Chapter 1

Introduction to AutoCAD MEP

Learning Objectives

After completing this chapter, you will be able to:

- *Start AutoCAD MEP*
- *Use the components of the AutoCAD MEP interface*
- *Invoke AutoCAD MEP commands from the keyboard, menu, toolbar, shortcut menu, TOOL PALETTES, and Ribbon*
- *Use the components of dialog boxes in AutoCAD MEP*
- *Start a new drawing*
- *Save work using various file-saving commands*
- *Close a drawing*
- *Open an existing drawing*
- *Exit AutoCAD MEP*
- *Use various options of AutoCAD MEP help*

INTRODUCTION

AutoCAD MEP is based on the AutoCAD Architecture platform. Since it belongs to the AutoCAD family, it has all the features of AutoCAD such as Blocks, Layers, 3D Models, and so on. Also, the software has all the important architectural features such as walls, doors, windows, and so on. AutoCAD MEP is also referred to as AMEP where MEP stands for Mechanical, Electrical, and Plumbing. Therefore, the software has all the required features for creating a Mechanical, Electrical, and Plumbing system. In this chapter, you will learn to start AutoCAD MEP and use various components displayed in the AutoCAD MEP interface.

GETTING STARTED WITH AutoCAD MEP

When you install AutoCAD MEP 2020 on your system, three shortcuts pointing to the AutoCAD MEP 2020 - English (Global), AutoCAD MEP 2020 - English (US Imperial), and AutoCAD MEP 2020 - English (US Metric) will be created on the desktop. You can start AutoCAD MEP by double-clicking on any of these three icons. In AutoCAD MEP 2020 -English (US Imperial), the units available in drawing will be in Inch, Feet, and Mile. In AutoCAD MEP 2020 - English (US Metric), the units available in the drawing will be in Millimeter, Centimeter, and Meter. In AutoCAD MEP 2020 - English (Global), AutoCAD MEP will start using the global template.



Note

In this textbook, the global unit system is followed, so you need to start AutoCAD MEP 2020 by double-clicking on the AutoCAD MEP 2020 - English (Global) icon on the desktop.

AutoCAD MEP INTERFACE COMPONENTS

The initial AutoCAD MEP interface comprises of a drawing area, command window, menu bar, title bar, several toolbars, model and layout tabs, and Status bar, and so on, refer to Figure 1-1. The title bar is located on the top of the interface screen and displays AutoCAD logo and the name of the current drawing. Other components are discussed next.

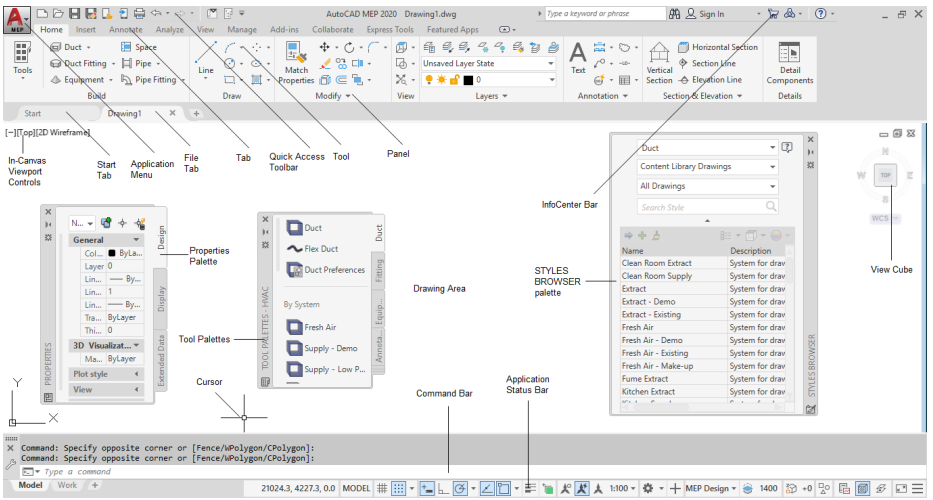

Figure 1-1 *AutoCAD MEP interface components*

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Start Tab

In AutoCAD MEP 2020, the **Start** Tab is displayed with the startup interface window. It only appears when all the drawing templates are closed or when no drawing is open. It contains two sliding frames, **CREATE** and **LEARN**. These frames are discussed next.



Note

*The **CREATE** and **LEARN** sliding frames will be displayed only when you have an active internet connection.*

CREATE

The **CREATE** sliding frame is displayed by default. In the **CREATE** sliding frame, you can access a sample file, recent files, templates, product updates, and connect with the online community. The **CREATE** sliding frame is divided into four columns: **Get Started**, **Recent Documents**, **Notification**, and **Connect**, as shown in Figure 1-2.

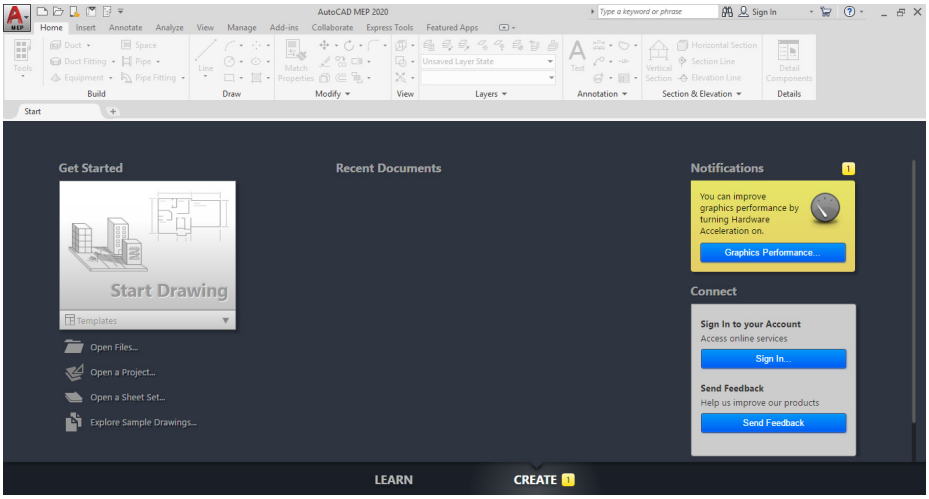

Figure 1-2 *The startup interface window of AutoCAD MEP 2020 with the **CREATE** sliding frame*

LEARN

When you open the **LEARN** sliding frame, the information about newly introduced tools, security updates, and so on, is displayed. It is divided into three columns: **What's New**, **Getting Started Videos**, and **Security Updates** with **Online Resources**, as shown in Figure 1-3.

Drawing Area

Choose the **Start Drawing** button under the **Get Started** column in the **CREATE** sliding frame to open the drawing area. The drawing area covers a major portion of the screen. In this area, you can draw objects and use the commands. To draw the objects, you need to define the coordinate points. Position of the pointing device is represented on the screen by the cursor. There is a coordinate system icon at the lower left corner of the drawing area. The drawing area also has the standard windows buttons such as close, minimize, and maximize on the top right corner. These buttons have the same functions as in any other standard window.

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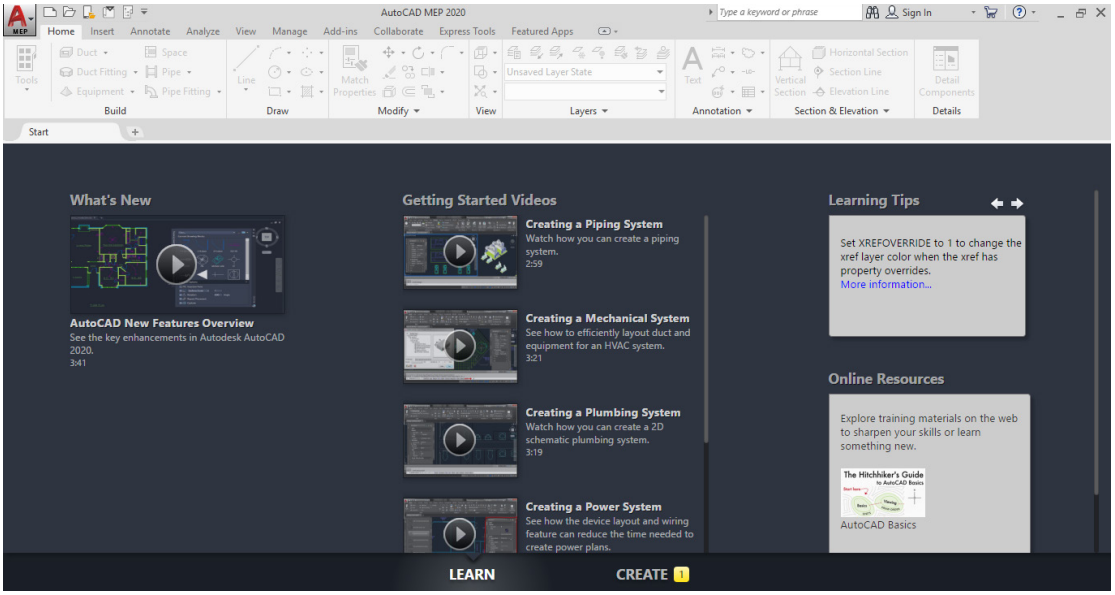

Figure 1-3 *The startup interface window of AutoCAD MEP 2020 with the* ***LEARN*** *sliding frame*

Command Window

The command window available at the bottom of the drawing area has the command prompt where you can enter the commands. It also displays the subsequent prompt sequences and messages. You can change the size of the window by placing the cursor on the top edge (double line bar known as the grab bar) and then dragging it. This way you can increase its size to see all the previous commands you have used. By default, the command window displays only two lines. You can also press the F2 key to display the **AutoCAD Text window**, which displays the previous commands and prompts.

ViewCube

The ViewCube is available at the top right corner of the drawing area and is used to switch between standard and isometric views or roll the current view.

In-Canvas Viewport Controls

In-Canvas Viewport Controls is available at the top left corner of the drawing screen. It enables you to change the drawing view, visual style, and the viewport.

Application Status Bar

The **Application Status Bar** is located at the bottom of the interface. This bar is also referred to as the Status bar. It contains some useful information and buttons, refer to Figure 1-4, that help you in changing the status of some AutoCAD MEP functions. You can toggle between the on and off states of most of these functions by using the corresponding options. You can customize the **Application Status Bar** by using the **Customization** button available on the right on the Status Bar. Some of the options in the **Application Status Bar** are discussed next.

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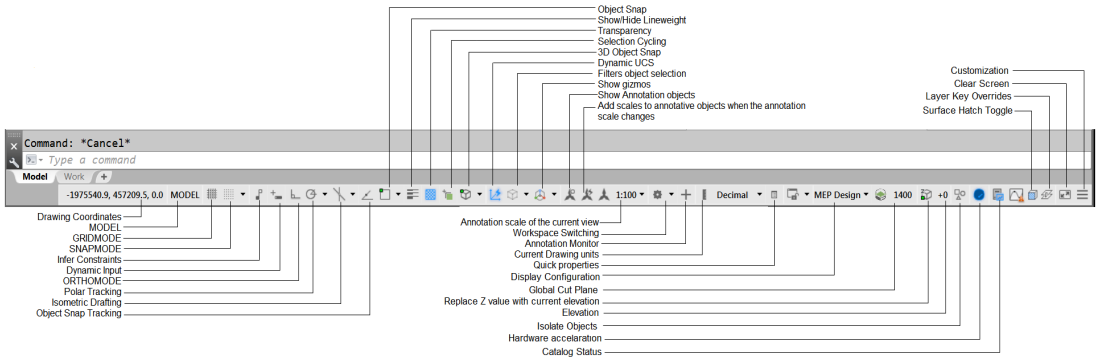

Figure 1-4 The Application Status Bar

Drawing Coordinates

The information about the coordinates is displayed at the lower left corner of the Status bar. The **COORDS** system variable controls the display type of the coordinates. If the value of the **COORDS** variable is set to 0, the coordinate display is static, that is, the coordinate values displayed in the Status bar will change only when you specify a point. If the value of the **COORDS** variable is set to 1 or 2, the coordinate display will be dynamic. When the variable is set to 1, AutoCAD MEP constantly displays the absolute coordinates of the cursor with respect to the UCS origin. The relative polar coordinates (length<angle) are displayed when you are in an AutoCAD MEP command and the **COORDS** variable is set to 2. Click on the **Drawing Coordinates** area to toggle the coordinate status from on to off and vice versa.

