

# **Maintenance Planning and Management (MPM)**

**Version 2.1**

## **USER'S MANUAL**

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## **Glossary**

Internet home page:

<http://ourworld.compuserve.com/homepages/BKyrklund>

## **Introduction**

Maintenance is an activity which aims at minimizing the incidence of production stops caused by the need for repair of broken equipment. It also extends the economic life of the equipment maintained through this activity.

Maintenance is NOT a repair activity - it takes place before the need for repair arises. However, whenever repair of broken down equipment must be carried out, carefully kept maintenance and repair records serve to improve the activities of maintenance.

Keeping of appropriate maintenance and repair records therefore serve to enhance the productivity of the industrial plant. Combining the information in these records with equipment inventory data facilitate making of decisions as to when equipment should be replaced and new items purchased.

This is where MPM comes in - to help you with preventive maintenance.

## **What MPM is**

MPM is short for Maintenance Planning and Management. It is a tool for planning and management of the maintenance activities of an industry of any kind that uses equipment to produce its output. It can be applied to industry of any size, although it was essentially designed with medium sized industry in mind.

## **How MPM works**

### **General**

MPM has three main functions:

It keeps track of your maintenance activities, repair and downtime records and warns you when a maintenance activity is due;

It keeps a spare parts inventory for you, with current inventory, reorder level and quantity to order;

It keeps a database of equipment and spare parts suppliers.

### **Maintenance**

The principle of MPM is very simple: First you assign inventory areas to your system, based on the location of the equipment. Then you fill in on-screen 'cards' for inventory, maintenance and repair data. This will be your database for your maintenance planning and management activities. MPM will then provide a daily listing of what maintenance activities need to be carried out and display, print

or file records for the maintenance and repair work done, including downtime, for future reference.

You can also attach short memos to your repair and downtime records or job instructions for each maintenance activity.

### **Spare parts inventory**

You complete a 'card' for each spare part, with information on price, what equipment it is used for, the inventory level, reorder level and quantity to order. You can use this database to search for spare parts for a given item of equipment, for equipment that uses that part or to manage your spare parts inventory.

### **Supplier's database**

There is again a 'card' for each supplier with his address, phone, fax and telex. In addition it includes information on which of your equipment he delivers and what spare parts. In addition to managing this database and retrieving information about suppliers, it can also be used for searches. Thus, it helps you find the suppliers of a certain item of equipment or a spare part.

## **The data**

The data is stored in a total of six files. They all have the same name, but different extensions. For instance, if your file name is "MYDATA", the set of data is

- MYDATA.MP1** - This contains information on inventory areas
- MYDATA.MP2** - Here, you will find the equipment inventory data
- MYDATA.MP3** - Contains the maintenance data
- MYDATA.MP4** - Stores the repair and downtime records
- MYDATA.SPS** - This has the spare parts inventory data
- MYDATA.SUP** - Stores the information on suppliers

## **System requirements**

### **Hardware requirements**

Personal computer using 386 type microprocessor or higher (486 type or higher recommended).  
4 MB of memory (8 MB recommended).  
EGA, VGA, Super-VGA, XGA, 8514/A or compatible video card with corresponding monitor.  
Mouse

### **Software requirements**

Microsoft DOS version 3.1 or higher.  
Microsoft Windows version 3.1 or higher. The program will work with version 3.0, but certain help features may not be available.

## **Licensing agreement**

### **Copyright**

The program and related documentation are provided under copyright and protected by international copyright treaties and applicable national laws. The author, Börje Kyrklund, is the sole owner of the software.

### **Operating license**

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## **Using MPM**

### **Getting started**

#### **The screen background**

The screen as you see it when the program starts shows, after the credits, the opening menu and a background picture. If you get tired of the background, you can double-click on it and the picture will disappear. Instead, you will see a uniform colour background.

To get the picture back, double-click on the background.

## **Maintenance and repair records**

### **Principle**

MPM provides listings of inventory, maintenance and repair data. These can be displayed on the screen, printed or saved to a file.

Display on the screen obviously serves the purpose of allowing a quick look at the status of the inventory, maintenance or repair data. Printouts or filed data, however, are more meaningful as a means for future reference.

