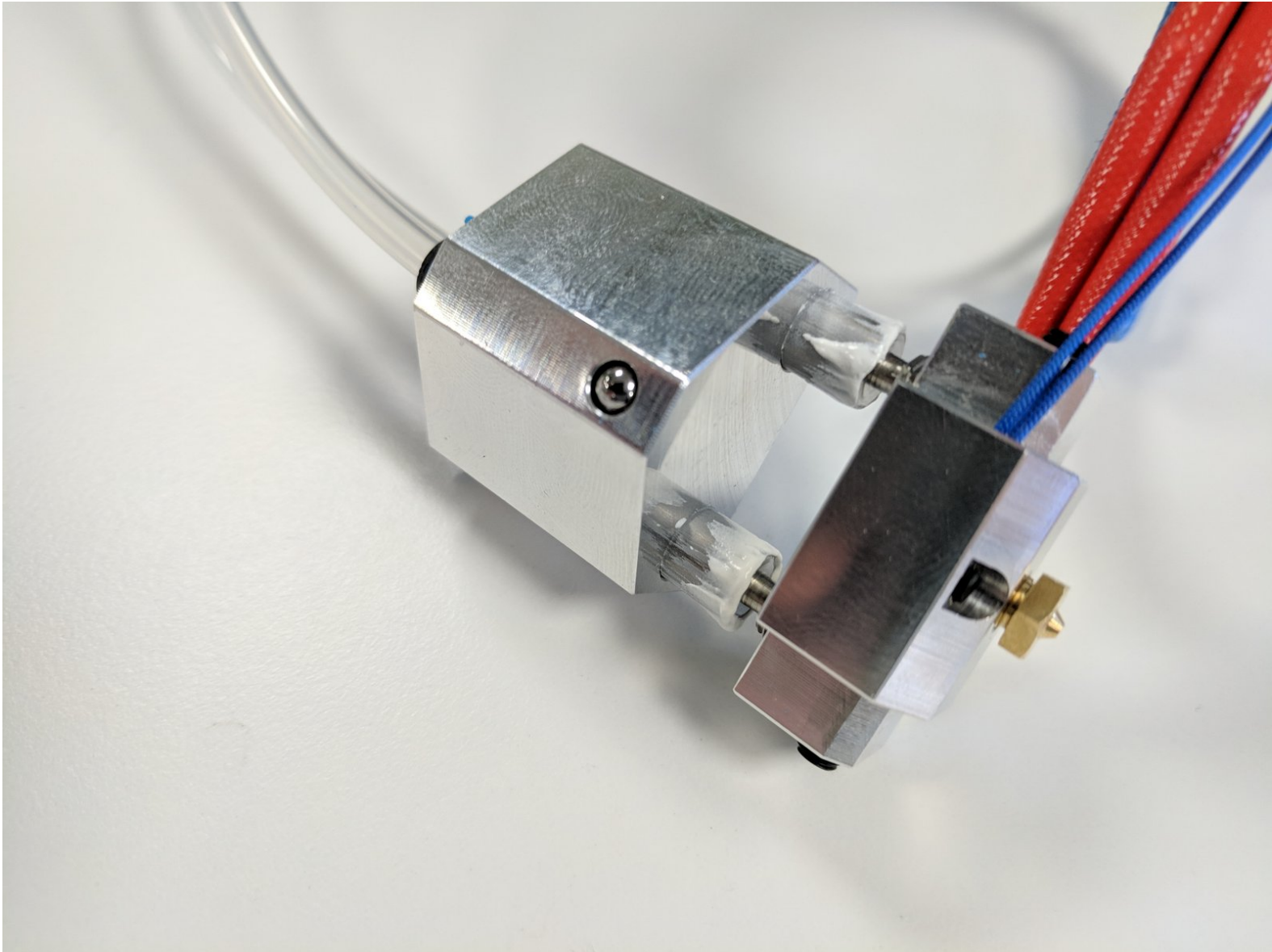




Cyclops+ Aqua

Written By: Daniel Halsall



**TOOLS:**

- [Hex Wrench, 2.5mm](#) (1)

