

## Laser Cutting Tips and Tricks

- Setting up Inkscape
  - Download at <https://inkscape.org/>
  - Download the Knox Makers plugin at <https://github.com/KnoxMakers/KM-Laser>
  - The first time going into Inkscape, go to

Edit → Preferences → select Geometric Bounding Box

- Creating designs
  - If you download a picture from the internet, the best way to change



it to a viable path is to manually trace it using the Draw tool.

- If you seem to have trouble uploading a file that you didn't design in Inkscape, or did on a different machine, copy and paste the entire image into a new file.
  - You can create a file in as many colors as you want, if you want to engrave or cut it in a specific order. Or if you want portions of the picture to not be cut, don't choose that color when uploading to the laser.
- Uploading and using the laser
    - Generally choose to engrave pieces first – if you cut a piece first, it might shift and then your engrave will not be in the correct place.
    - The Feedrate and Power are set to default values but can be changed. Feedrate will change the speed which the laser moves (slower speeds for thicker materials). Power changes the intensity of the laser – lower it for lighter, less deep engraving.
    - For plastics, leave the coating on to eliminate burning. If there is no coating, painters tape on the back of the material will have the same effect.
    - A light sanding with high grit on wood engraves will remove scorch marks.
    - If you are unsure if your cut went all the way through the material, carefully place your finger on the object to hold it in place, while lifting up the outside piece. If it has not cut through, you can rerun the program as is.
    - NEVER LEAVE THE LASER UNATTENDED WHILE IT IS RUNNING.
  - Other resources
    - Go to [https://wiki.knoxmakers.org/Laser\\_Cutting\\_Materials](https://wiki.knoxmakers.org/Laser_Cutting_Materials) to see what research has been done about what materials are allowed or not allowed to cut.
    - Join the Laser Cutting channel on Mattermost for project ideas, questions and more tips:  
<https://talk.knoxmakers.org/knoxmakers/channels/lasercutting>