

Software Review: AutoCAD Release 13 and Surveying.

By Glen W. Cameron, C.E.T.

"What can AutoCAD Release 13 do for me?", or, "Why should I upgrade? The version I have does everything I need to do already.", or "Is there really anything in Release 13 that will help me, as a surveyor, do my job easier or faster?"

Do any of these questions sound familiar? Let's examine the newest version of AutoCAD and see what there really is in it that will directly or indirectly assist you, the surveyor, in getting your work done easier and faster. I am not going to go through all the features of AutoCAD Release 13 (some would say it is bad luck to do so -- of course some others already noticed that Autodesk decided to use the number 13 too). What I do intend to do is cover the major aspects that relate in some manner to surveying and/or overall productivity.

1) You can draw multiple lines in one command, all parallel and each with its own colour, linetype and individual offset from the original. Drawing right-of-ways or easements was never easier. With up to 16 parallel lines, you can draw a whole host of offsets for highway reconstruction. Your imagination is all that limits you here.

2) Spell checking is built in and you can even customize your own dictionary with all your legal or survey terminology. Just like a word processor, you now have a fool proof way to make sure those typos are caught before the plan is registered.

3) Special linetypes are now possible. No longer do you have to sit there for hours breaking small sections out of lines to allow you enough room to place the word "GAS" or "WATER" in the line. AutoCAD R13 now has a new definition available for linetypes that allows you to place any word or shape file in the line, spaced as you desire, at the size you need. This custom linetype is easy to create and very handy when working on a topo job with all services being shown.

4) To assist you in the scaling of linetypes, you can now adjust the linetype scale of individual lines independently. LTSCALE is still set for the drawing in general but you can now adjust each line separately to give you a much nicer looking drawing without having to use 150 different linetypes to get the desired effect.

5) A new command called SPLINE is excellent for surveyors. It is similar to the old

PLINE command but has a few options which are significantly different. The most important one for surveyors is that it will hold the shots you have taken. Even though it is a nice smooth curve, you can be sure that it holds the legal boundaries as your field crew picked them up. Water boundaries are much more accurate now with less interpolating being done. Contour lines will hold the positions they are supposed to, and the list goes on. To top it all off -- the SPLINE command takes less hard drive space than the older PLINE command did. This means that huge contour plans will now take less space to save and store.

6) A new multiple text box is handy when doing your notes. As you add more information to the notes, they automatically adjust to maintain the correct overall width but also allow you to edit the style of lettering and colour as you require, just like a word processor. The paragraph can then be treated as one object making the editing of a drawing a snap.

7) A long awaited command change is the PURGE command. It can now be run at any time in the drawing process, not just at the beginning of the editing session. This means that you can purge out any unwanted layers, text styles, blocks and others without having to save your drawing, reopening the drawing and then running PURGE. This will save you loads of time!

8) Many of the simple editing commands have been improved as well. FILLET, CHAMFER and BREAK are all more powerful and easier to use (you can even fillet parallel lines). The EXTEND and TRIM commands now do not have to have lines that intersect to be able to work. As long as the extension of the lines would intersect then the command will work.

9) Most commands have been improved, giving either more options or more intelligence, making editing and drawing more productive.

10) The hatching options have been rewritten to solve the problems of earlier versions but new editing options steal the show. You can now edit the hatch at any time to change any of the properties or, for that matter, you can move any of the boundaries and the hatch will adjust automatically. This can be handy for houses that change sizes, property boundaries that shift or change bearings, and many other features that change in size or shape. The hatch will

automatically update to match the new boundary and properties.

The list can go on forever but that would mean that I would have to include the whole AutoCAD manual in this article. As someone famous once said, "It ain't going to happen." As you can see, there are many good reasons to use AutoCAD Release 13 over any previous version of the software. Autodesk says that this version is the most powerful version of AutoCAD ever. I would have to agree 100%. With the fact that you can save your drawings in a Release 13 format, this makes it seamless to work with those that have not yet upgraded from R13 or R11 AutoCAD. This can be a crucial point to some surveyors, to ensure they do not lose any clients.

I hope this has helped you see some of the advantages of AutoCAD Release 13 and how they relate to surveying. If you have any unanswered questions or concerns about AutoCAD Release 13 then please contact your local Authorized AutoCAD dealer or you can contact me through the AOLS.



"Tips and Tricks" has been brought to you by Glen W. Cameron, C.E.T. Glen is pleased to announce that he has just recently joined the AMS Group in North Bay, Ontario, as their CAD Specialist. The AMS Group is the largest AutoCAD dealer in Northern Ontario with their head office located in Sudbury. This new position allows Glen to maintain and advance his knowledge of AutoCAD, MicroSurvey and Softdesk products to support his current and future clients.

Glen has been instructing on and supporting these products now for over 7 years and this new position will contribute to the quality he is able to supply. Glen has travelled from Yellowknife to Bermuda, Newfoundland to Manitoba and extensively throughout Ontario in the support of these products. Glen graduated from St. Lawrence College - Kingston, with honours 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 he provides, his "Tips and Tricks" will undoubtedly assist even the more experienced users!