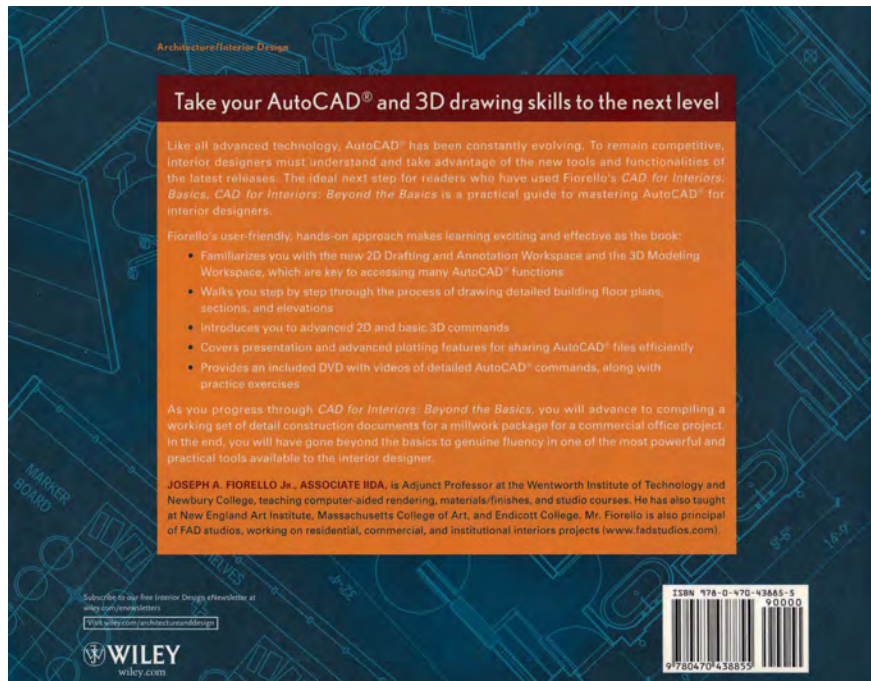
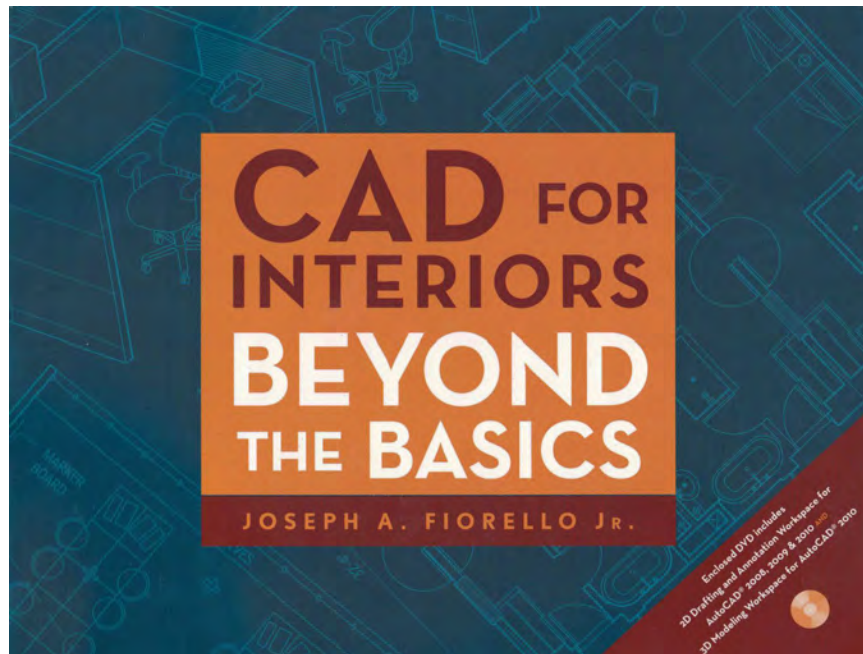


# CAD FOR INTERIORS BEYOND THE BASICS



## CAD FOR INTERIORS BEYOND THE BASICS

This book was a follow up to the first. I realized it would help fine tune one's skill set for advanced courses.

This text introduces advanced commands and functions. It exposes the end user to the 2D Drafting & Annotation Workspace and the 3D Modeling Workspace.

The end user will come away with a full set of Millwork Shop Drawings based on a 'real-life' example.



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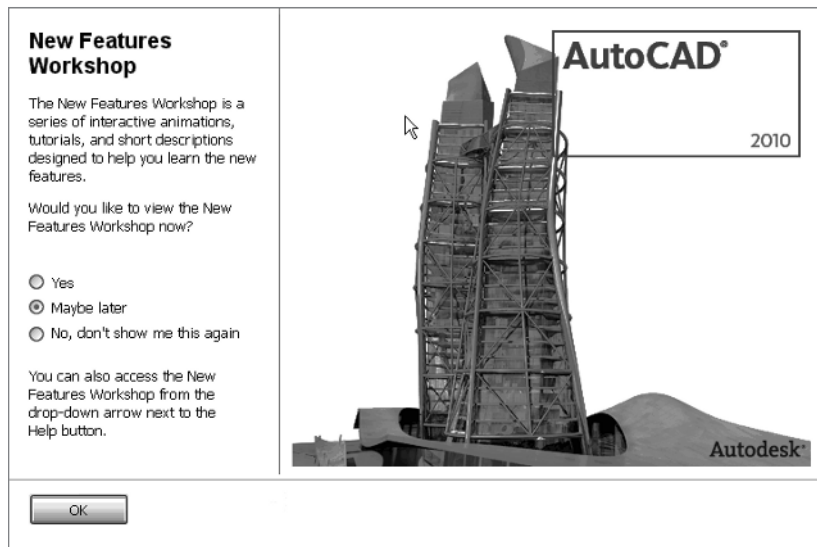
## CHAPTER 1

# Introducing the AutoCAD 2D Interface

### **AFTER COMPLETING THIS CHAPTER, YOU WILL UNDERSTAND:**

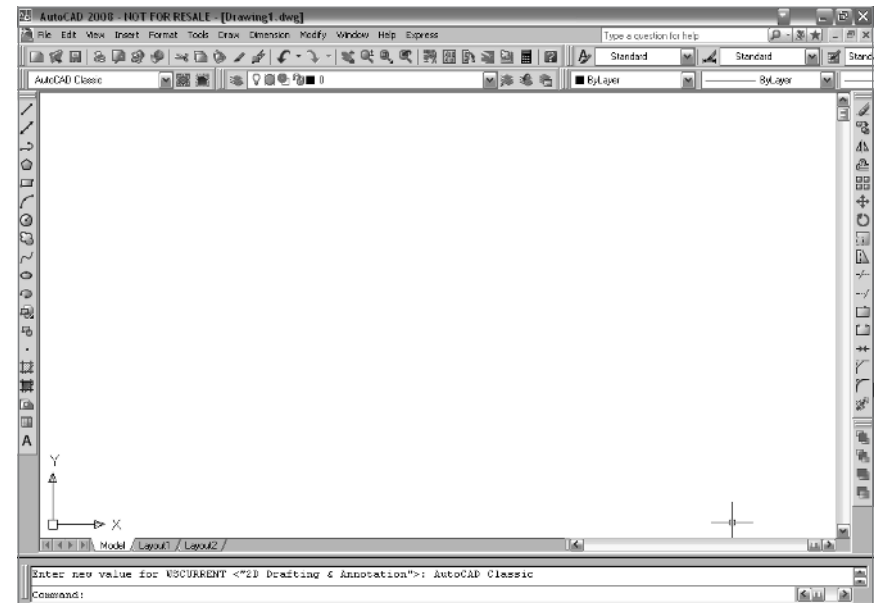
- ▶ The 2D interface of AutoCAD 2008, 2009, and 2010
- ▶ The differences between the AutoCAD Workspaces for 2D drawing
- ▶ Some of the pertinent new features of each release

When this book was written, AutoCAD 2010 was the current AutoCAD release. Because significant changes were made to the AutoCAD 2008 and 2009 interface, understanding those changes is prudent. AutoCAD usually releases a new version of AutoCAD every year. With each new release, toolbars, commands, and the user interface are enhanced. Sometimes these changes are significant. Because these new features can help you streamline the drawing process and increase productivity, you should explore them and become familiar with them. Typically, a New Features Workshop prompt will launch the first time AutoCAD is opened, allowing you the option to review the new features or wait until later. (See Figure 1.1.) These new features can also be accessed via the AutoCAD Help menu at any time.

