

# *MPRO 1000*

*...ISO Professional Maintenance Management System*



## USER'S GUIDE



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# MPRO 1000

The MPRO 1000 ISO Professional Maintenance Management System is a full feature program that is designed to provide small and large manufacturers with the ability to thoroughly define and monitor the maintenance function, provide preventive maintenance and efficiently manage the plant maintenance function. The system also provides valuable management information to analyze and evaluate the effectiveness of the various functions, including the tracking and reporting of labor, material and subcontracting costs. A full featured inventory and purchasing system is included with the maintenance program.

The MPRO 1000 ISO9000 Professional Maintenance Management System is designed for any version of Windows, including Windows 95, Windows 98, Windows 2000 and Windows NT. The program is network ready and is year 2000 compliant.

A unique feature of the program allows use of the full features of the program for demonstration purposes (quantity of new data entry is limited, but sufficient for the user to fully evaluate the capabilities of the program). Company data entered during the demonstration period is not lost when the system is fully activated. Activation simply involves the entry of a code by the user to indicate the purchase of selected modules.

The system is provided with sample data to illustrate the functions of the various features. It is strongly suggested that the user access each module and fully understand the function of each window and control to become thoroughly familiar with all the features before beginning the entry of active company records.

## ABOUT THIS MANUAL

The MPRO 1000 manual is provided to introduce the user to the extensive capabilities and features of the MPRO 1000 modules. The manual is purposely brief and simple to follow so that the user will quickly be able to access and use the program. A detailed on line manual is provided through the Help selections at each menu by pressing the "Help" button on each window of the program.

## HARDWARE REQUIREMENTS

MPRO 1000 can be installed on IBM 386, 486, or Pentium true compatibles with at least 640K of RAM memory. For best performance a 486 or Pentium computer running at a minimum of 33 MHz should be used. MPRO 1000 needs most of the 640K of RAM so other memory resident (TSR's) software should be held to a minimum. The complete program requires up to 12 megabytes of hard disk space. More disk space will be required as data is added. The program is fully network ready and will run on, Windows 95, Windows 98, Windows 2000 or Windows NT.

## INSTALLATION

MPRO 1000 is supplied on a CD with all the programs and the User's Guide. The disk will self start when inserted in the drive (or select the CD drive and then Install.exe from explorer). Select the Equipment/Plant/Facility Maintenance button, then the Install MPRO 1000 Maintenance System button.

The installation program will create new directories automatically in the drive and directory name the user specifies when prompted. The default directory is C:\M1000.

To install on a network server map the M1000 folder to a DOS drive (such as J:/M1000. Then create shortcuts on each workstation with the target J:/M1000/m1000.exe.

## STARTING PROGRAM

During the installation process a program group named MPRO 1000 as created. To start MPRO 1000 double click on the MPRO 1000 icon, or select from the program list. The program may also be started by double clicking on C:\M1000\M1000.EXE (or the directory name specified by the user in the installation process) in either windows File Manager or Explorer. The MPRO 1000 title and main menu will be displayed.



## SECURITY

A security system is incorporated in MPRO 1000 to provide limited access of the individual programs and data so that only duly authorized personnel can view or change data. Each employee of the company is identified by name and each is issued a unique password. In addition, the modules that the employee is permitted access are designated. Five levels of security are provided to limit the activity of the employee in that module.

- Level 1- System Administrator
  - Enters security passwords
- Level 2- Personnel
  - Access to employee records and labor rates
- Level 3- Manager
  - Access to all other records, data and management reports
- Level 4- Operator
  - Access to all other records and data.
- Level 5- Review
  - Can only view summary records, cannot change data.

Only employees with security Level 1 have access to the security portion of the system. To access the security setting, select "SUPPORT" from the main menu of MPRO 1000. Then select "EMPLOYEES".

The employee designated as the system administrator (by setting the security level for that employee to 1) should enter the security level and password for each employee. **Note that only the employee(s) with Level 1 security will have access to this screen. Be sure the at least one employee has the Level 1 designation before deleting the "DEMO" employee from the employee list.** The MPRO 1000 system is shipped with an employee named "DEMO" with the password "DEMO" and security level 1 so there is initial access to the security screen.

## PROGRAM STRUCTURE

### HELP SCREENS

Each of the functions are supported by extensive on line help that is accessible at every window. Help may be accessed from either the help contents selection from the window menus or by selecting the "Help" button on each window.

