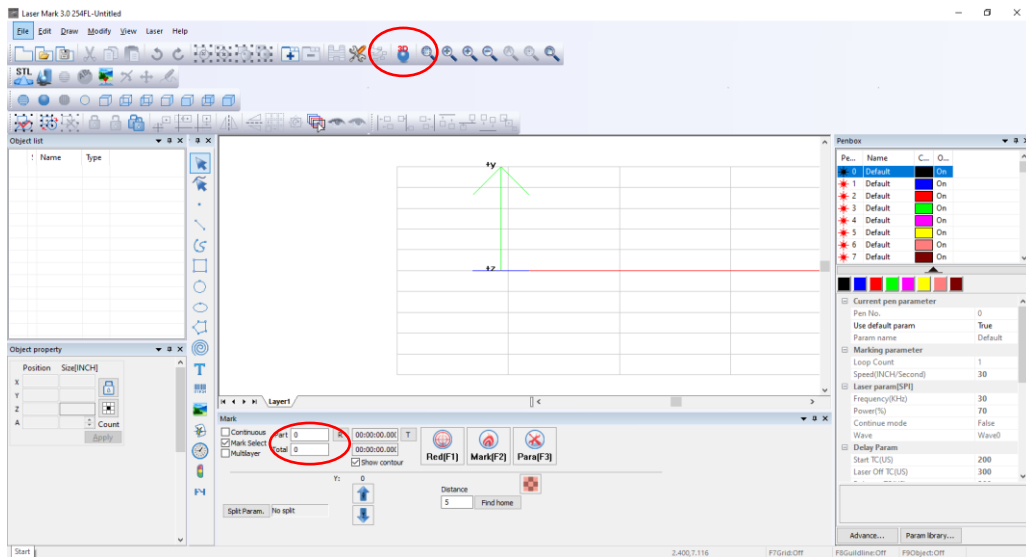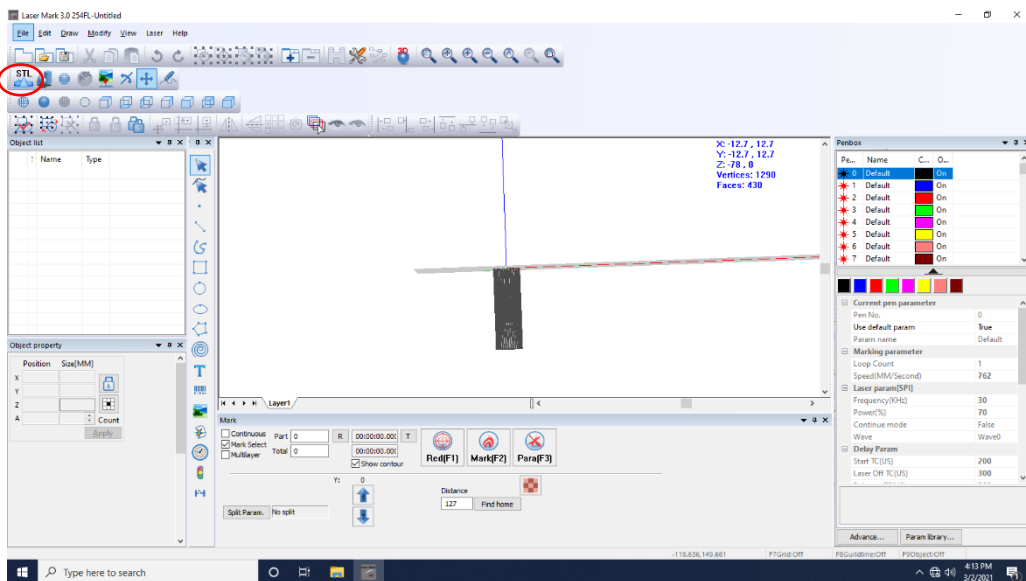# LaserMark3: Instructions for 2.5D slicing of STL files

First, it is recommended that a test is completed to establish the removal depth of the current hatch pattern setup by producing 100 passes of the pattern (can increase the number to 100 in the "Total" value near the bottom, and reset using the "R" button as necessary—return to 0 when complete). We would recommend a 10mm patch of the same material to run the 100 passes of the hatch pattern, then measure the material removal depth, and divide by 100. This will be the "slice thickness" placed into a value later in the process.