Model or Paper space

The **Model or Paper space** button is used to toggle between the model space and the paper space.

GRIDMODE

The **GRIDMODE** button is used to toggle the display of the grid lines on and off on the screen. In AutoCAD MEP, the grid lines are used as reference lines to draw objects. The F7 function key can be used to turn the grid display on or off.

SNAPMODE

On choosing this button, you can move the cursor in fixed increments. The F9 key acts as a toggle key to turn the snap off or on.

Infer Constraints

If this button is chosen, then some of the geometric constraints will be automatically applied to the sketch while it is being drawn.

Dynamic Input

The **Dynamic Input** button is used to turn the **Dynamic Input** mode on or off. Turning it on facilitates the heads-up design approach because all commands, prompts, and dimensional inputs will now be displayed in the drawing area and you do not need to look at the command prompt all the time. This saves the design time and also increases the efficiency of the user. If

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the **Dynamic Input** mode is turned on, you will be able to enter the commands through the **Pointer Input** boxes, and the numerical values through the **Dimensional Input** boxes. You will also be able to select the command options through the **Dynamic Prompt** options in the graphics window. To turn the **Dynamic Input** mode on or off, use the F12 key.

ORTHOMODE

On choosing the **ORTHOMODE** button, you can draw lines at right angles only. You can use the F8 function key to turn the ortho mode on or off.

Polar Tracking

The **Polar Tracking** button is used to turn the polar tracking on. If you turn the polar tracking on, the movement of the cursor is restricted along a path based on the angle set as the polar angle. You can also use the F10 function key to turn on this option. Note that turning the polar tracking on, automatically turns off the ortho mode.

Isometric Drafting

In AutoCAD MEP 2020, you can create an isometric drafting by using any working plane. To activate a required working plane, choose the **Isometric Drafting** button from the Status Bar; a flyout will be displayed with the **isoplane Left**, **isoplane Top**, or **isoplane Right** option. You can choose the required option from this flyout to activate the respective work plane.

Object Snap Tracking

This button is used to turn the object snap tracking on or off. On choosing this button, the inferencing lines will be displayed. Inferencing lines are dashed lines displayed automatically when you select a sketching tool and track a particular key point on the screen. You can also choose the F11 function key to turn on or off the object snap tracking.

Object Snap

On choosing the **Object Snap** button, you can use the running object snaps to snap on to a point. You can also use the F3 function key to turn the object snap on or off. The status of **OSNAP** (off or on) does not prevent you from using the immediate mode object snaps.

Show/Hide Lineweight

This button is used to turn on or off the display of line weights in the drawing. If this button is not chosen, the display of lineweight will be turned off.

Transparency

This button is used to turn on or off the transparency set for a drawing. You can set the transparency in the **Properties** panel or in the layer in which the sketch is drawn.

Selection Cycling

On choosing this button, you can cycle through and select the overlapping objects close to the other entities. On selecting an entity when this button is chosen, the **Selection** list box will be displayed with a list of entities.

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3D Object Snap

On choosing this button, you can snap the key point on a solid or a surface body. You can also use the F4 function key to turn on or off the 3D object snap.

Dynamic UCS

This button is used to enable or disable the use of dynamic UCS. Allowing the dynamic UCS ensures that the XY plane of the UCS gets dynamically aligned with the selected face of the model. You can also use the F6 function key to turn the **Dynamic UCS** button on or off.

Filters object selection

You can filter objects by using the **Filters object selection** button. If you want to select only vertex, edge, face, solid history, or the drawing view components of a 3D object then you can choose the required option from the flyout which is invoked by clicking on the small arrow located on right of the **Filters object selection** button. You can also select multiple objects using the selection window.

The **Drawing View Components** option is used to select the components of an assembly or the parts in a multi-body. Using this option, you can select components either individually or through window selection. You can also clear the filters by choosing the **Filter object selection** button again.

Show gizmos

You can move, rotate, and scale a 3D object by choosing the **Show gizmos** button from the Status Bar. When you click on the small arrow available next to the **Show gizmos** button, a flyout is displayed with the **Move Gizmo**, **Rotate Gizmo**, and **Scale Gizmo** options.

Show annotation objects

This button is used to control the visibility of the annotative objects that do not support the current annotation scale in the drawing area.

Add scales to annotative objects when the annotation scale changes

If this button is chosen then the annotation scales that are set current to all the annotative objects present in the drawing are applied automatically to the drawing.

Annotation scale of the current view

The annotation scale controls the size and display of the annotative objects in the model space. When you choose this button, a flyout will be displayed showing all the annotation scales available for the current drawing.

Workspace Switching

When you choose this button, a flyout is displayed. You can use the options in this flyout to switch between different workspaces like HVAC, Piping, Electrical, and so on. You can also customize a workspace or create a new workspace by using the options in this flyout.

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Annotation Monitor

The **Annotation Monitor** button is used to turn the **Annotation Monitor** on or off. If it is turned on, all the non-associative annotations will get highlighted with a badge placed on them, as shown in Figure 1-5. In this figure, a line leader is not associated with line.

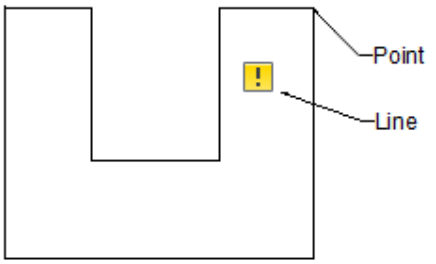

Figure 1-5 *The non-associative annotation*

Current drawing units

The **Current drawing units** button displays and controls the units of drawing. When you choose this button, a flyout is displayed. This flyout shows all the unit systems available for the drawing.

Quick Properties

On choosing this button, the properties of the selected sketched entity will be displayed in a panel.

Display Configuration

When you choose this button, a flyout will be displayed with **MEP Design** option as the default chosen configuration. Options available in this flyout are used to control the level of details of the objects created in the drawing area. The options in the flyout are arranged according to their area of application. For example, the options related to the **Electrical** workspace are grouped together.

Global Cut Plane

When you click on the **Global Cut Plane** button in the **Application Status Bar**, the **Global Cut Plane** dialog box will be displayed, as shown in Figure 1-6. This dialog box is used to specify the cut plane height and display range for the objects in the drawing area.

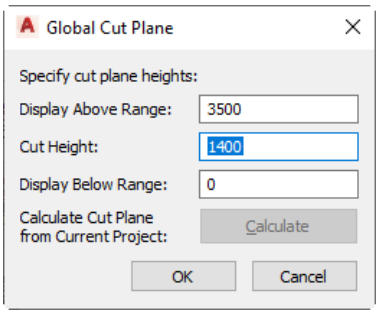

Figure 1-6 *The* ***Global Cut Plane*** *dialog box*

Replace Z value with current elevation

This toggle button is used to replace the elevation value with the specified Z value. When this toggle button is chosen, the components are created on the plane having the elevation equal to the Z value entered for the previously created component.

Elevation

The elevation icon displays a value of the current elevation. To specify elevation, click on the elevation value displayed in the **Application Status Bar**; the **Elevation Offset** dialog box will be displayed. You can set the elevation either by specifying the Z offset value or by picking a point from the drawing.

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Isolate Objects

When you choose this button, a flyout is displayed. There are two options in this flyout: **Isolate Objects** and **Hide Objects**. Using the **Isolate Objects** option, you can isolate the selected objects so that only the selected objects are displayed in the drawing area. If some objects are already isolated, then the **Isolate Objects** button will be highlighted in blue color in the **Application Status Bar**. To end isolation or display a hidden object, choose this button again; a flyout will be displayed. Now, choose the **End Object Isolation** option from the flyout. To hide objects, choose the **Hide Objects** option from the flyout.

Hardware Acceleration

This button is used to set the performance of the software to the required level. Right-click on this button; a flyout with **Graphic Performance** option will be displayed. Choose this option; the **Graphic Performance** dialog box will be displayed. By using the options in this dialog box, you can control the performance of software.

Catalog Status

This button is used to check the status of equipment in the MEP database. If the database is not updated then you can regenerate the database by using this button. To do so, double-click on the **Catalog Status** button in the **Application Status Bar**; you will be prompted to specify the name of catalog for which you want to regenerate the database. There are five catalogs in AutoCAD MEP: Cabletray, Conduit, Duct, Mvpart, and Pipe. You can update any of the catalogs by specifying its name or you can update all the catalogs by specifying **All** at the command prompt.

Surface Hatch Toggle

Using this button, you can toggle on or off the display of the surface hatch in the drawing area.

Layer Key Overrides

The **Layer Key Overrides** button is used to enable or disable the overrides applied on the layers available in the drawing file. When you choose this button, the **Layer Key Overrides** dialog box will be displayed, refer to Figure 1-7. Using the options available in this dialog box, you can configure the presets for any of the layers available in the drawing. Also, you can enable or disable the overrides for any of the layers available.

Clean Screen

This button is used to display the expanded view of the drawing area by hiding all the toolbars except the command window, Status Bar, and menu bar. The expanded view of the drawing area can also be displayed by using the CTRL+0 keys. Choose the **Clean Screen** button again to restore the previous display state.

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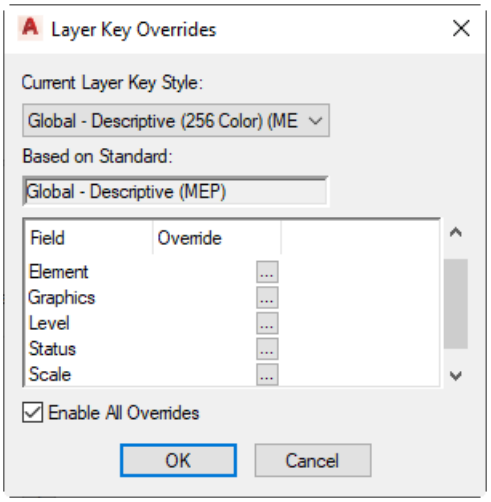

***Figure 1-7** The **Layer Key Overrides** dialog box*

Customization

This button is used to add or remove tools in the **Application Status Bar**.

Plot/Publish Details Report Available

This icon is displayed in the **Application Status Bar** when a plotting or publishing activity is being performed in the background or is completed. When you click on this icon, the **Plot and Publish Details** dialog box, which provides the details about the plotting and publishing activity, will be displayed. You can copy this report to the clipboard by choosing the **Copy to Clipboard** button from the dialog box.

Invoking Commands in AutoCAD MEP

When you are in the drawing area in AutoCAD MEP,\ you need to invoke AutoCAD MEP commands to perform any operation. For example, to draw a pipe line, enter the **PIPEADD** command at the command prompt and then define the start point and the endpoint of the pipe. Similarly, if you want to erase objects, you must invoke the **ERASE** command and then select the objects for erasing. In AutoCAD MEP, you can invoke the commands by using:

Command Prompt **Ribbon** **Application Menu** **TOOL PALETTES**
Menu Bar **Shortcut Menu** **Toolbar**

Command Prompt

You can invoke any AutoCAD MEP command from the command prompt by typing the command name and then pressing ENTER. As you type the first letter of the command, AutoCAD MEP displays all the available commands starting with the letter typed. If the **Dynamic Input** is on and the cursor is in the drawing area, by default the command will be entered through the **Pointer Input** box. The **Pointer Input** box is a small box displayed on the right of the cursor. However, if the cursor is currently placed on any toolbar or menu bar, or if the **Dynamic Input** is turned off, the command will be entered through the Command Prompt. Before you enter a command, the Command Prompt is displayed as the last line in the command window area.

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If it is not displayed, you must cancel the existing command by pressing the ESC (Escape) key. The following example shows how to invoke the **LINE** command by using the keyboard:

Command: **LINE** or **L** Enter (L is command alias)

Ribbon

In AutoCAD MEP, you can also invoke a tool from the **Ribbon**. When you start the AutoCAD MEP session for the first time, by default, the **Ribbon** is displayed below the **Quick Access Toolbar**. The **Ribbon** consists of various tabs. The tabs have different panels which in turn have tools arranged in rows. For example, the tools for creating, modifying, and annotating the objects are available in the **Annotate** tab in panels instead of being spread out in the entire drawing area in different toolbars and menus, refer to Figure 1-8.

