

Tutorial 5: Modify Object Properties and Layers in AutoCAD 2010

Audience: Users new to AutoCAD

Prerequisites: None

Time to complete: 15 minutes

In This Tutorial

In this tutorial, you learn to:

- Modify the properties of objects
- Organize drawings with layers
- Modify object properties by changing layer properties

NOTE For more information on the topics covered in this tutorial, see the *AutoCAD User's Guide*.

Tutorial Files

Download the tutorial files as follows:

- 1 Download the *modify_objects.zip* from <http://www.autodesk.com/autocad-tutorials>.

- 2 Unzip *modify_objects.zip* to *C:\My Documents\tutorials*.

Lesson 1: Modify Object Properties

In this lesson, you learn to modify object properties.

You can organize most of the objects in your drawing and control how they are displayed and plotted by changing their general properties, which include layer, linetype, color, lineweight, and plot style. Other properties are object-specific; for example, the properties of a circle include radius and area, and the properties of a line include length and angle.

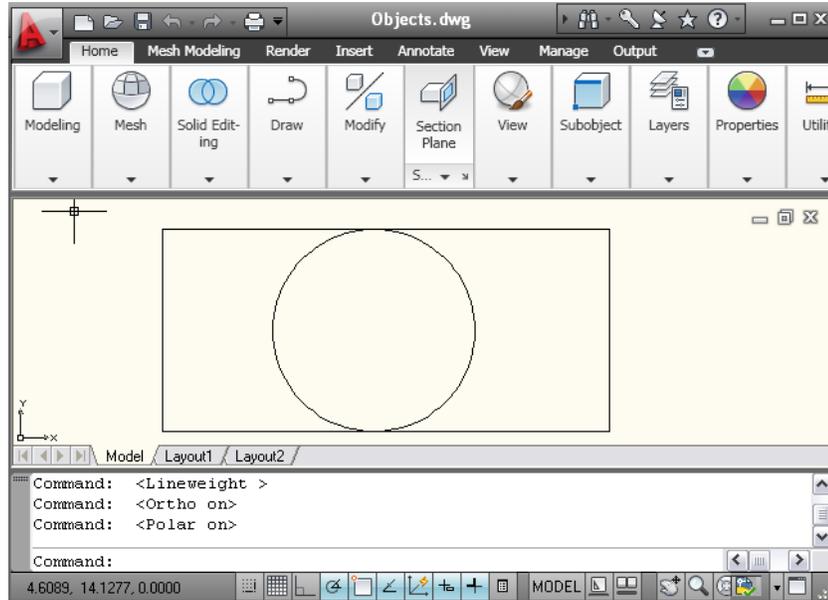
You can change object properties in your drawing with the Properties or Quick Properties palettes.

To display the properties of objects

- 1 Click Start menu (Windows) ► (All) Programs ► Autodesk ► AutoCAD 2010 ► AutoCAD 2010-English.

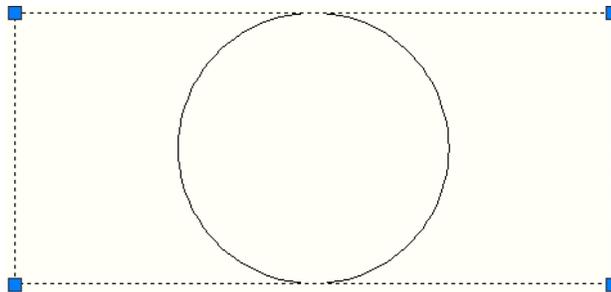


- 2 Click  ► Open.
- 3 In the Select File dialog box, browse to *C:\My Documents\tutorials* and select the file *objects.dwg*. Click Open.



