

Creating Cut Lines for the Laser Cutter – With Etching

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The laser cutter can cut and etch cardboard, plastic, wood, and leather. It can also etch glass and metal, but it is not strong enough to cut these materials.

The laser cutter interprets a very thin (0.01 point) RED line as a cut line. Any other colors or sizes will be etched. This document describes how you import an image file (JPG, PNG, BMP, etc), *convert to gray-scale for etching* and create a cut line along the *outside* of the image.

1. Open Adobe Illustrator.
2. Click on File, pull-down and select New.
3. Set units to Inches, set width and height as desired, set orientation to portrait or landscape, set mode to RGB, then click the Create button. This creates the art board.
NOTE: 16 x 12 inches in landscape mode represents the largest surface the laser cutter can accommodate.
4. Click on View, pull-down to Rules, select Show Rules. The rulers should appear on the sides of the art board. These will help you size the image for cutting and/or etching.
5. Click on File, pull-down and select Open. Browse to and select file. Click the Open button.
6. If necessary, use the selection tool (*black arrow pointer*) to select the image and move it to the center of the art board.
7. If necessary to resize the image:
 1. Click on Select and pull-down to All
 2. In the Properties tab(right side), in the Transform box, set the height (H) or width (W) to the desired size.
8. Click on Effect, pull-down and click on Rasterize.
9. Set Color Model to Grayscale and click OK.
10. Click on Select, pull-down to All.
11. Press Control-C to Copy
12. Press Control-V to Paste.
13. Use the selection tool (black arrow pointer) to drag copy to left of original.
14. Working on the copy:
 1. Click on Object, pull-down to Image Trace, select Make & Expand.
 2. Click the Ungroup button on the Quick Action panel at the right of the screen.
 3. In the Properties tab, under Pathfinder, click on Unite (*first icon showing 2 solid squares*).
 4. Click on Select, pull-down to All.
 5. Click on the Fill color icon (top) and set to none (box with red slash).
 6. Click on the Stroke color icon (bottom).
 7. Click the Color Pallet icon.
 8. Click on the 3-line icon in the top-right of the color pallet window.
 9. Select RGB
 10. Set the color to #FF0000
 11. Set the stroke size to 0.01 pt. This is very important.

12. Click on the selector tool (*black arrow pointer*).
13. Click on the art board outside the image. The blue outline should turn red. These lines will be cut by the laser.
15. Should you have lines that you do not wish to be cut, delete them as follows:
 1. Click on the Direct Selection tool (*white arrow pointer*).
 2. Click on the line (path) not to be cut.
 3. Press the backspace key to delete. You may need to press the key twice.
 4. Repeat as needed. NOTE: It may be quicker to create a selection rectangle to select and delete multiple lines.
16. Click on File, pull-down to Save As. Save the file under a new name.
17. Click on File, pull-down to Print.
18. Verify Printer is set to VLS2.30DT.
19. Check Ignore Art Boards and click the Print button.
20. Minimize Illustrator.

Open the UCP program by clicking the UCP icon on the desktop. Follow the instructions for using the UCP program. Verify that the cut lines appear as red. If the lines are black, they will be etched. Check that the color and stroke size was set correctly.