.

If you answered Y to "On line reporting ?" on the previous screen, this entry is displayed as the present computer clock time.

This field is bypassed if you entered "No hours".

If a production quantity reported automatically generates component issue or parent receipt transactions, a message informs you that these additional inventory transactions have also been posted.

To find and display a transaction previously posted for the Employee and Work Date, press <F1> when the cursor is at the Shop Order Number entry position. You may then change or delete the previously posted transaction, thereby updating all related files/tables for such changes or deletions.

CONVERT BATCH INPUT

This program converts the ASCII batch input file named "LABOR.IMP", initially created by a shop floor data collection system, to the batch file format used by other PBS Manufacturing batch processing programs on this menu. The LABOR.IMP file must be copied into the main hard disk directory where PBS Manufacturing Software is installed, or this program will display a message "Batch input file not found".

Select

Convert batch input from the Production & labor menu.

If there are unposted PBS Manufacturing batch input transactions still on file (from a previous run of this program), the program asks you:

"Converted batch file exists."

"(C) create new file or (A) add records to existing file"

If you have modified the original input file in the shop data collection system, you may reload that file by selecting the "(C) create new file" option. If you had previously converted only part of the day's transactions from the data collection system and want to add the remaining daily transactions before posting, select "(A) add records to existing file".

You are prompted to enter the Warehouse for which you are processing transactions. Enter up to 2 alphanumeric characters matching a record in I/M Warehouses, or spaces for "Main".

The program asks if there is "Any change" to your Warehouse entry. Answer N if you wish to proceed with the transaction conversion processing. When finished, the program displays a "Batch input converted" message.

BATCH EDIT LIST

This program prints an edit list of the converted labor batch transactions, and any error or warning messages.

Select

Batch edit list from the *Production & labor* menu.

A screen like the following displays:

```
Production & labor (Batch edit list)

Please enter:

1. Warehouse
2. Shift #
3. Starting employee #
4. Ending employee #

<F1> = "All"
```

Enter the following fields:

1. Warehouse

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

If you have more than one warehouse (or plant) and some employees split their time between warehouses, you should ask for "All" warehouses when printing a list for those employees.

2. Shift

One numeric digit, or <F1> = "All".

3. Starting employee

Up to 4 numeric digits, or <F1> = "All".

4. Ending employee

Blank defaults to Starting Employee Number.

Some reported transaction errors may be corrected by modifying data in other files/tables and then rerunning this report, if you determine the input transaction is accurate. Messages for these types of errors are:

E-Operation not on file (Not in Shop Order Labor Operations).

E-Work center not on file (Work Center from matching Shop Order Labor Operation record not on W/C File)

E-Invalid exc code (Labor Exception Code reported is not on file, or the "Indirect"/"Direct" classification of the code does not match the transaction type.

Transaction error types indicated by the following messages cannot be corrected by adjusting other files/tables. Because employee clock entries are missing, they must be estimated and the related incomplete labor activities must be manually re-entered, using the "Enter" program on this menu.

E-Start time unknown (No "Start of shift" entry for employee)

E-Lunch time unknown ("Start lunch break" or "End lunch break" entry is missing for employee)

E-Break time unknown ("Start paid break" or "End paid break" entry is missing for employee)

The following "Warning" messages only point out a potential error, but do not prevent posting of related transactions.

W-Cum qty exceeds order (Total production quantity reported for the operation, including this transaction, exceeds the total Shop Order quantity)

W-Incomplete end of day (The last daily time entry for employee preceded the official shift ending time by more than the allowed "end cleanup" minutes in Batch Control Information)

POST CONVERTED BATCH

This program posts the valid converted batch transactions (those without Error messages), after printing the Employee Labor Batch Register, clears the PBS Manufacturing labor batch transactions, and deletes the original LABOR.IMP file from the main PBS Manufacturing Software directory.

Select

Post converted batch from the *Production & labor* menu.

A screen like the following displays:



Before posting and deleting the batch transactions, the program asks "Are you sure?". Answer Y to proceed with the posting process. Upon completion, a message tells you how many valid transactions were posted from the batch.

IMPORTANT NOTES ABOUT INPUT BATCHES

With the present version of PBS Manufacturing labor batch processing programs:

- Do not attempt to post a batch containing only part of a day's transactions. Obtain and convert the remaining transactions for the day, adding them to the previous partial batch, before running "Post converted batch". This does not prevent you from extracting and cumulatively converting shop data transactions several times each day, in order to print several daily Employee Labor Batch Edit Lists for evaluating daily labor activities. But don't post until all transactions for the day have been added to the PBS Manufacturing daily batch file. If you post a partial day's batch, you will lose the times of labor activities started in one partial batch and completed in the subsequent partial batch.
- Do not accumulate more than one complete day's (several day's) transactions in a single PBS Manufacturing daily batch file. When you have converted all of the transactions for one day, post the valid transactions for the day, determine necessary action on transaction errors unresolved prior to batch posting, and use the "Enter" program to input the previously incomplete labor transactions.

- Always get back to shop employees on a timely basis to explain the effect of missing transactions and provide the necessary coaching to minimize future reporting discrepancies.

Generate Schedules

This chapter contains the following topics:

Introduction to Generate Schedules	.....
Infinite Capacity Schedules	.....
Finite Capacity Schedules	.....
Delete Prior Schedule Files	.....
Modify Critical Ratio	.....

INTRODUCTION TO GENERATE SCHEDULES

Programs on this menu generate operation schedules for Shop Orders. Before Shop Order operations can be used on dispatch lists or shop load analysis, Due Dates and priorities must be assigned by the operation schedules generation program.

Daily regeneration of operation schedules may be desirable, since Shop Orders releases, order Due Date reschedules, and other changes to relative scheduling priorities of orders often occur daily.

Infinite and finite capacity scheduling options are available. The assumption of infinite capacities for order operations scheduling is not always less desirable than the finite capacity approach. Infinite capacity scheduling allows you to analyze where overloading of defined Work Center capacities may occur under the conditions of present order due dates and normal scheduling lead times. You then have the options to adjust capacity levels or to reschedule Due Dates of selected Shop Orders to eliminate projected capacity overloads. Finite capacity scheduling forces conformance of scheduled load to defined Work Center capacities by extending order lead times, if necessary; resultant final operation Due Dates may be beyond the planned Due Date of Shop Orders.

INFINITE CAPACITY SCHEDULES

This program calculates schedules for order operations, without considering Work Center capacity load imposed by other orders when determining operation due dates for each Shop Order.

This regeneration procedure replaces any previous operation schedules that may be on file for the designated Warehouse.

Select

Infinite capacity schedules from the *Generate schedules* menu.

A screen like the following displays:

```
Generate schedules (Infinite capacity schedules)

Please enter:

1. Shop orders warehouse
2. Set forward or set back schedules
3. Default work center queue days
4. Always use default queue days ?
5. Minimum open setup & process days
6. Include open orders not released ?
7. Use critical ratio priority method ?
```

The fields you enter are:

1. Shop orders warehouse

Entry Format: Up to 2 alphanumeric characters, or spaces for Main.

2. Set forward or set back schedules

Entry Format: F = Forward, B = Back

Comment: "Set back" scheduling sets the Due Date of the last operation to the Shop Order Due Date, and calculates earlier Due Dates for preceding operations, moving back in time. This option is recommended.

"Set forward" scheduling assumes the Start Date of the Shop Order is the start date for the first operation, and calculates Due Dates for each operation beginning with the first operation, moving forward in time. A last operation Due Date that is later than the planned Due Date of the Shop Order could result, for some orders.

Time allowed for each operation is calculated from the estimated setup and run time standards, the Work Center queue (wait) time allowance, and the Work Center daily capacity. If the Work Center

Capacity unit of measure is Units of Production, daily capacity used to convert setup times to days is 8 hours. Total operation time allowed is converted to days, or fractional days.

3. Default work center queue days

Entry Format: Up to 1 numeric digit, or zero [5. Default work center queue days](#) from *Control Information* displays as a default entry value.

Comments: For scheduling purposes, this planned "wait time" value is used for any Work Center that has a zero "Average queue days" in the Work Center record. If you answer Y to the next question, this value is used for all Work Centers, overriding the Work Center average queue days.

