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1.9 - FINALLY! SOME SHORTCUTS!

Topics covered in this Lesson:
Direct Distance Entry | **Polar Tracking** | **Object Snap Tracking** | **Dynamic Input**

Direct Distance Entry

As mentioned earlier in the lessons, there are many ways to do things in AutoCAD. To enter distances, you have been shown Absolute, Relative and Polar Co-ordinates. Now you will be shown two more ways to tell AutoCAD where the locate the point you are drawing to.

DO NOT FORGET THE BASICS OF MANUAL ENTRY

Direct Distance Entry (or DDE) is a way of bypassing the usual ways of entering in co-ordinates and just entering the distance.

The method is quite easy.

Make sure that you have set Ortho (locking your input to vertical and horizontal) by pressing the F8 button and checking to see that the "Ortho" button is depressed on the status bar like this: `ORTHO` Your F8 key

will toggle Ortho on and off.

Lets say you want to draw a line from one point directly to the right 10 units.

Start the **Line** command and click on the screen anywhere, then more your cursor to the right of that point. If Ortho is turned on, the line should only point directly to the right and not at an angle. Now type in **10** <ENTER>. Press <ENTER> again to exit the command. You now have line that is 10 units long.

MOVE CURSOR >>

PICK HERE

That is a very easy way to draw line segments. If Ortho is not set, your drawing will get messed up very quickly and will not be easy to fix. I have seen too many students take this easy route and wreck projects.
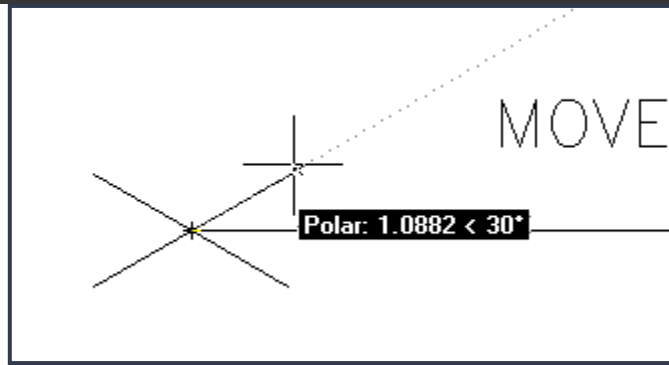
Polar Tracking

Now wouldn't it be cool to draw angled lines (like the short ones in the above image)? Well you can, but first you have to make change in your settings.

Type in **DSETTINGS** and you get the Drafting Settings dialog box, go to the "Polar Tracking" tab. :
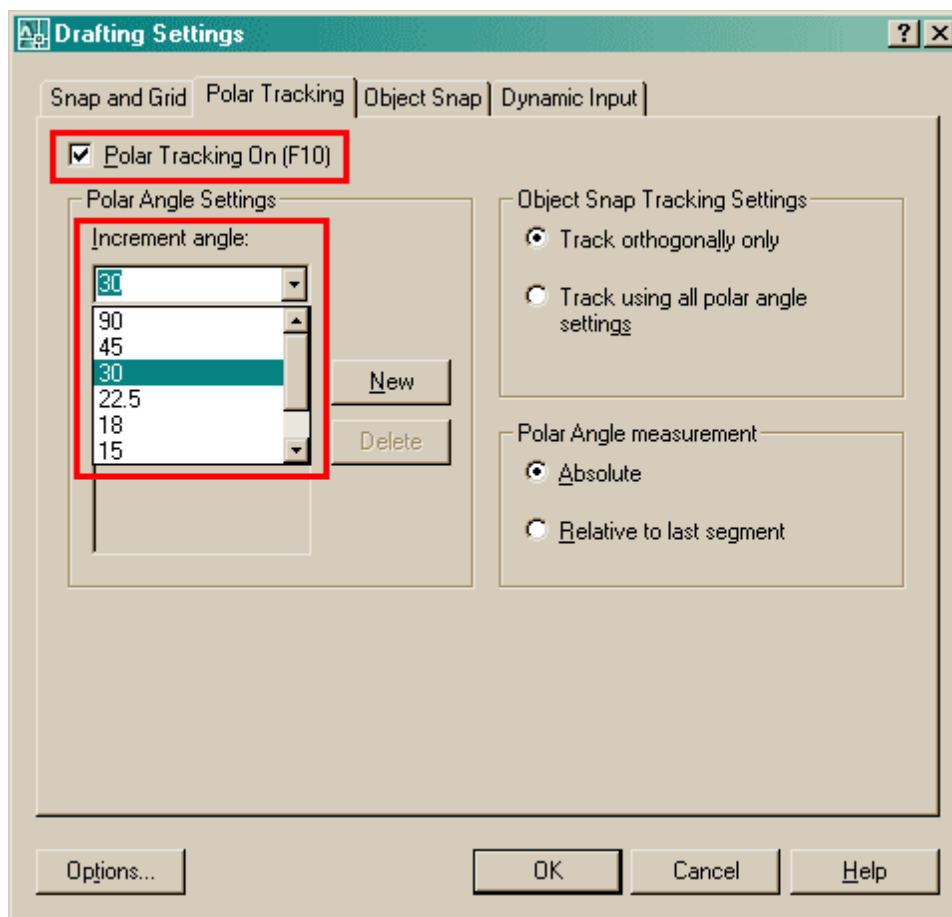
Then make sure that Polar Tracking is On (press your F10 key to toggle it on and off) and then select the increment angle. I recommend using polar settings with 45° increments.

