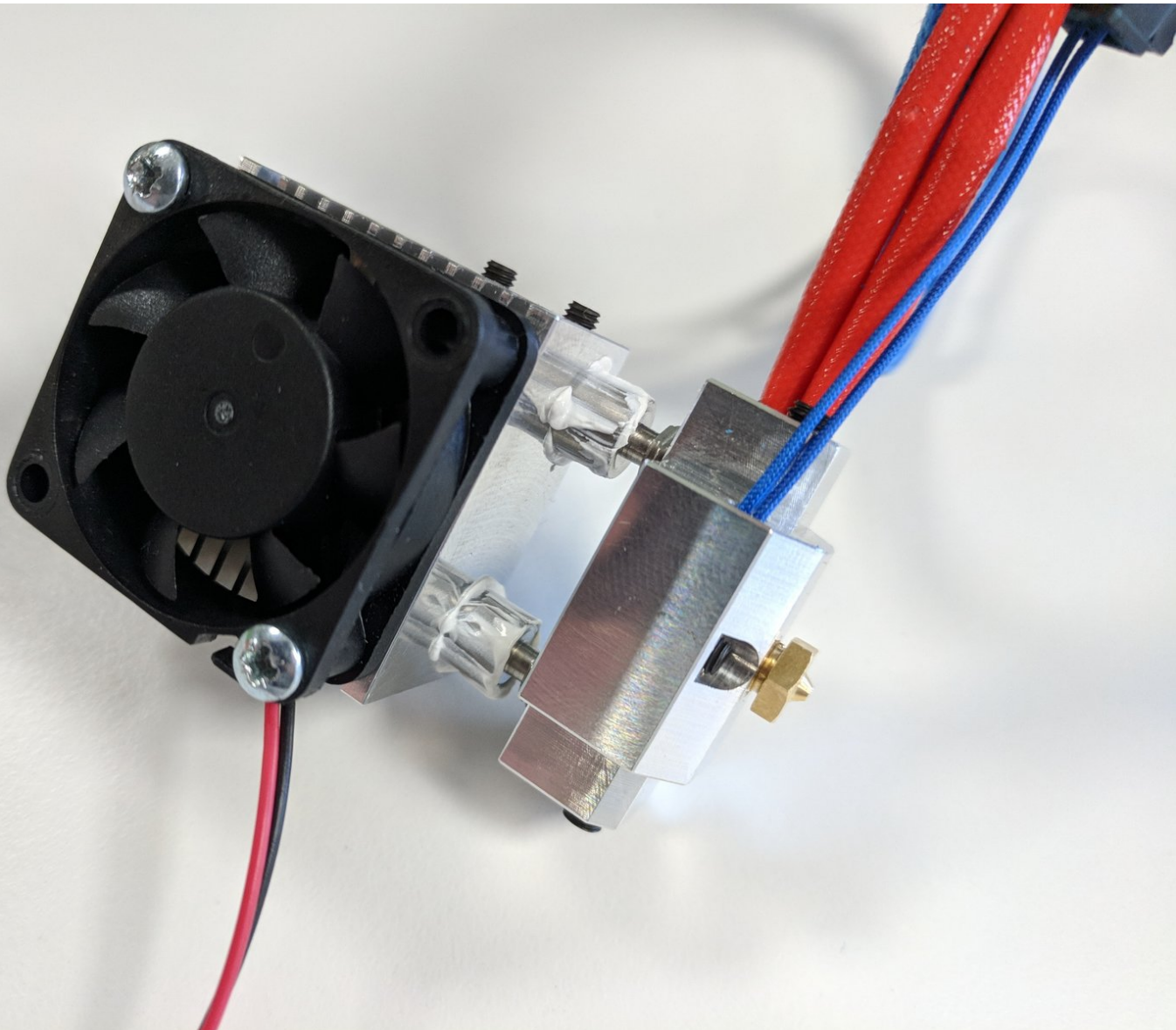


# Cyclops +

Written By: John Bamford



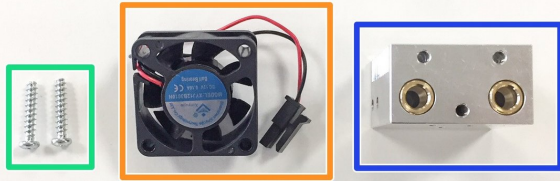
**TOOLS:**

- [Philips Screwdriver](#) (1)
- [Hex Wrench, 1.5mm](#) (1)