4. Always use default queue days ?

Entry Format: Y or N.

Comments: If you answer Y, for scheduling purposes, the value in the preceding field will be used as planned "wait time" for all Work Centers, overriding the Work Center average queue days.

5. Minimum opn setup & process days

Entry Format: Up to 2 numeric digits and 1 decimal, or zero.

[6. Minimum opn setup & process days](#) in *Control Information* displays as a default value.

Comments: If the calculated total estimated setup time and run time, converted to days, for an operation is less than this value, this number will replace the calculated days for scheduling purposes. This minimum does not include allowed queue time.

6. Include open orders not released ?

Entry Format: Y or N.

7. Use critical ratio priority method ?

Entry Format: Y or N.

Comments: If you answer Y, a Critical Ratio priority factor is calculated for each Shop Order as:

Work Days Remaining To Order Due Date divided by Total Setup And Run Time Remaining (in days). This can be negative if the order is already past due.

Work Days Remaining To Order Due Date excludes days in I/M Schedule Exception Dates.

If you answer N, Critical Ratio is not calculated and is not used as a sequencing factor on Dispatch Lists; Operation Due Date will be the only sequencing factor.

A period of processing will occur during which Operations Schedules for the designated Warehouse are replaced with new schedules. During this time, users will be unable to access Shop Floor Control programs that display or print operation schedule or load information. A message informs you when the operation schedules generation has been completed.

FINITE CAPACITY SCHEDULES

This program calculates schedules for order operations, considering Work Center capacity when determining operation due dates for each Shop Order. This program only schedules orders for which operations have been released. If operations are not yet released for an order, this program assumes that material or tooling is not available.

If you use Timephased Capacities to split daily Work Center capacities into multiple periods within each day, these multiple daily segments are used by this program. On the same date, an order operation will not be scheduled in a lower segment number than the segment number scheduled for a preceding operation for that order.

The order with the earliest Due Date is first scheduled through all remaining operations required to complete the order; then the next order in the priority sequence is scheduled. Forward scheduling logic, considering timephased capacity available at each operation's Work Center, is applied to develop the schedules. As each operation is scheduled, planned capacity is "consumed" for the operation's Work Center.

This regeneration procedure also replaces any previous operation schedules that may be on file for the designated Warehouse.

Select

Finite capacity schedules from the *Generate schedules* menu.

The fields you enter are:

1. Shop orders warehouse

Entry Format: Up to 2 alphanumeric characters, or spaces for Main.

2. Starting date

Entry Format: 6 digits in MMDDYY format. System date is displayed as the default entry. A date earlier than the System Date is not allowed.

Comment: This is the starting date for which capacity is available for operation scheduling and loading.

3. Starting daily capacity segment

Entry Format: 1 numeric digit. Zero not allowed. The default displayed is 1.

Comments: If you use Timephased Capacities to segment daily capacities into several daily loading periods, you may start the finite capacity scheduling process in a period beyond the first segment of the day; otherwise, enter 1. Work Centers or Dates for which Timephased Capacities are not defined are considered to have just one daily capacity segment.

4. Minimum inter-operation move time hours ?

Entry Format: Up to 1 numeric digit plus 2 decimals, or zero.

Comments: This move delay time, if any, is considered in determining non-production time delays between successive operations for an order.

5. Use work center average queue days as delay time ?

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

Comments: If you always use finite capacity scheduling, you would not usually define planned queue times in Work Centers, because the finite scheduling process itself determines such "wait times". However, selected Work Centers may require finite scheduling "wait time" due to the nature of the preceding process (e.g. painting, followed by wait time to dry before processing at next Work Center).

A period of processing will occur during which Operations Schedules for the designated Warehouse are replaced with new schedules. A message informs you when the finite capacity schedules generation has been completed.

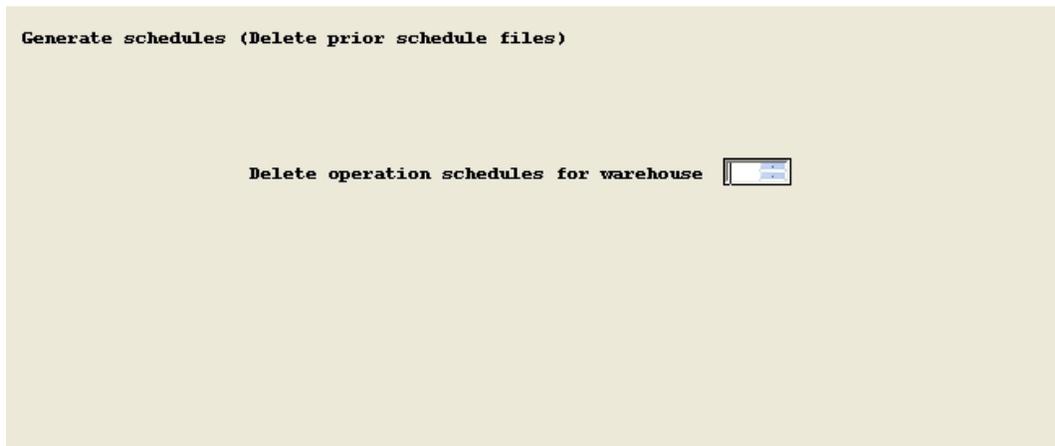
DELETE PRIOR SCHEDULE FILES

Use this program if you want to remove previously generated operation schedules for a warehouse, instead of replacing that information by re-running one of the schedule generation programs on this menu.

Select

Delete prior schedule files from the *Generate schedules* menu.

A screen like the following displays:



The program prompts you with:

Delete operation schedules for warehouse __

Enter up to 2 alphanumeric characters, or spaces for Main.

The program then asks "Any change?". Answer Y to return to the warehouse entry, or press ESC (or TAB) to exit the program. If you answer N to "Any change?", you are asked "Are you sure?". Answer N if you wish to exit this program. Answer Y to start the delete processing. After the schedules are removed, a message tells you how many records were deleted.

MODIFY CRITICAL RATIO

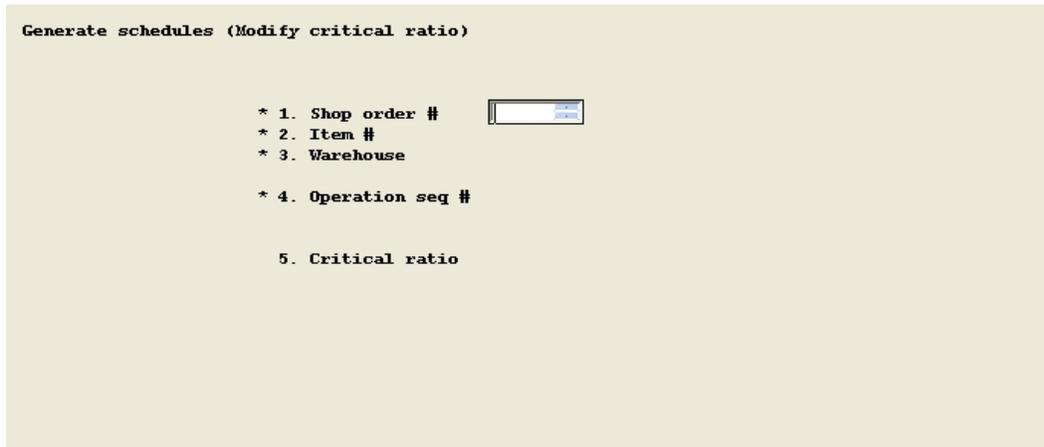
This program allows you to adjust operation schedule priority numbers called Critical Ratios. The operations with the lowest Critical Ratios are the highest priorities on dispatch lists. Since negative numbers may be entered for those ratios, an operation with the most negative Critical Ratio will appear at the top of the dispatch list.

An operation must be scheduled by one of the schedule generation programs before you may modify its Critical Ratio.

Select

Modify critical ratio from the *Generate schedules* menu.

A screen like the following displays:



```
Generate schedules (Modify critical ratio)

* 1. Shop order #  
* 2. Item #
* 3. Warehouse
* 4. Operation seq #
5. Critical ratio
```

The fields you enter are:

1. Shop order

Entry Format: Up to 6 alphanumeric characters.

