VINYL CUTTER 1

This guide highlights basic tools and protocol covered in the Vinyl Cutter 1 class at Open Works.

More information is available in the Shop Safety Manual in our Digital Media Lab.

The vinyl cutter or cutting plotter can be used to cut designs or lettering for stickers, window signage, decals, etc. You may bring your own material for cutting, or purchase vinyl that Open Works provides. Ask a technician for assistance. If you have questions, issues, or wish to purchase vinyl. Vinyl is stored in a locked cabinet in the digital media lab.

VECTORIZING AN IMAGE FOR VINYL CUTTING

The workflow for vinyl cutting begins in the design software.

Files made in Illustrator, Inkscape or any other program that produces vector graphics can be translated for cutting.

**Dragon Cut** is the proprietary operating system to create and export files to the vinyl cutter.

**Prepare your file**

1. Import an image into Dragon Cut.
2. You can use almost any image file but to make the process easier and quicker, you can first convert an image to black and white silhouette in Illustrator using the “**Image Trace**” feature, or directly in Dragon Cut using the “**Image Tools**” and “**Edit Colors**” buttons.
3. “**Vectorize**” your file and adjust trace settings to control the amount of detail you want.
4. Select your cut settings— you can also mirror, flip, resize.

**Dragocut Settings**

1. Check the settings in the dialog box before sending to the vinyl cutter.
2. Set material size based on the measurements of your piece of vinyl.
3. Confirm the design fits on your material and Use the functions to arrange your design.
4. Set material size based on the measurements of your piece of vinyl

LOADING YOUR MATERIAL

Take care to load the vinyl properly as this can have a big impact on the cut quality.

1. Lift the pinch roller lever on back of the machine to raise the rollers.
2. Feed material from the back of the machine.
   - If using a roll, slide the tube of the roll onto the metal bar.
3. Align the material with the rulers so it feeds straight and is square with the machine.
4. Leave a 1” margin from the edge so material feeds smoothly.
5. Slide pinch rollers left and right so at least 2 feet are grabbing the material.
6. Lower the pinch roller lever to clamp material in place.

OPERATING THE VINYL CUTTER

The vinyl cutter begins cutting at the bottom and right of your design, and moves left and back. Zero is the point on the loaded media where the job will start.

1. Turn the vinyl cutter on using the switch on the side.
2. To advance the vinyl, Press the “**ON/OFF LINE**” button on the control panel.
   - The screen should read “**MOVE X0 / (mm) Y0**” as shown here.
   - This will allow you to use the up and down “Speed” arrows to advance the vinyl forward and back, while the left and right “Force” arrows will move the cutter head.
3. Use the arrow keys to align the carriage to the bottom right corner of your material, where the design should start, leaving 1” margin from each edge.
4. Press “**ENTER**” to set that point as 0,0.
ADJUSTING CUT SETTINGS

The relationship between speed and force determines how the blade cuts your design.

1. We do not recommend changing these settings for our in-house vinyl. However, if necessary, you may use the arrow keys to toggle speed and force in units of millimeters per second, and grams.
2. Start with a speed of 150 mm/s and a force 40g.
   *Note: for a smaller design use a lower speed, larger design a higher speed.*
3. Use the “Test” function to run a small test triangle.
4. The blade should cut cleanly and fully through the vinyl but not through the backer paper.
   *If the edges are ragged, the blade does not cut through the vinyl, or it cuts too deeply:*
   - Adjust speed and force settings as necessary.
   - Check the blade stick-out by staring at the blade at eye level, so you can see it straight on. It should be sticking out from the blue case about the thickness of a credit card.
   *Do not adjust the blade on your own. Ask a tech for help if you think the blade is dull, misaligned, or sticks out too far.*

CUTTING THE VINYL

Now that you have determined your cut settings, modified your image and loaded the material, you’re ready to start cutting.

**Send to Cutter**
1. Click the icon of the vinyl blade. In the drop-down menu, select Send to Cutter.
2. A new dialog box will open. Check that all your sizing looks right and the vinyl cutter model selected is Saga: 1350 II.
3. In the box Media Width, enter the entire width of the material you are cutting.
4. You can arrange, nest, rotate or mirror the design you are about to cut as well. If you’re cutting an image or text for a window display, you may want to mirror the design. Nesting for cutting multiples may save you material.
5. Before cutting your design, select “Area Test”. The machine will frame out the design, to make sure you are using enough vinyl and that the 0,0 coordinates are in a good spot.
6. If that all looks good, select “Cut Now” to begin cutting! If you have any issues, hit cancel on the progress bar.

FINISHING UP

Once your cut is completed, trim the material completely across the roll.

1. Use a weeding tool, a sharp pointed objects like X-Acto knife, tweezers or a needle to remove all undesired material.
2. Carefully lay down transfer paper to the vinyl. Remove bubbles with the squeegee tool.
3. A squeegee should also be used to mount vinyl to adhere it properly and to remove bubbles. Make sure the surface that the vinyl is being applied to is clean and dry.
4. Only cut on the cutting mat. Do not use the light table as a work surface for vinyl cutting. Throw away small scraps of vinyl. Large amounts of unused vinyl may be recycled in the storage unit under the cutting table.