

Instructions

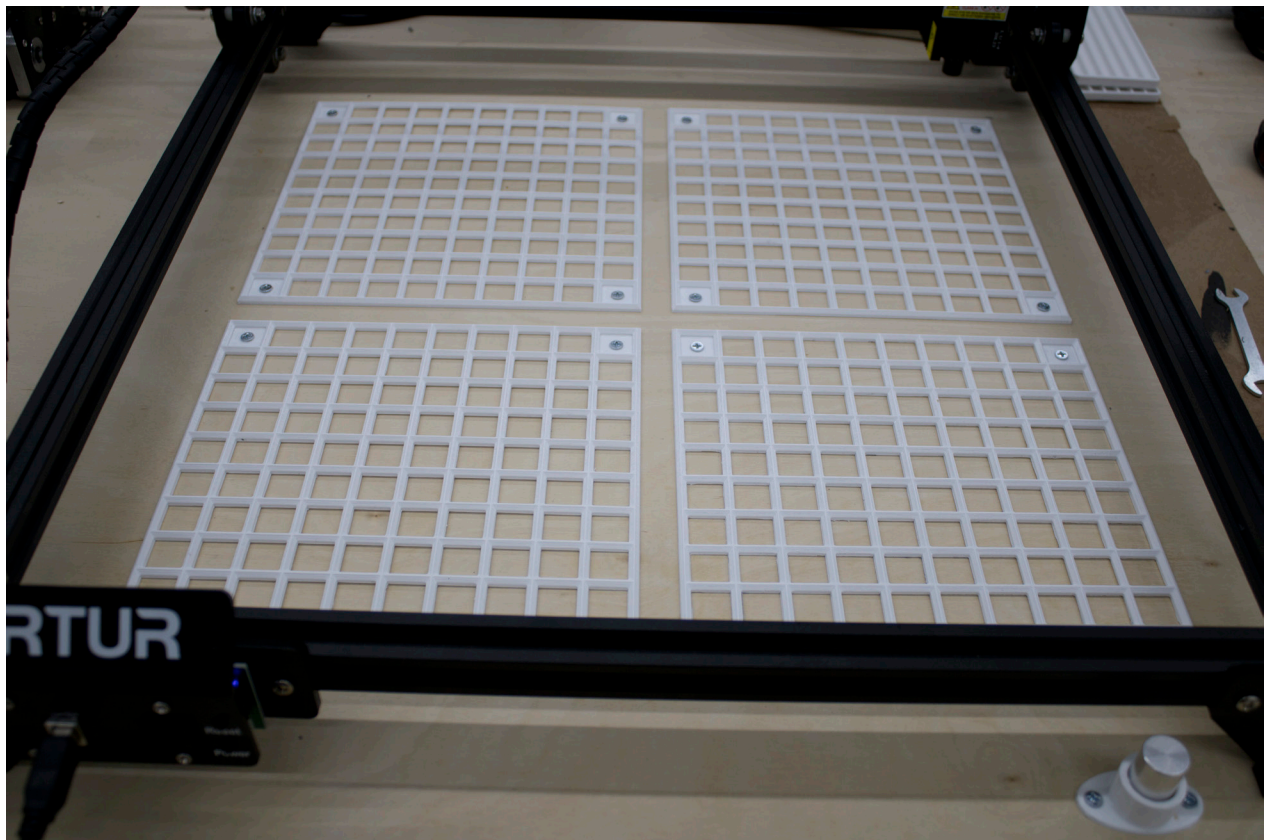


How to Set-up and Use the LaserGrid

LaserGrid by Beard&Bot

INTRODUCTION:

This document will show you how to install and use the Laser Grid for the Ortur LM2 Laser Engraver (https://amzn.to/3sWcX0G*) in Lightburn Software (<https://lightburnsoftware.com>). I printed all of these parts on my Ender 3 (https://amzn.to/3iU5cDT* link to pro version). I used 0.3mm layer height for my prints and you need no supports. Before you install the Laser Grid, you need to make sure your laser is secured to your work surface. You can find 3D printable feet on Thingiverse.



