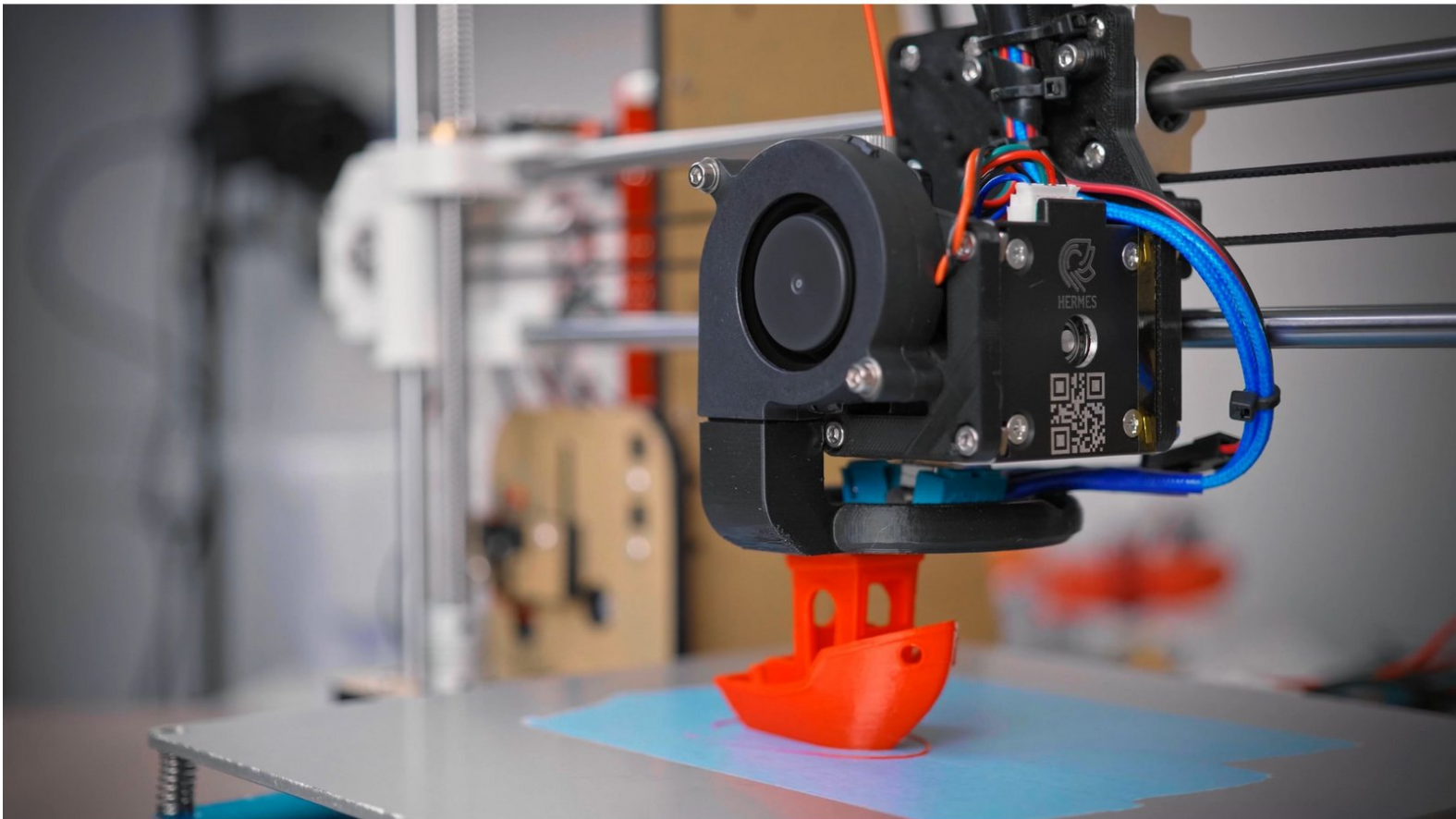




Hemera on Anet A8

Convert your stock Anet A8 to the Hemera toolhead, retaining compatibility with many upgrades and mods designed for the stock A8.

Written By: Thomas Sanladerer



INTRODUCTION

Purchase your Hemera here: <https://e3d-online.com/e3d-hemera-175-ki...>

Find the video guide here: <https://www.youtube.com/watch?v=0tzpdNVs...>

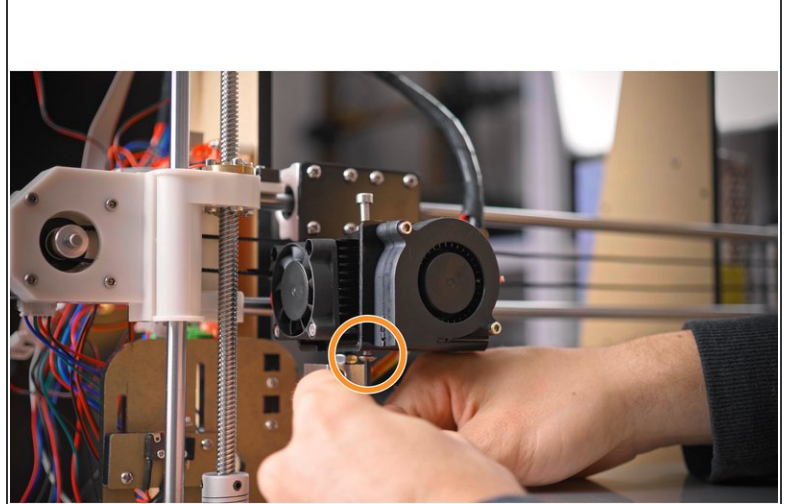
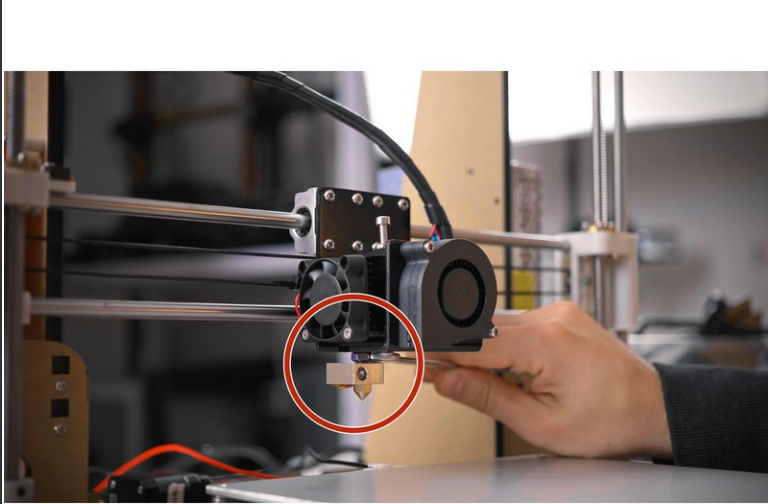
Please note that this guide is assuming the use of a fully assembled and hot tightened Hemera unit if you have not yet fully assembled and hot tightened your unit please see: Hemera Assembly Guides

