3D PRINT: HINGE

RULES:

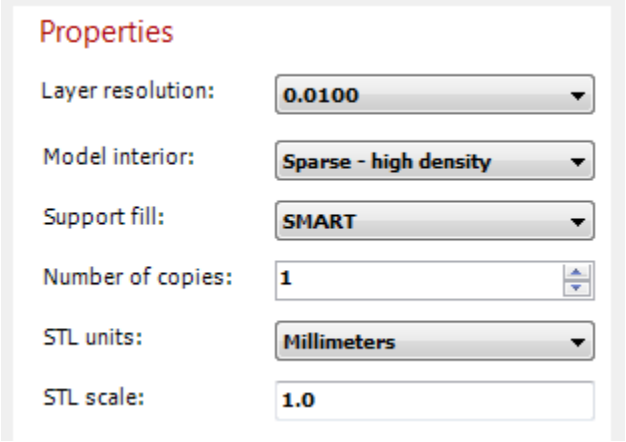
- MUST BE NO LARGER THAN 2” x 2” x 0.25”
- MUST BE APPROVED BY MR. BRUGGEMAN
- MUST BE UNIQUE IN SOME WAY
- MUST BE ACCURATE TO THE GIVEN WELDING ROD
- MUST BE ABLE TO MOVE SMOOTHLY
    - Add 0.01 inches to the measured diameter of your pin to accommodate for the printer. The diameter of your pin hole in your SolidWorks file should be 0.100” to 0.105” in diameter.
    - The tolerance between knuckles should be 0.015” to 0.05”

Put your files into modelrepair.azurewebsites.net/index.php
The website will fix your old STL file and give you a new one.

Login: username: mbruggem@chicousd.org
password: CHSengin

uPrint Instructions

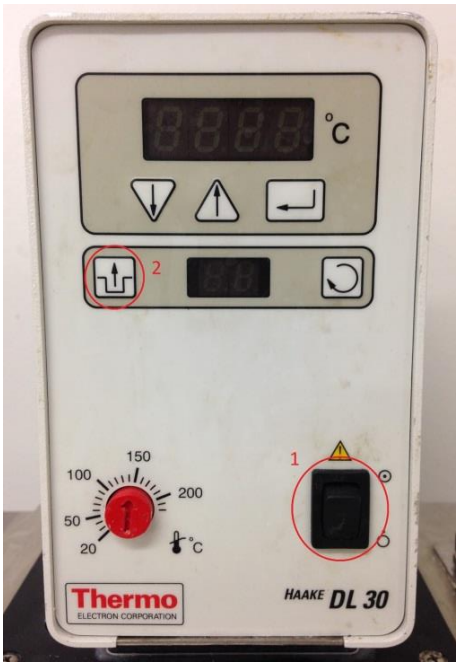
1. Turn on printer - the switch is on left side near the top back. It takes approx. 20 min to warm up so turn it on right away.
2. Set black tray on metal plate inside of printer and lock in by twisting the blue knobs below the plate.
3. Insert a flash drive with all of your team's fixed STL files into main computer.
4. Open program: CatalystEX4.4
    a. Go to **File**, **Open STL…**
    b. Follow settings on right in **Properties** tab.
    c. Go to orientation tab and select the **X**, **Y**, or **Z** buttons until the hinge lays flat on the plane.
    d. Click **Add to pack**.
    e. Repeat for each STL file.



5. Once you have added all STLs, make sure the name is under LEFT UNIT on the **General** tab.
6. Go to the **Pack** tab and orient the parts with a substantial amount of room between each. (If they are too close, the parts will become shaded and will not allow you to print.)
7. PRINT!
8. Go to Left Unit printer and click **Start Model**.

Note: Remember to take pictures for your website!

Post-Printing Instructions



1. Turn on acid bath by flipping the switch and pressing the button shown at right (Approx. 20 min. warm-up time.)
2. Once cooled down, remove the tray from the printer.
3. Take the tray and twist to remove your print.
4. Put your hinge pieces in a plastic bag with holes in it and place it in the acid (*BE CAREFUL*!)
   **Do not leave the tank running overnight!*
5. Wait until next day to check on the hinge pieces. If the majority of the black support material is dissolved, move onto step 6. If not, turn on the acid bath for another day.
6. Take the drill bit and put through the pin hole of your hinge to carefully remove the black support material not dissolved by the acid bath.
7. Once all the support material has been removed, hammer the pin through both hinge pieces <u>separately</u> to ensure any material inside will not get built up and damage your pin hole. Then hammer the pin through both pieces at the same time (*carefully!*)