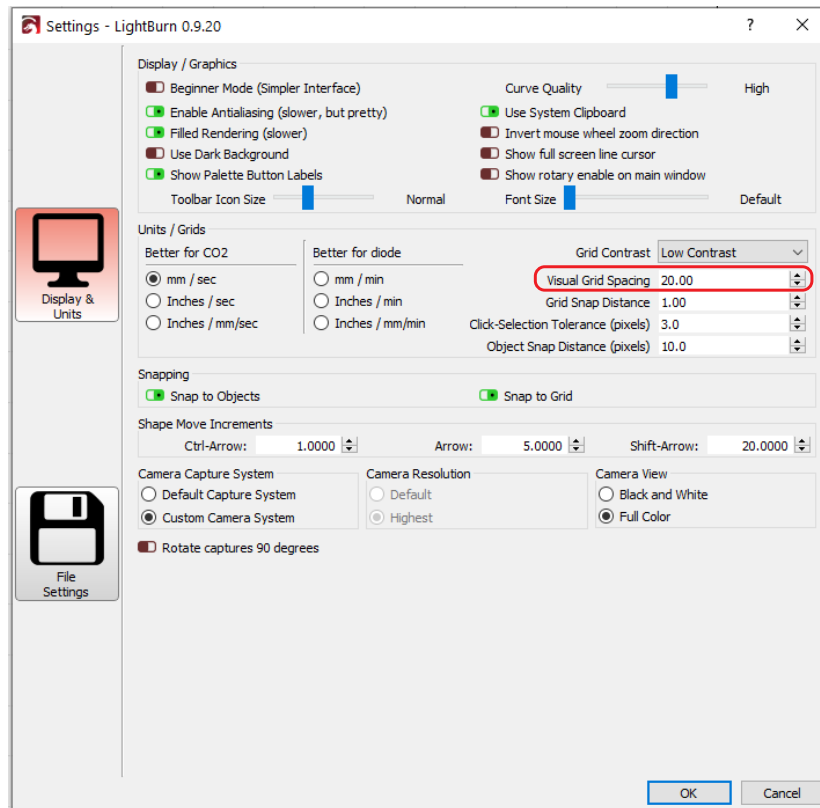
PLEASE FOLLOW ALL SAFETY PRECAUTIONS RECOMMENDED

BY YOUR LASER MANUFACTURER WHEN OPERATING YOUR LASER.

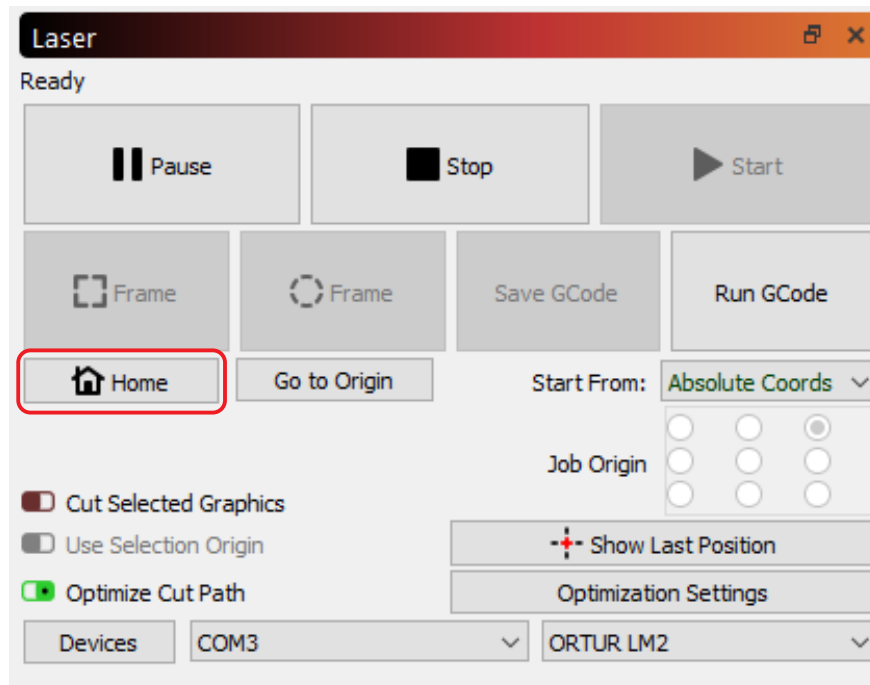
I TAKE NO RESPONSIBILITY FOR YOU HARMING YOURSELF WITH YOUR LASER.