Mounting a Hemera to an Anet A8 is easy, and we provide most of the tools you'll need. Please note, though, that you should be very careful of the following safety cautions:

- Be aware of your electronics. Don't work on your printer while it is plugged in or turned on.
- Be aware when you heat up your new hotend not to burn yourself on the heater block nozzle or heater cartridge.
- The standard Hemera is capable of printing up to 285°C, do not exceed these temperatures unless you have replaced the Thermistor cartridge with a PT100, the Aluminium heater block with a Plated copper heater block, and the Brass nozzle for a Plated copper, Hardened steel or Nozzle X.
- Firmware modification is not optional it is a mandatory step,
- Make sure you have ordered and received the correct voltage heater and fan to match the power supply of your printer. All of our current heater cartridges should have the voltage and wattage laser engraved on the cartridge. Taking an ohm reading is the most reliable method of testing what voltage/ wattage you have received.
- Connecting 12v parts to a 24v power supply can result in overheating, component damage, or fire. If you are unsure double check the rating on your power supply.
- Your HotEnd and your printer are your responsibility. We cannot be held responsible for damages caused by the use, misuse or abuse of our products.

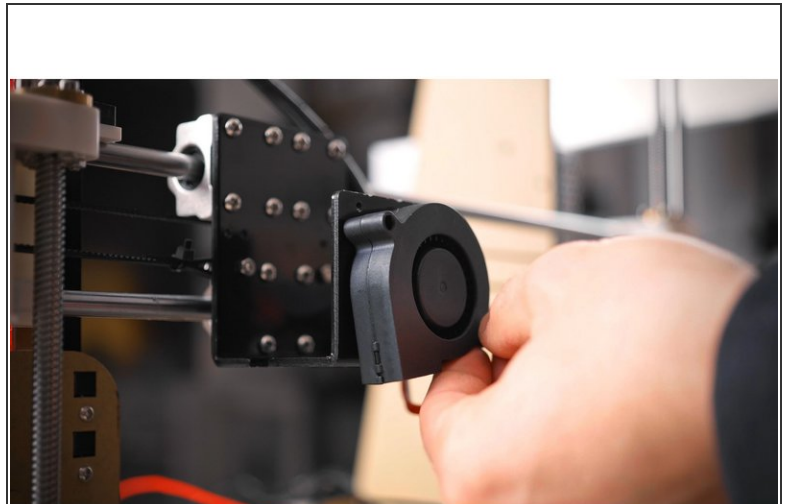
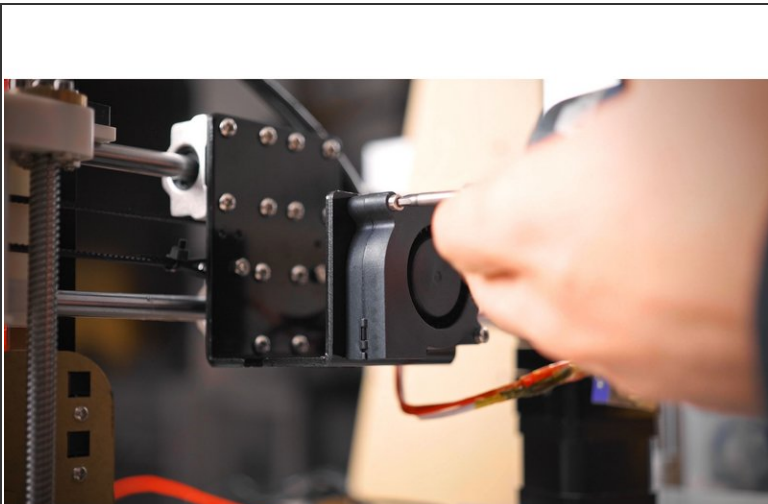
- As well as the printed parts from <https://www.prusaprinters.org/prints/127...>
- and the firmware from <https://toms3d.org/wp-content/uploads/20...>

Step 2



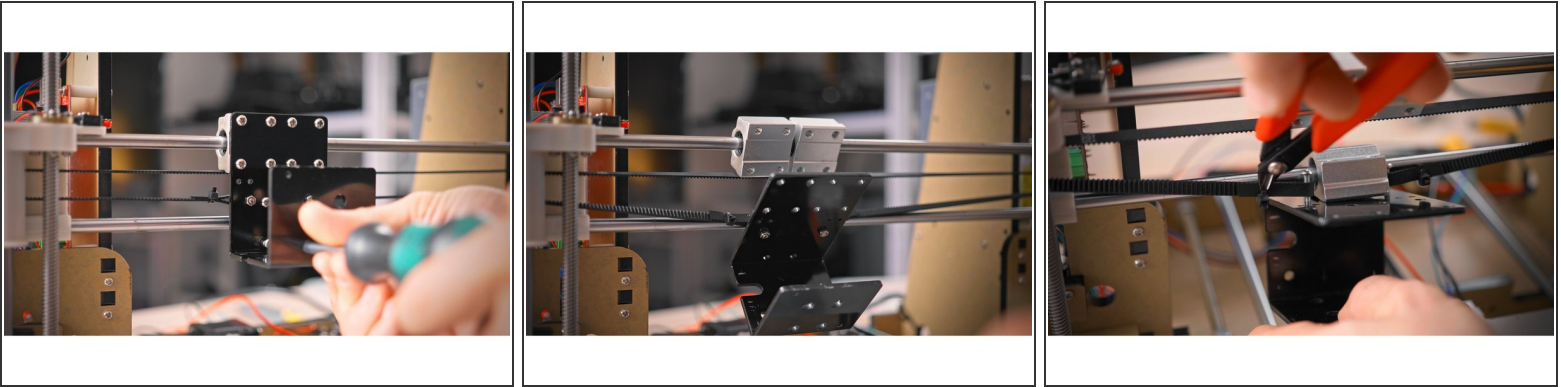
- First, let's disassemble the original toolhead. Undo the locking nut on the original heatbreak
- and remove the screw at the bottom that's holding the extruder body in place.

