

CREATE A TEMPLATE

The first item on the learning agenda is **how to create a template file** from a drawing file. **This is important:** You will need this template to complete Lessons 2 through 8.

First you need to download a drawing file.

A. Type the website address shown below into your web browser, then press **<enter>**

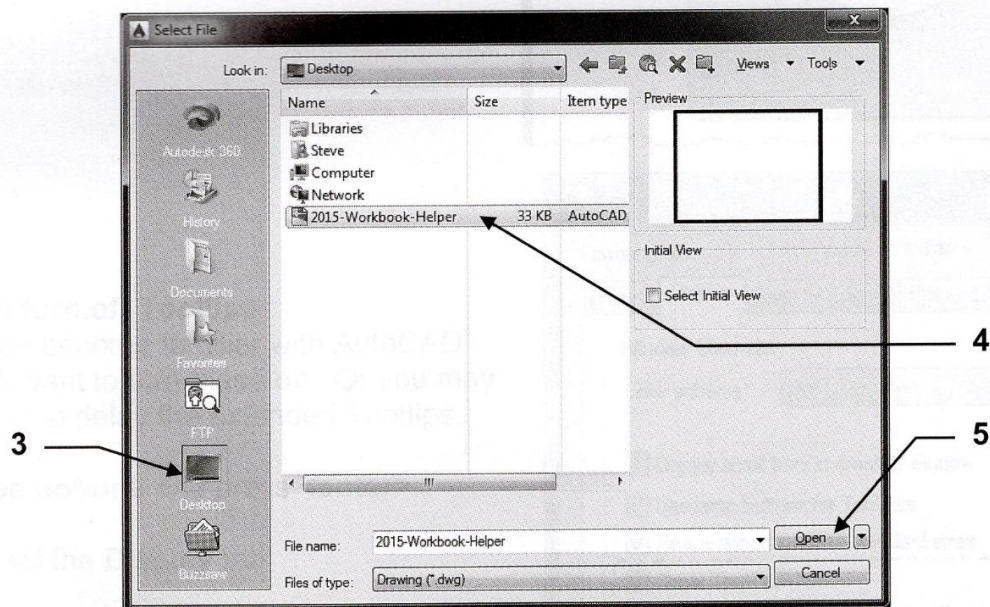
<http://new.industrialpress.com/ext/downloads/acad/2015-workbook-helper.dwg>

B. The 2015-workbook-helper file will download automatically.

C. Save the downloaded file to your desktop.

Now you will create a template. (This will be a very easy task.)

1. Start AutoCAD, if you haven't already. (Refer to page 1-2)
2. Select the **OPEN** tool from the **Quick Access Toolbar**. (Refer to page 1-10)



3. Select the **Desktop** directory
4. Select the **2015-workbook-helper.dwg**
5. Select the **Open** button located in the lower right corner.

CREATE A TEMPLATE....continued

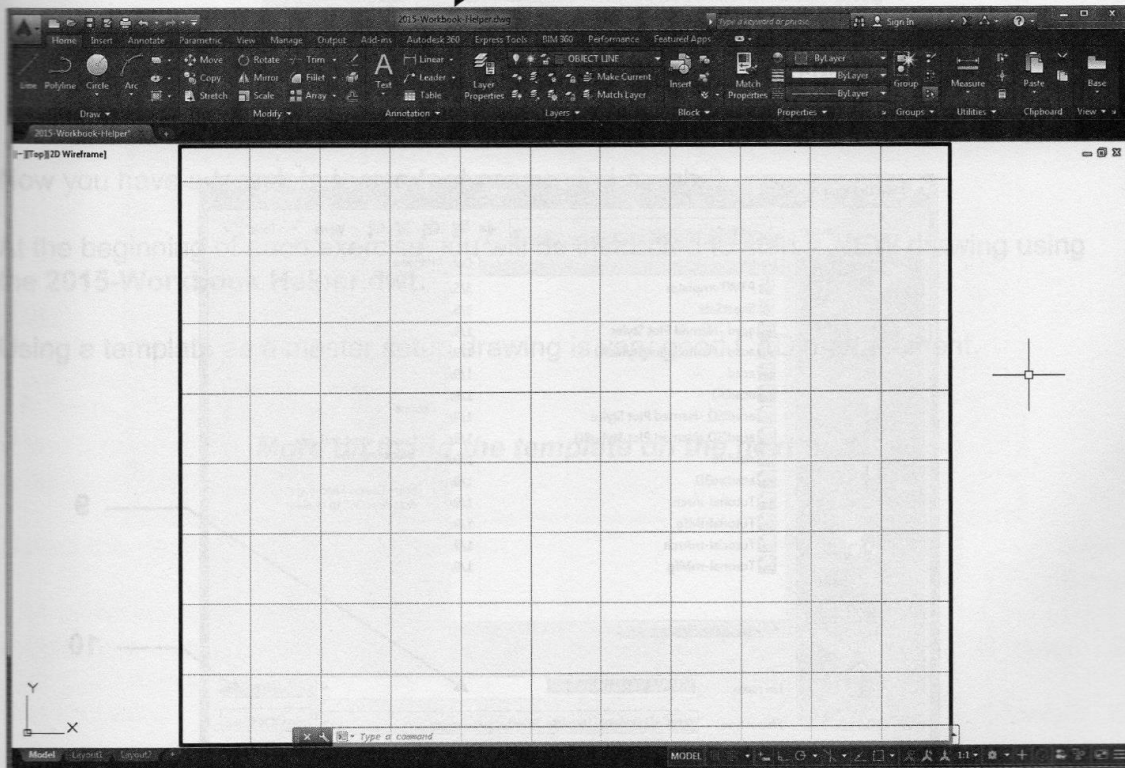
Your screen should appear as shown below.