4 Make sure the status bar icons shown above are turned on.

5 In the drawing area, select the rectangle by clicking it.

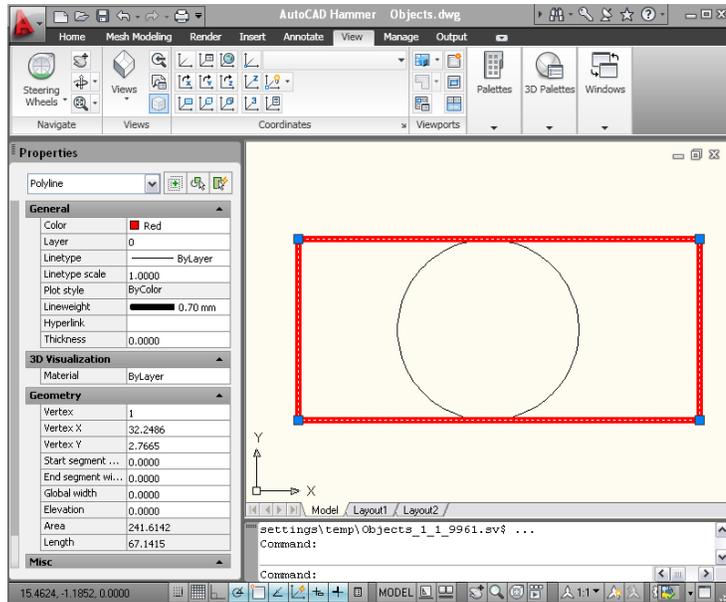


6 With the rectangle selected, on the ribbon, click View tab ► Palettes panel ► Properties.

The Properties palette displays the properties of the selected rectangle.

7 In the Properties palette, do the following:

- Select Color and change the ByLayer to Red.
- Select Lineweight and change the ByLayer to 0.70 mm.
The thickness of the rectangle increases to 0.70 mm thickness.

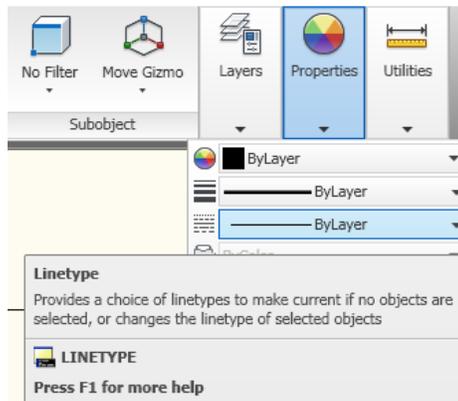


Similarly, you can change other properties of the rectangle from the Properties palette.

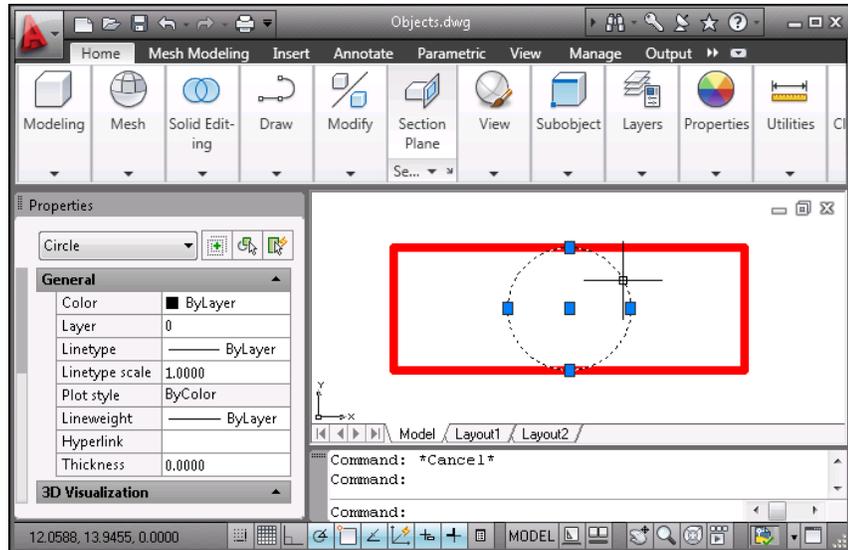
- 8 Press ESC to deselect all selected objects.

