

Makerspace & Digital Lab

At the MCDL Virginia Wheeler Martin Family History & Learning Center

Holiday Head Start: Engraved Tumbler

Supplies Needed:

- Powder-Coated Stainless Steel Tumbler (such as Yeti, HydroFlask, RTIC, etc.)
 - Tumblers without handles work best.
 - Bare metal will not work – powder coating is a must.
- Digital Images
 - For best results, use Image files (TIFF, JPG, BMP) in black and white (no grayscale or photographs) at 300 dpi resolution or higher.
 - Bring your image with you on a flash drive or in accessible cloud storage.

Supplies Provided:

- Epilog Helix Laser Engraver, with Rotary Attachment
- CorelDraw Software
- Magic Eraser

Appointment:

Call or email to schedule an appointment with the **Laser Engraver**

Call: 330-722-2681

Email: makerspace@mcdl.info

With an appointment help is always available!

Step by Step Instructions:

Create & Prepare Image for Engraving

Step 1: Open Corel Draw on the computer closest to the laser engraver

Step 2: Click File/New

Step 3: Under Document Settings, enter the desired width and height of your design.

Step 4: Import your image into the workspace area (or use text only, if desired)

- Click File/Import, navigate to your saved image
- Click and drag from the corner of the workspace to place your image and size it

Step 5: Add text (if desired)

- Click the Text Tool (looks like a Capital A) in the left-hand toolbar
- Click and drag to draw a text box within the workspace
- Type your desired text
- Change the font style, size, and format if desired

Step 6: Group all elements in your design together

- With the arrow tool selected from the left-hand toolbar, click and drag to draw a box around your entire image, then right-click and select “Group”

Step 7: Rotate your entire image 90 degrees so that the top of the image is to the left

- With your grouped image selected, click in the box marked “Rotation” and enter 90 degrees.

Prepare the Laser

Step 1: IMPORTANT - Ensure the laser is turned off at the wall switch before installing or removing the rotary tool!

Step 2: If necessary, remove the cutting or engraving plate and install the rotary tool (ask a staff member for help), then turn the laser back on

Step 3: Place the tumbler in the clip with the opening facing LEFT and adjust the rollers to its length

- Orient the area you want to engrave facing up.
- Make sure all the rollers are in contact with the tumbler

Step 4: Use a level (provided) and the crank at the bottom of the rotary tool to ensure the engraving area is level.

Step 5: Press the red button on the laser control panel to turn on the guidance light

Step 6: Aim and focus the laser

- Press the button on the laser panel marked x/y and a lock, then the green “Play” button to confirm. This will allow you to move the engraving arm and head as needed.
- Remove the triangular focus tool from the engraving head, slip it upside down so that the apex of the triangle points down.
- Move the engraving head so that it is above the area on your tumbler you plan to engrave.
- Use the up/down arrow buttons on the panel to adjust the height of the engraving bed until the focus tool just barely touches the surface of the tumbler.
- Remove and replace the focus tool
- Move the engraving head (try to avoid touching the circular lens in the middle) until the red dot is aimed in the center of the area you wish to engrave.
- Press the Home button (picture of a house) to set the starting point for the engraving, then the Back button.

Send the Image to the Laser

Step 1: In Corel Draw, click File/Print

Step 2: Choose the gear icon in the dialog box next to the printer name to open the preferences

Step 3: Choose the “Advanced” tab. Under “Materials,” scroll down until you see “MCDL Yeti Epilog Settings,” select it, and click “Load.” Do not click “OK” yet!

Step 4: Choose the “General” tab and check the following settings:

- The “piece size” must be the same as your workspace measurements
- Click the box next to “Center Engraving”
- The box next to “Send to laser” should be clicked.
- Under “Dithering,” select either “Jarvis” or “Stucki”

- The box next to “Auto focus” should be UNCHECKED.
- Click “OK” to return to the main print dialog

Step 5: In the main print dialog box, Click “Apply” and then “Print”

Step 6: You should see your print job appear in the Laser LCD. When you are ready, close the glass lid and press the green “Play” button on the laser panel to start the print.

- Pro tip: the laser will not fire if the lid is open, but you can run a test print this way and monitor the red dot to make sure your engraving will be placed properly.

Step 7: Watch your design appear! STAY WITH THE LASER while the engraving is in progress.

Step 8: Open the lid, remove your tumbler, and enjoy!

- Note: If scorch marks appear, they can be removed with a Magic Eraser.