

# INDUSTRIAL LASER SETUP IN AUTOCAD

NEWSCHOOL OF ARCHITECTURE + DESIGN  
MATERIALS LAB

APRIL, 2014

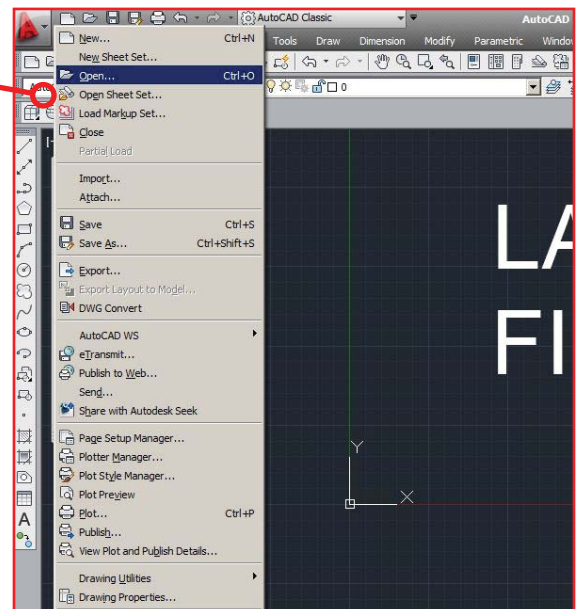
# OVERVIEW

This guide will review the correct process for prepping a file from AutoCad for usage on the industrial laser. This covers preparing the file for cutting and or etching as required. The industrial laser deck can cut and etch cardboard, chipboard and thin wood. The size of the laser deck is 4' x 8' but realize that cutting thicker materials can be very slow so avoid attempting to cut large sheets of thick material.

Important: When importing a prepared DXF file into the laser, the laser cutter software will shift all lines to the lower-left corner of the document. This means if you want a known offset from the edge of your material or wish to align a cut and etch file you will need an index point in the lower-left corner, such a 'Point' object or two lines in the shape of an 'L'. This will then serve as the X:0 Y:0 point when setting up the file on the laser.

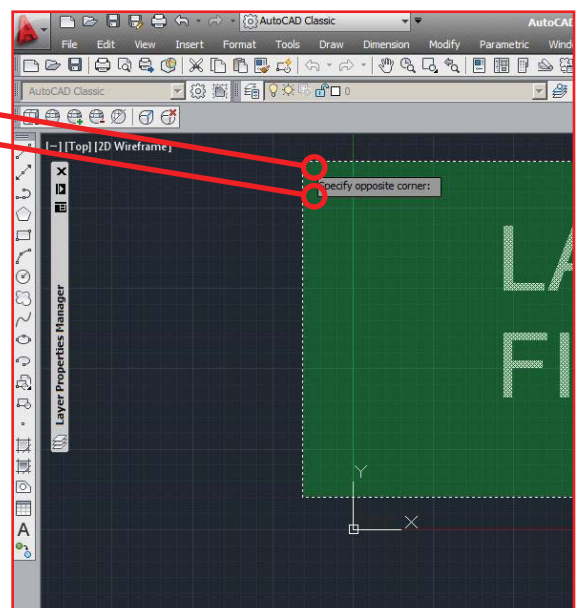
## OPEN THE FILE

- Click 'File' at the top left corner and scroll down to 'Open'
- Select the file you want to laser cut
- Alternately, import the file from another source or generate the file within AutoCad



