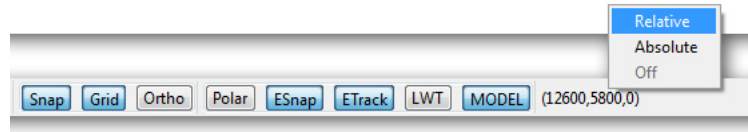
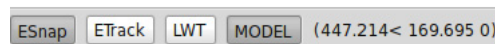




1. Start any drawing command, such as Line.
: **line**
Specify start point» (Move cursor.)
2. Right-click the coordinate field. Notice the short cut menu.




3. Choose **Relative**.
(The **Off** option turns off the real time updating of the coordinate display during cursor movement; it updates each time you pick a point.)
4. Move the cursor around to see the relative coordinates displayed by the status bar. In the figure below, the cursor has moved 447.214 units at an angle of 169.695 degrees.



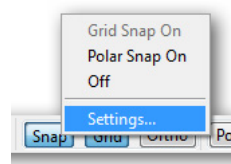
5. Press **Esc** to end the Line command. Notice that the coordinate display reverts to absolute, until you next start a command.

Snap Mode

The *snap* distance specifies the cursor resolution. For instance, when you set the snap distance to 1 inch, the mouse movements in the drawing area are accurate to the nearest inch. (Snap does not affect the cursor outside of the drawing area.) Set it to 0.5 meters, and the cursor jumps around the screen by a half meter.

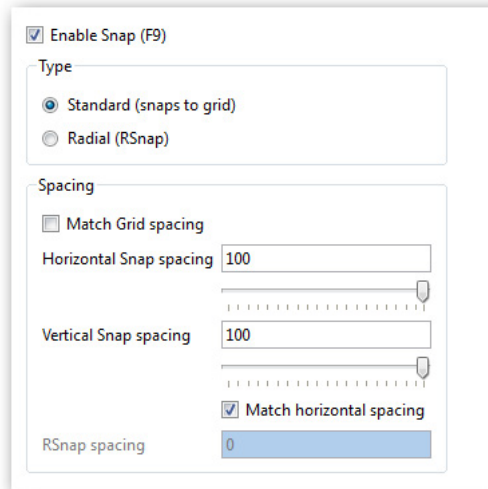
 To turn on Snap mode, click the **Snap** button; notice that it turns dark gray to indicate the mode is turned on.

To change the snap distance: (a) right-click the **Snap** button, and then (b) choose **Settings**, as displayed below.





CorelCAD displays the Snap section of the Options dialog box. The meaning of these settings is described in detail later.

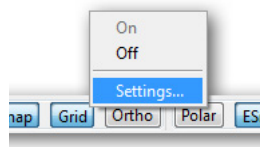


The snap distance however, is, invisible, and so many users also turn on the grid to match the snap distance.

Grid Mode

The *grid* is an array of evenly-spaced dots that provides you with an idea of distances in the drawing. For instance, when the grid spacing is 1000mm, you can see how far a meter stretches, no matter how close or far away the zoom level is.

Just as with Snap mode, you turn on grid mode by clicking the **Grid** button; grid options are set by right-clicking the button, and then choosing **Settings** from the shortcut menu.



Ortho Mode

Orthographic mode forces the cursor to travel in horizontal or vertical directions only — in 90-degree increments. This is a useful setting, because many drawings contain lines at right angles.

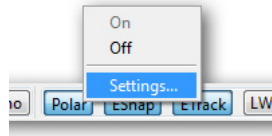
Turn on orthographic mode by clicking the **Ortho** button. This mode has no options.

Polar Mode

Polar mode lets you draw accurately at fixed angles, in increments such as in 15 or 45 degrees. (Recall that ortho mode is limited to 90-degree increments.) Together with snap mode, polar mode solves the problem of drawing accurately using only the mouse.



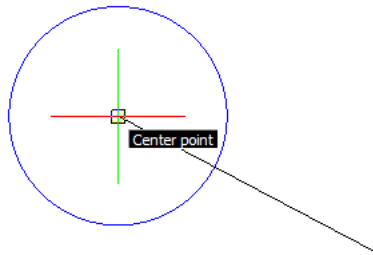
You turn on polar mode by clicking the **Polar** button; options are set by right-clicking the button, and then choosing **Settings** from the shortcut menu.



ESnap Mode

Entity snap modes cause the cursor to snap to geometric features of entities, such as the endpoints of lines, the midpoints of arcs, or the tangent points to circles. Entity snaps are called “esnaps” for short, and are known as “object snaps” in some other CAD programs.

This mode is crucial when you want to draw from one geometric feature to another, for example from a line to the precise center of a circle, as illustrated below:



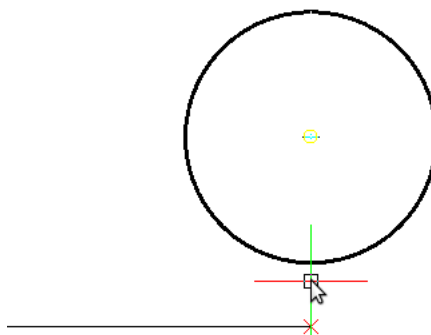
To help you identify valid esnap points, CorelCAD displays *tooltips* that identify geometric features, such as the “Center point” tooltip in the figure above. In all, CorelCAD has 13 entity snaps; the tutorials in later chapters make use of many of them.

