How to Use the Laser Cutter

IF AT ANY TIME, A FIRE IS STARTED OR SOME OTHER THREATENING ISSUE ARISES, PRESS THE RED STOP BUTTON ON THE LASER CUTTER TO STOP THE MACHINE AND ALERT A TECH LAB STAFF MEMBER.

- Step 1 - Arrange your material on the cutting bed
- Step 2 - Focus the laser cutter to your material
- Step 3 - Send your linework from the drawing program to the Epilog Dashboard program
- Step 4 - Specify the cutting processes
- Step 5 - Release your job from the laser, cutting the material

Step 1 - Arrange your material on the cutting bed

Place your material anywhere on the 36" x 42" laser cutting bed, preferably aligned to the grid of the metal-grate. If possible, avoid the metal trim pieces along the edges and through the center, though this is not absolutely necessary:

Step 2 - Focus the laser cutter to your material

There are three methods for focusing the Epilog laser cutters. Besides instances where you are attempting to cut an easily compressible material, such as foam, Method 1 is the best option.

Method 1: Plunger (Auto)

On the laser cutter machine, navigate to the Jog Axis menu by pressing the Jog Menu button:

This menu allows for you to move (or 'jog') the laser module around the bed. Use the joystick on the machine to position the laser module plunger over your material, then press the Auto Focus button on the touch screen menu:
The bed will move up to meet the plunger on the laser module and will automatically adjust to position itself at the ideal focal distance:
You are now ready for Step 3.

**Method 2: Material Thickness (Auto)**

In instances where you are attempting to cut a compressible material, you also have the option of entering in the calipered thickness of the material to focus the laser. It is important that you accurately measure the thickness of the material, and not just use the nominal thickness advertised, in order to ensure a quality cut. This information will be inserted into the Epilog Dashboard after sending the linework (Step 3). Once you have completed this step, click on the box in the top right of the window, and change the selection to “Thickness”:

Once this is done, you will be able to type in the thickness (in decimal-inches) of the material underneath all of the “Processes”:
You are now ready for Step 3.

Method 3: Manual

In instances where the auto-focusing options are not available or feasible, the option to manually focus the laser is always available. Similar to the old models, this involves manually moving the laser bed using a focusing tool to set the distance. However, on the Epilog laser the focusing tool is attached to the laser module with a hinge and magnet. To deploy it, just use your finger to push it to the side:

Next, on the machine, navigate to the “Focus Menu” using the button near the bottom, second from the left:
Once here, you can use the joystick to adjust the height of the bed until the focus tool is just touching the material. Then stow the tool back against the laser module. You are now ready for Step 3.

**Step 3 - Send your linework from the drawing program to the Epilog Dashboard program**

On the workstation adjacent to the laser cutter, open your cutting linework in your vector-drawing program of choice, and confirm that you have followed the suggested file preparation steps. With the new machines, it is not necessary to specify the cut order or settings during this step; just that the different types and steps of cuts are separated into differently colored layers and are properly scaled to the size of your cuts.

Next, print only your cutting linework (using the 'Window' option under 'What to Plot' in AutoCAD, or equivalent) to the ‘Epilog Engraver’ printer, accepting the ‘default paper size’ dialog that comes up:
With the new machines, it is not necessary to print the total area of the print bed, nor the outline of your material. The positioning of the linework within the cut bed and relative to your material happens in the next step. When your print dialog looks like this, exactly, hit 'OK':

**Step 4 - Specify the cutting processes**

Once you have 'plotted' to 'Epilog Engraver' the Epilog Dashboard should show up on your screen. Otherwise, you can click on the Epilog Laser, Inc. icon in the bottom-right of your monitor:

Within the Epilog Dashboard, you will be met with a live feed of the cut bed, with your already positioned material, and the "Processes" panel along the right side with an image of the linework you just 'plotted':
The first step is to split your single process into the sub-processes that you separated your linework into earlier. The process can be split by either color or hairlines (line-weight):

If you properly separated your linework in your drawing program, this should result in a number of sub-processes corresponding to the number of layers. In each of these processes, you will need to specify the "process type": vector (cutting or scoring linework), engrave (for raster art), or off (to skip cutting).

Next, load the provided material settings using the icon in the top right of the process window:
You will be met with a dialog with two tabs: vector and engrave. Select the correct tab and then locate your material and cut type (cutting or scoring) within the window and click ‘Import’ to load the material settings.

Note: Though these settings are provided, it is still suggested that you do a material test to confirm. If you cannot find the cut settings for your material, use the provided parameters as guidance.

Next, specify or confirm the order of the cuts by dragging the different process windows up or down the process panel. The job will cut the top process first and continue down.

Lastly, within the live feed window drag and rotate your linework to align it within your material. Once you are satisfied with the placement of the linework, click the ‘Print’ button at the bottom of the window.

Note: If you are using Method 2 (Thickness) to focus the laser, enter in the thickness in all of the processes before clicking ‘Print’.

**Step 5 - Release your job from the laser, cutting the material**

Once you have ‘printed’ your job, it will show up in the queue of the laser cutter machine, which can be accessed using the button near the top:
Here, the most recent jobs sent to the laser cutter machine will appear at the top of the queue. If you would like, you can trace a bounding box of the linework to confirm its positioning by first pressing the middle button near the bottom to toggle the laser pointer, and then, with the job selected, pressing the 'Trace' button near the bottom right:

This will show you where about your laser processes will occur and can also be used to position your material. The machine will continue to trace this path until you press the 'Trace' button again:
When you are satisfied with positioning of your material, just press the green Play/Pause button on the machine to start the job! This button can also be used to pause and resume the job.

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