Laser cutting and engraving from AutoCAD

Quick Start Guide

How to Laser Cut from AutoCAD

1. Open your AutoCAD file (.dwg or .dxf). This file is only a laser cutting file. Please make it simple without a lot of extra layers. NO mega files!

2. Laser bed is 18" x 32". It is helpful to have a black/white box of the bed and your material size so you can scale to fit.

3. Make a RGB layer for engraving or to cut. The laser only reads RGB colors in the following order: Black, Red, Green, Yellow, Blue, Magenta, Cyan, Orange.

4. Lineweight should be at default or 0.00 for vector cutting.

5. Know your scale. 1:1, ¼"=1', fit to page, or something else.

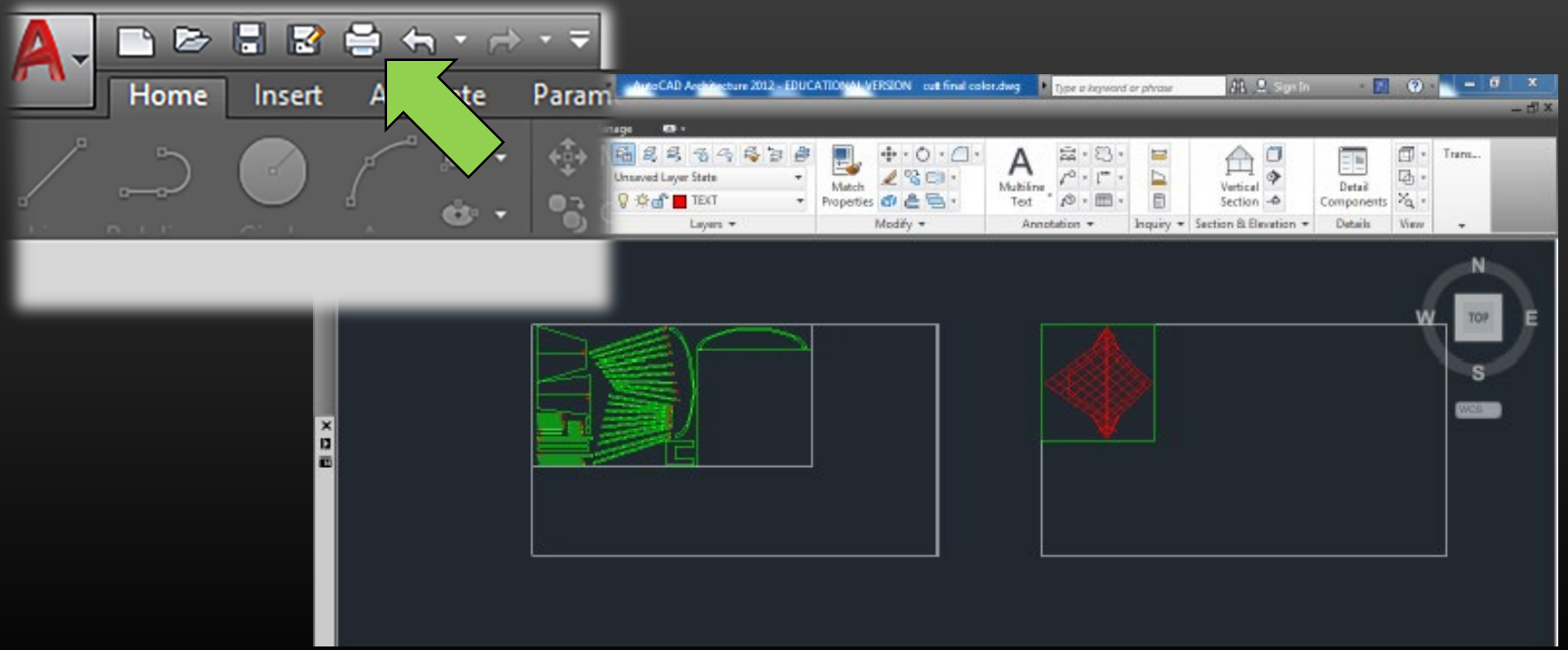
6. Make sure your printer is “on” your layer.
DO NOT SAY NO TO THE PRINTER ICON.

7. OVERKILL IT! If you have multiple stacked lines over each other, the laser will read them and go over them as many times as there are layers. It’s a waste of time=$$$, and it will burn your material more.