### Establishing maintenance records

Records of maintenance or repairs can be established by printing or filing the corresponding listing at regular intervals. For instance, if the maintenance listing is filed once every two weeks in a new file, there will be a record of all maintenance activities carried out between the dates of two consecutive files.

The period between two sets of records depends on how often the most frequent activity is undertaken and how important it is that records of such activities are kept. It may even be necessary to file or print records every day or week. Nevertheless, a likely frequency of recording data in this way is once a month.

### Establishing repair and downtime records

The repair/downtime card includes five records of repairs or downtime. In the long term this will not be sufficient. Saving repair and downtime record listings from time to time in a file or as a printout accordingly provides a means of expanding the historical repair and downtime data.

By saving the repair and downtime records, say once every six months or once a year, the cards can be updated to include only the most recent records. How often records need to be saved in this way depends mainly on how often the cards get full.

## Reports and listings

### General

The program produces a number of reports and listings on inventory, maintenance, repair and downtime, maintenance due, spare parts inventory and suppliers. These can usually be displayed on screen, printed or filed.

### Display report or listing

The option **Display** leads to an on-screen listing. This is in the form of a sort of spreadsheet. If a column is too narrow to display all the text, you can widen it by pointing with the mouse at the junction between two columns in the frame at the top, pressing the left mouse button and "dragging" the column limit to the right. To view different parts of the display, use the scroll bars for horizontal and vertical movement.

When you are finished with the display, click on the button shown on screen.

### Print report or listing

Clicking on the option **Print** displays the printer control dialog box. Make sure that the page setup is "landscape" because most of the listings are quite wide. In the case of supplier data, the printed version contains less information about suppliers than the displayed and filed versions, because of space problems.

### File report or listing

**File** displays a file save dialog box. The extension is already given, and you only have to add the actual file name, once you have selected the path for filing. The default path is the directory where you have MPM.

Once you have saved the file, you can view it by selecting **Notepad** from the **Utilities** option in the opening menu.

## Converting data format

To convert the data format from that used in Version 1.xx to the new one, select **File conversion 1.xx to 2.xx** from the **Utilities** menu. You will then be prompted for

The path and the name of the series of data files for Version 1.xx

For instance, it could be

C:\OLDMPM\OLDDATA

Please note that no extension is included, since it refers to several files.  
The path and the name of the new series of data files for Version 2.xx

For instance, it could be

C:\NEWMPM\NEWDATA

Again, do not include any extension in the file name

After that, the program takes over and converts the data. If there are any problems, it will let you know.

The new data format is very simple. It is a set of text files, with one line for each data item. This gives the advantage that it is easy to check the correctness of the data if necessary. Any irregularities, once identified, can easily be corrected, using the **Notepad** provided under **Utilities**. However, do not do it unless you are confident that you know how to do it. For more serious problems, contact **Technical support**.

## Setting up your maintenance system

Before your start setting up your system for maintenance, think it through carefully. For instance, how is your equipment distributed over different departments? Is some equipment in other locations?

Therefore, the first thing is to divide your equipment inventory into easily identifiable blocks or 'areas'. MPM has some default areas, such as 'Field', 'Office', 'Process' and 'Warehouse', but you may want to use entirely different ones.

You also need to think about how you are going to code items in your equipment and spare parts inventories. The code for each item must be unique, since the program uses these codes for searches.

Once you have defined your areas and coding system you are ready to go. So, click on **New** in the **File** menu to clear the memory and start afresh. This also activates the menu **Main options**, so that you can access them.

Very often people expect to see something happen when they click on **New**. However, apart from activation of menu options, nothing visible happens. You have not done something wrong or the program has not stopped responding. Things start happening when you begin manipulating your data or creating your data.

Now - click on **Main options** and select **Maintenance**. This displays another menu - your maintenance menu.

## Establishing maintenance, repair and downtime records

### Principle

MPM provides listings of inventory, maintenance and repair data for each selected inventory area. These can be displayed on the screen, printed or saved to a file.