**PARTS:**

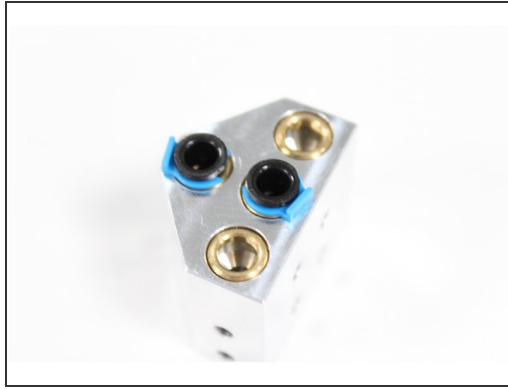
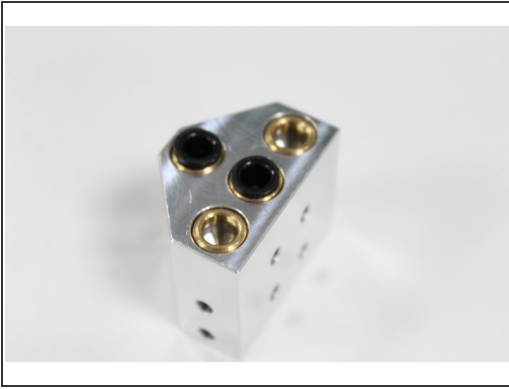
- [Collet](#) (4)
- [Collet Clip](#) (4)
- [PTFE Tubing](#) (1)
- [M3x10 Socket Dome Screw](#) (4)
- [Cyclops Heatsink - Water-cooled](#) (1)
- [Nylon Tubing](#) (1)

Step 1 — Parts required - Water-cooled Tube




- Gather:
 - 2 x Collets
 - Cyclops heatsink - Water-cooled
 - Nylon Tubing
 - 2 x Collet clips

Step 2 — Water-cooled tube assembly



- Press the two collets into the holes with the central two brass rings
- Insert the collet clips
- Insert the nylon tubing until the tube cannot go in anymore. You should feel resistance as it pushes through the o-ring and makes a watertight seal

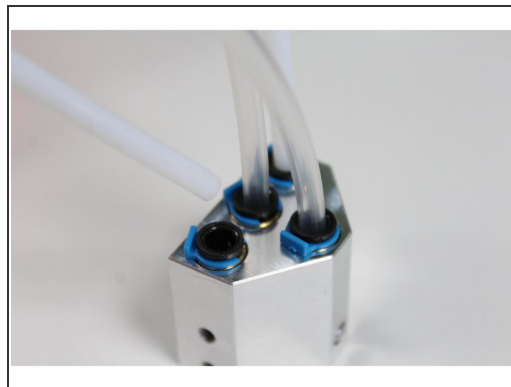
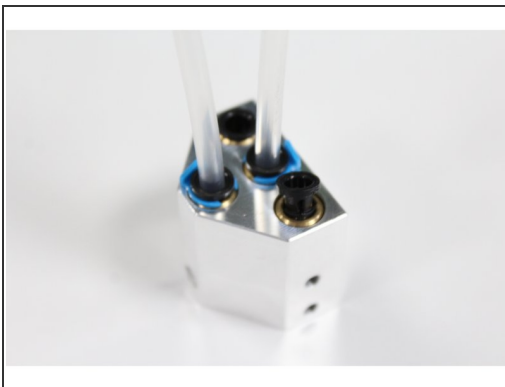
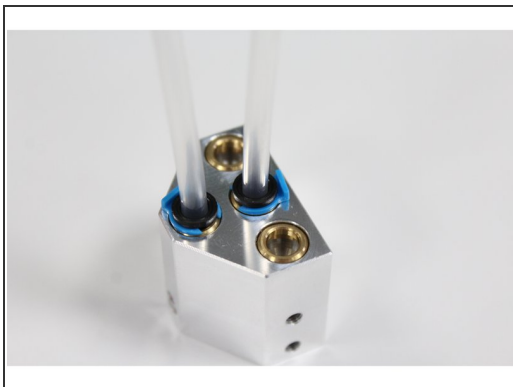
 Make sure to push the tubing past the o-ring or you will experience leaking from the water-cooling system.