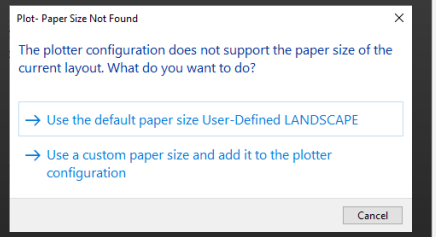
8. Materials that can be cut, along with recommended laser settings are listed here: http://www.engraversnetwork.com/files/M360_V460_Material_Settings.pdf

If you are unsure about a material, ask lab personnel or visit http://atxhackerspace.org/wiki/Laser_Cutter_Materials for the list of materials NOT SAFE FOR LASER CUTTING.

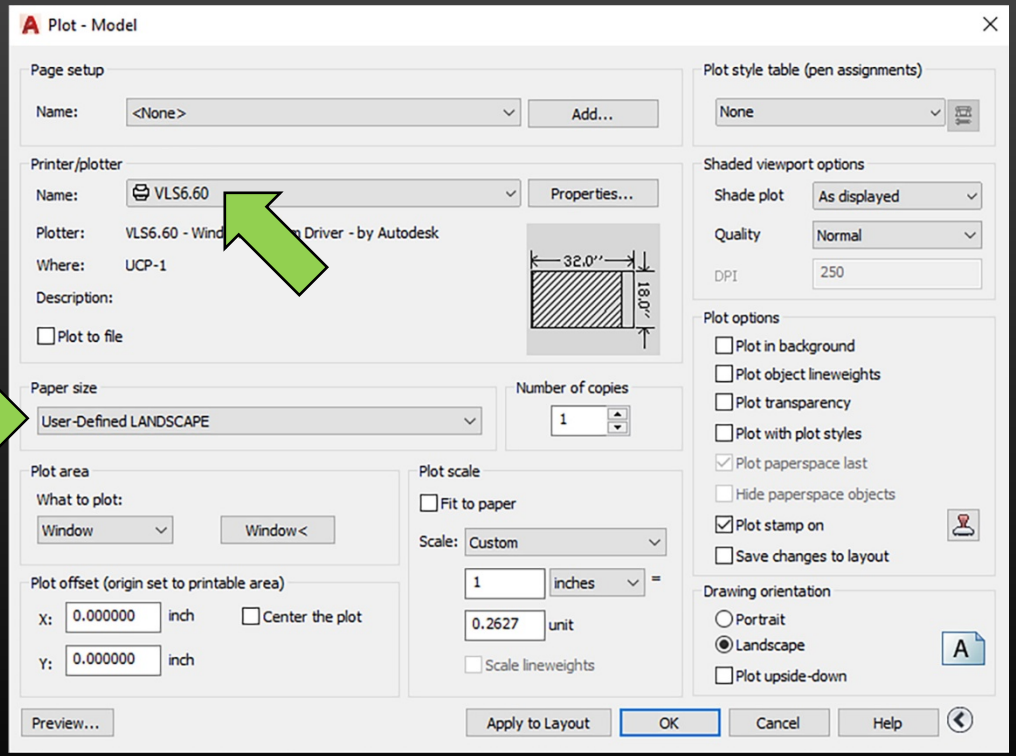
Once you are ready to cut, click or type PLOT.



