MAPCON

Quick Tour

Quick Tour Introduction
MAPCON CMMS Software
(both versions)
MAPCON LITE and MAPCON PRO

Updated October 2013

Easy to use. Powerful software. Priced right.
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Table of Contents

Thank you for using MAPCON® – *the most productive tool you will ever use!*

This guide is intended to help you get started using *MAPCON* quickly. Starting on the right track will help you and your company utilize the system efficiently for years to come.

Note: This guide applies to both versions, *MAPCON Lite* and *MAPCON Pro both hosted (On-Demand) and server based (your server)*. With *server based*, your IT Dept. is responsible for the server and performing backups, and with *hosted* Mapcon Technologies will host the server. The rest of this guide will refer to everything as just MAPCON.

After using this guide, refer to the MAPCON User Manual for more detailed information.

The screens and menus used in this guide are from to Pro version so we can illustrate full functionality. We have made notes along the way to indicate what is only available in the Pro version.

If you have any questions, call your knowledgeable MAPCON Support Specialist for fast friendly service at (800) 223-4791.

Thank you for your business!

MAPCON

Disclaimer:

We have tried to make this manual as accurate and complete as possible. However, some errors may exist. MTI cannot accept responsibility for losses due to the use of information in this manual. If errors are discovered in the manual, written suggestions should be directed to:

MAPCON Technical Writer
Mapcon Technologies, Inc.
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Johnston, IA 50131

INTRODUCTION

MAPCON is a valuable tool to help you organize your maintenance activities and reduce your maintenance costs.

This guide will help you get MAPCON setup and running as quickly as possible.

For more information:

- ➤ In each field, press [**F1**] for more detailed information or click the **Help** button at the top of the window.

- ➤ Consult the *MAPCON User Manual* regarding any topic.

- ➤ Our experienced professionals can help you find what you need. Contact our knowledgeable Support Specialists at **800-223-4791**.

LOGGING INTO MAPCON

Double-click the red toolbox icon. A Login window will appear asking for your User Name and a Password. Enter *Evaluation* for the **User Name**, and *mapcondemo* for the **Password**. Then, Click to start MAPCON.

MAPCON

OVERVIEW
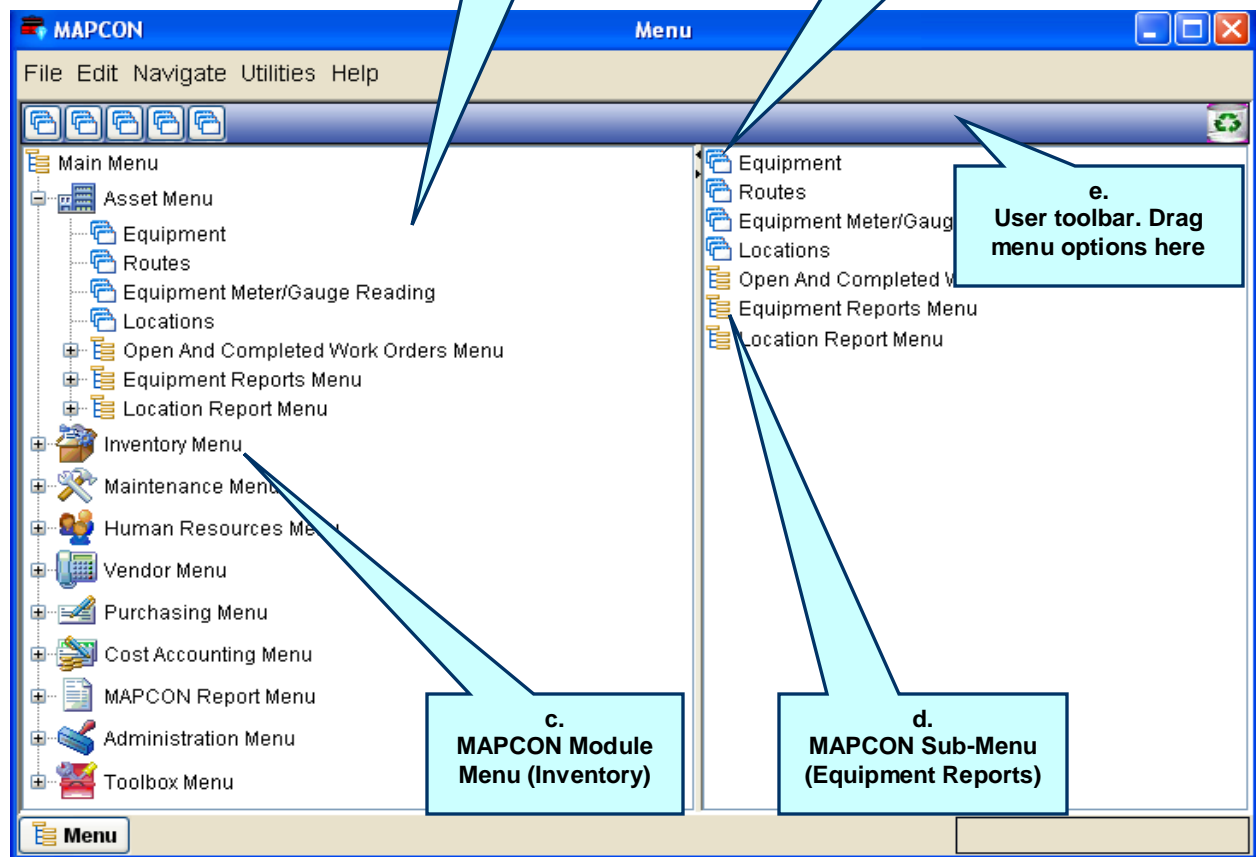
a. The MAPCON main menu area gives you a file explorer style hierarchical selection of the many options in MAPCON.

b. Equipment
    MAPCON Windows are accessed with this type of icon. This is an example of the Equipment Data Entry screen.

c. Inventory Menu
    Each main module has it's own icon. Clicking the plus sign to the left of the module will expand the menu to reveal more options for the module.

d. Equipment Reports Menu
    Inside each main module are sub-menus with more categorized options. Clicking the plus sign to the left of the menu icon will expand the menu system to reveal the options of this menu.

e. Click and drag menu options here to create your own toolbar. Click and drag to and drop to remove the option from the toolbar. Menus cannot be added here.
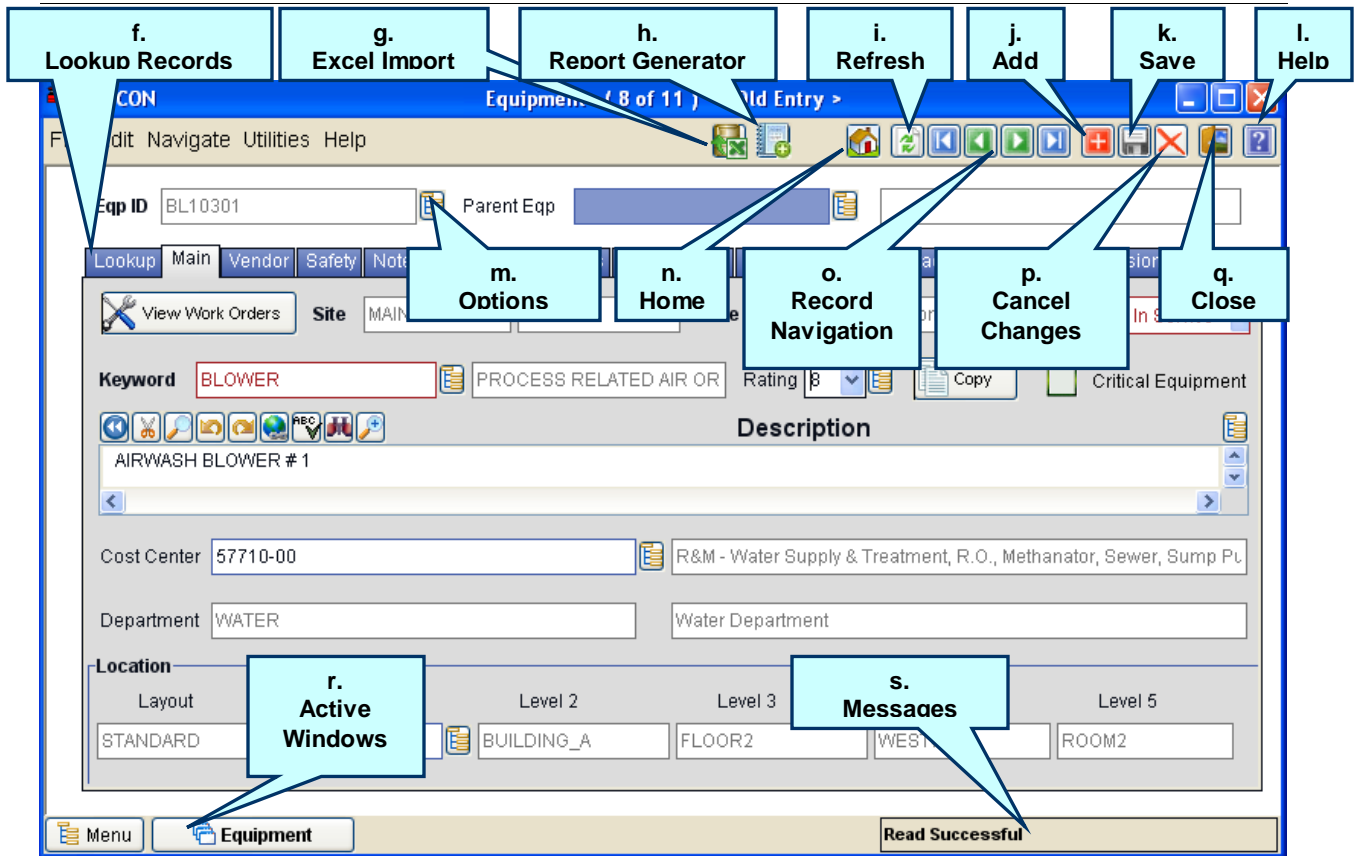
Controls