Rls

Entry Format: Up to 2 numeric digits, or space.

Validation: Shop Order Number and Release Number must match a scheduled Shop Order on file.

2. Parent item

Entry Format: Up to 15 alphanumeric characters, or press <F1> to consecutively display Item Numbers for the Shop Order Number and Release Number you entered.

Validation: The combination of Shop Order Number, Release Number and Item Number must match a scheduled Shop Order on file.

3. Warehouse

Entry Format: Up to 2 alphanumeric characters, or default.

Validation: This field with the preceding entries must match a scheduled Shop Order on file.

4. Operation seq

Entry Format: Up to 3 numeric digits, or press <F1> to display the next scheduled operation for this order.

Alt

Entry Format: Up to 2 numeric digits, or space.

Validation: Operation Sequence Number and Alternate Number with the preceding entries must match a scheduled operation on file.

If your entries are valid, the Critical Ratio is displayed for the operation and the program asks "Change ratio?". If you answer Y, you enter:

5. Critical ratio

Entry Format: Up to 3 numeric digits plus 2 decimals, or zero. Negatives are allowed.

Answer N to "Any change?" to post the modified Critical Ratio.

Displays, Schedule and Load

This chapter contains the following topics:

Introduction to Displays, Schedule and Load
Work Center Dispatch List
Work Center Load Summary
Shop Order Schedules
Timephased Capacities

INTRODUCTION TO DISPLAYS, SCHEDULE AND LOAD

Use these programs to view timephased schedule and load information, by Work Center or by Shop Order. Operation schedules are created with the "Generate schedules" function. Operation quantity and hours balances are updated with the "Production & labor" function. Operation schedule dates do not change until the next time "Generate schedules" is run. Operation balances change each time that "Production & labor" is used to update them.

WORK CENTER DISPATCH LIST

This program displays Shop Order operation schedules by Work Center. The scheduled operations for a Work Center are sequenced by Critical Ratio and then by Operation Start Date. If Critical Ratio was not used when "Generate schedules" was last run, the sequence is Operation Start Date.

Select

Work center dispatch list from the *Displays, schedule & load* menu.

A screen like the following displays:



The fields you enter are:

Work center

Up to 6 alphanumeric characters.

Enter a word center number and the Work Center's description displays.

The following operation schedule data, if any, are displayed for the Work Center:

C-ratio

Critical Ratio.

Opn-due

Operation Due Date.

Rlsd?

Y indicates Shop Order operations are released. When "Generate schedules" is run, you have the option of including Shop Orders not yet released.

Start

Operation Start Date.

Due

Operation Due Date.

Item-#

Item Number.

S.O.-#

Shop Order Number. Release Number, if any, is also displayed.

Opn-#

Operation Sequence Number.

Alt

Alternate Number, if a scheduled alternate.

Description

Shop Order Description, or Operation Description.

Press <F1> when the cursor is at the bottom of the screen to change the description displayed.

Qty-due

Quantity Due at this operation, calculated as Shop Order Quantity Ordered less Quantity Run at this operation, if not reported as Complete.

Est-hrs-due

Estimated Hours Due at this operation for run time and for setup time. Run time is calculated from Quantity Due and estimated unit Run Time. Setup time, if not completed, is calculated as estimated setup hours less actual setup hours.

Press <F1> to view the Operation Descriptions. Press <F2> to display information about options used to generate schedules.

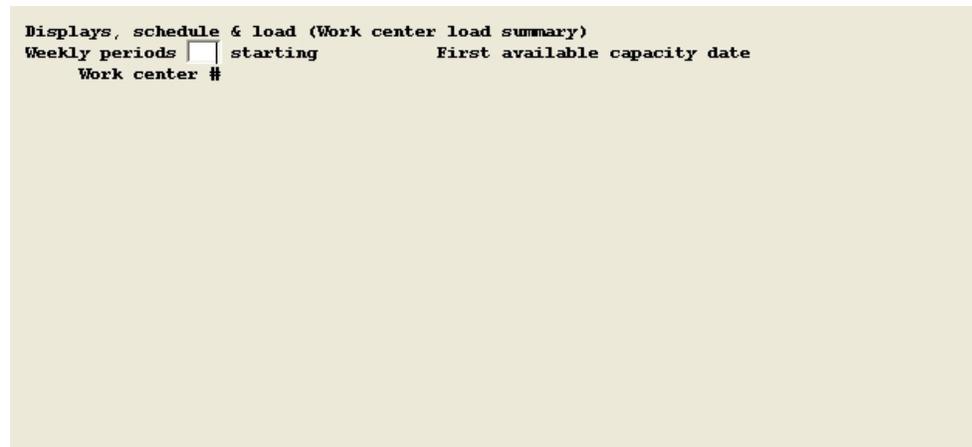
WORK CENTER LOAD SUMMARY

This program displays timephased load vs. capacity summary information by Work Center, for number of weekly periods that you specify. Any load scheduled earlier than the first weekly period is summarized as Past Due, and any load scheduled later than the last weekly period is summarized as Beyond.

Select

Work center load summary from the *Displays, schedule & load* menu.

A screen like the following displays:



The fields you enter are:

Weekly periods

Up to 2 numeric digits. The displayed default is from Control Information.

Starting

Week beginning date for the first weekly period, in MMDDYY format.

First available capacity date

The first date for which capacity is available, in MMDDYY format. If you are running the program on a day that is beyond the first work day in the first weekly period, enter today's date here.

Work center

Up to 6 alphanumeric characters. The Work Center's description and capacity/load unit of measure are displayed.

The following timephased load and capacity information is displayed for the Work Center:

Week-beg

Week Beginning Date.

Period-load-units:

Setup

Setup Load Units.

Run

Run Load Units.

Total

Total Load Units (Setup + Run).

Pd-capacity

Period Capacity Units.

units

From Work Centers or Timephased Capacities.

Cum-available

Cumulative Available Capacity, calculated as capacity total cumulative capacity through the weekly period less cumulative scheduled load through the same period.

With this information, you can find the first period with available capacity for the Work Center. This is the first weekly period with a positive value for Cum Available Capacity that follows the latest weekly period showing zero or negative Cum Available Capacity.

Press <F2> to display information about options used to generate schedules, which determine the load periods (i.e. Due Dates) for order operations.

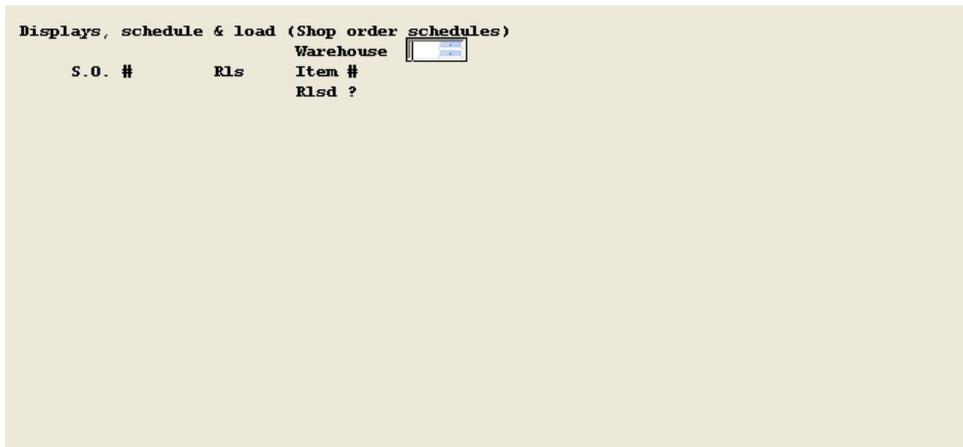
SHOP ORDER SCHEDULES

This program displays Shop Order operation schedules by Shop Order. Scheduled operations for a Shop Order are listed by Operation Sequence Number.

Select

Shop order schedules from the *Displays, schedule & load* menu.

A screen like the following displays:



The fields you enter are:

Warehouse

Up to 2 alphanumeric characters, or Blank = "Main"

S.O.

Shop Order Number; up to 6 alphanumeric characters.

Rls

Release Number; up to 2 numeric digits, or space.