2. Select VLS 6.60 printer/plotter.

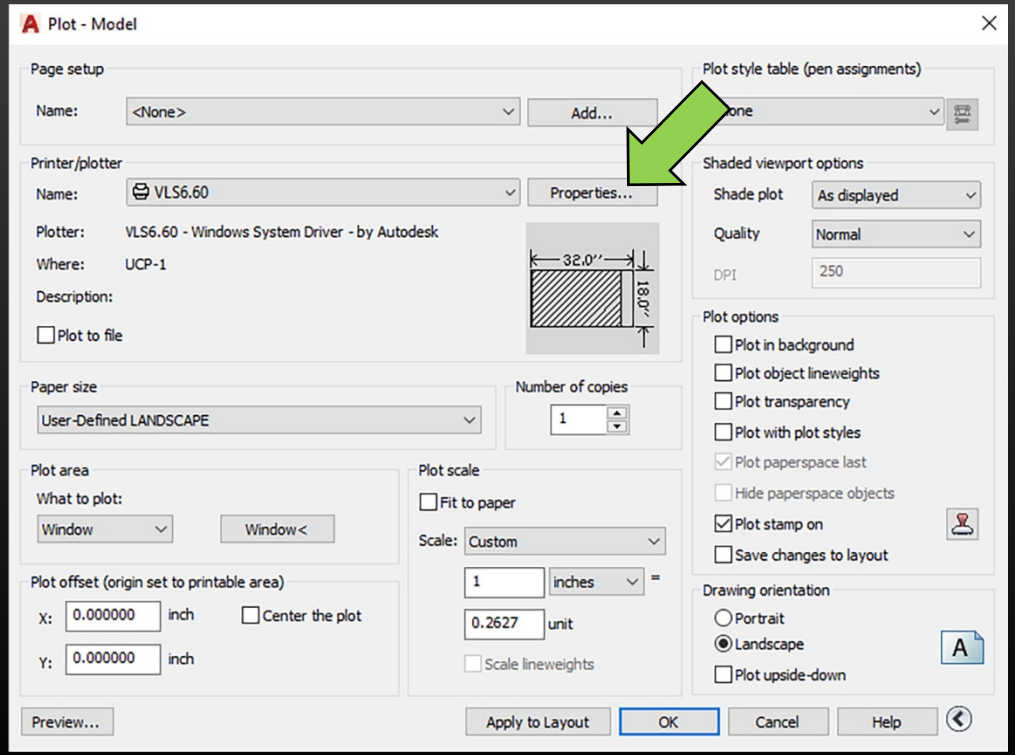


Select the User- Defined LANDSCAPE associated with the laser.



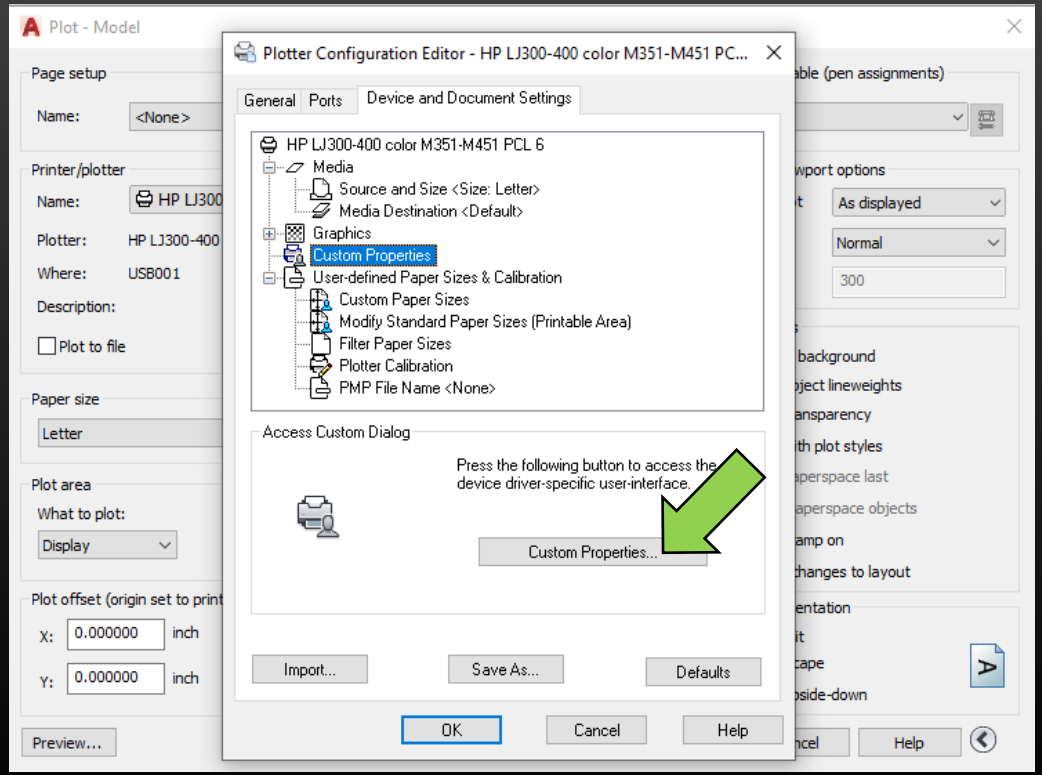
3. Click Properties

to open the plotter configuration window.