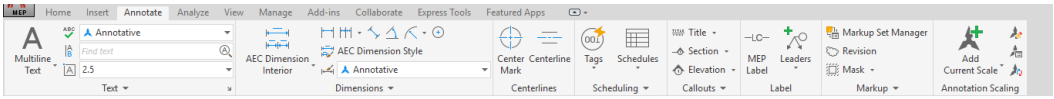

***Figure 1-8** The **Ribbon** with the **Annotate** tab chosen*

Some of the tools have small black down arrows. This indicates that the tools having similar functions are grouped together. To choose a tool, click on the down arrow; a drop-down will be displayed. Choose the required tool from the drop-down displayed. Note that if you choose a tool from the drop-down, the corresponding command will be invoked and the tool that you have chosen will be displayed in the panel. For example, to draw a circle using 2 points, click on the down arrow next to the **Circle**, **Center**, **Radius** tool in the **Draw** panel of the **Home** tab; a flyout will be displayed. Choose the **Circle**, **2-Point** tool from the flyout and then draw the circle. You will notice that the **Circle**, **2-Point** tool is displayed in place of the **Circle**, **Center**, **Radius** tool.

You can click on the down arrow to expand the panel. On doing so, you will notice that a push pin is available at the left corner of the panel. Click on the push pin to keep the panel in the expanded state. Also, some of the panels have an inclined arrow at the lower-right corner. When you left click on an inclined arrow, a dialog box is displayed. You can define the setting of the corresponding panel in the dialog box.

You can reorder the panels in the tab. To do so, press and hold the left mouse button on the panel to be moved and drag it to the required position. You can also undock the **Ribbon**. To do so, right-click on the blank space in the **Ribbon** and choose the **Undock** option; the **Ribbon** gets undocked. Now you can move, resize, anchor, and auto-hide the **Ribbon** using the shortcut menu that will be displayed when you right-click on the heading strip. To anchor the floating **Ribbon** to the left or right of the drawing area in the vertical position, right-click on the heading strip of the floating **Ribbon**; a shortcut menu is displayed. Choose the corresponding option from this shortcut menu. The **Auto-hide** option will hide the **Ribbon** into the heading strip and will display it only when you move the cursor over this strip.

You can customize the display of tabs and panels in the **Ribbon**. To customize the **Ribbon**, right-click on any one of the tools in it; a shortcut menu will be displayed. On moving the cursor over one of the options, a flyout will be displayed with a tick mark before all options and the corresponding tab or panel will be displayed in the **Ribbon**. Select/clear appropriate option to display/hide a particular tab or panel.

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Application Menu

The **Application Menu** is available at the top-left of the AutoCAD MEP window. It contains some of the tools that are also available in the **Quick Access Toolbar**. Click on the down arrow on the **Application Menu** to display the tools, as shown in Figure 1-9. You can search a command using the search field on the top of the **Application Menu**. To search a tool, enter the complete or partial name of the command in the search field; the relevant tool list will be displayed. If you click on a tool from the list, the corresponding command will get activated.

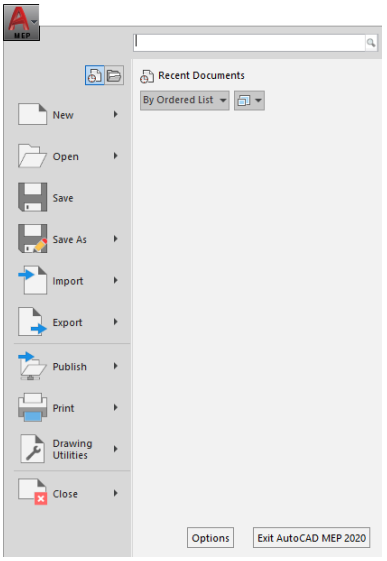

*Figure 1-9 The **Application Menu***

By default, the **Recent Documents** button is chosen in the **Application Menu**. Therefore, the recently opened drawings will be displayed. If you have opened multiple drawing files, choose the **Open Documents** button; the documents that are opened will be listed in the **Application Menu**. To set the preferences of the file, choose the **Options** button available at the bottom of the **Application Menu**. To exit AutoCAD MEP, choose the **Exit AutoCAD MEP 2020** button next to the **Options** button.

TOOL PALETTES

The **TOOL PALETTES** in AutoCAD MEP help you to place and share hatch patterns and blocks in the current drawing in a convenient way. By default, the **TOOL PALETTES** are displayed on the left in the drawing area. If the **TOOL PALETTES** is not displayed then choose **Tools** from the **Tools** drop-down in the **Build** panel of the **Home** tab in the **Ribbon** or choose the CTRL+3 keys to display the **TOOL PALETTES**. You can resize the **TOOL PALETTES** using the resizing cursor that is displayed when you place the cursor on the top or bottom extremity of the **TOOL PALETTES**. The **TOOL PALETTES** will be discussed in detail in later chapters.

Menu Bar

You can also select commands from the menu bar. Menu bar is not displayed by default. To display the menu bar, choose the down arrow in the **Quick Access Toolbar**; a flyout is displayed. Choose the **Show Menu Bar** option from it; a menu bar will be displayed. You can invoke a command by left-clicking on the menu. In AutoCAD MEP, there are three menus available: **File**, **Window**, and **Help** menus. The **File** menu has the options to manage the drawing file. Using the options available in the **Window** menu, you can close the current session, switch between two sessions, or can display multiple sessions in the display window. The options in the **Help** menu are used to display the help documentation.

Shortcut Menu

AutoCAD MEP has provided shortcut menus as an easy and convenient way of invoking the recently used tools. These shortcut menus are context-sensitive, which means that the tools present in them are dependent on the place/object for which they are displayed. A shortcut menu is invoked by right-clicking and is displayed at the cursor location. You can right-click anywhere in

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the drawing area to display the general shortcut menu. It generally contains an option to select the previously invoked tool again apart from the common tools, refer to Figure 1-10.

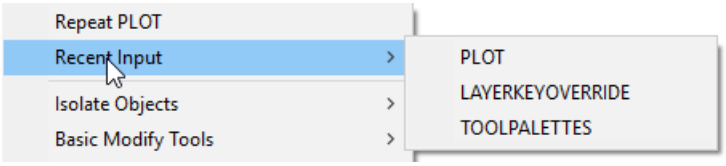

Figure 1-10 *Partial view of shortcut menu with the recently used commands*

If you right-click in the drawing area while a command is active, a shortcut menu with the options related to that particular command will be displayed. Figure 1-11 shows the shortcut menu when the **Duct** tool is active.

If you right-click on the **Start** Tab, a shortcut menu will be displayed that contains the options for creating new drawings, refer to Figure 1-12.

You can also right-click on the command window to display a shortcut menu. This menu displays the six most recently used commands and some of the Windows options like **Copy** and **Paste**, refer to Figure 1-13. The commands and their prompt entries are displayed in the **History** window (previous command lines not visible) and can be selected, copied, and pasted in the command line using the shortcut menu. As you press the up arrow key, the previously entered commands are displayed in the command window. Once the desired command is displayed at the command prompt, you can execute it by simply pressing the ENTER key. You can also copy and edit any previously invoked command by locating it in the **History** window and then selecting the command lines. After selecting the desired command lines from the **History** window, right-click to display a shortcut menu. Choose **Copy** from the menu and then paste the selected lines at the end of the command line.

You can right-click on the coordinate display area of the **Application Status Bar** to display a shortcut menu. This menu contains the options to modify the display of coordinates, as shown in Figure 1-14.

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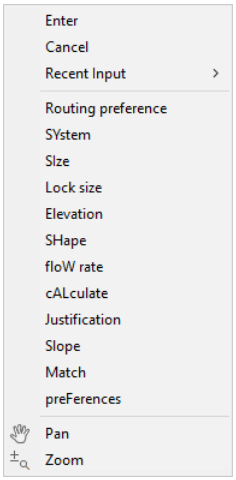

Figure 1-11 *Shortcut menu displayed when the* ***Duct*** *tool is active*

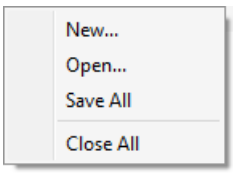

Figure 1-12 *Shortcut menu for the* ***Start*** *Tab*

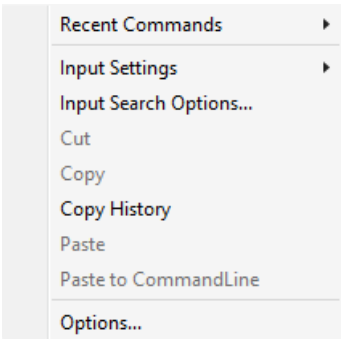

Figure 1-13 *Command line window shortcut menu*

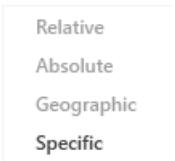

Figure 1-14 *The Coordinate shortcut menu*

AutoCAD MEP DIALOG BOXES

There are certain commands, which when invoked, display a dialog box. When you choose an item from the menu, a dialog box is displayed. For example, when you choose **New** from the **File** menu, the **Select template** dialog box is displayed. In the **Application Menu**, when you choose an item, it may display a dialog box, although there are no ellipses with that item. For example, when you choose **Options** from the **Application Menu**, the **Options** dialog box is displayed. A dialog box contains a number of parts like the dialog label, radio buttons, text or edit boxes, check boxes, slider bars, image boxes, and command buttons. These components are also referred to as tiles. Some of the components of a dialog box are shown in Figure 1-15.

You can select the desired tile using the pointing device, which is represented by an arrow when a dialog box is invoked. The titlebar displays the name of the dialog box. The tabs specify the various sections with a group of related options under them. The check boxes provide toggle

options for making a particular option available or unavailable. The drop-down list displays an item and an arrow on the right which when selected displays a list of items to choose from. You can make a selection in the radio buttons. Only one can be selected at a time. The preview displays the preview image of the item selected. The text box is an area where you can enter a text like a file name. It is also called an edit box because you can make any change to the text entered. In some dialog boxes, there is the **[...]** button, which displays another related dialog box. There are certain buttons (**OK**, **Cancel**, and **Help**) at the bottom of the dialog box. The name implies their functions. The button which is highlighted is the default button. The **Help** button in this dialog box is used to display help on various features of the dialog box.

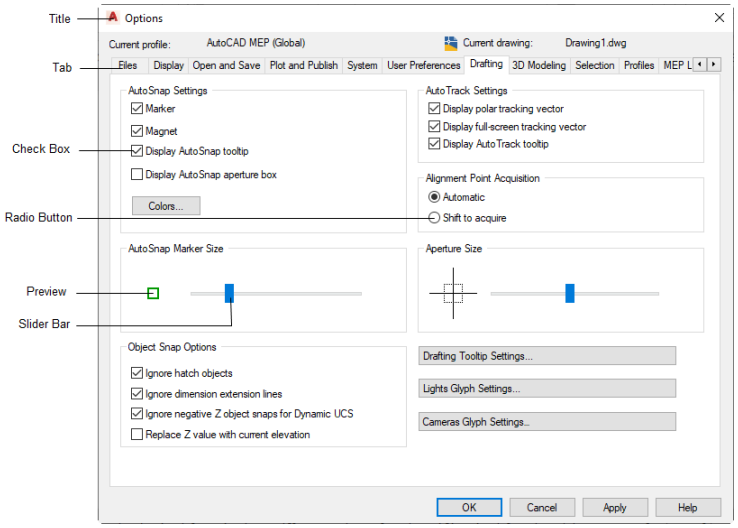

Figure 1-15 *Components of a dialog box*

STARTING A NEW DRAWING

Application Menu: New > Drawing **Command:** NEW
Quick Access Toolbar: New **Menu Bar:** File > New

You can open a new drawing using the **New** tool in the **File** menu. When you invoke the **New** tool, by default the **Select template** dialog box will be displayed, as shown in Figure 1-16. This dialog box displays a list of default templates available in AutoCAD MEP 2020. The default selected template is ***Aecb Model (Global Ctb).dwt***, which starts the AutoCAD MEP environment with global unit system. You can select any other template to start a new drawing. The drawing will use the settings of the selected template. You can also open any drawing without using any template either in metric or imperial system. To do so, choose the down arrow on the right of the **Open** button from the **Select template** dialog box and select the **Open with no Template-Metric** option or the **Open with no Template-Imperial** option from the flyout.

