



Penn State Abington MakerSpace
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Emergencies

Immediately notify local emergency services by dialing 911 for serious incidents (e.g., injuries requiring professional medical attention, fires, explosions, etc.).

Environmental Health and Safety (EHS) is always available for notification of incidents and/or consultation regarding laboratory safety issues. They can be contacted by dialing 814-865-6391. Their website is located at www.ehs.psu.edu.

I. Scope, Purpose, and Keywords

Scope: Operation of MakerSpace Vinyl Cutter by members and staff

Purpose: Safe operation of the tool

Keywords: Vinyl Cutter

II. Hazard Assessment

Hazard	Required Engineering Controls and/or PPE
Blade failure due to wear or incorrect blade used	Inspect blade before use, verify correct blade type
Motor failure notification while pulling roll	Provide slack in the feed so roll is not pulled hard
Puncture wound from changing blade	Be aware of location of blade in cutting head
Loose fitting items or hair catching in mechanism	Secure or eliminate loose fitting items
Vinyl comes loose from backing while in motion	Test blade pressure and sharpness, scale of cut



III. Procedures

1. Approved Processes
 - a. Cutting adhesive-backed vinyl sheet for transfer decals. Can also cut other sheet goods with prior approval of the supervisor.
2. Personal Protective Equipment (PPE)
 - a. General shop PPE
3. Environmental Controls
 - a. Ensure equipment base is secure so it doesn't move when in use
4. Required Training
 - a. Review and observe safety practices outlined in General Shop Safety Training
 - b. Supervisor-led observational training and observed practice, and/or task-specific training
 - c. Review of manufacturer's operating manual
5. Inspection before use
 - a. Inspect blade holder assembly position and ensure it is correct. Inspect blade tip for damage or dirt. Notify supervisor if blade is not in order. Do not change the blade.
 - b. To load a roll of material into the base using the roller base, pull out a length of material longer than what is needed for cutting, leaving some slack.
 - c. If you are not using the roller base, cut off a sheet of material and insert into the machine from the back-side
 - d. Depending on the width of your material, align the left edge of the material within the boundary of the left-most verification mark. The other edge should fall within one of the verification marks to the right.
 - e. Move the pinch rollers such that they are positioned at the edges of the material, and also inside the areas of the verification marks
 - f. Raise the loading levers to secure material in place. Be gentle moving the levers.
 - g. Press the power button to turn on the vinyl cutter. Use the arrows on the panel to select the material (Roll, Sheet...). Press ENTER.
 - h. Hold down the TEST key for one second or longer and a test pattern is automatically cut.
 - i. Press the DOWN ARROW key to feed material toward you. With a pair of fine tweezers, test the ease of peeling off the cut shapes, and check the cutting quality. Notify staff if the circle does not peel off alone and leave the inscribed square.
6. Safe operating procedures or precautions
 - a. On the computer outputting to the cutter, open your design file in a vector program.
 - b. Define the page size or art board with a 3" setback width (for a 30" roll, define 27") and when using a roll 63" length.
 - c. Place the design at or near the origin at lower left
 - d. Print the file, selecting the Roland printer as the driver



- e. The vinyl cutter will cut every vector line in the design file
 - f. Press the DOWN ARROW key to feed material toward you to clear the cuts and press the SHEET CUT key to trim off the job.
 - g. Use tweezers or a knife tip to weed away unwanted vinyl
 - h. Apply transfer tape to the decal and peel up from the backing paper
 - i. Apply the decal as desired and remove the transfer tape
7. Waste Disposal
- a. Dispose of leftover vinyl, backing paper, and transfer tape in the regular trash

IV. References

Roland GX-300 CAMM-1 Pro Manual

https://sites.psu.edu/abingtonmakerspace/files/2019/02/gx-500_use_en_r4-207ss1g.pdf

Printed copy available in MakerSpace

V. Revision History

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