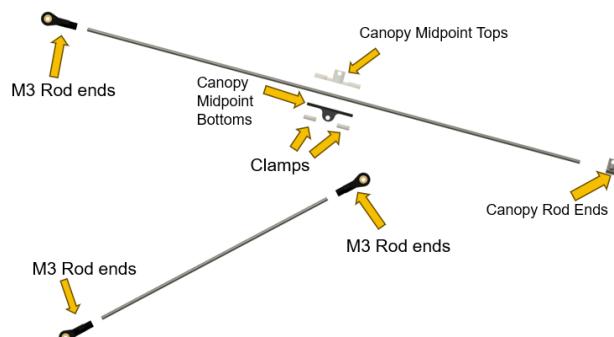
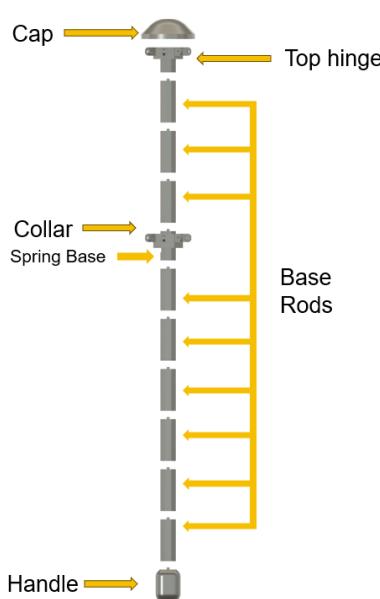


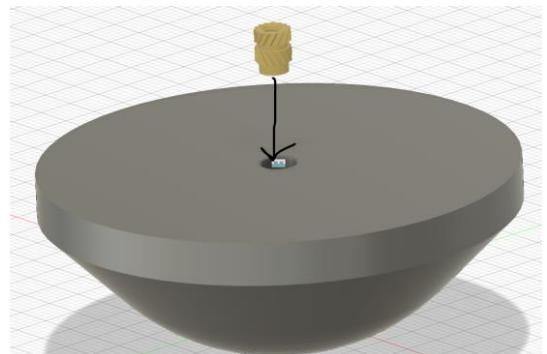
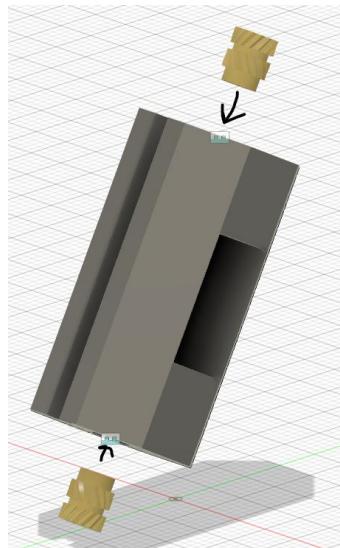
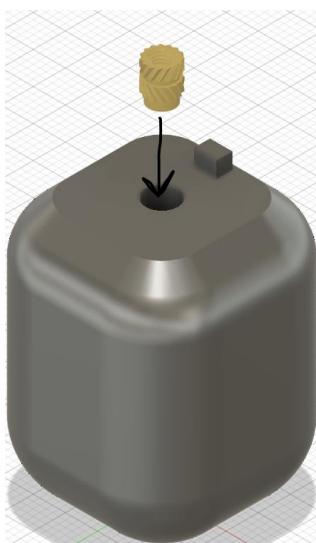
# List of Components:



## List of Components and Materials needed:

- 3D printed Components:
  - 9x Base Rods
  - 1x Spring Base
  - 1x Collar
  - 1x Top hinge
  - 1x Cap
  - 1x Handle
  - 8x Canopy rod ends
  - 8x Canopy Midpoint Tops
  - 8x Canopy Midpoint Bottoms
  - 16x Clamps
  - 8x O-rings
  - 8x Midpoint Insert
- Outsourced Components
  - 24x M3 Rod ends
  - 1x M4\*35cm Threaded Stainless Steel Rod
  - 1x M4\*20cm Threaded Stainless Steel Rod
  - 8x M3\*40cm Stainless Steel Rods
  - 8x M3\*20cm Stainless Steel Rods
  - 4x M4 Threaded Inserts

- 1) Use a Soldering Iron to embed your threaded insert into the handle, both sides of the spring base and the Cap.



- 2) Screw the M4\*35 cm threaded rod into one side of the spring block.

