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# **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

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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
- 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\_suV061UsoFaf rgoN0qn6DWYq/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)

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- 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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