**PARTS:**

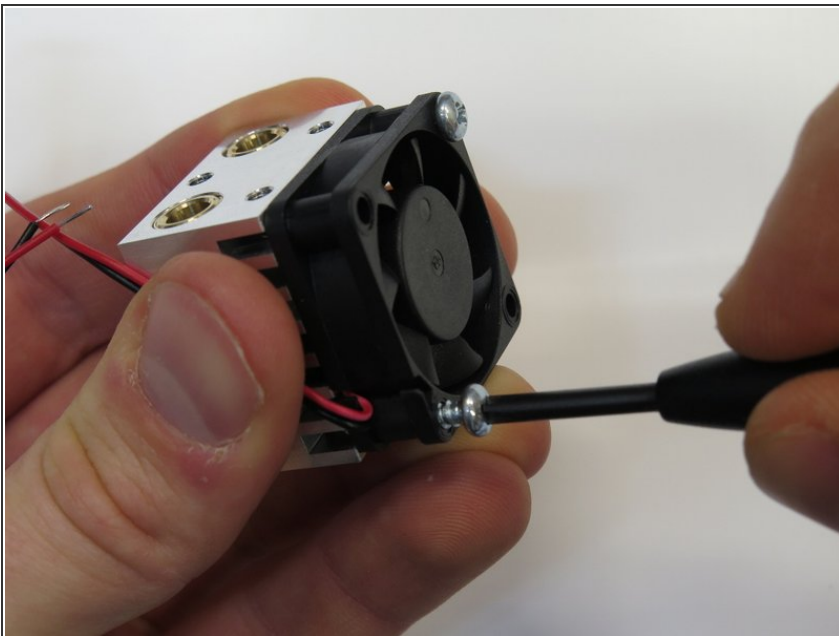
- [Plastic Screws](#) (2)
- [Collet](#) (2)
- [Collet Clip](#) (2)
- [30mm Fan](#) (1)
- [Cyclops Heatsink](#) (1)
- [PTFE Tubing](#) (1)
- [M3 Grub Screw](#) (4)
- [M3x10 Socket Dome Screw](#) (3)

## Step 1 — Gather Fan Parts



- Gather
  - 30mm Fan
  - 2 Plasti-fast Screws
  - Cyclops/Chimera Heatsink

## Step 2



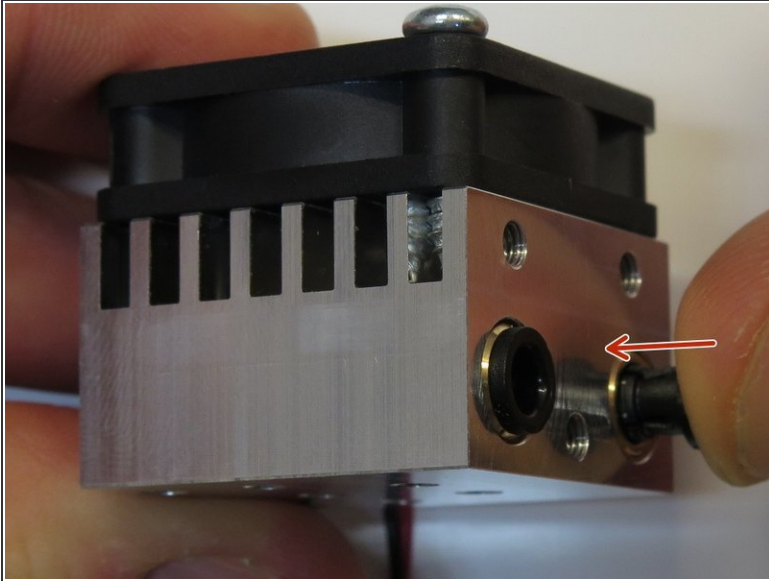
- ⚠ The sticker of the fan must face towards to fins of the heatsink in order that the fan blows air through the heatsink.
- ⓘ Plan the direction you want your wire from your fan to come out.
- Screw in the fan onto heatsink using the two supplied silver self tapping screws for metal. **Use the top-right and bottom-left screw holes.**

