

brandeismakerlab

Replace Ender 3 Heater Block

Due to age and overtightening, the threads on the heater block that interface with the nozzle may become stripped and you'll need to replace it.

Written By: Katherine





TOOLS:

- [Hex keys in metric pattern](#) (1)

you specifically only need the 1.6mm and 2mm hex keys

- [Flat wrench](#) (1)
- [Wrench and/or Wire Strippers](#) (1)

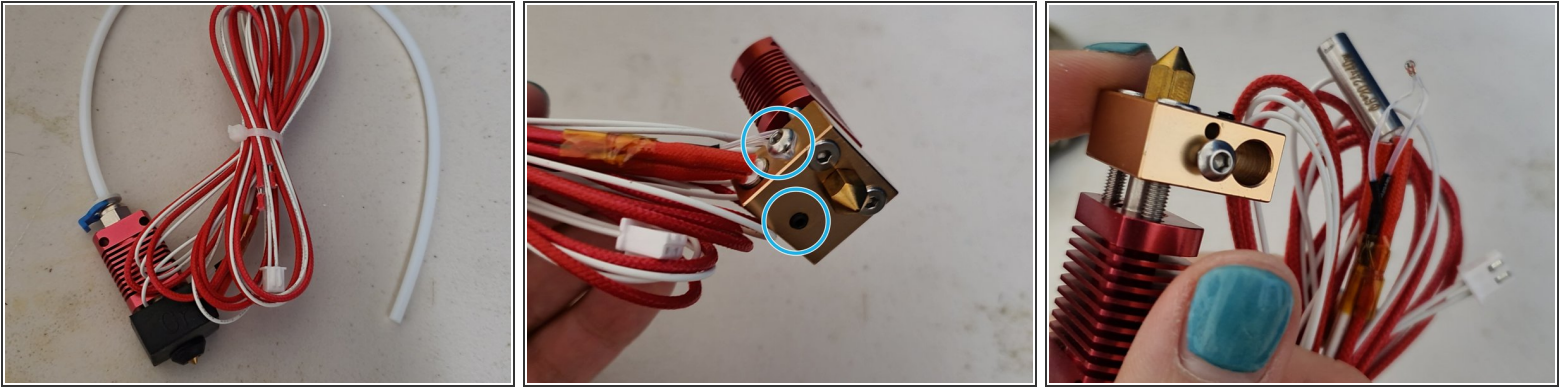
Anything to hold the heater block while you're unthreading the pneumatic coupling to give you extra leverage



PARTS:

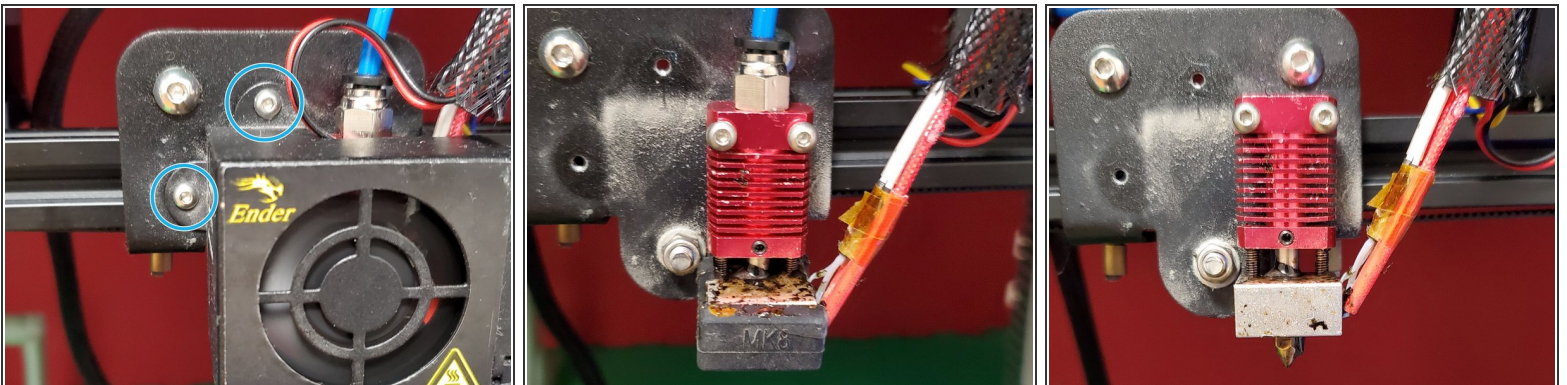
- [Spare heater block assembly](#) (1)