I created the **Rectangular shape** that appears in the drawing area. I have designed the exercises that follow to fit on an 11 X 8.5 sheet of paper so you can easily print them on any letter size printer. The Rectangle represents an 11 X 8.5 sheet of paper. While completing the exercises within this workbook please try to draw all objects within this rectangle.

The criss-cross lines are **Grids**. I have set them to display every 1 inch vertically and horizontally. You will learn more about Grids in Lesson 3. For now notice that the grids are 11 horizontally and 8.5 vertically. Grids are merely a visual aid and will not print. The size may be changed at any time and they may be turned **ON** or **OFF** easily by selecting the **"Grid"** button on the status line or **F7**. (Refer to page 1-13)

The next step is to create a template from this drawing.
Continue on to step 6 on the next page.

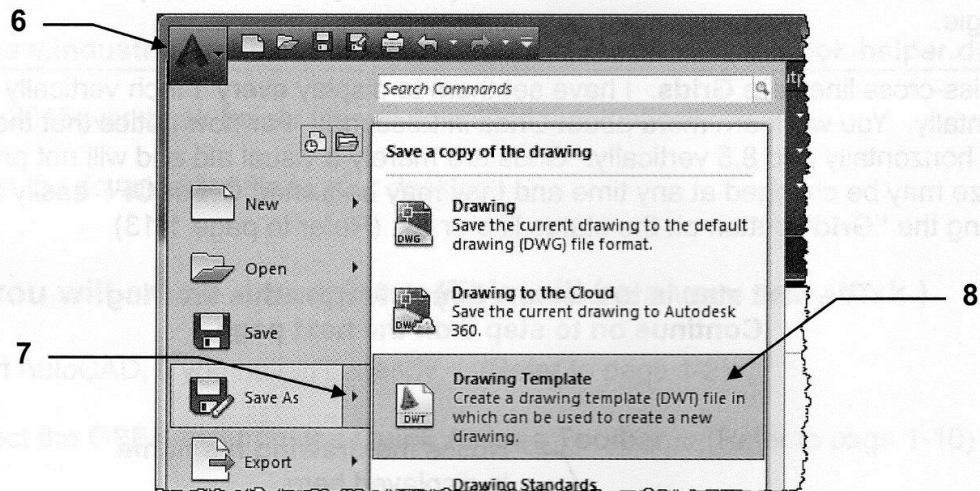
Notice the **drawing file name** is displayed here.



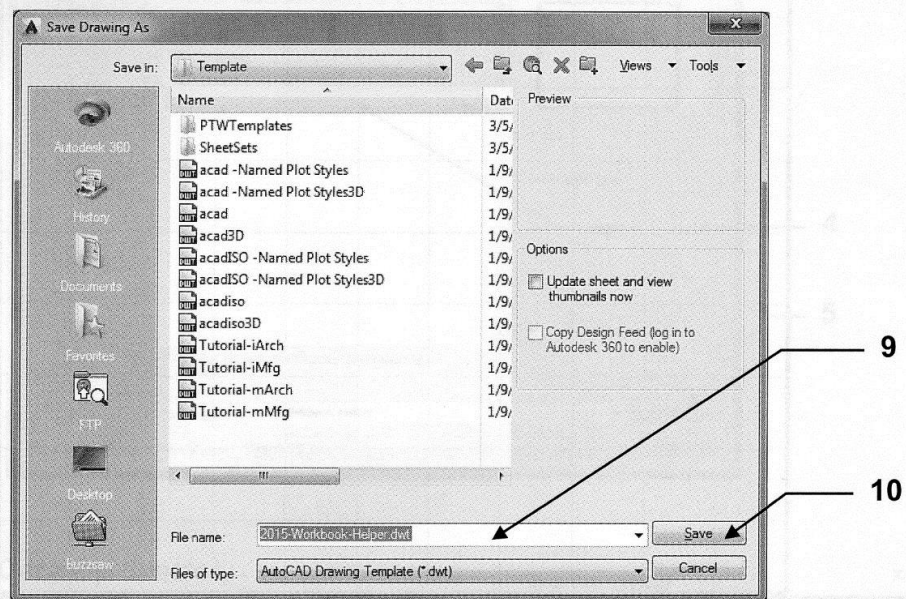
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CREATE A TEMPLATE....continued

6. Select the “Application Menu” ▼
7. Select **Save As** “▶” (Click on arrow not words Save As)
8. Select “Drawing Template”.



9. The name of the new file should already be highlighted in the “File name” box, if it’s not just type in; **2015-Workbook Helper** in the **File name** box. Do not type the extension .dwt, AutoCAD will add it automatically.



