

Step by step guide to Universal VLS6.60 60 Watt Laser



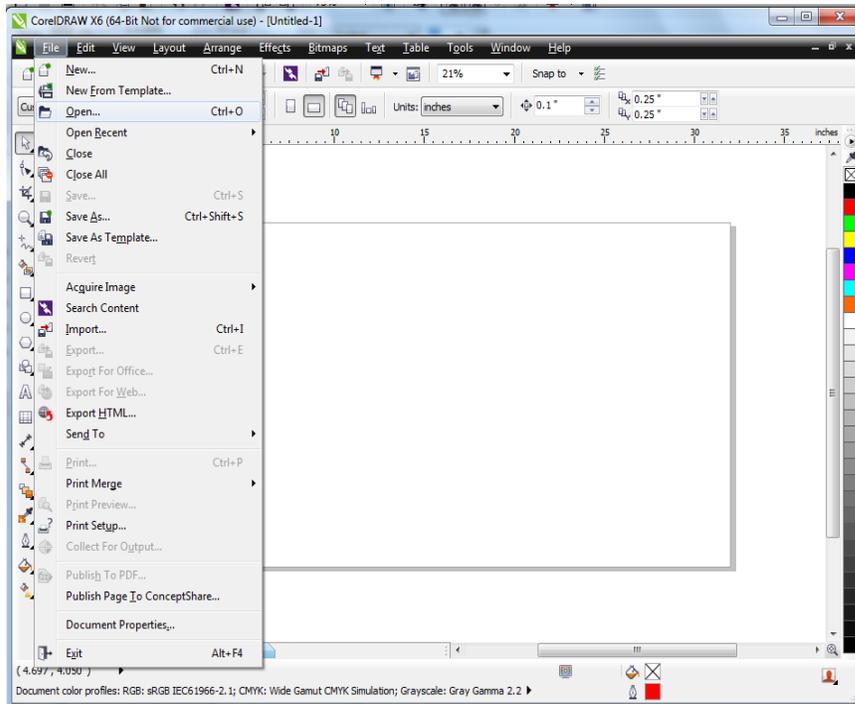
The Universal VLS6.60 laser can raster and vector based files.

Raster files are made of pixels. Raster images loose resolution as they are enlarged. For the best results use images with a 96dpi resolution or higher Digital photos and photo shop files are examples of raster images..

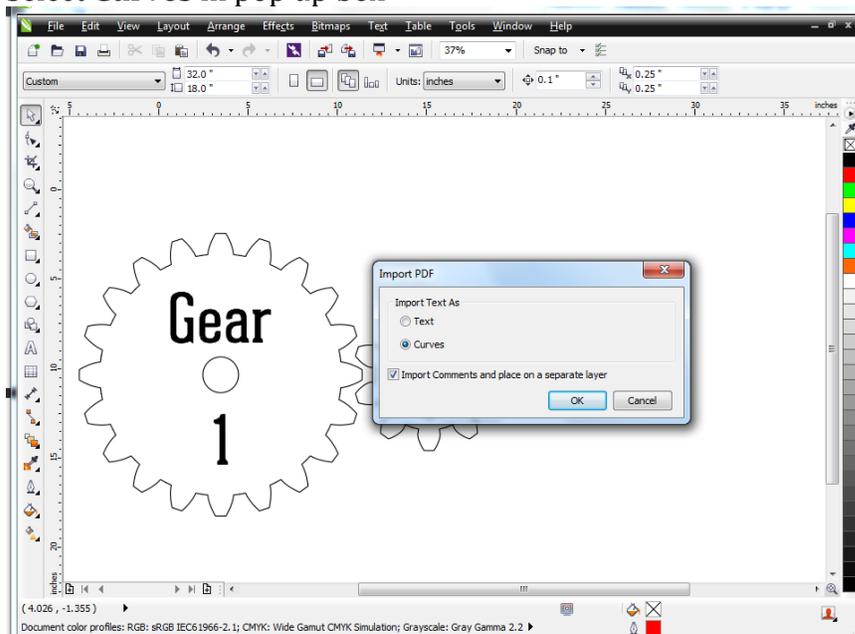
Vector files are made of curves. Vecotor images can be infinatly scaled without loosing resolution. Illustrator, Rhino and Corel Draw can create vector based files.