f. To search records click the **Lookup** tab. Use lookup filters and sort options to modify the search criteria. Click on lookup headers to sort by any column in ascending or descending order. Double-click on a lookup row to load it in to the window.

g. Click **Import Excel** to import data from a Microsoft Excel™ spreadsheet.

h. Click **Report Generator** to start creating a report based on the data entry window.

i. Click **Refresh** to refresh the data in a lookup or on a screen.

j. Click **Add** to create a new record.

k. Click **Save** to save changes to any record.

l. Click **Help** to display helpful information for the field or screen.

m. Next to many data entry fields you can click **Options** 📋 to view a list of appropriate options for that data entry field. Options may include lookups, cut, paste, copy, etc. You can also access these options by right clicking on the field.

n. Click **Home** 🏠 to clear the window, refresh the lookup and navigate to the lookup tab.

o. Use **Record Navigation** [◄◄] [◄] [►] [►►] to move forward, backward, go to the last record or to the first record in the lookup

p. Click **Cancel** ✕ to clear a window without saving changes.

q. Click **Close** 🖼 to close the window.

r. Quickly access the Main Menu or other open windows from the items on the MAPCON Active Window task bar.

📋 Menu	📋 Equipment	📄 **Print Preview**
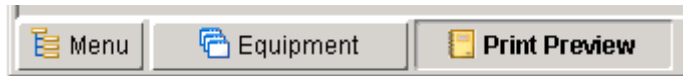
s. Messages display the status of MAPCON operations.

Read Successful

Tech Tip: Hover the cursor over any icon for a brief help message.
However, if the icon is not active, the help message will not appear.
These icons are the same for all windows.

Ease of Use Colors

Red	Required	A record cannot be saved until each red field has data. For example:

Keyword [   ] ➡ Keyword [BLOWER]

Dark Blue	Optional	Optional fields are additional fields that are not required.

Cost Center [   ] ➡ Cost Center [57710-00]

Grey	Display Only	Read-only fields. The cursor will not land on these fields.

Department [WATER]

Lookups

a. Use the **Column Search** [Find something here 🔍] to find records containing the text as you type. Click individual columns to search that particular column. Click 🔍 to find the next occurrence.

b. Use the **Sort Selection** [Sort By Equipment Numbers ▾] dropdown to select a different lookup view. Lookups can vary from different sorts, different columns and different types of data, such as planned work orders versus completed work orders.

c. The **Site and Zone Selection** [Site/Zone Main - Manufacturing ▾] dropdown option provides a quick filter based on an item's zone (i.e.: Equipment) or site (i.e.: Inventory). If the user has access to only one size or zone, then this option is not displayed.

d. Click ⬇ to access the lookup's **Filter Options**.

e. Click on any column header to sort the lookup by that column. The ▲ icon indicates an ascending sort, and the ▼ icon indicates a descending sort.

f. Double-click or press enter on the **Selection Bar** (the highlighted row) to load and view the record.

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Lookup Filters

a. **Select** from the scrollable **Available Filters** list.

b. Click the **Clear Filters** icon to remove all of the filter criteria you entered.

c. Use **Filter Defaults** to load frequently used filter criteria. Each user can create their own list of filter defaults for any lookup.

d. Click to **Add a Filter Default** for the current filter criteria.

e. Enter the filter criteria. Filter criteria can be text, dates, dropdowns, numeric or validated values as shown in this example. Lookups are always available for validated values. The right hand side will change to reflect the type of filter highlighted on the left.

f. Click to **Delete the Filter Default** currently loaded (step c).

g. Click to close the filter window and refresh the lookup for the selected criteria.

Alternatively, click in the top toolbar to refresh the lookup while viewing the filter options.

BASIC IMPLEMENTATION GUIDELINES

MAPCON provides a logical place to organize your maintenance activities.

Your goal is to put the right person at the right place at the right time with the right tool to get the job done right and as efficiently as possible.

The time frame to enter data and fully implement MAPCON depends on many factors, such as the number of users to setup, how much of the system is used, what corporate standards must be integrated, and if any data can be imported from existing sources.

Some operations are up and running within a week or two of installation, while others can take up to six months or a year before seeing results. The industry standard for most facilities to realize actual cost savings from their CMMS is two years.

Having an organized, planned approach to implementing the system will save valuable time later on.

Use this guide to help you get started on the right track in MAPCON.
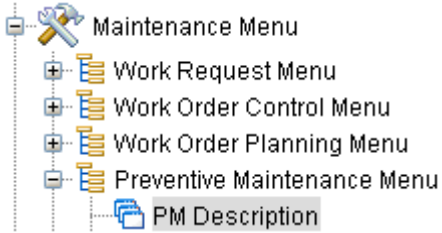
Note: You must have the appropriate security and authorizations to perform or even be able to see some of the following Menu Options, Screens or other functions. In other cases, your particular system may have been changed to fit the needs of your company. In this case, menu options may be deleted, changed or new menus may be presented. Because of the high degree of flexibility and customizability of MAPCON we cannot cover any cases but that of a standard "out-of-the-box" MAPCON System.

Note: Although you can get started creating work orders quickly by following this guide, most companies will want to go back and set Software Switches, create Codes, and setup Validation files before using the system more thoroughly.

The **Basic Implementation Guidelines** surrounded by the **bold border** are covered in this guide.

MAPCON

TOPIC	WHERE TO START	SPECIAL NOTES

➢ **Software Configuration switches** need to be set.
 	
Discuss how each MAPCON module will be used and how day-to-day procedures are integrated into MAPCON.
	Administration Menu
	  Asset Administration Menu
	  Maintenance Administration Menu
	  Inventory Administration Menu
	  Human Resources Administration Menu
	  Attachment Administration Menu
	  Purchasing Administration Menu
	  Cost Accounting Administration
	  System Configuration Menu
	  System Setup Menu
		Most Software Switches can be set or changed at any time in the future. However, it is very important that the **Cost Accounting** switches are set first before starting.

Codes and Validations are used throughout the system to provide Lookups, to ensure data integrity, and to provide searching and sorting options.
 	
Some validations can be built as you enter data, such as cost centers. However, a thorough review of all validations is highly recommended.
	Administration Menu
	  Asset Administration Menu
	  Maintenance Administration Menu
	  Inventory Administration Menu
	  Human Resources Administration Menu
	  Attachment Administration Menu
	  Purchasing Administration Menu
	  Cost Accounting Administration
	  System Configuration Menu
	  System Setup Menu
		Create Cost Centers to track the cost of Labor, Material, Purchases and Services.
		
		Create at least one Craft to start with. Crews and Shifts are optional.