Item

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

The Shop Order description and operations released status are displayed. When "Generate schedules" is run, you have the option of including Shop Orders not yet released.

The following operation schedule data, if on file, are displayed for the shop order:

Opn-#

Operation Number. Alternate Number also displays for scheduled alternate operations.

Wrk-ctr

Work Center Number.

Opn-description

Operation Description.

Start/Due

Operation Start Date and Operation Due Date.

Qty-due

Quantity Due at this operation, calculated as Shop Order Quantity Ordered less Quantity Run at this operation, if not reported as Complete.

Est-hours-due

Estimated Hours Due at this operation, for run time and for setup time. Run time is calculated from Quantity Due and estimated unit Run Time. Setup time, if not completed, is calculated as estimated setup hours less actual setup hours.

Press <F2> to display information about options used to generate schedules.

TIMEPHASED CAPACITIES

Select

Timephased capacities from the *Displays, schedule & load* menu.

A screen like the following displays:



The screenshot shows a terminal-style interface with a light beige background. At the top left, the text "Displays (Timephased capacities)" is displayed. Below this, there are two input fields: "Start date" followed by a small rectangular box, and "Work center #" followed by a larger rectangular box. The rest of the screen is empty.

Use this program to display a list of Timephased Capacity plans for a specified Work Center Number, starting with a specified date.

Data displayed include:

Net Daily Capacity

Capacity Unit of Measure

Capacity Distribution % by Daily Segment

Displays, Other

This chapter contains the following topics:

Shop Orders	.....
S.O. Material Requirements	.....
S.O. Operation Status	.....
Item Operation History	.....
Employee Labor	.....

SHOP ORDERS

Use this program to display a list of Shop Orders by Item Number or by Shop Order Number.

Select

Shop orders from the *Displays, other* menu.

The following screen displays:



Enter the following fields:

List Sequence ?

I for Item Number, or S for Shop Order Number.

Include closed orders ?

Y or N.

Item

If I sequence was requested.

Press F1 at Item Number to list "All" Shop Orders in Item Number sequence.

Enter spaces to select by description if you wish to search for an Item Number by entering any portion of the first 30 characters of its Description.

S.O. # and RIs

If S sequence was requested.

Press F1 at S.O. Number to list "All" Shop Orders in S.O. Number sequence.

If you enter a specific S.O. Number, you are requested to enter a Release Number.

Information displayed from each record is:

SO-#

Shop Order Number.

Rls

Release Number, if not spaces.

Whse

Warehouse.

Item-#

Item Number.

Description

Item Description.

Sales-ord

Sales Order Number, if any.

Qty-ord

Quantity Ordered, in Inventory Unit of Measure.

Qty-rec

Quantity Received to date.

UM

Inventory Unit Of Measure.

ST

Status code: O = Open, E = Exploded, I = Components Issued, C = Closed.

Due-date

Order due date.

Start-date

Order start date.

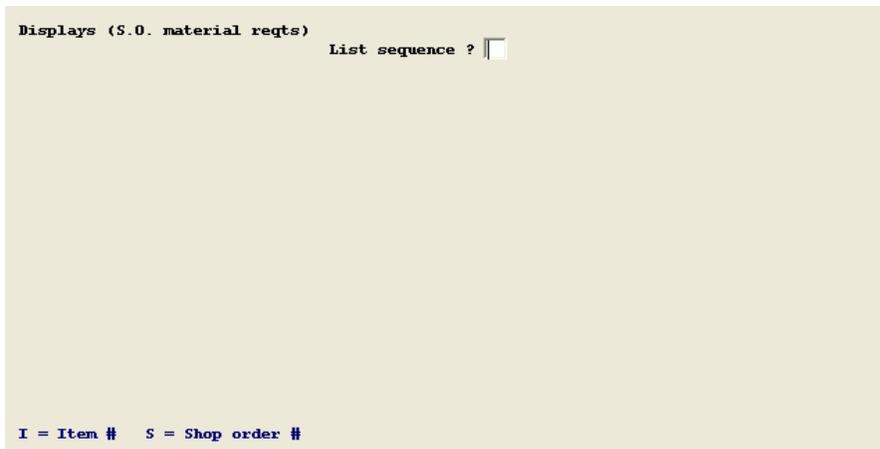
S.O. MATERIAL REQUIREMENTS

Use this program to display the issue status of component material requirements for parent Shop Orders. You may request a screen listing of all requirements for a specific Component Item Number, which may originate from several parent orders. You may alternatively request a list of all component requirements for a specific parent Shop Order.

Select

S.O. material requirements from the *Displays, other* menu.

The following screen displays:



Enter the following fields:

List Sequence

I to list all requirements for a specified component Item Number, or

S to list all components required for a specified Shop Order.

Component item

If **I** was entered above, you are prompted to enter a specific component Item Number.

Enter spaces to select by description and search for an Item Number by entering any portion of the first 30 characters of its description.

S.O. # and RIs

If **S** was entered above, you are prompted to enter S.O. Number, Release Number, and Item Number.

After you enter a specific S.O. Number, you are requested to enter Release Number.

Item #

Enter the Shop Order parent Item Number, or press F1 to search. If you use F1, the program will display the Item Number from the first Shop Order on file that matches the S.O. Number and Release Number you entered and ask "Right Item #?". If your answer is N, the program looks for a another matching Shop Order for a different Item Number. A Y answer means the Item Number entry is completed.

Whse

The default is either the Primary Warehouse for the requested Component Item or the Warehouse in the Shop Order record, depending on the List Sequence selected.

Information listed from Shop Order Material Requirements records is:

SO # & Rls #

Parent Shop Order identification, only displayed

Parent item #

when listing all requirements for a specified Component Item Number.

Comp item #

Component Item Number, only displayed when listing all records for a specific Shop Order.

Qty-per

Component quantity per parent.

SA-pct

Component Scrap Allowance Percent, if not zero.

Qty-reqd

Component total Quantity Required for the parent Shop Order.

WIP-scrap

Component Quantity Scrapped on the parent order.

Qty-issued

Component Quantity Issued to the parent order.

Reqt-bal

Quantity Required minus Quantity Issued.

Due-date

Due date of the component requirement quantity.

PL

Y or N, indicating if component item is printed on Pick Lists.

C Item Control Method (R = Regular, L = Lot #, S = Serial #).

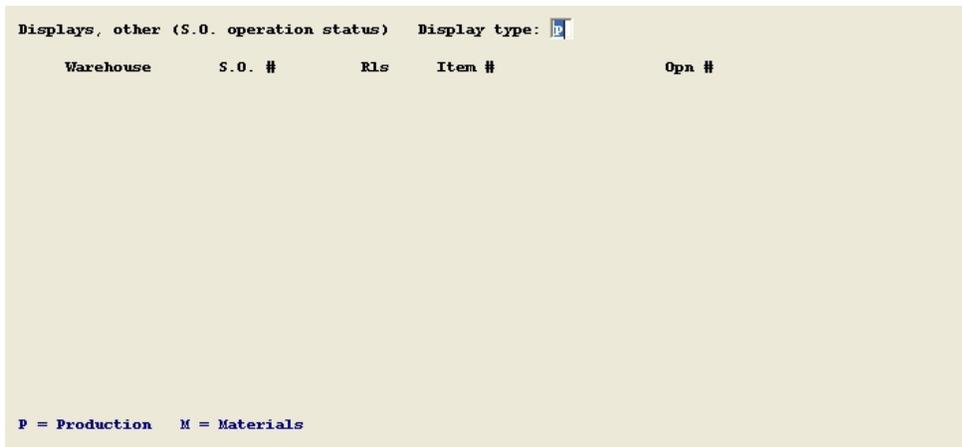
S.O. OPERATION STATUS

This program displays Production or Materials status for Shop Order Operations.

Select

S.O. operation status from the *Displays, other* menu.

The following screen displays:



Enter the following fields:

Display type

P = Production, M = Materials

Warehouse

Up to 2 alphanumeric characters, or

Blank = "Main".

S.O.

Up to 6 alphanumeric characters.

Rls

Up to 2 numeric digits, or space.

Item

Up to 15 alphanumeric characters, or press F1 to find next Item Number for the order.

Opn

Up to 3 numeric digits, or F1 = "All".