### Step 3 — Gather PTFE Tubing Parts



- Gather
  - 2 Collets
  - Heatsink
  - PTFE Tubing

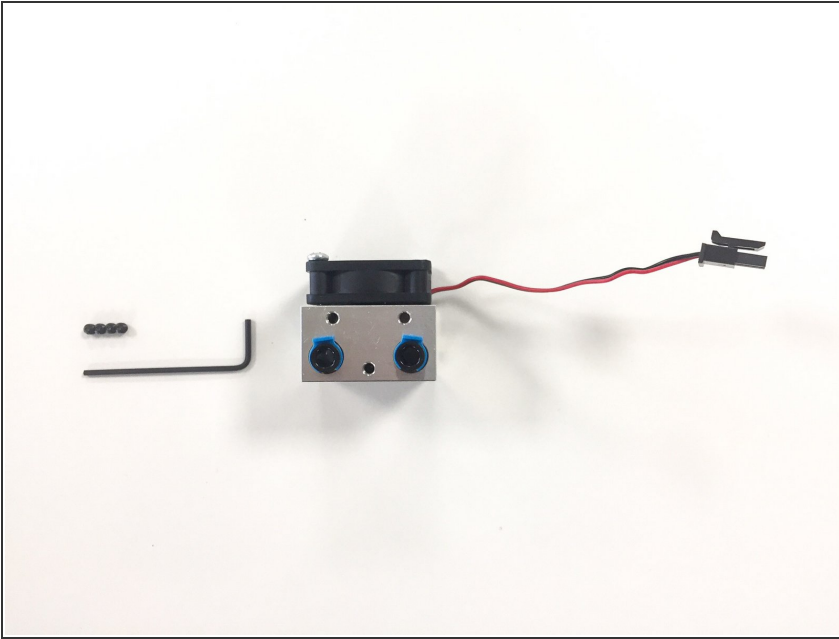
## Step 4 — Bowden Prep



- ① Because the Cyclops/Chimera heatsink is so compact, it is best to use it with a bowden setup.
- ① 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 brass ring.
  - Connect the two collet clips

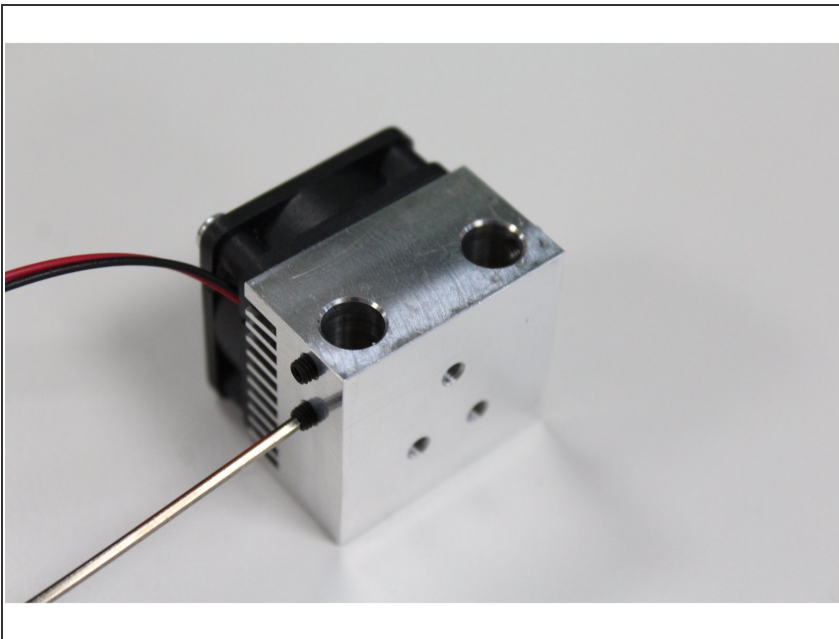


## Step 5 — Gather Heat Break Grub Screws



- Gather
  - Heatsink
  - 4x 3mm Grub Screws
  - The Smaller, 1.5mm Hex key

## Step 6



- 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.

## Step 7 — Mount Heatsink



- Use the 3 M3 dome screws left over to mount your heatsink to your printer, when you're ready to do so.