### SAMPLE DATA

MPRO 1000 is supplied with sample data simulating a manufacturing business. The data is automatically provided during the installation process. It is strongly recommended that this data be left on the system until the user becomes thoroughly familiar with all the features of the program. While becoming familiar with the program this sample data may be modified, or additional data may be entered. For each new window it is suggested the user read the help associated with the window. Follow the instructions for adding, modifying or deleting data and records.

After becoming familiar with the features of MPRO 1000 the sample data may be removed individually from the appropriate windows using the delete method provided for at that window.

### STRUCTURE

MPRO 1000 is designed to be extremely simple to use and to provide the maximum amount of information using very few windows. For example the "Maintenance" and then the "Equipment" selection of the menu will immediately provide the user with detailed data about the equipment that is selected as well as the maintenance history about the selected equipment- without changing windows! Buttons are provided so that complete detailed data about either the equipment itself or the maintenance records can be easily retrieved.

All programs are constructed using several basic window types: Menus, Scrolling Tables, Data Entry windows, and Reports

Menus: Selection of area of interest.

Scrolling Tables: A list of available records.

Data Entry window: Individual detail data about a selected record.

Reports: Print out of information.

To rapidly access data, locate fields are included in the tables which are expected to contain a large amount of data. When the desired data is typed in and the tab key selected to accept the field, the table cursor goes immediately to the selection. Also, when the table records are in focus (the mouse cursor is pointed to a record), typing a single character will access the nearest record meeting that parameter. As additional characters are added the desired record is located.

#### Tables:

[PgDn] scrolls the table to the next page of data.

[PgUp] scrolls the data to the previous page of data.

[Ctrl-PgDn] scrolls the table to the last page of data.

[Ctrl-PgUp] scrolls the table to the first page of data.

#### Forms:

[Tab] accepts the data entry for the highlighted field and advances the highlighted cursor to the next field. When the last field is accepted all the data is saved for the record and control returns to the table window.

Select the "OK" button to accept all the data from any window.

Within a highlighted field move the cursor to the desired location using the mouse or the left and right arrow keys. Characters may be deleted with the [Delete] or [Backspace] keys.

## BACKING UP AND RESTORING DATA FILES

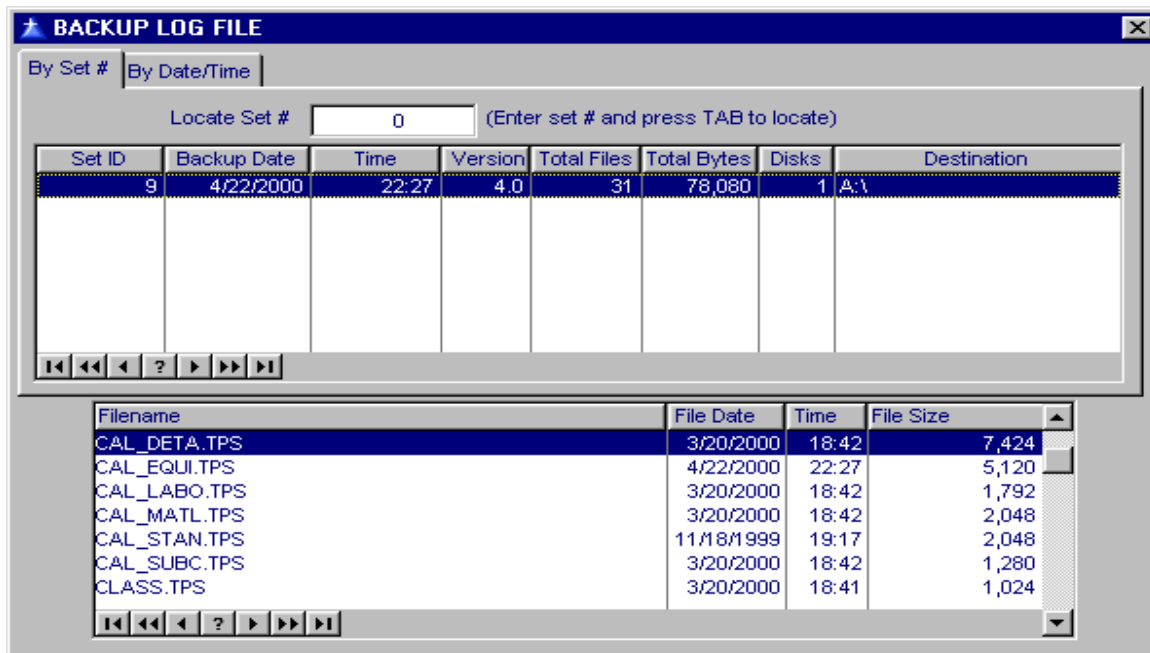
The Backup and Restore feature is intended to be used to back up all the data files (\*.tps) residing in the base directory for the program. The Backup and Restore feature can be run from within the main program or can be run from the BACKER.EXE file in the base directory.