Step 3



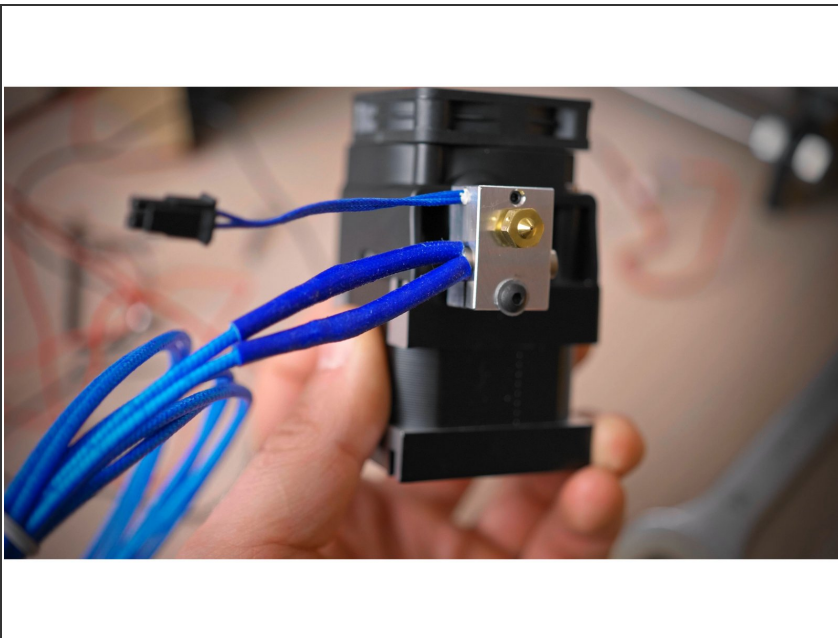
- Unplug the motor, we will be reusing the original motor cable.
- Also remove the part cooling fan, but we will be reusing that, too.

Step 4



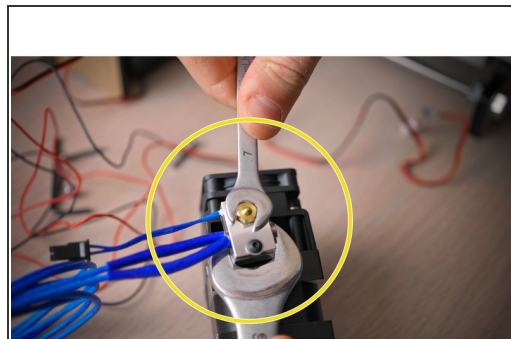
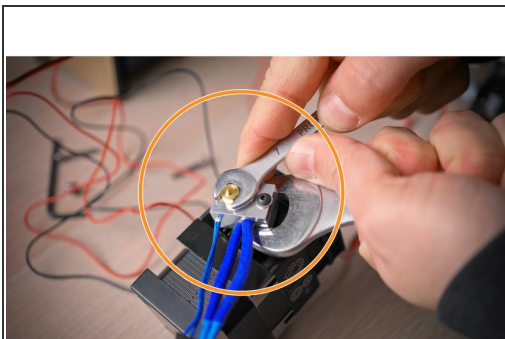
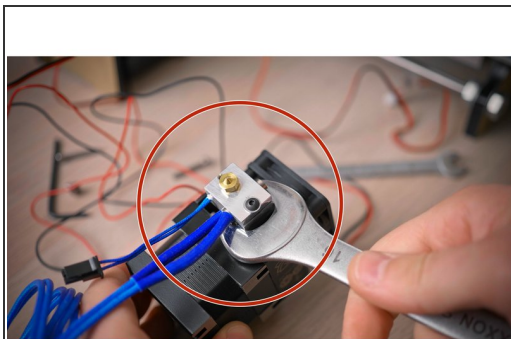
- If you have any bed leveling sensor mounted to the back of the carriage, unscrew that before unbolting the carriage from the bearing blocks.
- Once that's loose, clip off the zip ties holding the belt in place and you should be free to remove the stock carriage from the printer.

Step 5



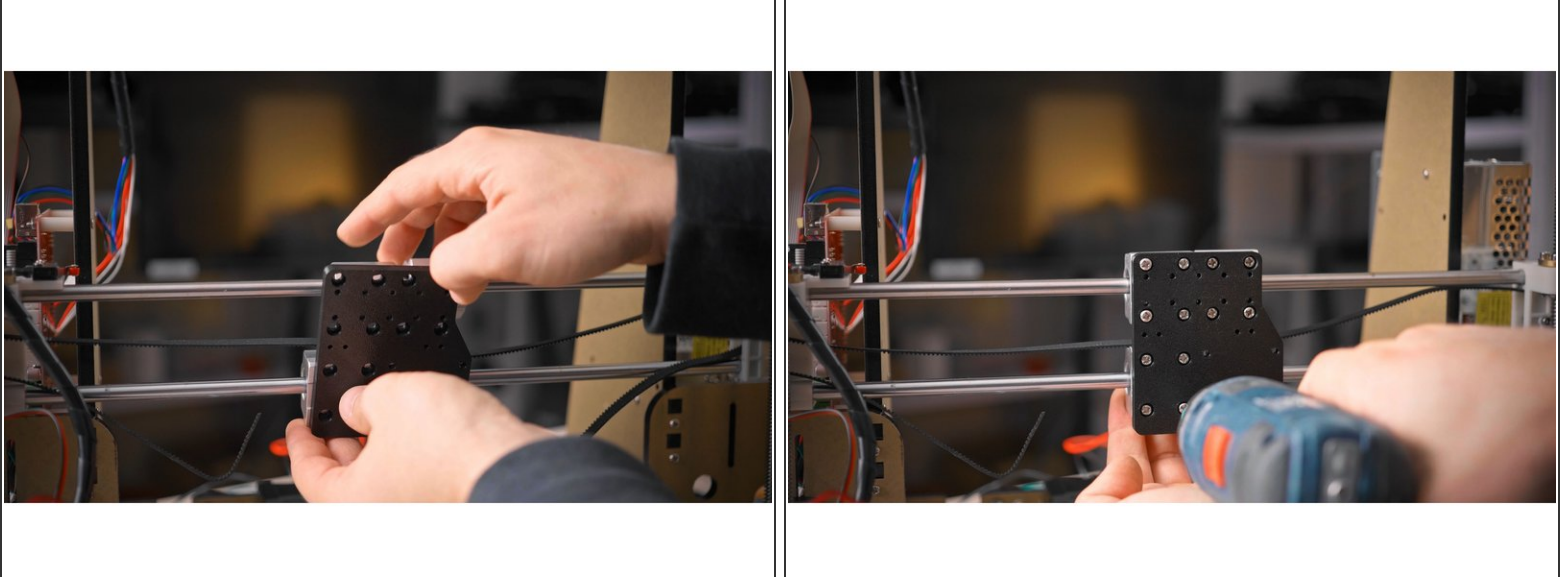
- For the Hemera itself, rotate the heater block 90°, with the long side facing the stepper motor.
- We need this to maintain compatibility with fan shrouds made for the A8.
- ⓘ Please note this is not the recommended orientation of the heater block. If you are not intending to use the A8 fan shroud we would suggest using the standard orientation.