## Step 8 — Parts required



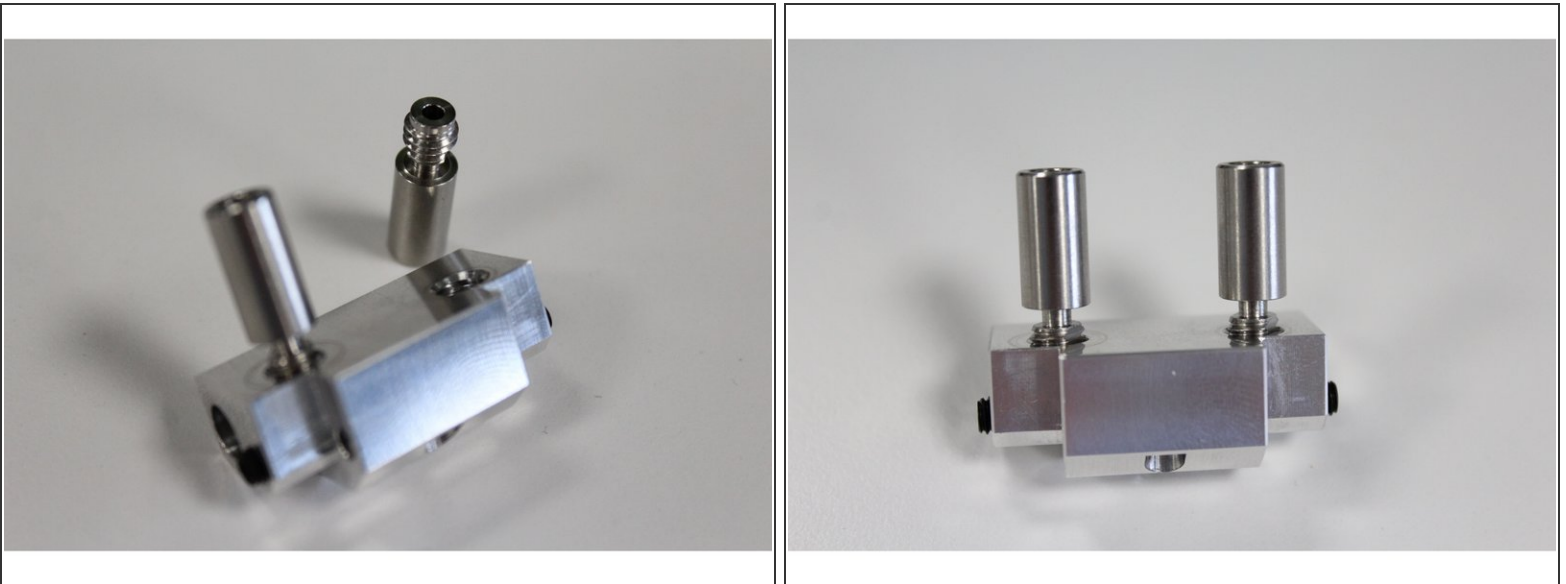
- Gather
  - 2x 2.5mm Steel Balls (Don't lose them!!!)
  - 2x M4 Grub Screws (larger than the ones in the cold side kit)
  - Cyclops Plus Heater Block
  - Cyclops Heat Breaks x 2 (Note that the Cyclops heat breaks have a flat bit on the lower threading, compared to the Kraken heat breaks which are completely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

## Step 9 — 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 10 — Breaks



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



## Step 11 — Nozzle



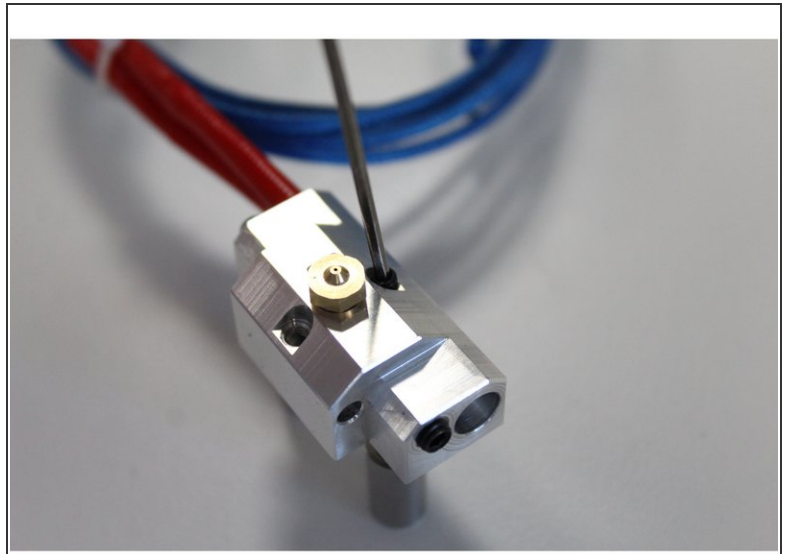
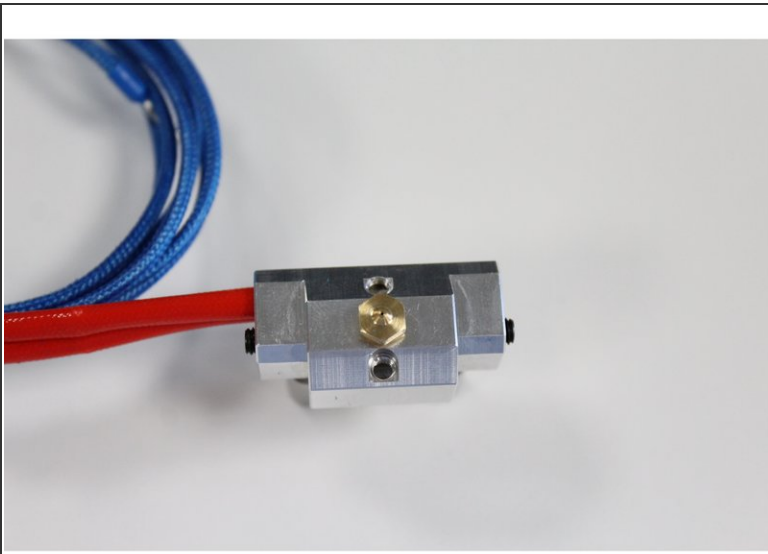
- Screw in the nozzle
- Note that Cyclops nozzles are specific to Cyclops, and are not compatible with V6 or Volcano nozzles
- Don't worry about tightness, we'll be hot-tightening later