Start Corel draw by double clicking on the icon in the taskbar

Open an image file from the top menu File>Open

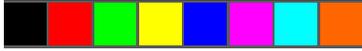


Select **Curves** in pop up box



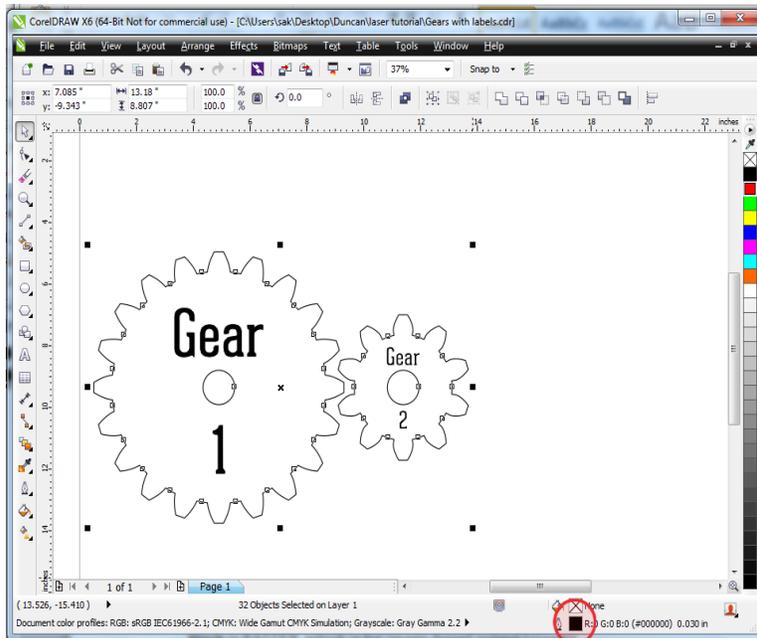
Next separate the curves into groups for the laser.

The laser recognizes the eight Corel Draw default swatch colors as groups for cutting and engraving.

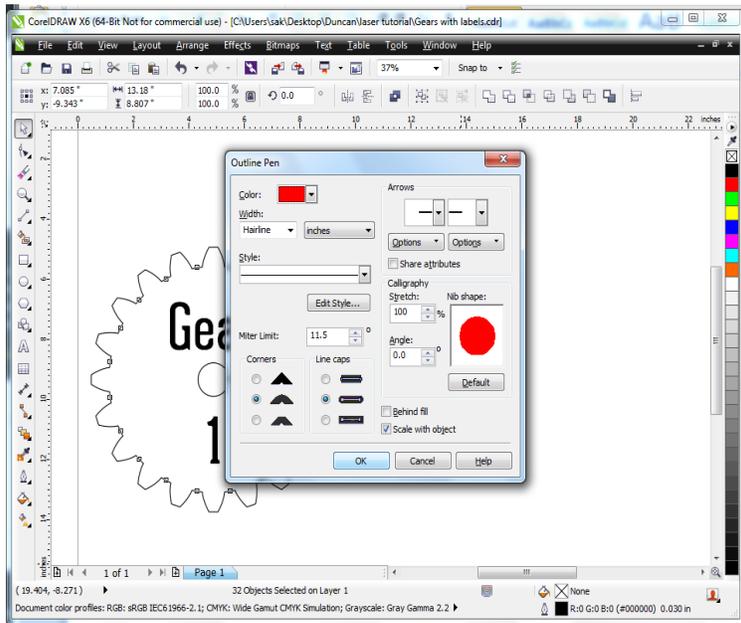


The black layer can only be used for raster imagery, the red and blue layers only use vector imagery. The other five colors can use either raster or vector files.

To set a path as a cut select it and double click the Outline color box at the bottom of the window.