In the example above, I made 4 lines 1 unit long using Direct Distance Entry (DDE). See if you can duplicate this on the end of the 10 unit line you just drew. The process is the same as you did for the DDE of the previous line. Make sure your increment angle is 30° and draw a line 4 units longs using DDE..

You can not have Ortho and Polar Tracking on at the same time. As you start to draw more, you will see that these two features are great time savers. There will be times, though, when you have to use absolute and relative co-ordinate entry (especially in 3D).

Refer back to the assignment in **Lesson 1-2** and draw using the methods shown in this lesson.

Now I'm going to repeat this one last time:

Make sure you have either Ortho or Polar tracking on and don't forget how to manually enter points!

View the video for a sample of DDE.

Object Snap Tracking

Now you've just seen how you can find distances from points and measure accurately, but what if you want to find specific points based on previously drawn objects? You can use Osnaps, but they don't always find the point you need.

Consider that you want to draw a circle in the middle of a rectangle like the example below:
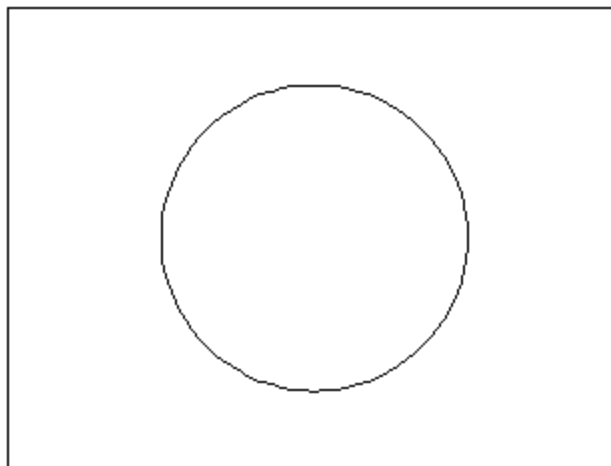
In the olden days, you would have drawn a line from opposite corners of the rectangle to find the middle, then snapped to the midpoint of that line for the circle's center point, drawn the circle and then erased the reference line.

Now you can use **object snap tracking**. This is a way of finding reference points and drawing from them. To do this exercise, make sure that your Midpoint Osnap is on.

Draw a **RECTANGLE** from **0,0** to **4,3**

Make sure that the Object Snap Tracking OTRACK and Osnap button are depressed on the status bar.

Start the **CIRCLE** command.