1. Open LaserMark3 software and click the "3D" button within the view toolbar
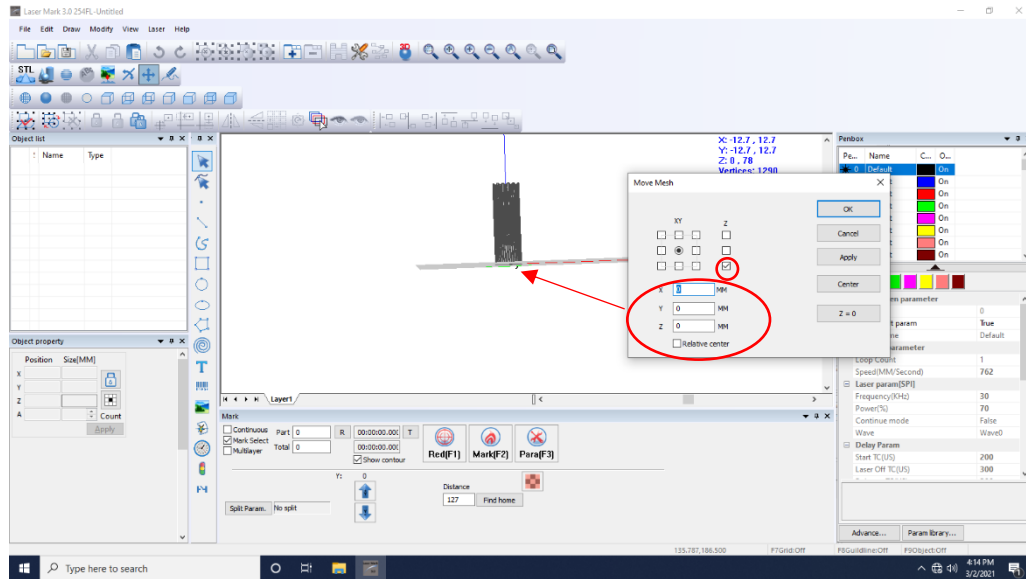

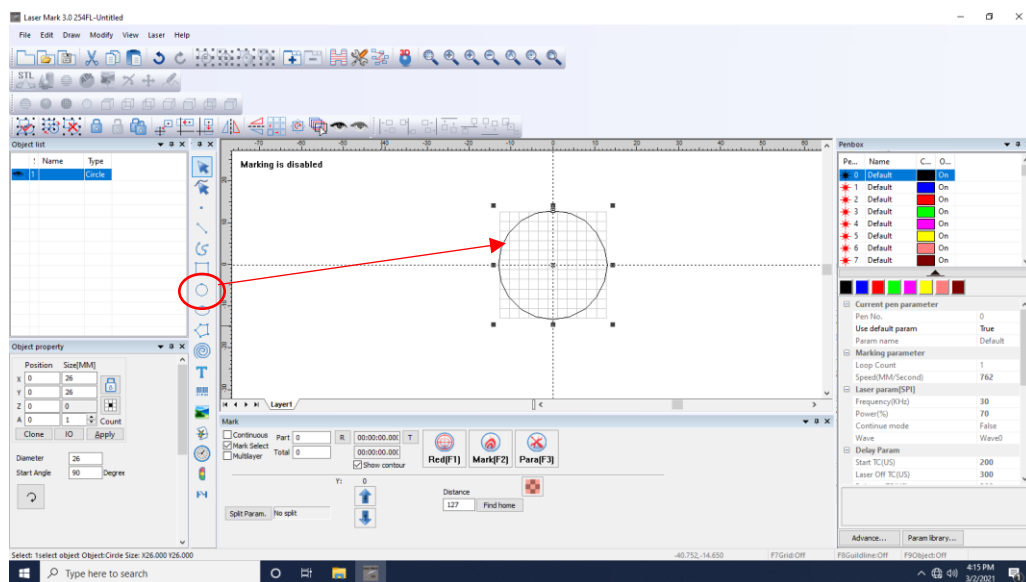2. Select the STL file to import (will center as placed in the STL, and will not be modifiable in size)