Step 6



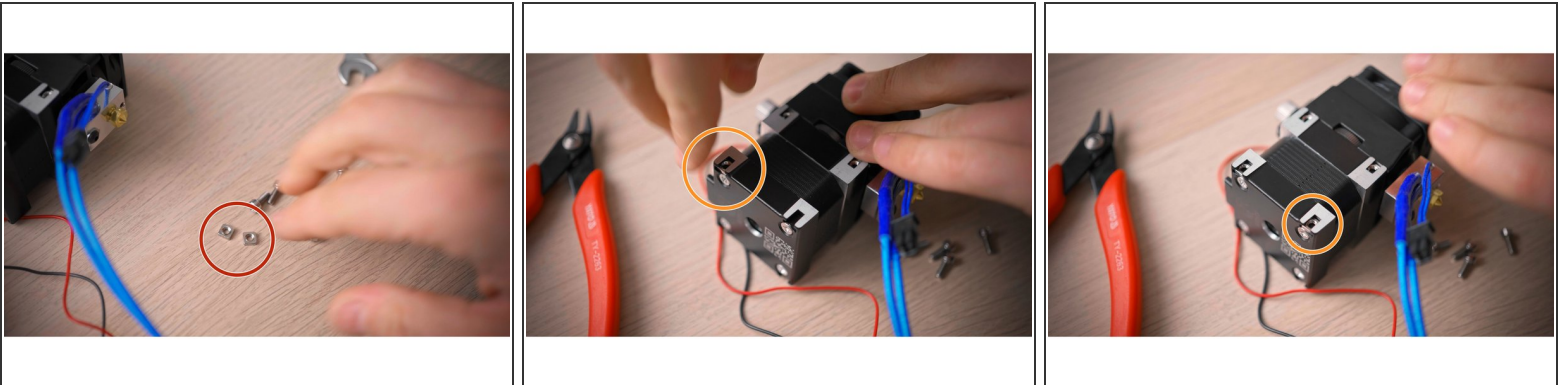
- To rotate it, grab the heater block with a wrench and slightly unscrew the heatbreak from the extruder body.
- Then unscrew the nozzle half a turn, making sure you don't put any bending stress on the heatbreak.
- Then rotate the block and tighten up the nozzle against the heatbreak by holding on to the heater block and screwing down the nozzle.
- and finally lightly tighten the heatbreak back into the extruder body. Now we're ready to start mounting the Hemera to the printer.

Step 7



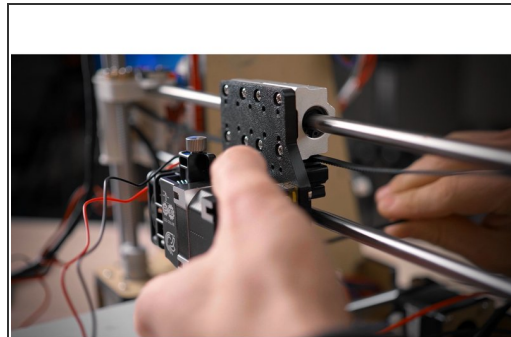
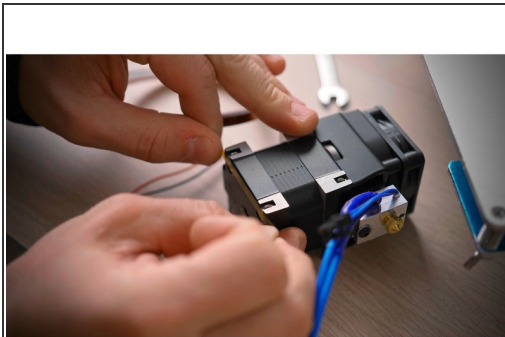
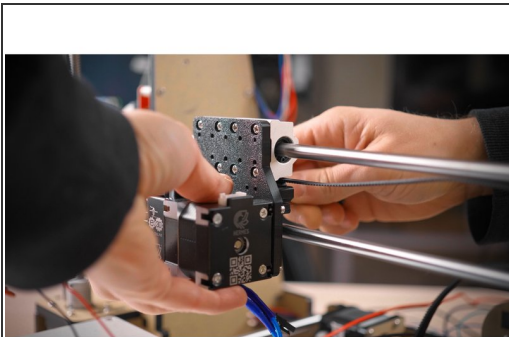
- Start with the new printed carriage and bolt it down onto the bearing blocks using the original screws.
- Lightly thread in each screw first, then tighten all of them down.

Step 8



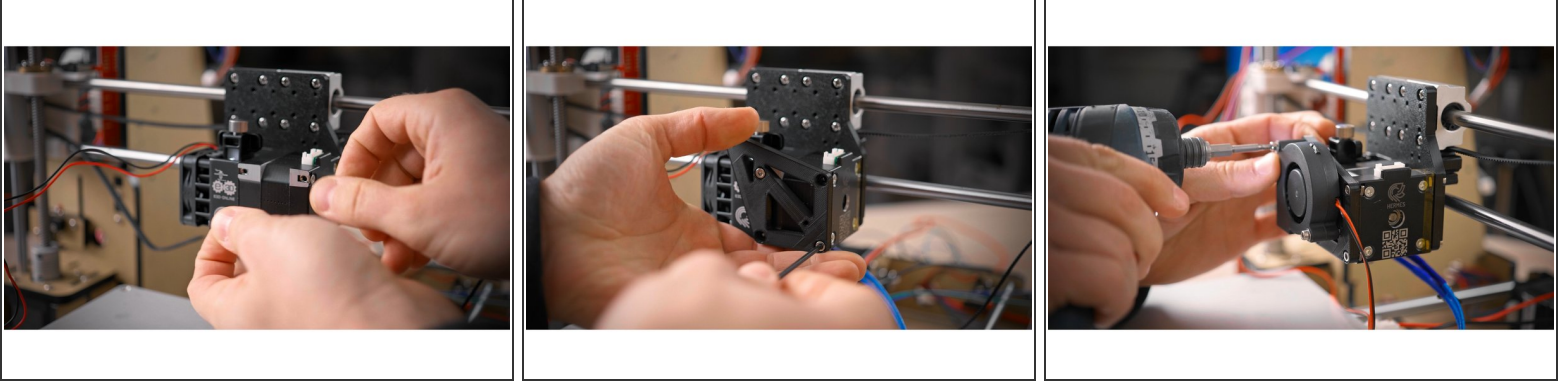
- Next, we can mount the Hemera to the carriage.
 - Grab the included M3x8 screws
 - and insert two of the square nuts into the slots of the Hemera's end plate.