You turn on entity snap mode by clicking the **ESnap** button; entity snap options are set by right-clicking the button, and then choosing **Settings** from the shortcut menu.

ETrack Mode

Entity tracking tells you when geometric features line up with the cursor, such as the ends of lines or centers of circles. This mode works in conjunction with esnaps. Entity tracking is known as “etrack” for short, and as “otracking” in a few other CAD programs.

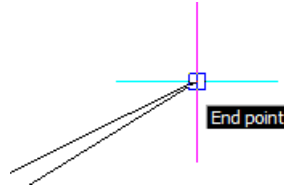
Here is how it works. I am drawing a line. In the figure below, CorelCAD found the center point of the circle above the line. The *alignment* of the line’s endpoint with the circle’s center point is reported by the circle icon that appear at the circle’s center point and by an x at the line’s endpoint.





You turn on entity tracking mode by clicking the **ETrack** button; options are set by right-clicking the button, and then choosing **Settings** from the shortcut menu.

Entity Snap causes the cursor to snap to geometric features of entities, such as their end points, mid points, or tangent points. This is useful when you want to draw from one geometric feature to another, for example a line to the precise end of another line, as illustrated below.



Entity snaps are called “esnaps” for short. To help you further, CorelCAD displays tooltips to identify geometric features.

Selecting Entities

When it comes to editing drawings, you need a way to select the entities to be edited. Selection tells CorelCAD which group of entities you need to modify. In most cases, you must use the mouse to select entities; in a few cases, you use the keyboard `insFtead`.

There are two ways to select entities:

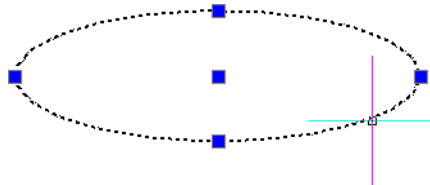
- *Before* starting an editing command (called “grips editing”).
- *After* starting an editing command (called “entity selection”).

You will probably find use both methods but for different kinds of editing operations.

Grips Editing

Grips editing starts when no command is active. You select one or more entities by picking them with the cursor.

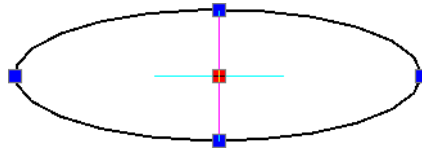
Notice that the lines making up the entity change to dashed lines, and that one or more blue squares appear. CorelCAD responds in this way to let you know which entity you picked. The blue squares are the grips.



Blue grips are also known as “cold grips.” Their sole purpose is to show you where grips are located on the entity.

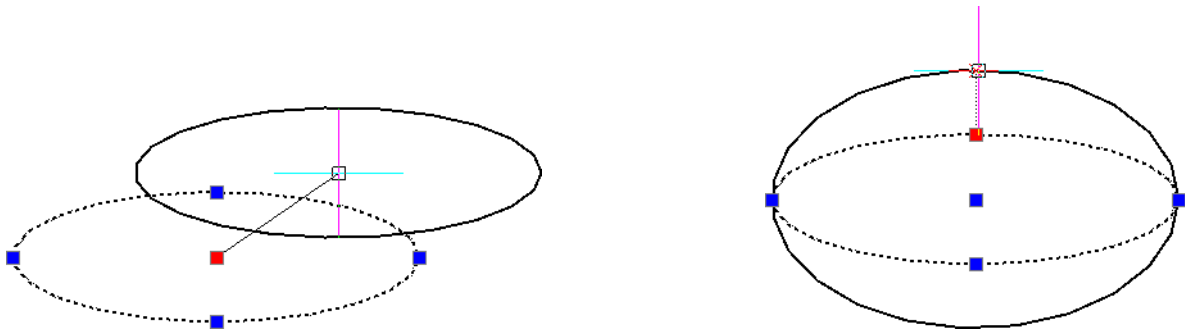


Move the cursor over a grip, and then click on it. Notice that the grip turns red. This is known as a “hot grip,” the purpose of which is to edit the entity.



Moving and Stretching with Grips

Drag the hot grip. Notice that the action edits the entity in some way.



Left: The center grip moves the ellipse.

Right: The edge grip stretches the ellipse.

The exact type of editing depends on the location of the grip. In general:

- **Centrally**-located grips tend to move the entity.
- **Peripherally**-located grips tend to stretch the entity.

Additional editing options are available in the command window:

```
STRETCH
Options: Base point, Copy, Undo, eXit or
Stretch point»
```

Base point relocates the base point (the “start point”).

Copy copies the entity, instead of moving it.

Undo undoes the last action.

eXit exits grips editing. You can also press **Esc** to exit.

Erasing with Grips

To erase selected entities, press **Del** on the keyboard.