Using AutoCad Commands To Their Full Potential

After nine years of training people on AutoCAD, I have found that some of the simple commands and variables are actually the least used because they are the least understood. What I have below is a series of simple AutoCAD commands and variables that I have found are either not used, or are not used to their full potential. If you are an Auto CAD user then read on - you may pick up a Tip or Trick that will help you save time and make your boss some money.

1) VIEWRES - The VIEWRES command allows you to control the accuracy of the display of circles, arcs, and ellipses. This also directly affects the speed at which AutoCAD will display these items. AutoCAD defaults to a value of 100 which is fairly fast in display but will give you very rough looking circles when you zoom in tight. You can bump this value up as high as 20,000 and this will give you very accurately drawn circles, however you do sacrifice speed for the accuracy. Keep in mind that this is only for visual display on your monitor. Any plotting or printing will always give you the highest accuracy possible no matter what VIEWRES is set to. (When asked if you want fast zooms, always answer YES.)

2) PLINEGEN - This variable controls how a linetype appears on a 2-dimensional Polyline. When set to "0" the linetype will be centred on each segment of the polyline. This can give you short segments with no linetype showing, or other segments that just don't flow smoothly. Also, if you were to Spline Fit the polyline you would find that many segments will lose their linetype due to the length of the straight segments. To clean this up and make the linetype flow along the entire length of the polyline, even when Spline Fit, set PLINEGEN to "1". Any polyline drawn after you set PLINEGEN to "1" will have the line-type flow along its length. You can edit individual polylines by using the PEDIT command and set the LTYPE GEN to "ON."

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3) SOLID - This command allows you to fill in areas that have straight-edges. An example would be when creating a scale bar. Many people use hatching to fill in the small squares but when they do this they are not helping themselves at all. Hatching takes up several times the amount of hard drive space and takes many times longer to plot. When you use the SOLID command, AutoCAD will fill the area in completely and also adjust the way plotters output the area to help save you time as well as ink. There is a trick to using SOLID though. Many people have a tendency to go clockwise around the area to be filled in. If you do this AutoCAD will not give you the response you expect but rather gives you what I call a "bow tie." The simple rule is to pick the corners of the area you wish to fill in by starting at the top and go left-right, then go to the bottom and left-right again. If you always go in the same general direction when picking both the top and bottom of the area then you will get the desired affect - a solid filled in area.

4) MIRRTEXT - When you select a series of objects to make a mirror image of, and you have some text included in this collection of objects, the question is, "Do you want the text mirrored so that it cannot be read, or do you want to be able to read the text even after being mirrored?" When you start a default drawing, MIRRTEXT is set to "1" which will mirror the text as well as the other objects selected. This makes the text in the drawing very difficult to read. Now this could be handy if you were creating letters for the front of an ambulance to be legible in your rear view mirror, but this does not lend itself to daily drafting procedures. If you want the text to always remain legible then set MIRRTEXT to "0" before executing the MIRROR command.

5) TRIM - When selecting cutting edges, most people take the time to be accurate and pick only the 2 or 3 lines they wish to use as cutting edges. While this is accurate, it can be slow. A faster method is to just pre-centre when prompted for cutting edges. What this does is pick everything on the screen and use them as cutting edges. Now you are right if you are thinking that this could be much slower if you are in a large drawing and most of this drawing is on screen. To save yourself zoom in tight to the area required. This will allow you to pick the objects to be trimmed more easily, while saving time on not having to select the cutting edges.

6) PURGE - To help keep your drawing size as small as possible, the PURGE command removes any unreferenced layers, linetypes, blocks, text styles, multiline styles, dimension styles and shapes. You have control over which unreferenced objects you can dispose of so don't be afraid of running this command. You can save yourself a lot of space on the hard drive or floppy disk for storage.

7) WBLOCK - Another quick way to control what you save in a drawing is the WBLOCK command. WBLOCK will save only what you select and anything related to it. Anything not selected will not be saved, acting similar to the PURGE command. For

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example, you have to give your client an AutoCAD drawing of his job site, but you do not want him to have all of your work, just the line work he has requested. Simply freeze all the layers that contain information you do not wish to give out. Then use the WBLOCK command and select by window, everything on screen. The WBLOCK command will ask you for a name to save this new drawing under. This new drawing will only contain the information selected from the old drawing, as well as the layers and such that were required to generate the objects. This keeps the drawing small and only gives out the information that you desire.

I hope that you have found something here that will help make your job easier or quicker. There are hundreds of shortcuts and tips available for AutoCAD. I will continue to share them with you, but I would also ask that you share your shortcuts with me. After 9 years at this, I still learn something new each day, and normally it is from draftspersons and surveyors just like you!

Tips and Tricks has been brought to you by Glen W. Cameron, C.E.T. Glen graduated from St. Lawrence College - Kingston, with distinction, in Civil Engineering Technology, and has worked in the field, surveying for several years. With his practical experience as well as the extensive, professional training and technical support, his Tips and Tricks will undoubtedly assist even the more experienced users!
Glen is available on a consulting basis to provide all levels of training to you and your staff.

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Field Notes for Total Stations

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