Display on the screen obviously serves the purpose of allowing a quick look at the status of the inventory, maintenance or repair data. Printouts or filed data, however, are more meaningful as a means for future reference.

### Establishing maintenance records

Records of maintenance or repairs can be established by printing or filing the corresponding listing at regular intervals. For instance, if the maintenance listing is filed once every two weeks in a new file, there will be a record of all maintenance activities carried out between the dates of two consecutive files.

The period between two sets of records depends on how often the most frequent activity is undertaken and how important it is that records of such activities are kept. It may even be necessary to file or print records every day or week. Nevertheless, a likely frequency of recording data in this way is once a month.

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By saving the repair and downtime records, say once every six months or once a year, the cards can be updated to include only the most recent records. How often records need to be saved in this way depends mainly on how often the cards get full.

## Changing inventory areas

### List areas

Whether you want to add or delete an inventory area, click on the 'Area' menu option in the maintenance menu. This displays choices for listing, adding or deleting areas. Click on 'List areas' to obtain a listing of the areas used by the program.

### Add areas

To add one or several areas, click on 'Add area' and type the name of the new area you want to add to the list. Click on 'OK'. Repeat this until you have added all the areas you intended to add.

### Delete areas

You can delete areas one at a time by clicking on 'Delete area'. This displays a listing of the areas used by the program. Move the cursor bar to the area you want to delete and click on 'OK'.

## Creating new maintenance data

## New maintenance data cards

To create new data cards, click on **New** under the **Inventory** option in the maintenance menu. This displays a listing of the areas you have defined. Select the area for which you are going to start inputting data and the program displays an empty 'Inventory card'. The first input box has already been completed with the area you just selected.

Press the [TAB] key which brings the vertical cursor to the window for entry of an inventory code. Please note that the inventory code is used by the program for sorting of data. **Accordingly the code must be unique to each particular item of equipment.**

Enter an inventory code. If the code entered is already in use, the program will alert you to this and ask you to correct the code. Press the [TAB] key again and enter the information requested in each case until the inventory card is completed. Click on 'OK' or press [ENTER].

A 'Maintenance card' will be displayed. The top half has already been completed by MPM, based on the information in the inventory card. Again, use the [TAB] key to move around between the entries and enter the data requested. You can enter today's date in the input boxes for "Last" by double-clicking on those boxes. Please note that you do not need to enter the date of the next maintenance due in each case. This will be added by the program afterwards. To the right in each row is a tick box. If you want to include job instructions, click on the tick box and in the dialog box that follows, enter the name of the text file where the job instructions are. Click on 'OK' or press [ENTER] to get back to the maintenance card. There is now an exclamation mark next to the text box. Click on 'OK' or press 'Enter' when finished with that card.

On entering dates, use consistently the date format you have set up in Windows. The program assumes that you use the same format. Otherwise it will not recognise the dates as valid ones, and it will refuse to accept your inputs.

Since the database is being established, it is unlikely that there would be any repair or down time records to add to the 'Repair card' at this stage. Otherwise the procedure is the same as for the inventory and maintenance cards. Press [ENTER] or click on 'OK'. One set of data has now been added to your database. You can also add short memos to each repair event, by clicking on the tick box in the same row. This opens a memo window, where you can add up to 255 characters. Click on 'OK' when you have finished to return to the repair and downtime card. There is now an exclamation mark next to the tick box to show that a memo has been added.

If you have second thoughts before you have finished the whole data input sequence, just click on 'Cancel' and the program will ignore all inputs you have made in that sequence.

When you have finished your inputs, click on **Go back** in the maintenance menu. That will bring you back to the main or opening menu.

## New data for spare parts and suppliers

### Spare part data

From the main menu click on **Main options** and select **Spare parts**. This opens the spare parts menu. There, click on **Spares** and select **New**. That displays a spare parts inventory 'card'. Use the [TAB] key to move around between the different input fields. Complete the requested information. *Please note that the spare parts inventory code, different from the equipment inventory code, must be unique.*

When you have finished, click on 'OK' or press [Enter]. Repeat until data for all spares have been recorded. Then click on **Go back** to get to the main menu.