INSTALLATION:

1. In Lightburn, go to Edit > Settings. Change the Visual Grid Spacing to 20mm. (0.7874in)



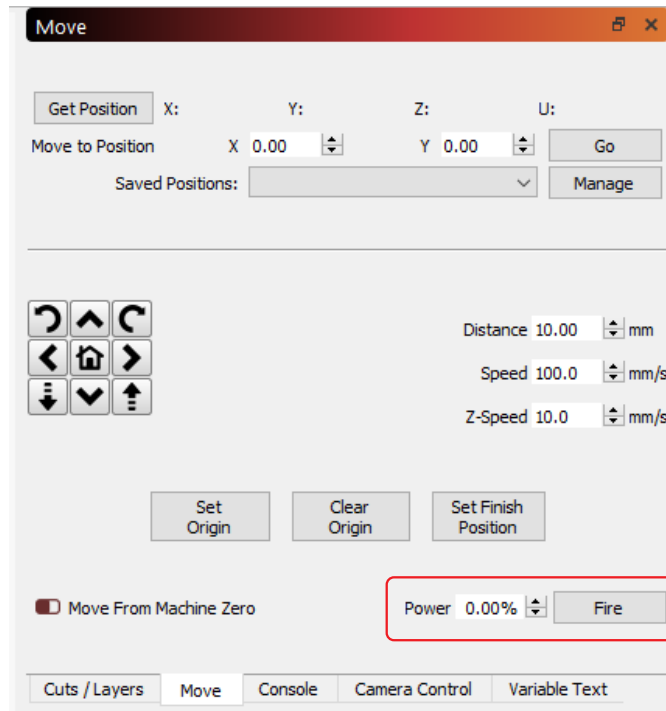
2. Home your laser.



INSTALLATION:

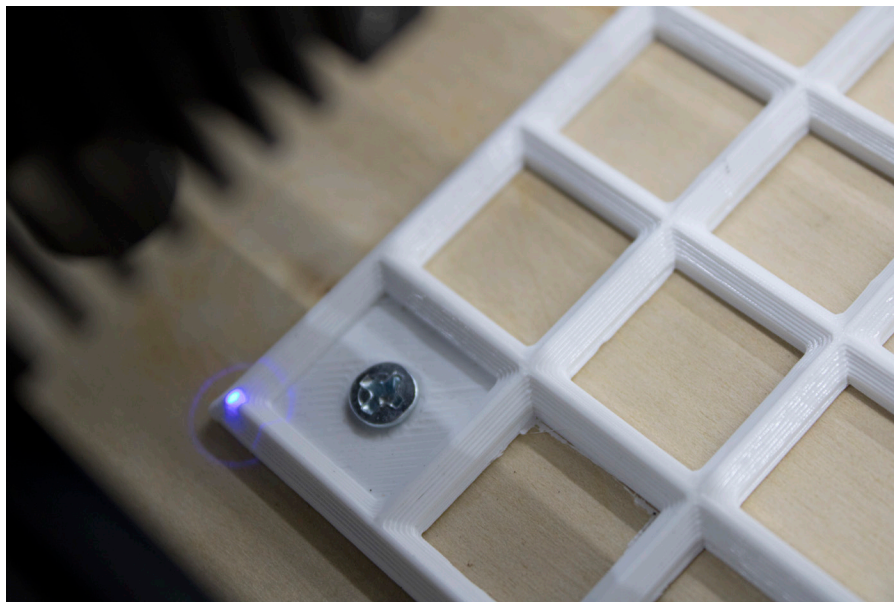
3. Next, select the Move tab. Make sure your “Power” is turned down to 0.01%. This will prevent the laser from melting your grid into a stinky puddle. When ready, hit the “Fire” button.