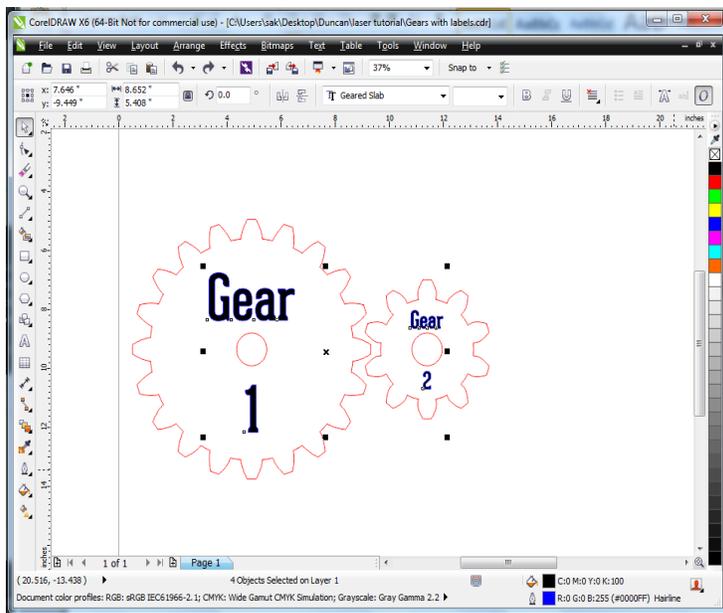


Then set the color to red and the width to hairline.

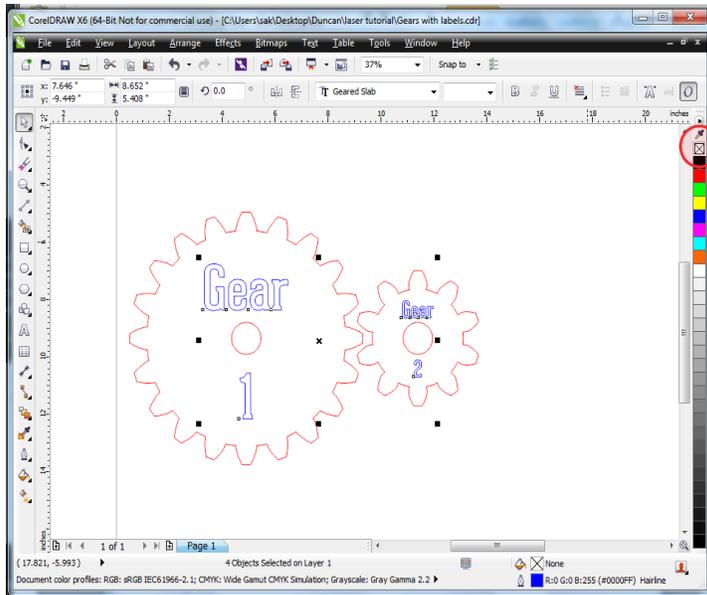


For vector engraving operations use the blue path. In the example below, the text that reads “Gear” will not cut all the way through and will just be engraved on the surface.

As before select the outline color box, set color to blue, and width to hairline.



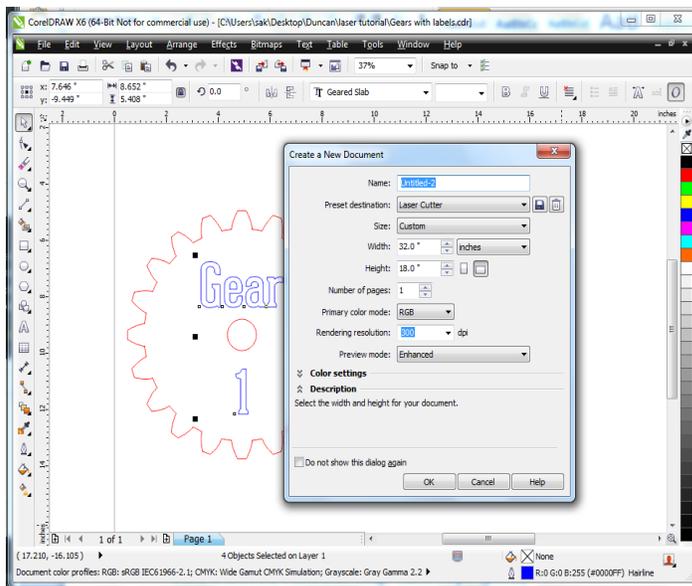
Object for vector operations can not have a fill color. To remove the fill from the object select the object and click the X swatch on the list.



The file is now ready to send to the laser.