## Supplier data

From the main menu click on **Main options** and select **Who supplies?**. This opens the supplier menu. There, click on **Supply** and select **New**. That displays a supplier's data 'card'. Use the [TAB] key to move around between the different input fields. Complete the requested information.

When you have finished, click on 'OK' or press [Enter]. Repeat until data for all spares have been recorded. Then click on **Go back** to get to the main menu.

## Saving your work

### Save as...

Use this option in the **File** option in the main menu when you have started a new database or if you want to save your work in a set of files separate from the work included in the one you originally loaded into the program. For a new set of data, this is the save option you will get to automatically, since the data have not yet been assigned to a set of files.

A dialog box will display the default directory of files with the extension '\*.mp1'. If you want to store the file in a different directory, double-click on the symbol for the root directory (for instance, c:\) until the directory of your choice is displayed.

Double-click on the name of your choice for the file, if it is an existing file, or type a name for your file, without extension. MPM will add the extension for the set of files stored under the name or your choice.

## Loading data

### Loading the data

To load existing data already saved in a file, click on 'Open' under **File** in the main menu. If the dialog box does not display the directory in which you have stored the data, double-click on the root directory symbol until the directory is displayed and select it by double-clicking.

Select your data file from the list of files and click on 'OK' to load the data. This will load four files with the same name and the extensions \*.mp1, \*.mp2, \*.mp3, \*.mp4, \*.sps and \*.sup.

A message will display quickly, confirming that data have been loaded and telling you that you should use the menu options to access them. At the top of the screen you also see the name of the set of files that has been loaded. Otherwise the screen looks as before.

**Note:** There are two sets of example data included in the package. One set (Example1) for those using a date format of dd/mm/yy and another (Example 2) for those using mm/dd/yy. To avoid confusion, you will see a message to that effect briefly each time you load data. In the registered version it will disappear for ever three days after the installation of the program. In the shareware version, however, it will remain.

## Menu commands

### Opening menu

The opening menu has for options:

**File.** This includes, in addition to choices for opening and saving files, choices for changing the

fonts in reports, printer setup and, of course, "Exit"

**Main options.** This is the centre of operation of MPM. Here you select between maintenance management, spare parts inventory and the supplier database.

**Utilities.** These include, most important, a utility for converting MPM Version 1.xx data to Version 2.xx data format, a notepad for reading and editing text files and a calculator.

**Help.** Here you will find all information you need about MPM.

The **Main options** menu choice is not activated when you start. To activate it, you need to either select **New** or load filed data (**Open**) from the **File** menu.

If you have previously used version 1.xx of MPM and already have data for your maintenance activities, you should start by selecting **File conversion 1.xx to 2.xx** from the **Utilities** menu. This will convert your data to the new format used by MPM Version 2.0.

## Maintenance menu

There are seven main options in the maintenance menu:

**Go back** that takes you back to the main or opening menu;

**Area** which gives you selections for **List areas**, **Add area** and **Delete area**;

**Inventory** with selections for

- **New**, to open a new inventory card for new input
- **Select/Edit**, to open an existing inventory card for viewing, editing and deleting. This is also used to select a set of cards for inventory, maintenance and repair records that can only be accessed once this selection has been made.
- **Inventory listing**, that gives three options for the list of inventory items: **Display**, **Print** and **File**.

**Maintenance** with options for

- **Card** to view, edit or update a maintenance card. The item must first be selected under the

**Inventory** and **Select/Edit**

- **Report** with three options for **Display**, **Print** and **File**

**Repairs/Downtime.** The options here are

- **Card** to view, edit or update a repair and downtime data card. The item must first be selected under the **Inventory** and **Select/Edit**

- **Report** with three options for **Display**, **Print** and **File**

**To do**, that gives a listing of maintenance activities due. The options for the listing are **Display**, **Print** and **File**.