(If you do not have a “Fire” button, go to Edit > Device Settings > Look for the toggle labeled “Enable laser fire button” and toggle it on. You will have to close and reopen LightBurn to see the button.)



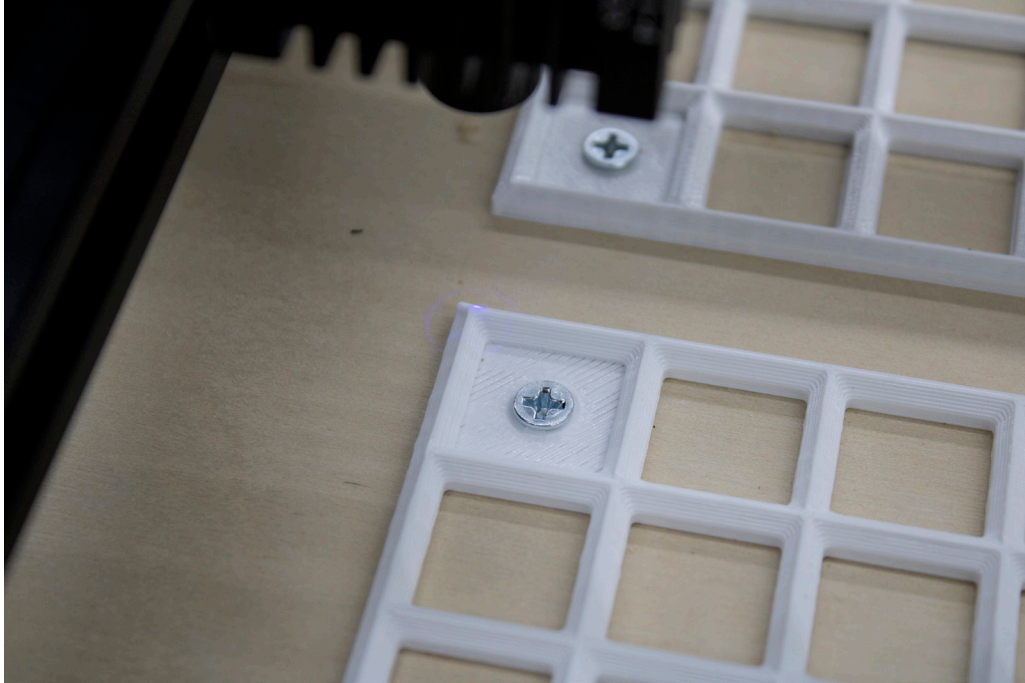
4. Align the lower left corner of the grid with the laser beam; Arrange it so that the laser is pointed to the peak of the grid.

(In the photo, the grid is already screwed down, yours will not yet be screwed down.)