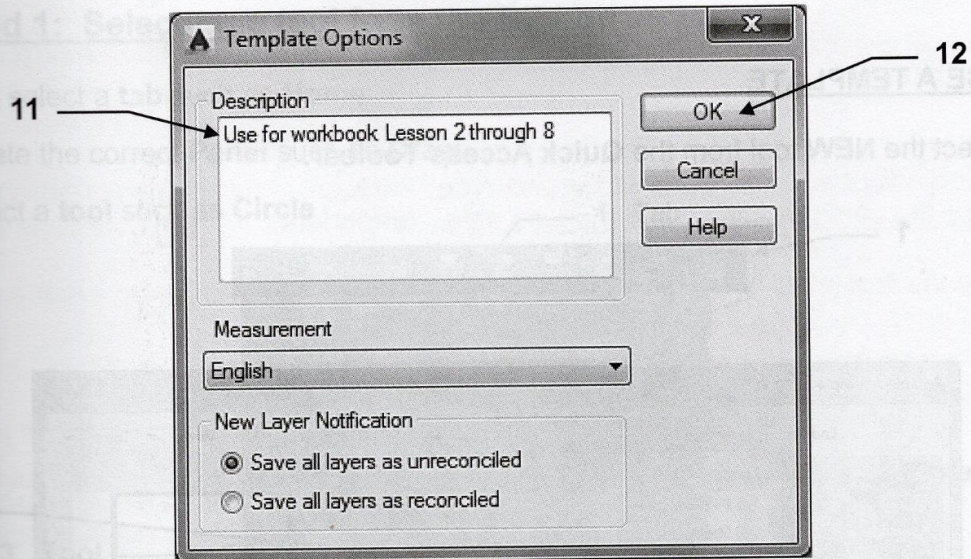
10. Select the **Save** button.

Continued on the next page...

CREATE A TEMPLATE....continued

11. Type the description as shown below.

12. Select **OK** button.



Now you have a template to use for Lessons 2 through 8.

At the beginning of each exercise you will be instructed to start a **NEW** drawing using the **2015-Workbook Helper.dwt**.

Using a template as a master setup drawing is very good CAD management.

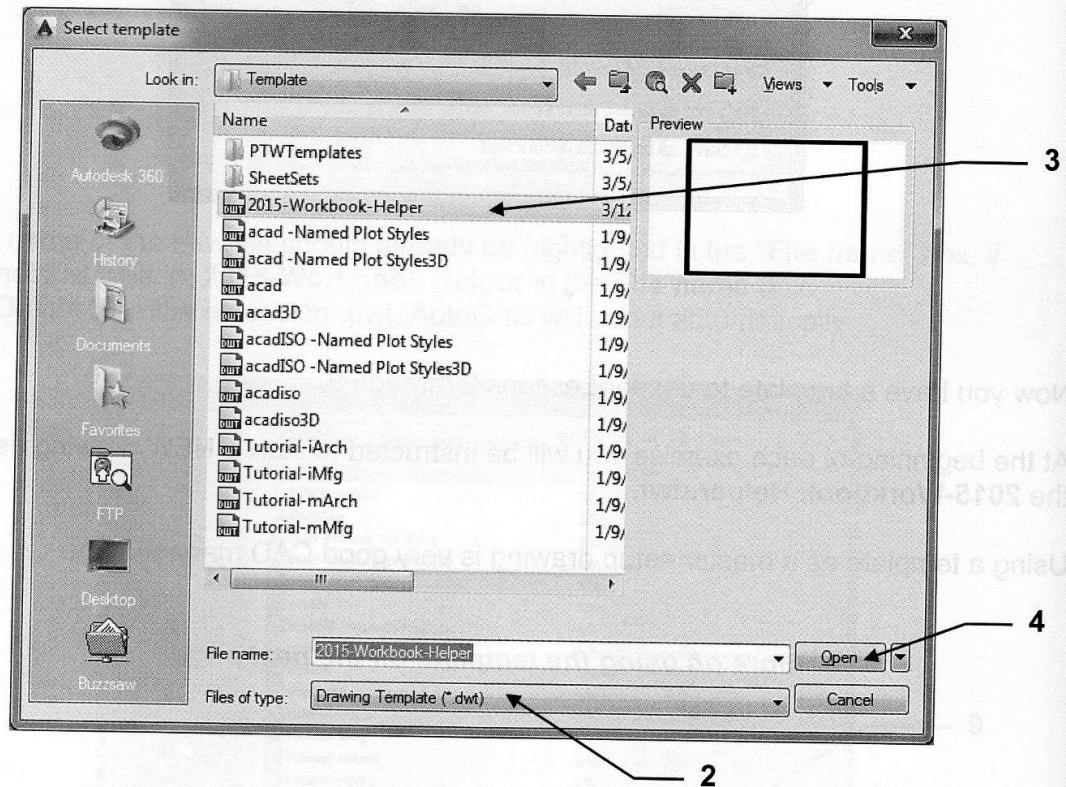
More on using the template on the next page

USING A TEMPLATE

The template that you created from the previous pages will be used for lessons 2 through 8. Many variables have been preset in this template. This will allow you to start drawing immediately. You will learn how to set those variables before you complete this workbook, but for now you will concentrate on learning the AutoCAD commands and hopefully have some fun.

TO USE A TEMPLATE

1. Select the **NEW** tool from the **Quick Access Toolbar**.



2. Select **Drawing Template [*.dwt]** from the “Files of type” if not already selected.
3. Select the **2015-Workbook Helper.dwt** from the list of templates.

Note: If you do not have this template, refer to page 2-2 for instructions.