- 3) Slide 6 bases onto the threaded rod. Ensuring that all the protruding blocks fit into the space at the bottom of the block above for best alignment.

- 4) Screw the handle into the bottom of the threaded rod. It should look something like this.



- 5) Screw the M4\*20cm rod into the other side of the Spring base and slide your remaining three bases and the top into the rod. Ensuring the side with the hinges is towards the top.



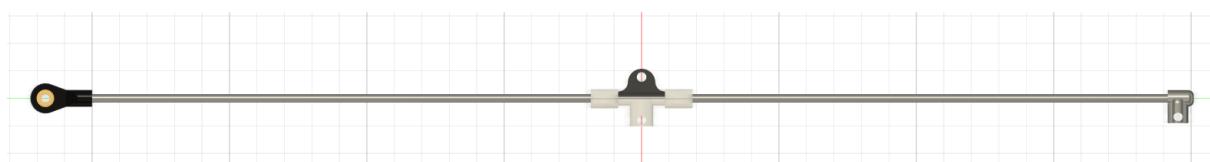
- 6) Screw the Cap into the threaded rod at the top.



- 7) Use 4 m3 bolts and nuts to clamp the canopy rod midpoint to the middle of the M3\* 40mm rod.



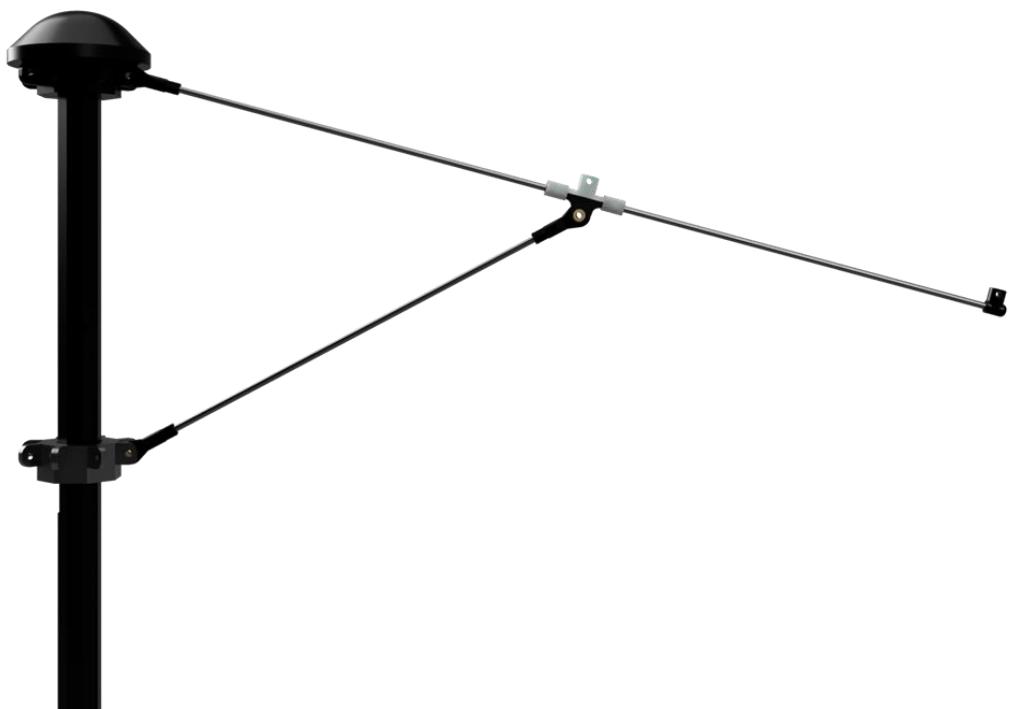
- 8) Use Pressure and Glue to attach the M3 rod ends and the Canopy Rod ends to either end of the M3\*40mm rod. Repeat for all the M3\*40mm rods.



9) Attach 2 M3 rod ends to either end of your M3\*20cm rods.