## Step 12 — Electronics parts



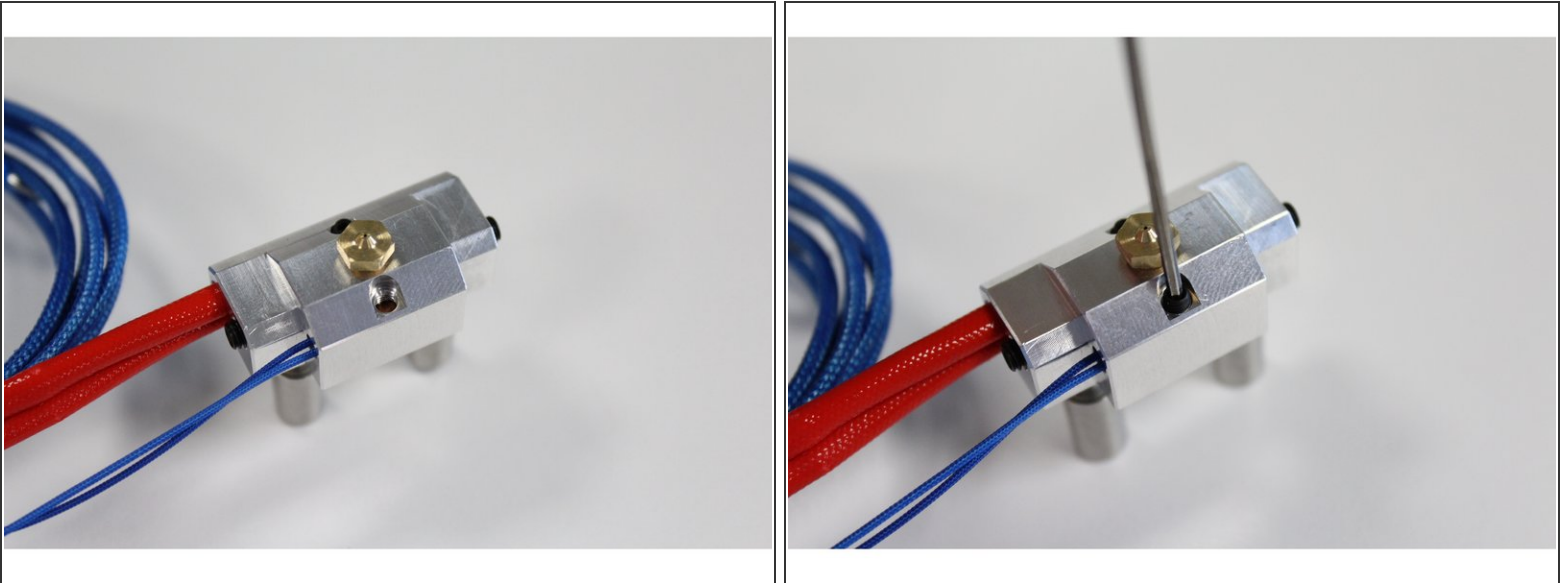
- Gather
  - Heater Cartridge
  - Heater Block
  - M3 Grub Screw x 2
  - Thermistor Cartridge
  - Thermistor cable