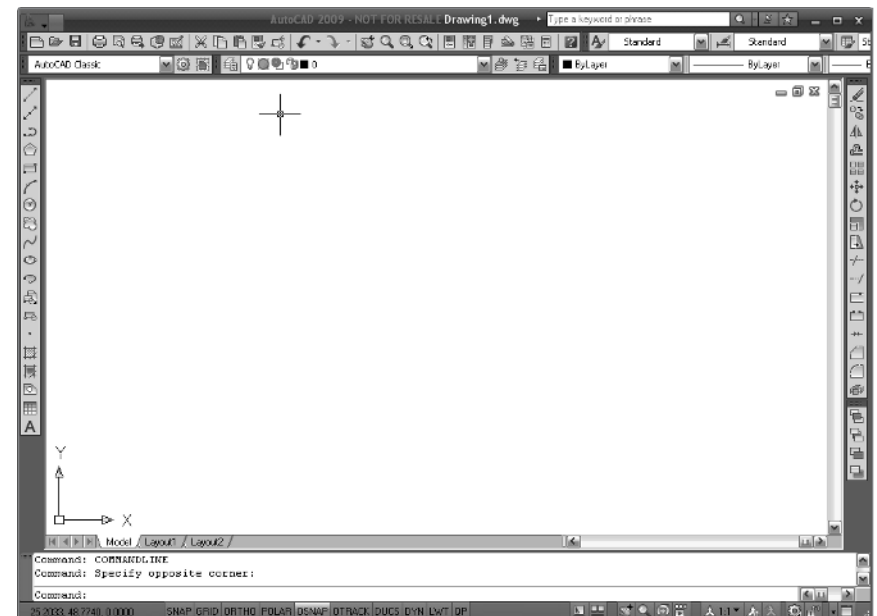


► FIGURE 1.1: The AutoCAD 2010 New Features Workshop window

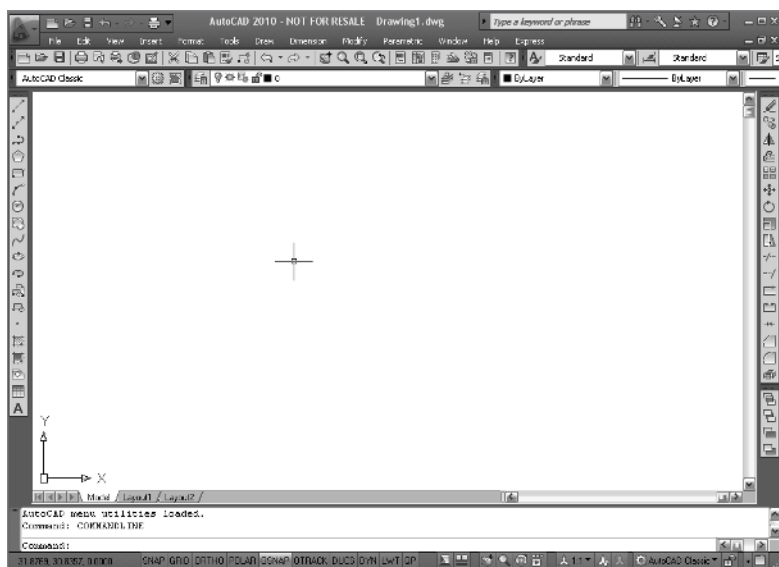
If you have been using an earlier release of AutoCAD, chances are that you have been interacting with the software via the AutoCAD Classic Workspace and are familiar with it. Although this workspace is still available, the significant new features for each new release are accessed via the 2D Drafting and Annotation Workspace. While all of the commands can still be accessed using either the command line or the pulldown menus via the AutoCAD Classic Workspace, it is prudent to become familiar with the 2D Drafting and Annotation Workspace for 2D drawing. You can toggle your display between these workspaces. (See Figures 1.2 through 1.4.)



► FIGURE 1.2: AutoCAD 2008: The AutoCAD Classic Workspace



► FIGURE 1.3: AutoCAD 2009: The AutoCAD Classic Workspace



► FIGURE 1.4: AutoCAD 2010: The AutoCAD Classic Workspace

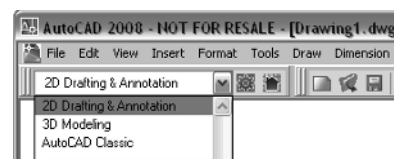
If you are proficient with a recent AutoCAD release, you should have little difficulty getting up to speed. This chapter will provide an overview of some of the newest 2D drawing features of AutoCAD for releases 2008, 2009, and 2010. Refer to the particular AutoCAD release you wish to learn. For the most part, the instructions assume that you are familiar with AutoCAD. All of the instructions utilize the 2D Drafting and Annotation Workspace. Although this chapter reviews releases 2008 and 2009, later chapters will focus on AutoCAD 2010 and its features.

## AutoCAD 2008

Major 2D drawing capabilities were added to the release of AutoCAD 2008—*annotative documentation*, in particular. This new feature allows you to add notes, tags, symbols, dimensions, etc. at the appropriate size for the scale of your drawing. Annotative documentation takes the guesswork out of the equation and ensures global standardization based on the scale of the drawing.

To begin, start by launching AutoCAD 2008 either via the icon on your desktop or using the Start menu. The 2D Drafting and Annotation Workspace might load when your version of AutoCAD 2008 is launched. If it does not load, do the following:

1. Position the cursor over the Workspaces Toolbar menu located at the top-left of the model space interface and click on it with the left mouse button. (See Figure 1.5.)



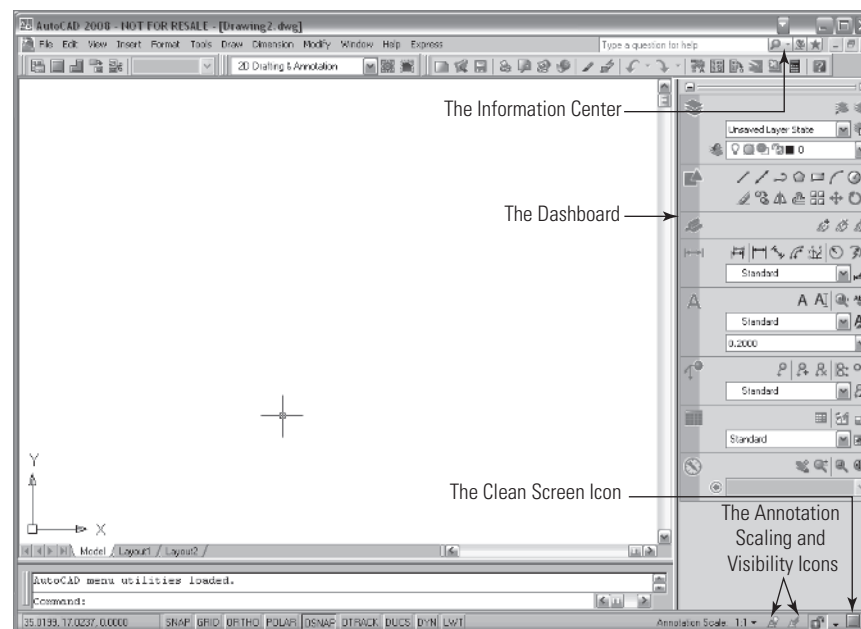
► FIGURE 1.5: AutoCAD 2008: Launching the 2D Drafting and Annotation Workspace

This action will launch a menu of workspaces from which to choose.

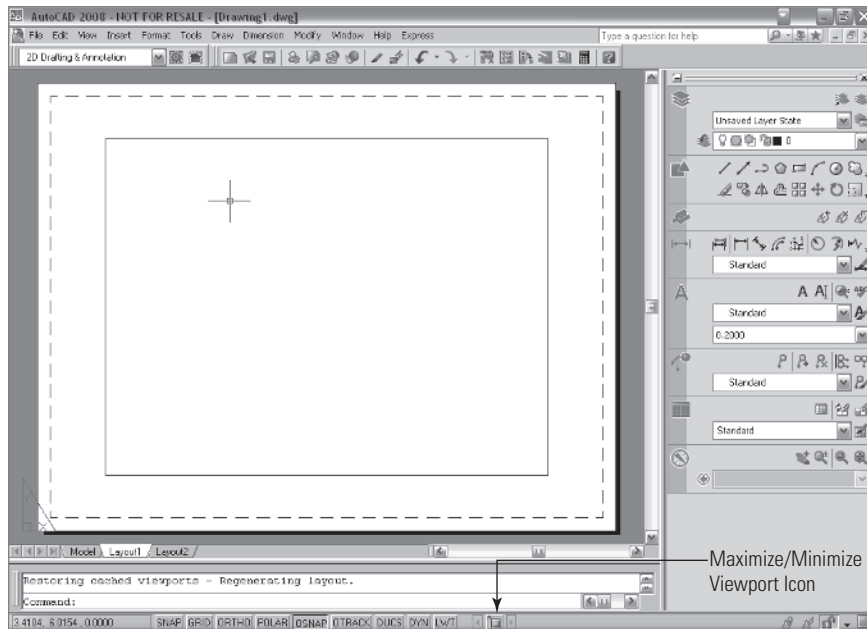
2. Position the cursor over the 2D Drafting and Annotation Workspace option and click on it with the left mouse button.