Step 3 — Parts required - PTFE Tube



- Gather:
 - Cyclops Heatsink - Water-cooled
 - 2 x Collets
 - 2 x Collet clips
 - PTFE Tubing

Step 4 — PTFE Tube assembly



- Because the Cyclops/Chimera watercooled heatsink is so compact, it is best to set it with a bowden setup
- If you still want to use a direct setup, skip inserting the collet, but make sure you still insert PTFE tubing to guide filament through the heatsink
- Press in the two collets into the holes with the outer brass rings
- Insert the two collet clips
- Insert the PTFE tube until it doesn't go in anymore


Step 5 — Parts required - break screws



- Gather:
 - Cyclops Heatsink - Water-cooled
 - 4 x 3mm Grub screws
 - 1.5mm Hex Wrench

Step 6 — Break screws assembly



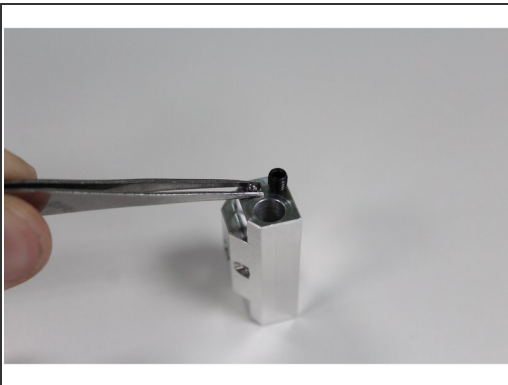
- Screw in the 4 grub screws into the sides of the heatsink
 - These screws will tighten the heat breaks to the heatsink later. For now, just screw them in so you don't lose them
-  Make sure you're using the smaller grub screws in the cold-side kit, rather than the larger screws in the Cyclops hot-side kit

Step 7 — Parts required



- Gather
 - 2x 2.5mm Steel Balls (Don't lose them!!!)
 - 2x M4 Grub Screws (larger than the ones in the cold side kit)
 - Cyclops Plus Heater Block
 - Cyclops Heat Breaks x 2 (Note that the Cyclops heat breaks have a flat bit on the lower threading, compared to the Kraken heat breaks which are completely smooth)
 - Cyclops Nozzle

Step 8 — Balls



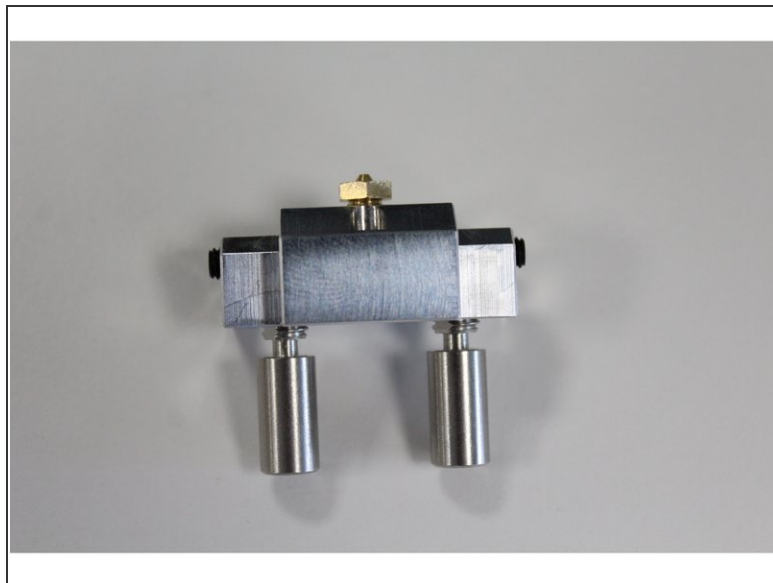
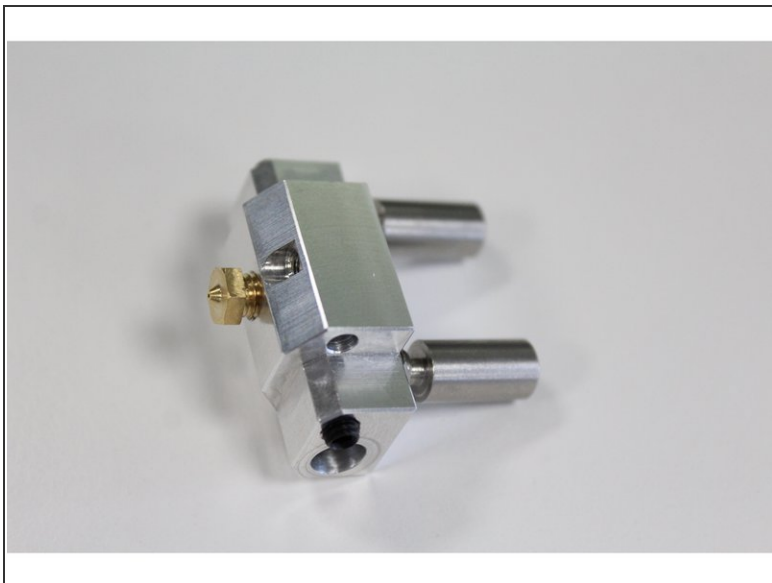
- One side at a time: drop the steel balls into the threaded channels on the sides of the heater block
- Screw in a grub screw on each side to hold the ball in place
- Don't worry about the tightness of the screws, we'll be hot-tightening them later