To change the properties of a circle

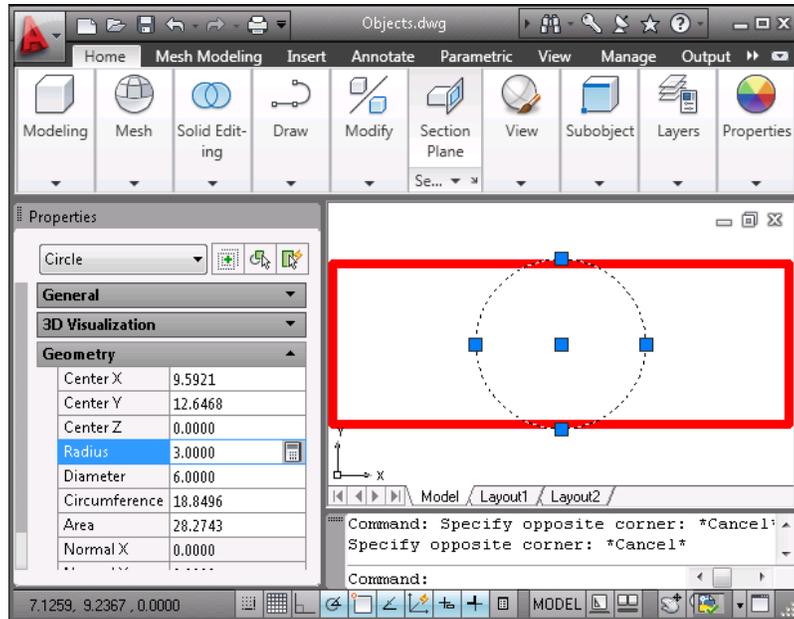
- 1 Before changing the properties of the circle, you must first load a linetype. Click Home tab ► Properties panel ► Linetype.



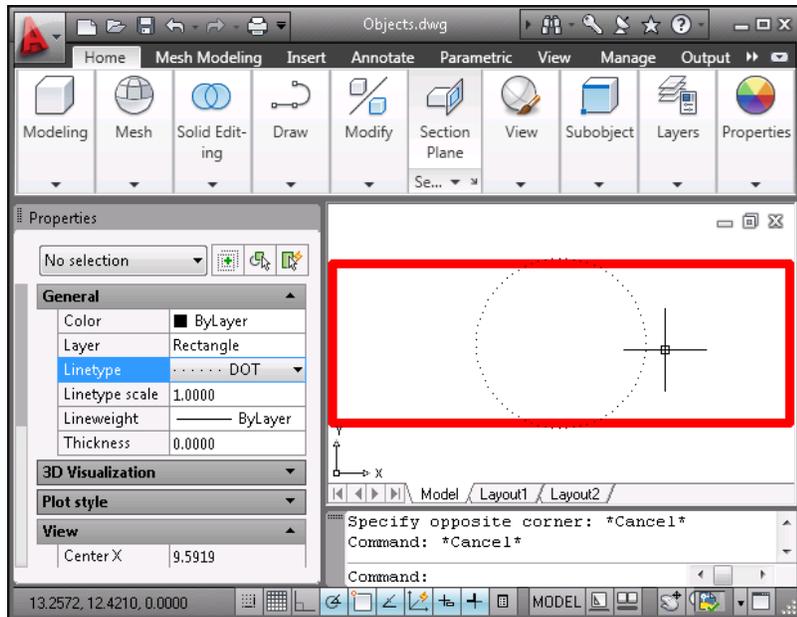
- 2 In the Linetype drop-down list, click Other. Then, in the Linetype Manager dialog box, click Load.
- 3 In the Load or Reload dialog box, select the DOT linetype. Click OK.
- 4 Click OK.
- 5 Select the circle by clicking it.



- 6 If the Properties palette is not displayed, then on the ribbon, click View tab ► Palettes panel ► Properties.
The Properties palette displays the properties of the selected circle.
- 7 In the Properties palette, do the following:
 - Under the Geometry category, select Radius and enter 3 to replace the current value.
The radius of the circle changes to the value you entered.



- Under the General category, select Linetype and select DOT from the drop-down list.
The circle is now displayed with the DOT linetype.



You can change other properties of the circle from the Properties palette.

In this lesson, you learned how to change the properties of a rectangle and circle using the Properties palette.

Lesson 2: Organize Drawings with Layers

In this lesson, you learn to create layers and to control the visibility of objects in the drawing.

Layers are like transparent overlays on which you organize and group different kinds of drawing objects. The objects you create have common properties which include colors, linetypes, and lineweights. An object can inherit these properties from the layer it is drawn or placed on, or properties can be specifically assigned to individual objects.