The data is stored in a compressed form, on disks or in the hard drive, to conserve space. Every time a backup is carried out a unique Set Number is allocated and stored on each floppy in the disk set. During Restore the user can click on the Log File button to see the Set Number, Disk Number, Date of Back Up etc. If you insert a disk from the wrong set or out of sequence you will be warned accordingly.

Starting the Backup and Restore feature: from the main menu select File, then BACKUP and RESTORE. To Backup all the data files (\*.tps) simply select the BACKUP icon and follow the instructions. Alternately, double click on the BACKER.EXE file in the program base directory. To Restore all the data files select RESTORE and follow the instructions. After Backup or Restore the user will automatically exit from the program (since all program data files must be closed during the Backup process).



The backup files and the files that were backed up are displayed by selecting the Log File button:



## TECHNICAL SUPPORT

Unlimited technical support for MPRO1000 is provided for one year from the date of purchase. Before contacting technical support make use of the Help functions that are available at each MPRO window. Contact BDR Systems customer service at 610-873-8570 or e-mail at address [plant@bdrsystems.com](mailto:plant@bdrsystems.com) (be certain to type the address exactly as shown, do not use capital letters).

The MPRO 1000 program is comprised of seven major sections: Support, Maintenance, Parts, Purchasing, System and Reports. The integrated system is designed to track every equipment and other assets that require emergency or unscheduled maintenance as well a regular preventive maintenance. The documentation of preventive and unscheduled maintenance data is specifically designed to provide record retention and traceability to assist in achieving the requirements of ISO9000. The system also provides valuable management information to analyze and evaluate the effectiveness of the maintenance program, the cost of equipment maintenance and repair, and the status of all assets of any period.

Major features include:

- Equipment/Asset Inventory
  - Detailed equipment data
  - Unlimited nameplate data
  - Downtime monitored
- Preventive Maintenance Procedures on line
- Maintenance Request System
- Work Order system
- Monitors PM and Unscheduled Maintenance
  - Maintenance Due notification
  - Labor Costs tracked
  - Material Costs tracked
  - Subcontracting costs tracked
- Part List
- Backup and Restore All Data Files
- Maintenance Alert screen when program is started

The system is provided with sample data to illustrate the functions of the various windows. It is strongly suggested that the user access and fully understand the function of each window and control to become thoroughly familiar with all the features before beginning the entry of active company records. To become familiar with the features and structure of the program the following tour of the program is recommended.

## MAINTENANCE

Select the MAINT menu selection in the MPRO 1000 main menu.



The functions of the program may be accessed either with the menu selection tool bar at the top or by using the icon selection tool bar. Selecting item from the menu selection tool bar will result in a drop down sub menu from which individual features may be selected. The icon tool bar provides rapid access to the most frequently used functions of the program.

The Maintenance program is designed to be extremely simple to use and to provide the maximum amount of information using very few windows. Every maintenance action, whether preventive maintenance or unscheduled maintenance, begins with using the "MAINT" selection from the main menu. A sub menu provides selection of Equipment, Procedures, PM Due, Work Order Status or Open Work Orders.

The selections:

- Equipment: Complete access to all equipment detail and maintenance history.
- Procedures: Detailed PM procedures for selected equipment.

PM Due: A table listing of all equipment requiring PM during selected period.  
 Work Order Status: A table listing of all work orders with pertinent data.  
 Open Work Orders: Current open work orders.