Step 9 — Breaks



- Screw the Cyclops heat breaks into the heater block
- These will be hot-tightened later, so don't worry about tightness

Step 10 — Nozzle



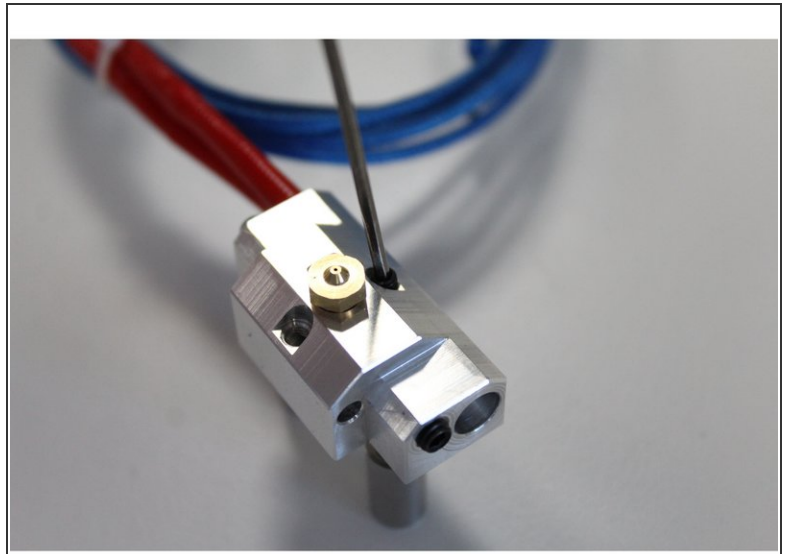
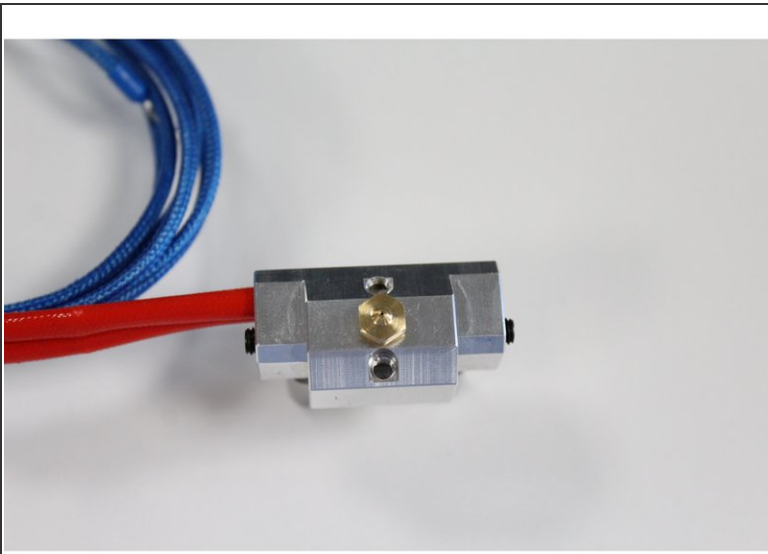
- Screw in the nozzle
- Note that Cyclops nozzles are specific to Cyclops, and are not compatible with V6 or Volcano nozzles
- Don't worry about tightness, we'll be hot-tightening later

