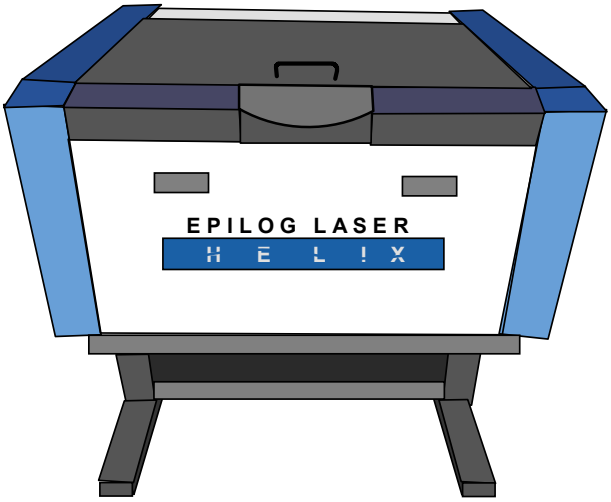
LAB 5 - LASER WOOD

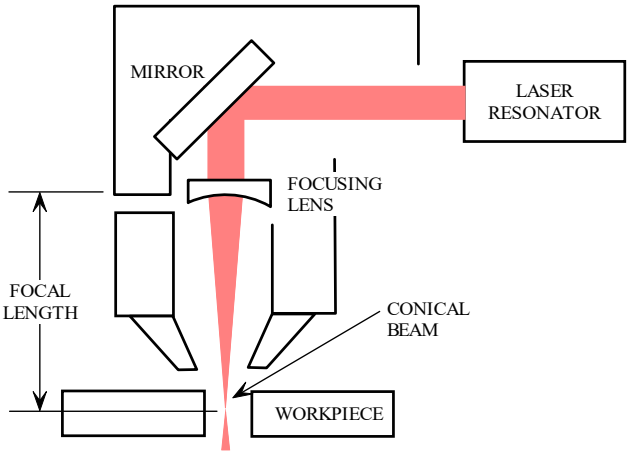


ITEM LIST:

1. Laser cutter/engraver equipment; fume extractor
2. EngraveLab software, computer, USB flash drive
3. Wood or dog tag
4. Artwork (raster & vector) (Solidworks?)

ABOUT LASER CUTTING & ENGRAVING

Laser cutting works by directing the output of a high-powered laser. The laser optics and computer-controlled motion are used to move either the laser or the material. The focused laser beam is directed at the material which either melts, burns, or vaporizes away, and is blown away by a jet of gas.



REFER to the CT GUIDE on laser cutting.

REFER to the EPILOG LASER GUIDE on how to operate the laser cutter.

EXERCISE FOR WOOD

Use the laser to cut or engrave a wooden "medallion" (1/4" max).

1. Find BLACK & WHITE RASTER artwork (home?) (1000 x 1000 pixels minimum)

2. Obtain instructor approval on artwork.
3. Save file.
4. Create perimeter geometry (vector) (Solidworks or EngraveLab). Size: 2x2" to 4x4"
   Some curves required (arcs, splines, etc.). Simple rectangles not allowed.
5. Process the project in EngraveLab and laser the wood.
6. Show the instructor the resulting medallion.

(possible alternate project - balsa glider with instructor approval)

EXERCISE FOR DOG TAG (OPTION)

Here the laser will "etch" the anodized coating of an aluminum dog tag. Note the laser is NOT etching the metal itself (it is not strong enough). With the dog tag, you will NOT do a perimeter vector cut. Instructor will let you know if this is an option.

Use the laser to cut or engrave an anodized aluminum dog tag.

1. Find or create artwork (black and white, high resolution).
   Option 1: high resolution (1000 x 1000 min), black and white RASTER image.
   Option 2: vector engrave a "name" Solidworks (be sure to extrude it, save dxf)
2. Obtain instructor approval of artwork.
3. Obtain a dog tag from instructors.
4. Process job in EngraveLab and engrave.

GRADING FORM

NAME: _____

_____ Quality of laser cut/engraving

_____ Deductions (late, mistakes using equipment, required repeated prints, pixelated image, shows lack of knowledge on how to use equipment)

SUBMISSION

Students will show the completed part to the instructor.

A possible option is uploading an image to Canvas.
The instructor will let you know if this is acceptable.
See the rules for file uploads to Canvas.