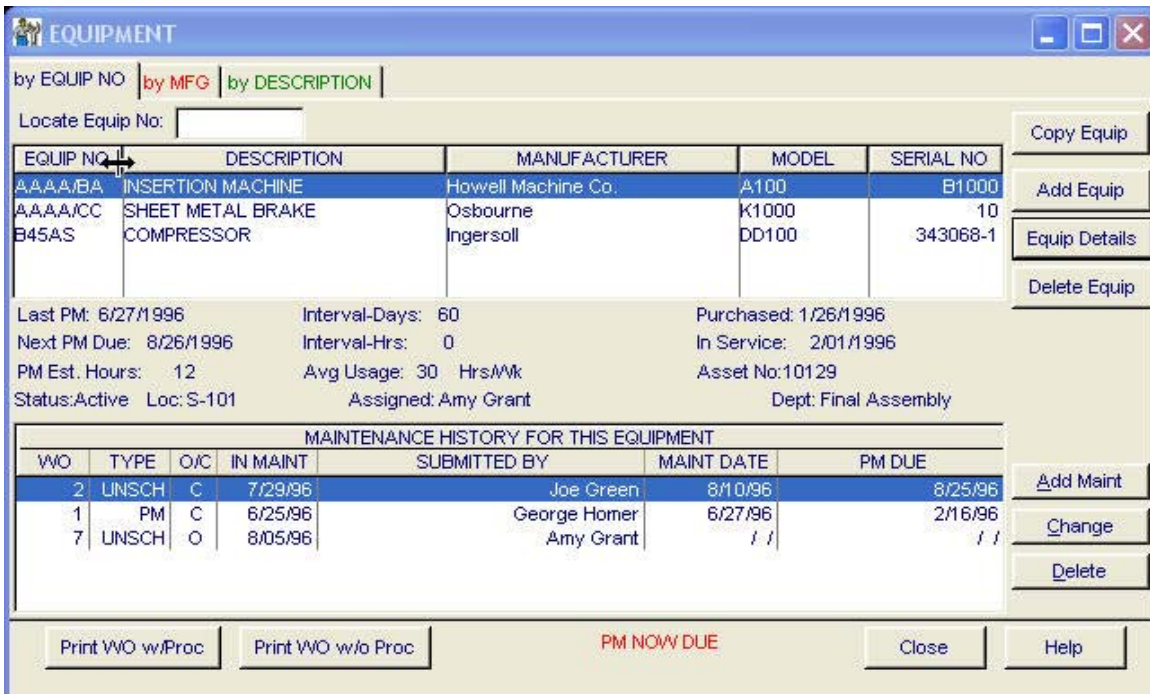
### EQUIPMENT

The equipment section contains all the assets that are included in the maintenance system. Each equipment or asset is assigned a unique equipment identification number whenever a new equipment record is added to the maintenance system. The equipment number is alphanumeric with up to 10 characters.

MPRO1000 is structured so that vital information regarding both equipment detail data and maintenance data is available on a single screen.

Without changing windows the user can select an equipment record and view pertinent detail information about the equipment and the maintenance history of that equipment. Additional detailed information is available by selecting the appropriate button next to the equipment or maintenance scrolling tables.

The "EQUIPMENT" selection of the menu will immediately provide the user with detailed data about the equipment that is selected as well as the maintenance history about the selected equipment- without changing windows! Buttons are provided so that complete detailed data about either the equipment itself or the maintenance records can be easily retrieved.



The window is divided into an upper and lower section. The upper section contains a scrolling table with a listing of all equipment that has been entered into the system. The lower section contains a scrolling table with all the maintenance records for the equipment that is highlighted in the upper screen. Between the upper and lower tables is additional equipment detailed data for the equipment that is highlighted. Use the up and down arrows, selected with the mouse, to scan through the equipment records. Note how the maintenance records and detailed equipment data change for each change in highlighted equipment.

The equipment data may be sorted and viewed by equipment number, vendor, or equipment description. Place the mouse cursor on the tab above the upper table and click the left mouse button to select the preferred sort.

