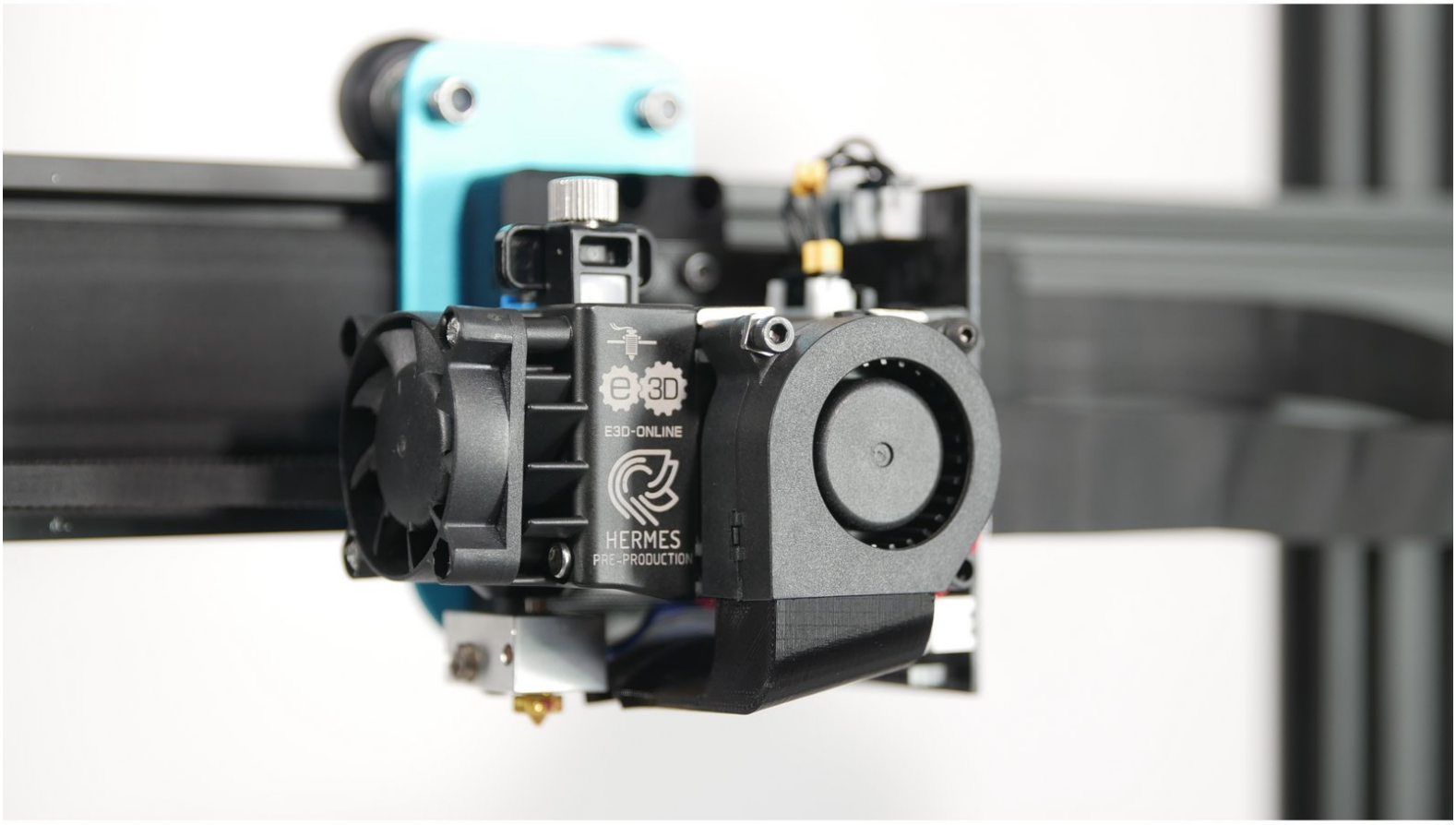
Hemera Artillery (Evnovo) Sidewinder X1 (Up to V3)

Instruction guide on mounting the Hermes extruder on the Artillery (Evnovo) Sidewinder X1

Written By: Joseph



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INTRODUCTION

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

For the printed parts please see:

https://www.myminifactory.com/object/3d-...

For the video guide please see:

https://www.youtube.com/watch?v=Ws-rDTRz...

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: Hermes Assembly Guides

Mounting a Hemera to an Artillery (Evnovo) Sidewinder X1 (Up to V3) 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.
- We provide these guides as a reference to show that it is possible to mount a Hemera to an Artillery Sidewinder X1. Users should be mindful that your specific use case may vary and further modifications or additions may be required.

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TOOLS:

- 2mm Allen Key (1)
- Tweezers (1)
- Long Nose Pliers (1)

PARTS:

- Printed Carriage Base (1)
- Printed Bracket Mount (1)
- Printed Fan Duct (1)

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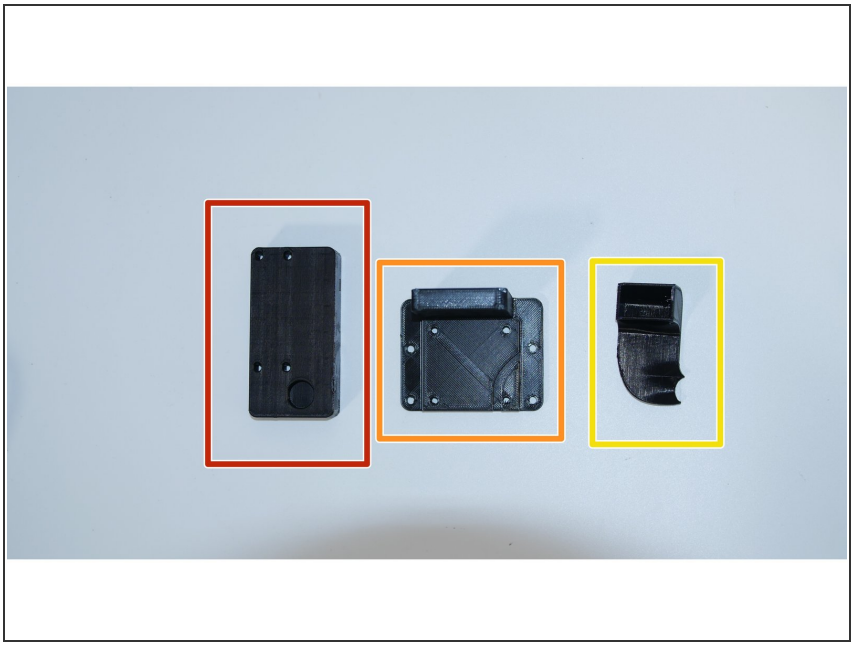
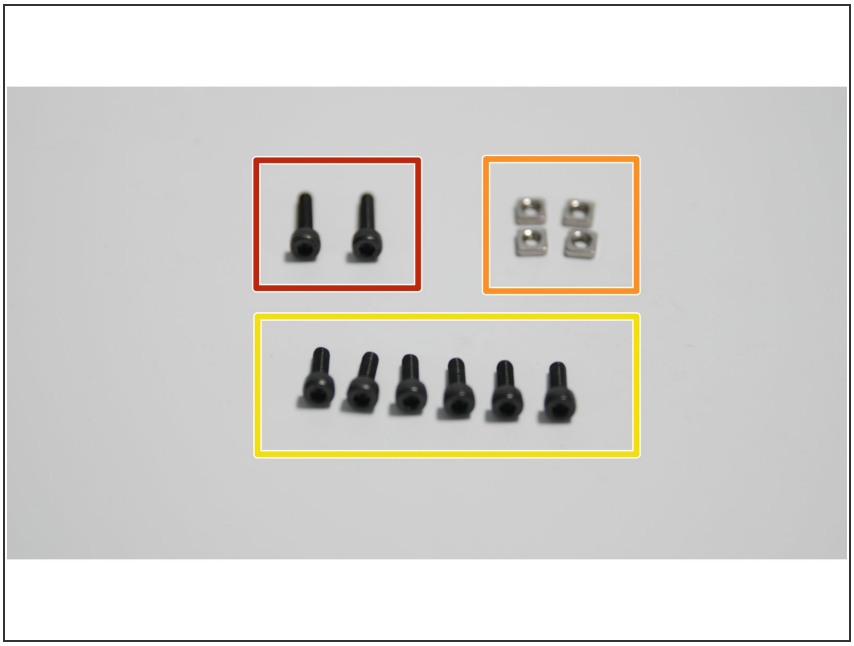
Step 1 — Printed parts needed