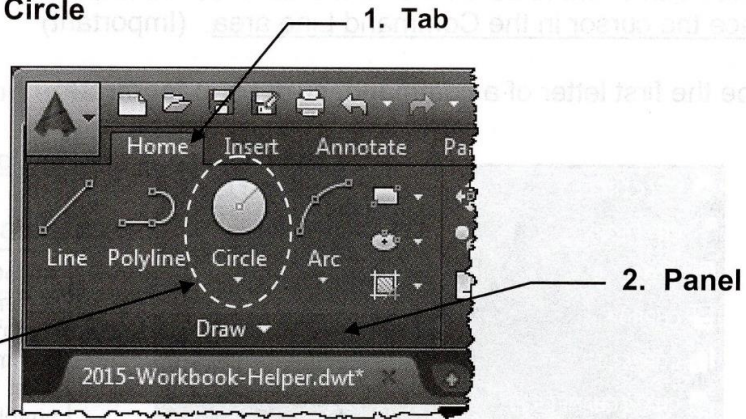
4. Select the **Open** button.

HOW TO SELECT A COMMAND

AutoCAD provides you with 2 different methods for selecting commands. One is **selecting a tool from the Ribbon**, the other is **typing the command**. Both methods will accomplish the same end result. You decide which method you prefer. An example of method 1 is shown below. Method 2 is on the next page.

Method 1: Selecting a tool from the Ribbon

1. First select a **tab** such as **Home**.
2. Locate the correct **Panel** such as **Draw**.
3. Select a **tool** such as **Circle**



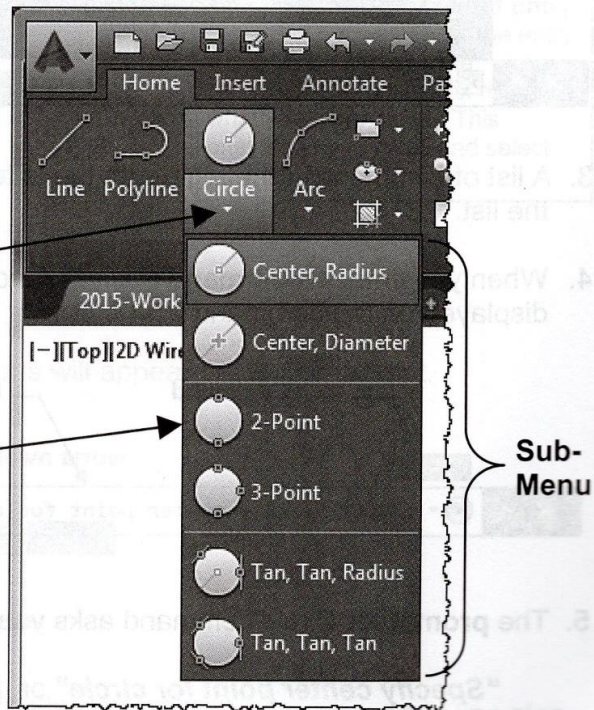
Note:

If the tool includes multiple types it will have a down-arrow ▼

If you select the down-arrow a sub-menu will appear.

Select the desired type such as **2-Point**.

The latest selection will then become the current displayed tool because AutoCAD assumes that you may need that tool again.



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HOW TO SELECT A COMMAND....continued

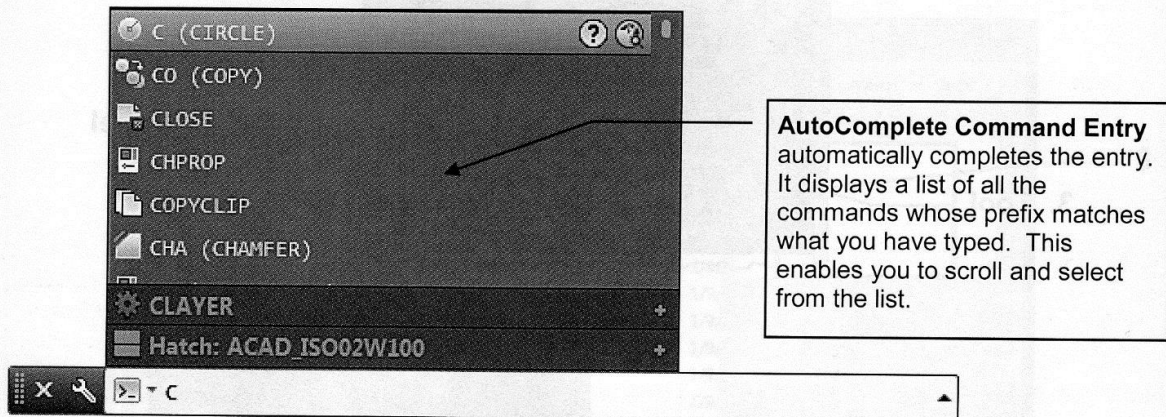
Method 2: Keyboard entry

You may type commands on the **Command line** (Shown below) or in the **Dynamic Input tooltip** (Shown on the next page)
It depends on whether you have Dynamic Input On or Off.

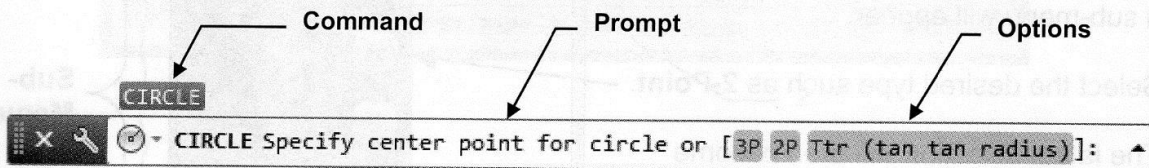
COMMAND LINE

How to enter a command on the Command Line.