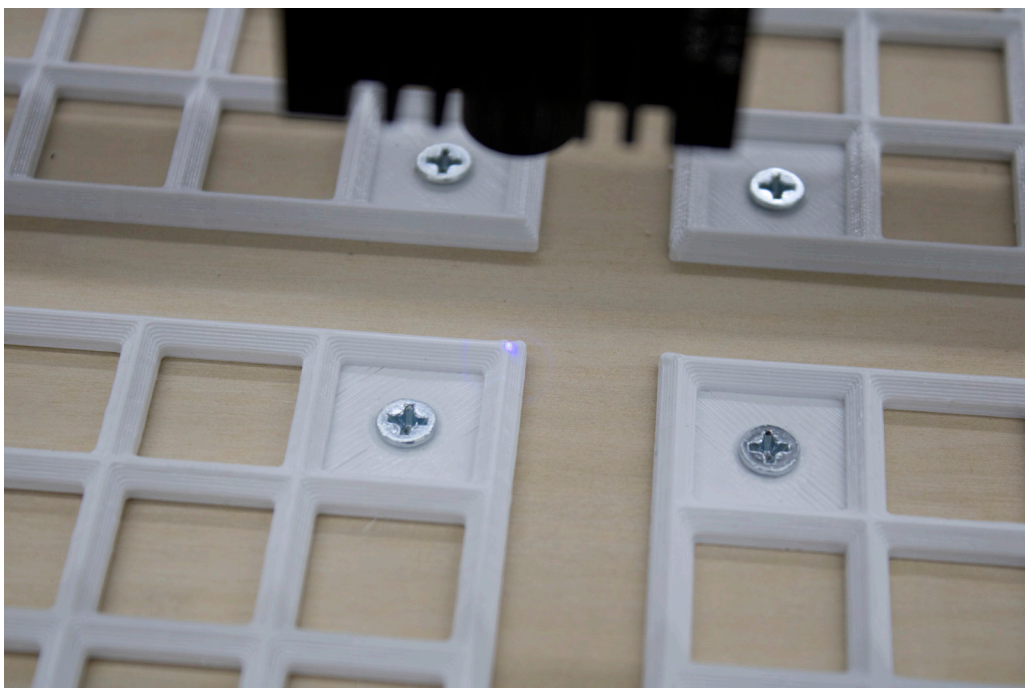


INSTALLATION:

5. Leave the lower left hand corner in place and rotate it around until it looks square by eye. Move the laser 200mm (7.874in) up. It should ride along the ridge of the Laser Grid if it is square. Keep adjusting it until it is square.



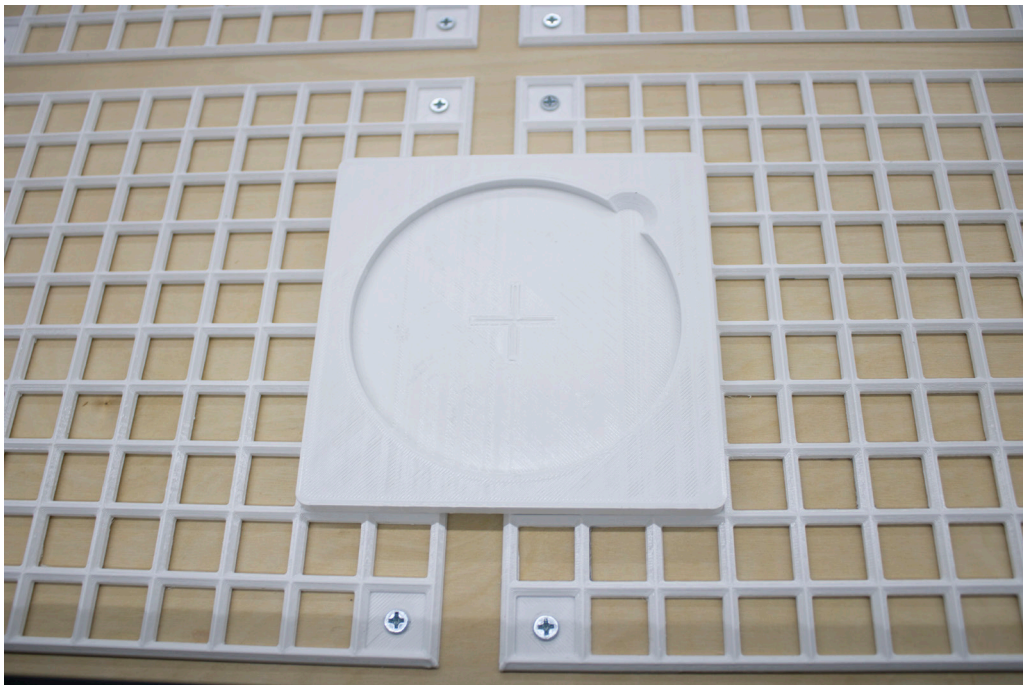
6. Once you have it square to the laser, move the laser 200mm (7.874in) to the right. It should ride along the top ridge of the Laser Grid to verify it is square. If it is off, make sure you are still square on the first two corners. If you are, check the squareness of your Grid and your laser chassis.



INSTALLATION:

7. Once you have it square, use a 3/32" (2.5mm) self centering drill bit (https://amzn.to/3iLq8ge*) to drill the four mounting holes and secure it with ½" (12mm) #6 (M3) Wood Screws (https://amzn.to/3pj5eYi*).

8. Once you have your first grid secured to the table, you can space your second grid properly using one of the jigs. Leave one space between the grids. Jog the laser around the second grid to verify it is straight and square with the first grid.