Step 11 — Electronics parts



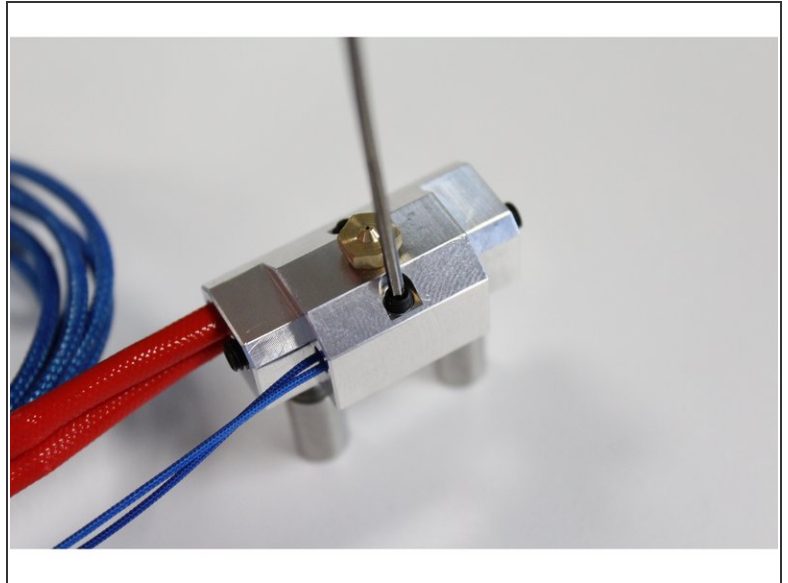
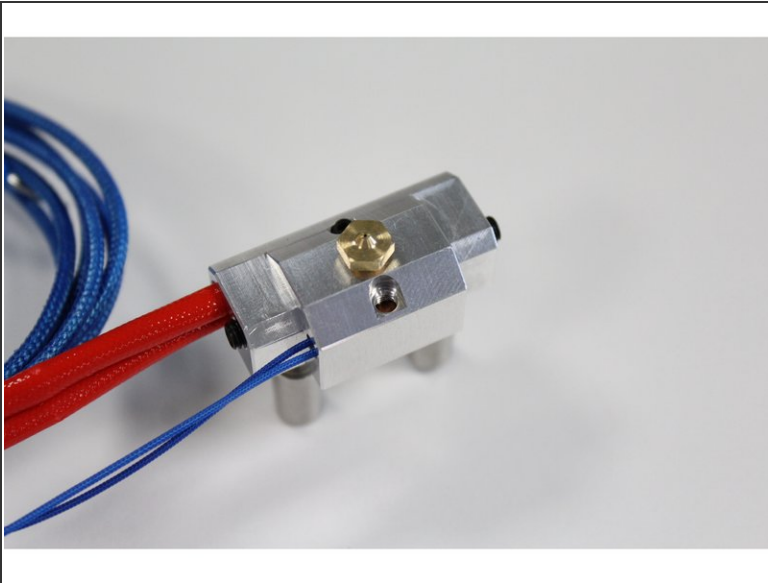
- Gather
 - Heater Cartridge
 - Heater Block
 - M3 Grub Screw x 2
 - Thermistor Cartridge
 - Thermistor cable

Step 12 — Heater cartridge



- Slide the heater cartridge into your heater block. Position it right in the centre.
- ⓘ You can have the wires coming out either side of the heater block.
- Screw in the grub screw on the bottom of the heater block, and tighten to hold the cartridge in place.

Step 13 — Thermistor



- Slide the thermistor cartridge into your heater block. Position it in the centre
- ⓘ You can have the wires coming out either side of the block, but we recommend that you have them coming out of the same side as the heater to facilitate cable routing
- Screw in the grub screw on the bottom of the heater block, and tighten to hold the cartridge in place
- ⚠ Make sure to not tighten the M3 grub screws too much as this will deform the cartridges and make them very difficult to remove in the future
- Clean up your wiring now, not later! Make sure your wires won't get snagged anywhere and are nicely organised
- Plug your electronics into your electronics board