### EQUIPMENT DETAILS

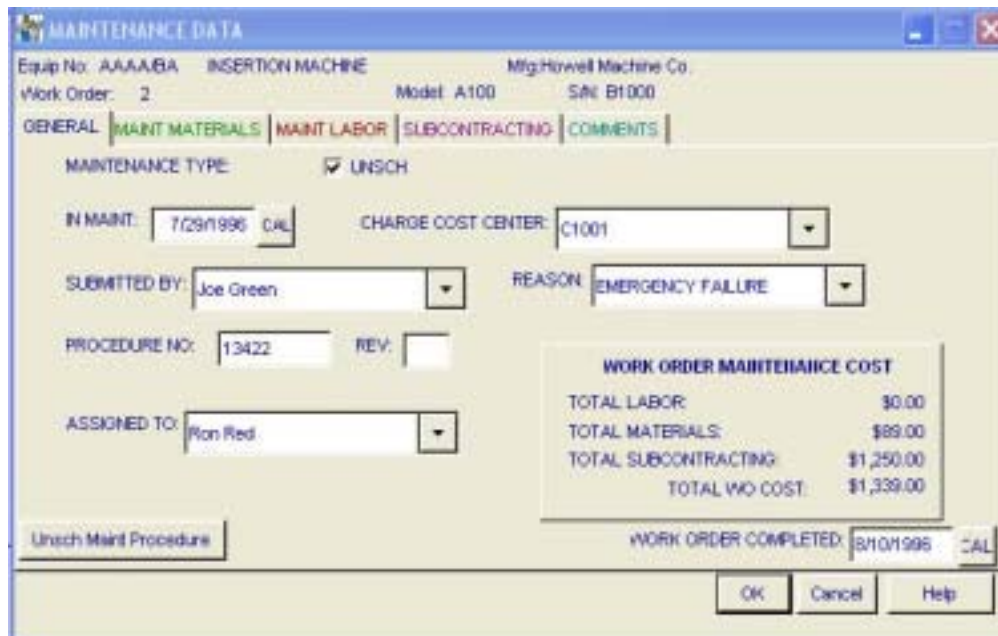
To the right of the equipment table are buttons to copy, add, view detail, or delete equipment records. Place the mouse cursor on the "Equip Details" button and click with the left mouse button.



Select the various Tabs to view the financial, and maintenance information about the equipment.

### MAINTENANCE DETAILS

To the right of the Maintenance History table are buttons to add, view maintenance records, or delete equipment maintenance records. Place the mouse cursor on the "Maint Details" button and click with the left mouse button.



Select the various Tabs to view the maintenance labor, materials and subcontracting information about the selected maintenance record.

To rapidly access data, locate fields are included in the tables which are expected to contain a large amount of data (see "Locate Equip No:" previous page). When the desired data is typed in and the tab key selected to accept the field, the table cursor goes immediately to the selection. Also, when the table records are in focus (the mouse cursor is pointed to a record), typing a single character will access the nearest record meeting that parameter. As additional characters are added the desired record is located.

### OPENING NEW WORK ORDERS

Opening a new work order in MPRO 1000 is very simple.

1. From the main menu select "MAINT".
2. Select "EQUIPMENT" from the sub menu.

3. Use the mouse to scroll through the Equipment table to highlight the equipment.
4. Use the mouse to select the “New Maint” button.
5. Reference information regarding the selected equipment is display at the top of the window. Also, the next sequential work order number is automatically assigned and is displayed.
6. When the above window is first opened the Maintenance Type will be displayed with the PM (Preventive Maintenance) block checked and the UNSCH (Unscheduled Maintenance) block will be hidden. If the maintenance action is emergency or unscheduled, place the mouse cursor on the PM block and click the left mouse button. This will deselect the PM block and will expose the UNSCH block. Accept the selection by pressing Tab.
7. The cursor will advance automatically to the next data entry field each time a field is accepted by pressing the Tab key. Alternately, use the mouse to advance to any specific data entry field.
8. Fields with down arrow buttons will display drop down data selection tables. Use the mouse to depress the down button. Point to the desired selection from the table using the mouse cursor and accept by clicking the left mouse button.
9. Do not enter a date in the “WORK ORDER COMPLETED” field until the work is actually completed. *This date entry will close the work order.*
10. Maintenance labor, materials and subcontracting data may be entered by selecting the labeled tabs using the mouse. Point to the requested tab and click the left mouse button.