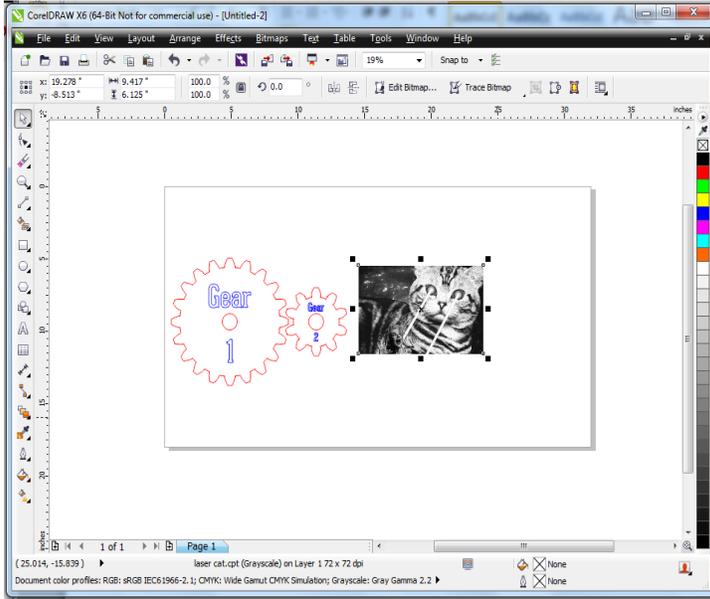
To combine multiple files onto a single sheet of material select all your objects and paste them into a new document.

The document preset **laser cutter** is set to the work space size of the laser cutter.



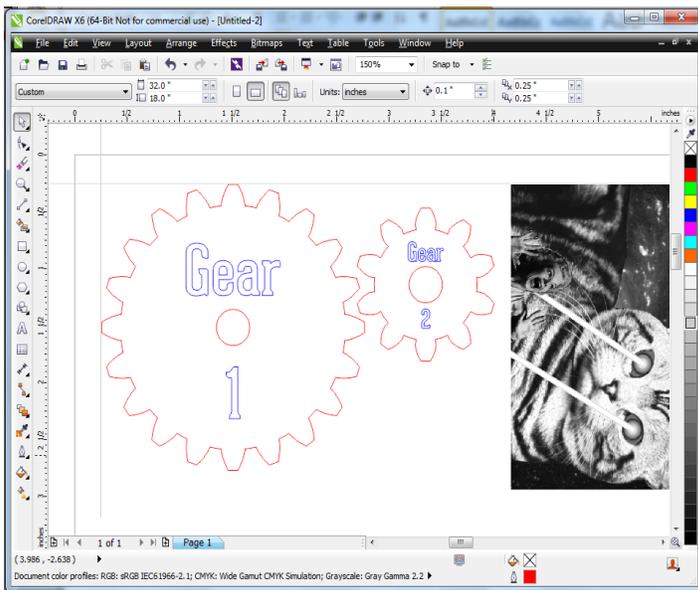
If the second document is vector based repeat the process above. For raster images import a greyscale image from the file menu. Below, the laser cat is the raster file, the gears are the vector based files.

File>Import or **Ctrl+I** then click to place the image on the work surface.



Arrange the object to optimize the material usage. You can resize the objects at this point if desired.

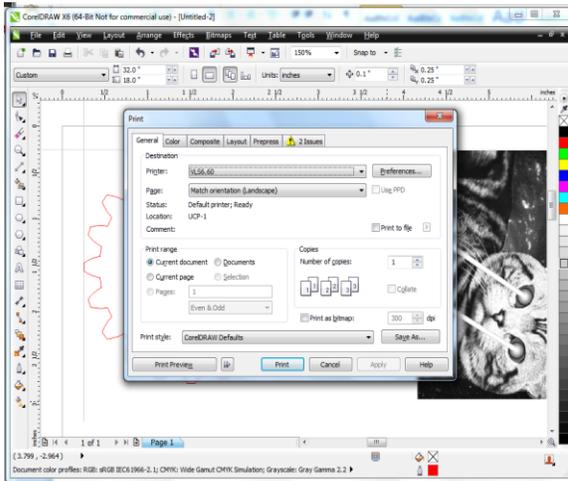
Make sure to leave 0.25" between the edge of the art and the document border.