You can also open a new drawing using the **Use a Wizard** and **Start from Scratch** options from the **Create New Drawing** dialog box. To invoke the **Create New Drawing** dialog box, enter **STARTUP** at the command prompt and then enter **1** as the new value for this system variable. Invoke the **New** tool; the **Create New Drawing** dialog box will be displayed, as shown in Figure 1-17. The options in this dialog box are discussed next.

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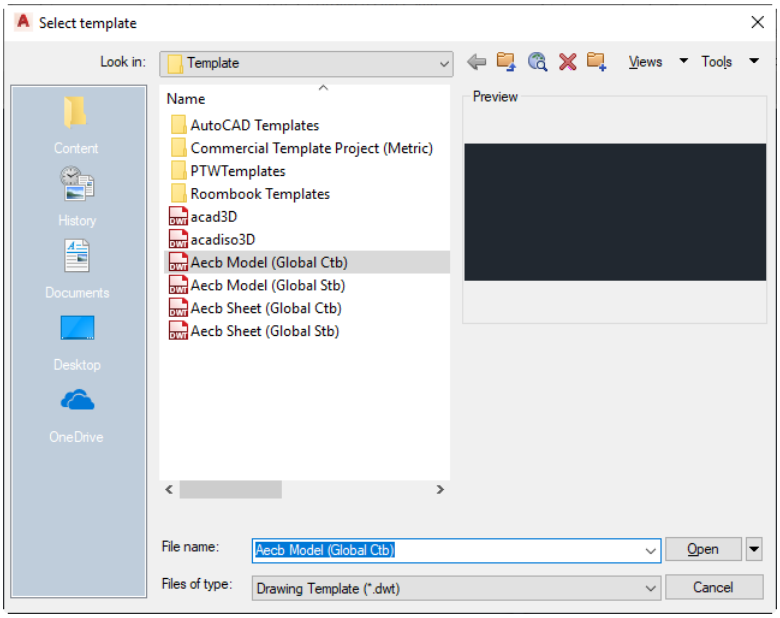

Figure 1-16 *The* ***Select template*** *dialog box*

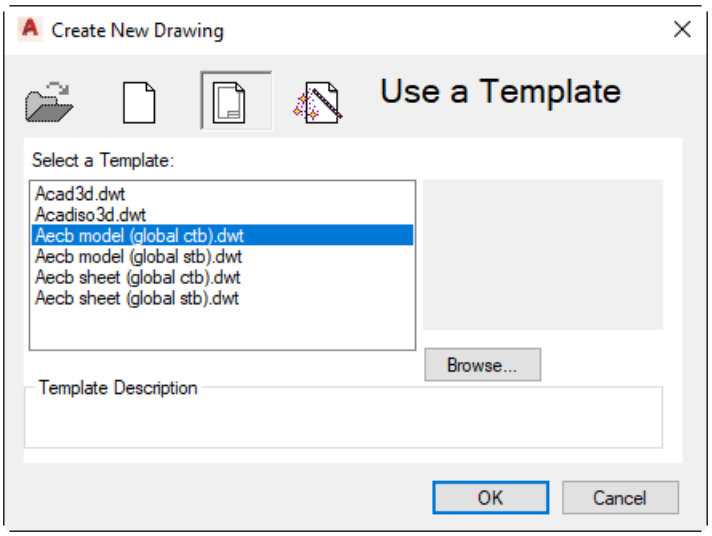

Figure 1-17 *The default templates displayed in the* ***Create New Drawing*** *dialog box on choosing the* ***Use a Template*** *button*

Note

If you have started a new AutoCAD MEP session with the ***STARTUP*** *variable set to 1 then the* ***Startup*** *dialog box will be displayed. The options in the* ***Startup*** *dialog box are same as that of the* ***Create New Drawing*** *dialog box with the only difference that in the* ***Startup*** *dialog box, the* ***Open a Drawing*** *button will be activated.*

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Open a Drawing

By default, this option is not available. You can access this option only when you start a new session of AutoCAD MEP. You can open a drawing by using the **Open** button which is discussed later in this chapter.

Use a Template

When you choose the **Use a Template** button from the **Create New Drawing** dialog box, AutoCAD MEP displays a list of templates, refer to Figure 1-17. The default selected template file is *Aecb model (global ctb).dwt*. You can select any of the template files from the list. The new drawing will have the same settings as specified in the template file. The preview of the template file selected is displayed in the dialog box. You can also define your own template files that are customized to your requirements. You can differentiate the template files from the drawing files through their extensions. The template files have a *.dwt* extension whereas the drawing files have a *.dwg* extension. Any drawing file can be saved as a template file. You can use the **Browse** button to select other template files. When you choose the **Browse** button, the **Select a template file** dialog box is displayed with the **Template** folder open, displaying all the template files.

Start from Scratch

When you choose the **Start from Scratch** button, refer to Figure 1-18, AutoCAD MEP provides you with options to start a new drawing that contains the default AutoCAD MEP setup for Imperial or Metric drawing. If you select the **Imperial(feet and inches)** option from the **Default Settings** area, the limits are 12X9, text height is 0.20, and dimension and linetype scale factor is 1.

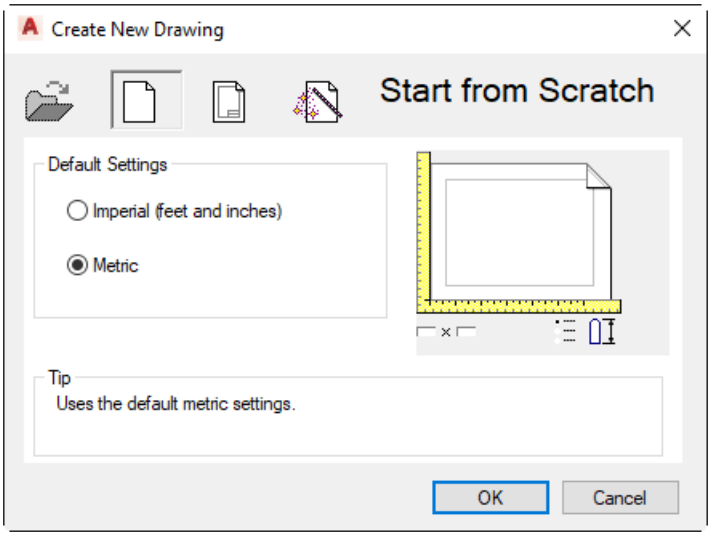

Figure 1-18 *The* ***Create New Drawing*** *dialog box with the* ***Start from Scratch*** *button chosen*

Use a Wizard

The **Use a Wizard** button allows you to set the initial drawing settings before actually starting a new drawing. When you choose the **Use a Wizard** button, the **Quick Setup** and **Advanced**

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Setup options are displayed in the **Select a Wizard** area, refer to Figure 1-19. If you select the **Quick Setup** option, you can specify the units and the limits of the work area. If the **Advanced Setup** option is selected, then you can set the units, limits, and the other types of settings for a drawing. These options are discussed next.

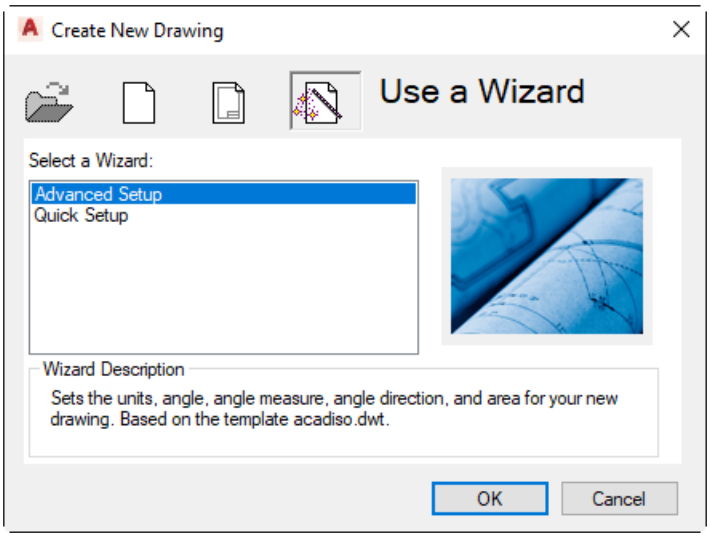

Figure 1-19 *The wizard options displayed on choosing the* ***Use a Wizard*** *button*

Advanced Setup

This option allows you to preselect the parameters of a new drawing such as the units of linear and angular measurements, type and direction of angular measurements, approximate area desired for the drawing, precision for displaying the units after decimal, and so on. When you select the **Advanced Setup** wizard option from the **Create New Drawing** dialog box and choose the **OK** button, the **Advanced Setup** wizard will be displayed. The **Units** page is displayed by default, as shown in Figure 1-20.

This page is used to set the units for measurement in the current drawing. The different units of measurement that you can choose from are Decimal, Engineering, Architectural, Fractional, and Scientific. You can select the required unit of measurement by selecting the respective radio button. You will notice that the preview image is modified accordingly. You can also set the precision for the measurement units by selecting it from the **Precision** drop-down list.

Choose the **Next** button to open the **Angle** page, as shown in Figure 1-21. You will notice that an arrow appears on the left of **Angle** in the **Advanced Setup** wizard. This suggests that this page is current.

This page is used to set the unit for angular measurements and its precision. The units for angle measurement are Decimal Degrees, Deg/Min/Sec, Grads, Radians, and Surveyor. The units for angle measurement can be set by selecting any one of these radio buttons as required. The preview of the selected angular unit is displayed on the right of the radio buttons. The precision format changes automatically in the **Precision** drop-down list depending on the angle measuring system selected. You can then select the precision from the drop-down list.

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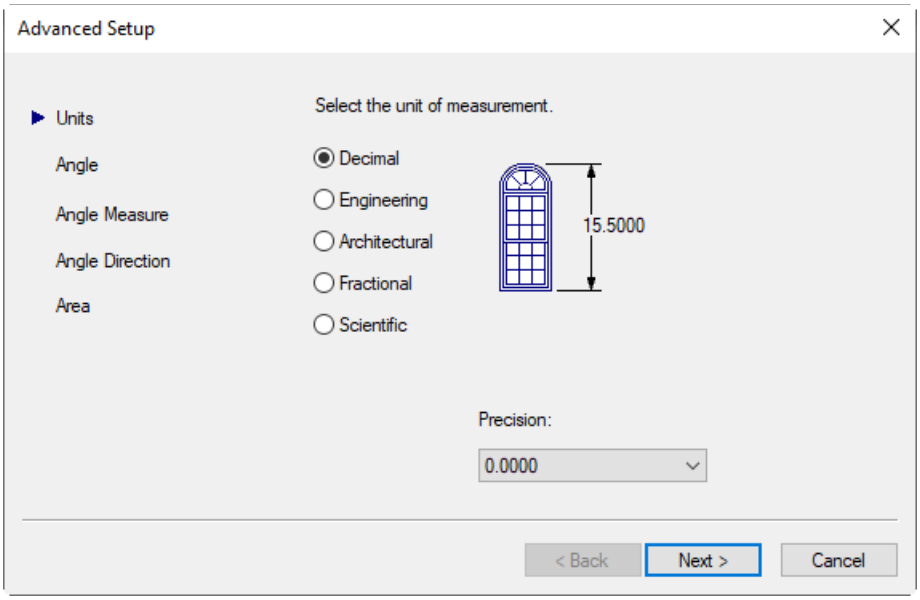

