

Tinker Tuesday Project - Pumpkin Carving

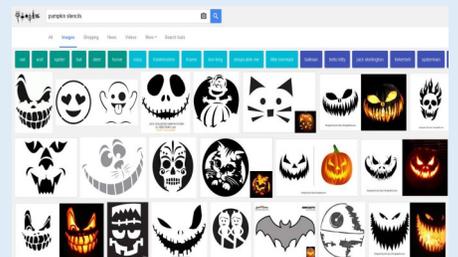
1. Acquire a small pumpkin (between six and seven inches tall excluding the stem). A full size pumpkin will not fit in the engraver.



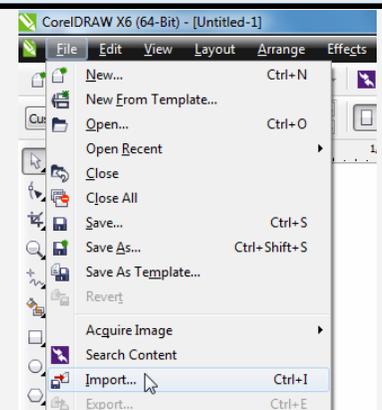
2. Use a knife to remove the top of the pumpkin and remove the seeds and innards (do this at home). Take extra care to thin out the interior side of the pumpkin that you plan to carve. If you leave it too thick, the laser may not be able to cut all the way through.



3. Using the software of your choice, create a stencil of the image you'd like to carve. Alternatively, do an online image search for "stencil" or "pumpkin stencil." Keep in mind that images found online may be subject to copyright. Once you find an image, save it to the desktop.



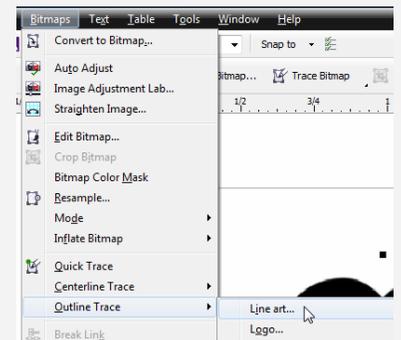
4. Open CorelDRAW and create a new document. Near the top left corner of the screen, click "File," and then click "Import" on the resulting menu. Select the image you saved in step 3 from the desktop of the computer.



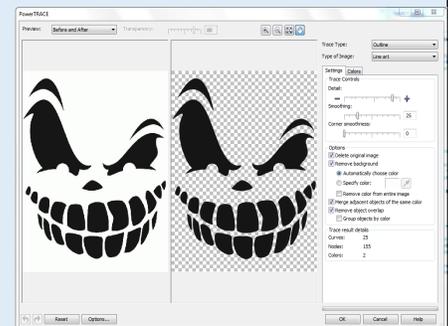
5. On your blank document, click and drag to import your image. Once your image is placed, you can click and drag any of the black squares surrounding it to resize it.



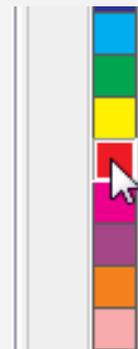
6. Though it may not look like it, your image may have a white background behind it, especially if it is a JPEG file. This background needs to be removed. On the top menu bar, click “Bitmaps,” then “Outline Trace,” and then “Line art.”



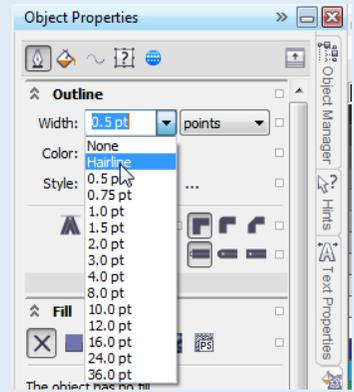
7. CorelDRAW will now perform a “trace” of your image, leaving only the image without a background. Be sure the “Delete original image” option is checked, then click OK.



8. Click on your image to select it. On the right side of page, there is a menu bar of colors stacked vertically. Right click on the red square, which will add a red outline around your image.



9. CorelDRAW determines which lines need to be cut by the thickness of the line. Any line set to “hairline” thickness will be cut out. To change the thickness of a line, go to the Object Properties area on the right side of the page. In the area titled “Outline,” click the “Width” box and change the setting to hairline.



10. Transition to the engraver. Power it on by pressing the button on right side of the machine. You’ll hear the engraver start up and see the arm of the laser slowly move to its home position.



11. Open the lid of the engraver and remove the grid. Place the pumpkin in the bed of the engraver and stabilize it with pieces of wood or other sturdy objects. Position so the side of the pumpkin you wish to carve is face up.



12. The interface pictured on the right is found on the top side of the engraver, toward the lower right. It is used to control the laser arm, as well as to start and stop jobs. After positioning your pumpkin in the bed of the engraver, press the Focus button.



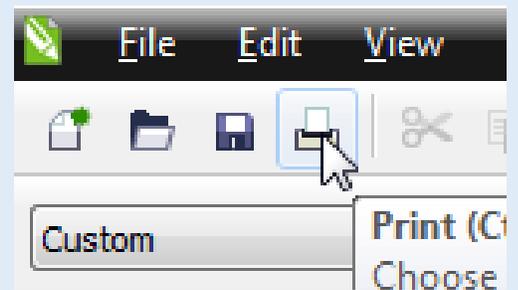
13. Release the spring attached to the arm of the laser so that it is oriented vertically. You can raise and lower the bed of the engraver as needed by using the up and down arrows on the interface pictured in step 12. Normally, your goal is to raise the bed to a level at which you feel a slight resistance on the spring. Because the surface of the pumpkin is curved, you'll need to bring the spring to a level that is halfway between the highest and lowest points you plan to engrave. Once you achieve the proper level, press the "Reset" button.