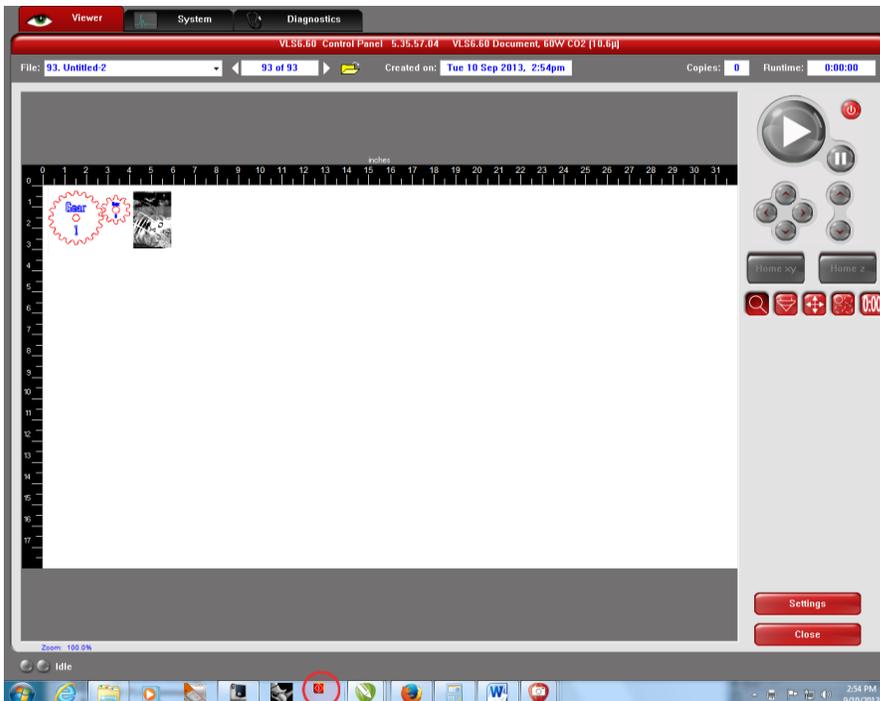
To send the document to the laser select print from the file menu.

File>Print or Ctrl+P

Set VLS6.60 as the printer.



Press print and then the UCP icon from the task bar.