This action will launch the 2D Drafting and Annotation Workspace (Figures 1.6 and 1.7). Some of its significant new 2D drawing features are listed here:

- The Information Center
- The Dashboard
- The addition of Annotation Scaling and Visibility to the Status toolbar
- The Clean Screen icon
- The Maximize/Minimize Viewport icon in layout space



► FIGURE 1.6: AutoCAD 2008: The 2D Drafting and Annotation Workspace's significant features in model space



► **FIGURE 1.7:** AutoCAD 2008: The 2D Drafting and Annotation Workspace's significant features in layout space

## The Information Center

The Information Center not only allows an additional way to access the Help menu, it also allows you to save past Help menu searches to a Favorites folder, and it allows you to exchange information about your product with Autodesk. (See Figures 1.8 through 1.10.)



► **FIGURE 1.8:** AutoCAD 2008: The Information Center window and icon

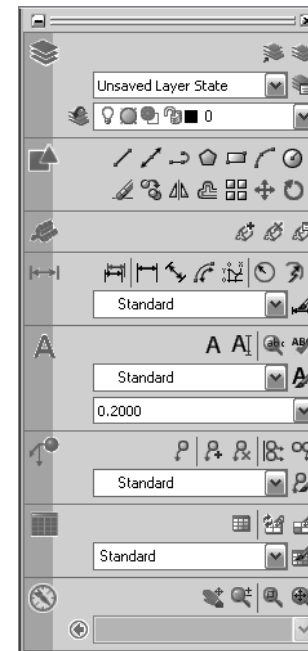
► **FIGURE 1.9:** AutoCAD 2008:  
The Communications Center icon

► **FIGURE 1.10:** AutoCAD 2008:  
The Favorites icon

## The Dashboard

This interface improvement is quite significant because it neatly organizes all of the major commands and toolbars within a docked Dashboard (Figure 1.11) for easy access. The organization strongly reinforces a “point and click” mentality for performing many AutoCAD functions. The Dashboard includes the following toolbars:

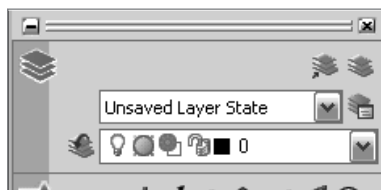
- The Layers toolbar
- The 2D Draw toolbar
- The Annotation Scaling toolbar (new)
- The Dimensions toolbar
- The Text toolbar
- The Multileaders toolbar
- The Tables toolbar
- The 2D Navigate toolbar



► **FIGURE 1.11:** AutoCAD 2008:  
The Dashboard

## The Layers Toolbar

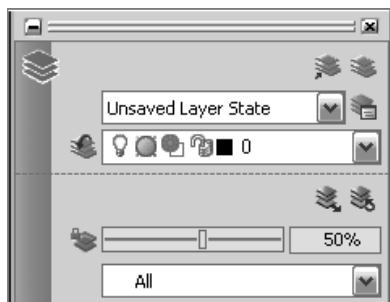
This toolbar still allows access to the Layer Properties Manager, as well as various other layer functions available to you, such as the function to isolate a layer or to set a layer current. (See Figure 1.12.)



► FIGURE 1.12: AutoCAD 2008: The Dashboard's Layer toolbar

As an added feature, the Layers toolbar allows layers to be faded within model space and active viewports within layout tabs. To access this option, do the following:

1. Position the cursor over the Layers icon and click on it with the left mouse button to expand the toolbar (Figure 1.13).



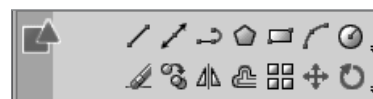
► FIGURE 1.13: AutoCAD 2008: The Dashboard's Layer toolbar (expanded)

Reducing the visual complexity in a drawing is referred to as *fading layers*. This technique can be useful when you need to keep specific layers active in a drawing in order to add information that may be contingent on the placement of items already drawn. For example, you might want to fade the Furniture layer of a drawing in order to add electrical or lighting information, because the placement of the furniture might need to be visible in order to line up electrical outlets or center lighting fixtures, etc.

A layer must be locked before it can be faded. This action will automatically fade any layer in the drawing that is currently locked. When the layers appear in their faded state, the visible geometry can utilize osnaps. Additionally, the fade can be adjusted and toggled between On and Off by clicking the AutoCAD Lock icon.

## The 2D Draw Toolbar

The 2D Draw toolbar (Figure 1.14) allows access to all of the 2D drawing and modifying icons via the Dashboard. The top row consists of all of the drawing icons, and the bottom row consists of all of the modifying icons.

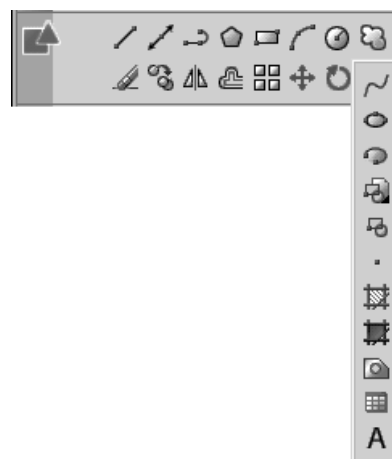


► FIGURE 1.14: AutoCAD 2008: The Dashboard's 2D Draw toolbar

To access additional drawing icons, do the following:

1. In the 2D Draw toolbar, position the cursor over the pull-down arrow at the end of the top row of icons and click it with the left mouse button.

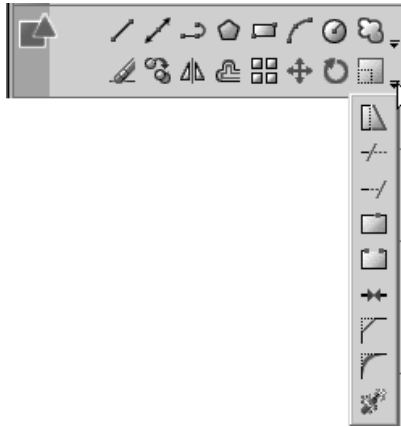
This action will launch a flyout menu (Figure 1.15) showing the additional drawing icons.



► FIGURE 1.15: AutoCAD 2008: The Dashboard's 2D Draw toolbar and the Additional Drawing Icons flyout menu



Additional modifying icons can be accessed similarly. (See Figure 1.16.)



► **FIGURE 1.16:** AutoCAD 2008: The Dashboard's 2D Draw toolbar and the Additional Modifying Icons flyout menu

## The Annotation Scaling Toolbar

*Annotations* are any items (such as symbols, text, and dimensions) added to a drawing. Scaling these objects has become significantly easier with the Annotation Scaling toolbar (Figures 1.17 and 1.18).



► **FIGURE 1.17:** AutoCAD 2008: The Dashboard's Annotation Scaling toolbar



► **FIGURE 1.18:** AutoCAD 2008: The Dashboard's Annotation Scaling icon

Now whenever any annotation is added to model space, it can be added with an annotative property. This property will automatically define the appropriate size of an object, text, or dimension style based on the chosen scale of your drawing in a Layout tab. Additional scales can be defined or deleted, and based on the scale of a given viewport, they will display appropriately. Prior to inserting any annotative object into the drawing, make sure to check the Annotation Visibility controls. These icons are located on the Status toolbar at the bottom-right of the AutoCAD interface. In order for the annotative objects to be visible when inserted into the drawing, these settings need to be turned On. To verify that they are, do the following:

1. Refer to the lower-right of the Status toolbar to visually verify that the Annotation Visibility icon is On. (See Figure 1.19.)

This is easy to determine. If the Sun icon appears, then Annotation Visibility is On. This designation will show annotative objects for all scales.



► **FIGURE 1.19:** AutoCAD 2008: The Annotation Visibility icons

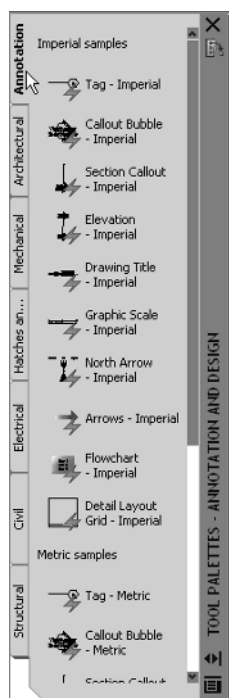
If the Sun icon is shaded, the annotative objects will appear for the current scale only. If the icon is shaded, do the following:

1. Position the cursor over the Annotation Visibility icon and click on it with the left mouse button.

Also, verify that the Annotation icon located directly adjacent to the Annotation Visibility icon is also set to the On position. When this icon is set to the On position, it will appear with a yellow lightning bolt and AutoCAD will automatically add scales to annotative objects when the annotation scale changes. If this setting is not set accordingly, follow the previous step.

