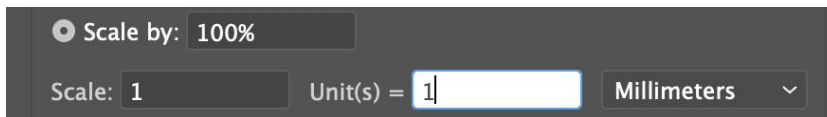


Fusion 360 to Epilog Laser Cutting @ Wheaton

Method 1: Sketch to DXF

This method is a bit simpler, but requires more manual editing and won't compensate for the laser kerf. It will let you laser cut 2-d sketches, but not 3-d objects.

- 1) Create a sketch in Fusion.
- 2) Right-click on the sketch and choose "**Save as DXF**". Annoyingly, DXF files don't have any dimension units, so we need to make sure the object comes out the right size!
- 3) If working in Illustrator:
 - a) Open the file in Illustrator
 - b) Choose "**Scale by 100%**", **Scale 1 unit = 1 millimeters**, assuming your Fusion document units are mm. If they're inches, choose inches, etc.

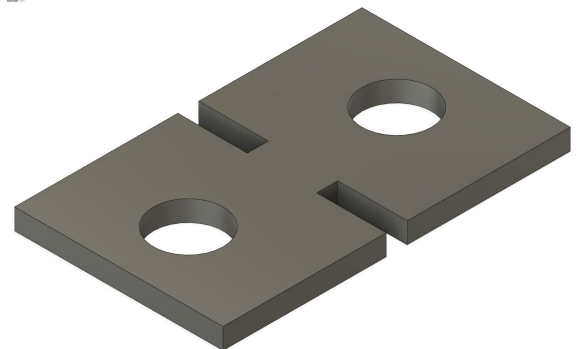


- 4) If working in Inkscape:
 - a) Open the file in inkscape
 - b) Set "method of scaling" to "**Manual**", **scale factor to "1"**. In "File/Document Properties", set document units to "mm" -- or whatever your Fusion document is -- and check the size.¹
- 5) In either case, you'll probably have to **tweak the drawing**, removing construction lines, adjusting line weights, etc.
- 6) Cut your design out as per your training.

Method 2: 3D object to Manufacturing tab²

This method uses more advanced tools, but is more automatic, compensates for laser kerf, and is a good introduction to computer-aided manufacturing (CAM) milling and 3-d cutting tools. You also don't have to worry about scaling.

- 1) Create your Fusion design using cutting and extrusion. Of course it needs to be flat to cut it on the laser. It's fastest to draw your sketch in the XY plane and extrude it to create thickness in Z.³



¹ I haven't tested the Inkscape method. Good luck!

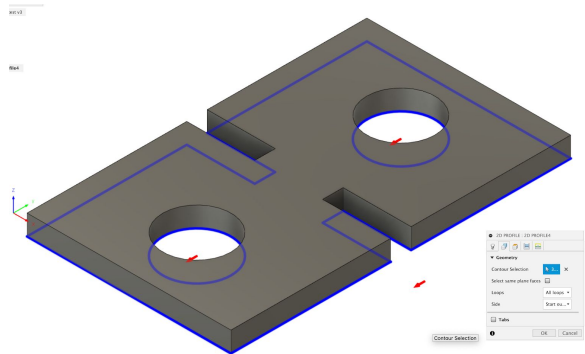
² See also <https://www.instructables.com/Epilog-Laser-Cutting-With-Fusion-360-and-Google-Ch/>

³ If your part is aligned on a different axis, you may have to create a "New Setup" after step 2: see <https://knowledge.autodesk.com/support/fusion-360/learn-explore/caas/simplecontent/content/creating-setup.html>

- 2) Switch from the DESIGN workspace to the **MANUFACTURE** workspace. This area has all sorts of manufacturing options from CNC milling to laser cutting.
- 3) Click on the **FABRICATION** tab.



- 4) Choose the “**2D Profile**” cutting operation.
- 5) For “Tool”, click on “Select ...” and search for “**Laser cutter**”.
- 6) Now **click on the edge contours** you want to cut.
- 7) In the “Passes” tab of the 2D Profile dialog box, “Sideways Compensation” controls whether Fusion accounts for the kerf (width of the laser beam) while cutting. If you don’t care about this, choose “**Center**”. If you want kerf compensation, choose “Compensation: Left” and “**Compensation Type: In computer**”.⁴
- 8) You should now see a visualization of the path the cutting head will take around your part.
- 9) Now, process the output to generate a printable file. Choose the “Post-Process” Action. For the post-processor, choose “**Epilog Laser / epiloglaser**”. In Properties, **turn off “Embedded in HTML”**. Hit OK.
- 10) A dialog box will pop up: **save the file** as “yourfilename.svg” in an appropriate folder. (The default folder is stupid.)
- 11) Move your svg file to the Epilog control computer, open it in Illustrator, Inkscape, or Google Chrome, and cut it out as per your training.



⁴ Important note: “Compensation Type: In Control” doesn’t work.