Step 9



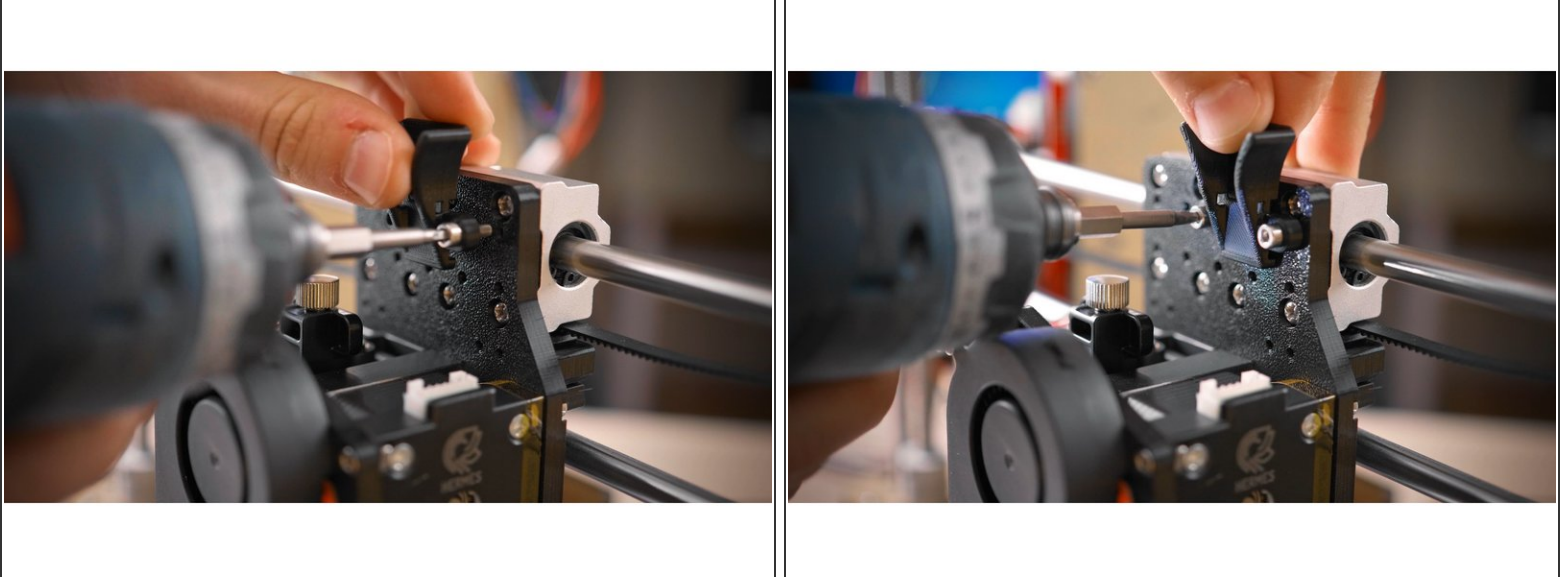
- Then screw the Hemera to the carriage from the back.
 - If you're having trouble with the square nuts falling out, you can easily put a piece of tape over the slot.
- ⚠ Be aware it is possible to crack the t slots if you use screws that are too long and bottoms out. Our recommendation is to use screws that protrude 3mm +/- 0.25mm from the mounting surface to go into the T-Slots. Over tightening also risks snapping the T slot.

Step 10



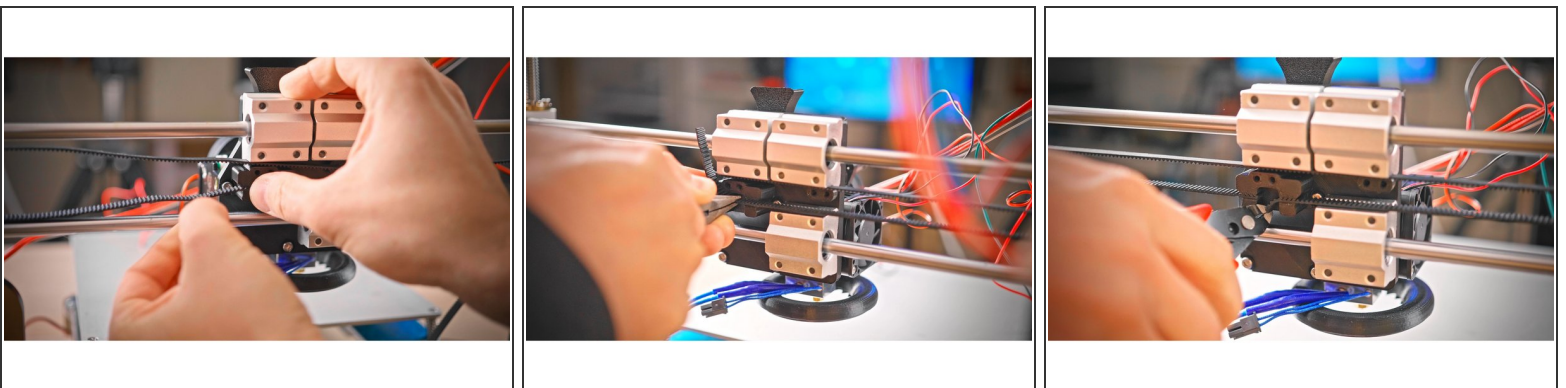
- Next, mount the fan adapter plate onto the front side of the Hemera.
 - Use two more square nuts and shorter M3x5 screws.
 - Then use the original fan screws and mount the fan to the adapter plate. You may need to push a bit to get the thread started.
- ⚠ Be aware it is possible to crack the t slots if you use screws that are too long and bottoms out. Our recommendation is to use screws that protrude 3mm +/- 0.25mm from the mounting surface to go into the T-Slots. Over tightening also risks snapping the T slot.

Step 11



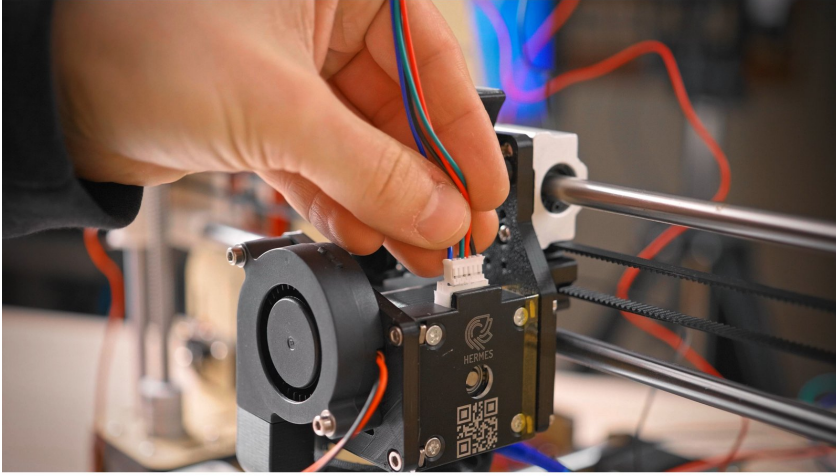
- Lastly, let's mount the strain relief wire guide. This can attach to any of the grid points above the extruder if your wiring is different, but I've found it to work well all the way to the right.
- Use two M3x10 screw or any other screw that fits and bolt it down. By the way, there's also a few extra grid points on the bottom edge of the carriage plate if you feel like mounting stuff there.
- And that's the carriage assembled! Let's get it working!

Step 12



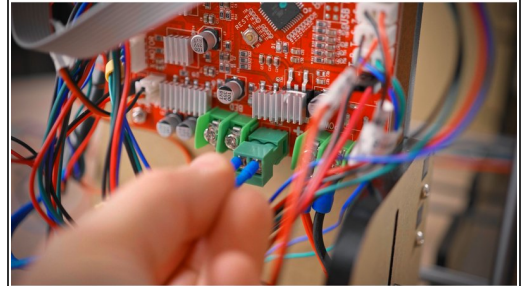
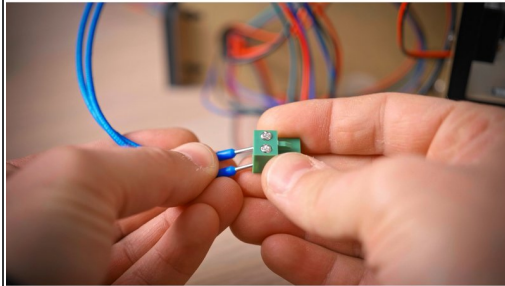
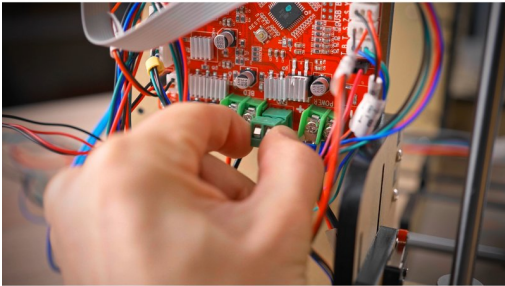
- For motion, we need to attach the belt. This is a screwless mount, simply slide the belt in on one side, then grab a pair of needle-nose pliers and slide in the other side under slight tension.

Step 13



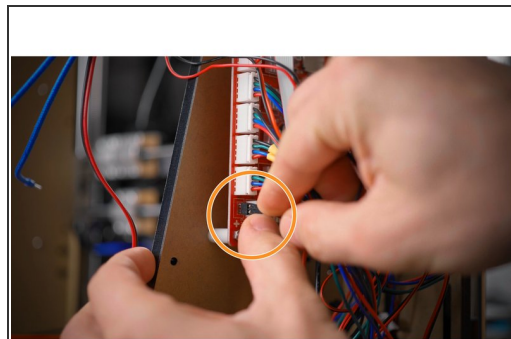
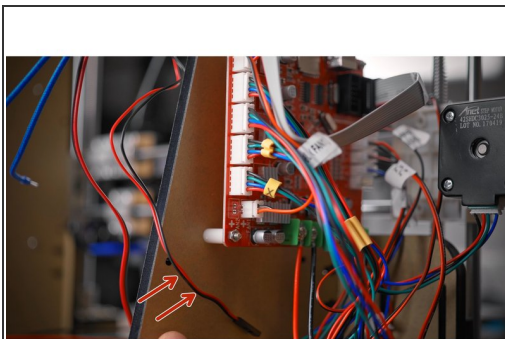
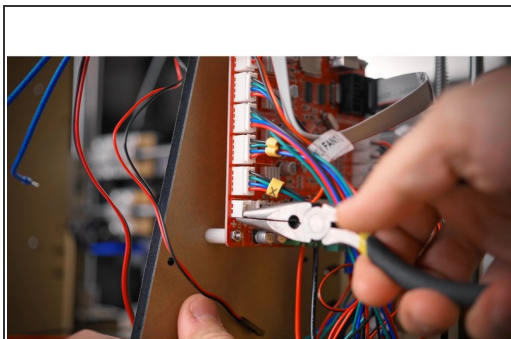
- Next up, wiring. We're reusing the original motor connector and part cooling fan, so they can stay wired in.

Step 14



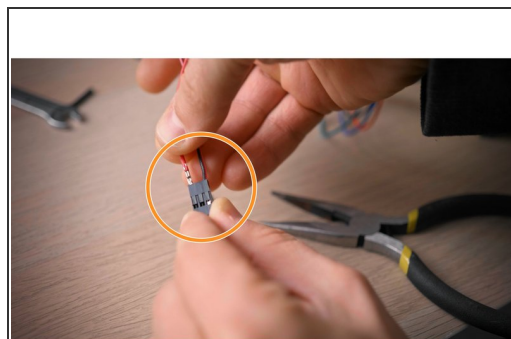
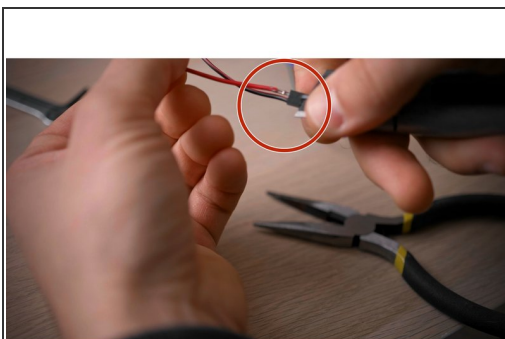
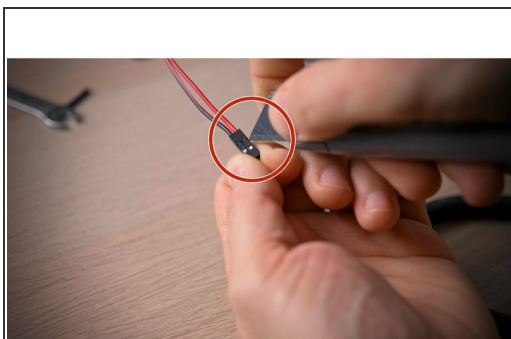
- The hotend heater can use the same terminal as the stock one.
- The Hemera comes with ferrules around its wires, which makes this a really clean install.

Step 15



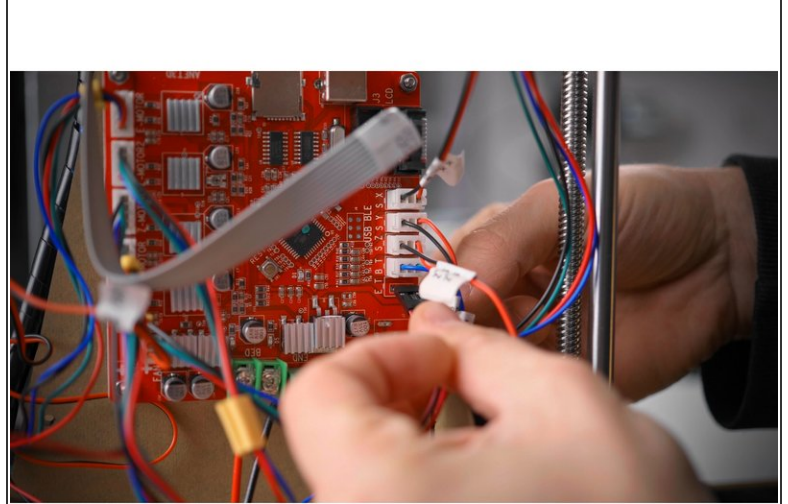
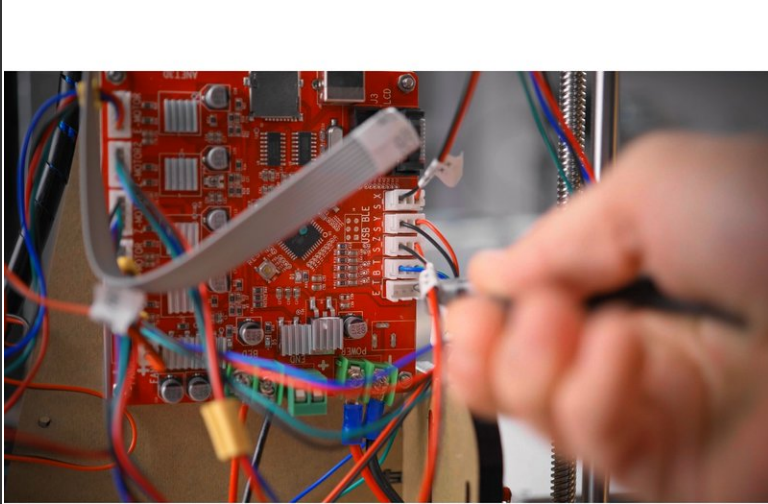
- The hotend cooling fan is fairly simple, too.
- Carefully pull off the white connector shroud from the board,
- then plug the connector on the Hemera fan into the pins, making sure you get the polarity right by matching the red and black wires to the orientation of the part cooling fan's wires.

Step 16



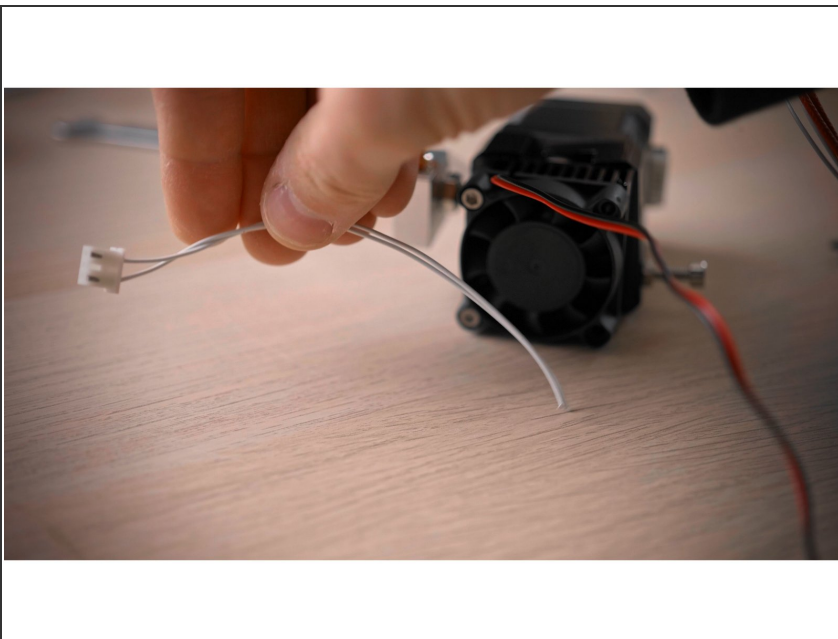
- For the thermistor, you have a few different options. and insert them into the two outermost spots in the three-pin.
- If you have a three-pin housing for these “Dupont” style connectors, you can remove the wires from the supplied housing by bending up these tabs,
- and insert them into the two outermost spots in the three-pin.

Step 17



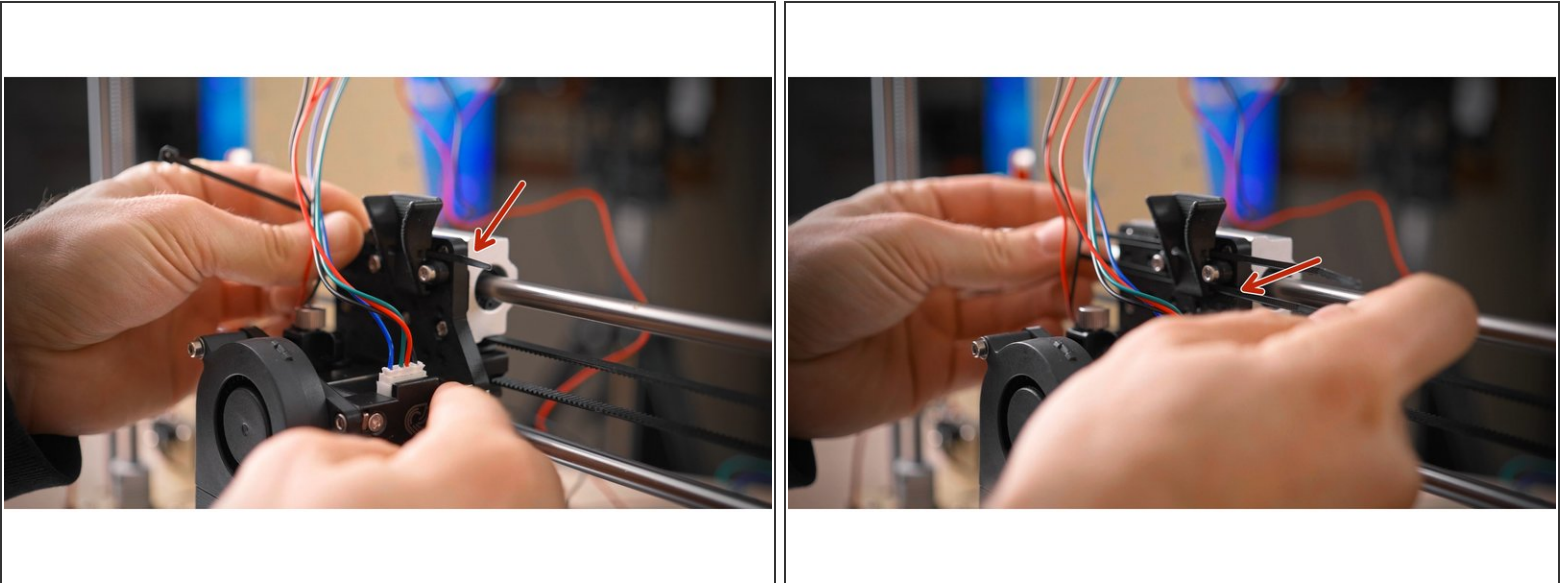
- Then peel off the connector shroud on the board
- and plug it in. Polarity does not matter here.

