Engineering Drawing with Autocad

Assistant Professor
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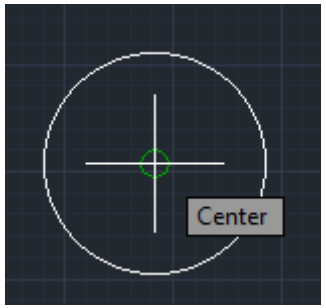
Lecture 4
Drawing Precision in AutoCAD

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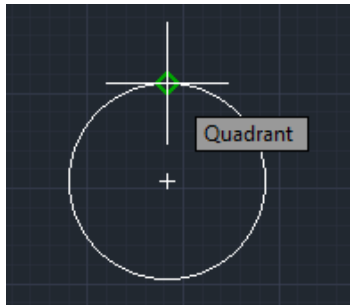
1 - Using Running Object Snaps

The Object Snap is used to specify a precise location on the objects.
It displays the points on the objects, such as midpoints, center point, quadrant point, insertion point, endpoint, etc., which make the drafting and drawing process effective.
For example,

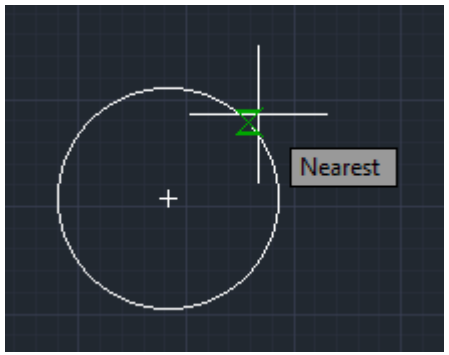
A - Center point



B - Quadrant



C - Nearest point



Note: The points in AutoCAD will appear green in color.

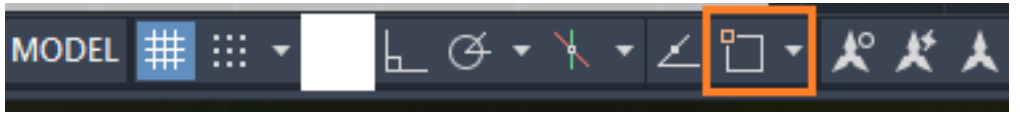
The points are used when we need to:

- Connect a line to the center/quadrant of a circle.
- Draw a line to the intersection point.
- To draw a tangent
- To find the geometric center.
- To find the endpoints of a figure or a line.

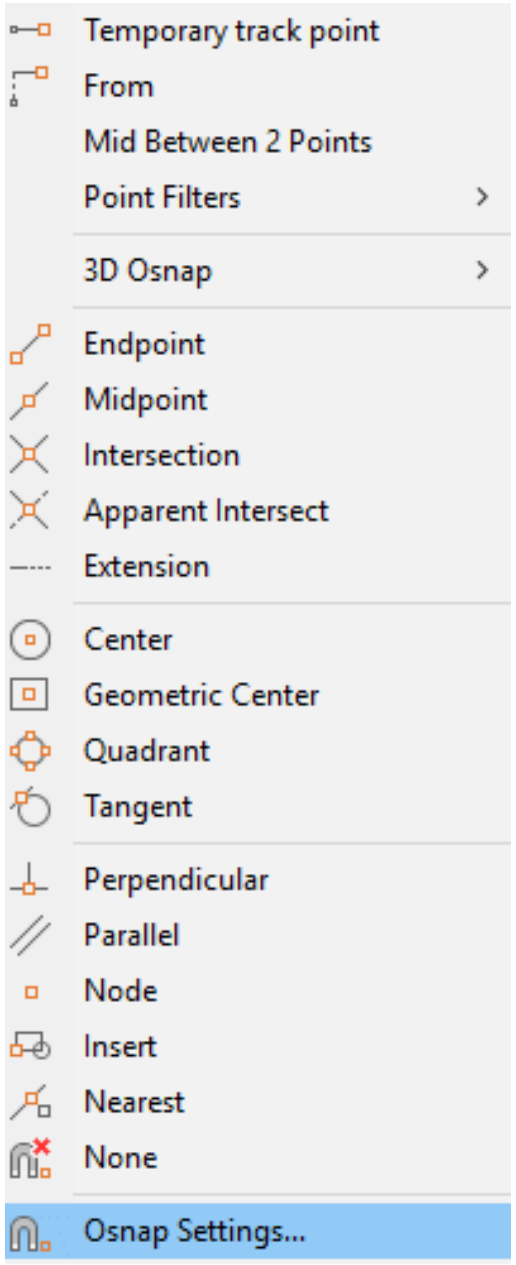
Similarly, we can use them in different ways.