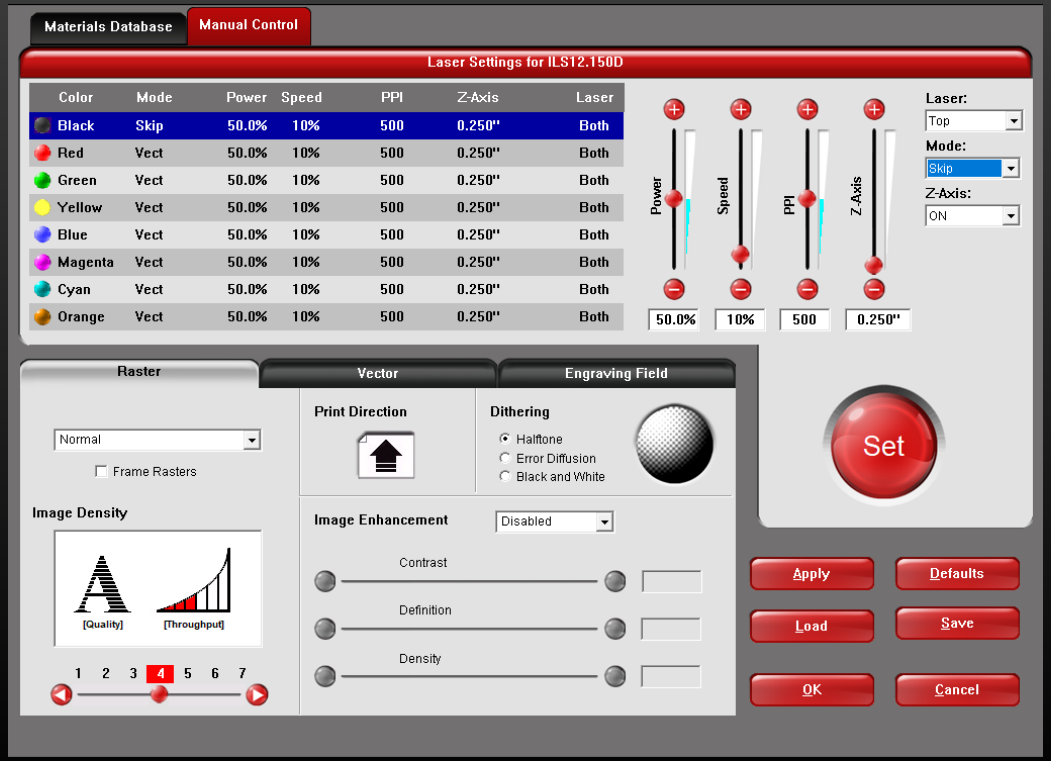
4. Click Custom Properties

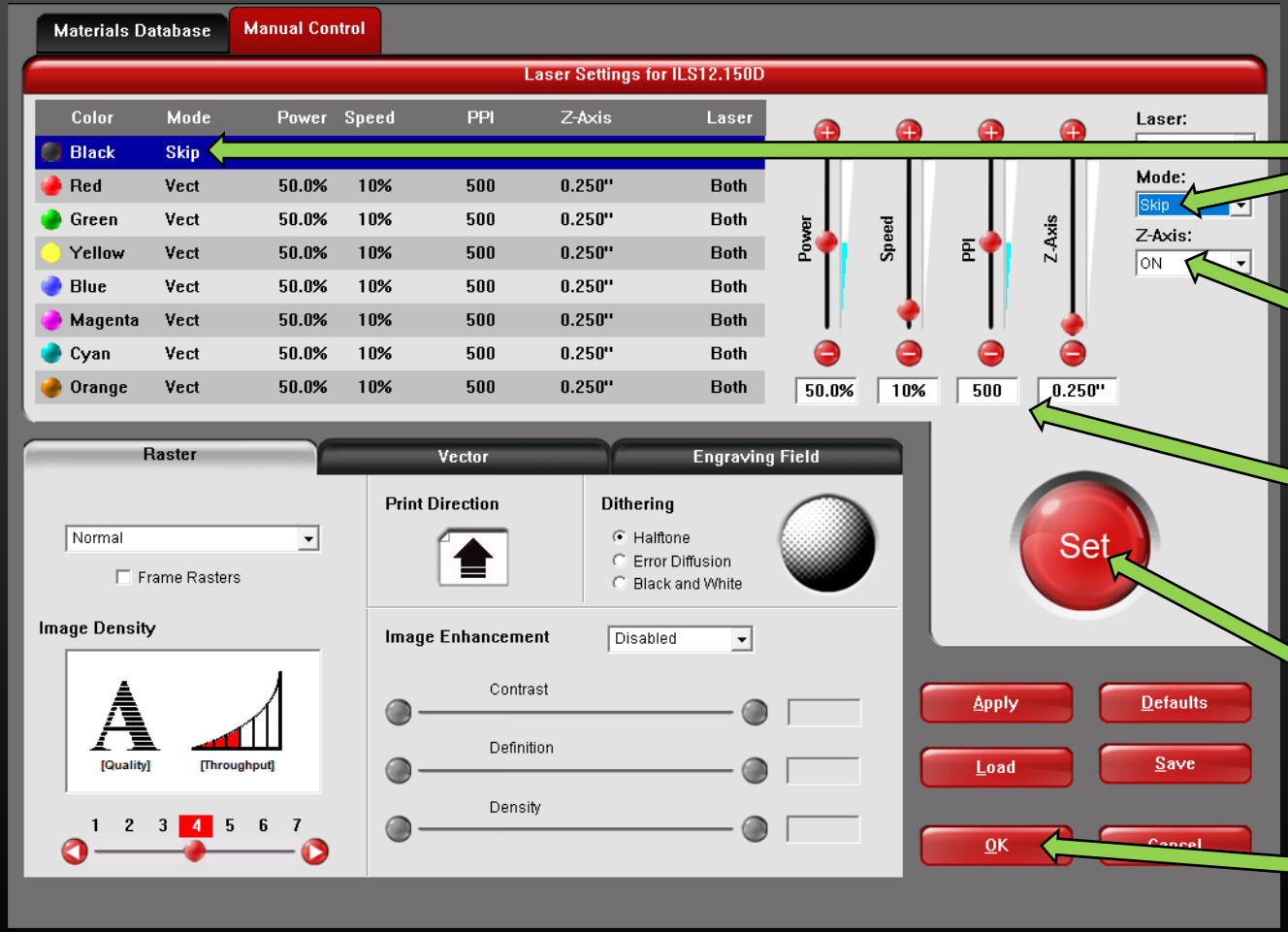
to open the laser setting menu.