➢ Create **Employees**.	Human Resources Menu Employee Data Entry	Create as many employees as needed. Workers from outside the company can be setup to have their time and activities tracked.

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TOPIC	WHERE TO START	SPECIAL NOTES

➢ Create **Equipment Keywords**.
 	
➢ **Equipment Numbering and Hierarchical Structure** need to be determined before any work orders or PM records can be created.
 	
➢ **Locations** can be developed into a hierarchy by creating one level at a time.
	Administration Menu
	  Asset Administration Menu
	    Equipment Administration Menu
	      Equipment Keyword Group
	      Equipment Keywords
	
	Main Menu
	  Asset Menu
	    Equipment
	
	Main Menu
	  Asset Menu
	    Equipment
	    Routes
	    Equipment Meter/Gauge Reading
	    Locations
		Create at least one keyword in the system before starting.
		
		Equipment Data Entry: Use the Next Level field to indicate which equipment number is the next level UP (parent) in the hierarchy. Build from the top down, so start by creating the primary piece of equipment first.

➢ Create **Work Orders** for Equipment, Locations, Cost Centers, or Routes using user defined types and priorities.
 	
➢ **After the Fact Work Orders** are handy when the job has already been completed, yet you still want to have a history of the labor and the materials used.
	Maintenance Menu
	  Work Request Menu
	  Work Order Control Menu
	    Work Order Initiation
	
	Maintenance Menu
	  Work Request Menu
	  Work Order Control Menu
	    Work Order Initiation
	    Dispatch Work Orders
	    Work Order Printing
	    Work Order Update And Completion
	    After the Fact Work Orders
		Click on the main tab to generate the next available work order number.
		
		Enter all required, red fields before saving the work order.
		
		Quickly create work orders with a minimal amount of data and mouse clicks.

➢ **Preventive maintenance** requirements should be identified. ➢ Determine how often they occur by creating a **Frequency**. ➢ Then **Generate** PM work orders. Many facilities generate on Friday for the following week, allowing time to plan labor and materials.	 Maintenance Menu 　Work Request Menu 　Work Order Control Menu 　Work Order Planning Menu 　Preventive Maintenance Menu 　　PM Description	Weekly, monthly, and Annual PM records need to be established prior to PM Generation. PM's can be established right from the Equipment, Location and Cost Screens.

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Employee Data Entry

Double-click the **Human Resources Menu**
Double-click the **Employee Data Entry** menu option.

Note: Employee information is accessible on the User Profile as well.

Enter an **Employee number**, then press [Enter].

The number can be alpha-numeric, and some sites may choose to use a "smart" numbering system.

Examples of Employee Numbers: Company assigned #, name, login ID, email address, first initial and last name, etc.

Enter the employee's **First** and **Last** name, and their middle initial. Notice how the system formats the **Display Name**. The **Display Name** is displayed on employee based reports, such as the employees by craft report. Feel free to change it's format, such as to put the last name first.

Assign a **Zone** to the employee. The system will add your primary zone as a default zone for the employee. Double-click the Zone field to select a different zone.

Click the options icon 📇 to select the appropriate Crew, Craft, and Shift. Use the Add option to create new records without having to close or leave this window.

Click **Save** 💾 at the top of the window when finished.

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Creating Departments and Cost Centers

For a quick start, this is optional. However, it is recommended to use Cost Centers for more efficient tracking of labor, material, and purchasing costs.

Cost Centers are like budget centers that determine who pays for the completed work. Work orders can be written directly against a Cost Center. Equipment and Locations have a designated Cost Center that is updated when a work order is written against them directly.

A cost center cannot be created in MAPCON unless it is tied to a Department*, therefore, at least one Department must be created first.

* A software switch can be changed so that Departments are not required. Under System Configuration, Cost Accounting Configuration, check the box "Allow department changes on Equipment and Locations instead of cost centers". Save changes and logout and login.

Create Departments
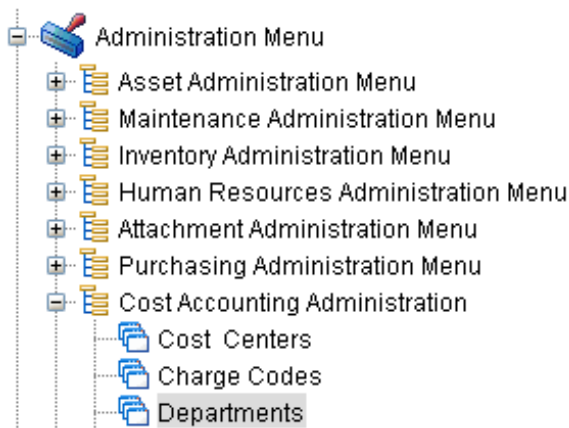
Double-click the **Administration menu**
Double-click the **Cost Accounting Administration Menu**
Double-click the **Departments** menu option.

A Department is the area responsible for costs and expenditures. Examples of Department names include Maintenance, Engineering, Administration, etc.

Enter the Department **Name** and it's **Description**.
Click **Save** at the top of the window.
Click **Close** at the top of the window.

Create Cost Centers
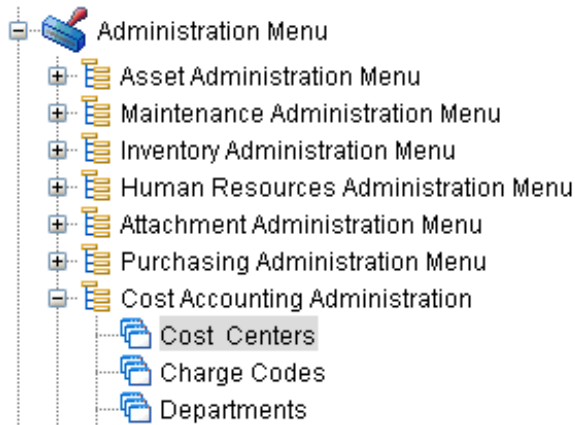
Double-click the **Administration menu**
Double-click the **Cost Accounting Administration Menu**
Double-click the **Cost Centers** menu option

Enter the **Cost Center** Number. Your internal administration or accounting department will likely have numbers already defined for various areas.

Enter the Cost Center **Description**

Enter a **Department**. Click the options icon 📋 to display a Lookup of available departments. Or, simply double-click the department field itself to display a lookup.

That is all the information needed to start using cost centers, however, other items can be tied to a cost center, such as PM Procedures, Safety Procedures, job steps and a bill of materials.

Click **Save** 💾 at the top of the window when finished.

COST CENTER SETUP IS COMPLETE.

SETTING UP EQUIPMENT AND LOCATIONS

Creating Equipment Keywords

Work Orders can be written for Equipment, Locations, Cost Centers, or Routes. Equipment records must have an equipment Keyword. Hence, the first step is to create at least one keyword.

A Keyword is simply a category used to keep similar pieces of equipment together. Reports and Lookups sort equipment based on the keyword and have keyword filters.

Examples of good keywords:

MOTOR	BELT	PUMP
MOTOR-AC	BELT-CONVEYOR	PUMP-ELECTRIC
MOTOR-DC	BELT-FAN	PUMP-WATER

Examples of bad keywords:

AC MOTOR	CONVEYOR BELT	ELECTRIC PUMP
DC MOTOR	FAN BELT	WATER PUMP

Before creating equipment keywords, create at least one **Equipment Keyword Group**. The keyword group will allow you to group together similar keywords. For instance, the keywords MOTOR-AC and MOTOR-DC could be grouped together under the keyword group MOTORS.

Enter Equipment Keyword Groups
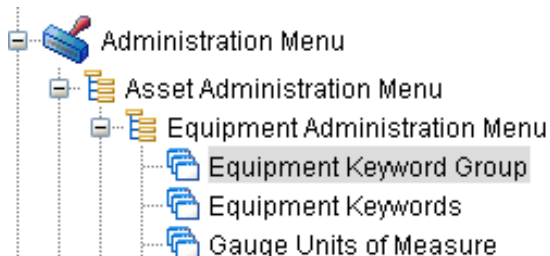
Double-click the **Administration Menu** icon
Double-click the **Equipment Administration Menu**
Double-click the **Equipment Keyword Group** menu option.

Enter a **Group ID**, then press [Enter].

Enter the Keyword Group **Description**.