### CLOSING A WORK ORDER

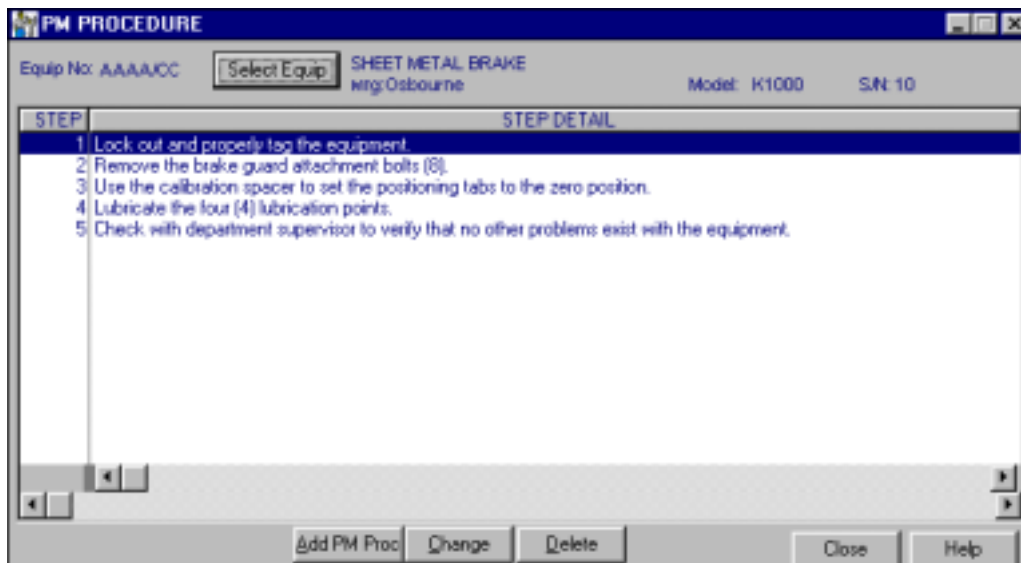
A work order is closed by entering a completion date for the maintenance activity. To close the work order select MAINT in the main menu of MPRO 1000, then EQUIPMENT. Select the “Change” button.

Point to the “WORK ORDER COMPLETED” field with the mouse and enter the date that the maintenance effort was completed. The status of the work order will be changed from “Open” to “Closed”.

### PROCEDURES

Maintenance procedures may be written for either preventive maintenance functions or for specific unscheduled maintenance. The structure of the procedures is the same. The preventive maintenance procedures are written for a particular equipment and are specified whenever a preventive maintenance is performed. The unscheduled maintenance procedure is unique to a specific work order.

To access the preventive maintenance procedures select “MAINT” from the main menu and then select “PROCEDURES”. The PM Procedure list will be displayed.



Press the “Select Equip” button to highlight and accept the desired equipment in the selection table. The preventive maintenance procedure for this equipment will be displayed.

To add new procedure steps point to the “Add PM Proc” button and click with the left mouse button. To change

existing procedure steps or to delete a procedure step, use the mouse cursor to highlight the item to be modified. Then select either the "Change" or the "Delete" button and click the left mouse button. Change the selected step, or add a new step, and press OK to accept the change or verify the deletion of the step.

### PREVENTIVE MAINTENANCE DUE

The preventive maintenance due table displays all the equipment or assets which are due for preventive maintenance during the period specified by the user. The due date for preventive maintenance is calculated by adding the specified maintenance interval to the date of the last preventive maintenance completion. If this is a new asset the due date is calculated from the equipment in service date.

EQUIP NO	LAST MAINT	MAINT DUE	DESCRIPTION	MANUFACTURER	MODE
AAAA/BA	6/25/1996	8/25/1996	INSERTION MACHINE	Howell Machine Co.	AT
B45AS	7/25/1996	10/23/1996	COMPRESSOR	Ingersoll	DD11
AAAA/CC	6/11/1995	7/26/1995	SHEET METAL BRAKE	Osbourne	K101
AAAA/DD	6/05/1996	9/03/1996	DRILL PRESS	Pemco Pneumatics Inc.	s201

Enter the start date for preventive maintenance records to be displayed and press Tab to accept. The program will exclude all records for which the maintenance due date is before the start date. Enter the end date. The program will exclude all records for which the maintenance due date is after the end date entered.

To print a copy of the work order for a particular preventive maintenance record, highlight the record using the mouse. Then depress the "PRINT WO" button, using the left mouse button, to print the work order.

### WORK ORDER STATUS

The work order status is a listing of every work order that has been initiated. The pertinent information regarding the work order is provided. In addition to the date of initiation the current status of the work order is indicated as an "O" for a work order with no completion dates and a "C" for work orders that have a completion date.

