Cricut Maker Training SOP

Last edited: Furst (10/08/20)

Instructor:

Date:

Attendees:

	Name	Group or Company	Signature
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Overview:

- This training provides an introduction to using and operating the Cricut Maker including:
  - File Types
  - Software
  - Cricut Use
  - Cricut Maintenance
    - Changing cutting Heads
    - Cleaning
- The Cricut is currently set up in the window sill of 2448 and is attached to the Carbide computer
- Work by cutting a thin part in plane to create complex 2D shapes in a repeatable and precise manner.

Safety

- The cutting heads are very sharp, caution should be taken whenever replacing or switching out the Cricut cutting head
- As with any automated machinery make sure that your body is clear of the moving parts to avoid injury.

Job Setup

1. **At the Computer:**:
   1. Load your STL file into the print software on the computer adjacent to the printer (Cura for Ultimaker, GrabCad Print for F270).
   2. Set Print Parameters:
      1. Position the part on the build tray in a way that is conducive to 3D printing (flat side down)
      2. Select appropriate layer or slice height (the more slices the higher the print

resolution but the longer it takes to print)
3. For Ultimaker:
   1. Select "generate support" if necessary
   2. Check appropriate filament and bed temperatures (should be set if using standard filament load out)
   3. Send job to Ultimaker using USB drive
4. For F270:
   1. The F270 the printer will print a raft before printing the model. Make sure first layer is set to support material or removal will be incredibly difficult.
   2. Send job to F270 over Ethernet
5. Record the material used and print time in the online log along with the other job information requested. The print log should be on the desktop or https://docs.google.com/forms/d/e/1FAIpQLScS3URUxoHOR62PdQeeSTAYg_suV061UsoFafrgoN0qn6DWYg/viewform.

2. **At the Cricut:**
   1. Remove the protective plastic from the adhesive mat
   2. Carefully adhere layer to be cut to the adhesive mat
      1. Make sure the layer to be cut is as flat and uniform as possible
      2. Position the material in the top right corner of the mat to make positioning the cut as easy as possible
   3. Follow the instructions on the Carbide computer
      1. Load the mat using the double arrow button
      2. Make sure the correct head and set up has been compleated
      3. Press the Cricut button to start the print

3. **Post Processing:**
   1. Press the double arrow button to unload the mat
   2. Remove the excess material from the mat. Use tweezers or a X-Acto knife to carefully remove the cut material from the mat

Maintenance and Cleaning

Cricut Quick Review

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Safety Concerns

- Both print heads and bed are heated during operation. Do not attempt to clean, remove, or adjust without allowing for adequate cool down time.
- Keep hands clear of printer during operation. Pause print before clearing or adjusting print.

Safe Operating Procedures Review

1. Launch Cura version 4 (blue icon)

2. From connected printers, select IW-Ultimaker3
3. Select File → Open Files → Open desired project (.STL file type)
4. Using task bar on the left hand side, position model as desired
5. From print settings, select slice height, infill percentage, and support
6. Support can be generated using ether nozzle, typically nozzle one holds build material with nozzle two printing with dissolvable support material.
7. Setting can be fined tuned using the "Custom" option from print settings
8. Within custom settings, nozzle and build plate temps can be adjusted (build plate temps should be based off of build material)
9. Save the file from Cura on a thumb drive
10. Connect thumb drive to printer → select desired file → select print

Note: Adjusting settings may lead to more (OR LESS) successful prints. Contact Workshop Wizard responsible for Ultimaker if print fails or knowledge of advanced settings is desired.

Maintenance

- Bed should be cleaned with IPA between prints
- Print heads and silicone head protector should be cleaned as needed
- Filament should be dried before use if printer has been idle for several weeks
- Bed leveling should be completed every time print cores are swapped
- Print cores should be swapped or purged after clog or to change print line width. Used print heads should be kept for spare parts

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