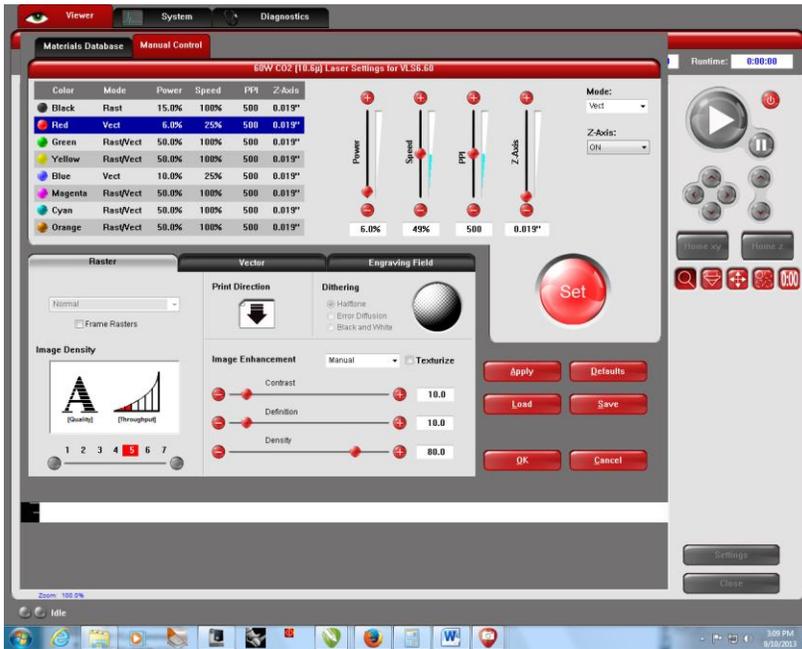


Click the red Settings button on the lower right of the screen

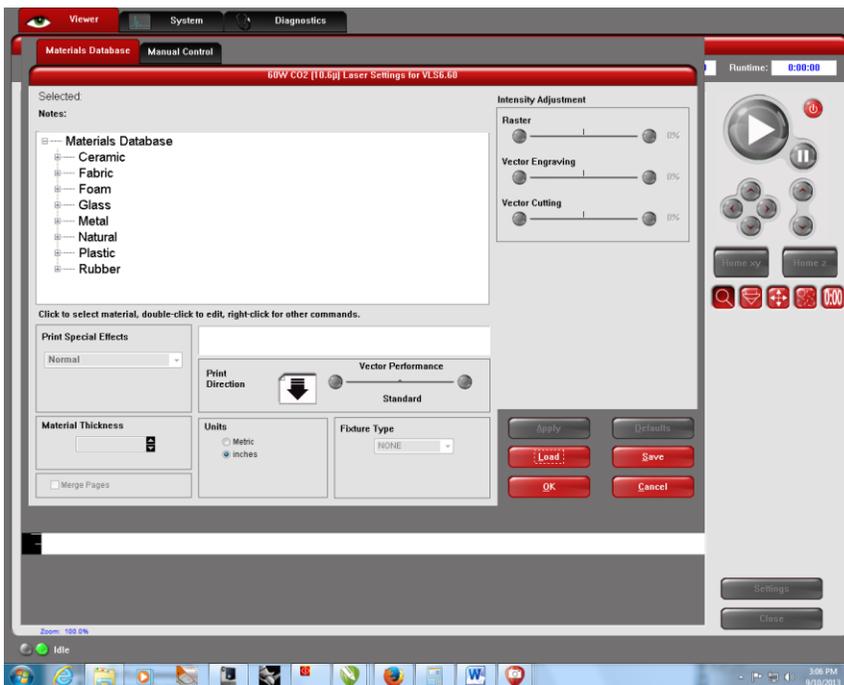


This screen let you set the laser power, speed, and material thickness. The settings for each path can be manually adjusted from this tab. Look at the various cut samples (on the wall in Fab Lab) to determine the cut depth and speed appropriate for the material that you are cutting.

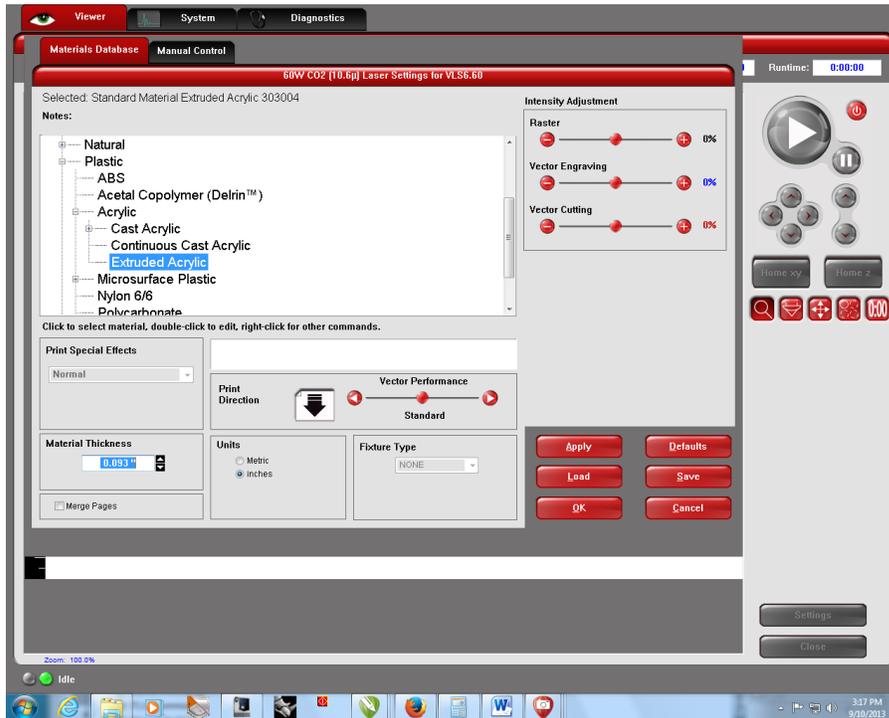
To adjust the setting click a color from the list and drag the slider or type a value into the text box. When you are finished with a color press the Set button.



You can also use the UCP presets by selecting the Material Database tab on the top left.