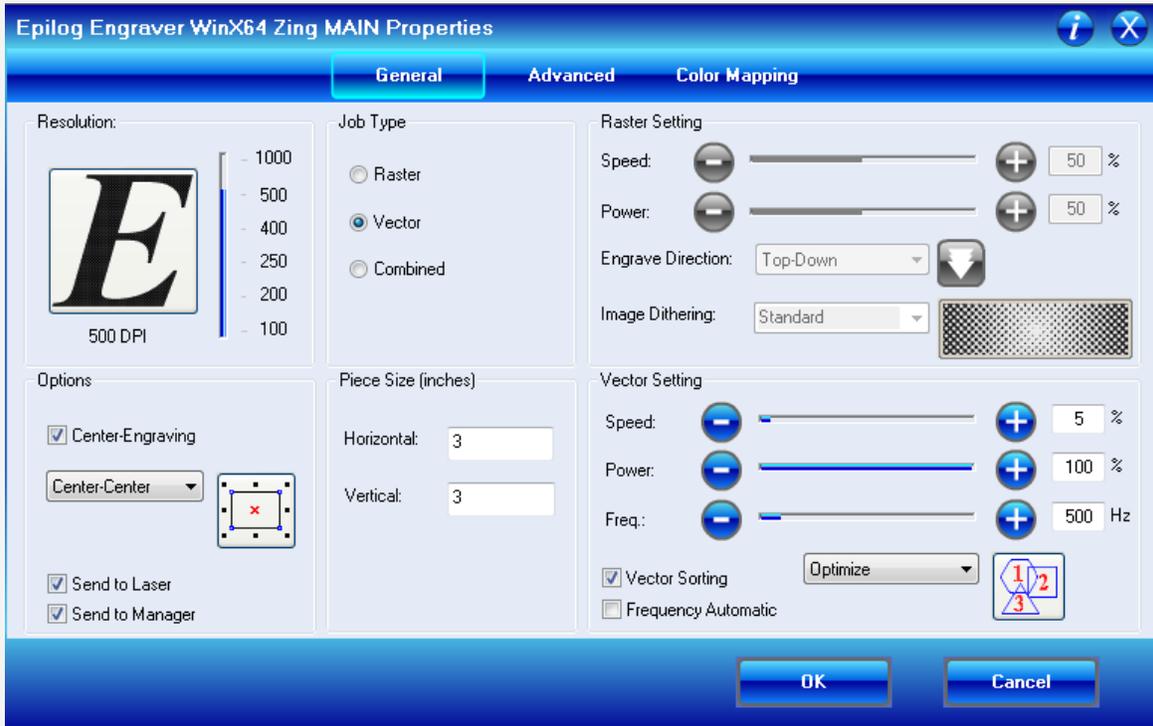


14. Press the "X/Y Off" button to allow the laser arm to be moved freely, followed by the "Pointer" button to make a red dot pointer appear. Pull the belt on the laser arm left or right to position the red dot at the center of the portion of the pumpkin you wish to engrave. You may want to use a ruler to guide you. For best results, avoid incorporating extreme curves of the pumpkin in your selected area. Once the red dot is properly positioned, press "Go" followed by "Reset."



15. Close the lid on the engraver and move back to the computer. Click the print icon near the top left corner of the page.





16. The Preferences menu is crucial to the engraving process, as it is where you specify all of the settings for your job. While with other engraving jobs, you may use more or fewer of the settings, for carving pumpkins, you'll be using four:

- Job Type: Click the "Vector" button. "Raster" is for engraving objects, "Vector" is for cutting them, and "Combined" is for both engraving and cutting.
- Piece Size: In most cases, the dimensions you set here will need to match the size of your CorelDRAW document. If your document is 3x3, set your horizontal measurement to 3 and your vertical measurement to 3. Your piece size does not have to match the dimensions of your entire pumpkin, but rather only the portion of your pumpkin you wish to engrave.
- Vector Setting: The speed setting determines how quickly the laser arm moves back and forth as it engraves, and the power setting determines the amount of laser power that is applied to the material. The settings you should use depend entirely upon the type of material you are using. For your pumpkin, set the speed slider to 5 and the power slider to 100. Set the frequency slider to 500.
- Center Engraving: By selecting "Center Engraving," the engraver will center around the new home point you set up when positioning the red dot in step 14. Make sure the "Center Engraving" box is checked.

Once you have adjusted all the necessary settings, click the "OK" button. On the resulting menu that appears, click "Print."

17. Turn on the vent switch on the bottom half of the engraver. When the vent is on, you should see a small green light on both the switch and next to the green check mark to the right of the switch. If you see the yellow or red light on, DO NOT engrave; notify a library staff member.



18. On the interface on top of the engraver, you should see the name of your file appear in display window next to the word "job." Press the green Go button to begin engraving.



19. Depending on the size and complexity of your design, the engraving process can take anywhere from a few seconds to an hour or more. Engraving designs on pumpkins can be done in around 10 minutes. Please wait by the engraver and keep an eye on the progress of your job so that you may stop the machine or notify a library staff member if you notice problems.



20. When the engraver is finished with your job, you will hear a beeping sound. It is then safe to turn off the vent and open the lid of the machine. If any lasered areas of the pumpkin did not fall through during engraving, gently push on them without moving the pumpkin. If the pieces feel firmly in place still, close the lid, turn on the vent, and press Go to run the job again. Alternatively, you can use a knife to finish off any areas that didn't get completely cut through.