Click **Save** at the top of the window when finished.
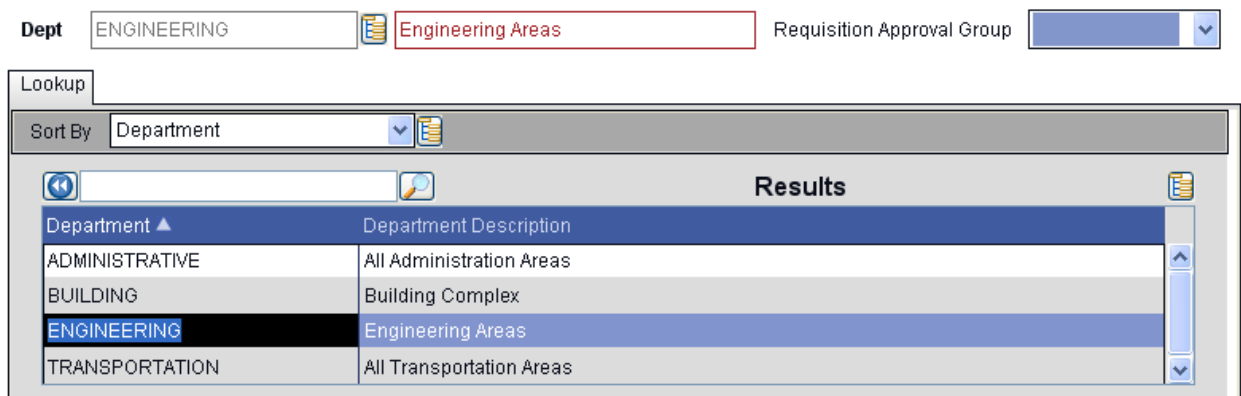
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Enter Equipment Keywords

Double-click the **Administration Menu**
Double-click the **Equipment Administration Menu**
Double-click the **Equipment Keywords** menu option.

Enter a **Keyword**, and **Description**. Then, assign a **Keyword Group**.

ID MOTOR-AC | AC MOTORS | Group All AC and DC Motors

Lookup | Main

Titles
CONTACTORS
HORSEPOWER
LINE VOLTAGE
MANUAL STARTER
RELAY
SAFETY DEVICE
SIZE

These specification titles will appear on equipment records having this keyword. Each title will have an associated value for the equipment item, such as 300hp for Horsepower.

There is no limitation on the number of titles.

Optional – **Equipment Specification Titles (Nameplate data)**

Examples of Specification Titles for the following 3 keywords:

Motor	**Pump**	**Forklift**
Line voltage	Valve Type	Capacity (lbs)
Starter	Filter Type	Load Center
Horsepower	Lubrication Specs	Lifting Height
Size		Weight

Many of the Specifications come from nameplates. For the Title, enter only the generic name here. The actual number, rating, setting, type, etc. is input on the Equipment Data entry window.

Click **Save** at the top of the window when finished.

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Creating Equipment
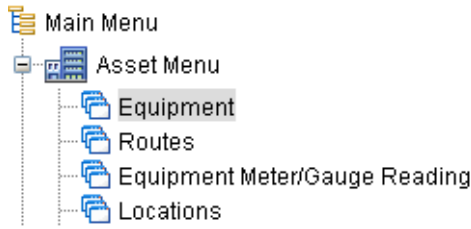
Double-click the **Asset Menu**
Double-Click the **Equipment** menu option.

Only the Red (required) fields must be entered before the record can be saved.

Enter an **Eqp ID** (Equipment Number) and then press [Enter]. Most facilities already have asset numbers established. Some use a "smart" numbering system while others just use the Manufacturer's number. If you require assistance defining your equipment numbering scheme, contact MAPCON Support.

Alternative– Just press [Enter] and the system will generate a new key which will be displayed after saving the record. Automatic key generation is not the default configuration for Equipment. However, the system can be configured to automatically generate numeric keys.

Optional: Enter the **Parent Eqp** (Parent Equipment). This is the equipment number containing the current equipment record, or the next piece of equipment **UP** in the hierarchy.

Tech Tip: When first entering equipment, it is helpful to build the hierarchy from the top down. The **Parent Eqp** is blank for equipment in the first level. The second sub component will have the first level equipment number as its **Parent Eqp**, the third will have the second, and so on. All costs related to the equipment, will roll up the hierarchy.

The default **Status** is *In-Service.* Select a different status from the drop down. Create your own Equipment Status codes from the *Equipment Administration Menu*.

Zone - Use the Options icon ▤ to select the Zone for this equipment. The system assigns the user's primary zone as the default. Note: Zones are only available in the Pro version

Enter a **Keyword**. Click ▤ and select Lookup to display a selection list of available keywords, or simply double-click the field for the lookup.

Optional: Assign an equipment **Rating** based on a scale of 1-10, with 10 being the most important. This rating is used in work order scheduling, and to help prioritize work. Equipment ratings can be modified from the *Maintenance Administration Menu*.

Enter a **Description** for the equipment, which is not required but highly recommended.

Optional: Enter a **Cost Center** either from the Options icon ▤ or by double-clicking on the field

Optional: The **Location** of the equipment can only be selected using the Lookup button. Locations need to be created first before using them here.

Although much more information can be provided, this is all that is required for a quick start. Click **Save** 💾 at the top of the window when finished.

EQUIPMENT SETUP IS COMPLETE.

Creating Location Layouts

Note: Location layouts and hierarchies are only available in the Pro version

Location layouts are used to label the different levels of a location hierarchy, such as building, floor and room. The default system labels are **Level 1**, **Level 2**, **Level 3**, **Level 4** and **Level 5**. However these can be changed, and additional layouts can be added. Also, layouts can go beyond five levels to as many as required.
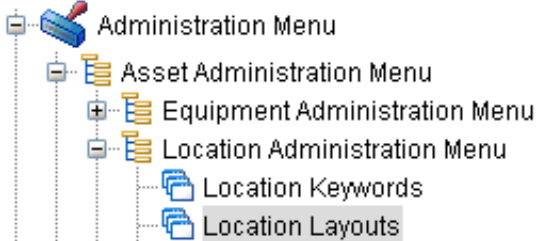
Double-click the **Administration Menu**
Double-click the **Asset Administration Menu**
Double-click the **Location Administration Menu**
Double-Click the **Location Layouts** menu option.

Select and edit the STANDARD layout to match your facility, or add your own layout.

To create a new layout, type a new name for your Layout in the **Location Layout** field and press Enter. Then, enter a description for your layout. In the **Layout Labels**, enter the labels you want to display when entering in locations using this layout.

Click **Save** 💾 at the top of the window when finished.

Note: To use a Location Layout, you must assign the layouts to each site that requires it.

Note: If there are multiple layout types, the system will provide an additional filter option to select the desired layout type for location based lookups.

Creating Location Keywords
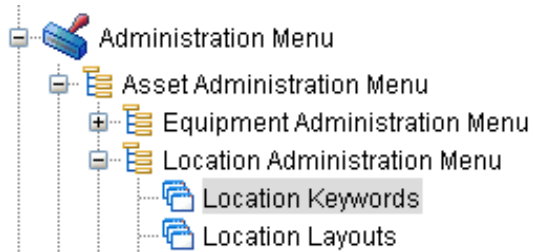
Double-click the **Administration Menu**
Double-click the **Asset Administration Menu**
Double-click the **Location Administration Menu**
Double-click the **Location Keywords** menu option.

All locations must have a Keyword, so create at least one keyword.

Like equipment keywords, location keywords categorize similar locations.

Examples of good location keywords:

Classroom	Board Room
Restroom	Shop
Grounds	Production Floor
Office	Dock

Enter in the keyword **ID** and then its description.

In the **Titles** table enter in common attribute titles you want to track for this type of location. These are similar to equipment keyword specification titles. Some examples: **Floor Covering**, **Wall Covering**, **Length,** or **Width**.

Click **Save** ![save icon] at the top of the window when finished.

Creating Locations

Double-click the **Asset Menu**
Double-click the **Locations** menu option.

Location Levels are based on the layout

The headers change when the layout changes.

The first thing to decide when entering a new location is what **Layout** you want to use. The layout you choose will potentially change the labels across the screen to something more related to the location structure you will create, such as Building, Floor and Room. Note: Location layouts and hierarchies are only available in the Pro version

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Layout	BUILDING	FLOOR	WING	ROOM
BUILDING				

Lookup | Main | Safety Procs | Job Steps | Bill Materials | Specs | PM Procs | Equipment | Attachments | Costs

Sort By: Building Layout   Site/Zone: Main - Manufacturing

Large Layout
Standard Layout
Building Layout
<None>

BUILDIN   WIN

> Select the desired layout to start creating locations. The available layout choices are based on the layouts created for each site a user has access to.