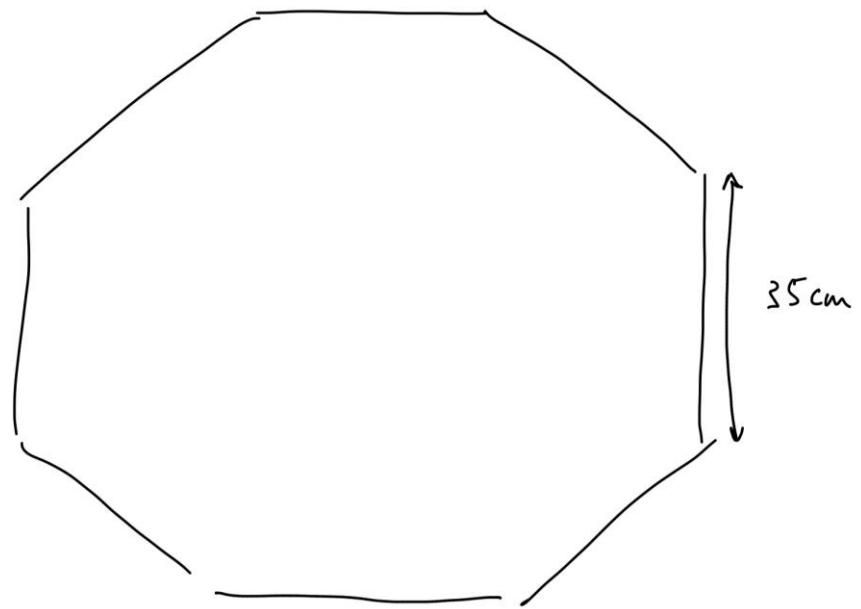
10) Use M3 bolts and nuts to attach the rod ends in a triangular shape with the central rod.



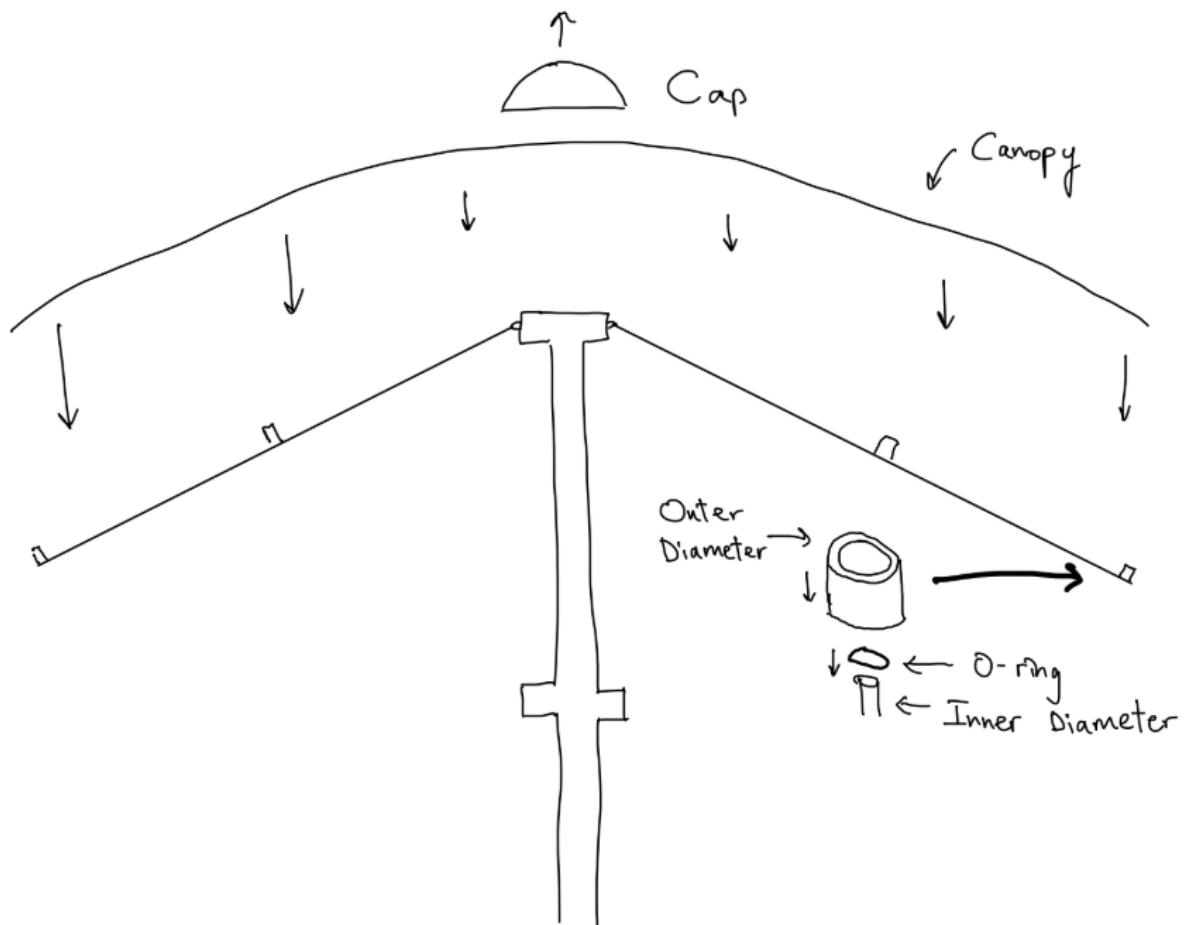
11) Repeat the previous step 7 more times till all the ribs are built.