The following operations data are displayed for display type Production:

Seq

Operation Sequence Number.

Alt

Alternate Operation Sequence Number, if any.

Description

Operation Description.

Wrk-ctr

Work Center Number.

Qty-run

Quantity Run at this operation. Rework and Scrap quantities, if any, for this operation are displayed below Quantity Run.

Qty-due

Quantity Due at this operation, calculated as Shop Order Quantity Ordered less operation Quantity Run, if not reported as Complete.

Actual-labor

Actual labor hours reported to-date for run time hours and setup time, for this operation.

When all matching records are displayed, the program asks if you want to display detail transactions for each operation. Answer Y or N. When detail transactions for each operation are requested, you are prompted to enter the Operation Number for which you wish to see detail information.

The following operations data are displayed for display type Materials:

Seq

Operation Sequence Number.

Alt

Alternate Operation Sequence Number.

Description

Operation Description.

Auto-issue?

Automatic Issue indicator for this operation.

If the Automatic Issue indicator is Y, the following displays for each material used at the operation.

Component

Component Item Number.

item-#

Total-qty

Total Quantity Required.

required

Total-qty

Total Quantity Issued.

issued

ITEM OPERATION HISTORY

If you maintain item operation history, as determined by your *Control Information* for this package, you may use this program to display historical operation times and quantities by Item Number.

Select

Item operations history from the *Displays, other* menu.

The following screen displays:

Displays, other (Item operation history)

Item #

Opn # Start date

Blank = look up by desc

Enter the following fields:

Item

Up to 15 alphanumeric characters, or Blank to select by description if you wish to search for an Item Number by entering any portion of the first 30 characters of its Description.

Operation

Up to 3 numeric digits, or F1 for "All".

Start Date

6 numeric digits in MMDDYY format, or F1 for "All".

The information listed for each operation history record is:

Seq

Operation Sequence Number.

Alt

Alternate Number, if any.

Ord-close-date

Shop Order Close Date.

Qty-run

Quantity Run at this operation.

Qty-rework

Quantity Reworked at this operation.

Qty-scrap

Quantity Scrapped at this operation.

Total-actual-hours

Total Actual Hours for run time and setup time at this operation

Run-hrs-per

Run Hours Per Unit Run Quantity.

unit-run-qty

S.O.-#

Shop Order Number.

Rls

Shop Order Release Number.

Whse

Warehouse.

EMPLOYEE LABOR

This program displays production and labor transactions by Employee Number and Date, with daily hour and direct labor utilization totals for the Employee.

Select

Employee labor from the *Displays, other* menu.

The following screen displays:

```

Displays, other (Employee labor)
Employee # 1      JOHN RRMONE      Start date 1/01/10

Date  Start   End Lab-hrs Exc S.O.-# Item-#      Run-qty  Opn Alt S/R Dir-lab-$
                               Wrk-ctr  Burden-$

1/13/10  1:56P  1:58P  .033   100   1000      10      R      .50 L
                               1 P110   .63 B
      .033 hrs for day; .033 direct hrs; 100.0 % direct

3/11/10  8:00R  10:00R  2.000   13   1000      10      R      30.00 L
                               2 P110   37.50 B
      2.000 hrs for day; 2.000 direct hrs; 100.0 % direct

3/24/10  8:15R  9:00R  .750   100   1000      10      R      11.25 L
                               2 P110   14.06 B
      9:00R  9:45A  .750   100   2000      10      R      13.50 L
                               20 WELD  20.25 B
      9:45R  10:00R .250 1 CLEARNUP
      1.750 hrs for day; 1.500 direct hrs; 85.7 % direct

Display more ? 
    
```

Enter the following fields:

Employee

Up to 4 numeric digits, or Blank = look up by name.

If you use the name lookup option, enter part or all of the Employee Name as it appears in Employees. The program will then display the first full Employee Name on file, if any, matching your entries. You may select that record or press F1 to find more matching records.

Start Date

6 numeric digits in MMDDYY format.

The following data are displayed for labor detail records on file that match your entries:

Date

Work Date.

Start

Start Time

End

End Time.

Lab-hrs

Labor Hours.

Exc

Labor Exception Code.

S.O.-#

Shop Order Number, and optional Release Number.

Item-#

Item Number.

Run-qty

Run Quantity. RW after the value indicates a Rework Quantity. SC after the value indicates a Scrap Quantity.

Opn Alt

Operation Sequence Number and optional Alternate.

Wrk-ctr

Work Center Number.

S/R

S = Setup Hours, or R = Run Hours.

Dir-lab-\$

Direct Labor Dollar Amount.

Burden-\$

Burden Dollar Amount.

Reports, Schedule and Load

This chapter contains the following topics:

Introduction to Reports, Schedule and Load
Work Center Dispatch List
Work Center Load Summary
Shop Order Schedules
Timephased Capacities

INTRODUCTION TO REPORTS, SCHEDULE AND LOAD

Use these programs to print timephased schedule and load information, by Department and Work Center, or by Shop Order. Operation schedules are created with the "Generate schedules" function. Operation quantity and hours balances are updated with the "Production & labor" function. Operation schedule dates do not change until the next time "Generate schedules" is run. Operation balances change each time that "Production & labor" is used to update them.

WORK CENTER DISPATCH LIST

Use this program to print Shop Order operation schedules by Work Center, for a range of Departments and Work Centers that you request. The scheduled operations for a Work Center are sequenced by Critical Ratio and then by Operation Start Date. If Critical Ratio was not used when "Generate schedules" was last run, the sequence is Operation Start Date.

Select

Work center dispatch list from the *Reports, schedule & load* menu.

The following screen displays:

```
Reports, schedule & load (Work center dispatch list)

Please enter

1. Starting department # 
2. Ending department #
3. Starting work center #
4. Ending work center #
5. Released orders only ?

<F1> = "All"
```

Enter the following fields:

1. Starting department

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

2. Ending department

Up to 3 alphanumeric characters, or Blank = Starting department number.

3. Starting work center

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

4. Ending work center

Up to 6 alphanumeric characters, or Blank = Starting work center number.

5. Released orders only ?

Y or N. A Y answer causes the program to omit orders for which operations are not released from the report.

WORK CENTER LOAD SUMMARY

Use this program to print a timephased load vs. capacity summary information by Work Center, for a range of Departments and Work Centers, and number of weekly periods that you specify. Any load scheduled earlier than the first weekly period is summarized as Past Due, and any load scheduled later than the last weekly period is summarized as Beyond.

Select

Work center load summary from the *Reports, schedule & load* menu.

The following screen displays:

```
Reports, schedule & load (Work center load summary)

Please enter

1. Starting department #
2. Ending department #
3. Starting work center #
4. Ending work center #
5. Number of weekly load periods
6. Current week beginning date
7. First available capacity date
8. Print department totals ?
9. Print work center load detail ?

<F1> = "All"
```

Enter the following fields:

1. Starting department

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

2. Ending department

Up to 3 alphanumeric characters, or Blank = Starting department number.

3. Starting work center

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

4. Ending work center

Up to 6 alphanumeric characters, or Blank = Starting work center number.

5. Number of weekly load periods

Up to 2 numeric digits. Default displayed is "Number of weekly load periods" in Control Information for this package.

6. Current week beginning date

6 digits in MMDDYY format.

7. First available capacity date

The first date on which capacity is available, in MMDDYY format. If you are beyond the current week's beginning date, enter today's date here.

8. Print department totals ?

Y or N.

9. Print work center load detail ?

Y or N.

SHOP ORDER SCHEDULES

Use this program to print Shop Order operation schedules by Shop Order. Scheduled operations for a Shop Order are listed by Operation Sequence Number.

Select

Shop order schedules from the *Reports, schedule & load* menu.

The following screen displays:

```
Reports, schedule & load (Shop order schedules)

Please enter
1. Warehouse
2. Shop order #
3. Item #
4. Print completed operations ?
5. Print sales order information ?
```

Enter the following fields:

1. Warehouse

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

2. Shop order

Up to 6 alphanumeric characters, or F1 = "All scheduled"

Rls

Release Number; up to 2 numeric digits, or space. Bypassed if you selected "All scheduled" for Shop Order Number.