3. Place the STL in the position relative to the part on the fixturing (0= top of the 5"x5" docking plate). Click "OK"
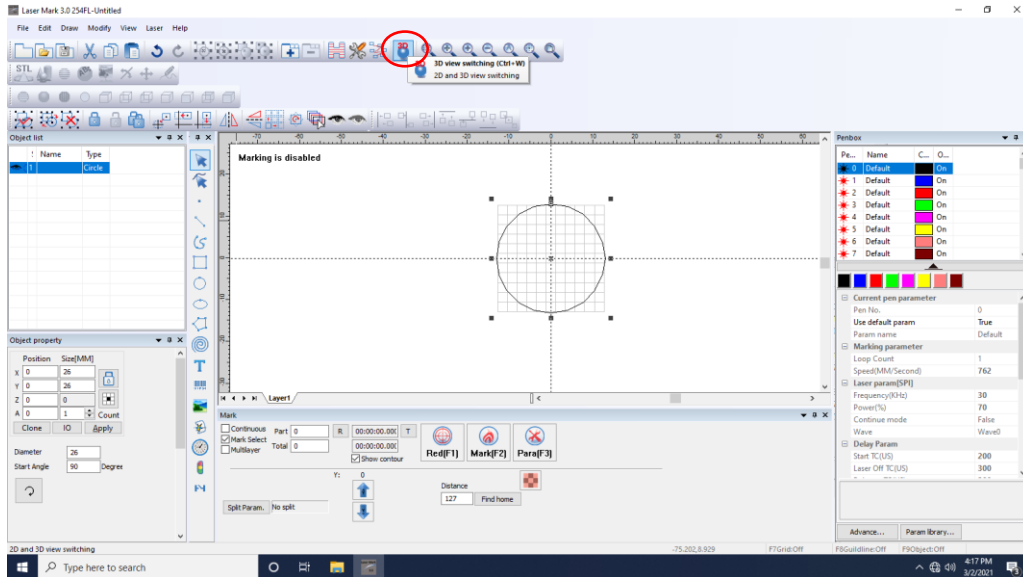

4. Draw a shape around the STL to create an area to fill in between the SLT solid and the removal solid of the part (should exceed or match the outside diameter in this case)
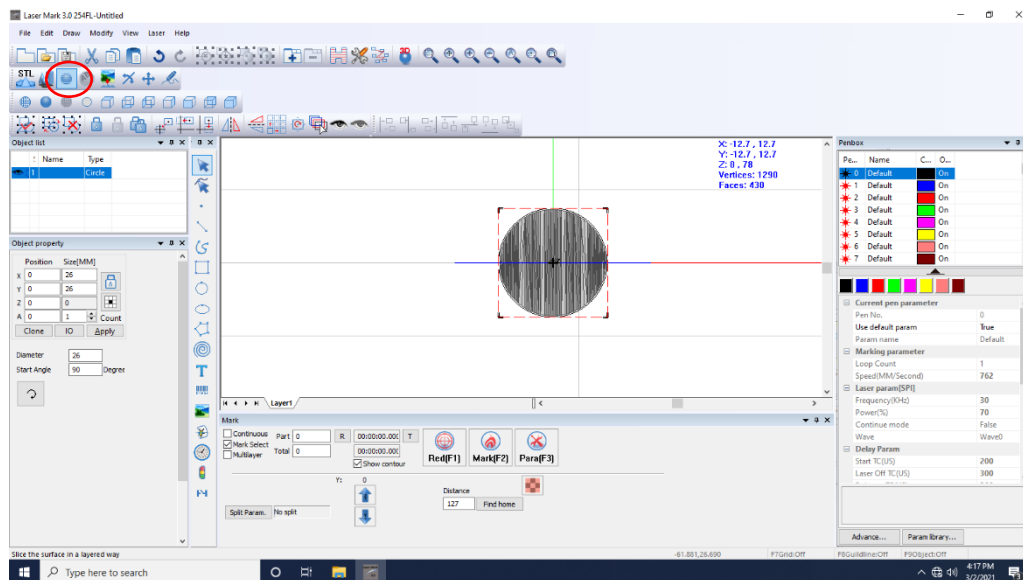
5. Return to "3D" view to slice the STL