1. Place the cursor in the Command Line area. (Important)
2. Type the first letter of a command, such as **c** for **circle**.



3. A list of commands that begin with the letter **c** will appear. Select the command from the list.
4. When you enter a **command** such as Circle the **prompt** and **options** will be displayed on the command line.



5. The **prompt** for Circle command asks you to:

“Specify center point for circle” or [3P/2P/Ttr (tan tan radius)]:

The information within the [] brackets are options that you may select.

HOW TO SELECT A COMMAND....continued

Method 2: Keyboard entry....continued

DYNAMIC INPUT

Dynamic Input is another method of inputting commands, values and select options.

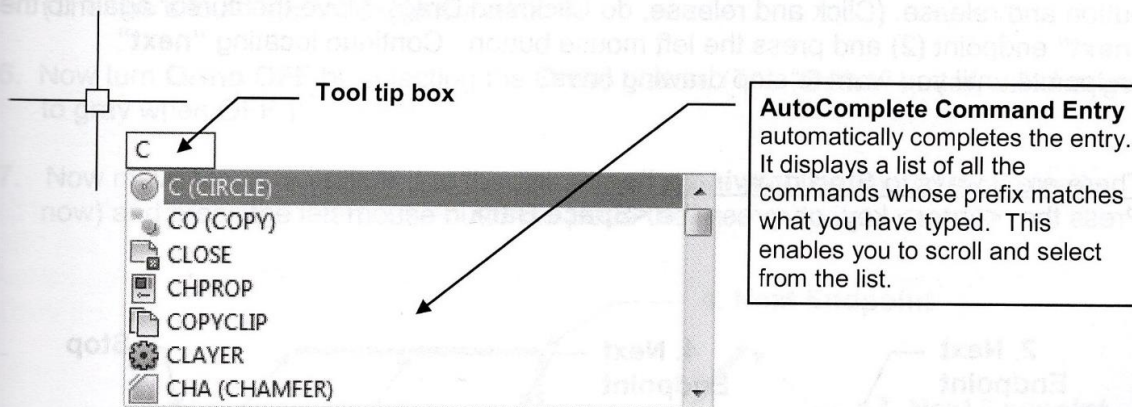
To use Dynamic Input you must turn **ON** the **DYNAMIC INPUT** button in the Status Bar, shown on page 1-14.



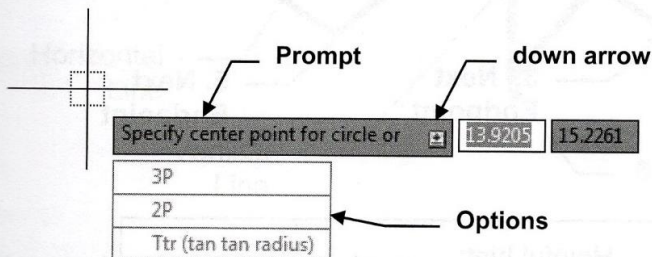
If you choose to use Dynamic Input the command will be entered in the tooltip box beside the cursor.

How to enter a command using Dynamic Input.

1. Place the cursor in the Drawing Area. (Important)
2. Type the first letter of a command, such as **c** for **circle**.
3. A list of commands that begin with the letter **c** will appear. Select the command from the list.



4. If you press the ↓ down arrow the options will appear below the prompt.

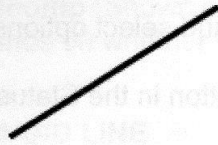


Notice the command entry and prompts are being displayed on the command line also.

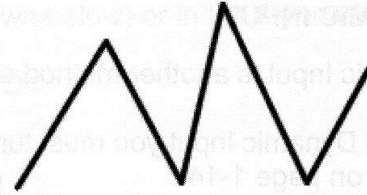
Using the Command Line or Dynamic Input is **your choice**.

DRAWING LINES

A **Line** can be **one segment** or a **series of connected segments**.
But each segment is an individual object.



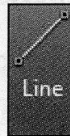
One Segment
One object



Series of connected Segments
5 objects

Start the Line command using one of the following methods:

Ribbon = Home tab / Draw Panel /
or
Keyboard = L <enter>

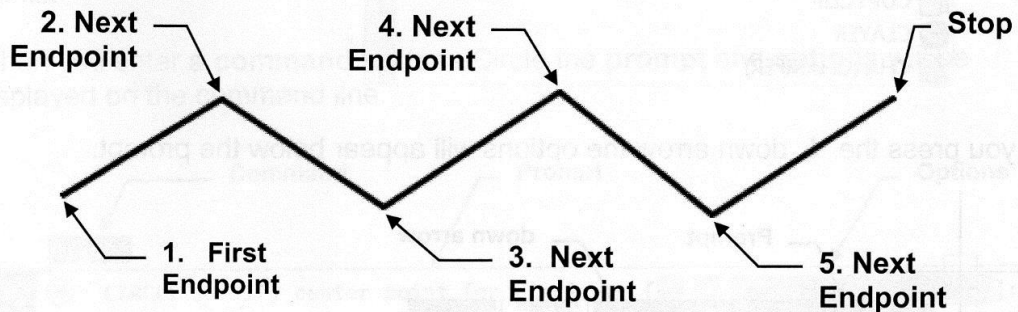


Lines are drawn by specifying the locations for each endpoint.