To open,

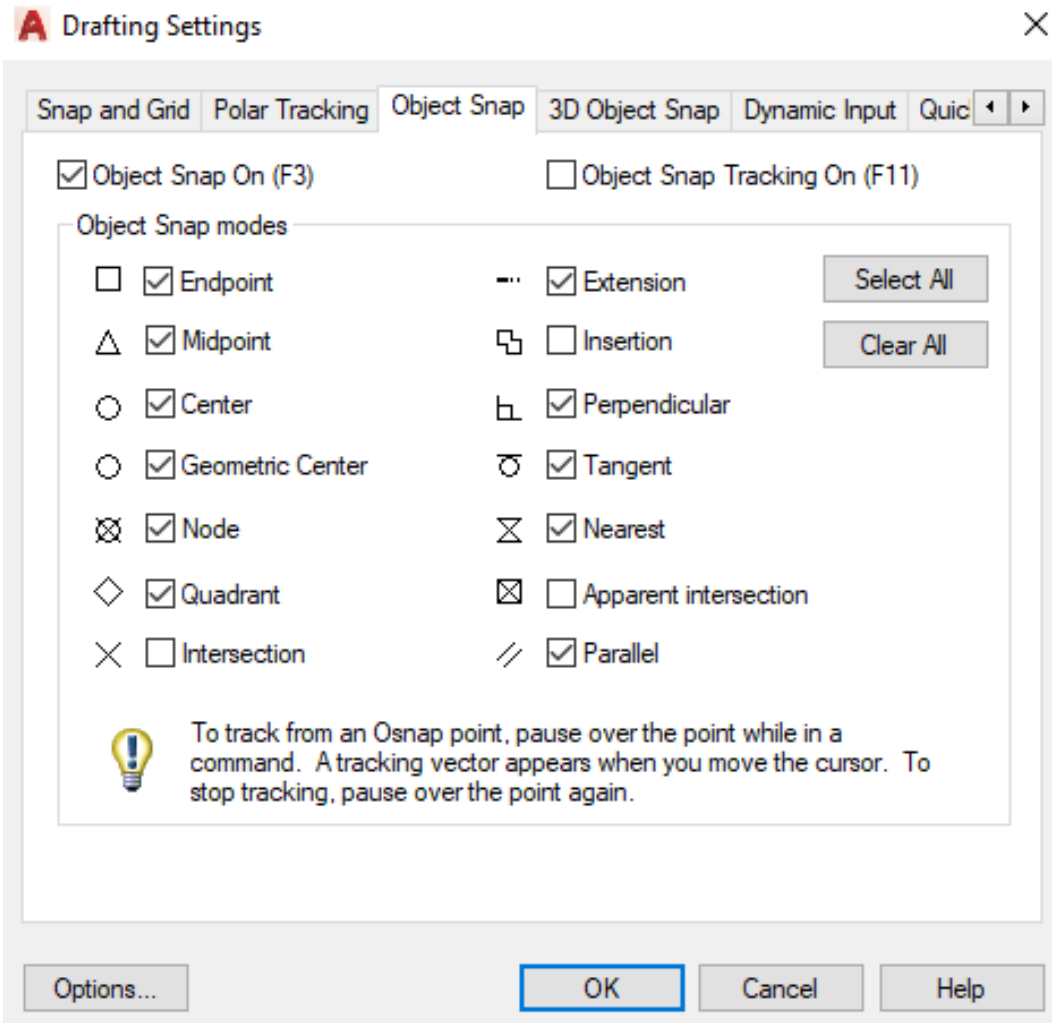
- Right-click on the Object snap icon present on the status bar at the bottom > click on Object Snap Settings, as shown below:



Or
Press Ctrl button > right-click > select **Osnap** Settings, as shown below:



A dialog box will appear, as shown below:



We can select or deselect the desired points, according to the requirements.