Step 1 — Prep the replacement block



- We only need the hardware, so remove the included wiring and pneumatic coupling.
- Unthread the attached coupling and pull off the heat sock to reveal the screws holding the assembly together
- Loosen the two indicated screw without removing them until the electronics slide out of their holes smoothly. Do not retighten

Step 2 — Beginning disassembly

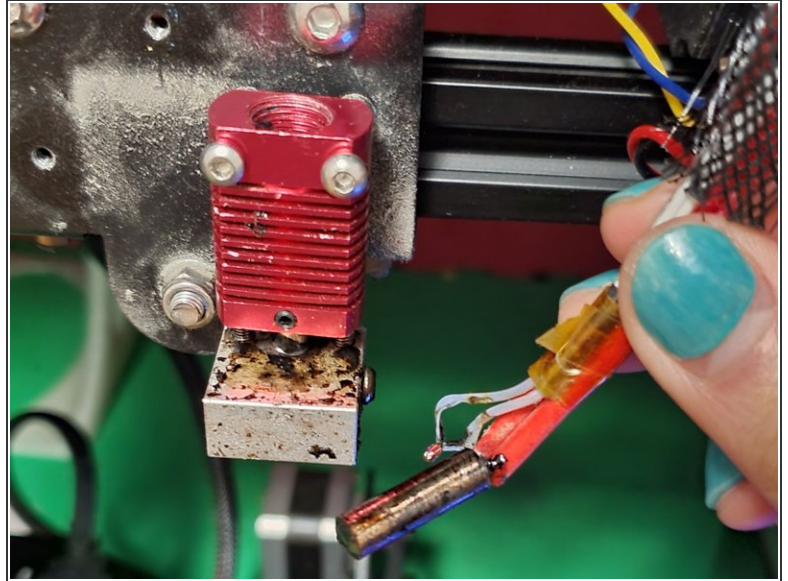
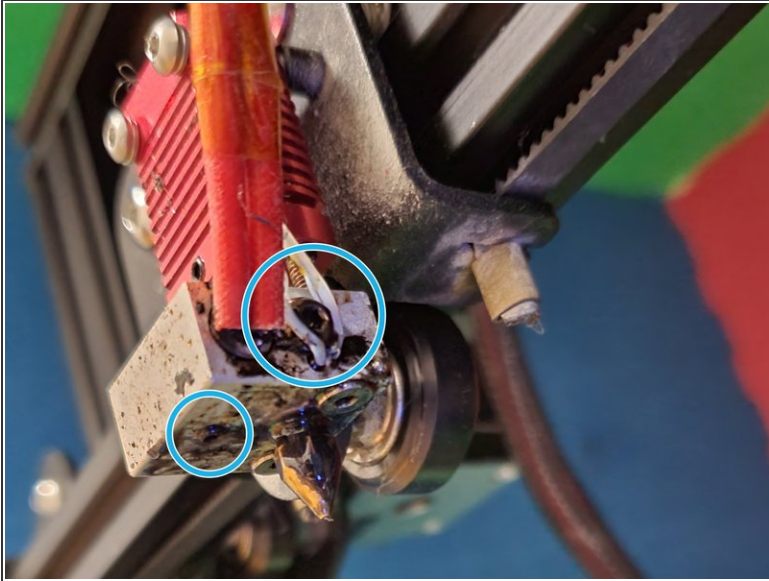


- Preheat your printer to 200-230 degrees celsius
- Remove the two screws on the fan cover, and set it aside on the gantry

⚠ Consider everything under the cover to be hot until you set the printer to cool down