Step 14 — Hot tightening prep



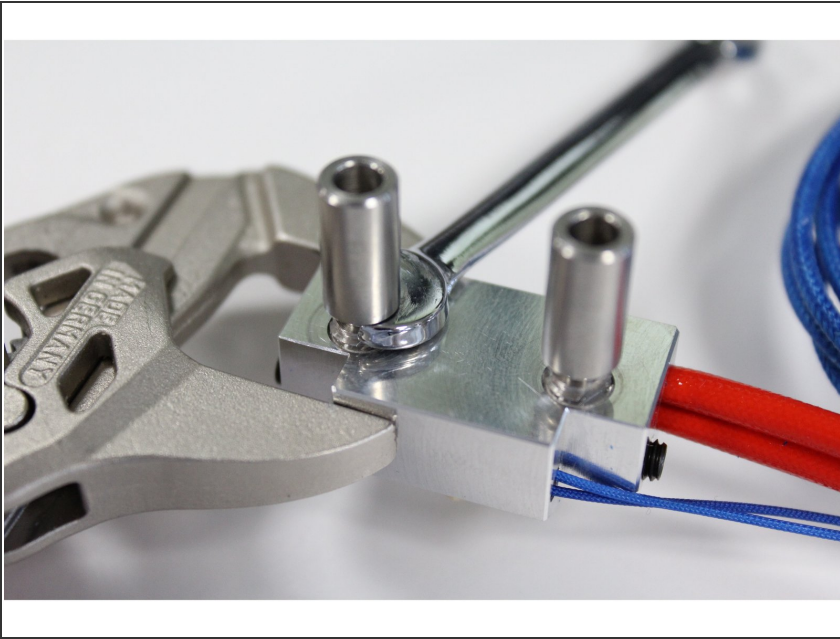
- Next, we're going to heat up your hotend to tighten the nozzle, heat breaks and the grub screws holding the balls in place
- ⚠ Make sure that you place your HotEnd somewhere that can take the heat it will give off!
- ⚠ Don't burn yourself when heating your hotend!
- ℹ You should hot tighten at 285°C

Step 15 — Hot tightening - balls



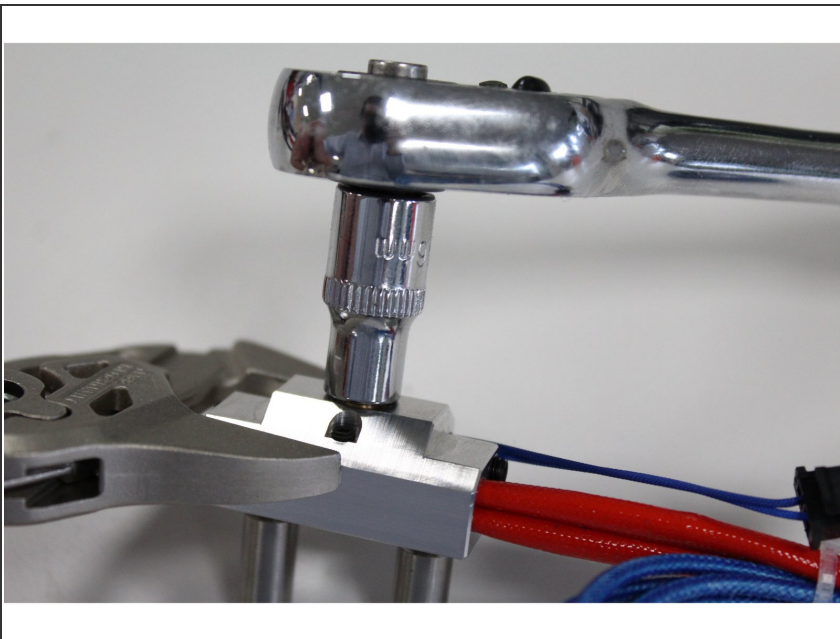
- Begin tightening the M4 grub screws, you will feel the balls slide along the under-sized hole as they progress forwards.
- When you feel the resistance increase significantly, the balls have reached the end of their travel and you are done.