Symbols can be accessed using the Annotation Scaling toolbar. To access the tool palettes of the available symbols (Figure 1.20), do the following:

1. Position the cursor over the Annotation Scaling icon in the Annotation Scaling toolbar on the Dashboard, and click on it with the left mouse button.

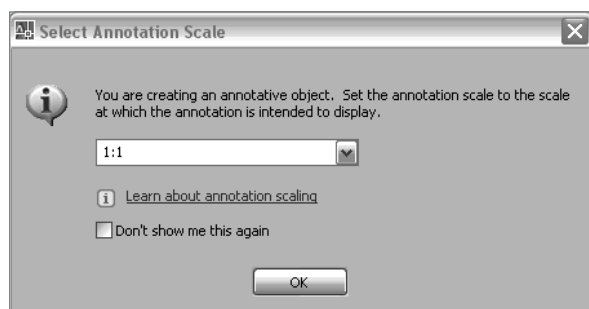


► FIGURE 1.20: AutoCAD 2008: The Annotation Scaling tool palettes

To insert a symbol into a drawing, do the following:

2. Position the cursor over the desired symbol in the Annotation tab on the tool palette and click on it with the left mouse button.

This action will launch the Select Annotation Scale window (Figure 1.21). It will automatically default to a scale of 1:1.



► FIGURE 1.21: AutoCAD 2008: The Select Annotation Scale window

To change the annotation scale to  $\frac{1}{4}'' = 1'-0''$  of that symbol, do the following:

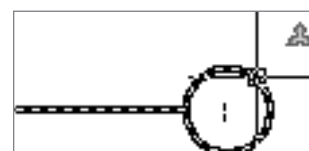
3. Position the cursor over the pulldown arrow of the Annotation Scale control, scroll through the menu, select  $\frac{1}{4}'' = 1'-0''$ , and click on it with the left mouse button. Click the OK button with the left mouse button, and select an insertion point in the drawing by clicking it with the left mouse button.

This action will insert the symbol within model space at the correct size for a drawing, which will ultimately be plotted at a scale of  $\frac{1}{4}'' = 1'-0''$  and end the command. (See Figure 1.22.)



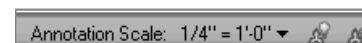
► FIGURE 1.22: AutoCAD 2008: An annotation tag inserted in the drawing

An Annotative icon (Figure 1.23) will appear when the cursor is positioned over an object that has annotative properties.



► FIGURE 1.23: AutoCAD 2008: Annotative icon

The Annotation Scale of the drawing will be updated to  $\frac{1}{4}'' = 1'-0''$ . Refer to the Status toolbar in the lower-right corner of the model space interface (Figure 1.24).



► FIGURE 1.24: AutoCAD 2008: Annotation Scale in the Status toolbar

Additional scales can also be added to annotative objects from the Annotation Scaling toolbar (Figure 1.25).



► **FIGURE 1.25:** AutoCAD 2008:  
The Add/Delete Scales icon

## The Dimensions Toolbar

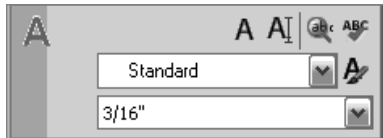
The Dimensions toolbar (Figure 1.26) still allows you to add all of the various dimensions to a drawing, as well as some new enhancements such as adding a jog to a linear dimension and breaking an extension line when it intersects with existing geometry. Additionally, dimensions can be added to a drawing as annotative objects.



► **FIGURE 1.26:** AutoCAD 2008: The Dimensions toolbar

## The Text Toolbar

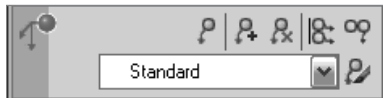
The Text toolbar (Figure 1.27) allows you to add multiline and single text to a drawing, as well as new text styles. An additional enhancement is the Spell Check option. Additionally, text can be added to a drawing as annotative objects.



► **FIGURE 1.27:** AutoCAD 2008: The Text toolbar

## The Multileaders Toolbar

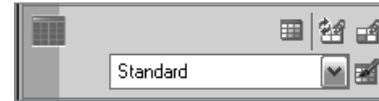
The Multileaders toolbar (Figure 1.28) allows you to add a multileader style, as well as arrange and align leaders in the drawing.



► **FIGURE 1.28:** AutoCAD 2008: The Multileaders toolbar

## The Tables Toolbar

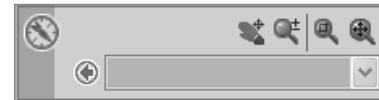
The Tables toolbar (Figure 1.29) still allows you to add tables to your drawing, as well as other enhancements to create better quality tables with the addition of options such as borders and margins.



► **FIGURE 1.29:** AutoCAD 2008: The Tables toolbar

## The 2D Navigate Toolbar

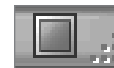
The 2D Navigate toolbar (Figure 1.30) still allows you to zoom into and pan across your drawing in real time.



► **FIGURE 1.30:** AutoCAD 2008: The 2D Navigate toolbar

## Clean Screen

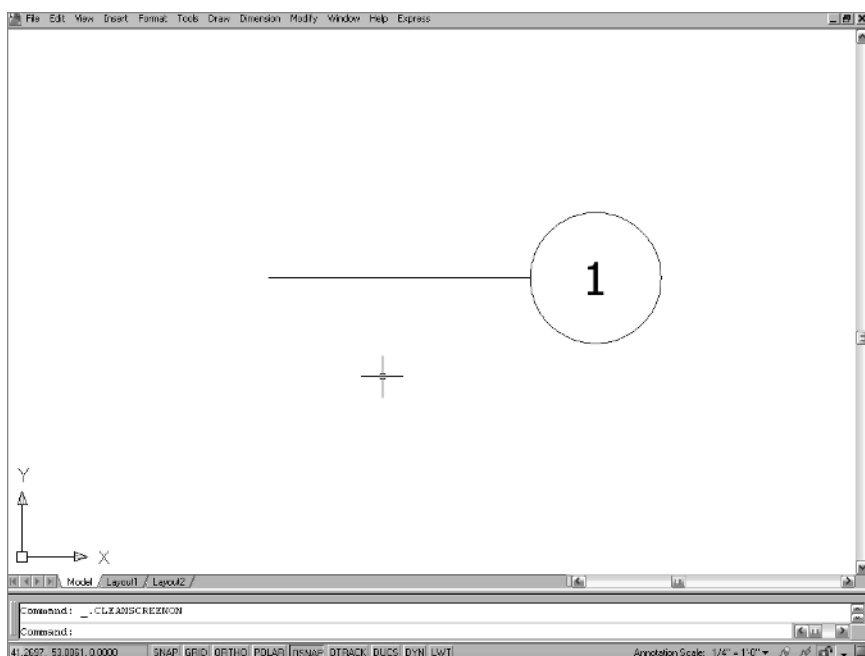
As you may have noticed, the drawing display area in the 2D Drafting and Annotation Workspace is somewhat limited because of the addition of the Dashboard. There are two options to remedy this. The first option is to simply modify the size of the Dashboard by stretching its limits, or you can use the Clean Screen icon. The Clean Screen icon (Figure 1.31) is significantly easier to use, and it allows you to toggle back and forth. The Clean Screen function basically hides all of the toolbars within the display, allowing the drawing space to take over the complete display (Figure 1.32).



► **FIGURE 1.31:** AutoCAD 2008:  
The Clean Screen icon

To start the Clean Screen function, do the following:

1. Position the cursor over the Clean Screen icon in the bottom-right corner of the display, and click on it with the left mouse button.



► FIGURE 1.32: AutoCAD 2008: The Clean Screen results

To disengage the Clean Screen function, do the following:

2. Position the cursor over the Clean Screen icon in the bottom-right corner of the display, and click on it with the left mouse button.

This action will return the display to the 2D Drafting and Annotation Workspace.

### Maximize/Minimize Viewport

The Maximize/Minimize icon (Figures 1.33 and 1.34) is a significant enhancement to the Layout tab. This icon easily allows you to select/activate a viewport within any Layout tab.