**Help** that gives access to the help features of this program

## Spare parts menu

There are four main options in the spare parts menu

**Go back** that takes you back to the opening menu or main menu.

**Equipment** with options for

- **List spares for equipment.** This gives you an on screen listing of all spares in the inventory that are used for a selected item of equipment
- **Find spare for equipment.** That helps you retrieve a spare parts inventory card of a part for a given item of equipment
- All equipment **gives you an on screen listing of all equipment in the inventory, with data.**

**Spares** with options for

- **New** for a new spare parts inventory card for fresh input
- **Find spare/Edit** to retrieve a spare parts card for viewing, editing or deletion. The options here are to **Search by item** or to **Search by code**
- **All spares** that gives a listing of all spare part in the inventory. The options here are **Display**,

### **Print and File**

- **Equipment using spare.** This gives a listing with data of all equipment that uses a spare parts item.

**Help** with access to the help features of this program

## **Supplier menu**

There are four main options for the supplier menu:

**Go back** that takes you back to the opening menu or main menu.

**Suppliers** with options for

- **New** to access a new supplier data card for fresh input
- **Select/Edit** for retrieving a supplier data card for viewing, editing or deletion
- **Supplier addresses** with three options for **Display**, **Print** and **File**. Please note that because of restrictions imposed by paper page sizes, the information in the printed version is less complete than in the displayed or filed versions.

**Equipment** with a selection for **Equipment supplier**. This finds the supplier of a given item of equipment.

**Spares** with a selection for **Spares supplier**. This finds the supplier for a given spare part.

**Help** with access to the help features of this program

## **Procedures**

### **Equipment inventory card**

#### **New data input**

When a new equipment inventory card is displayed, the first input field has already been completed for you - the area where the equipment is, for inventory purposes. The second field is the inventory code for the item of equipment and the third is the name of the item *You must assign a unique inventory code to the item and its name should also be unique.* Both of them are used as a reference in searches and in manipulating data.

If you have several identical items of equipment in your inventory refer to them as "Widget puncher 1", " Widget puncher 2" and so on.

If you leave the code or the name blank or if you use codes or names already in use, the program will refuse to accept the input and tell you so.

The subsequent input fields are quite simple to complete and there are no special consideration as regards them.

#### **Editing and deleting**

When you display an equipment inventory card from your database, and click on "OK", there will be no change, unless you have edited the card by changing the inputs. In that case, your database will be changed accordingly. If you change you mind about editing the data, just click on "Cancel", and the program will ignore your changes.

If you click on "Delete", the program will delete all inputs on that item from the database, including the maintenance card and the repair and downtime record. It will still retain reference to the item of equipment in the spare parts and supplier data.

## Maintenance data card

The maintenance data card can only be displayed in two ways. Automatically on input of a new set of data for inventory, maintenance and repairs or by first selecting the corresponding equipment inventory card. After that you may call the **Card** from the options under **Maintenance** in the maintenance menu and display the maintenance card for the item of equipment.

When the card is displayed, the program has already filled in the first three input fields on the card: area, inventory code and name of the item. What remains is to complete the fields for each maintenance activity, how often it should be done (expressed as days between maintenance) and when it was last done. Use the same date format as you have defined it in your Windows setup. You do not need to input the next date when maintenance is due. The program will do it after you are finished inputting data on the card.

To the right in the row for each maintenance activity, there is a little tick box. Clicking on that displays a dialog box with the name of the item of equipment, the maintenance activity and the name of the text file, where you have written instructions for how the maintenance job should be done. These instructions can be written with any ACSII text editor outside the program or using the editor of the program by clicking on the "Editor" button. To add an existing file to the set of data, either write the name of the file in the input window or click on 'Browse' and select the file from the directory display.

If you include the file name for the job instructions, there will be an exclamation mark next to the tick box in the maintenance card.

## Maintenance job instructions

### New instructions

Clicking on one of the tick boxes to the far right of the maintenance card displays the dialog box for job instruction file details. If no job instruction is yet included and there is a need for one, click on "Edit". This displays a text editor with a file TEMPLATE.TXT displayed. Fill in the information listed at the top and start writing the instructions.

When you have finished, click on **File|Save As** and give the file an appropriate name, with the extension ".TXT". Click on **File|Exit** to leave the editor and get back to the dialog box. Write the name of the file in the field "Name of job description file" and click on "OK". This closes the job description dialog box and returns you to the maintenance card. There is now an exclamation mark shown to the right of the tick box for that activity, to show that a job description is attached.