WO	EQUIP NO	DESCRIPTION	MODEL	SERIAL	TYPE	IN MAINT	PM DUE
7	AAAA/BA	INSERTION MACHINE	A100	B1000	UNSCH	8/05/1996	/ /
6	AAAA/CC	SHEET METAL BRAKE	K1000	10	PM	7/22/1995	7/26/1995

### OPEN WORK ORDERS

The open order listing displays every work order that has been initiated but not yet completed. The pertinent information regarding the work order is provided. In addition to the date of initiation the current preventive maintenance status of the work order is indicated.

### SUPPORT

The support menu selection provides access to a series of files that contain data supporting the various maintenance activities. For first time program users these files are normally completed before proceeding with the entry of actual equipment or maintenance records. Most of the data is available at appropriate data entry fields in the form of drop down data selection tables in the equipment and maintenance sections of the program.

### PART LIST

The Part List defines the characteristics of the individual parts. To access the Part List select "SUPPORT" from the main menu, then select "PARTS".

STOCK NO	PART NO	DESCRIPTION	VENDOR	COST	UOM	LOCATION
15422-A-1		Cylinder Head	Acme Industrial	\$220.00	EA	B-09
2349998-1A		Washer	Acme Industrial	\$45.35	EA	A-234
3231880		Extra Washer	Acme Industrial, Inc	\$4.50	EA	A-545
47034-25A		Washer	Bendix Supplies	\$0.35	EA	A-612
5499933-4ABV		Concave Washer	Acme Industrial, Inc	\$0.16	EA	A-613
65739998-BAP		Knurled Shell	Acme Industrial, Inc	\$15.75	EA	B-43
74238AD-2		Special Brake Assy	Bendix Supplies	\$5.00	EA	

To rapidly access data, locate fields are included in the tables which are expected to contain a large amount of data (see "Locate Stock No:" above). When the desired data is typed in and the tab key selected to accept the field, the table cursor goes immediately to the selection. Also, when the table records are in focus (the mouse cursor is pointed to a record), typing a single character will access the nearest record meeting that parameter. As additional characters are added the desired record is located.

The Part List window is a scrolling table listing of all the parts that are used in the maintenance system. The data may be presented in the sorted order by Stock Number, Part Number, Description, or Vendor as indicated by the tabs. Point to the tab and press the left mouse button for the desired sort order.

The pertinent data about each part is shown in the table. The cost, unit of measure, and other pertinent data is indicated. Use the right scroll button to expose the quantity of the part that is currently on order. Additional detail about each part is available by selecting the "Change" button.

To add new parts to the Part List select the "Add Part" button using the mouse. To change existing data

concerning the part position the highlighted selector bar on the desired part and select the "Change" button. To delete the entire part record select the "Delete" button.

## **MAINTENANCE REPORTS**

The maintenance reports section provides an extensive choice of maintenance data reports, reports of equipment maintenance that are due for the user selected time period, reports of the maintenance interval for the equipment, maintenance overdue reports and a maintenance history report for any user selected equipment. Take the opportunity to explore the various report formats to fully understand the functions. The unique Management Analysis reports are of particular interest.

A powerful preview feature of the report on screen is provided for each report type. This allows you to see the format of the report and the data selected for the report, before it is actually printed. The user, therefore, can review the data and make any necessary changes to the time period or choice of other variables before printing.

The management analysis reports provide the user with labor summary, maintenance cost data, maintenance manpower requirements, and maintenance department performance reports.

To access the report menu select "REPORTS" at the main menu of MPRO2000 and then select "MANAGEMENT ANALYSIS" at the sub menu.

The labor summary report provides all the maintenance labor expenditures over any user specified time period.

The cost summary report provides the labor, materials, and maintenance subcontracting costs incurred during the user specified time period. This report is also available for each department and for each cost center. This is very valuable to charge back departments or individual cost centers for maintenance work performed over any time period.

The manpower requirements report provides the maintenance labor requirements for open work orders in the system for any user specified time period.

The performance report calculates the efficiency of the maintenance department based on completed work orders for the time period specified by the user.

Place the highlighted cursor on the desired report and click with the left mouse button to view the preview window. Select the print icon with the mouse or select "File" and then "Print".

## **AFTER THE TOUR**

After becoming thoroughly familiar with the various menu selections, experiment with the sample data provided by changing and adding records in each of the data areas. When the user is comfortable with the program remove (delete) the sample data and enter data pertaining to the company. Start by entering the known data in the Support files section. Then enter the Equipment detail data using the Maintenance menu selection. The user should then begin adding new maintenance work orders.