9. Repeat the process with the other two grids to make a 2x2 grid of grids.

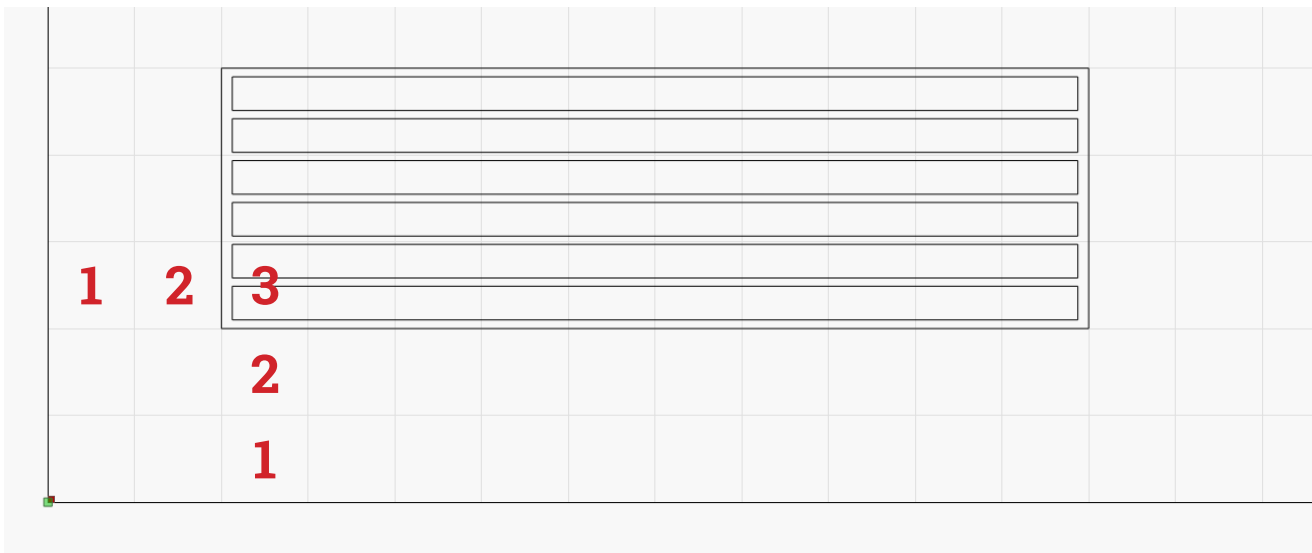
Congratulations! You've installed the LaserGrid! Now let's use it!



USAGE:

1. Import the DXF file included with your download into Lightburn: File > Import > Find the DXF File. In this example, I will use the pencil jig, but the process is the same with any of the jigs. Rotate the jig into the orientation desired and snap it to the guidelines. You can see in my example I have it 3 squares over in both the X and Y directions.