## Step 13 — 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 14 — 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 15 — Hot tightening prep



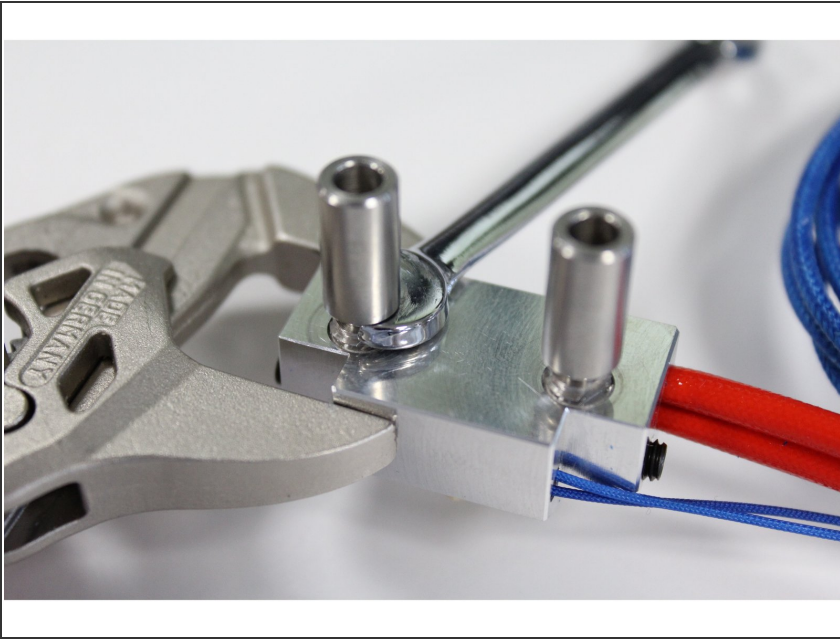
- Next, we're going to heat up your hotend to tighten the nozzle, heat breaks and the grub screws holding the balls in place
- ⚠ Make sure that you place your HotEnd somewhere that can take the heat it will give off!
- ⚠ Don't burn yourself when heating your hotend!
- ℹ You should hot tighten at 285°C

## Step 16 — Hot tightening - balls



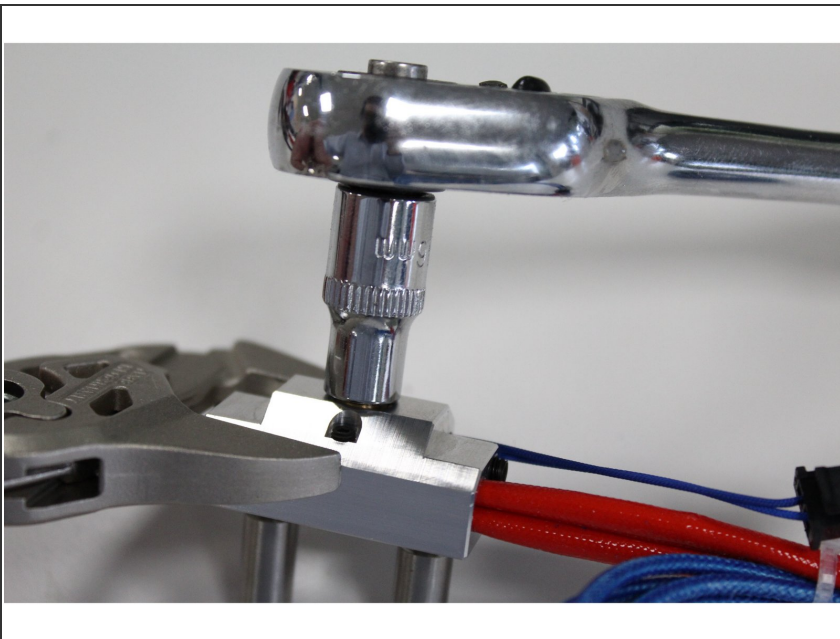
- Begin tightening the M4 grub screws, you will feel the balls slide along the under-sized hole as they progress forwards.
- When you feel the resistance increase significantly, the balls have reached the end of their travel and you are done.