► FIGURE 1.33: AutoCAD 2008: The Maximize Viewport icon

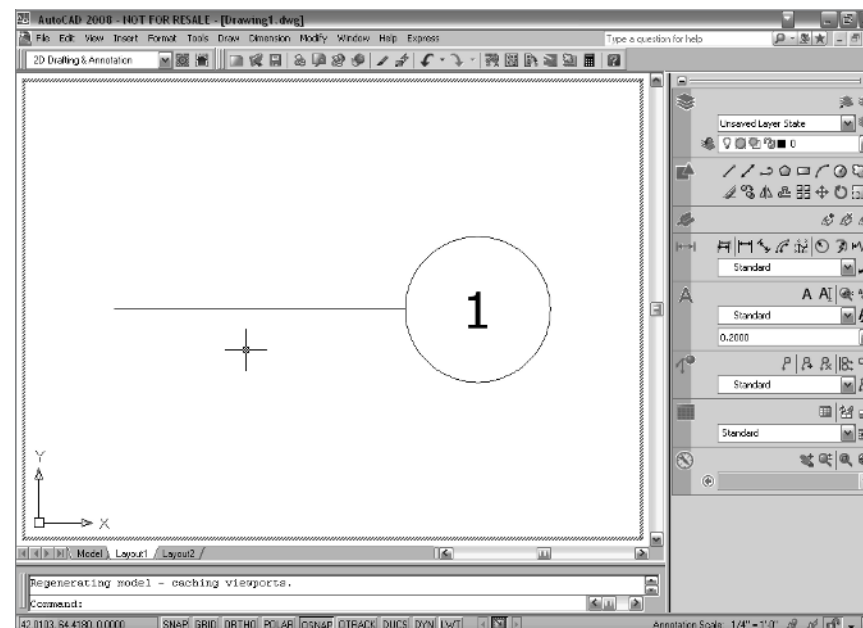


► FIGURE 1.34: AutoCAD 2008: The Minimize Viewport icon

To practice using this tool, make sure that your display is set to a Layout tab and do the following:

1. Position the cursor over the Maximize Viewport icon, and click on it with the left mouse button.

This action will maximize the viewport of the current Layout tab (Figure 1.35). It will appear as a red, dashed border. To deselect the viewport, do the following:



► FIGURE 1.35: AutoCAD 2008: The viewport is maximized.

2. Position the cursor over the Minimize Viewport icon, and click on it with the left mouse button.

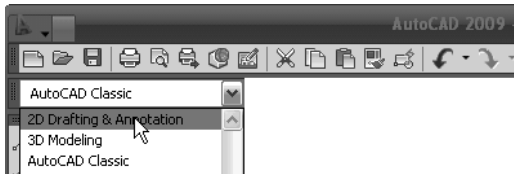
This action will return the display to the Layout tab and deactivate the viewport.

## AutoCAD 2009

The first thing you will notice is that the AutoCAD 2009 user interface has changed dramatically. Interacting with AutoCAD is much the same as interacting with the new Microsoft Office 2007 interface. The Dashboard has been replaced with a Ribbon that neatly organizes all of the commands you will use. The goal is to visually present the tools in a concise manner, thereby increasing the end user's productivity.

To begin, start by launching AutoCAD 2009 either via the icon on your desktop or via the Start menu. The 2D Drafting and Annotation Workspace may load when your version of AutoCAD 2009 is launched. If it does not load, do the following:

1. Position the cursor over the pulldown menu of the Workspaces toolbar located at the upper-left of the model space interface, or access the Workspace Switching icon (Figure 1.36 and Figure 1.37) in the lower-right of the model space interface on the Status toolbar. Click it with the left mouse button.



► **FIGURE 1.36:** AutoCAD 2009: Launching the 2D Drafting and Annotation Workspace



► **FIGURE 1.37:** AutoCAD 2009: The Workspace Switching icon

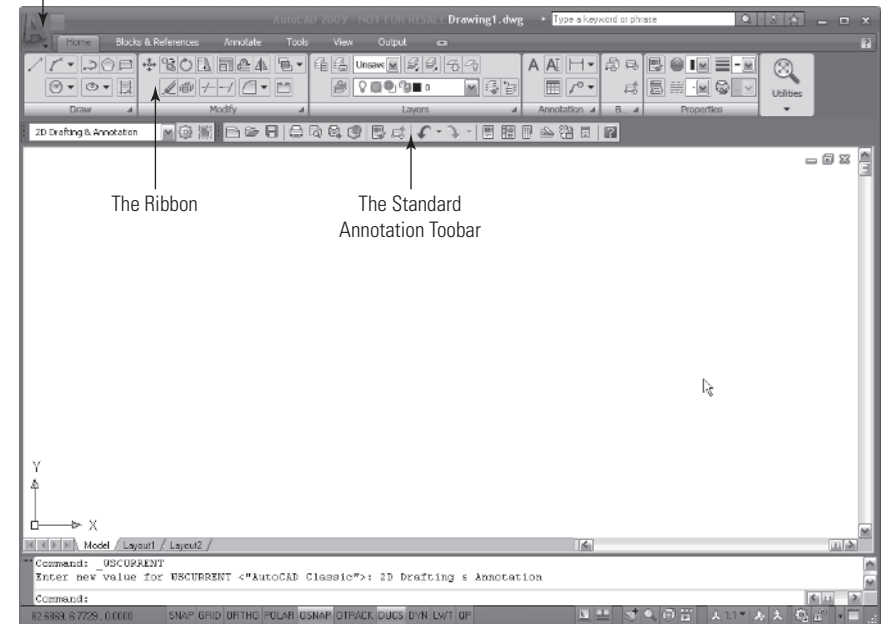
This action will launch a menu of workspaces from which to choose.

2. Position the cursor over the 2D Drafting and Annotation Workspace option, and click on it with the left mouse button.

This action will launch the 2D Drafting and Annotation Workspace. Some of the significant new 2D drawing features (Figure 1.38) are listed here:

- The Menu browser
- The Ribbon
- The Standard Annotation toolbar
- Improvements made to the Status toolbar
- Improved tooltips

The Menu  
Browser



► **FIGURE 1.38:** AutoCAD 2009: The 2D Drafting and Annotation Workspace's significant features in model space

### The Menu Browser

The Menu browser neatly organizes the dropdown menus that formerly appeared at the top of the model space interface within the AutoCAD Classic Workspace. Its icon (Figure 1.39) is located at the top-left of the model space interface.



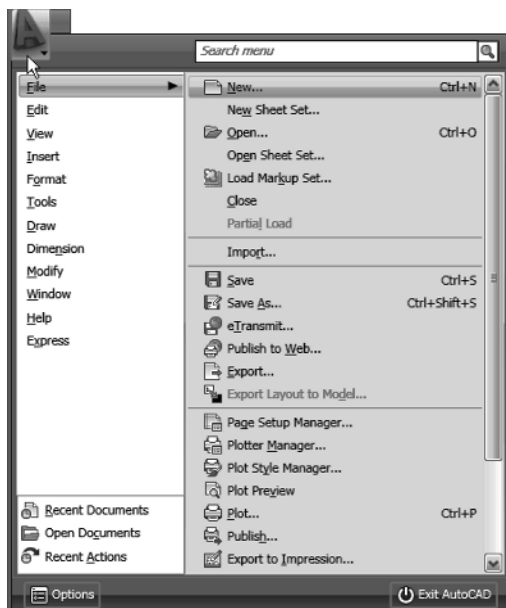
► **FIGURE 1.39:** AutoCAD 2009: The Menu Browser icon

To access the Menu browser, do the following:

1. Position the cursor over the Menu Browser icon located at the top-left of the model space interface, and click on it with the left mouse button.

This action will open the Menu browser and allow access to commands in a way similar to that of the dropdown menus of the AutoCAD Classic Workspace. To interact with AutoCAD via the Menu browser (Figure 1.40), simply do the following:

2. Hover the cursor over the category to access, position the cursor over the command to launch, and click on it with the left mouse button.



► FIGURE 1.40: AutoCAD 2009: The Menu browser (expanded)

### The Ribbon

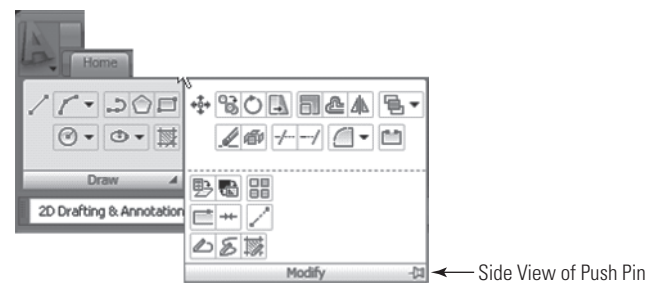
Keeping in step with the new Microsoft Office 2007 interface, the new Ribbon replaces the Dashboard panel. Now all of the commands can be accessed using the Ribbon tabs located at the top of the user interface. (See Figure 1.41.)



