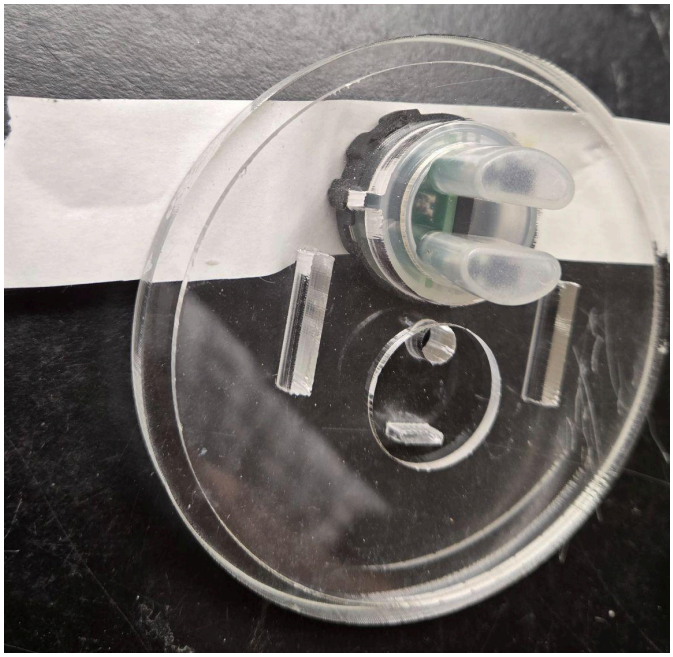
Smart Rock v4 Interior Structure Written Assembly Guide

Materials:

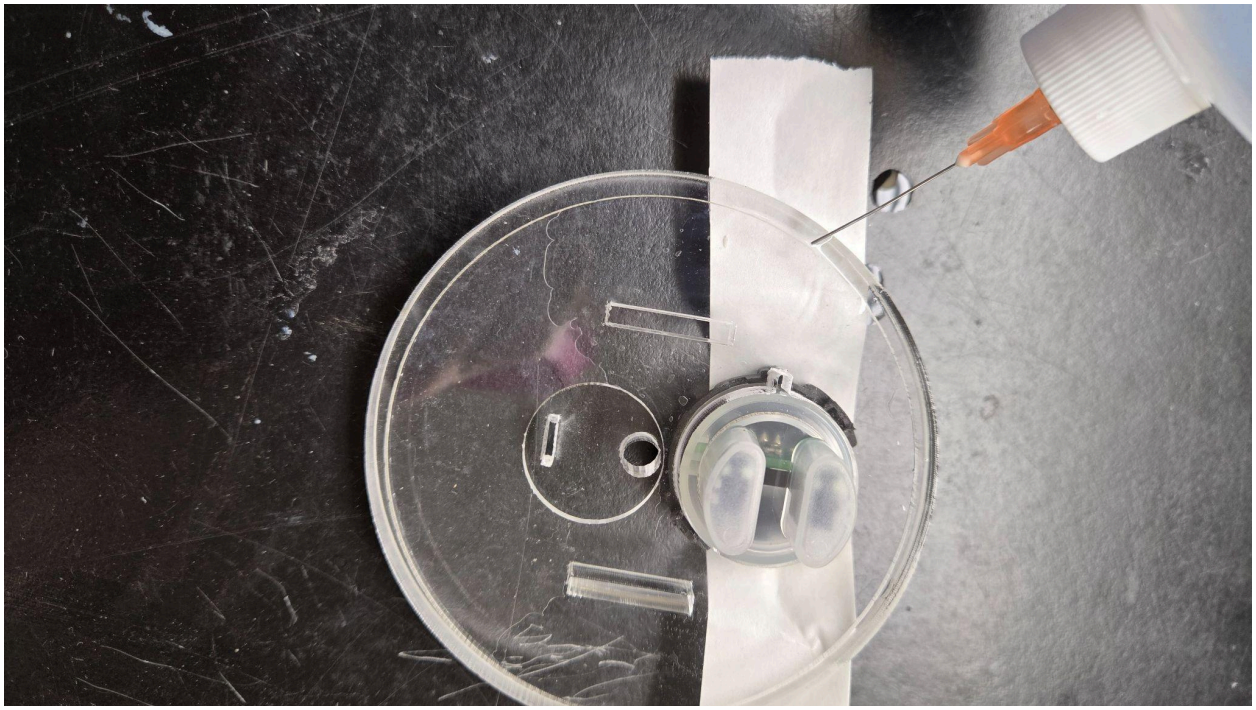
- Laser cut parts (3mm clear cast acrylic)
    - Internal support x 1
    - Mount plate x 1
    - Sensor shield x 1
    - Structure arm x 2
- Laser cut parts (9.125mm clear cast acrylic)
    - Sensor face plate x 1
- M3 Nuts x 16
- M3 bolts (10mm) x 8
- Turbidity sensor cover x 1
- Lithium-Ion Battery x 1
- Battery velcro strap x 2
- PCB Stack/Boards
    - Feather m0
    - Hypnos Assembly
    - 4-pin EC breakout board assembly
    - DF Robot Turbidity Sensor driver
- Tools Required:
    - Acrylic Cement/Solvent
    - Allen wrench/Hex key
    - Safety Glasses?
    - Organic Vapor Respirator if not in a fume hood or outside.
    - Nitrile Gloves (These actually will dissolve from the acrylic solvent, so try not to handle it for too long)