- Unscrew the pneumatic coupling and pull off the heat sock

Step 3 — Disconnecting the heater cartridge and thermistor

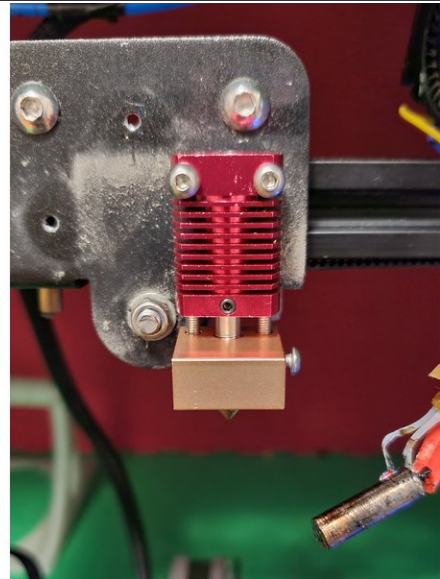
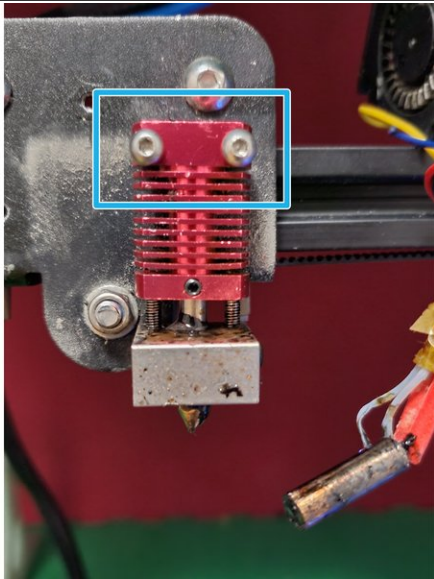


- Repeat step 1 on the old heat block, loosening the indicated screws just enough that the electronics are loose in their slots
- Set the printer to cool down to prevent a thermal runaway when you remove the electronics

⚠ Keep in mind that everything is very hot at this point

- Hold the electronics by their insulation and gently wiggle them out of the heater block

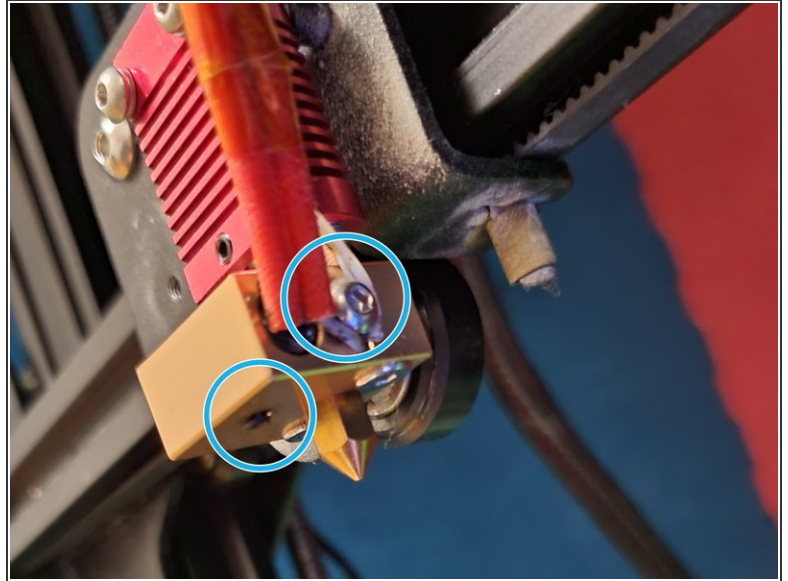
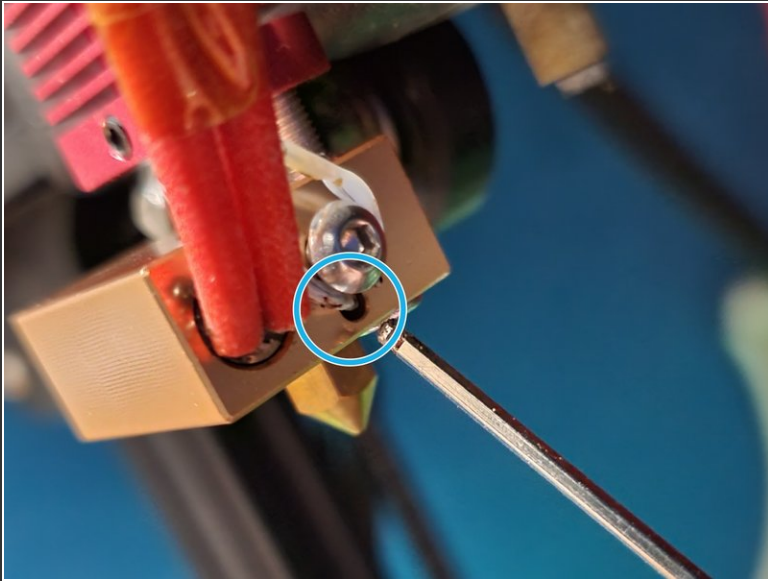
Step 4 — Swapping heater blocks