3. Item

Up to 15 alphanumeric characters, or Blank = "All scheduled"

This field is bypassed if you selected "All scheduled" for Shop Order Number.

4. Print completed operations ?

Y or N.

The following question appears only if Customer Order Processing is installed.

5. Print sales order information ?

Y or N.

If you answer Y to the question about Sales Order information, the program prints Customer Name and Customer P.O. Number for Shop Orders that are referenced to an open Sales Order Number.

TIMEPHASED CAPACITIES

Use this program to print a list of Timephased Capacities, by Department and Work Center.

Select

Timephased capacities from the *Reports, schedule & load* menu.

The following screen displays:

```
Reports, schedule & load (Timephased capacities)

Please enter:

1. Starting department # 
2. Ending department #
3. Starting work center #
4. Ending work center #
5. Starting date
6. Ending date

<F1> = "All"
```

Enter the following fields:

1. Starting department

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

Refers to Department identifier in Work Centers.

2. Ending department

Up to 3 alphanumeric characters, or Blank to default to Starting Department #.

3. Starting work center

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

4. Ending work center

Up to 6 alphanumeric characters, or Blank to default to Starting Work Center #.

5. Starting date

6 numeric digits in MMDDYY format, the default displayed is the System date.

6. Ending date

6 numeric digits in MMDDYY format, or Blank to default to Starting Date.

Reports, Other

This chapter contains the following topics:

PTD Work Center Flow	.....
Shop Orders	.....
S.O. Material Requirements	.....
S.O. Operation Status	.....
Item Operation History	.....
Employee Labor	.....
Indirect Labor	.....

PTD WORK CENTER FLOW

This program prints daily and period-to-date summary statistics about Work Center available load and production output. This information allows you to monitor work flow rates through specific production areas. Values reported are in the Capacity/Load Unit of Measure (Machine Hours, Labor Hours, or Units of Production) specified for each Work Center.

"Available load" values on this report are calculated for released order operations. This includes any work remaining at the first operation on an order's routing, and work remaining at other operations that is already completed at the preceding operation.

Select

PTD work center flow from the *Reports, other* menu.

The following screen displays:



Enter the information as follows:

1. Print report ?

Y or N. Answer N only if you just want to purge the report file.

2. Report sequence

D = Department #, W = Work center #

The following two entries depend upon selected Report Sequence.

3. Starting department

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

4. Ending department

Space defaults to Starting Department.

or

3. Starting work center #

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

4. Ending work center #

Space defaults to Starting Work Center.

5. Starting date

6 numeric digits in MMDDYY format, or F1 = "Earliest"

6. Ending date

6 numeric digits in MMDDYY format, or F1 = "Latest"

7. Calculate available load ?

Y or N.

A Y answer causes the calculation of currently available load for today's date. You should calculate these load values at about the same time each day.

8. Purge report file ?

Y or N.

9. Purge thru date

6 numeric digits in MMDDYY format. This is only requested if the preceding entry is Y.

SHOP ORDERS

Use this program to print a list of Shop Orders in Item Number or Shop Order Number sequence, for a specified range of Item Numbers or S.O. Numbers. You may optionally include closed Shop Orders on the list.

Select

Shop orders from the *Reports, other* menu.

The following screen displays:

```
Reports, other (Shop orders)

Please enter:

1. Report sequence 
2. Starting
3. Ending

4. Starting warehouse
5. Ending warehouse

6. Include closed orders ?

I = Item # S = Shop order #
```

Enter the information as follows:

1. Report sequence

I = Item Number, or S = S.O. Number.

2. Starting item

Requested entry is based on Sequence.

or

F1 = "All".

Starting S.O.

RIs #

3. Ending item

Requested entry is based on Sequence.

or Blank = Starting value

Ending S.O. #

Rls #

4. Starting warehouse

Up to 2 alphanumeric characters, or F1 = "All", or space for "Main".

5. Ending warehouse

Blank = Starting value.

6. Include closed orders?

Y or N.

S.O. MATERIAL REQUIREMENTS

Use this program to print a list of shop order material requirements in Component Item Number or in Shop Order Number sequence. Component total requirements and unissued requirement balances are listed for each using parent Shop Order. Warehouse total unissued balances by Component Item Number, for all using Shop Orders, are also printed when the report is run in Item Number sequence.

Select

S.O. material requirements from the *Reports, other* menu.

The following screen displays:

```
Reports, other (S.O. material reqts)

Please enter:

1. Report sequence
2. Starting
3. Ending
4. Starting warehouse
5. Ending warehouse

I = Component item #   S = Shop order #
```

Enter the information as follows:

1. Report sequence

I = Component Item Number, or S = S.O. Number.

2. Starting item

Requested entry is based on Sequence.

or

Starting S.O. #

RIs # .

3. Ending item

Requested entry is based on Sequence.

or

Blank = Starting value.

Ending S.O. #

Rls #

4. Starting warehouse

Up to 2 alphanumeric characters, or

F1 = "All", or space for "Main".

5. Ending warehouse

Blank = Starting value.

The following entries are requested only if Sequence is I.

6. Starting S.O. #

F1 = "All"

Rls #

Up to 2 numeric digits or space.

7. Ending S.O. #

Blank = Starting value.

Rls #

Up to 2 numeric digits or space.

S.O. OPERATION STATUS

Use this program to print Production or Materials status for Shop Order Operations.

Select

S.O. operation status from the *Reports, other* menu.

The following screen displays:

The screenshot shows a terminal window titled "Reports, other (S.O. operation status)". The prompt "Please enter" is displayed. Below it, five numbered prompts are listed: "1. Warehouse" (with a small input box), "2. Shop order #", "3. Item #", "4. Operation seq #", and "5. Report type". To the right of the second prompt, "Rls" is displayed.

Enter the information as follows:

1. Warehouse

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

2. Shop order

Up to 6 alphanumeric characters.

Rls

Up to 2 numeric digits or space.

3. Item

Up to 15 alphanumeric characters, or F1 = "All" items with the same Shop Order and Release Number.

4. Operation seq

Up to 3 numeric digits, or F1 for "All".

5. Report type

P = Production, or M = Materials

The default is P(roduction).

The following entries are requested only if Report type is P.

6. Print shop floor control factors ?

Y or N.

7. Print operation detail transactions ?

Y or N.

ITEM OPERATION HISTORY

If you maintain item operation history, as determined by your Control Information for this package, you may use this program to print historical operation times and quantities by Item Number.

Select

Item operation history from the *Reports, other* menu.

The following screen displays:

```
Reports, other (Item operation history)

Please enter:

1. Starting item # 
2. Ending item #
3. Operation seq #
4. Warehouse
5. Starting date
6. List most recent occurrences first ?
7. Print operation time averages ?
```

Enter the information as follows:

1. Starting item

Up to 15 alphanumeric characters

2. Ending item

Blank = Starting value.

3. Operation seq

Up to 3 numeric digits, or F1 for "All".

4. Warehouse

Up to 2 alphanumeric characters, or F1 = "All", or space for "Main".

5. Starting date

6 numeric digits in MMDDYY format, or F1 for "All".

6. List most recent occurrences first ?

Y or N.

Maximum number of occurrences to list

1 numeric digit. This field is entered only if you answer Y to the previous question.

7. Print operation time averages ?

Y or N.

EMPLOYEE LABOR

This report lists employee production and labor transactions, by Employee Number and Date. Employee detail includes production quantities, hours by Shop Order or indirect labor Exception Code, and the costed labor and burden amounts for direct labor transactions.

Employee total hours, total direct hours, and direct labor percentage are printed by date and in total for each employee.

Select

Employee labor from the *Reports, other* menu.

The following screen displays:

```
Reports, other (Employee labor)

Please enter:
1. Warehouse
2. Starting employee #
3. Ending employee #
4. Starting date
5. Ending date

<F1> = "All"
```

Enter the information as follows:

1. Warehouse

Up to 2 alphanumeric characters, or space for "Main", or F1 = "All".

If you have more than one warehouse (or plant) and some employees split their time between warehouses, you should ask for "All" warehouses when printing a list for those employees.

2. Starting employee

Up to 4 numeric digits, or F1 = "All".

3. Ending employee

Blank = Starting Employee Number.