► FIGURE 1.41: AutoCAD 2009: The Ribbon's Home tab

When the 2D Drafting and Annotation Workspace launches, the Home tab is the active tab on the Ribbon. This tab houses all of the basic commands used to draw and modify objects, annotate objects (add text and dimensions), and access layer controls. A new feature has been added to AutoCAD 2009 that allows the user to pin an action or a toolbar. This feature works in a fashion similar to the flyout menus you may be used to using. The major difference is that it allows the user to actually pin the expanded toolbar. To pin a toolbar on the Home tab, do the following:

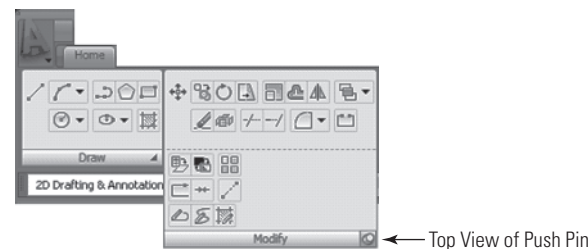
1. Hover the cursor over the Modify toolbar on the Home tab of the Ribbon (Figure 1.42), and click on the pulldown arrow in the lower-right corner with the left mouse button.



► FIGURE 1.42: AutoCAD 2009: The Modify toolbar (prior to pin)

This action will launch the additional icons located on the Modify toolbar. The Push Pin icon is located in the lower-right corner of the toolbar. In order to pin this toolbar, simply do the following:

2. Hover the cursor over the side-view Push Pin icon, and click on it with the left mouse button to pin the toolbar in place. (See Figure 1.43.)



► FIGURE 1.43: AutoCAD 2009: The Modify toolbar (pinned in place)

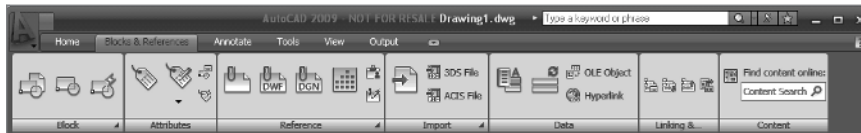
The pin will change to a top view. To return the toolbar to the previous position on the Ribbon, do the following:

3. Hover the cursor over the top-view Push Pin icon, and click on it with the left mouse button to return the toolbar to the Ribbon.

The Ribbon contains other categories of toolbars, which are described in the following text.

### The Blocks and References Tab

The Blocks and References tab (Figure 1.44) houses the toolbars to create and edit blocks and block attributes, as well as attaching images and external references to the AutoCAD file.



► FIGURE 1.44: AutoCAD 2009: The Ribbon's Blocks and References tab

### The Annotate Tab

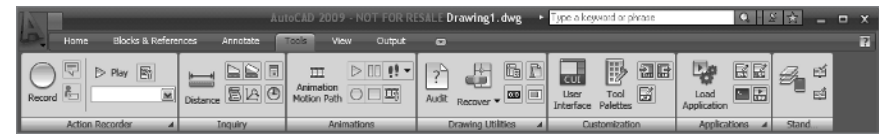
The Annotate tab (Figure 1.45) houses the toolbars to dimension and add text to the file, as well as the toolbars, to create tables and multileaders and add or adjust annotation scales.



► FIGURE 1.45: AutoCAD 2009: The Ribbon's Annotate tab

### The Tools Tab

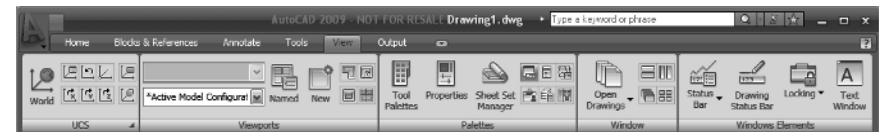
The Tools tab (Figure 1.46) houses the toolbars to customize, query, and audit the drawing file.



► FIGURE 1.46: AutoCAD 2009: The Ribbon's Tools tab

### The View Tab

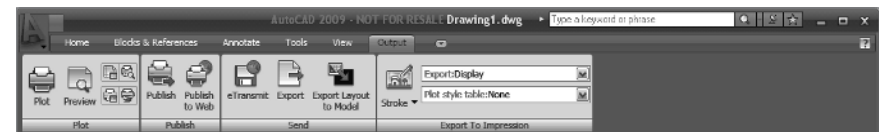
The View tab (Figure 1.47) houses the toolbars to change the Universal Coordinate System (UCS) designation of the drawing file, as well as the toolbar to create and modify viewports.



► FIGURE 1.47: AutoCAD 2009: The Ribbon's View tab

### The Output Tab

The Output tab (Figure 1.48) houses the toolbars to plot/publish and transmit the drawing file.



► FIGURE 1.48: AutoCAD 2009: The Ribbon's Output tab

### The Standard Annotation Toolbar

The Standard Annotation Toolbar (docked directly below the Ribbon) houses the frequently used commands such as New, Save, Open, Undo/Redo. This toolbar (Figure 1.49) offers quick access to these commands.



► FIGURE 1.49: AutoCAD 2009: The Standard Annotation toolbar

## The Status Toolbar

The Status Toolbar (located at the bottom of the model space interface) has been updated significantly. This toolbar (Figure 1.50) houses all of the icons from the former releases of AutoCAD, and new icons have been added to it. It is now possible to access 2D navigation tools to pan and zoom, control the annotation visibility of items in the drawing file, and access layout space as well. Object snaps are still located on the Status toolbar. You can now choose to display them as icons (Figure 1.51).



► FIGURE 1.50: AutoCAD 2009: The Status toolbar

To change the object snap’s radio buttons to icons, do the following:

1. Hover the cursor over any of the object snaps, and click the radio button with the right mouse button.

This action will launch a tooltip window.

2. Hover the cursor over the Use Icons option, and click on it with the left mouse button to change the appearance of the object snaps to icons.



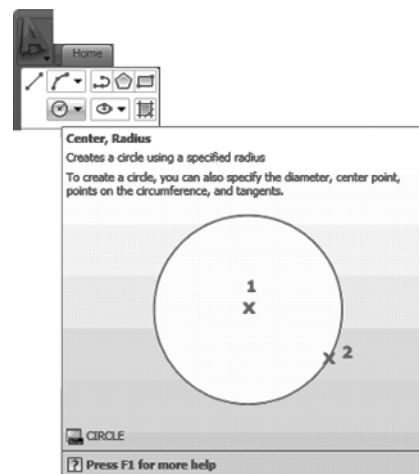
► FIGURE 1.51: AutoCAD 2009: On the Status toolbar, object snaps are displayed as icons.

## Improved Tooltips

AutoCAD’s tooltips have also been dramatically improved. With a focus on productivity, the improved tooltips provide an easy way to learn more about a particular icon without having to access the Help menu. As in the past, when you hover the cursor over a particular icon, a small tooltip window will appear with the name of that icon. Now, when you hover the cursor over any icon, a small tooltip window appears with the name of the icon and a brief explanation. The longer the cursor hovers over the icon, the more additional information appears. (See Figures 1.52 and 1.53.)



► FIGURE 1.52: AutoCAD 2009: The tooltip window



► FIGURE 1.53: AutoCAD 2009: The tooltip window (expanded)

## AutoCAD 2010

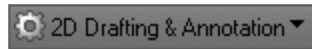
AutoCAD 2008 and 2009 set a fast pace with improvements to the 2D AutoCAD; AutoCAD 2010 takes the AutoCAD 2009 interface a bit further. Because the new Microsoft Office 2007–style interface has been retained, you will notice a significantly expanded Ribbon. Some tools and commands have been improved and are easily accessed to reinforce end user productivity. One such improvement is *dynamic blocks*: it is now possible to edit a block in place without creating a whole new block to accommodate a different size or shape of a given component in that block. Another significant improvement is that PDF files can now be used as underlays in an AutoCAD drawing. In addition, the Menu browser and Application menu have been completely remodeled.

This portion of the chapter will offer a significantly abbreviated introduction because the balance of the book will cover the advanced improvements in AutoCAD 2010.

To begin, start by launching AutoCAD 2010 either via the icon on your desktop or via the Start menu. The 2D Drafting and Annotation Workspace may load when your version of AutoCAD 2010 is launched. If it does not load, do the following:

1. Position the cursor over the pulldown menu of the Workspace Switching icon in the lower-right of the model space interface on the Status toolbar (Figure 1.54). Click it with the left mouse button.