**Some simple square or round jigs do not come with a digital template*

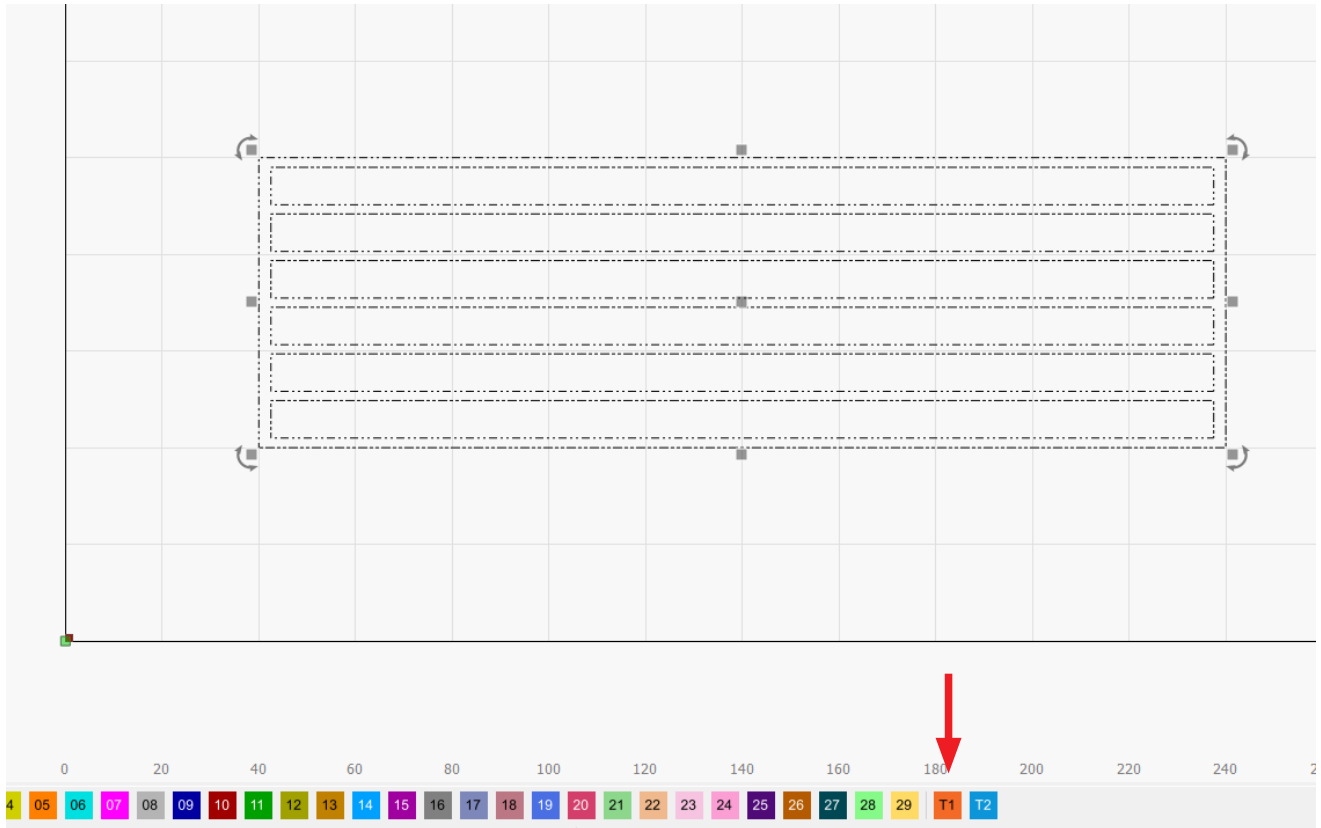


2. Now, you can place the pencil jig in the exact same location on the laser grid. Do a frame trace with the laser light on (Hold "Shift" while clicking the "Frame" button). Make sure the laser follows the outside of your jig.

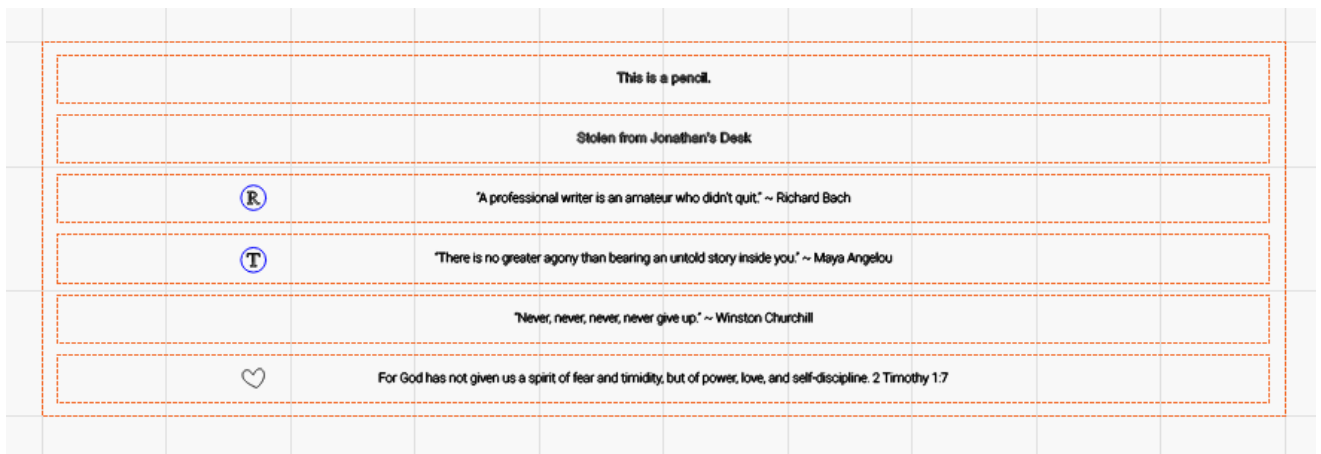


USAGE:

