

with Glenn Barrett, of the CAD Classroom

Seldom-used AutoCAD capabilities – Calculating area

(part one)

When it comes to working out areas, many AutoCAD users fall back on the old faithful AREA command.

This is fine, but this command is limiting in its capabilities, and can be quite cumbersome to use in some situations, so lets look at what other commands are available for this task:

The BPOLY command

Lets use the interesting example of a rectangle with two intersecting circles. We have to calculate the area of the shaded segment (see figure one).

The first thing that most AutoCAD users do at this stage is the go to the LIST command, point at the bottom line (line A-B) and obtain the angle it was drawn at, ie...

Command: BPOLY

This will bring up the dialogue box shown in figure two.

Simply select the Pick Points button (top right-hand corner), and select inside the area segment we are interested in and then hit Enter. AutoCAD will now draw a POLYLINE around the perimeter of this shape. Now use the LIST command to find the area:

Command: LIST

Select objects: L

This will select the last object drawn... the polyline!

Select objects:

This will return the following (just reading the top section of the returned information we get our result):

LWPOLYLINE Layer: "outline"

Space: Model space

Handle = 4C

Closed

Constant width 0.0000

area 1242.2686

perimeter 144.1860

at point X= 2.....etc..

As we want to type this information back into the drawing, we will COPY the information inside the AutoCAD TEXT screen (see figure three).

Now, to get rid of the POLYLINE, use the ERASE command.

Command: ERASE

Select objects: L

This will select the last object drawn... the polyline!

Select objects:

Now call up the MTEXT command and define the area you wish to type the area in on the drawing. Use the right mouse button and Paste the result into the MTEXT box (see figure four).

Now we want to see M (metres) to the power of 2 (squared)... so after the area numbers type M2^, then highlight the 2^, and using the right mouset button select Stack (see figure five, below)

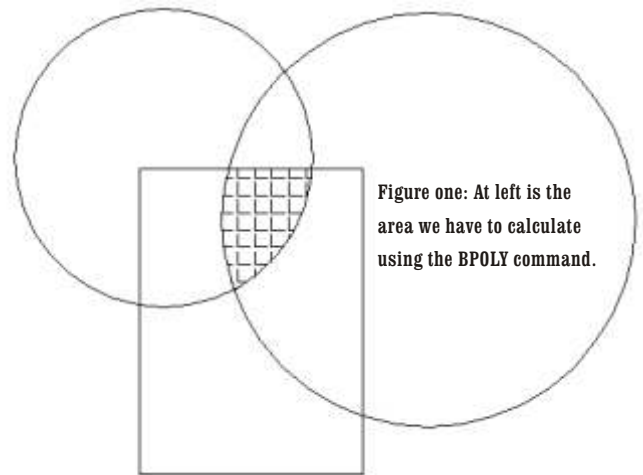


Figure one: At left is the area we have to calculate using the BPOLY command.

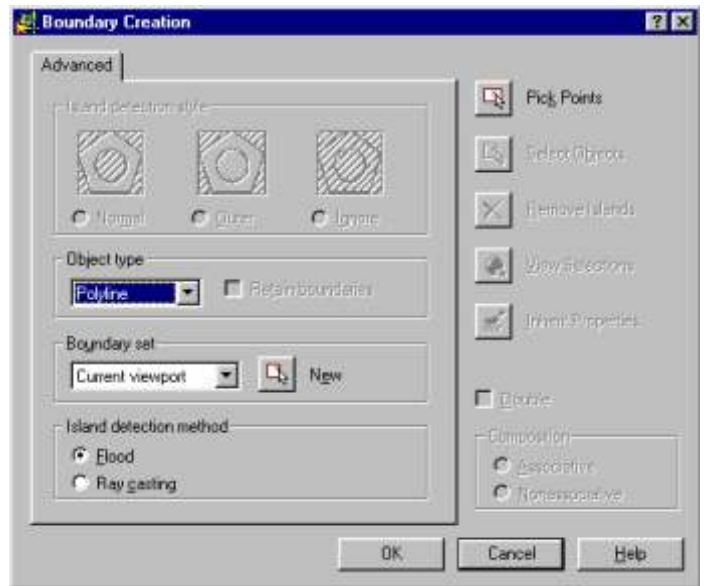


Figure two: The BPOLY command dialogue box.

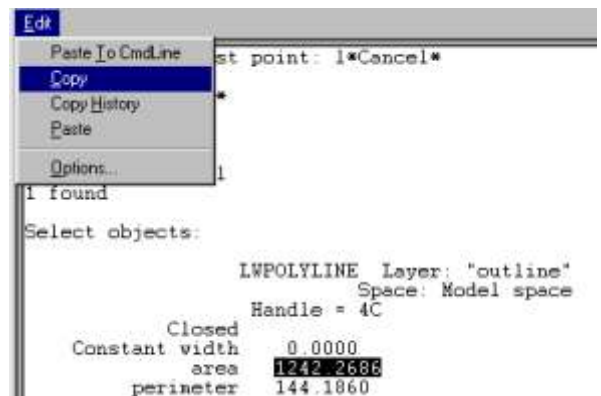


Figure three: Copying the Area information.

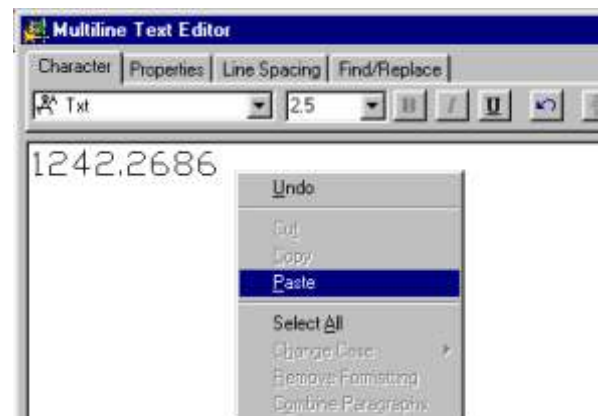


Figure four: Pasting the Area information into MTEXT.

>>

This will give you the desired result (see figure six).

Conclusion

Again, this article was short and sweet, but the extra productivity you can get from this command, and the little known capability of MTEXT will really enhance your AutoCAD usage. In future articles we will bring you a series of tips and tricks that are simple to use and that will speed up your usage of AutoCAD.❖

This article was written by Glenn Barrett, Director of the independently run CAD Classroom. He can be reached on 0417 558 269 or email idaad@ozemail.com.au.

CAD Classroom is a registered business name of IDAAD Design Pty Ltd CADD Management and Training Consultants.

Figure five: Putting in squared metres.

month posted: September 2003



Figure six:
All finished.