## SELECTING THE OBJECTS

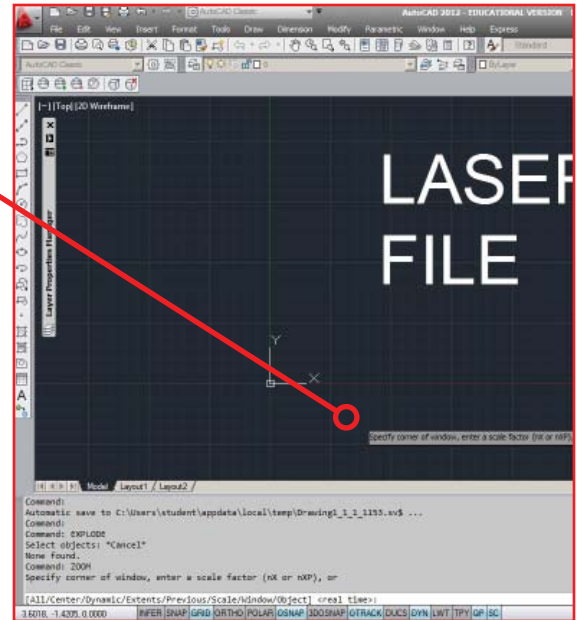
- Select all the objects you want to lasercut
- Type 'Explode' in the text box then press 'Enter'



## CHECKING FOR PROBLEMS

- Type 'Z' and press 'Enter' to Zoom
- Type 'A' and press 'Enter' to Zoom All

If the screen zooms out beyond your selected objects there are extraneous elements in your drawing, find and delete these before proceeding

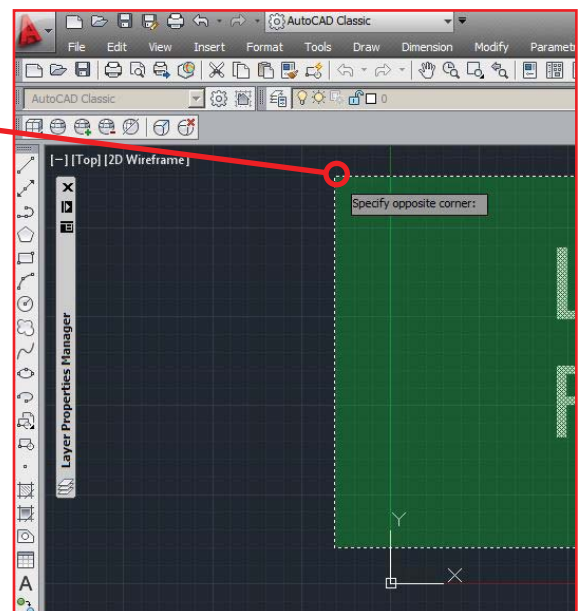


## FLATTEN THE DRAWING

Make sure you are in the top view

- Select all the objects in the file you wish to lasercut
- Type 'Flatten' and press 'Enter'

This will eliminate the elevation info so all the lines are at the same height which may help bring extraneous objects into view

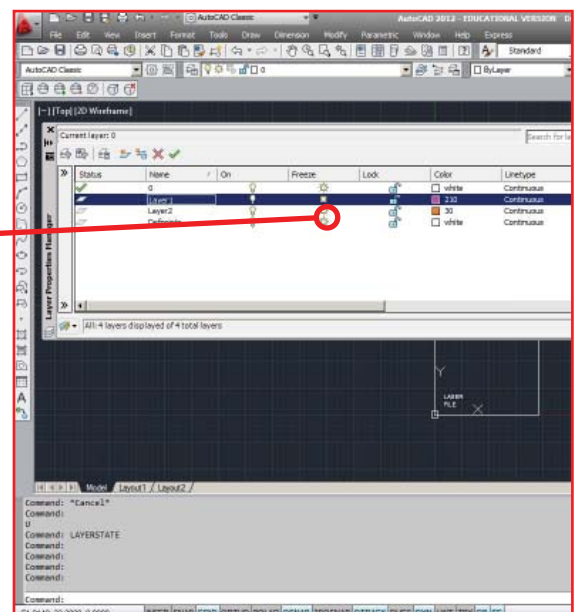


## FREEZING A LAYER

If you do still not see the extraneous objects

- Carefully select only the parts of the file you want to lasercut by using holding the 'Shift' key while selecting each desired object
- Create a new layer and move the desired objects to the new layer
- Freeze the new layer
- Now select all objects in the file by dragging a box across the entire screen
- Press the 'Delete' key
- Unfreeze the new layer just created