Step 18



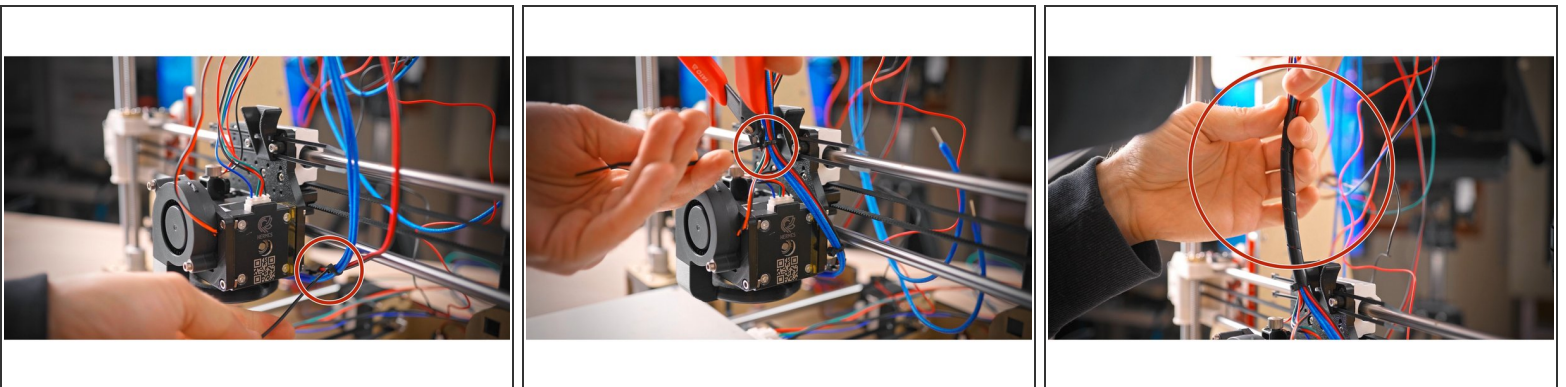
- Alternatively, you can also cut the connector off and solder on the stock thermistor's connector.

Step 19



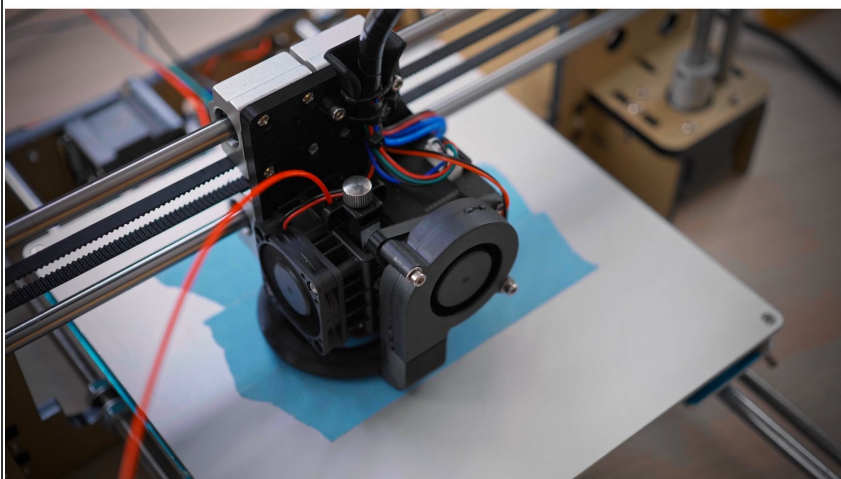
- Now, to get the wires in order, pull two zip ties through the strain relief guide.

Step 20



- Then tie down the wire bundle from the hotend after you've wrapped it with the spiral wrap.

Step 21



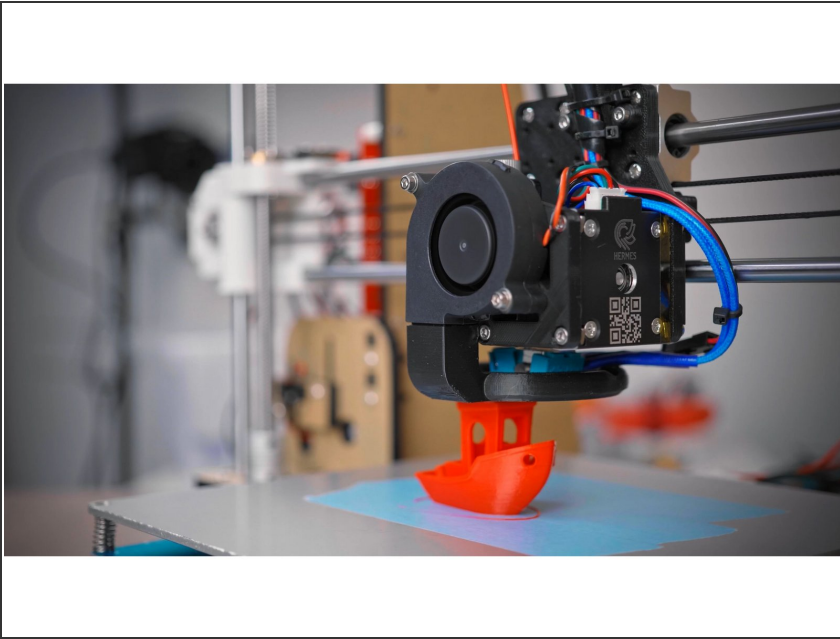
- At this point, you could start up the printer and start cranking out parts, but it would severely underextrude and the temperatures would be off.
- So because the A8 could do with a few more firmware fixes anyway, I'm providing a fresh setup of Marlin 2.0 beta that not only is ready to go for the Hemera and v6 hotend, but also enables all thermal safety features.

Step 22



- You can find the .hex file and Marlin 2.0 beta source code below.
- Hex <https://toms3d.org/wp-content/uploads/20...>
- Source <https://toms3d.org/wp-content/uploads/20...>

Step 23



- And that's the A8 completed. Happy printing!