5. Laser Settings Menu

Here you will select the appropriate settings for cutting your material.





Choose Mode:
VECT for line cutting and engraving.
RAST to raster engrave a text body, solid fill, or image. SKIP if you don't want a color to cut.

RAST/VECT not recommended.

Be sure Z-axis is ON and set to the thickness of your material.

Click the specific color to adjust the Power, Speed & PPI (Pulses Per Inch.)

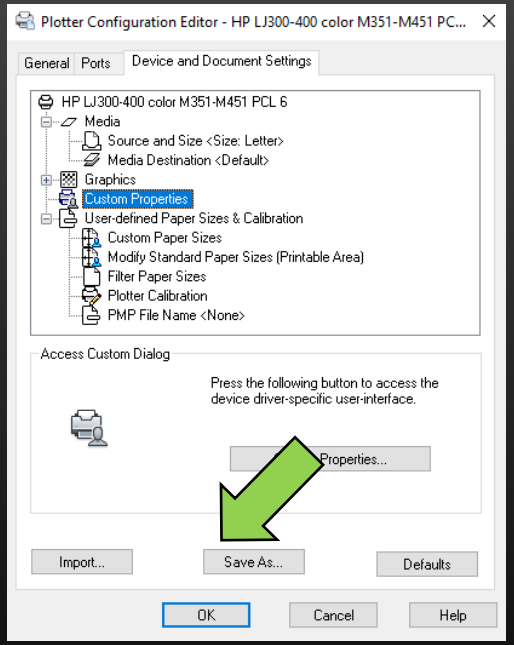
Settings guide can be found at:
http://www.engraversnetwork.com/files/MVX_Laser_Settings-Guide.pdf

Press "Set" Button before you select your next color to avoid group setting.

Click OK when done.

