**Lasercutting Guide (Universal Laser Systems)**
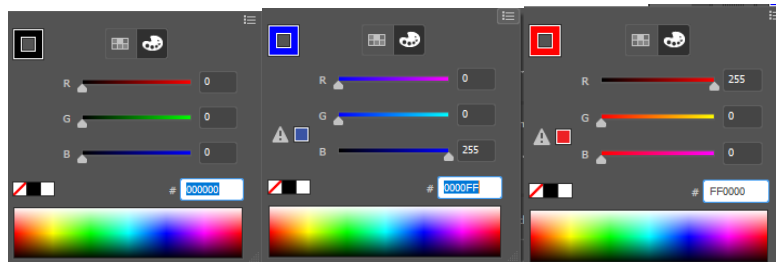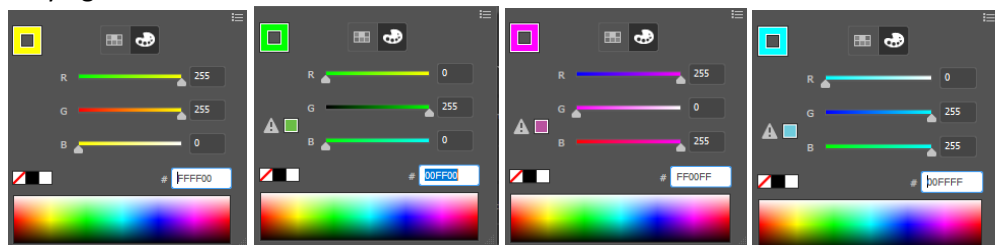
Setting Up Your File:

- In Adobe Illustrator, make an RGB file
- Set your artboard size to the size of your material
  - Our laser maxes out at 24" x 18"
  - The laser can only cut through material up to 1/4" thick
    - You can etch and raster any thickness
    - If using metal, talk to coordinator/tech before printing
- Color code your lines
  - Black (raster)
    - Can be images, shapes, or text
  - Blue (etching)
    - Only outlines
    - Line weight must be 0.001
  - Red (cutting)
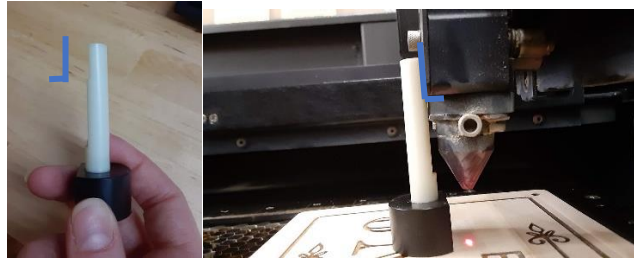    - Only outlines
    - Line weight must be 0.001



  - These additional colors will work similarly to black and be optional raster layers with varying values



Prepping the machine:

- Turn on ventilation (on the back wall by the 3D printers)
- Turn on lasercutter
- Check bed height
  - Using the buttons on the machine, lower the bed to have some clearance
  - Place your material on the bed
  - Open UCP