Move the cursor to the location of the **"First"** endpoint (1) then press the left mouse button and release. (Click and release, do Click and Drag) Move the cursor again to the **"next"** endpoint (2) and press the left mouse button. Continue locating **"next"** endpoints until you want to stop drawing lines.

There are 2 ways to **Stop drawing a line**:

Press the **<enter>** key **or** press the **<Space Bar>**



Helpful hint:
To **quickly** repeat the Line command, press the **Spacebar**.

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DRAWING LINES....continued

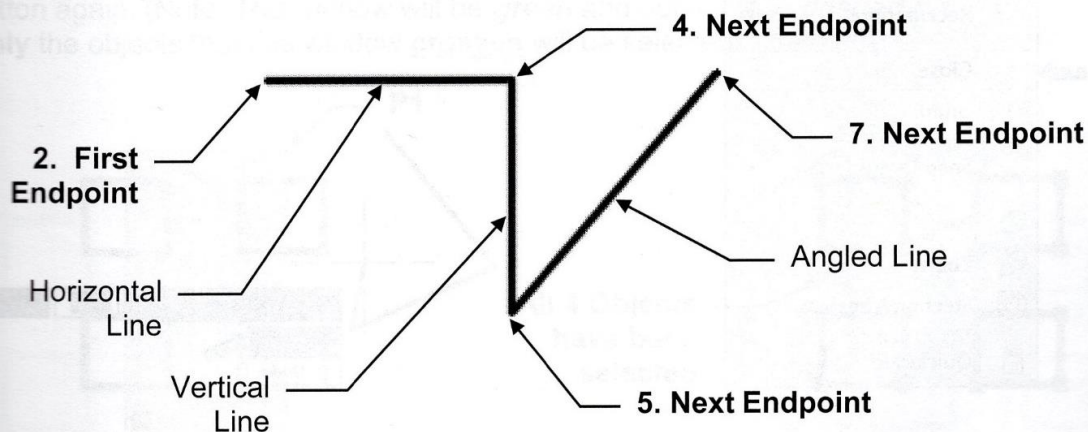
Horizontal and Vertical Lines

To draw a Line perfectly Horizontal or Vertical select the **Ortho** mode by selecting the **Ortho** button on the Status Bar or pressing the **F8** key.



Try the following example:

1. Select the **Line** command. (Refer to the previous page)
2. Place the **First endpoint** anywhere in the drawing area.
3. Turn **Ortho ON** by selecting the **Ortho** button or **F8**. (The “**Ortho**” button will change to a neon blue when ON.)
4. Move the cursor to the right and press the left mouse button to place the **next endpoint**. (The line should appear perfectly horizontal.)
5. Move the cursor down and press the left mouse button to place the next endpoint. (The line should appear perfectly vertical)
6. Now turn **Ortho OFF** by selecting the **Ortho** button. (The “**Ortho**” button will change to gray when OFF.)
7. Now move the cursor up and to the right on an angle (the line should move freely now) and press the left mouse button to place the next endpoint.



Ortho can be turned ON or OFF at any time while you are drawing. It can also be turned ON or OFF temporarily by holding down the **Shift** key. Release the Shift key to resume.

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DRAWING LINES....continued

Closing Lines

If you have drawn 2 or more line segments, the **endpoint of the last line segment** can be connected automatically to the **first endpoint** using the **Close** option.

Try the following example:

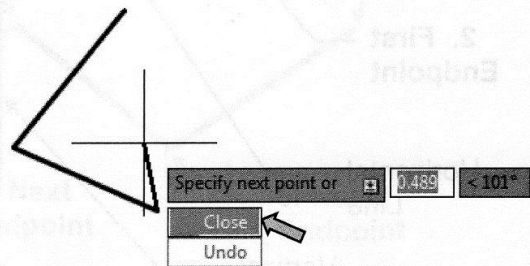
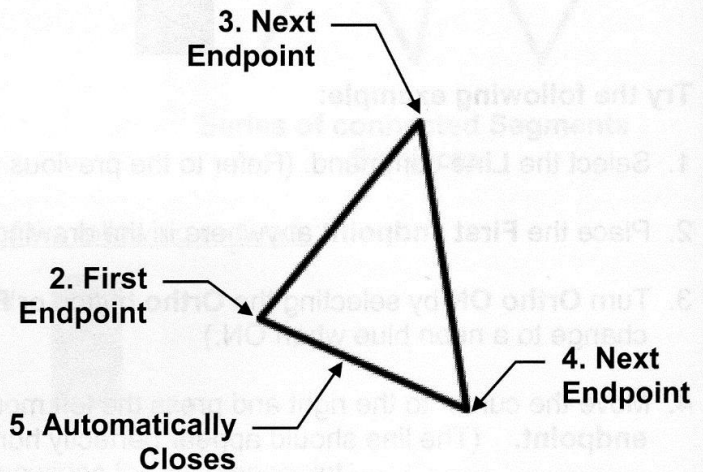
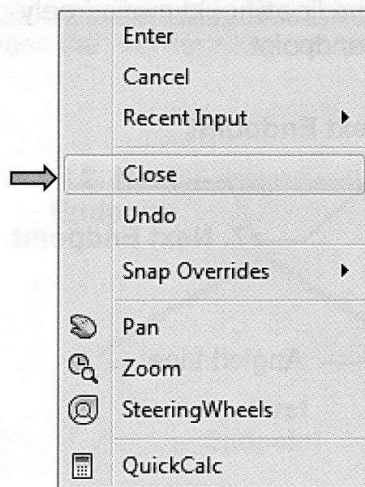
1. Select the **Line** command.
2. Place the **First endpoint**
3. Place the **next endpoint**
4. Place the **next endpoint**
5. Type **C <enter>**

Or

5. Press the **right** mouse button and select **Close** from the **Shortcut menu**.

What is the Shortcut Menu?