NEVER SAVE

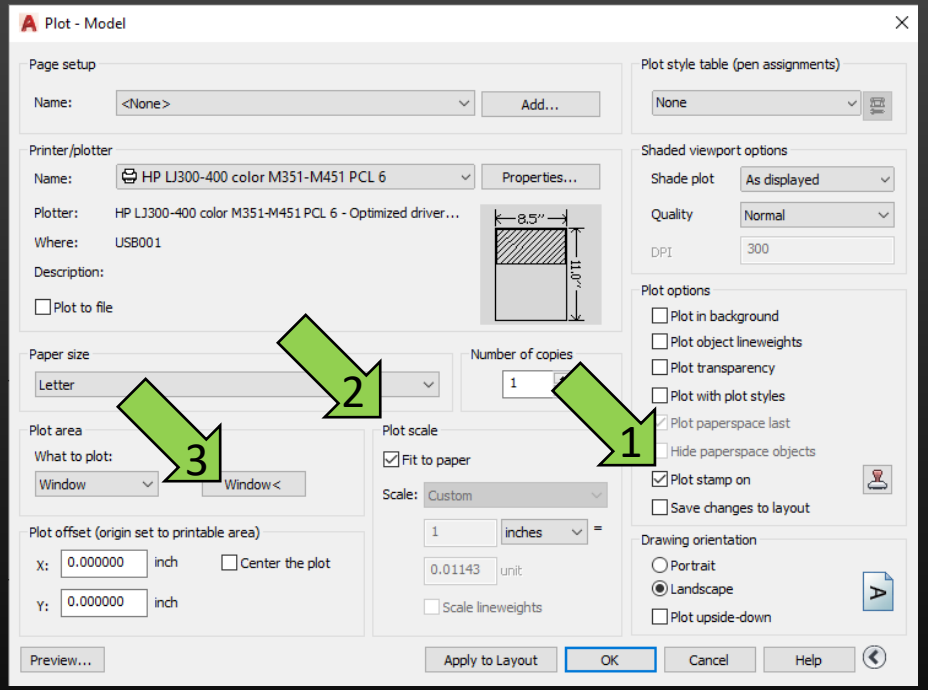
Click “OK”



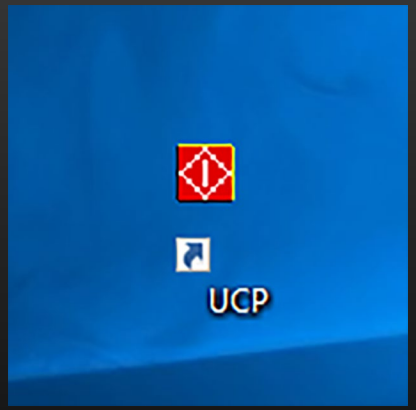
1. Plot Options. ONLY PLOT STAMP ON SHOULD BE CHECKED! If not, when you send file to the laser, the power, speed & PPI will have 0.00s and you won’t be able to cut.

2. Select your scale or choose “fit to paper”. Fit to paper will make it fit as large as it can in the 18 x 32 window. NOTE, there’s an inset of .01” around the perimeter so it will never be a true to scale.

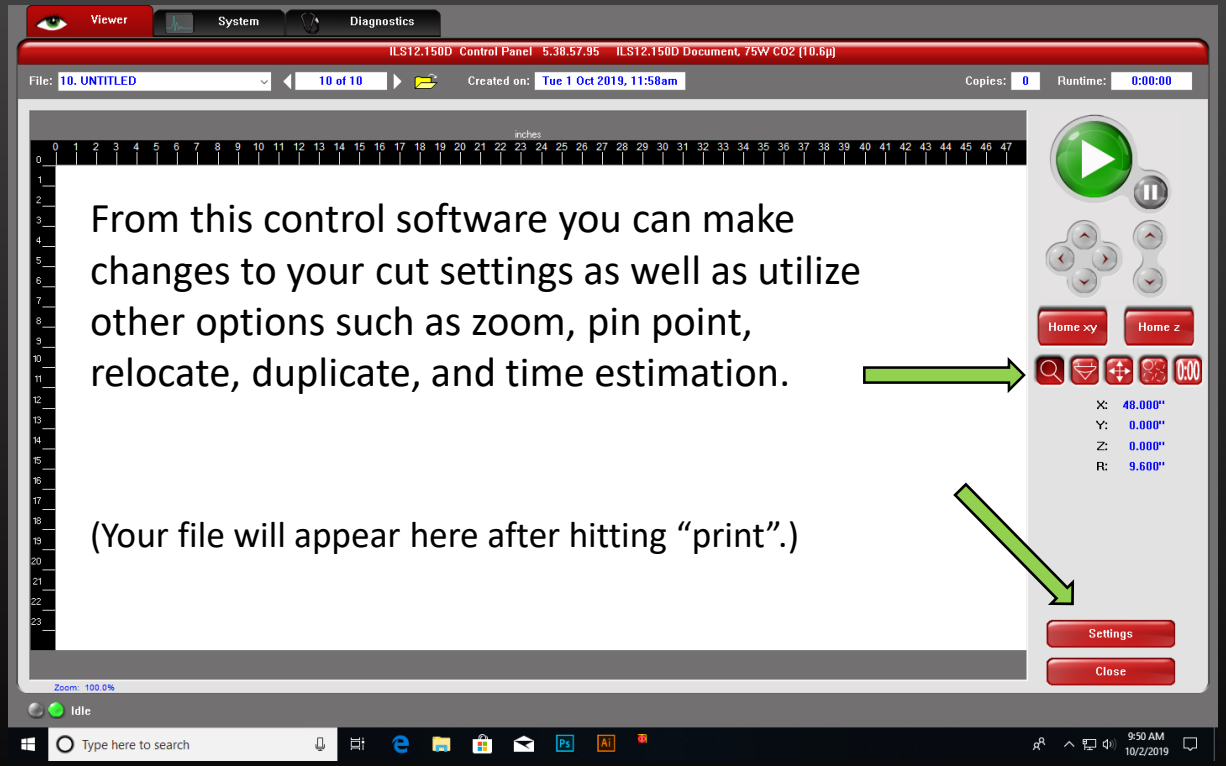
3. Select “Window<” to select the 18”x32” box you created as a template.