6. Click the "Surface Delamination" button to slice the STL

7. Insert the thickness of the layer removal that had been previously established in testing the hatch pattern thickness removal per pass, and set the height of the removal zone (top 3mm in this case). Click "OK"
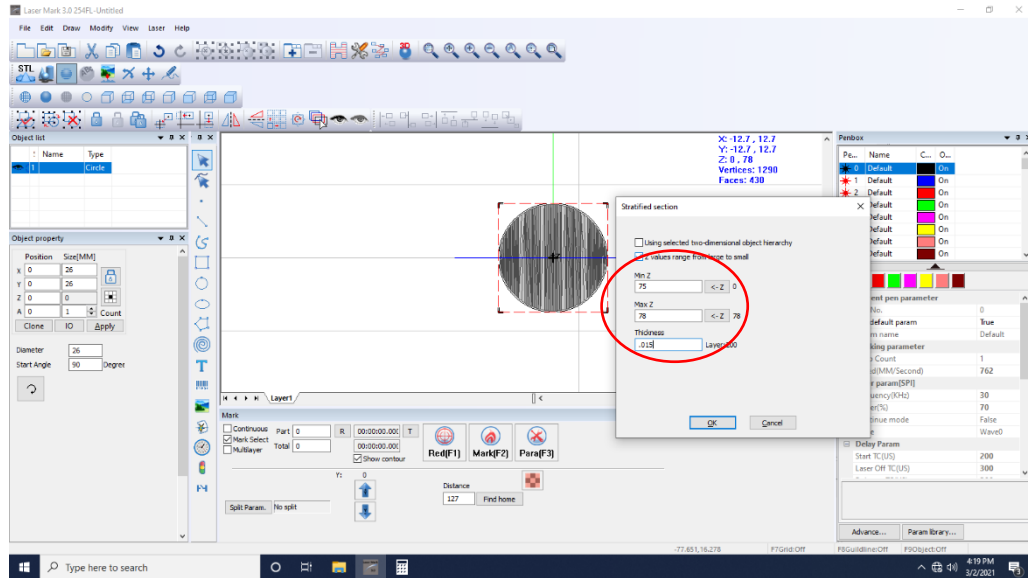

8. Click the "Add Contour" button to combine the slice and circle outline for removal of material outside of the STL. Place the cursor over the outside shape—when the cursor becomes a hand, click to create one sliced entity (skip if engraving the STL shape into the material instead of relieving material to reveal the shape)
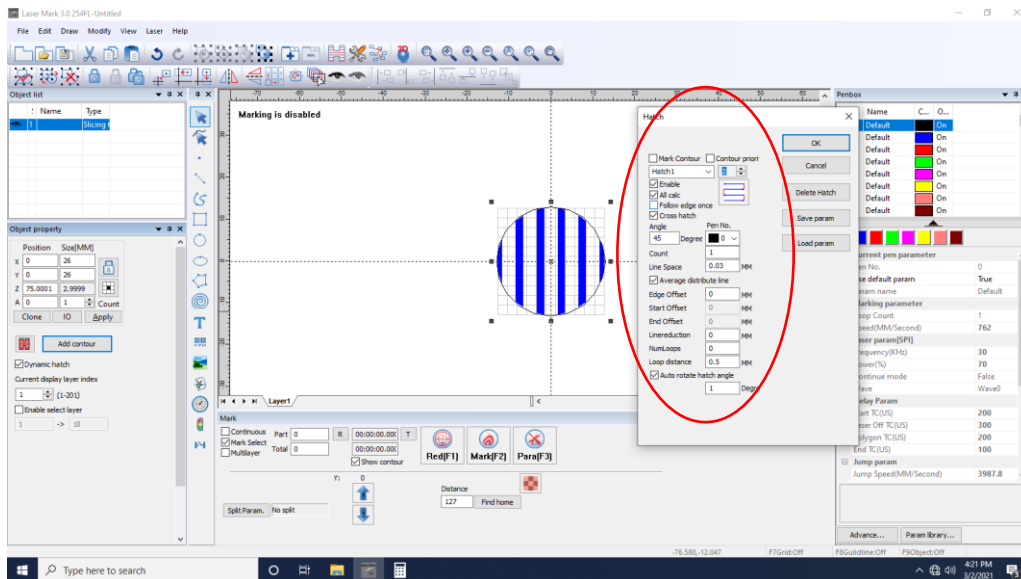
9. With the sliced entity selected, click the "Hatch" button to fill using the same that depth testing was produced with
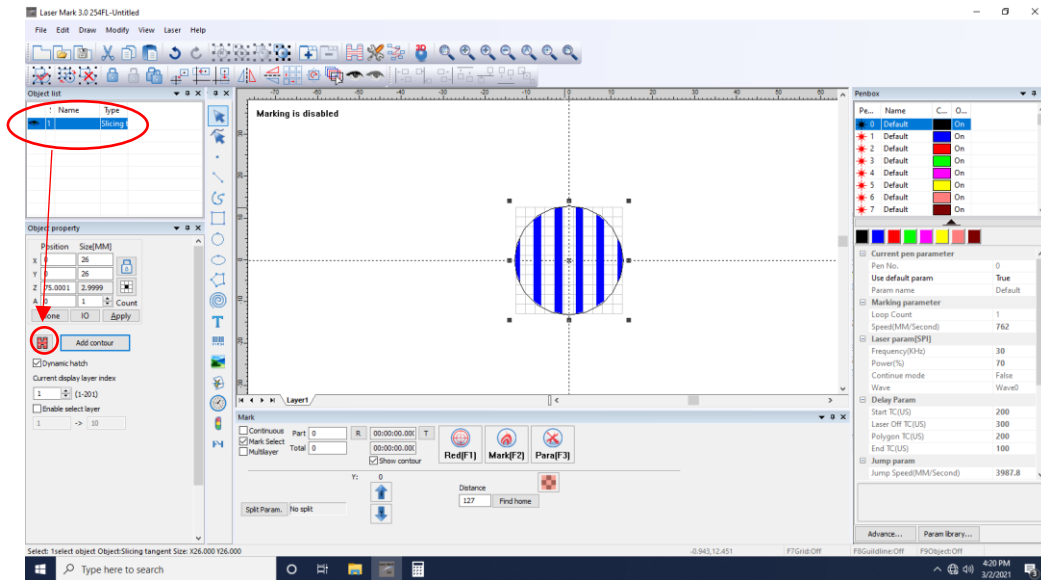
10. Populate the Hatch menu with the same hatch utilized to established the depth/slice value

11. Layers can be inspected visually by choosing a layer from the index and clicking "Apply", and begin engraving when ready. It is important to ensure the part is monitored, does not get exceedingly hot, and adequate fume extraction is supplied (an air knife can also provide assistance in some cases)