4. Starting date

Up to 6 numeric digits in MMDDYY format.

5. Ending date

Blank = Starting Date.

INDIRECT LABOR

This report lists indirect labor hours by indirect Labor Exception Code and date, for a range of dates that you specify. You have the option of printing hour totals for each date or the detail charges by employee within each date. Total indirect hours for the requested time period are summarized for each Exception Code.

Select

Indirect labor from the *Reports, other* menu.

The following screen displays:

```

Displays, other (Employee labor)
Employee # 1      JOHN RRMONE      Start date 1/01/10

Date  Start   End Lab-hrs Exc S.O.-# Item-#      Run-qty  Wrk-ctr  Dir-lab-$
                               Burden-$

1/13/10  1:56P  1:58P  .033   100   1000              10      R      .50 L
                               1      P110      .63 B
                               .033 hrs for day; .033 direct hrs; 100.0 % direct

3/11/10  8:00R  10:00R  2.000   13   1000              10      R      30.00 L
                               2      P110      37.50 B
                               2.000 hrs for day; 2.000 direct hrs; 100.0 % direct

3/24/10  8:15R  9:00R  .750   100   1000              10      R      11.25 L
                               2      P110      14.06 B
          9:00R  9:45R  .750   100   2000              10      R      13.50 L
                               20     WELD      20.25 B
          9:45R  10:00R .250  1     CLEANUP
                               1.750 hrs for day; 1.500 direct hrs; 85.7 % direct

Display more ? 
    
```

Enter the information as follows:

1. Warehouse

Up to 2 alphanumeric characters, or space for "Main", or F1 = "All".

2. Starting exception code

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

3. Ending exception code

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

4. Starting date

6 numeric digits in MMDDYY format.

5. Ending date

6 numeric digits in MMDDYY format, or Blank = Starting Date.

6. Print employee detail ?

Y or N. Answer Y if you want to print employee detail for each date, or N if you just want daily totals by Exception Code.

Period and Year End

This chapter contains the following topics:

[Introduction to Period and Year End](#)

[Running Period and Year End](#)

INTRODUCTION TO PERIOD AND YEAR END

Use this function to close each period. You will probably do this at the end of each fiscal month, although you may use other time periods (e.g. quarter). This program performs the following procedures:

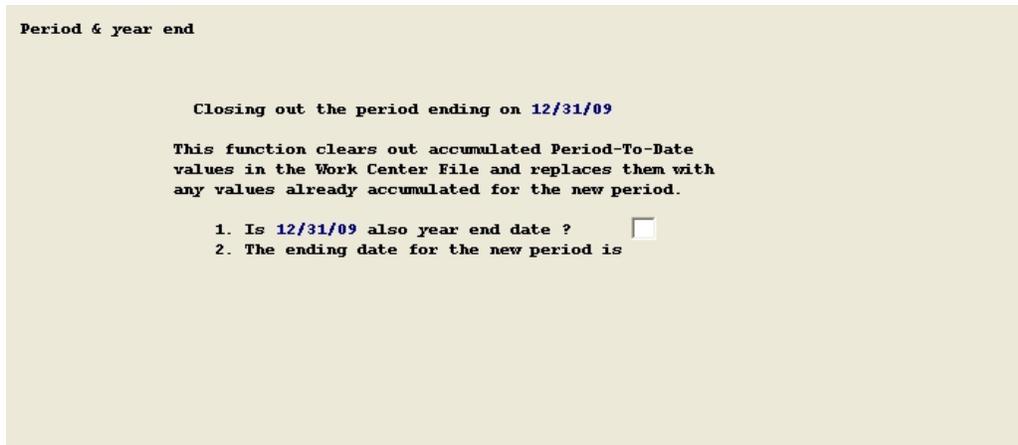
- Resets Period-To-Date usage in the Work Center records.
- If you tell the program the period being closed is also your year end, resets Work Center Year-To-Date usage statistics after moving those numbers into Last Year values.
- Period-To-Date values and, at year end, Year-To-Date values are set to zeros, or to any amounts already accumulated for the Next Period. Transactions dated after the Current Period End Date are posted to Next Period values in the file/table, until you close the current period.
- Resets the Current Period End Date in *S/F Control information*.

RUNNING PERIOD AND YEAR END

Select

Period & year end from the *S/F* menu.

The following screen displays:



When you select this program the following message is displayed:

Closing out the period ending on

MM/DD/YY

This function clears out accumulated Period-To-Date values in the Work Center File and replaces them with any values already accumulated for the new period.

MM/DD/YY is the "Current period end date" from S/F Control Information. You are prompted to enter:

1. Is MM/DD/YY also your year end date ?

Entry Format: Y or N.

2. The ending date for the new period is

Entry Format: 6 numeric digits, in MMDDYY format.

Comments: This entry sets the new Current Period End Date in S/F Control Information.

Utility

This chapter contains the following topics:

Purge Employee Labor	.....
Purge Item Operation History	.....
Purge Closed Shop Orders	.....
Reset S.O. Release Status	.....
Reset S.O. Operation Data	.....

PURGE EMPLOYEE LABOR

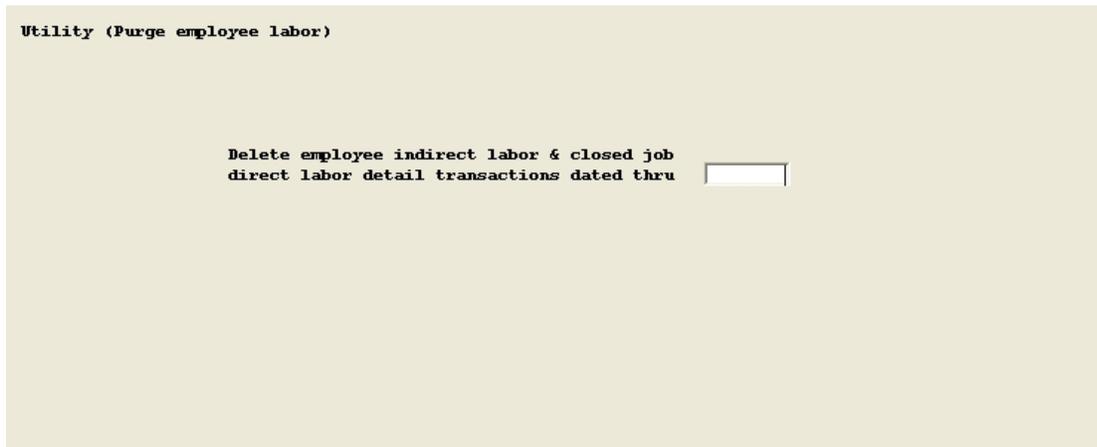
You may use this program to purge (delete) Employee indirect labor and closed order direct labor detail transactions with a Work Date through a calendar date that you specify.

Listings of purged records are not automatically printed by this program. If you wish to retain a hard copy of the records you are about to delete, you must first use other Shop Floor Control programs to print such listings.

Select

Purge employee labor from the *Utility* menu.

The following screen displays:



```
Utility (Purge employee labor)

Delete employee indirect labor & closed job
direct labor detail transactions dated thru 
```

Enter the information as follows:

**Delete employee indirect labor & closed job
direct labor detail transactions dated thru _____**

Enter the thru date as 6 numeric digits in MMDDYY format.

The program will then ask "Any change?". Answer Y to return to the date entry to reenter date or press ESC (or TAB) to exit the program. If you answer N, you are asked "Are you sure?". Answer N if you wish to cancel this program and exit to the preceding menu. Answer Y to start the delete processing. After this processing a message will inform you how many transactions have been deleted.

PURGE ITEM OPERATION HISTORY

Use this program to: (1) delete item operation history records through a specified order closed date; or (2) save a specified number of the most recent occurrences.

Select

Purge item operation history from the *Utility* menu.

The following screen displays:

```
Utility (Purge item operation history)

Purge method 

1 = Purge through a cutoff date, 2 = Save number of most recent occurrences
```

Enter the information as follows:

Listings of purged records are not automatically printed by this program. If you wish to retain a hard copy of the records you are about to delete, you must first use other Shop Floor Control programs to print such listings.