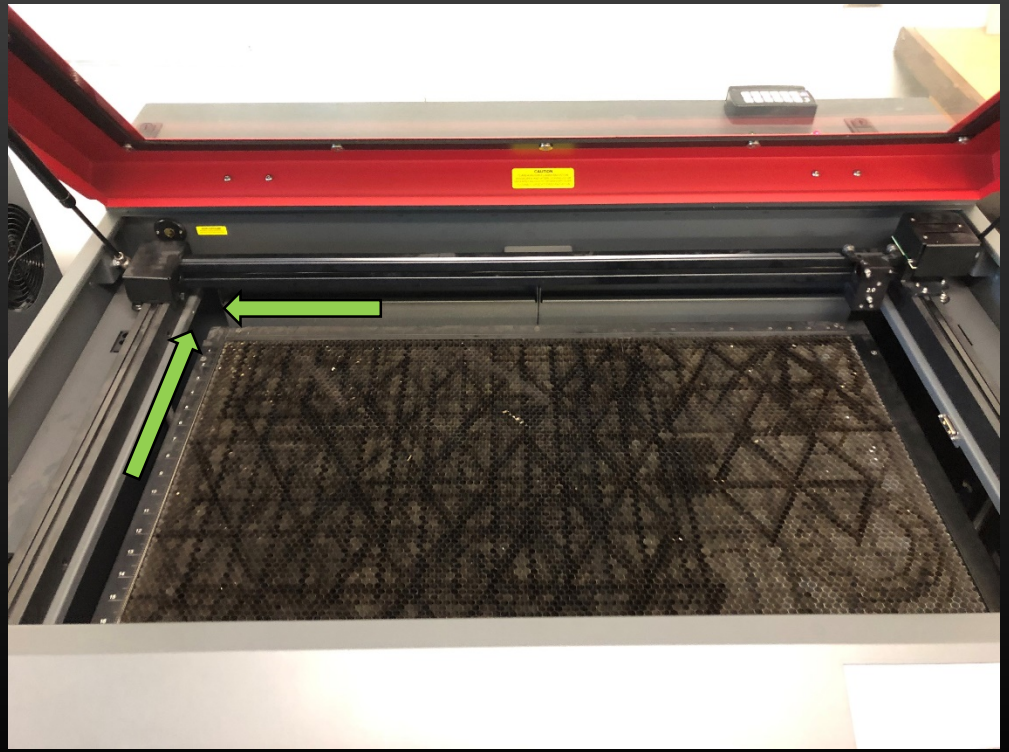
Open the UPC application located on the desktop.



For more information, visit https://www.ulsinc.com/ and click support for more detail about the laser cutting process

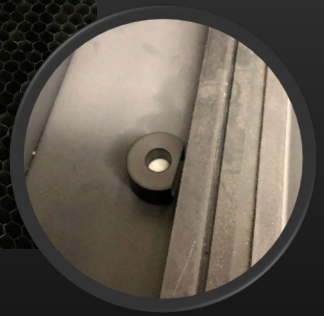


Open laser lid and place sheet onto honeycomb cutting bed.
This cutting bed is designed to float on engraving table.
Cutting bed should be pressed to the upper left corner.