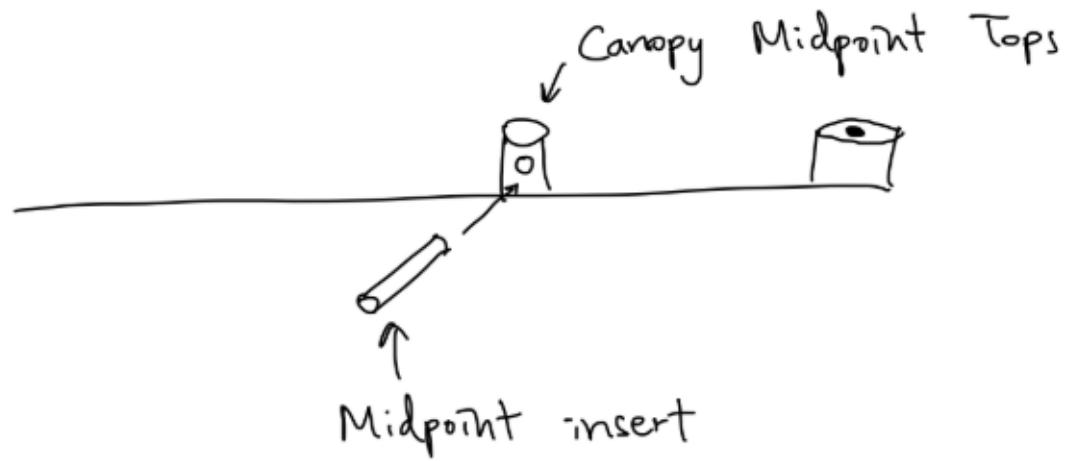
12) Find a waterproof fabric that can be used for the canopy (e.g. plastic bags, old table cloth, etc..).



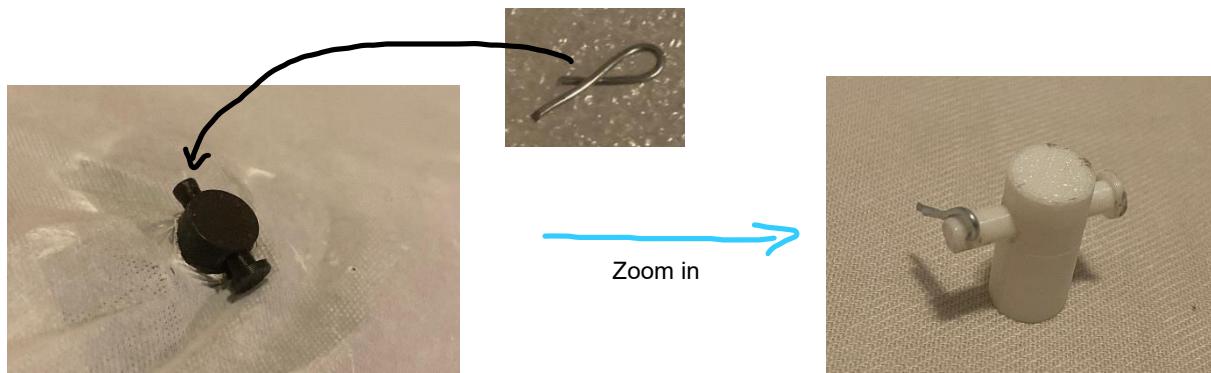
13) Cut it out to an octagon, which each side being 35cm.



14) Take out the cap, and attach the the fabric at each end using an 7x1.9 o-ring to hold down the fabric.



- 15) Reattach the cap, tear a small hole at each canopy midpoint tops so that the cylinder can be seen from the top and attach the midpoint insert through the hole at the canopy midpoint tops at all 8 rods.



- 16) Insert metal wire into hole and twist as shown to secure the midpoint insert.

Final product should look something like this:

