Voron v0.2 Umbilical PCB Strain Relief and Molex Support

Busted Beaters

VIEW IN BROWSER

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Summary

A Strain Relief and Molex Support for the Umbilical PCB On a Voron v0.2

3D Printers > Voron Parts & Upgrades

Tags: brace support pcb strainrelief umbilical voronv0 formbot voronv02

This is a strain relief for the umbilical wiring harness on a Voron v0.2. I was running into an issue where I was losing connection in the Molex connector between the wiring harness and the PCB. During prints, the wiring harness was flexing this connection and at times it would cause the following error stopping my print. “Heater extruder not heating at expected rate”

To solve this, I created a strain relief that attaches the frame to the Molex connector so it is unable to move. I also created a tie down point where the umbilical wiring harness can be zip tied to the strain relief the same way that the toolhead side is.

You Will Need To Print

1 - Voron V0.2 Umbilical PCB Support

Parts Needed

2 - M3 Nuts

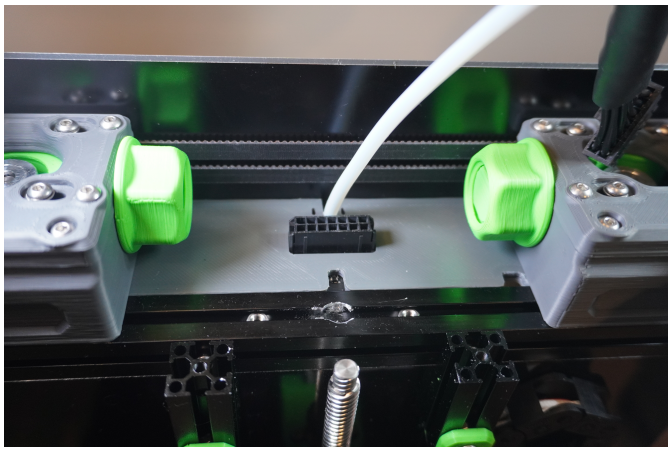
2 - M3x8 Button Head Cap Screws

2 - Zip Ties

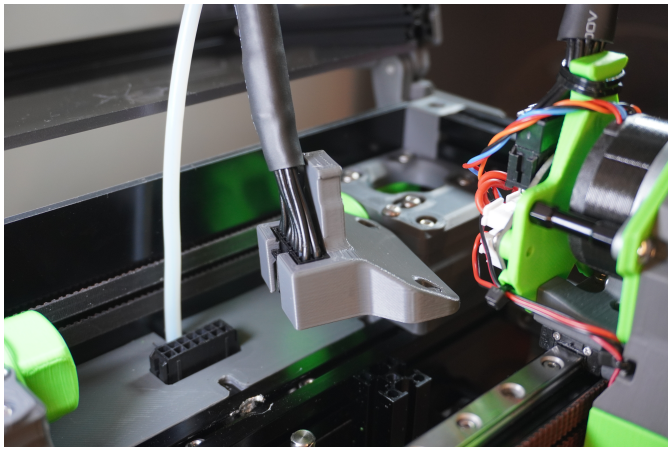
Assembly

*** Test fit the strain relief to ensure a proper fit before modifying the printer***

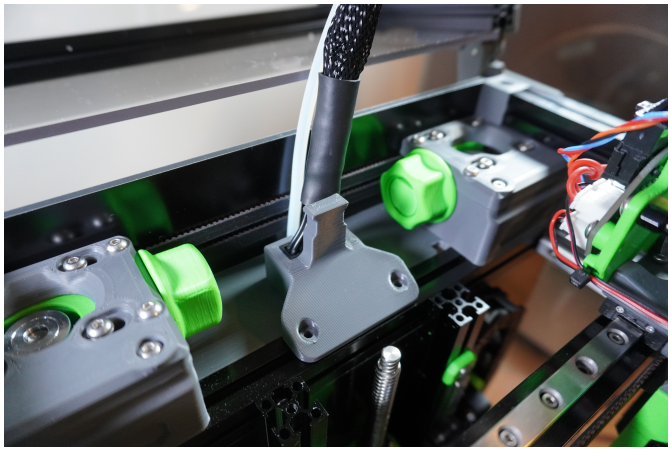
Unplug the Umbilical wiring harness from the PCB board. Unfortunately, two M3 nuts will need inserted into the top of the frame extrusion to mount the strain relief. There's a few ways this can be done. The first option is to disassemble the printer to the point where the nuts can be slid into the sides of the extrusion. Being that my printer is pretty dialed in, I didn't want to tear it down. Instead, I chose to drill out the extrusion. I chose to drill out the slot in the middle of the extrusion as this will be covered by the strain relief. It's pretty ugly but, it works and beats tearing down the printer in my opinion. Insert both nuts into the slot of the extrusion.



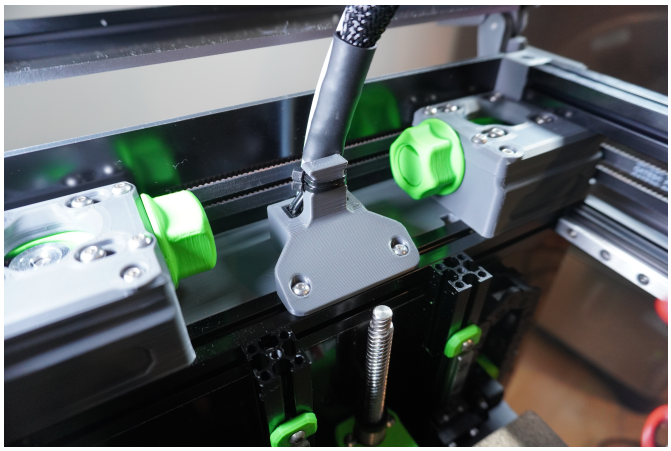
Install the Molex connector from the wiring harness into the strain relief. This should be a tight fit.



Press the strain relief and the wiring harness onto the Molex connector on the PCB board. You will hear a click when the connector has locked into place.



Install two M3x8 button head cap screws into the M3 nuts and attach one or two zip ties around the wiring harness.



Print Settings

Print parts as oriented in the STLs.

Parts that are pictured were printed on a Voron v0.2 with the following settings:

- Material: ABS/ASA
- Nozzle: 0.4mm
- Layer Height: 0.2mm
- Extrusion Width: 0.4mm
- Infill Percentage: 40%
- Wall Count: 4
- Solid Top/Bottom Layers: 5
- Supports: None

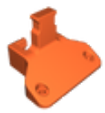
Inspiration

I got the inspiration for this design from a user called Houstonyates. Thanks! Unfortunately their design did not work for me nor did it include the zip tie tie down points that I wanted, so I completely redesigned it.

Say Thanks

All my prints are free and will remain this way. With that being said, if this print helped you out or you would like to support me and my work, consider donating to me directly at: PayPal

Model files



voron-v02-umbilical-pcb-support.stl

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