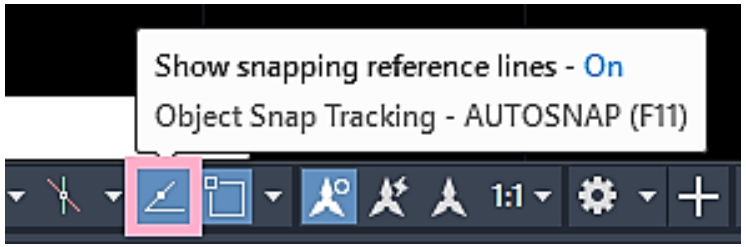
Object Snap Tracking

The **Object Snap Tracking** in AutoCAD shows the snapping reference lines.

It displays the snapping lines on the position of the cursor.

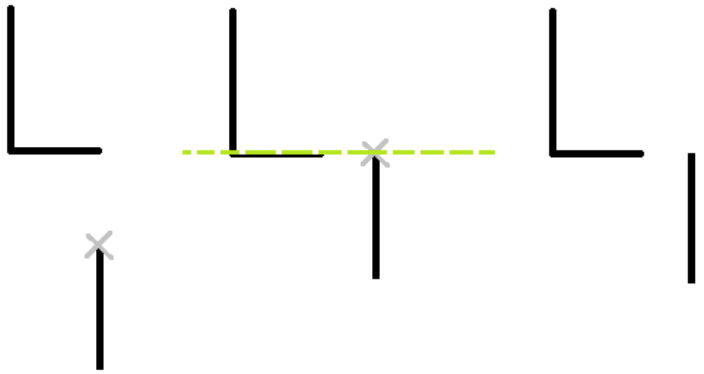
Object Snap Tracking is used when we want to align the lines or the parts of any object.

It is present on the **Status bar** at the bottom, as shown below:

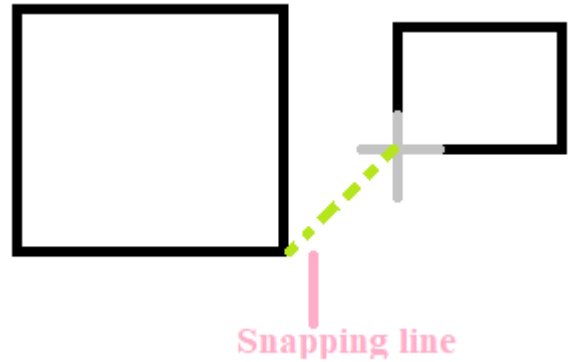


The alignment of line or paths of Object Snap Tracking are displayed at angles 0, 90, 180, and 270 degrees.

Example 1:



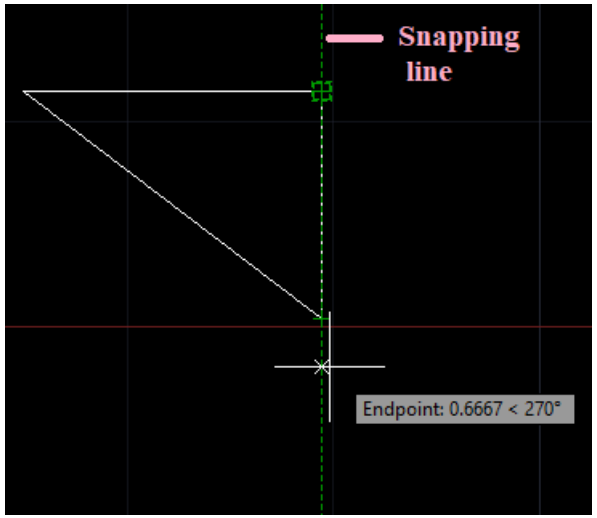
Example 2:



Example 3:



Example 4:



The main points to use the Object Snap tracking are:

- We can draw the points, which are tangent to the endpoints of the other arcs.
- As we move the cursor, the alignment path or line extends to the point of the cursor.
- We can also specify distance on the command line or command prompt.
- To manage the point acquisition, we can use Shift and Automatic to acquire the option of Object Snap tracking.