## Step 17 — 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.

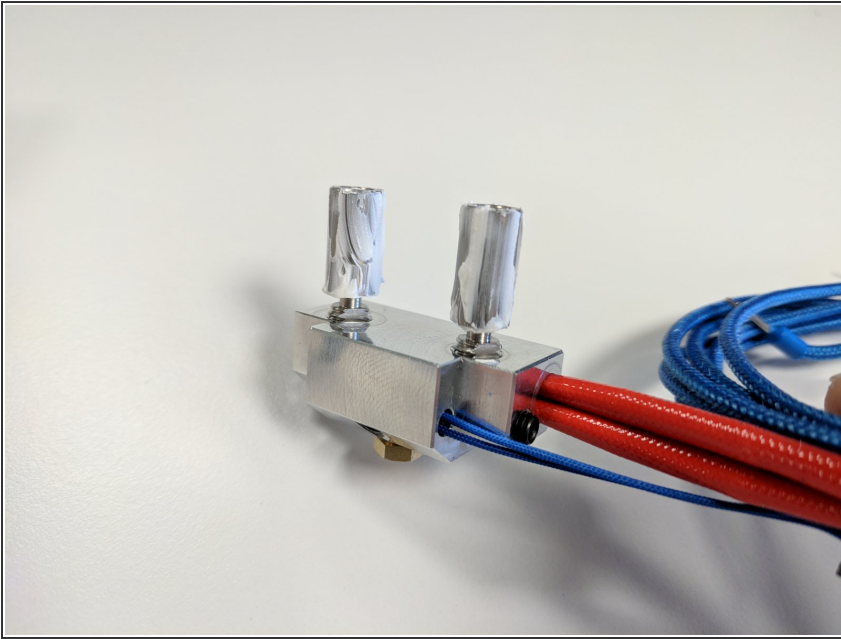
## Step 18 — Hot tightening - nozzle



- 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.