The **Shortcut menu** gives you quick access to command options.



Using the Shortcut menu:

Press the right mouse button.
The shortcut menu will appear.
Select an option.

Using the Dynamic Input down arrow:

You may use the right mouse button or press the down arrow ↓ and the options will appear below the Dynamic Input prompt.

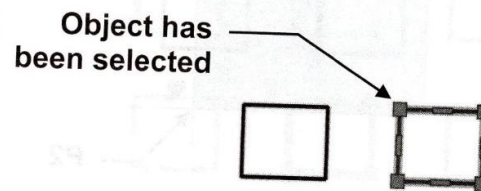
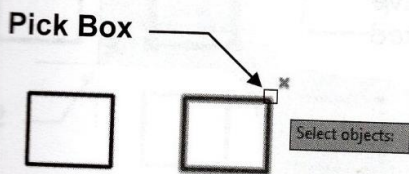
METHODS OF SELECTING OBJECTS

Many AutoCAD commands prompt you to “**select objects**”. This means select the objects that you want the command to effect. There are 3 methods.

Method 1. Pick, is very easy and should be used if you have only 1 or 2 objects to select. **Method 2. Window selection**, is a little more difficult but once mastered it is extremely helpful and time saving. **Method 3. Lasso Selection**, is a little more difficult than Window Selection but again, once mastered it is very useful and will save you time. Practice the following examples.

Method 1. PICK :

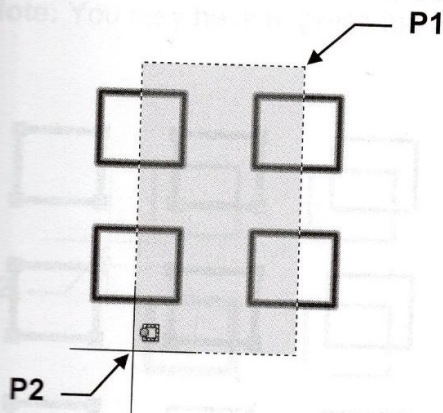
First start a command such as ERASE. (Press E <enter>) Next you will be prompted to “**Select Objects**”, place the cursor (pick box) on the object but do not press the mouse button yet. The object will highlight. This appearance change is called “Rollover Highlighting”. This gives you a preview of which object AutoCAD is recognizing. Press the left mouse button to actually select the highlighted object.



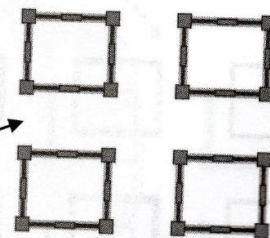
Method 2. WINDOW selection: Crossing and Window

Crossing:

Place your cursor in the area **up** and to the **right** of the objects that you wish to select (**P1**) and press the left mouse button. (**Do not** hold the mouse button down. Just press and release) Then move the cursor **down** and to the **left** (**P2**) and press the left mouse button again. (Note: The window will be **green** and outer line is **dashed**.) **Only** the objects that this window **crosses** will be selected.



All 4 Objects
have been
selected



In the example above, all 4 rectangles have been selected because the Crossing Window **crosses** a portion of each.

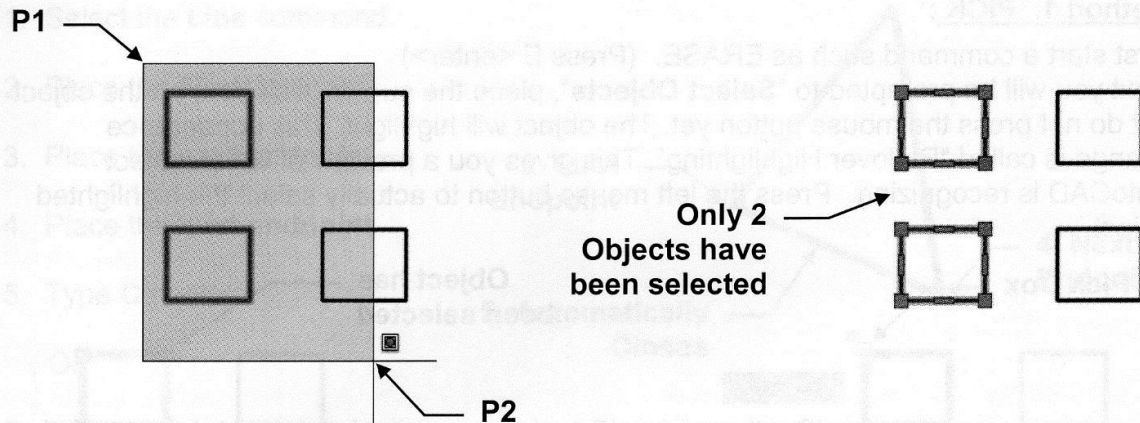
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METHODS OF SELECTING OBJECTS....continued

Window:

Place your cursor in the area **up** and to the **left** of the objects that you wish to select (**P1**) and press the left mouse button (**Do not** hold the mouse button down. Just press and release.) Then move the cursor **down** and to the **right** of the objects (**P2**) and press the left mouse button. (Note: The window will be **blue** and outer line is **solid**.) **Only** the objects that this window **completely enclosed** will be selected.