If you select the option to purge through a cutoff date, enter the "thru date" as 6 numeric digits in MMDDYY format.

If you select the option to save a number of most recent occurrences, enter up to 2 numeric digits indicating the maximum number of most recent occurrences to be saved for each item operation.

The program will then ask "Any change?". Answer N to return to the re-enter purge specifications, or press ESC (or TAB) to exit the program. If you answer Y, you are asked "Are you sure?". Answer N if you wish to cancel this selection. Answer Y to start the delete processing. After this processing a message will inform you how many history records have been deleted.

PURGE CLOSED SHOP ORDERS

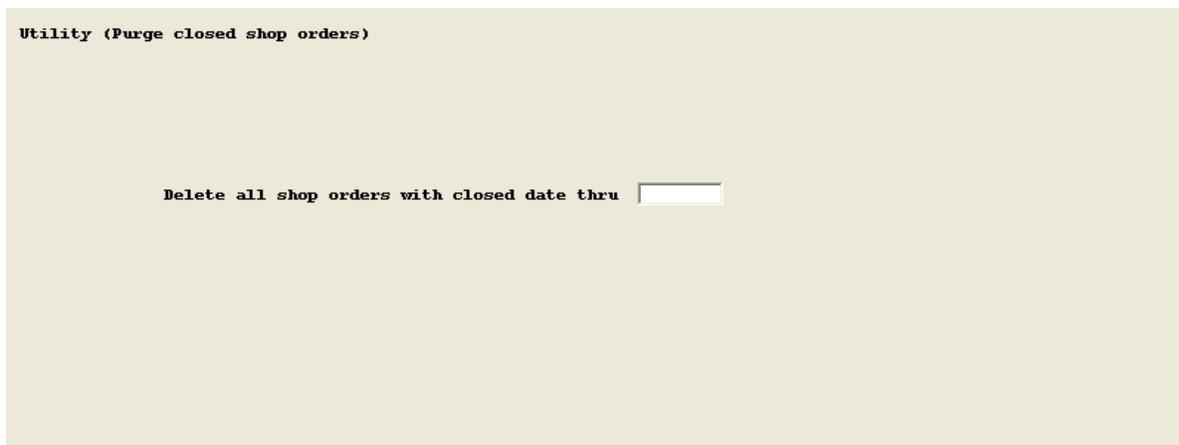
This program allows you to delete all closed Shop Orders on file that were closed on or before a date that you specify. This enables you to retain closed Shop Order History on file for a period of time which you determine to be appropriate. No **open** Shop Orders will be deleted by the program.

Listings of purged records are not automatically printed by this program. If you wish to retain a hard copy of the records you are about to delete, you must first use other Shop Floor Control programs to print such listings.

Select

Purge closed shop orders from the *Utility* menu.

The following screen displays:



```
Utility (Purge closed shop orders)

Delete all shop orders with closed date thru 
```

The program prompts you with:

Delete all shop orders with closed date thru _____

Enter the thru date as 6 numeric digits in MMDDYY format.

You will be asked "Are you sure?". Answer N if you wish to cancel this program and exit to the preceding menu. Answer Y to start the delete processing. After this processing a message will inform you how many records have been deleted.

RESET S.O. RELEASE STATUS

This program resets the "Operations released" status indicator in Shop Order records, based on whether matching Shop Order Operations are currently on file.

You will only need to use this function on an exception basis. The program should be run if:

1. You have restored the Shop Order Operations from a backup.
2. Or, you have selectively cleared out that data using the Initialize utility.
3. Or, you know that you have lost some records due to an unusual hardware problem.

Select

Reset S.O. release status from the *Utility* menu.

The following screen displays:

```
Utility (Reset S.O. release status)

This procedure checks for S.O. operations on file for
Shop Orders that are not closed and, if necessary,
adjusts Shop Order "Operations released" status.

Are you sure ? 
```

Enter the information as follows:

After displaying a brief description of the resetting feature, the program asks "Are you sure?". Answer Y to start the processing or N to cancel your selection. When processing is completed a message is displayed giving a count of the Shop Order records adjusted.

RESET S.O. OPERATION DATA

This program summarizes Shop Order Operation production quantity and hours values in Employee Labor detail records and posts the totals to matching Shop Order Operations and Shop Order Alternate Operations records.

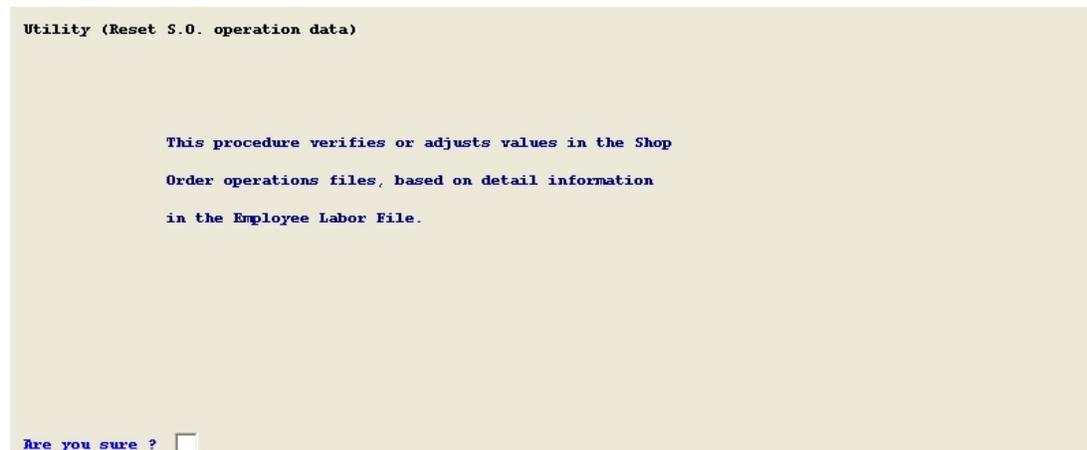
You will only need to use this function on an exception basis. The program should be run if:

- (1) You have restored the Employee Labor file/table from a backup.
- (2) Or, you have selectively cleared out the data using the Initialize Files utility.
- (3) Or, you know that you have lost some records due to an unusual hardware problem.

Select

Reset S.O. operation data from the *Utility* menu.

The following screen displays:



Enter the information as follows:

The program displays a brief description of the balancing procedure and asks "Are you sure?". Answer Y to start the processing or N to cancel your selection. When processing is completed an audit report automatically prints, listing any adjustments that were made to the totals fields.

Sample Reports

This appendix contains sample Shop Floor Control reports.

PRODUCTION AND LABOR - BATCH EDIT LIST

-- End of report --

WORK CENTER DISPATCH LIST

Date 06/02/2010 Time 10:19:00
Page 0051

Version 12.0 Work

Report-#0000

WORK CENTER DISPATCH LIST

Dept # range: "All" Work center # range: INSP to INSP Released orders only ? Y

Dept: N/A Work center: INSP INSPECTION

Report location :Q:\Sup_test\120test_gui\RWWRK\10190084.htm

Cratio	Start/Due	SO-#	Rls	Item-#	Item-description	Opn-#	Operation-description	Qty-due	Est-hours-due
.00	3/31/10	165		006461-E	NON-EXP BIRD CAGE BOW TIE MRKR	10	002013 - Line Clearance	975	Run:
1.073	3/31/10		Rlsd? Y		NON-EXP BIRD CAGE BOW TIE MRKR				
.00	4/02/10	165		006461-E	NON-EXP BIRD CAGE BOW TIE MRKR	30	Final Inspection	1,000	Run:
1.100	4/02/10		Rlsd? Y		NON-EXP BIRD CAGE BOW TIE MRKR				
.00	4/02/10	165		006461-E	NON-EXP BIRD CAGE BOW TIE MRKR	60	004972 - Inspect Labels	1,000	Run:
1.100	4/02/10		Rlsd? Y		NON-EXP BIRD CAGE BOW TIE MRKR				

3 operations listed

Schedule generation: Whse Run-date Run-time Capacity Fwd/Back Dflt-Q Min-proc Incl-ord Cr-ratio

Fwd/Start days days not-rls? used?

Main 5/12/10 15:53:13 Infinite Back 0.00 .0 N N

-- End of report --

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