► **FIGURE 1.54:** AutoCAD 2010:  
The Workspace Switching icon

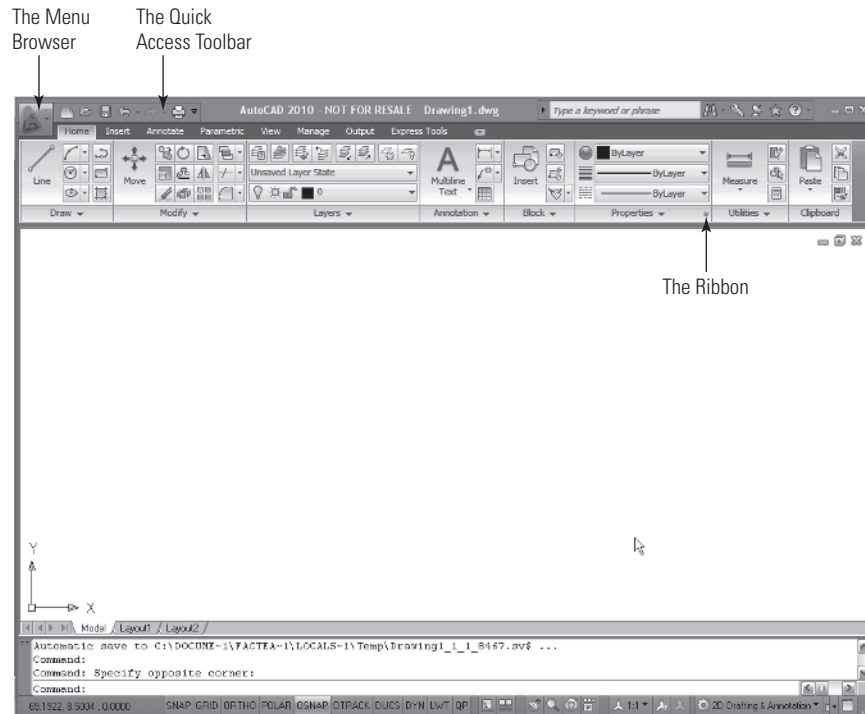
This action will launch a menu of workspaces from which to choose.

2. Position the cursor over the 2D Drafting and Annotation Workspace option, and click on it with the left mouse button.

This action will launch the 2D Drafting and Annotation Workspace (Figure 1.55).

Some of the significant new 2D drawing features are listed here:

- The Menu browser (completely remodeled)
- The Application menu (completely remodeled)
- The Quick Access toolbar
- An improved Help menu
- The Ribbon (completely expanded)



► **FIGURE 1.55:** AutoCAD 2010: The 2D Drafting and Annotation Workspace's significant features in model space

## The Menu Browser

The Menu browser has been completely remodeled. This new browser basically houses all of the commands that were formerly found on the File pulldown menu. In addition, the Application menu for the corresponding command prompts has also been remodeled. The Menu Browser icon (Figure 1.56) is located at the top of the model space interface within the AutoCAD Classic Workspace. This icon is located at the top-left corner of the model space interface.



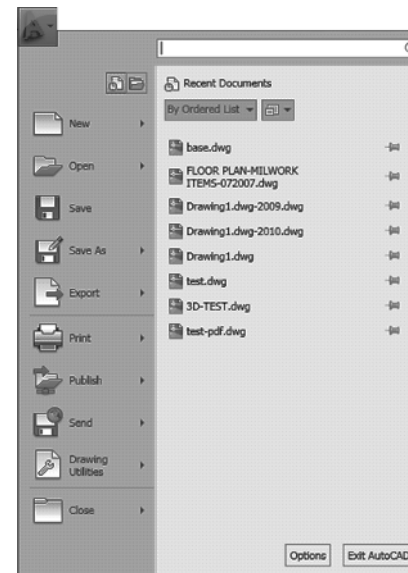
► **FIGURE 1.56:** AutoCAD 2010:  
The Menu Browser icon

To access the Menu browser, do the following:

1. Position the cursor over the Menu Browser icon located at the top-left of the model space interface, and click on it with the left mouse button.

This action will open the Menu browser (Figure 1.57), allowing access to commands in a way similar to that of the dropdown menus in the AutoCAD Classic Workspace. To interact with AutoCAD using the Menu browser, simply do the following:

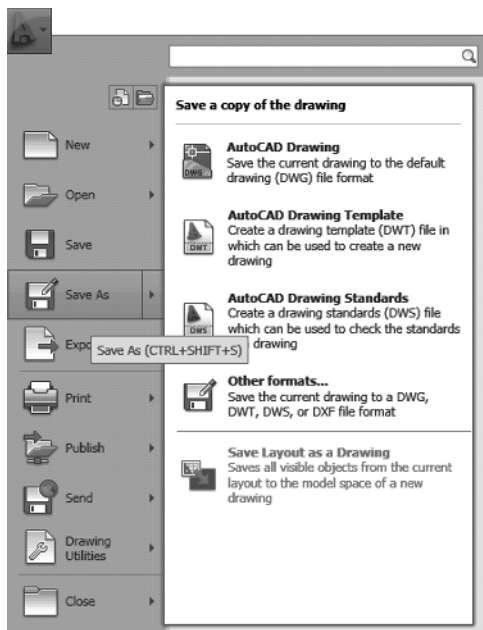
2. Hover the cursor over the category to access, position the cursor over the command to launch, and click on it with the left mouse button.



► **FIGURE 1.57:** AutoCAD 2010:  
The Menu browser (expanded)

## The Application Menu

The Application Menu browser (Figure 1.58) has been completely remodeled too. Now, when the Menu browser is accessed, the Application Menu browser launches with larger icons and an explanation of the function.



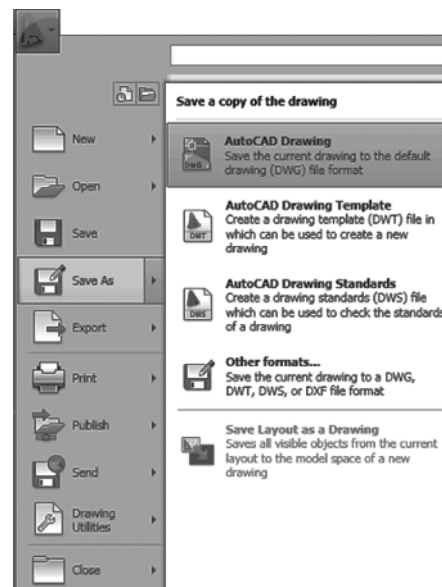
► **FIGURE 1.58:** AutoCAD 2010: The Application Menu browser (expanded)

To access the Application Menu browser once the Menu browser has been expanded, do the following:

1. Position the cursor over the Save As category located on the Menu browser, and click on it with the left mouse button.

This action will launch an expanded view of the Save As function. To interact with AutoCAD via this menu, simply do the following:

2. Position the cursor over the AutoCAD Drawing option, and then click on it with the left mouse button. (See Figure 1.59.)



► **FIGURE 1.59:** AutoCAD 2010: Saving a drawing file as an AutoCAD drawing

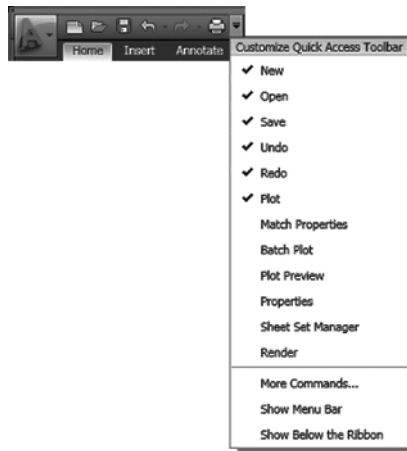
This action will allow the drawing to be saved as an AutoCAD drawing. Simply follow the typical steps to save the file.

## The Quick Access Toolbar

The Quick Access toolbar (docked to the right of the Menu Browser icon) houses the frequently used commands such as New, Save, Open, and Undo/Redo. This toolbar offers quick access to these commands. (See Figures 1.60 and 1.61.)



► **FIGURE 1.60:** AutoCAD 2010: The Quick Access toolbar



► **FIGURE 1.61:** AutoCAD 2010: The Quick Access toolbar (expanded)

Not only can basic commands be accessed via this toolbar, but it is totally customizable. The basic commands (which are listed) can be removed from the toolbar and additional commands/icons can be added. To customize this toolbar, do the following:

1. Hover the cursor over the pulldown arrow tab located on the right side of the Quick Access toolbar, and click on it with the left mouse button.