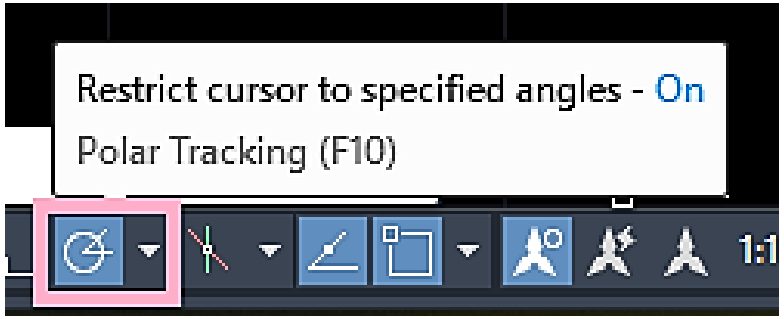
A Snap Override allows you to activate an Object Snap for one use. The selected Object Snap will automatically turn off when the command is finished. When using a command that works with Object Snaps, you can Right–click to access the Snap Override menu

2 - Polar Tracking at Angles

Polar Mode

The Polar Mode or Polar Tracking mode in AutoCAD restrict the cursor movement to certain angles.
It displays the polar angles followed by the alignment paths.

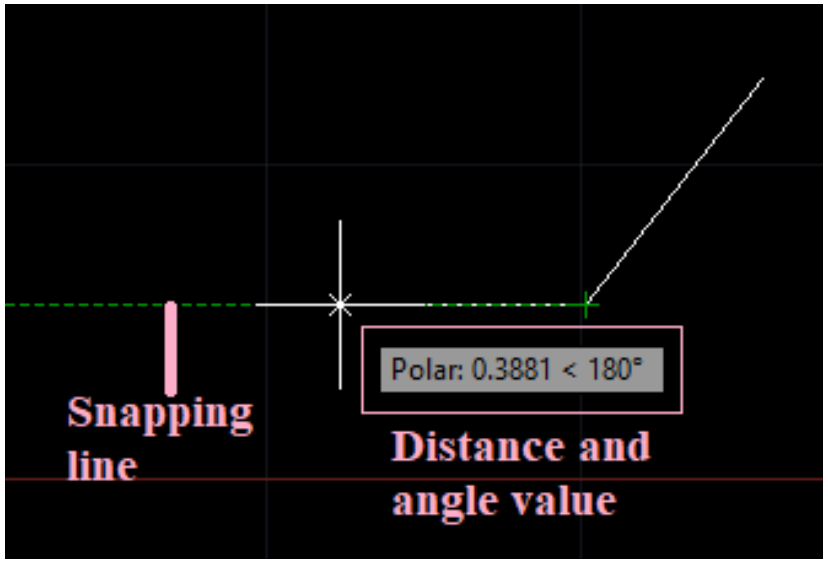
The Polar Tracking is present on the status bar at the bottom, as shown below:



From the drop-down list of Polar Tracking, we can choose the angles according to the requirements.
Let's understand with few examples.

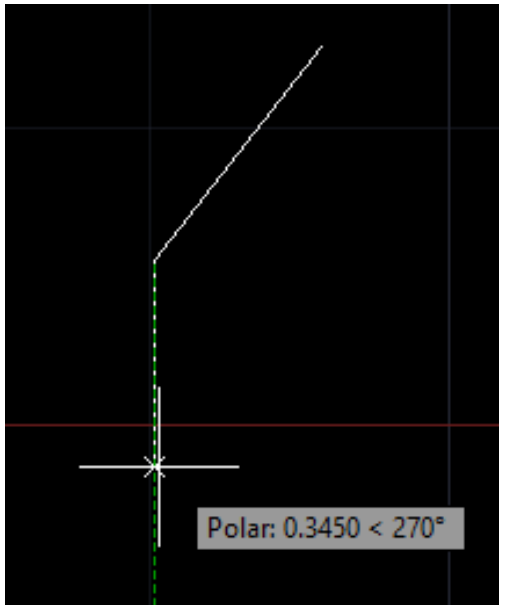
Example 1:

The image is shown below:



Example 2:

The image is shown below:



3 - Drawing with Snap and Grid

In the Drafting Settings dialog box, Snap and Grid tab, click Snap On. Under Snap Type, make sure Grid Snap and Rectangular Snap are selected. In the Snap X Spacing box, enter the horizontal snap spacing value in units. To use the same vertical snap spacing, press Enter

How do you add grid lines to a drawing?

To draw the grid lines on paper, I would recommend using a mechanical pencil, so that you can get a thin, precise line. Be sure to draw the grid very lightly, so that you can easily erase it when you are finished. To draw the grid lines on canvas or wood, I would suggest using a thin piece of sharpened charcoal