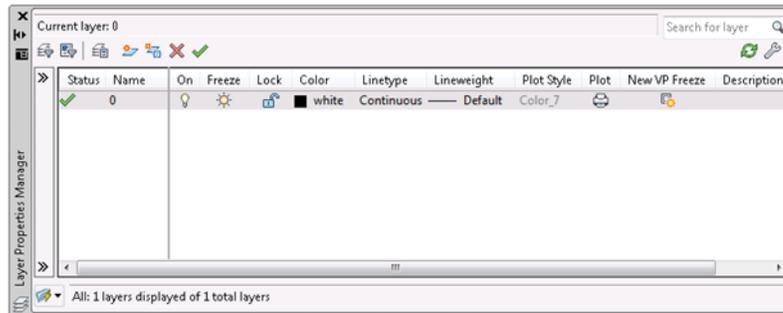
You can group objects with similar properties together on to a layer. This allows you to modify and manage multiple objects in your drawing from one central point. Changing the property for a layer, will update the property for all objects on the layer.

To create a new layer

- 1 Click  ► New.
- 2 In the Select Template dialog box, select *acad.dwt* and click Open.
- 3 On the ribbon, click Home tab ► Layers panel ► Layer Properties.



The Layer Properties Manager palette is displayed.



For ease of use, you can dock the Layer Properties Manager. Click the Properties button on the title bar and click Anchor Left or Anchor Right.

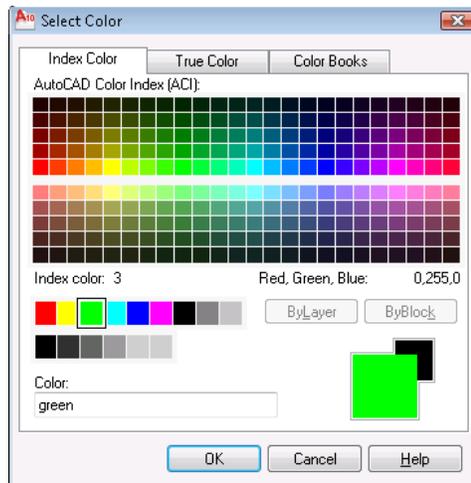


- 4 On the Layer Properties Manager, click the New Layer button.

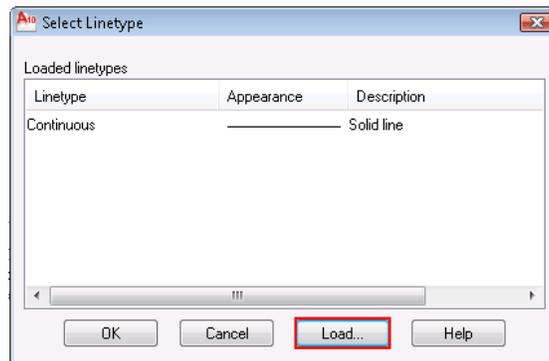


A new layer named Layer1 is automatically added to the layer list.

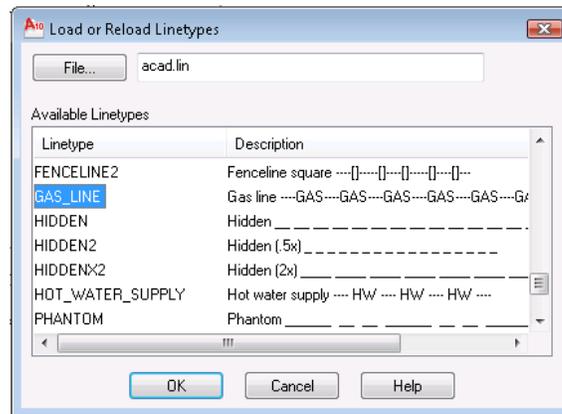
- 5 In the in-place editor, enter **Green Gas** as the new layer name by overwriting the default highlighted layer name.
- 6 In the Color column of the Green Gas layer, click White. In the Select Color dialog box, Index Color tab, click the Green color swatch and click OK.