This action will launch the Customize Quick Access Toolbar tooltip window. Note that all of the icons that appear on the toolbar have a check mark to the right of the name of the command in this tooltip window. In order to remove an icon from the toolbar, do the following:

2. Hover the cursor over the command option for Plot, and click on it with the left mouse button.

This action will remove the Plot icon from the Quick Access toolbar and allow you to customize the toolbar with an additional icon if you like (Figure 1.62).



► **FIGURE 1.62:** AutoCAD 2010: The Quick Access toolbar (without the Plot icon)

To return the Plot icon to the Quick Access toolbar, do the following:

3. Hover the cursor over the pulldown arrow tab located on the right side of the Quick Access toolbar, and click on it with the left mouse button. Then, hover the cursor over the command option for Plot, and click on it with the left mouse button.

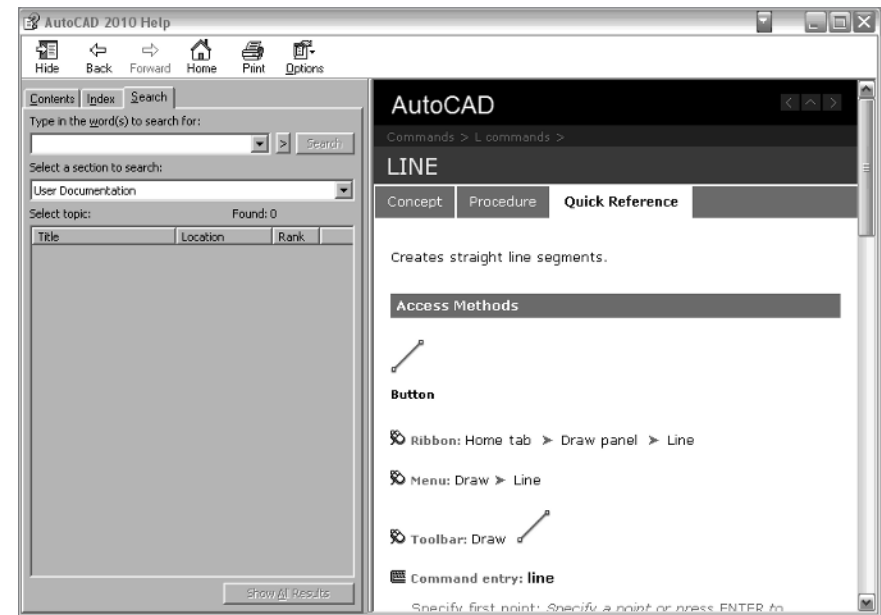
## Help Menu Improvement

You can still access information about AutoCAD commands and tools either using the Information Center located at the top-right of the model space interface or by pressing the F1 key on the keyboard. Although these methods are useful, you have to access the Contents, Index, or Search tabs in the Help menu. Sometimes these search options list an unrelated item or you need to scroll through many items to find the information you need. However, you don't have to go to so much trouble anymore. Now you can find information about a particular icon with minimal effort.

For example, to find additional information about the Line icon, do the following:

1. Hover the cursor over the Line icon and press the F1 key on the keyboard.

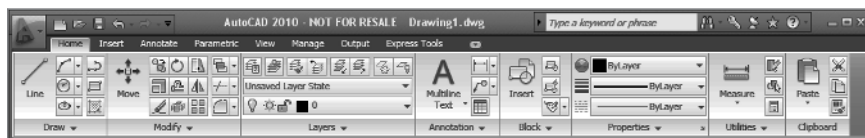
This action will launch the section of the Help menu that refers to information about the Line icon. (See Figure 1.63.)



► **FIGURE 1.63:** AutoCAD 2010: The improved Help Menu window

### The Ribbon (Expanded)

Keeping in step with the new Microsoft Office 2007–style interface, the new Ribbon replaces the Dashboard panel. Now all of the commands can be accessed via the Ribbon tabs located at the top of the user interface. (See Figure 1.64.)

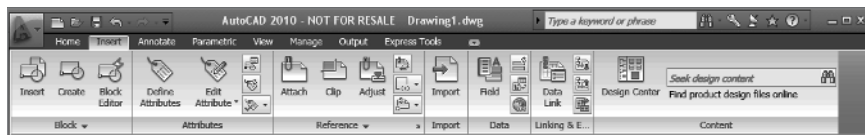


► FIGURE 1.64: AutoCAD 2010: The Ribbon’s Home tab

When the 2D Drafting and Annotation Workspace launches, the Home tab is the active tab on the Ribbon. This tab houses all of the basic commands used to draw and modify objects, as well as annotate objects (add text and dimensions to objects) and layer controls. A measuring toolbar is also added to this tab.

### The Insert Tab

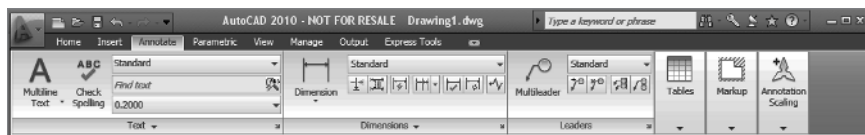
The Insert tab (Figure 1.65) houses the toolbars used to create and edit blocks and block attributes, as well as attach images and external references to an AutoCAD file.



► FIGURE 1.65: AutoCAD 2010: The Ribbon’s Insert tab

### The Annotate Tab

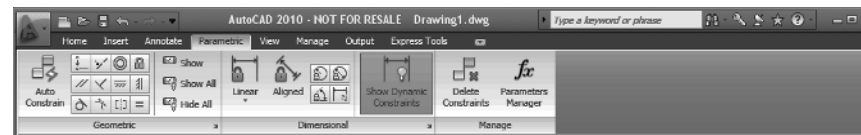
The Annotate tab (Figure 1.66) houses the toolbars used to dimension and add text to the file, as well as the toolbars to create tables and multileaders and to add/adjust annotation scales.



► FIGURE 1.66: AutoCAD 2010: The Ribbon’s Annotate tab

### The Parametric Tab

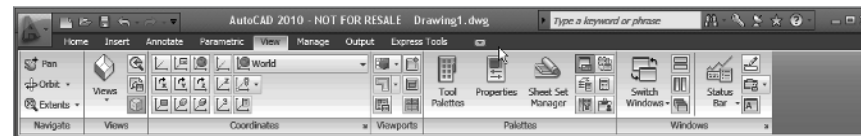
The Parametric tab (Figure 1.67) houses the toolbars used to draw with geometric and dimensional constraints. Basically, this toolbar allows you to draw 2D geometry with a restriction on particular elements or associations of a given object based on the relationship of a given angle, dimension, or size and distance of an object, etc. This ability is useful in the manufacturing field.



► FIGURE 1.67: AutoCAD 2010: The Ribbon’s Parametric tab

### The View Tab

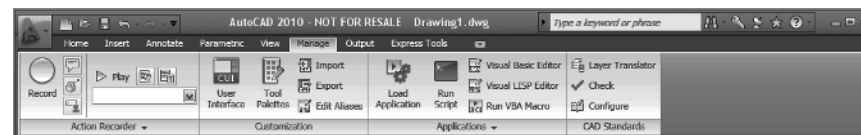
The View tab (Figure 1.68) houses the toolbars used to change the UCS designation of the drawing file, the toolbar to create and modify viewports, and the toolbar to control the Status toolbar.



► FIGURE 1.68: AutoCAD 2010: The Ribbon’s View tab

### The Manage Tab

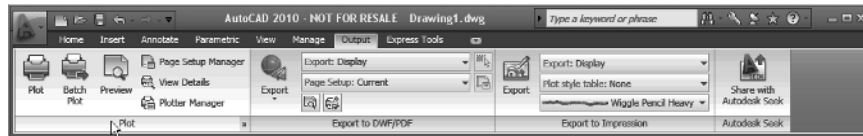
The Manage tab (Figure 1.69) houses the toolbars used to customize AutoCAD.



► FIGURE 1.69: AutoCAD 2010: The Ribbon’s Output tab

## The Output Tab

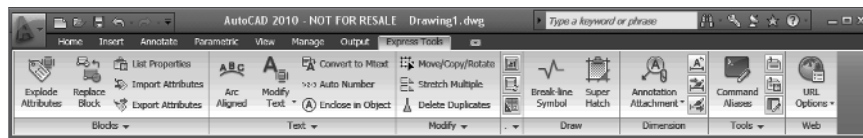
The Output tab (Figure 1.70) houses the toolbars used to plot/publish and transmit a drawing file.



► FIGURE 1.70: AutoCAD 2010: The Ribbon's Output tab

## The Express Tools Tab

The Express Tools tab (Figure 1.71) houses toolbars with additional options that let you perform expanded commands such as placing text on an arc or enclosing it in a circle.



► FIGURE 1.71: AutoCAD 2010: The Ribbon's Express Tools tab