Location hierarchies must be created from the top (Parent) down. In this example, select the Building Layout for the **Layout Type** and enter BUILDING_A for the Building, which is the top level for this layout. It is best to use short descriptions of the actual physical locations if possible.

Layout	BUILDING	FLOOR	WING	ROOM
BUILDING	BUILDING_A			

Zone - Use the Options icon 📋 to select the Zone for this location. The system will assign the user's primary zone as a default. Note: Zones are only available in the Pro version

Enter a **Keyword**. Use the Options icon 📋 and select Lookup to display a list of available keywords, or simply double-click the keyword field to open the lookup.

Optional: Give the location a **Rating** based on a scale of 1-10, with 10 being the most important.

Enter a **Description** of the location, which is not required but highly recommended.

Optional: Enter a **Cost Center** either from the Options icon 📋 or by double clicking on the field

Although much more information can be provided, this is all that is required for a quick start.

Click **Save** 💾 then click **Home** 🏠 when finished. Now, let's create the next level:

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Layout	BUILDING	FLOOR	WING	ROOM	
BUILDING					Add

Lookup | Main | Safety Procs | Job Steps | Bill Materials | Specs | PM Procs | Equipment | Attachments | Costs | Purch

Sort By: Building Layout   Site/Zone: Main - Facilities

BUILDING ▲   FLO...
BUILDING_A
TRI-SCHOOL   OWL-ELEM

To create the next Level (FLOOR)

First: Double-click and load the parent. In our example, double-click and load BUILDING_A.

To create the next Level (FLOOR)

Second: Click the [+ Add] button.

Layout	BUILDING	FLOOR	WING	ROOM
BUILDING	BUILDING_A			

After entering the floor, complete the location record by entering the description, keyword, etc. When finished, Click **Save** 💾 then click **Home** 🏠.

To create the next Level (FLOOR)

Third: Enter the second level designation. In this example, enter **1** for the FLOOR.

Layout	BUILDING	FLOOR	WING	ROOM	
BUILDING	BUILDING_A	1			Add

Lookup | Main | Safety Procs | Job Steps | Bill Materials | Specs | PM Procs | Equipment | Attachments | C... | Purchases

Sort By: Building Layout   Site/Zone: Main - Manufacturing

BUILDING ▲   FLOOR
BUILDING_A
BUILDING_A   1

To create the next Level (WING)

First: Double-click and load the parent. In our example, double-click and load BUILDING_A, floor 1.

To create the next Level (WING)

Second: Click the [+ Add] button.

Layout	BUILDING	FLOOR	WING	ROOM
BUILDING	BUILDING_A	1	WEST	

After entering the floor, complete the location record by entering the description, keyword, etc. When finished, Click **Save** 💾 then click **Home** 🏠.

To create the next Level (WING)

Third: Enter the third level designation. In this example, enter **WEST** for the WING.

Continue the next step and add a Room to your location.

You have now created a four level location hierarchy, **BUILDING_A – 1 – West – Room**. Having multiple levels for your physical locations provides a method of charging work to the building as a whole, the first floor, the west wing, or to a specific room. Like the equipment hierarchy, costs charged at the bottom will "roll up" to the top.

LOCATION SETUP IS COMPLETE.

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PROCESS A WORK ORDER

Initiate a Work Order
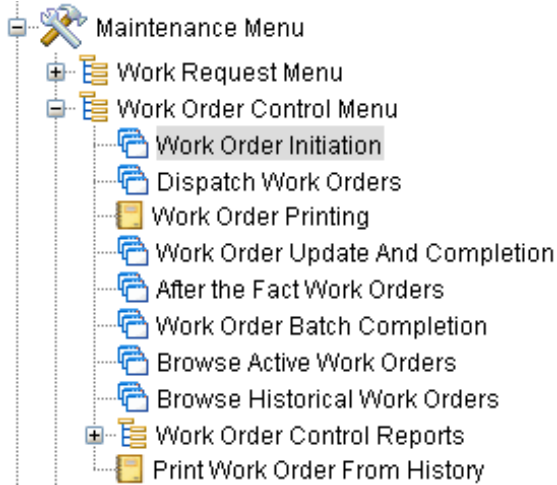
Double-click the **Maintenance Menu**
Double-click the **Work Order Control Menu**
Double-click the **Work Order Initiation** menu option.

Only the red, required fields must be entered before saving a work order.

Click on the **Main** tab to generate the next available **WO** number, indicated by "**NEWKEY**" displayed in the field. The actual work order number is displayed after the record is saved.

Change **Type** from **Repair** to another type by using the drop down selection box. The Status will start as **Initiated** and cannot be changed. The status is controlled programmatically: The potential status codes are: Planned (requires planned labor), Scheduled (requires a date scheduled), On Hold (requires the Advanced Inventory Module), Completed, or Canceled.

Note: You can create your own work order types from *Maintenance Administration*.

Select the **Priority**. Typically, Lower numbers have a higher priority than higher numbers. You can create your own priority codes from *Maintenance Administration*. Associate the number of days a work order can stay unfinished for each priority. Assigning the priority will change the **date required** for work order completion.

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Note: The user's name will appear in the **Submitted By** field. The **Date Submitted** will default to today's date as the starting date of the work order. These can be changed if needed.
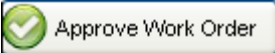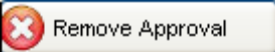
Next, select the type of asset to for your work order.
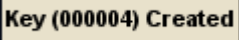
Typically, **Routes** are generated by the PM system but a route work order can be created manually. Use the **Equipment Move** option to move equipment out of service and remove it from the equipment hierarchy, and replace it with another piece of equipment.

Enter an **Equipment #** in the required red field next to the drop down. Or, double-click the field for a Lookup of available equipment. The system will display the appropriate lookup for the type of asset selected: A location lookup for locations, a cost center lookup for cost centers, etc.

Notice: When an equipment or location value is entered, the equipment hierarchy or the location hierarchy is displayed.

Enter the **Work / Problem Description** describing the nature of the problem.

To approve the work order, click and the system will enter the user's name and the current date into the appropriate fields. Once approved, the user that approved the work order can click to remove their approval. The user's group or user profile determines whether or not they can approve a work order. If a user does not have the authority to approve work orders, then these buttons are not displayed.

All other information is optional. This is all that is needed for a quick start to create a work order. Click **Save** at the top of the window to create this work order. The work order number will appear in the bottom right hand corner .

Additional options are available to automatically print the work order when its first created. Set these options on the *Maintenance Configuration* window.

Click on the top menu bar to close the window.

MAPCON

Complete a Work Order
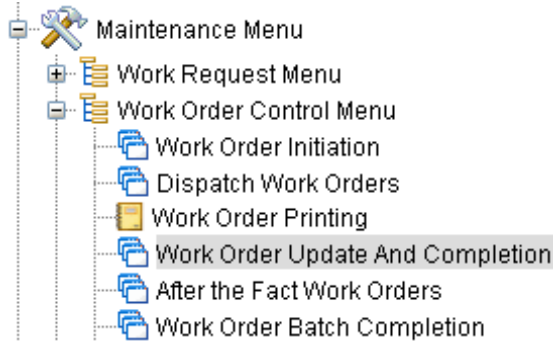
Double-click the **Maintenance Menu**
Double-click the **Work Order Control Menu**
Double-click the **Work Order Update and Completion** menu option.

Enter the **WO #** created from the previous page or use the lookup to select a work order by double-clicking on it.

To complete a work order, simply enter the **Completion Date** manually, or click [icon] to use the calendar popup, and select the current date.