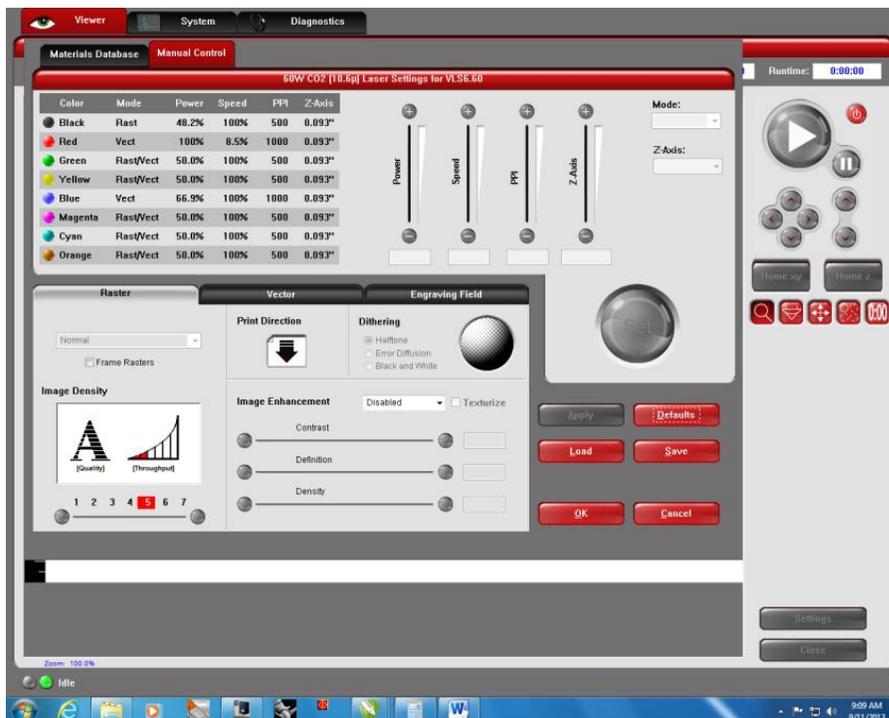


Select the material you are using from the menu and enter the thickness in the Material Thickness box.

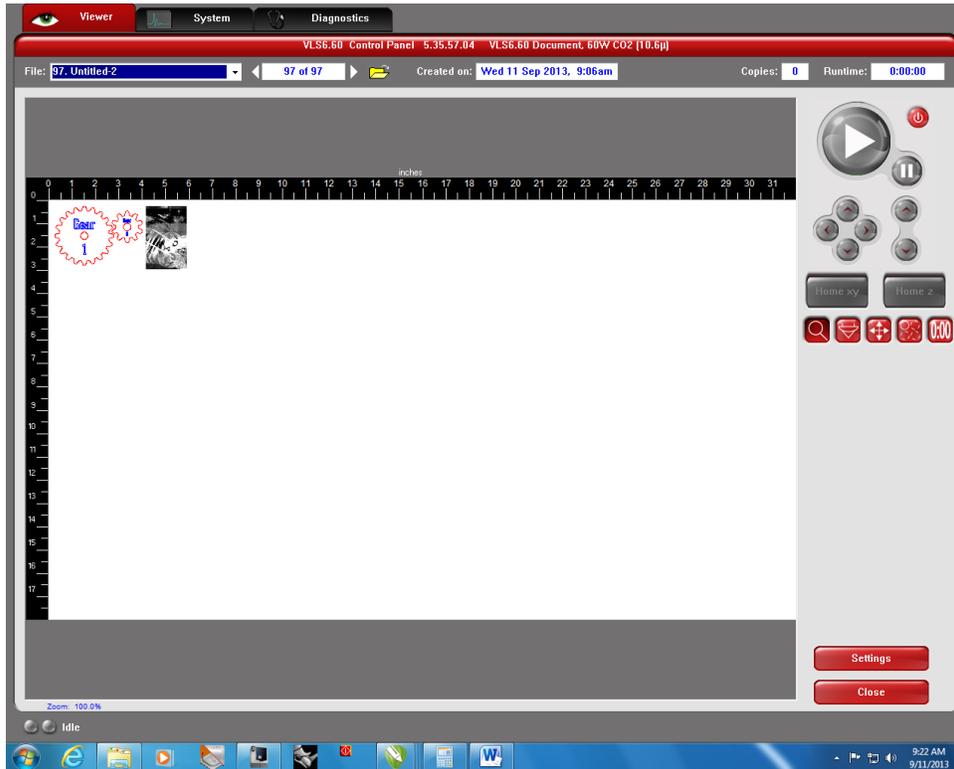


UCP uses this information to generate speed and power combinations to cut through the material on the red layer and engrave the material on the blue layer. You can view these settings in the manual control tab.

These are the settings generated for 0.093" thick acrylic sheet.



When you are satisfied with the settings, click the Ok button.



Click the red power in the top right of the screen.

Turn on the blower mounted to the wall behind the laser.

Press the green play button. Watch the machine to ensure the operation starts as expected.

Monitor the machine until the operation finishes.

Turn off the laser by clicking the power button in UCP.

Turn off the blower.

Inspect the cut and adjust the accordingly (power, speed, thickness)

Save the settings to a personal flash drive for future use.

Other:

Do NOT use polycarbonate, Acrylic is Okay