⚠ The old heater block is probably still hot enough to burn you at this point, make sure to hold onto it with something that isn't your hand

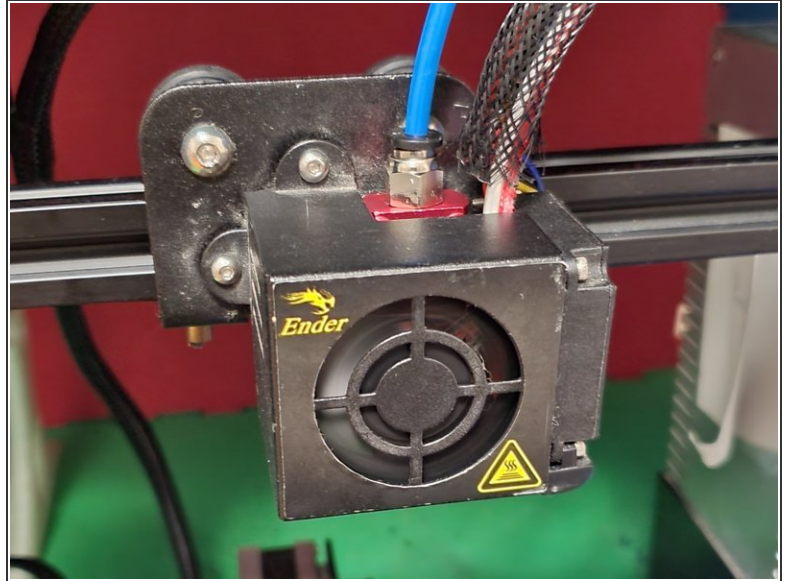
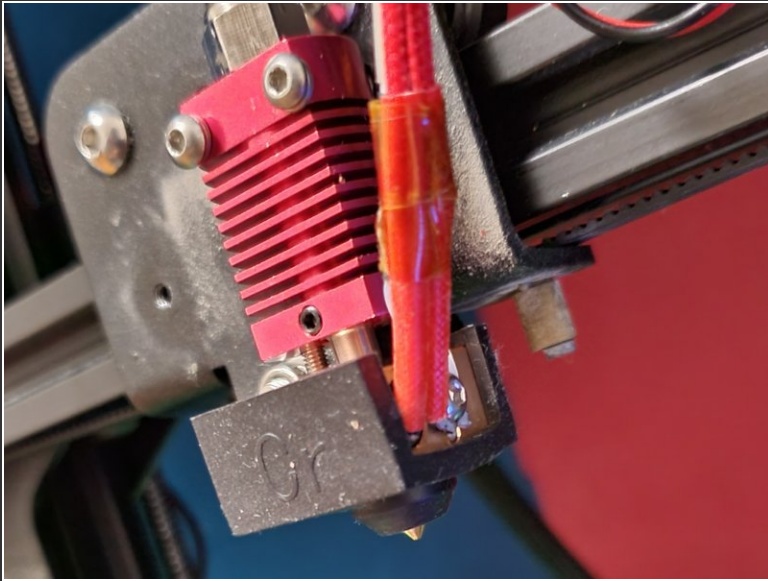
- Remove the two screws holding the old block to the frame, and use them to attach the new one

Step 5 — Reinstalling the electronics



- Holding them by the wire, slide the hopefully cool electronics into the new heater block
- Using the smaller Allen key, make sure the thermistor is sitting in its slot before tightening
- Tighten both screws just enough to hold the cartridge and thermistor wires in place; pull on the thermistor wire just enough to keep it under the screw head while tightening

Step 6 — Finishing reassembly



- Reattach the pneumatic coupling and heat sock, making sure that the Bowden tube is pushed all the way into the block to sit snugly against the nozzle.
- Reattach the fan cover
- Make sure to relevel the print bed before resuming printing, as slight differences in the placements of the heat sinks and nozzles might change the print height