Step 16 — Hot tightening - breaks



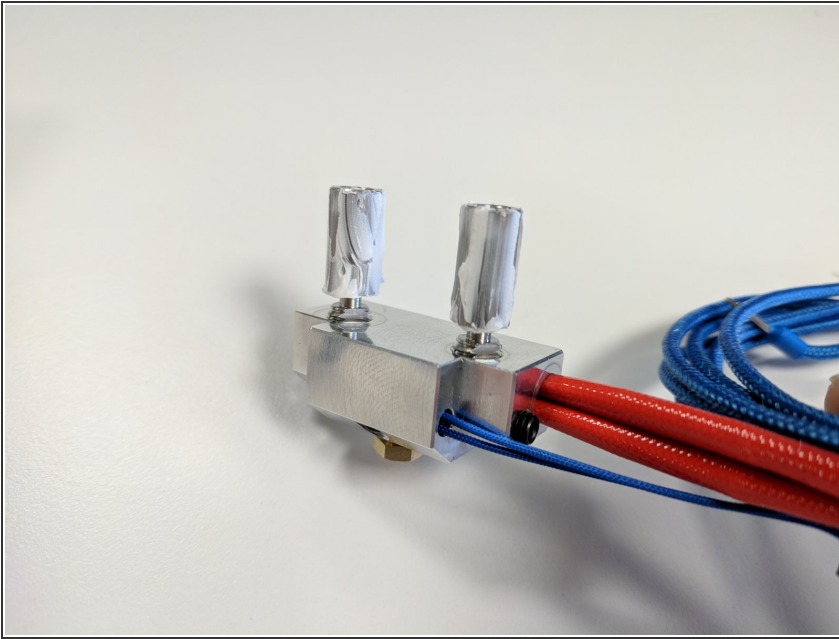
- Tighten the heatbreaks
- You should get $\frac{1}{8}$ to $\frac{1}{4}$ turn out of them now that everything is hot.

Step 17 — Hot tightening - nozzle



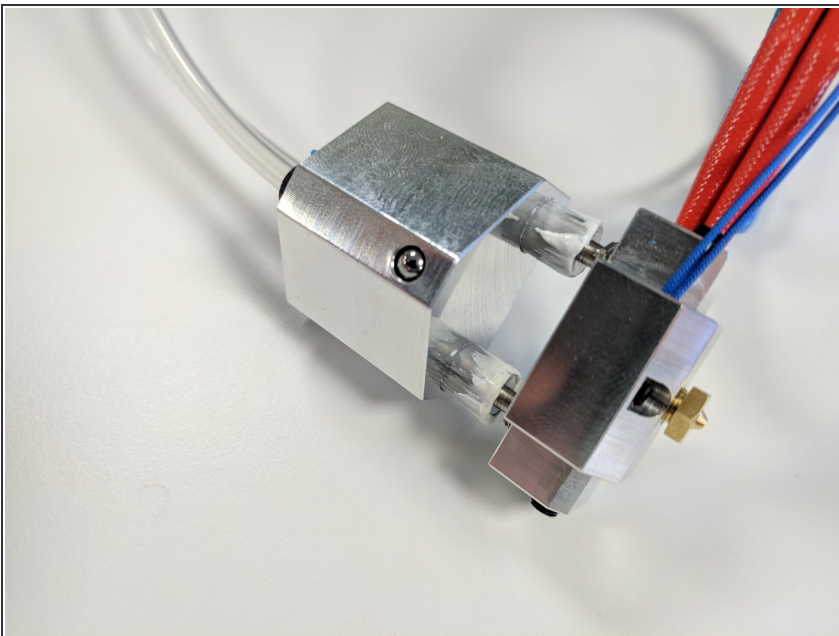
- Tighten up the nozzle.
 - As with the heat breaks you should get $\frac{1}{8}$ to $\frac{1}{4}$ turn.
- ⚠️ Cool down your HotEnd, and make sure you don't burn yourself on the next steps.

Step 18 — Thermal paste



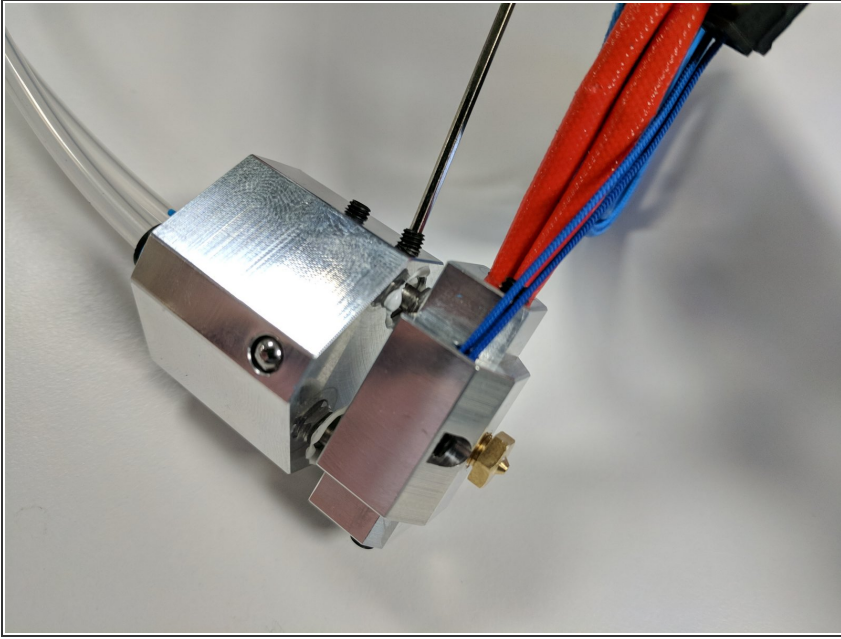
- Apply heatsink compound onto the surface of the heat breaks sparingly.
- You don't need to use the whole sachet.