Figure 1-20 *The* ***Units*** *page of the* ***Advanced Setup*** *wizard*

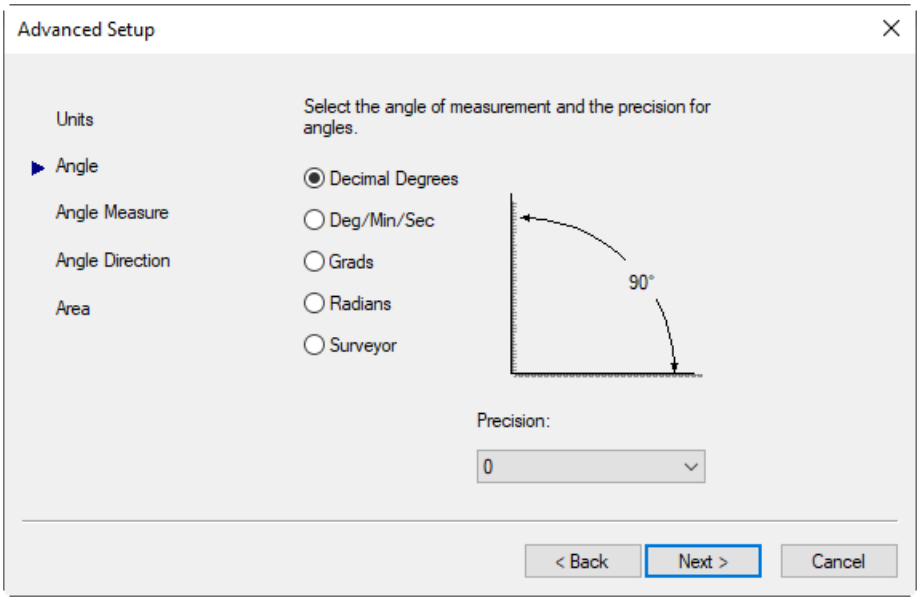

Figure 1-21 *The* ***Angle*** *page of the* ***Advanced Setup*** *wizard*

The next page is the **Angle Measure** page, as shown in Figure 1-22. This page is used to select the direction of the baseline from which the angles will be measured. You can also set your own direction by selecting the **Other** radio button and then entering the value in the edit box displayed below it. This edit box gets activated only when you select the **Other** radio button.

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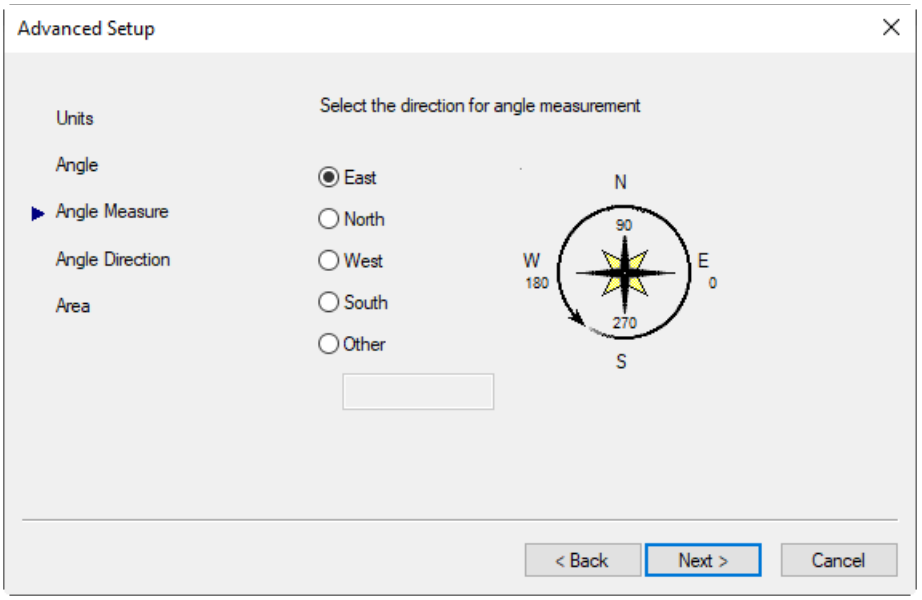

Figure 1-22 *The* ***Angle Measure*** *page of the* ***Advanced Setup*** *wizard*

Choose **Next** to display the **Angle Direction** page to set the orientation for the angle measurement, refer to Figure 1-23. By default the angles are positive if measured in a counterclockwise direction. This is because the **Counter-Clockwise** radio button is selected. If you select the **Clockwise** radio button, the angles will be considered positive when measured in the clockwise direction. To set the limits of the drawing, choose the **Next** button; the **Area** page will be displayed, as shown in Figure 1-24. You can enter the width and length of the drawing area in the respective edit boxes.

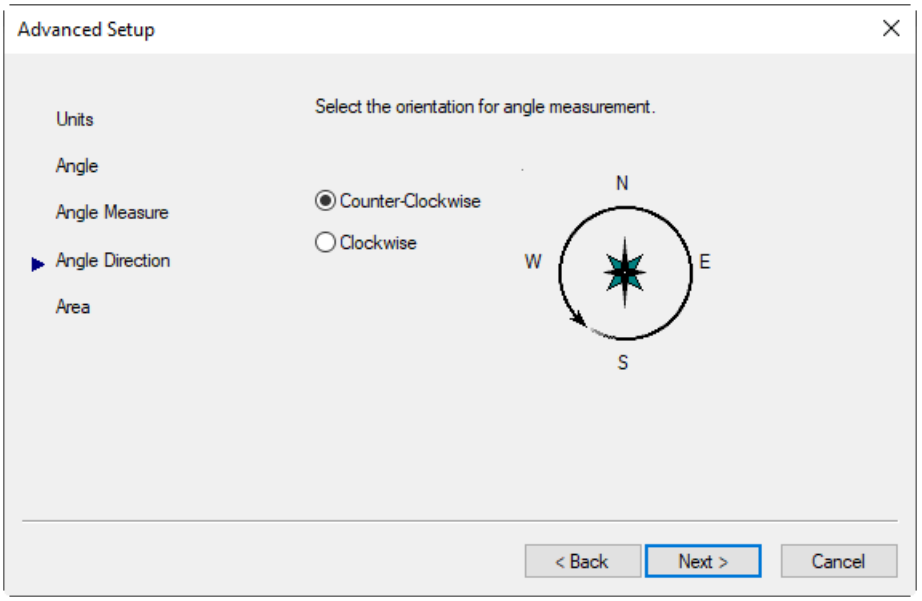

Figure 1-23 *The* ***Angle Direction*** *page of the* ***Advanced Setup*** *wizard*

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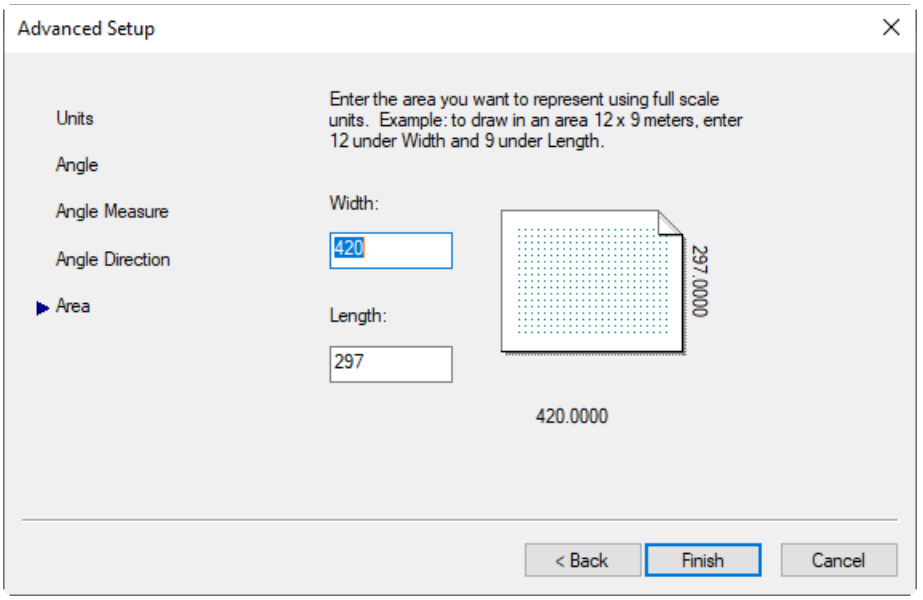

Figure 1-24 *The* ***Area*** *page of the* ***Advanced Setup*** *wizard*



Note

Even after you increase the limits of the drawing, the drawing display area does not increase. You need to invoke the ***Zoom All*** *tool from the Navigation Bar to increase the drawing display area.*

Quick Setup

When you select the **Quick Setup** option from the **Create New Drawing** dialog box and choose the **OK** button, the **QuickSetup** wizard is displayed. This wizard has two pages: **Units** and **Area**. The **Units** page is opened by default, as shown in Figure 1-25. The options in the **Units** page are similar to those in the **Units** page of the **Advanced Setup** wizard. The only difference is that you cannot set the precision for the units in this wizard.

Choose **Next** to display the **Area** page, as shown in Figure 1-26. The **Area** page of the **QuickSetup** is similar to that of the **Advanced Setup** wizard. In this page, you can set the drawing limits.



Tip

When you open an AutoCAD MEP session, a drawing will be opened automatically. But you can open a new drawing using the options such as ***Start from Scratch*** *and* ***Use a Wizard*** *from the* ***Startup*** *dialog box before entering into AutoCAD MEP environment. As mentioned earlier, the display of the* ***Startup*** *dialog box is turned off by default. Refer to the section* ***Starting a New Drawing*** *to know how to turn on the display of this dialog box.*

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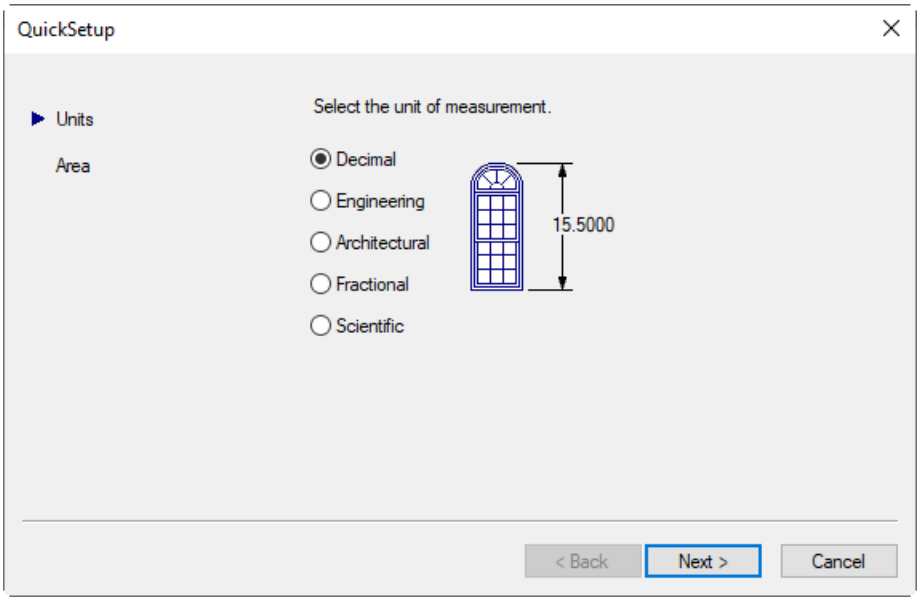

Figure 1-25 *The* ***Units*** *page of the* ***QuickSetup*** *wizard*

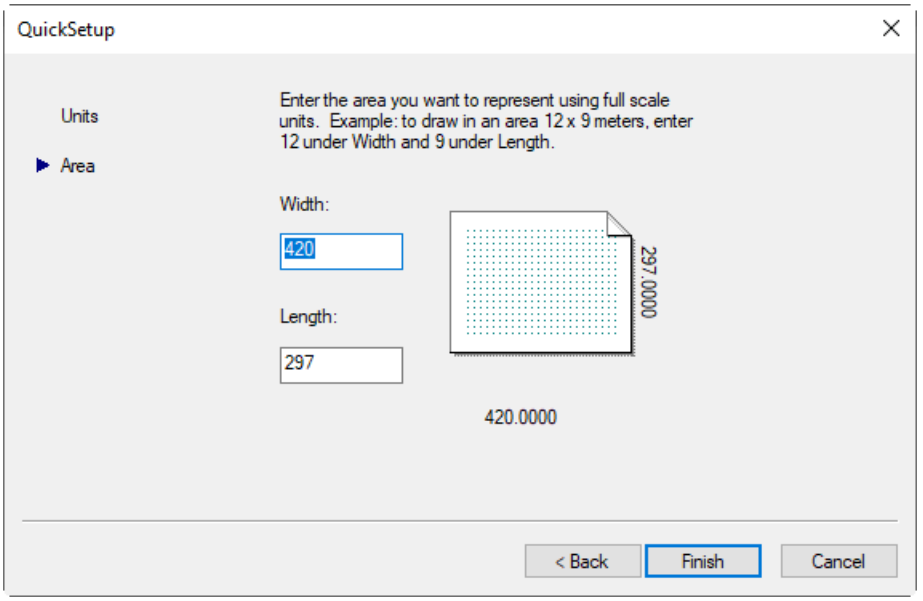

Figure 1-26 *The* ***Area*** *page of the* ***QuickSetup*** *wizard*

SAVING WORK



The **QSAVE**, **SAVEAS**, and **SAVE** commands allow you to save your work. When you choose the **Save** tool from the **Quick Access Toolbar**, the **QSAVE** command is invoked. If you are saving the drawing for the first time in the present session, the **SAVEAS**

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command will be invoked in place of the **QSAVE** command and you will be prompted to enter the file name in the **Save Drawing As** dialog box, as shown in Figure 1-27. You can enter the name for the drawing and then choose the **Save** button. If you have modified a drawing file, choose the **Save** tool to save it; the system saves the file without prompting you to enter a file name. This allows you to do a quick save.