In the example below, only 2 rectangles have been selected.
(The other 2 rectangles are **not** completely enclosed in the **Window**.)

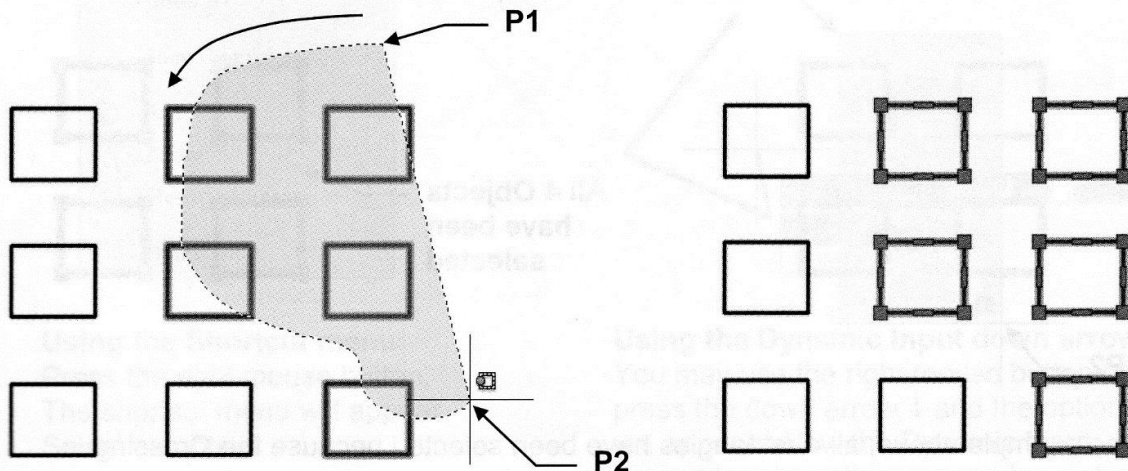


Method 3. LASSO Selection: Crossing, Window and Fence

Crossing:

Place your cursor in the area **up** and to the **right** of the objects that you wish to select (**P1**) then press and **hold** the left mouse button. (**Do not** release the mouse button.) Then move the cursor in an anti-clockwise direction until you have crossed the objects you want to select (**P2**) then release the left mouse button. (Note: The Lasso window will be **green** and outer line is **dashed**.)

Only the objects that the Lasso window **crosses** will be selected.

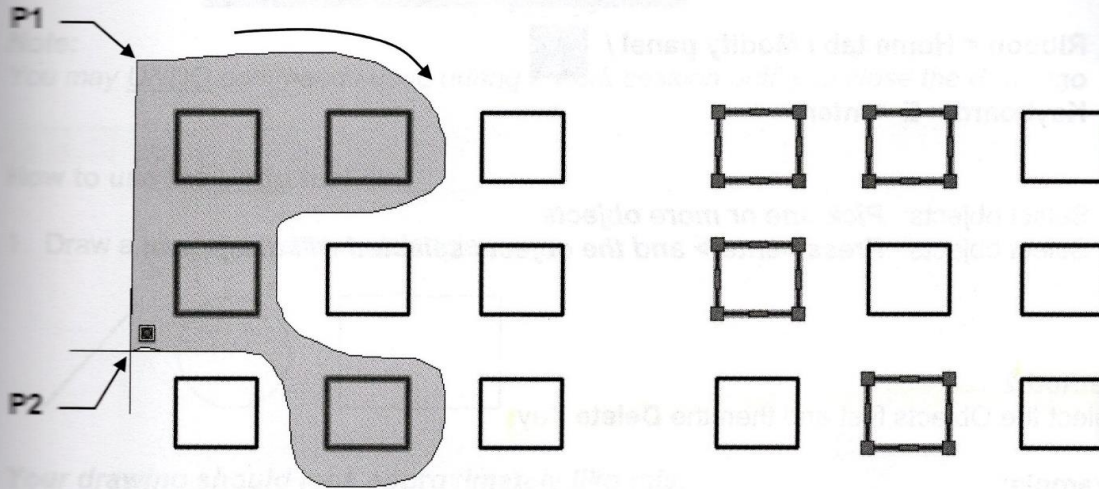


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METHODS OF SELECTING OBJECTS....continued

Window:

Place your cursor in the area **up** and to the **left** of the objects that you wish to select (**P1**) then press and **hold** the left mouse button. (**Do not** release the mouse button.) Then move the cursor in a clockwise direction until you have completely enclosed the objects you want to select (**P2**) then release the left mouse button. (Note: The window will be **blue** and outer line is **solid**.) **Only** the objects that this window **completely enclosed** will be selected.



Fence:

With the **Fence** option of the **Lasso** selection you can place the mouse cursor in any position you choose. For this example place your cursor at (**P1**) then press and **hold** the left mouse button. (**Do not** release the mouse button.) Move the mouse until you see either the green or blue lasso, then press the **Spacebar** until you see just a **Dashed Fence Line**. Move the mouse over the objects you want to select (**P2**) then release the left mouse button. Only the objects that the Fence line **crosses** will be selected.

Note: You may have to press the **Spacebar** twice to activate the **Fence Line** option.