**Note:** Do not click on **Save**, because that saves the job description file as "TEMPLATE.TXT".

### Viewing, editing and printing

When the dialog box for job instruction file details is displayed the field for "Name of job instruction file" is empty, unless you have already attached one. Clicking on the "Edit" button retrieves the editor with the text of the job description file displayed. You can view it on screen and make any changes you want, then click on **File|Save** to save the changes.

To get a printout of the job description to give to the maintenance worker, click on **File|Print**.

When you have finished, click on **File|Exit**. This brings you back to the dialog box for job instruction file details. Clicking on "OK" brings you to the maintenance card that you close by clicking on "OK".

## Repair and downtime card

The repair and downtime card can only be displayed in two ways. Automatically on input of a new set of data for inventory, maintenance and repairs or by first selecting the corresponding equipment inventory card. After that you may call the **Card** from the options under **Repair and downtime** in the maintenance menu and display the repair and downtime card for the item of equipment.

When the card is displayed, the program has already filled in the first three input fields on the card: area, inventory code and name of the item. What remains is to complete the fields for each of the repair and downtime records. The input fields for "Problem" and "Action take" may seem small for any meaningful input. However, the information wraps line after line which can be viewed by clicking on the up or down arrow to the right of each of these input fields. You can accordingly input a fair amount of information in these - up to 255 characters.

To the right of each row of repair or downtime events there is a tick box with the heading "Memo". Clicking on one of them gives you access to a small memo screen, where you can make comments and write additional information on the repair and downtime event. If a memo has been included, there is an exclamation mark next to the tick box of the corresponding repair and downtime event.

## Memos for repair and downtime data

The memo for each repair and downtime event can be a maximum of 155 characters long. The dialog box for this input therefore displays a character count as you write. If you try to close the dialog box by clicking on "OK" and the count is over 155 characters, you will get an error message and the input will not be accepted.

When you have finished writing the memo, click on "OK". This will return you to the maintenance card which now has an exclamation mark added to the right of the tick box for the repair and downtime event. This indicates that a memo is included.

You can subsequently view and edit the memo by clicking on the tick box. However, you cannot print it. To do that, you can block the text with the mouse, click on it with the *right* mouse button and copy the highlighted text to the clipboard. You can then call the **Notepad** in the **Utilities** option of the opening menu. Click with the right mouse button and paste the text onto the notepad. From there, you can print the text by clicking on **File|Print** in the Notepad menu.

## Viewing editing and deleting maintenance data

For viewing editing and deleting maintenance data, the only access to them is through **Select/Edit** in the **Inventory** option of the maintenance menu.

This shows the inventory card, once you have made the appropriate selection of an item of equipment in the dialog boxes. You can then view and edit any item, except the inventory code and the name of the item in that card. To delete a set of data, click on the "Delete" button. *This will remove all data for that item of equipment, including data on maintenance and repair and downtime records.*

Once you have closed the inventory card by clicking on "OK" or "Cancel", you can access the cards for maintenance and repairs for that item. To do this, click on **Card** in the **Maintenance** or in the **Repair and downtime** options. You can then edit them, except the entries for inventory code and name of the item. If you have carried out a maintenance activity 'today', you can enter today's date in the "Last" input box for that activity by double-clicking on it. If you change your mind and want to keep the entries as they were, click on "Cancel". Other click on "OK" when you have finished editing. This will store your new entries.

## Spare parts inventory card

### New card

In the spare parts menu, click on **New** in the options for **Spares**. This gives you a blank card to complete. Here again you need a spare parts inventory code which is different from the ones you used for equipment. *Like the equipment inventory code, the it must be unique.* The same applies for the name of the spare part.

The "Spare part code" is the manufacturer's code number for the part and has nothing to do with your inventory codes. "Use" is the inventory codes(s) of items of equipment that the spare part is used in, separated by a comma, if there are more than one item.

"Stock" is the number of items in the current inventory. "Order at" is the stock level (reorder level) at which a new order should be placed. "Quantity" is the number of items that should be ordered each time (quantity to order).