When you choose **Save As** from the **Application** menu or choose the **Save As** tool from the **Quick Access Toolbar**, the **Save Drawing As** dialog box will be displayed, refer to Figure 1-27. Even if the drawing has been saved with a file name, by using this tool, you can specify a new name for the drawing. You can also use this tool when you make certain changes to a template and want to save the changed template drawing but leave the original template unchanged.

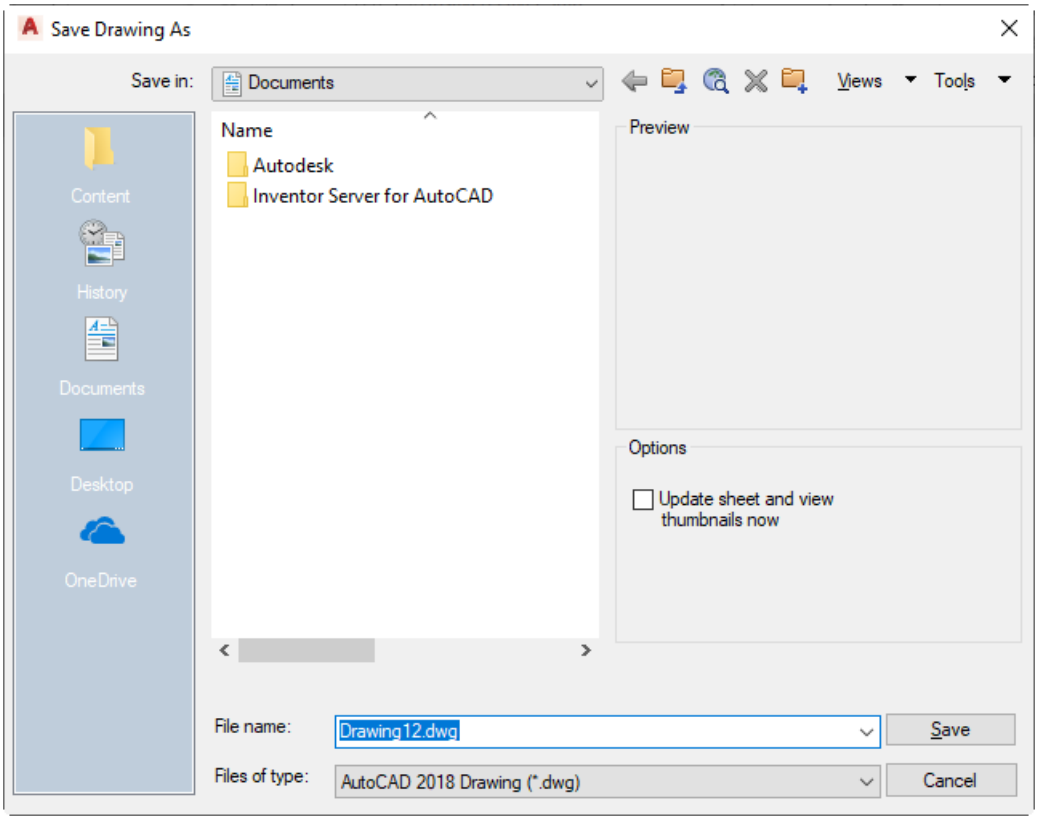

Figure 1-27 *The* ***Save Drawing As*** *dialog box*

The options in the **Save Drawing As** dialog box are discussed next.

Places List

A column of icons is displayed on the left side of the dialog box. These icons contain the shortcuts to the folders that are frequently used. You can quickly save your drawings in one of these folders. The **History** folder displays the list of the most recently saved drawings. You can save your personal drawings in the **Documents** or **Favorites** folder. The **FTP** folder displays the list of various FTP sites that are available for saving the drawing. By default, no FTP sites are shown in the dialog box. To add an FTP site to the dialog box, choose the **Tools** button on the

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upper-right corner of the dialog box to display a shortcut menu and select **Add/Modify FTP Locations**. The **Desktop** folder displays the list of contents on the desktop. The **Buzzsaw** icons connect you to their respective pages on the Web. You can add a new folder in this list for an easy access by simply dragging the folder on to the **Places List** area. You can rearrange all these folders by dragging them and then placing them at the desired locations. It is also possible to remove the folders which are not in frequent use. To do so, right-click on the particular folder and then choose **Remove** from the shortcut menu. Now, you can also save the document on Autodesk Cloud. The option for saving the document is discussed next.

The **A360** icon is available on the top left in the **Save Drawing As** dialog box, refer to Figure 1-27. It is used to share data online with the users who have an Autodesk account. When you choose this button, the **Autodesk-Sign In** window will be displayed. Now, you can sign in to upload your document or file in Autodesk Cloud.

File name

To save your work, enter the name of the drawing in the **File name** edit box by typing or by selecting it from the drop-down list. If you have already assigned a name to the drawing, it will be displayed in the edit box as the default name. If the drawing is unnamed, the default name *Drawing1* will be displayed in the **File Name** edit box.

Files of type

The options in the **Files of type** drop-down list are used to specify the drawing format in which you want to save the file, refer to Figure 1-28. For example, to save the file as an AutoCAD 2007 drawing file, select **AutoCAD 2007/LT 2007 Drawing (*.dwg)** from the drop-down list.

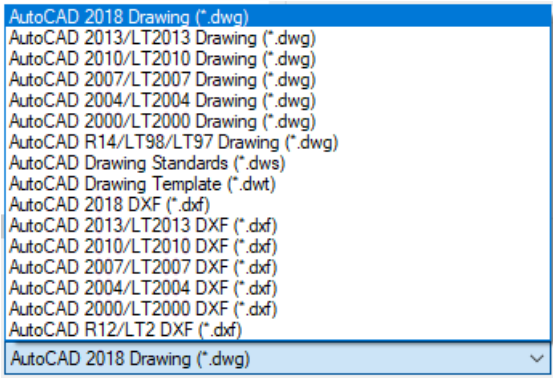

Figure 1-28 *The* ***File of type*** *drop-down list*

Save in

The current drive and path information is listed in the **Save in** drop-down list. AutoCAD MEP will initially save the drawing in the default folder, but if you want to save the drawing in a different folder, you have to specify the path. For example, to save the present drawing as *house* in the *C1* folder, choose the arrow button in the **Save in** drop-down list to display the drop-down list. Select **C**: from the drop-down list; all folders in the C drive will be listed in the **File** list box. Double-click on the **C1** folder, if it is already listed there or create a new folder with the name **C1** by choosing the **Create New Folder** button. Select *house* from the

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drop-down list, if it is already listed there, or enter it in the **File name** edit box and then choose the **Save** button. Your drawing (*house*) will be saved in the *C1* folder (*C:\C1\house.dwg*). Similarly, to save the drawing in the D drive, select **D:** from the **Save in** drop-down list.

Tip

The file name you enter to save a drawing should match its contents. This helps you to remember the drawing details and makes it easier to refer to them later. Also, the file name can be 255 characters long and can contain spaces and punctuation marks.

Views

The options in this drop-down list, refer to Figure 1-29, are used to set the appearance of the files and folders to specific view and they are discussed next.

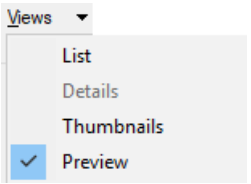

***Figure 1-29** The **Views** drop-down list*

List, Details, and Thumbnails Options

If you choose the **Details** option, it will display the detailed information about the files (size, type, date, and time of modification) in the **Files** list box. In the detailed information, if you click on the **Name** label, the files will be listed with the names in alphabetical order. If you double-click on the **Name** label, the files will be listed in reverse order. Similarly, if you click on the **Size** label, the files are listed according to their size in ascending order. Double-clicking on the **Size** label will list the files in descending order of size. Similarly, you can click on the **Type** label or the **Modified** label to list the files accordingly. If you choose the **List** option, all files present in the current folder will be listed in the **File** list box. If you select the **Thumbnails** option, the list box displays the preview of all the drawings, along with their names displayed at the bottom of the drawing preview. Also, the preview of the file is displayed in the **Preview** image box.

Create New Folder

If you choose the **Create New Folder** button, AutoCAD MEP creates a new folder with the name **New Folder**. The new folder is displayed in the **File** list box. You can change the name of the folder if required.

Up one level

When you choose the **Up one level** button, the folders that are up by one level are displayed. For example, if you are in the *Sample* subfolder of the *AutoCAD MEP 2020* folder, then choosing the **Up one level** button will open the *AutoCAD MEP 2020* folder.

Search the Web

When you choose this button, the **Browse the Web - Save** dialog box is displayed. Using the options in this dialog box, you can access and store AutoCAD MEP files at an online location. You can also use the ALT+3 keys to browse the Web when this dialog box is available on the screen.

Tools Drop-Down List

The **Add/Modify FTP Locations** option in the **Tools** drop-down list is used for adding or modifying the FTP sites. These sites can then be browsed from the FTP shortcut in the **Places**

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list. The **Add Current Folder to Places** and **Add to Favorites** options add the folder displayed in the **Save in** edit box to the **Places** list or to the favorites folder, respectively. The **Options** option displays the **Saveas Options** dialog box where you can save the proxy images of the custom objects. It has the **DWG Options** and **DXF Options** tabs. The **Security Options** option displays the **Security Options** dialog box, which is used to configure the security options of the drawing.

AUTO SAVE

AutoCAD MEP allows you to save your work automatically at specific intervals. To change the time intervals, choose the **Options** button from the **Application Menu**; the **Options** dialog box will be displayed. In this dialog box, enter the duration after which the file will be saved automatically in the **Minutes between saves** text box in the **File Safety Precautions** area of the **Open and Save** tab. This duration depends on the power supply, hardware, and type of drawings. AutoCAD MEP saves the drawing with the file extension *.ac$*. You can also change the time interval by using the **SAVETIME** system variable.



Tip

Although the automatic save feature saves your drawing upto a certain time interval, you should not completely depend on it because the procedure for converting the sv$ file into a drawing file is cumbersome. Therefore, it is recommended that you save your files regularly using the ***QSAVE*** *or* ***SAVEAS*** *commands.*

BACKUP FILES

If a drawing file already exists and you use the **Save** or **Save As** tool to update the current drawing, AutoCAD MEP creates a backup file. AutoCAD MEP takes the previous copy of the drawing and changes it from *.dwg* to *.bak*. The updated drawing is saved as a drawing file with the *.dwg* extension. For example, if the name of the drawing is *myproj.dwg*, AutoCAD MEP will change it to *myproj.bak* and save the current drawing as *myproj.dwg*.