Step 19 — Slide in hot side



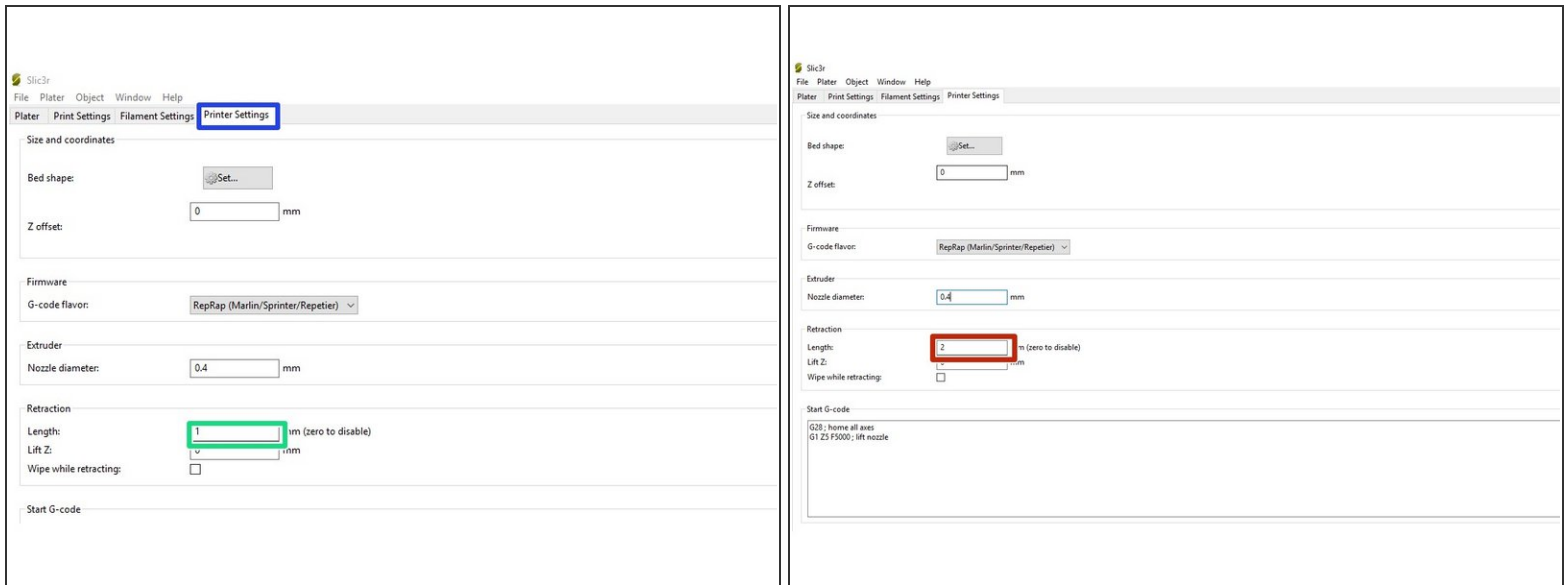
- Slide the heat breaks up into the Heat Sink.
- ⚠ Ensure the bottom of the breaks is flush with the bottom of the sink

Step 20 — Tighten the grub screws



- Tighten the 2 grub screws on either side of the heatsink to secure the heat break in place
- The grub screws should be tightened up only enough to secure them, excessive tightening of the grub screws will damage the surface of the Heat Breaks.

Step 21 — Retraction Settings



- In your slicer of preference find the retraction settings. In Slic3r this is in printer settings.
 - Start with a retraction length of 1 mm
 - If you experience blobs or stringing on the surface of the print increase the retraction length to 2mm.
- ⚠ Do not increase the retraction length more than 2mm as this can lead to molten plastic being pulled into the heat break, increasing the likelihood of jams.