Depending on the Maintenance Configuration settings, the system can automatically set the **Completed By** field to the user's name. Or, the user can double-click the field to add a different name, or click [icon] to add their own.
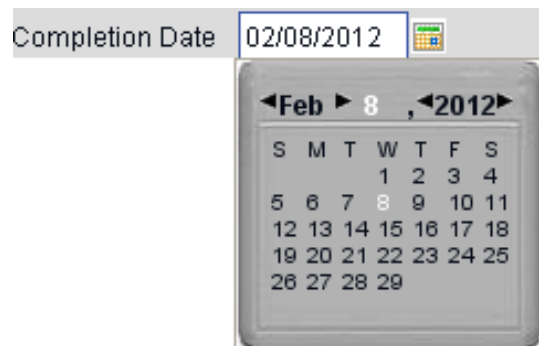
> **Tech Tip**: Dates can be entered in MAPCON using only 6 digits; the slashes are not required. For example: typing 060312 will change into 06/03/12 automatically after pressing [Enter]. If you are using a different or an international date format, this feature is still available.. Simply enter the numbers in the order of date format, such as DDMMYY.

Note: MAPCON considers a work order completed once it has a completion date. After saving the work order, the status will change to **Finished**.

In the **Comments** field, fill in what was done to correct this situation. All other information is optional.

> **Tech Tip:** To track downtime, use the **Out of Service** and **Return to Service** date and time fields. MAPCON will calculate the difference between these values and automatically determine the **Actual Downtime**.

Click 🖫 at the top of the window to update and complete the work order.

The system will prompt to verify the completion process. If you click yes, the system will ask if the work order should be sent to history. Once a work order is in history, it cannot be changed. Whether or not these prompts are displayed can be configured from the *Maintenance Configuration* window.

Click 🖫 on the top menu bar to close the window.

WORK ORDER PROCESS IS COMPLETE.

After the Fact (One Step) Work Orders

Note: After the Fact Work Orders are available in the Advanced Maintenance Module

Use an After the Fact Work Order to track work that has already been completed, but needs to be recorded for work, labor and material history. An After the Fact work order is unique in two ways:

- ➤ Only one screen is used to do everything. You can create and close a new work order in a few clicks and keystrokes in seconds!
- ➤ The Completion Date is a red, required field that must be entered before the work order can be saved.
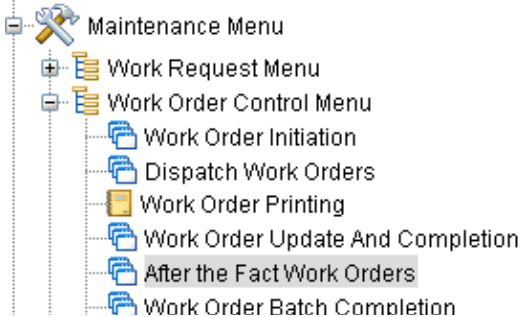
Double-click the **Maintenance Menu**
Double-click the **Work Order Control Menu**
Double-click the **After the Fact Work Orders** menu option.

Only the red, required fields must be entered before saving a work order.

Click on any tab or into any field to generate the next available **WO#**, indicated by "**NEWKEY**" displayed in the field. The actual work order number is displayed when saved.

Enter the user that completed the work, or click 📇 for a list of employee names.

Select the asset type (Equipment, Location, etc) then enter the equipment #, Location, etc. Or double-click the field for a lookup.

Enter **Problem Description** to describe the problem.

Enter **Comments** to describe what was done to correct the situation.

All other information is optional.

Click at the top of the window to initiate and complete the work order.

YOUR WORK ORDER HAS NOW BEEN INITIATED AND COMPLETED ALL IN ONE STEP FROM ONE SCREEN!

PREVENTIVE MAINTENANCE

There are three steps involved in generating preventive maintenance work orders:

1. Create a **PM Description** that describes the work to perform, including any required labor and materials.

2. Add assets (Equipment, Locations, Cost Centers) to the PM Description and create **PM Frequencies** to depict how often the task is performed for that asset.

3. **Generate** the PM Work Orders.

Many facilities will generate their PM work orders on a Friday for the next week to plan ahead and ensure all parts are available and to schedule the workers.

Note: The terms PM Description and PM Procedure will be used interchangeably throughout the system and this documentation.

1. Setup PM Descriptions
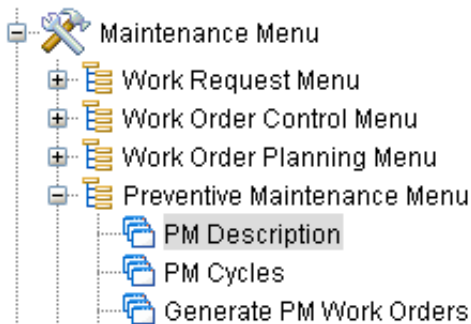
Double-click the **Maintenance Menu**
Double-click the **Preventive Maintenance Menu**.
Double-click the **PM Description** menu option.

To create a new PM Procedure, click in the **Title** field to generate the next available **PM Desc #**, indicated by "**NEWKEY**" displayed in the field. The actual PM Description number is displayed when saved.

Enter a brief description for the nature of the work in the **Title** field. Many facilities prefer to start with how often the PM is performed, such as Daily Inspection, Monthly Lubrication, or Annual Overhaul.

The Basics

Select the **Work Order Status**. The work order will have this status when generated.

- Basic PMs will have the **Initiated** status.
- The **Planned** or Scheduled status requires at least one Crew/Craft/Shift assigned on the **Labor** tab with at least one estimated **Worker** for one **Hour** of estimated work.
- The **Scheduled** status will set the work order's date scheduled to the generation date.

Select the work order **Type**. Edit the standard work order types or create your own from *Maintenance Administration*. A work order type must have the *PM Work Order* designation to appear here.

Select the **Priority**. Priority codes are used to determine the overall work order rating and to assist in scheduling. Note: Priorities are only available in the Pro version

The PM Description **Status** will either be *Approved* or *Not Approved*. Only approved PM Procedures are generated. Once approved, any change to the PM Description requires another approval and a reason for the change. The system retains each revision made on the PM Description: the user that made the revision, when they made it, and why.

Check the box to **Allow Duplicate Work Orders** if meter or gauge readings should generate more than one PM work order each time a reading is entered that triggers the PM. For example, if PMs are not generated until Friday, and a user enters a meter reading on Tuesday that triggers the PM, and another user enters a higher reading on Thursday, then two PM work orders will generate, one for each event that triggered it.

> **Tech Tip:** Elapsed Time and Meter frequencies can be combined, where one or the other will trigger the next PM work order. For example: change the oil every 6 months or 3000 miles. For this scenario, do not check this box.
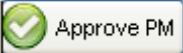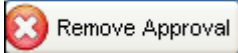
Check the box **Generate Orders on the Basis of Date Last Done** if a completion date on the PM work order is required before generating the next PM work order. If **not** checked (called **Date Last Due**), the next PM work order will generate regardless if the previous work order was completed.

> **Tech Tip:** To keep a balanced PM schedule, such as generating some monthly PMs early in the month and others later in the month, then do not check this box.

Enter the **Advance # of Days** if more time is required for ordering materials and ensuring they arrive on time. Also, use this option to generate PMs early for fill work. Setting this field will **not** adjust the work order's **Required Date**. For example, the Required Date is set to the frequency's due date when the work order is generated, or to the generation date. If the worker has 7 days to complete the PM, then enter 7 advanced days. The PM work order will be generated 7 days in advance of its due date but the required date will remain the same. Note: Advanced Days is only available in the Pro version

Enter a description of the work to be performed in the **Task** field. This text will appear in the work order's Work / Problem Description area. Some organizations list each PM task here. However, if planning or scheduling labor, use the **Job Steps** on the Labor tab for specific tasks performed by different trades. In this case, only a brief task overview should be entered here.

The **Revision** field is read-only and tracks the number of approved changes to a PM procedure. You can review the history of changes by clicking on the Revisions tab.

Click Approve PM to approve the PM Description. Click Remove Approval to remove your approval. If the user's profile or group profile does not have the authorization to approve PM Procedures, then these buttons will not be displayed

There is a lot more information that can be added to a PM procedure:

- The Labor tab defines the Crew, Craft and Shift labor, detailing the job steps each craft will perform. The number of workers needed and for how many hours, although optional for initiated work orders, is necessary for planning and scheduling.
- The Materials tab defines the required materials. With the Advanced Inventory Module, the system will create planned Issue ticket for the work order when its generated.
- **Cycles** are a handy way to eliminate extra work order paper waste. For example, if an Annual PM includes the same steps as a Quarterly, then only generate a quarterly PM three times and don't generate the quarterly when the annual is due. The cycles using the PM Description are displayed on the Cycles tab. Note: PM Cycles are only available in the Pro version
- **Sites** will allow this PM description to be used for more than one Site for more consistent procedural instructions between the Sites. If only one site is available then the site tab is not displayed.
- **Attachments** are documents associated with the procedure, such as images of the work area/equipment, MSDS form sheets, calibration forms, etc. Assign attachments on the Attachments tab.