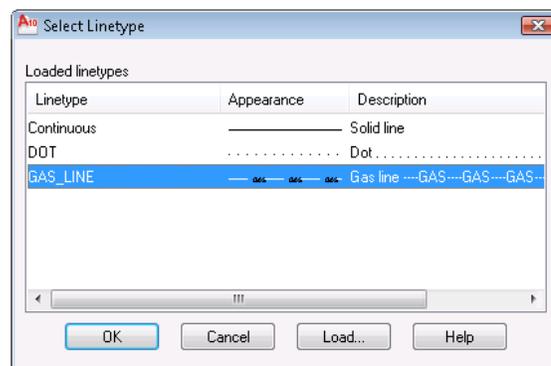
- 7 In the Linetype column of the Green Gas layer, click Continuous. In the Select Linetype dialog box, click Load.



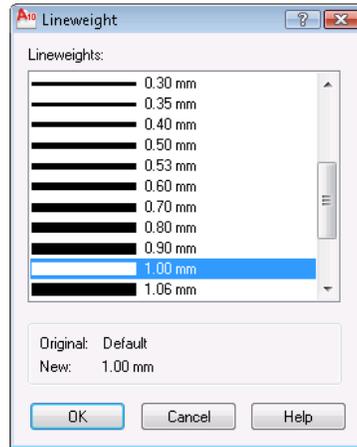
- 8 In the Load or Reload Linetypes dialog box, Available Linetypes list, select GAS_LINE and click OK.



- In the Select Linetype dialog box, Loaded Linetypes list, select the linetype GAS_LINE and click OK.



- In the Lineweight column of the Green Gas layer, click Default. In the Lineweight dialog box, Lineweights list, select 1.00 mm and click OK.



11 Click the Set Current button.



The Green Gas layer is now active. Objects that you draw, with this layer active, will inherit the properties as you have defined them.

12 On the ribbon, click Home tab ► Draw panel ► Line. Specify two points in the drawing area to create the line and press Enter to end the command.

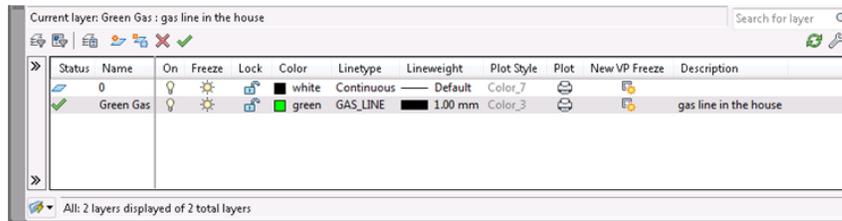


You should see that the line is in green with the GAS_LINE linetype and a thickness of 1.00mm.

TIP To display the lineweights in your drawing, on the status bar, click Show/Hide Lineweight.

You have drawn a line on the Green Gas layer. All other objects you draw on this layer will inherit the layer properties. To add more layers, follow the same procedure and modify the color, linetype, lineweight properties as needed.

To help identify what each layer in your drawing is used for, you can provide a description in the Description column of the Layer Properties Manager.



When you are working on complex drawings, your drawing can get crowded. Turning off a layer hides all objects in that layer from view. This way you can concentrate on the layer you are working on.

To control the visibility of objects by turning off and turn on layers

- 1 Ensure that the Layer Properties Manager is open. If the Layer Properties panel is not open, on the ribbon, click Home tab ► Layers panel ► Layer Properties.
- 2 On the Layer Properties Manager, select the Green Gas layer and click the light bulb in the On column. If the light bulb is yellow, the layer is turned on.

Clicking the light bulb toggles the layer on and off. When the layer is turned off, you do not see the objects on the layer.

