

AME 40462: Senior Aerospace Design

Using the Laser Cutter

1. Sending your file to the print queue
 - a. Transfer your files through a flash drive, e-mail, or WebFile
 - b. Open your file using SolidWorks eDrawings
 - c. Verify that all lines are red and the outside border is not present
 - d. Select print, then properties, then manual control. Select red and change the job type to "Vector," select appropriate power and speed, then click "OK"
 - e. Under "Active sheet," select "To scale (1 to 1)"
 - f. Select the Line Weights tab, click on the system properties option, and set all of the line thicknesses to 0.05
 - g. Click "OK"
2. Cutting out your part
 - a. For the ULS machine:
 - i. Close SolidWorks and open UCP
 - ii. Select your part from the file list if it is not the most recent
 - iii. Use "Relocate View" to move the cutting area
 - b. For the Epilog machine:
 - i. Print directly from SolidWorks
 - c. Place your piece of material in the laser cutter and weigh down the edges if too light
 - d. Turn on the vacuum system, then the laser cutter
 - e. Click the green play button, hitting pause on either machine or GUI if problems occur
 - f. Turn off everything when finished and log out

Table 1: Suggested power and speed guidelines.

Material	Thickness	Power	Speed
Balsa	1/16"	40%	60%
Balsa	1/8"	65%	35%
Balsa	3/16"	75%	25%
Balsa	1/4"	85%	15%
Lite Ply	1/8"	80%	20%
Basswood	1/8"	90%	10%

Notes

If possible, it is always better to cut the pieces in one path on a higher power rather than multiple cuts on a lower power.

If you are trying to cut anything thicker than 1/4" balsa or 1/8" lite ply or basswood, talk to the TAs about it specifically.