MAPCON

This quick start guide will focus on the minimal amount of information required to start generating PM work orders.

Adding Assets to the PM

At least one entity must be added to the PM Description for it to generate.

Select the **Type** of asset that requires the PM Definition. Manually enter the asset or double click in the **Eqp/Loc/Rt/CC** column for a lookup of equipment, locations, routes, or cost centers. The system will show the valid lookup based on the selected **Type**.

On the left hand side of the window, click **Frequencies** (shown below).

MAPCON

2. Setup PM Frequencies

Frequency types include:

Elapsed Time - Daily, Weekly, Monthly, Quarterly, Semi-Annually, Annually

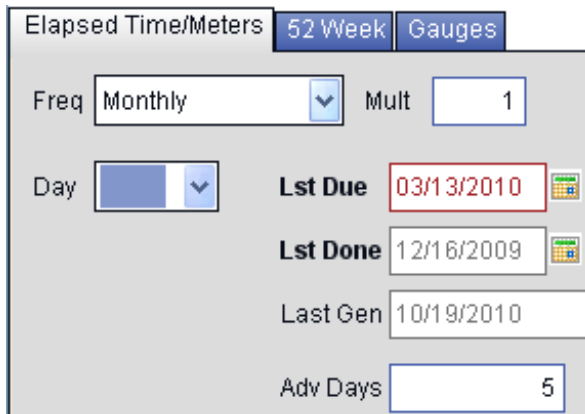**Meters** - PMs triggered by a meter reading after a certain interval

52 Week Schedule - irregular frequencies, such as Monthly but not in the winter

Gauges - PMs triggered by a Gauge reading outside of a set tolerance range

MAPCON

Click [Extended Definition] for additional generation information for an asset. Add asset specific **Safety Procedures**, **Attachments** and **Labor** requirements.

When finished, click at the top of the window.

Elapsed Time

Select the **Freq** (Frequency) first, then the other fields will appear.

The **Mult** (Multiplier) is used to set a longer delay between generations. For example, to generate a PM every 3 Months, enter **3** for the multiplier. For every 6 weeks, set the frequency to Weekly and enter 6 for the multiplier.

Lst Due – Date Last Due. Use this date to set the next generation date. The PM system will *go forward* from this date the amount of time set in the Frequency and the Multiplier.

> Ex. 1: to have a Monthly PM generate on 07/07/12, set the Lst Due date to 06/07/12.
> Ex. 2: to have a Quarterly PM generate on 12/01/12, set the Lst Due date to 09/01/12.

This is read-only if the checkbox for <u>Generate WOs on Basis of Date Last Done </u>is **checked**. In that case, use the Lst Done date field to trigger the PM.

Lst Done – Date Last Done. Use this date to set the next generation date. The PM system will *go forward* from this date the amount of time set in the Frequency and the Multiplier.

> Ex 1: to have a Monthly PM generate on 07/07/12, set the Lst Done date to 06/07/12.
> Ex. 2: to have a Quarterly PM generate on 12/01/12, set the Lst Done date to 09/01/12.

This field is updated when the generated work order is finished. The **Completion Date** on the Work Order Update and Completion window indicates when the PM was finished. That completion date for the PM work order appears here. The system is then ready to start calculating when the next work order will generate.

> **Caution**: If the work order is left open and is never completed, then the PM will not generate again. To avoid this, use Date Last Due.

This field is read-only if the checkbox for <u>Generate WOs On Basis of Date Last Done</u> is **not checked**. In that case, use the Lst Due date field to trigger the PM.

Select the **Day** of the Month, Week, etc. when the PM should generate. For example, select **1** to always generate on the first day of the month.

Adv Days – Advance # of Days. This is set on the Main page of the PM Description, but can be over-written here. Note: Advanced Days is only available in the Pro version

Meters

Meters only appear if the equipment has meters assigned to it. Then, PM work orders can be generated based on the meter reading(s).

M#	The meter name as defined on the equipment (i.e.: 1, 2, odometer, etc).
Units	The unit of measurement (Hours, Cycles, Miles, etc.)
Curr Total	The Current Total reading on the meter.
LastPMTot	Last PM Total. The reading on the meter from the last PM.
Interval	This is the number of units that must pass before the next PM is generated. For example, every 3000 Miles for an oil change, or every 500 Hours for a filter change.

52 Week Schedule

Irregular frequencies can be set using a calendar showing the 52 weeks of the year. For instance, Snow and Ice Removal is a regular task in the winter but not in the summer months.

Click the 52 Week tab, then click the **Generate** column to indicate which weeks of the year the PM will generate.

For a faster setup, use the **Occurs** field to quickly set every 2 weeks or every 3 weeks, and then uncheck those weeks that do not apply..

Set **Advance Days** to have the PM generated early. This is set on the Main page of the PM Description, but can be over-written here.

Set the **Day** of the week to balance the schedule, preventing all weeklies from being due on the same day.

Gauges

Note: Meters and Gauges are only available in the Pro version

If the equipment has one or more gauges assigned to it, then a PM work order can be generated based on the gauge reading(s).

Gauge readings are based on a tolerance range, such as the acceptable lower and upper limits of a hot water pipe's temperature. When the gauge reading is entered outside of its preset limits, the system will prompt the user to immediately generate a PM work order. If one is not immediately generated, it will be the next time PMs are generated.

Click the Gauges tab.

G#   The gauge name as defined on the equipment (i.e.: 1, 2, pipe gauge, etc).

Units   The unit of measurement (PSI, Temperature, voltage).

Last Reading The last time this gauge was updated.

Lower Limit   Enter the lowest value the gauge reading can be and be within tolerance.

Upper Limit   Enter the highest value the gauge reading can be and be within tolerance.

Allow Duplicate Work Orders   Generates a PM work order for each event when a gauge reading was entered outside of the tolerance range.

MAPCON

3. Generate PM Work Orders
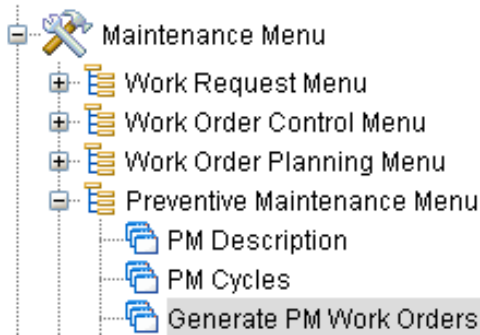
PM Work Orders can be generated after the PM Descriptions have been created and their Frequencies defined.

Double-click the **Maintenance menu**
Double-click the **Preventive Maintenance Menu**
Double-click the **Generate PM Work Orders** menu option.

Select View & Order
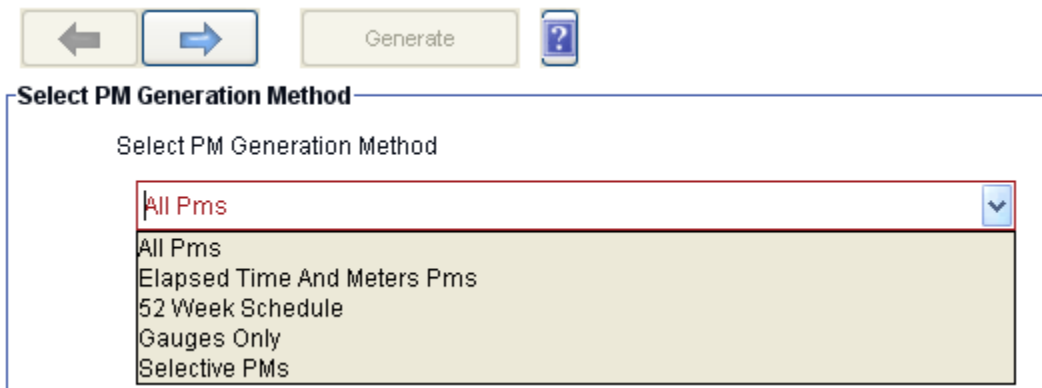
Select the type of frequencies that should be generated. Select **All PMs** to generate for all frequencies, or choose individual frequencies.