Acrylic Sled Assembly:

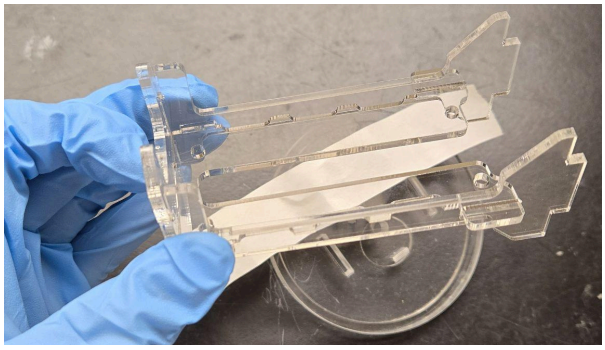
1. Use a piece of tape to secure a turbidity sensor to the faceplate. This is for aligning the two pieces of acrylic together. Make sure to rotate the top acrylic to line up with the MS5803 and EC tab holes.

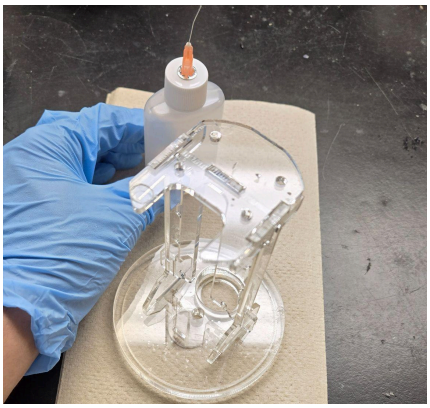


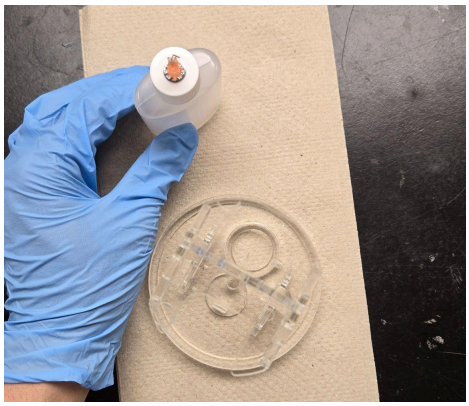
2. Apply solvent around the entire circumference of the part. The low surface tension and high capillary action causes the solvent to flow very easily between the two surfaces.



3. Once it dries, take out the turbidity sensor, and attach the sled. Pay close attention to the orientation of the sled. The turbidity hole should be on the bottom of the sled, as shown in the images.







4. Every place where two acrylic pieces are touching, weld them. Add solvent to all of the tabs. Make sure to apply to both sides of the tab if you can reach it.