### Viewing, editing and deleting

A spare part card can be accessed in several ways, using the various search alternatives for spare part inventory information. The simplest is if you know the name of the part. Just click on **Find spare/Edit** in the **Spares** option of the spare parts menu and select **Search by item**. A dialog box appears that lists all spare parts in the inventory. Select the one you want and the corresponding card is displayed.

You can edit all the inputs, except the inventory code. When you have finished editing, click on "OK". That saves the changes you have made.

To delete a spare part card, click on "Delete". That deletes all information about that spare part.

## Viewing editing and deleting spare parts data

See 'Spare parts inventory card'.

## Supplier data card

### New card

To complete a new card, click on **New** in the **Suppliers** option in the supplier menu. This displays a new card.

The information on suppliers you need to input in the supplier data card is mostly obvious, like name, address, phone, etc. *What is important here is that the name must be unique*, which it usually is. The only other items that may require some explanation are "Equipment codes" and "Spare parts codes".

In "Equipment codes" you input the inventory codes for equipment that the supplier has. In "Spare parts code" you input the codes for the spare parts he can deliver. In both cases each code should be separated by a comma.

There may not seem to be much space for input of the these codes. However, the information is wrapped on several lines that can be viewed by clicking on the up or down arrow next to the input field. The limit is a total of 155 characters. Assuming your code has four digits and adding a comma, this gives you space for 31 inputs in each. If that is not enough, you can start a new card for the same supplier. In that case you must give him a slightly different name. If the name is

"Joe's Junkyard", you call the supplier on the additional card "Joe's Junkyard 1" and so on.

### Viewing, editing and deleting

An existing supplier card can be accessed in several ways, using the search features of the program. However, if you know the name, the simplest way is perhaps to click on **Select/Edit** in the **Suppliers** option in the supplier menu. Select the name of the supplier. This opens his data card.

You can edit any of the information in the card, as required. When you have finished, click on "OK". That saves the new information. To delete a card from the database, click on "Delete".

## Viewing editing and deleting supplier data

See 'Supplier data card'.

## Maintenance activities due

MPM will warn alert you about maintenance activities three days before they become due. After that it stays on your "To do" list, until you have carried out the task and registered it with the program. If you do not do the maintenance in time, the list will point out that it is overdue.

Click on **To do** in the maintenance menu and select whether you want the listing displayed on screen, printed or filed.

## Finding equipment that uses spare part

Click on **Spares** in the spare parts menu and then on **Equipment using spare**. This displays a dialog box with a list of spare parts, by name. Select the one of interest to you. You then have a display of all inventory information on all items of equipment that use the spare part you selected.

## Finding a spare part

### General

The search for information on a spare part can be done in several ways. There are two choices for this in each of the **Equipment** and **Spares** options in the spare parts menu. Your choice between the ways you search for the information on the part depends on what you know about it and what you want to know..

### Equipment option

Click on **List spares part for equipment**. Select the inventory area and the item of equipment from the subsequent dialog boxes. This gives you a listing of all information on spare parts that are used for that item of equipment.

Click on **Find spare for equipment**. Select inventory area and item of equipment from the next two dialog boxes. You then see a dialog box with the name of the item of equipment and a listing by name of all spare parts used for that item. Select the spare part for which you want information. This displays its spare part card.

### Spares option

Click on **Find spare/Edit**. This gives you two choices:

**Search by item.** Use this if you know the name of the spare part.

**Search by code.** Use this if you know the inventory code of the spare part.

## Finding supplier of equipment

Click on **Equipment** and **Equipment supplier** in the supplier menu. Then select the inventory area of the item. From the subsequent dialog box, select the item of equipment. From the dialog box that shows a listing of suppliers for that equipment, select one. This displays the corresponding supplier data card.

## Finding supplier of spare part

Click on **Spares** and then on **Spares supplier** in the supplier menu. This gives a dialog box with a listing of all spares. From that list, select the spare part you want information on. Finally, from the dialog box with a listing of suppliers of that part, select a supplier. You then get the corresponding supplier data card.