- Using the focus view ⬂, click a spot somewhere over your material
  - Using notch tool as a gauge, use the buttons on the machine to raise/lower the bed until the laser head sits in the notch
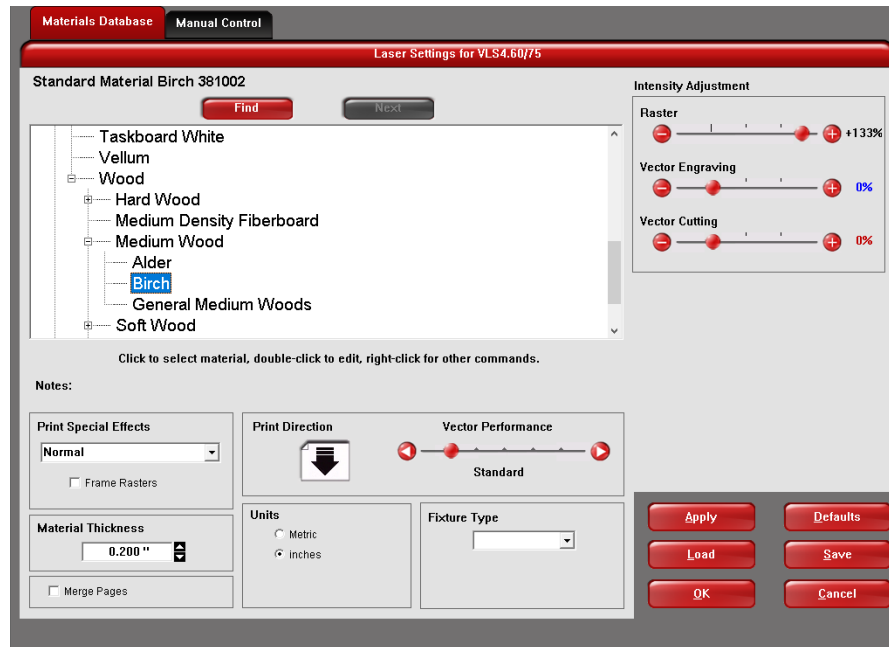
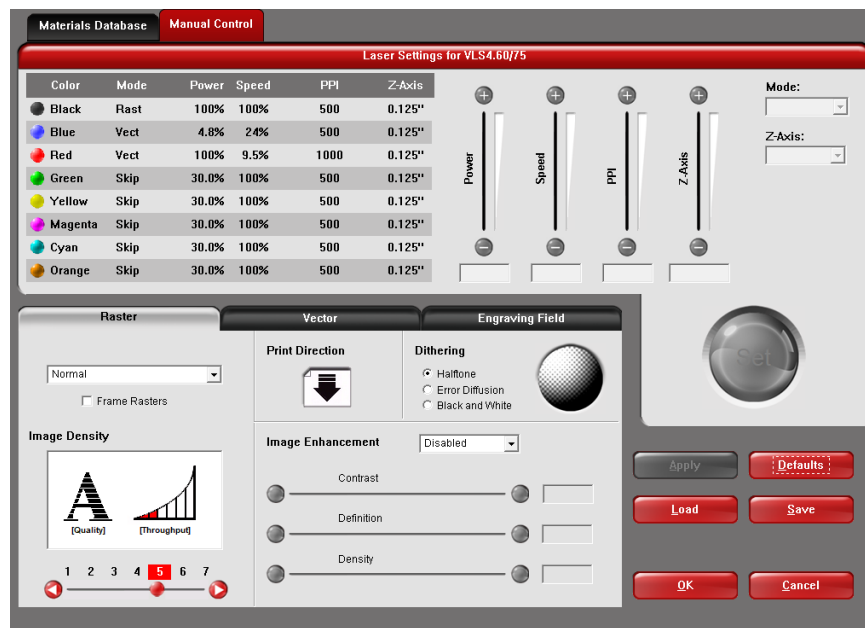- Secure material by pushing tabs into honeycomb

Opening the File

- Open Illustrator file
  - File -> print
  - Set printer to VLS
  - Click Setup
  - Click Preferences
- Printer preferences
  - Select material
  - Set material thickness

- o Manual control- Press SET after every change
  - ▪ Organize your colors: all raster layers -> etching -> cutting
    - • Set all raster layer modes to RAST
      - o To create different values, set the different raster colors to different power percentages
      - o Do not change the speed
    - • Set etching and cut layers to VECT
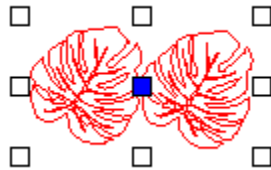    - • If you are not using a color, drag it to the bottom and change it's setting to SKIP



- • When satisfied with the settings, press OK, then PRINT in both printer dialogue boxes

- Minimize illustrator and open UCP

Running the Print

- Use Relocate View  to move your file over the material
- If centering the image on your material, mark the center of your material then use Focus View  to move the laser head to the mark
  - Press Relocate View , and make sure the center mark of your file is selected

    

  - Press To Pointer. This will move the center of your file to where the laser is
    - You can also use this method to align corners

    

- Using Focus View , click on all of the farthest points of the file to ensure that the file fits on the material
- Press Estimate View , then the Start button ==below== Estimate View to get an estimated print time
- Review settings
- When satisfied, close the lid of the machine and press the big green play button to start the print

After You Print

- If you see that your print did not cut all the way through, DO NOT OPEN THE LID
  - Open settings
  - Change every color but red to SKIP
    - Press SET
  - Run the print again
- Carefully lift your pieces out and remove everything from the bed
- Return tabs to their container
- In UCP, turn off the machine
- Close UCP and Illustrator
- Log Out
- Turn off ventilation

Safety Procedures

- ALWAYS turn on ventilation
- NEVER leave the printer unattended
- DO NOT look at laser flash when it is cutting
- If the material starts to catch fire, pause the print, open the lid, and spray the material with water