This should remove the extraneous objects and leave only the desired objects



## USING OVERKILL

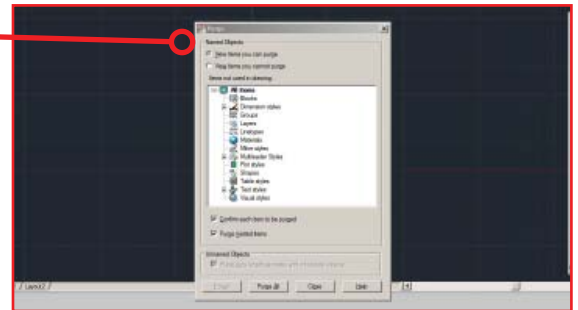
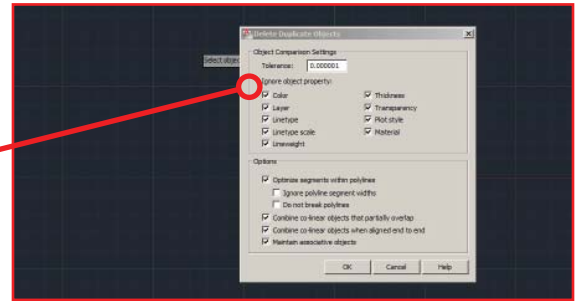
- Type 'Z' and press 'Enter'
- Type 'A' and press 'Enter'

The screen should now zoom to only your desired objects

- Type 'Overkill' and press 'Enter'
- This will remove all overlapping lines
- Type 'Purge' and press 'Enter'

The Purge dialog box should appear

- Select 'Purge All'
- Select 'Purge All Items'
- Select 'Close'



## CLEARING UNWANTED LAYERS

If you still have unwanted objects

- Select the layer control drop down
- Select the layer to be deleted so that you are not drawing on your desired layer

- Draw a line on the layer to be deleted away from your work

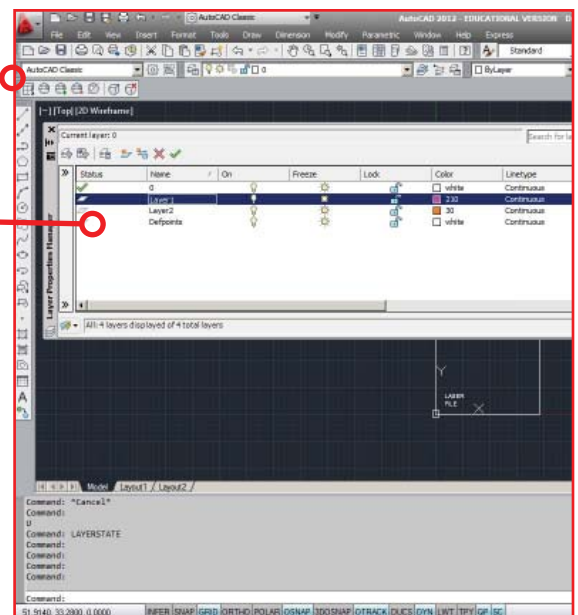
Ensure you are drawing on the layer you don't wish to keep