Move your cursor over the midpoint of the bottom line of the rectangle. You should see a light dotted line project vertically through your cursor. Now more your cursor to the midpoint of the right vertical line of the rectangle. As you move your cursor towards the center of the rectangle, you should see the 2 dotted lines cross. It should look like this:

Midpoint: < 90°, Midpoint: < 180°
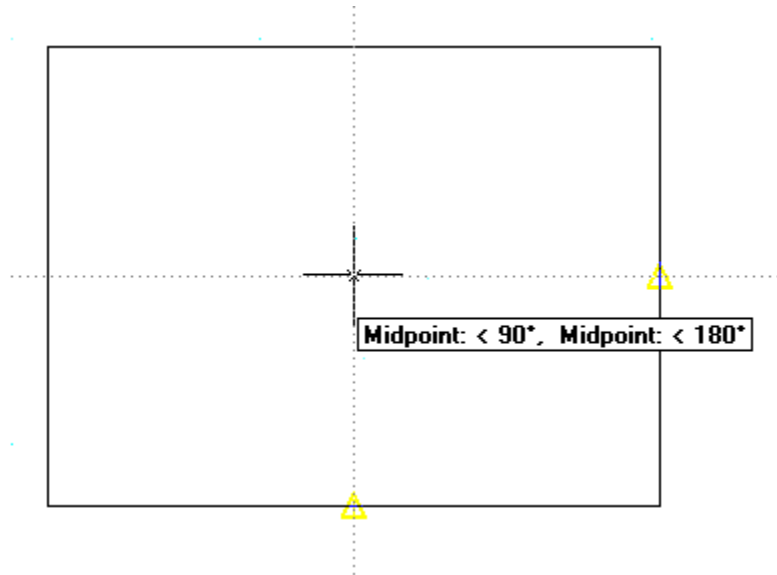
Once you see both lines, you can pick and the center point will be exact center of the rectangle. Give your circle a radius of 1".

This is a very simple example, but as you start drawing more complex shapes, this will be a handy to tool to master, and a great time saver. Object tracking will work with any Osnap that is invoked. But always check to make sure that you are picking the point you want.

View the video to see object tracking in action.

Dynamic Input

Now it's time to put all these concepts together and combine them with on-screen help that's called 'Dynamic Input'. In older versions of AutoCAD, users relied solely on the command for information. Later versions of AutoCAD added Dynamic Input to put a user's keystrokes in the drawing area near their cursor.

Turn on Dynamic Input by clicking on the status bar: DYN

Now when you draw, you will see all kinds of information on the screen.
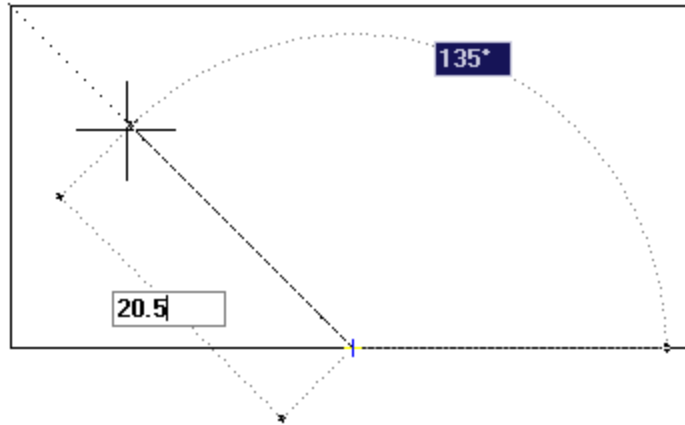
In this example, I have drawn a line starting at the midpoint of the bottom line going up 20.5 units (which I manually entered) at 135°. Once I enter the distance, I can press the Tab key to switch over to the Degrees and enter a value there. I could also have typed **@20.5<135** using relative co-ordinates.

If you are new to AutoCAD, I recommend turning this feature off as it takes your eyes off the command line (which will prompt you for information).

To review, AutoCAD provides some nice tools to enhance your productivity. Use them, master them, but don't forget the basic of inputting points. Especially when you do 3D work, manual entry becomes valuable.

View the video to see how Dynamic Input works.

Extra Practice: Try drawing the **extra exercises** again using these methods. Find out which one works best for you, and when to use the different techniques in various situations. See if you like using Dynamic Input, or if you prefer to have it off. If you can draw all these exercises quickly (about 1-2 minutes) you have learned the lessons and should move on to the next lesson.

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