## Dialog boxes

A number of commands or activities are controlled by dialog boxes. These are explained in detail in the "Procedures" topic. However, there are four commonly displayed buttons for control of the dialog boxes. They are:

"OK". This accepts any input that has been made to the dialog box and confirms your intention to go ahead.

"Cancel" is used if you change your mind and do not want to save the inputs to the dialog box and do not want to go ahead.

"Delete" removes the set of information. In the case of maintenance data, it removes all information about an inventory item, including maintenance and repair data. For spare parts and supplier data, it only removes the set of information displayed on the card.

"Help" displays this screen.

## Help on Help

You have access to Help in three ways: As a specific menu item in the Help menu, by pressing the [F1] key or from the Help button in the dialog boxes.

### Help as a menu item

The Help menu has two options for calling Help. First, 'Help on MPM' which gives you the Contents screen of Help. From this you can access all the other screens and read them as a manual for MPM.

Second, there is the 'Help on Help' option, which calls this screen.

### Help from F1

Help obtainable by pressing the [F1] key is context-sensitive, that is, the Help screen displayed depends on what menu option has been selected before [F1] was pressed.

If no menu selection has been made, Help displays its Contents screen. Please note that Help cannot be accessed by pressing [F1] when a dialog box is displayed.

### **Help for dialog boxes**

The only way to access Help when a dialog box is displayed is by clicking on the Help button of the box. This displays the Help listing for dialog boxes

## **Technical support, etc.**

## **Copyright**

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## **Registration**

It is in your interest to register your copy of MPM as soon as possible. As a registered user, you will be notified of future upgrades and you will also have access to technical support.

## **Registration by mail or fax**

In the Help menu, click on 'Print registration form' to obtain a copy of the form. Complete the form and either

send it by mail to:

Borje Kyrklund  
Via dei Radiotelegrafisti 28 B 3  
00143 - Rome, Italy  
or fax it to +(39-6) 592-0773.

Note that 39-6 is the IDC for Rome, Italy

## **Registration by E mail**

Click on 'Print registration form' in the Help menu and send the information requested in the form by E-mail on Compuserve to Borje Kyrklund, CIS 100013,375 or on Internet 100013.375@compuserve.com.

## **Technical support**

Technical support is available by mail, fax and E-mail by stating the serial number of your copy of MPM.

By mail: Borje Kyrklund  
Via dei Radiotelegrafisti 28 B 3  
00143 - Rome, Italy

By fax: +(39-6) 592-0773

Please note that (39-6) is the IDC for Rome, Italy

By E-mail: Borje Kyrklund  
CompuServe ID 100013,375  
Internet 100013.375@compuserve.com

There is also an Internet home page where you may find the answer to your questions:

<http://ourworld@compuserve.com/homepages/BKyrklund>

## Glossary

### D

**date format:** The program takes the date format to be used from the Windows setup. If you use a different format, the program will be unable to recognise it as a valid date or misinterpret the data.

**downtime:** The time in hours the equipment has been idle for reasons such as repair or lack of raw material. Please note that it does not refer to repair alone.

### I

**inventory area:** A defined location, department or subsidiary where an item of equipment is. It may also refer to a group of equipment, such as "Mobile", to indicate that these items are not only in one place. Typical areas would be "Main office", "Laboratory", "Production 1", etc.

**inventory code:** A unique code assigned to each item of equipment or spare part in the respective inventory.

### J

**job instructions:** A document used to instruct the maintenance worker on how the work should be carried out. It is not needed for all maintenance activities, but it may be especially important when the maintenance work is contracted outside. It may also be important in the case of very infrequently occurring maintenance work.

### M

**maintenance and repair records:** Maintenance and repair records are kept to ensure that equipment has been appropriately maintained in the past and to keep track of the need for repairs and downtime.

### N

**name of the item:** The name of the item of equipment or spare part must be unique. If there are several identical items in the inventory, give them names like "Widget puncher 1", "Widget puncher 2", etc.

### Q

**quantity to order:** The quantity of an inventory item that should be ordered when the reorder level is reached.

### R

**reorder level:** The inventory level at which an order should be made for new items. This depends i.a. on the delivery time for the item(s) and its price.