The **Selective PMs** option allows you to choose a combination of a specific Equipment or Location or Cost Center, and a specific PM attached to it.

> **Tech Tip**: If machinery is already off-line, choose the Selective PMs option to generate all of the PMs due in the near future to help eliminate down time.

Click to advance to the next step.

Select Reports to Print
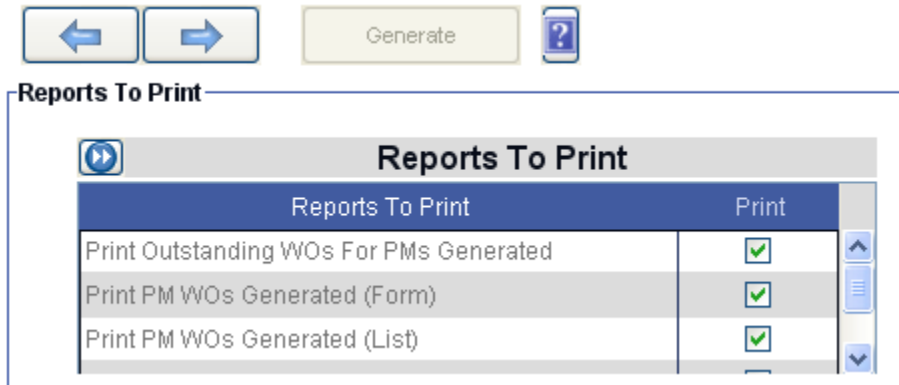
The **Print** column indicates which reports will print after generation. All reports are turned on by default. Clicking on the checkbox will unselect a specific report.

Click [→] to advance to the next step.

Select for Site and Zone

Select the Zone requiring PM Generation. Or, check the site box and select the Site requiring PM Generation.

Click the Options icon [icon] then choose Lookup for a list of valid zones or sites. Or simply double-click the field.

Click [→] to advance to the next step.

Starting Date

To prevent re-generating PM work orders, the **Starting Date** is a read-only field (left hand side). After generation, the **Ending Date** (right hand side) plus one day will become the next Starting Date. For example, if the Ending Date is 06/15/12, the next Starting Date will be 06/16/12.

Note: The starting dates for each zone can be modified from the *Maintenance Configuration* window.

The **Ending Date** (right hand side) is how far out in advance the PM system should look for Frequencies that are due. Most users will generate on a Friday for all of the PMs that are due for the next week. In this example, the Starting Date would be on a Saturday, and the Ending Date would be on a Friday.

Click to advance to the next step. Click **Yes** when the system displays:

Ready to Process

The final step is to review your selections. When ready, click [Generate] to create PM Work orders.

The generation process will always double check to see if there are any Past Due Work Orders. PM Work Orders are past due if they have not been generated and the current date is beyond their due date. This can happen when setting up new PM frequencies, or if PMs have not been generated regularly.

If there are any Past Due orders, the following lookup is displayed:

Highlight the desired Past Due PMs to generate (if any), then click the Select icon ✓ to continue.

When the program is finished generating, a message similar to the following will appear:
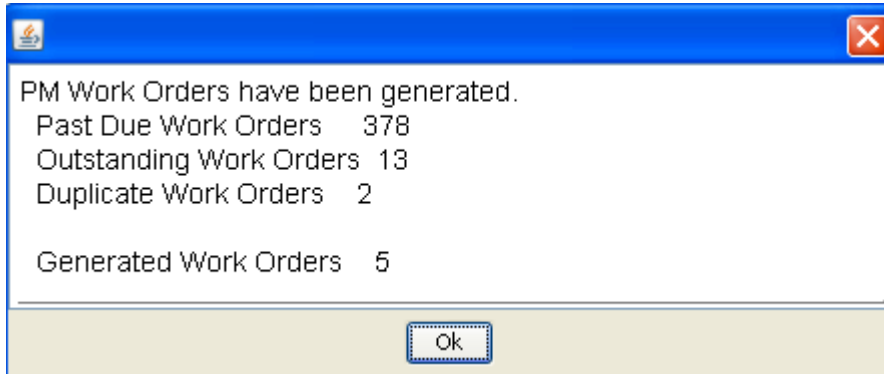
Click **Ok**.

Click the **Close** icon to close the window.

View the generated work orders using the one of the Work Order data entry windows. Or, review the reports generated by the PM Generation process.

PM WORK ORDER GENERATION IS NOW COMPLETE!

GLOSSARY

Definitions of words as they apply to MAPCON

Asset - Equipment, Location or Cost Center.

Equipment - can be a machine or a major tool.

Hierarchy – An organization of equipment, such as sub-assemblies. Smaller equipment can be part of a larger hierarchy, and allows costs to "roll-up" the hierarchy for more accurate cost tracking of the parent asset. Note: hierarchies are only available in the Pro version
Note: Equipment and Location Hierarchies are only available in the Pro version.

Keywords - A way of organizing and grouping like items together.

Location - can be a building or place that provides a particular service or is used for a particular industry. As a 'place', it doesn't even need to be a building – a golf course, school grounds, or parking lot could be locations as well.

Route - is a collection of equipment, locations, or cost centers that is organized as a list of *stops*. When a work order is performed against the route, the same maintenance function is performed against each entity (each stop) on the list. Note: Routes are only available in the Pro version
Note: Routes are only available in the Pro version.

Cost Center - is an entity whose primary purpose is to keep track the cost of work done, including material, labor, and direct purchases. Like a route, a cost center contains other entities such as equipment or locations – each equipment or location is assigned a cost center. Some organizations may wish to define cost centers as divisions. For example, Research & Development might be one cost center, the Maintenance Department another cost center. Other organizations may treat the cost center as an account code, where the account code describes the activity taking place. Most facilities already have cost center numbers defined by their internal administration or accounting department.

Site – is a way to separate multiple facilities which are related through a parent company. They may be located in different cities, states, or countries.

Zone – is a way to separate areas within a Site. They can physical or logical.
Physical: Each area or department is considered a zone, such as Administration, Maintenance, or Shipping/Receiving. Likewise, each building may be a zone.
Logical: three similar assembly lines may each have their own zone. For example, a process may start in one area for cutting, continue on to another area for painting, and finish in another area for assembly. This whole process may be considered one zone.
Note: Zones are only available in the Pro version.

Work Request - a process where problems with equipment and facilities were noticed and reported to maintenance workers.

Work Order – a process where maintenance tasks are assigned to an asset, and may include planning material and scheduling labor. Preventive maintenance work orders are setup to generate on a repeated basis because the tasks are the same each time. The work order not only organizes current activities, but also provides a history of what was done and how long it took.

OTHER MAPCON SERVICES

SUPPORT

Mapcon Technologies, Inc. provides world-class customer service to all of our valuable clients. Your annual Support agreement provides unlimited phone calls, e-mail support, and free upgrades as they are released.

MAPCON USERS GROUP (MUG)

The Mapcon Users Group meets once a year to share success stories of how they have modified the system to make life better, and show how you can do it too! The annual MUG Conference also offers basic training and other fun activities. Many MAPCON users feel like they become part of our extended family after enjoying the MUG experience. Visit our website at www.mapcon.com and click the **Users Group** link for more details.

TRAINING

The key to any successful facility is proper training. MAPCON is *the most productive tool you will ever use* when you know what it can do and learn how to use it.

MAPCON Technologies, Inc. provides a variety of training. First, you will be attending the MAPCON **System Managers Training** class at our training center in Des Moines, Iowa. This is a "Fundamentals of MAPCON" course designed for new installations of MAPCON or as a refresher course for new staff recently involved with the software. Training focuses on usage of each module in MAPCON. New users will be able to utilize this information to better implement their MAPCON systems.

On-Site User Training at your location is an effective way to group trainees together to focus on training of operations, or train production employees that would only utilize segments of your MAPCON system. This training comes later, once your system is setup. When ready, you'll want to concentrate on training larger groups or target specific areas.

Training schedules vary with demand. For more information on training schedules, see our web site at www.MAPCON.com, or contact us at 800-223-4791.

CUSTOM PROGRAMMING

Using our custom programming services you can integrate MAPCON with any other accounting or purchasing software system, schedule automatic data transfers, or build complex reports. For more details call 1-800-223-4791.

Easy to use. Powerful software. Priced right.

MAPCON

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