- Switch layers
- Type "Laydel" enter

- Select the line that was just drawn

The unwanted layer should now be gone

Repeat as needed until all unwanted layers are removed



## JOIN THE LINES

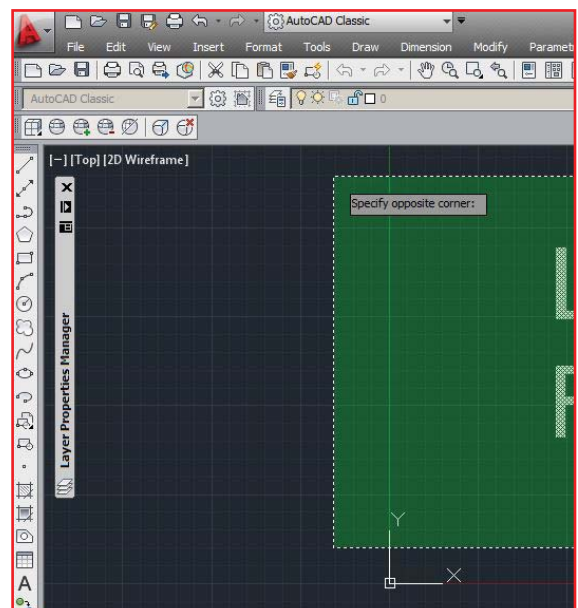
- Highlight all your objects
- Type 'Join' and press 'Enter'

This will join all possible lines into continuous lines

- If this fails, type 'Regen' and press 'Enter'

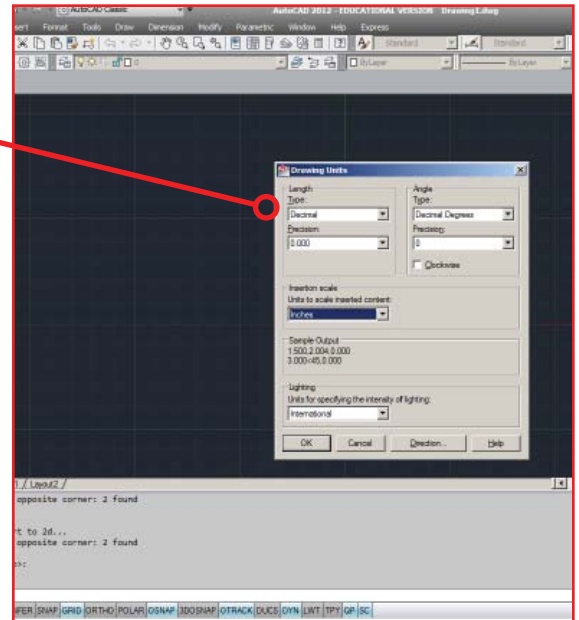
This will attempt to regenerate existing lines

- If this fails, check each line segment for overlapping ends
- Use 'Trim' and 'Extend' to make adjacent line ends match.



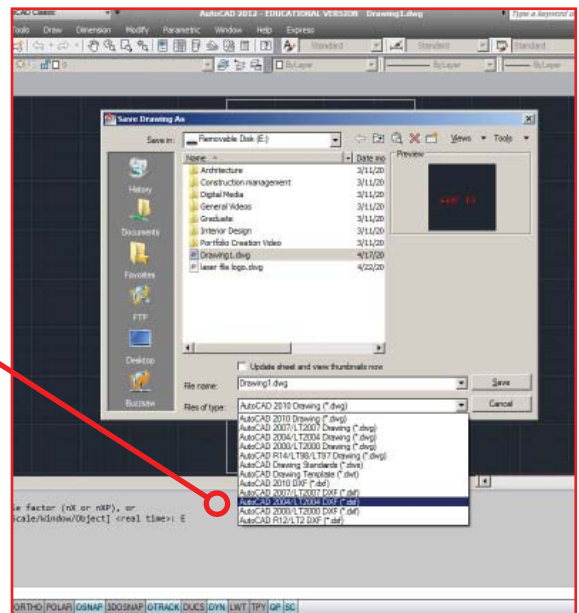
## SCALE THE LINES

- Set your units to inches
- Create a box the size of your material  
*The industrial laser bed maximum size is 48" x 96"*
- Select your objects and scale them to fit within your material
- Create an indicator point in the lower left corner of your  
*Use the same reference for Cut and Etch files so they will be aligned on the laser deck*
- Select the material box you created and press 'Delete'



## SAVE THE FILE

- Select 'File' then 'SaveAs' from the drop down menu
- Choose DXF 2007 as the format



## READY TO LASER

You are now ready to take your file to the laser cutter.  
Bring in your file on a flash drive along with your material to your appointment so you are ready to cut.