Changing Auto Saved and Backup Files into AutoCAD MEP File Format

In some cases, you may need to change the format of auto saved and backup files into AutoCAD MEP file format. To change the backup file into an AutoCAD MEP file format, open the folder in which you have saved the backup or the auto saved file using the **Windows Explorer**. Choose **Organize > Folder and Search Options** from the menu bar to invoke the **Folder Options** dialog box. Choose the **View** tab and under the **Advanced settings** area, clear the **Hide extensions for known file types** check box, if selected. Exit the dialog box. Rename the automatic saved drawing or the backup file with a different name and also change the extension of the drawing from *.sv$* or *.bak* to *.dwg*. After you rename the drawing, you will notice that the icon of the automatic saved drawing or the backup file is replaced by the AutoCAD MEP icon. This indicates that the auto saved drawing or the backup file is changed to an AutoCAD MEP drawing.

Using the DRAWING RECOVERY MANAGER to Recover Files

The files that are saved automatically can also be retrieved by using the Drawing Recovery Manager. You can open the **DRAWING RECOVERY MANAGER** by choosing **Drawing**

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Utilities > Open the Drawing Recovery Manager from the **Application Menu** or by entering **DRAWINGRECOVERY** at the command bar.

In case of a system crash, the **Drawing Recovery** message box will be displayed on starting AutoCAD MEP again, refer to Figure 1-30. The message box informs you that the program unexpectedly failed and you can open the most suitable among the backup files created by AutoCAD MEP. Choose the **Close** button from the **Drawing Recovery** message box; the **DRAWING RECOVERY MANAGER** will be displayed on the left of the drawing area, as shown in Figure 1-31.

Note

*The **DRAWING RECOVERY MANAGER** will be available only when the automatic save feature is active.*

The **Backup Files** rollout lists the original files, the backup files, and the automatically saved files. Select a file; its preview will be displayed in the **Preview** rollout. Also, the information corresponding to the selected file will be displayed in the **Details** rollout. To open a backup file, double-click on its name in the **Backup Files** rollout. Alternatively, right-click on the file name and then choose **Open** from the shortcut menu. It is recommended that you save the backup file at the desired location before you start working on it.

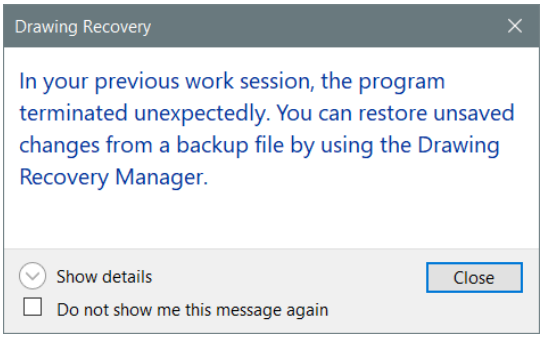

***Figure 1-30** The **Drawing Recovery** message box*

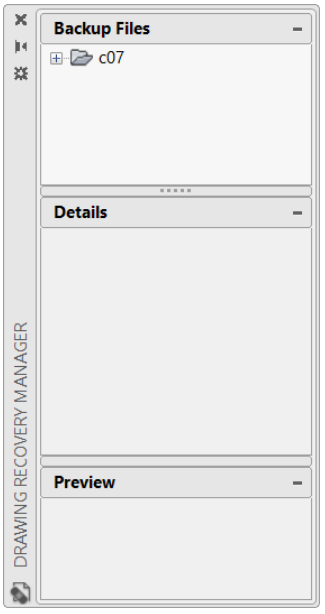

Figure 1-31** The **DRAWING RECOVERY MANAGER

EPD Backup Files

The Electrical Project Database is used to manage all drawings related to the electrical circuits for a project. As you create and modify electrical circuits for a project, you can use the circuit manager to view and manage panel and circuit information. By default, AutoCAD MEP creates a backup of all the EPD files. These backup files are used when the EPD files get corrupt due to system crash or when files get incorrectly linked. You can specify the number of data backup

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files in the **Electrical Preferences** dialog box displayed on choosing the **Electrical** button in the **Preferences** panel from the **Manage** tab of the **Ribbon**. You can create upto 99 backup files for a single Electrical Project Database.

CLOSING A DRAWING

You can use the **CLOSE** command to close the current drawing file without actually quitting AutoCAD MEP. To do so, choose **Close > Current Drawing** from the **Application Menu** or enter **CLOSE** at the command bar; the current drawing file will be closed. If multiple drawing files are open, choose **Close > All Drawings** from the **Application Menu**. If multiple drawing files of a single project are open, choose **Close > All Project Drawings** from the **Application Menu**. If you have not saved the drawing after making the last changes to it and you invoke the **CLOSE** command, AutoCAD MEP displays a dialog box that allows you to save the drawing before closing. This dialog box gives you an option to discard the current drawing or the changes made to it. It also gives you an option to cancel the command. After closing the drawing, you are still in AutoCAD MEP from where you can open a new or an already saved drawing file. You can also use the **Close** button (**X**) in the drawing area to close the drawing.



Note

You can close a drawing even if a command is active.

OPENING AN EXISTING DRAWING

You can open an existing drawing file by using one of the following three methods: by using the **Select File** dialog box, by using the **Create New Drawing** dialog box, and by dragging and dropping.

Opening an Existing Drawing Using the Select File Dialog Box



If you are already in the drawing editor and you want to open a drawing file, choose the **Open** tool from the **Quick Access Toolbar**; the **Select File** dialog box will be displayed. Alternatively, invoke the **OPEN** command to display the **Select File** dialog box, refer to Figure 1-32. You can select the drawing to be opened using this dialog box. This dialog box is similar to the standard dialog boxes. You can choose the file you want to open from the folder in which it is stored. You can change the folder from the **Look in** drop-down list. You can then select the name of the drawing from the list box or you can enter the name of the drawing file you want to open in the **File name** edit box. After selecting the drawing file, you can choose the **Open** button to open the file.

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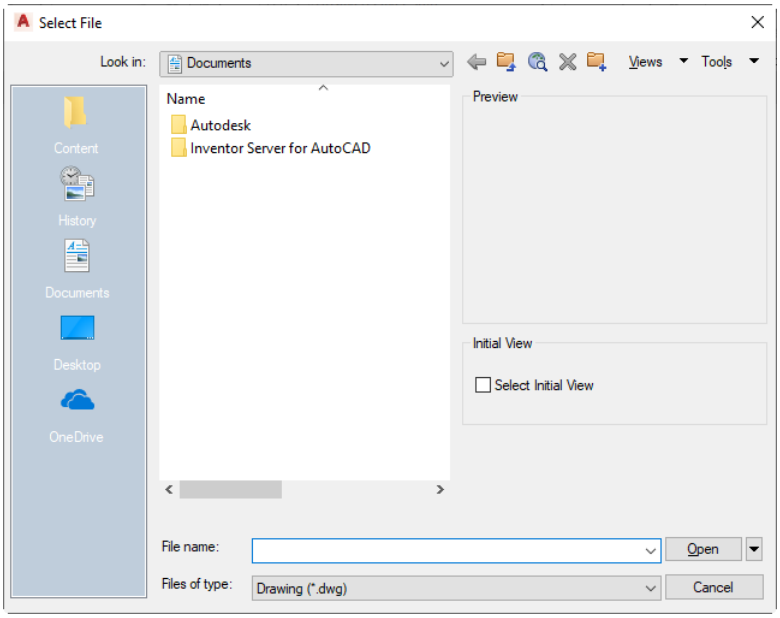

Figure 1-32 *The* ***Select File*** *dialog box*

When you select a file name, preview of the selected file is displayed in the **Preview** box. You can also use this box to identify the contents of a drawing. You can also change the file type by selecting it from the **Files of type** drop-down list. Apart from the *dwg* files, you can open the *dws* (standard), *dwt* (template) files or the *dxf* files. You have all the standard icons in the **Places** list that can be used to open drawing files from different locations. When you click on the down arrow adjacent to the **Open** button, a drop-down list is displayed, as shown in Figure 1-33. You can choose a method for opening the file using this drop-down list. These methods are discussed next.

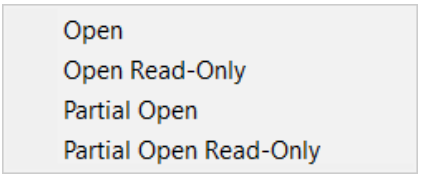

Figure 1-33 *The* ***Files of type*** *drop-down list*

Open Read-Only

To view a drawing without modifying it, select the **Open Read-Only** option from the drop-down list. If you try to save the opened drawing with the original file name, AutoCAD MEP warns you that the drawing file is write protected. However, you can save the edited drawing with a different file name using the **SAVEAS** command. This way you can preserve your drawing.

Partial Open

The **Partial Open** option enables you to open only a selected view or a selected layer of a selected drawing. This option can be used to edit small portions of a complicated drawing and then save it with the complete drawing. When you select the **Partial Open** option from the **Open**

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drop-down list, the **Partial Open** dialog box will be displayed, as shown in Figure 1-34, which contains different views and layers of the selected drawing. When you select a check box for a layer and then choose the **Open** button, only the objects drawn in that particular layer for the drawing are displayed in the new drawing window. You can make the changes and then save it.

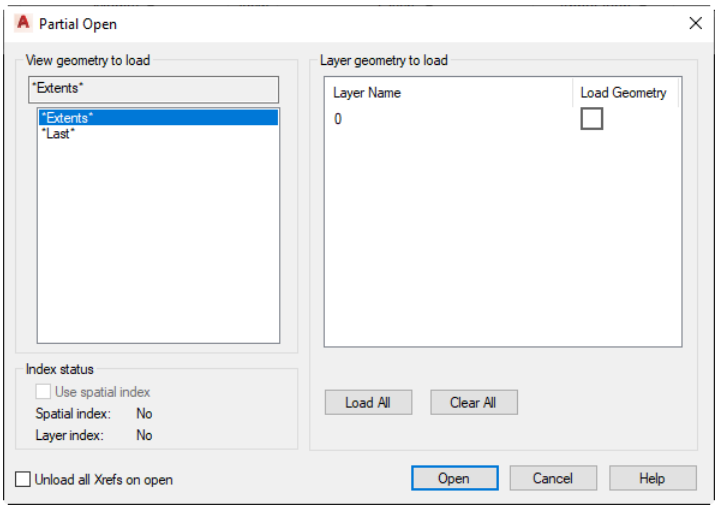

Figure 1-34 *The* ***Partial Open*** *dialog box*

Loading Additional Objects to Partially Opened Drawing

Once you have opened a part of a drawing and made the necessary changes, you may want to load additional objects or layers on the existing ones. To do so, enter **PARTIALOAD** at the command bar; the **Partial Load** dialog box will be displayed, which is similar to the **Partial Open** dialog box. You can choose another layer and the objects drawn in that layer will be added to the partially loaded drawing.



Note

1. *The* ***Partial Load*** *option is not enabled in the* ***File*** *menu unless a drawing is partially opened.*
2. *Loading a drawing partially is a good practice when you are working with objects on a specific layer in a large complicated drawing.*
3. *In the* ***Select File*** *dialog box, the preview of a drawing which was partially opened and then saved is not displayed.*



Tip

If a drawing is partially opened and saved previously, it is possible to open it again with the same layers and views. AutoCAD MEP remembers the settings, therefore when you open a partially opened drawing, a message box is displayed prompting you to fully open it or restore the partially opened drawing.

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Select Initial View

Select the **Select Initial View** check box if you want to load a specific view initially when AutoCAD MEP loads the drawing. This option will work if the drawing has saved views. This is generally used while working on a large complicated drawing, in which you want to work on a particular portion. You can save that particular portion as a view and then select it to open the drawing next time. You can save the desired view by using the **VIEW** command. If the drawing has no saved views then on selecting this option, the last view will be loaded. If you select the **Select Initial View** check box and then the **OK** button, AutoCAD MEP will display the **Select Initial View** dialog box. You can select the view name from this dialog box, and AutoCAD MEP will load the drawing with the selected view.