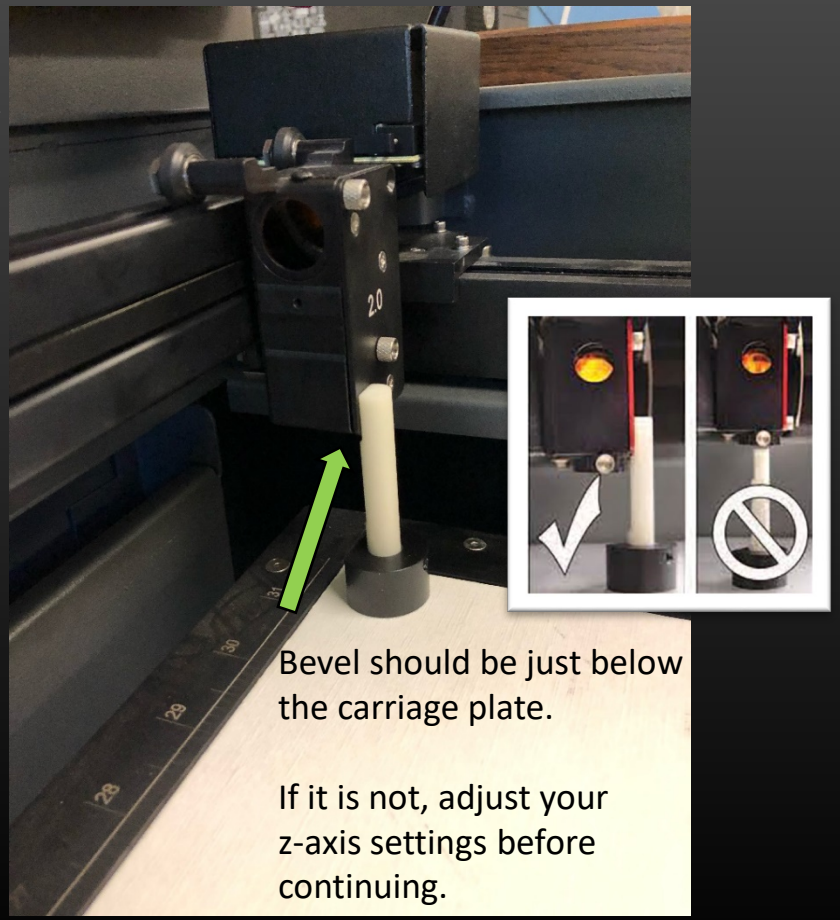


Remember to turn on the exhaust, located to on the right side of the laser.

To insure the accuracy of your settings, place the focus tool on top of your material after the z-axis has been adjusted.



Focus Tool is located in the inside on the left side.



TIP:

The z-axis will not adjust using the UCP software until you hit play.

In order to check the z-axis focus using the focus tool, leave the lid open and hit play to allow the machine to move the bed into place. This will also initiate a dry run where the laser is not cutting but following the cut paths. (Be sure that the path is clear.)

You can pause the laser after the bed adjusts to the settings you have entered. Now use the focus tool to check the accuracy.

Note: Only manual control on the key pad will move the z-axis before a cut is initiated. You can use the key pad to determine your z-axis height, but if you do, you must turn off the z-axis within the UCP to avoid an override of this manual adjustment.

It’s very important that the lens is focused or you will not get a good cut or engraving.

YOUR MATERIAL SHOULD ALSO BE FLAT!

Warped material will change the focus of laser lens causing problems or even FIRE!

FIRE IS BAD!

IN CASE OF FIRE:

There is an ABC Dry chemical extinguisher on the west wall within the DML, next to the storage closet.

Alert OU Fire Department (911) in the event of a fire. Promptly report the event to COA staff at GCA-Lab-GA@OU.edu.

Close the lid &

Swipe your soonercard.

Press PLAY in the UCP window.

Now you are laser cutting!

Laser Cost:

1 Swipe = $1.00 = :04 minutes

$.25 a minute after

- This means you will be charged a minimum of $1.00 every time you swipe your card to turn the laser on. Then after :04 minutes, you will be charged $.25 a minute. ($7.50 = :30)($15 a hour)
- If you need to laser cut more than once, don't swipe out, just start new laser file.
- Remember to swipe out when you are finished laser cutting or you will be charged.

Please throw your trash in the trash hopper!

For technical support or to report problems with the equipment within this lab, please contact the following support staff:

GCA-Lab-GA@OU.edu
Garrett.R.Stowe@OU.edu
Jerry.Puckett@OU.edu

We appreciate you letting us know when there are issues concerning this space and the tools. Help us keep things running by promptly reporting breakage and misconduct within the lab.

Thank You.