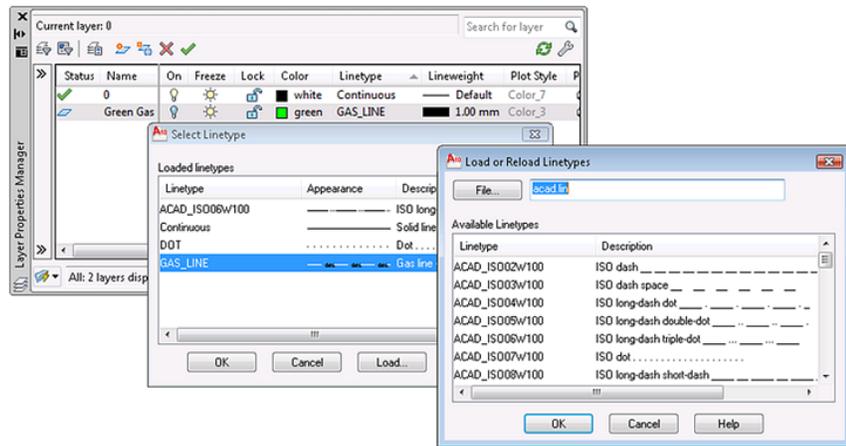
In this lesson, you learned to create layers, assign properties to layers, and control the visibility of objects using layers.

Lesson 3: Modify Object Properties by Layers

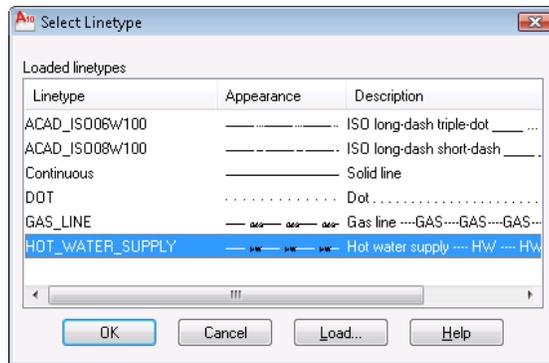
In this lesson, you learn to change the default and assigned properties of a layer. You change the color, linetype, and lineweight of layers.

To change the linetype assigned to a layer

- 1 Ensure that the Layer Properties Manager is open. Click in the Linetype column of the Green Gas layer.
- 2 In the Select Linetype dialog box, select a linetype from the listed options. If the linetype you need is not listed, click Load.



- 3 Select the HOT_WATER_SUPPLY linetype and click OK.
The selected linetypes are loaded.



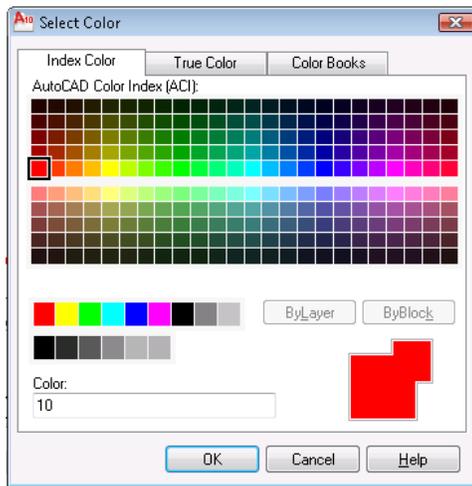
- 4 Select the HOT_WATER_SUPPLY linetype and click OK.
Objects on the layer are updated to the HOT_WATER_SUPPLY linetype.



You have learned to change the linetype for a layer.

To change the color assigned to a layer

- 1 Ensure that the Layer Properties Manager is open. Click in the Color column of the Green Gas layer.



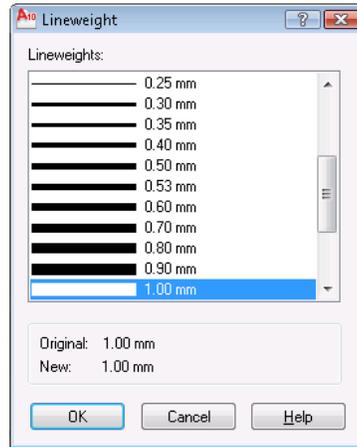
- 2 In the Select Color dialog box, the Index Color tab, select the Red color swatch and click OK. The object in the layer is updated to red color. Objects on the layer are updated to the color red.



You have learned to change the color for a layer.

To change the lineweight of a layer

- 1 Ensure that the Layer Properties Manager is open. Click in the Lineweight column of the Green Gas layer.



- 2 In the Lineweight dialog box, Lineweight list, select the lineweight 0.70 mm and click OK.

Objects on the layer are updated to the lineweight 0.70 mm.



You have learned to change the lineweight of a layer.

In this lesson, you learned to modify the properties for a layer.