Opening an Existing Drawing Using the Startup Dialog Box

If you have set the **STARTUP** system variable value as **1**, the **Startup** dialog box will be displayed whenever you start a new AutoCAD MEP session. The first button in this dialog box is the **Open a Drawing** button. When you choose this button, a list of the most recently opened drawings will be displayed for you to select from, refer to Figure 1-35. The **Browse** button displays the **Select File** dialog box, which allows you to browse to another file.



Note

*The display of the dialog boxes related to opening and saving drawings will be disabled, if the **STARTUP** and the **FILEDIA** system variables are set to 0.*

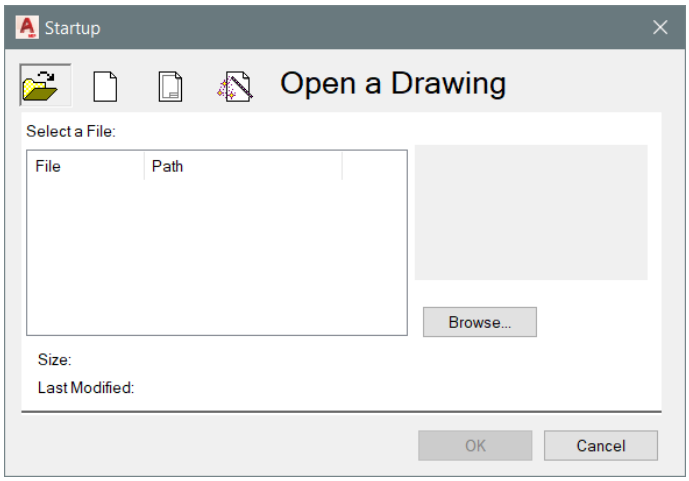

Figure 1-35 *List of the recently opened drawings*

Opening an Existing Drawing Using the Drag and Drop Method

You can also open an existing drawing in AutoCAD MEP by dragging it from the Window Explorer and dropping it into AutoCAD MEP. If you drop the selected drawing in the drawing area, the drawing will be inserted as a block. As a result, you cannot modify it. But if you drag the drawing from the Windows Explorer and drop it at any place other than the drawing area, AutoCAD MEP opens the selected drawing.

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QUITTING AutoCAD MEP

You can exit the AutoCAD MEP program by using the **EXIT** or **QUIT** command. Even if you have an active command, you can choose **Exit AutoCAD MEP 2020** from the **Application Menu** to quit the AutoCAD MEP program. In case the drawing has not been saved, a dialog box is displayed with the **Yes** and **No** buttons. Choose the **Yes** button to save the drawing. Note that if you choose **No** in this dialog box, all the changes made in the current list till the last save will be lost. You can also use the **Close** button (**X**) of the main AutoCAD MEP window to end the AutoCAD MEP session.

CREATING AND MANAGING WORKSPACES

A workspace is defined as a customized arrangement of **Ribbon**, toolbars, menus, and window palettes in the AutoCAD MEP environment. You can create your own workspaces, in which only specified toolbars, menus, and palettes are available. When you start AutoCAD MEP, by default the **HVAC** workspace is displayed as the current workspace. However, you can select any other predefined workspace from the flyout displayed on choosing the **Workspace Switching** from the **Application Status Bar**, refer to Figure 1-36. You can also set the workspace by using the WORKSPACE command.

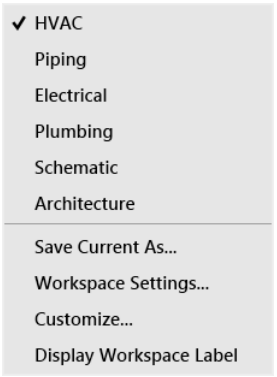

Figure 1-36 *The predefined workspaces*

Creating a New Workspace

To create a new workspace, customize the **Ribbon** and invoke the palettes to be displayed in the new workspace. Next, choose the **Save Current As** option from the flyout displayed on choosing the **Workspace Switching** button from the **Application Status Bar**; the **Save Workspace** dialog box will be displayed, as shown in Figure 1-37. Enter the name of the new workspace in the **Name** edit box and choose the **Save** button.

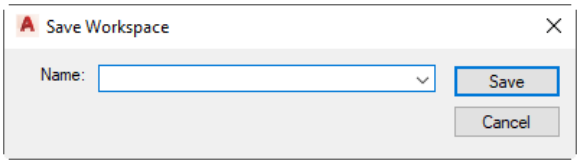

Figure 1-37 *The **Save Workspace** dialog box*

The new workspace is now the current workspace and is added to the drop-down list in the title bar. Similarly, you can create workspaces based on your requirement and switch from

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one workspace to another by selecting the name from the flyout displayed on choosing the **Workspaces Switching** button from the **Application Status Bar**.

Modifying the Workspace Settings

AutoCAD MEP allows you to modify the workspace settings. To do so, choose the **Workspace Settings** option from the flyout displayed on choosing the **Workspaces Switching** button from the **Application Status Bar**; the **Workspace Settings** dialog box will be displayed, as shown in Figure 1-38. All workspaces are listed in the **My Workspace** drop-down list. You can make any of the workspaces as My Workspace by selecting it from the **My Workspace** drop-down list. The options in the **Workspace Settings** dialog box are discussed next.

Menu Display and Order Area

The options in this area are used to control the display and the order of display of workspaces in the **Workspace Switching** drop-down list. By default, workspaces are listed in the sequence of their creation. To change the order, select a workspace and choose the **Move Up** or **Move Down** button. To control the display of the workspaces, you can select or clear the check boxes. You can also add a separator between workspaces by choosing the **Add Separator** button. A separator is a line that is placed between two workspaces in the flyout displayed on choosing the **Workspaces Switching** button from the **Application Status Bar**, as shown in Figure 1-39.

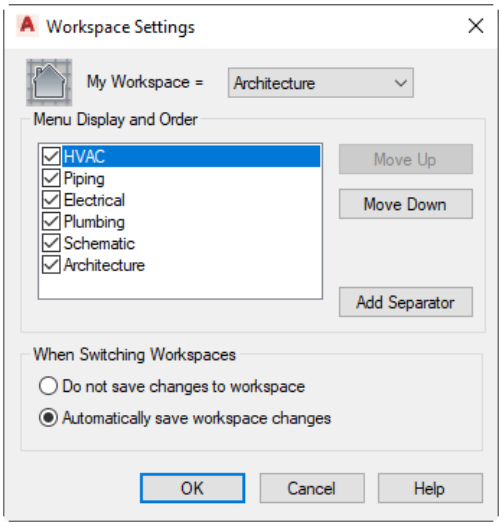

*Figure 1-38 The **Workspace Settings** dialog box*

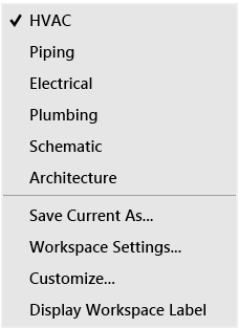

*Figure 1-39 The flyout displayed on choosing the **Workspaces Switching** button*

When Switching Workspaces Area

By default, the **Automatically save workspace changes** radio button is selected in this area, so the changes made in the current workspace will be automatically saved when you switch to the other workspace. If you select the **Do not save changes to workspace** radio button then while switching the workspaces, the changes made in the current workspace will not be saved. Therefore, when you invoke this workspace again, it will be displayed with default settings.

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AutoCAD MEP HELP



You can get the on-line help and documentation about the working of AutoCAD MEP 2020 commands by using the options from the **Help** menu in the title bar, refer to Figure 1-40. You can access AutoCAD MEP's help by pressing the F1 function key. On pressing the F1 function key, the **AutoCAD MEP 2020 - Help** will be displayed, as shown in Figure 1-41. The entire help documentation on AutoCAD MEP 2020 is available on this page. You can search for information about any command or tool on this page. You can access this page without the internet connection also. But if you want to use the offline help then you need to download the help file first. You can download the offline help from Autodesk website. Some important options in the **Help** menu are discussed next.



Figure 1-40 *The* ***Help*** *menu*

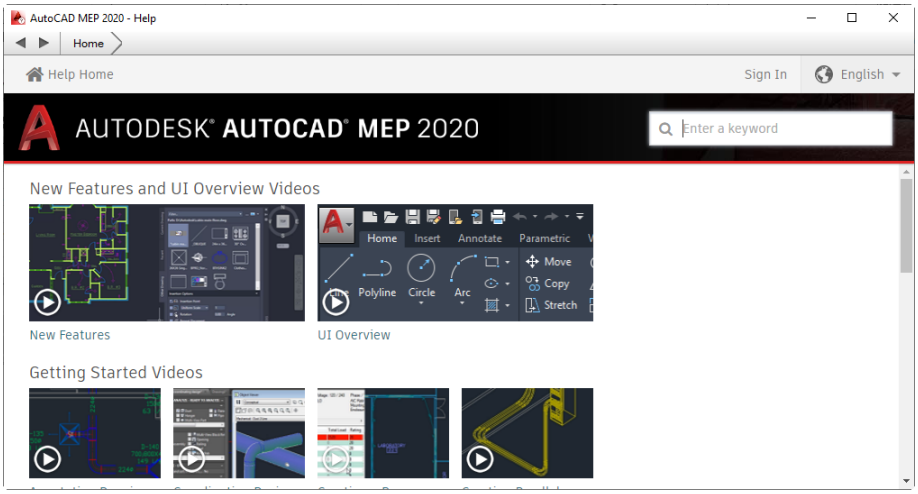

Figure 1-41 *The* ***Autodesk AutoCAD MEP 2020 - Help*** *window*

Customer Involvement Program

This option in the help menu is used to share information about your system configuration and usage of Autodesk products. The collective information is used by Autodesk for the improvement of Autodesk software.

About AutoCAD MEP 2020

This option gives you information about the release, serial number, license number, and also the legal description about AutoCAD MEP.

InfoCenter BAR

An **InfoCenter** bar is displayed at the top right corner in the title bar that will help you sign into the Autodesk Online services, refer to Figure 1-42. You can also access AutoCAD MEP community by using certain keywords.

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A360

The **A360** is cloud based technology which is used to save and share the documents online. Using this technology, you can also view other documents available on the cloud. To share a document, you first need to login to the Autodesk account. To do so, select the **Sign In to A360** option from the **Sign In** flyout in the **InfoCenter** bar; the **Autodesk-Sign In** window will be displayed. Now, login to account using the Autodesk ID and password; your account name will be displayed in place of **Sign In** in the **Sign In** flyout. Next, select the **A360** option from the **Sign In** flyout; the **A360 Drive** window is displayed in the default browser. Now, using the options in this window, you can save and share the document online.



Figure 1-42 *The* ***InfoCenter*** *bar*

ADDITIONAL HELP RESOURCES

- You can get help for a command by pressing the F1 key while working. The help page thus obtained contains information about the selected command. You can exit the dialog box and continue with the command.

- You can get help about a dialog box by choosing the **Help** button in that dialog box.

- Autodesk has provided several resources that you can use to get assistance with your AutoCAD MEP questions. The following is a list of some of the resources:

  a. AutoCAD MEP Technical Assistance website: *http://knowledge.autodesk.com*
  b. AutoCAD MEP Discussion Groups website: *https://forums.autodesk.com/t5/autocad-forum/bd-p/706*

- You can also get help by contacting the author, Prof. Sham Tickoo at *techsupport@cadcim.com, tickoo525@gmail.com*, and *stickoo@purduecal.edu*

Self-Evaluation Test

Answer the following questions and then compare them to those given at the end of this chapter:

1. To restrict the movement of cursor along a specific angle, you need to turn on the _____ snap.

2. Using the _____ command, you can change the time interval of automatic save.

3. The **Startup** dialog box is displayed when the **STARTUP** variable is set to _____ .

4. You can sign into the Autodesk Online Services by using the options available in the _____ bar.

5. You can increase the display area of the screen by using the **Clean Screen** button available in the **Application Status Bar**. (T/F)

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6. The **AutoCAD Text Window** is used to write text in the drawing area. (T/F)

7. The **Isolate Objects** button is used to display or hide the selected object. (T/F)

8. The **CLOSE** command is used to close the AutoCAD MEP application. (T/F)

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Answers to Self-Evaluation Test

1. Polar Tracking, **2. SAVETIME**, **3. 1**, **4. InfoCenter**, **5.** T, **6.** F, **7.** T, **8.** F