3. Set your template to the T1 layer by clicking the template and then clicking the “T1” layer at the bottom of the screen. This will ensure your laser will not try to cut out the template lines when you start your engraving.



4. You can now design and place your text and artwork on the template.



USAGE:

5. Load your pencils into the jig. Don't forget to focus the laser!



6. Laser engrave the pencils.



USAGE:

7. Once you are done, you can remove the pencils and quickly load in a new set of pencils.



8. Save the file (File > Save As > Give it a name like “Pencil Jig Layout” and save it in a location that will be easy to find later.) and next time you need to make pencils, you can open your layout file, place the jig back in the same location and start engraving again. No more time consuming lining up of the jig.

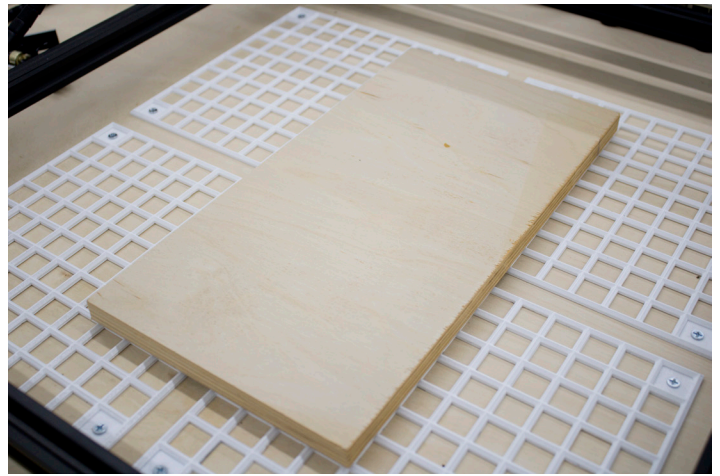
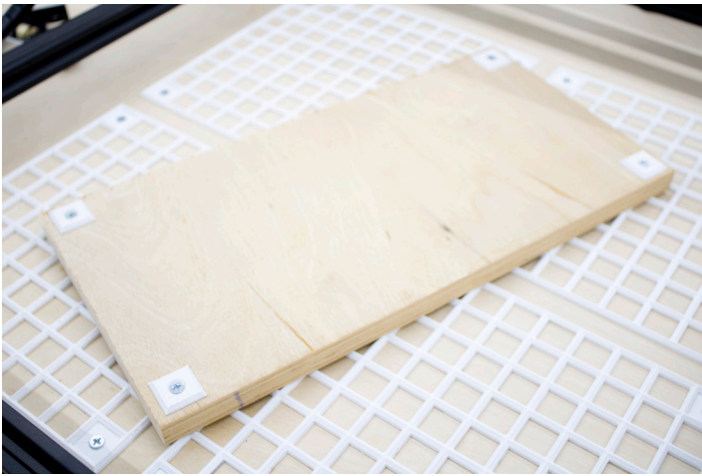
9. Repeat the steps in this section to make easy to use templates for the remaining jigs.

***Congratulations! You've successfully used the LaserGrid!
Now get to making!***



BONUS! Grid Feet & Focus Bar Holder

In your zip file you will also find STL files for Grid Feet and a Focus Bar Holder. The Grid Feet can be used on a piece of plywood (not included) when cutting. That way you do not damage your Laser Grid. Carefully measure out the feet before you secure them with #6 wood screws. The feet should be a multiple of 20mm apart. For instance, if your plywood measures 195mm long, you would make sure there is 180mm of distance between the two feet, measured center to center.



The Focus Bar Holder can be screwed with #6 wood screws anywhere that is convenient.