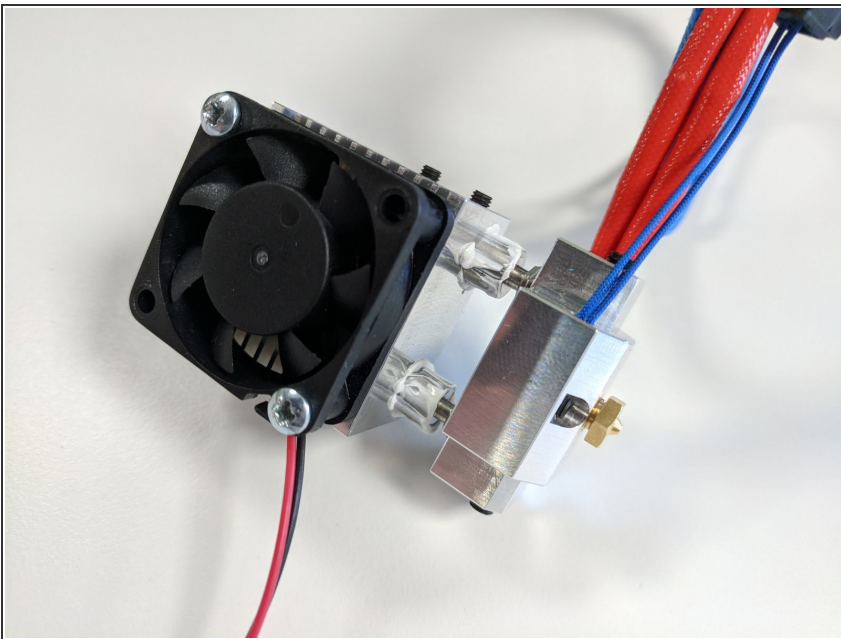


## Step 19 — Thermal paste



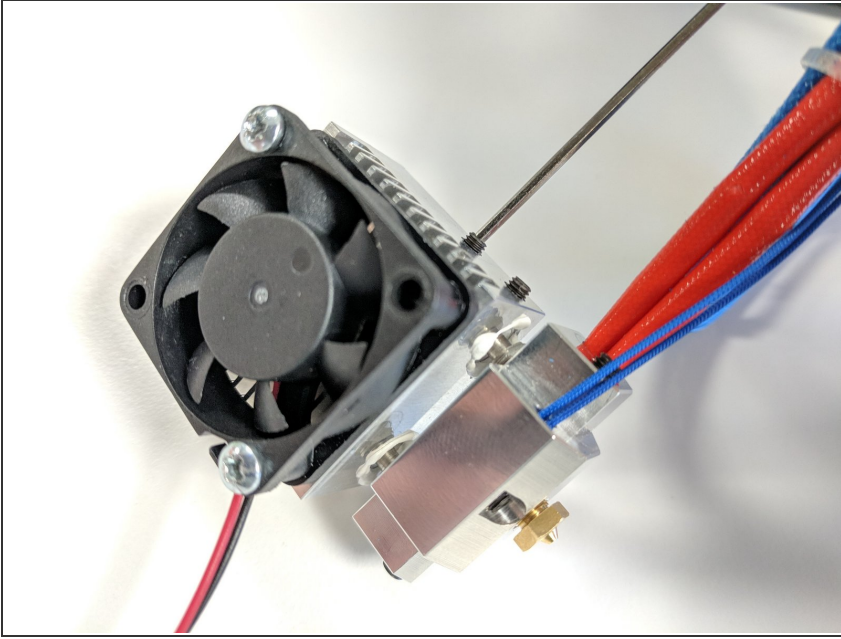
- Apply heatsink compound onto the surface of the heat breaks sparingly.
- You don't need to use the whole sachet.

## Step 20 — Slide in hot Side



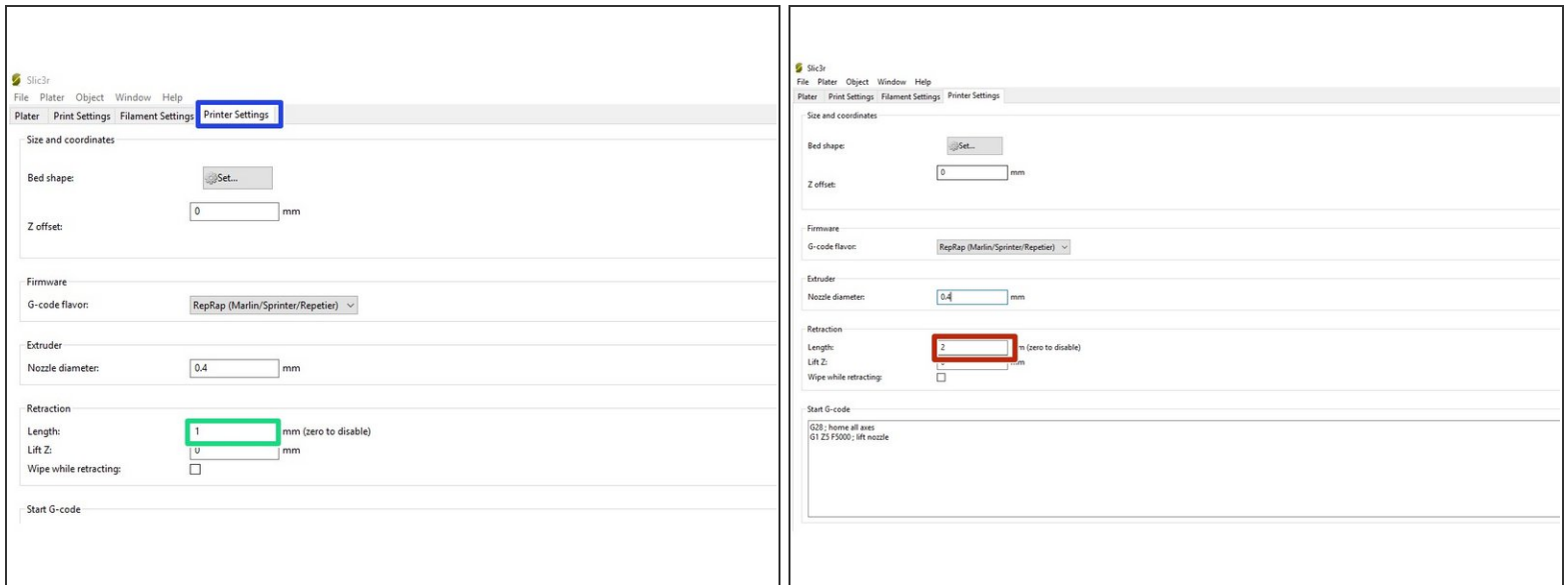
- Slide the heat breaks up into the Heat Sink.
- ⚠ Ensure the bottom of the breaks is flush with the bottom of the sink

## Step 21 — 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 22 — 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.

## Step 23



- Make sure that there are always 2 filaments inserted into the Cyclops + when printing. This also applies if you are only using 1 filament to print with.
- Printing with only 1 filament inserted will cause molten filament to leak out of the second filament orifice .