- Carriage Base
- Bracket Mount
- Fan Duct

Step 2 — Additional items needed (Not included in Hermes Kit)



NOTE The Hermes kit comes with a variety of screws and nuts. The below items are needed on top of what is supplied in the kit

- x2 M3x16 screws
- x4 M3 square nuts
- x6 M3x8 screws

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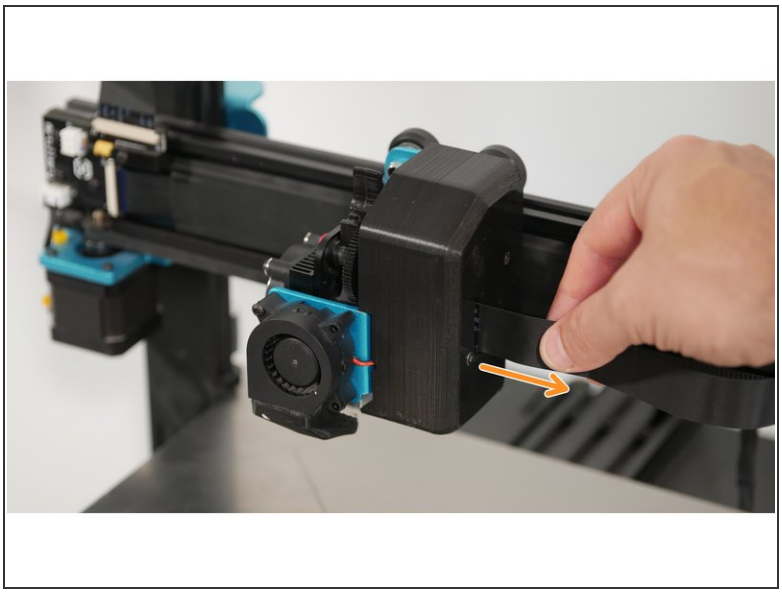
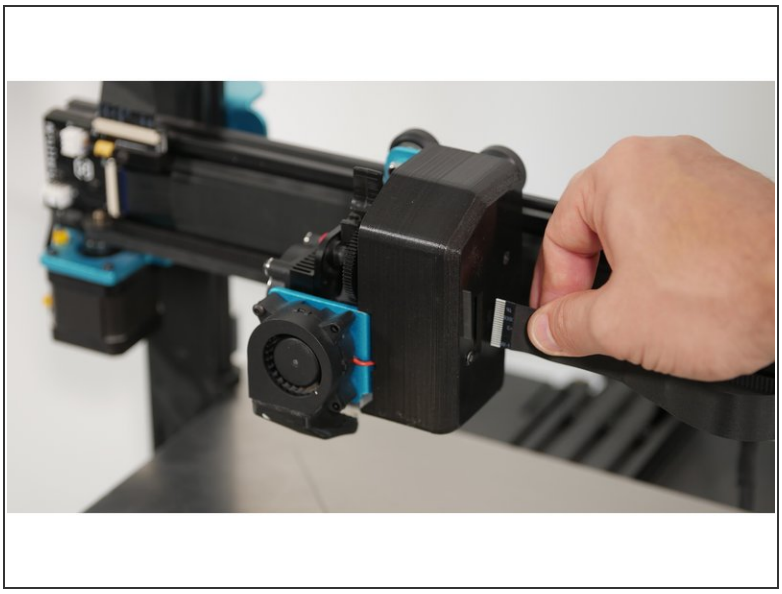
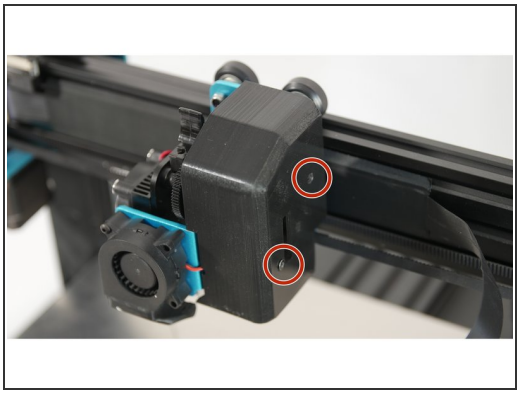
Step 3 — Disassembly

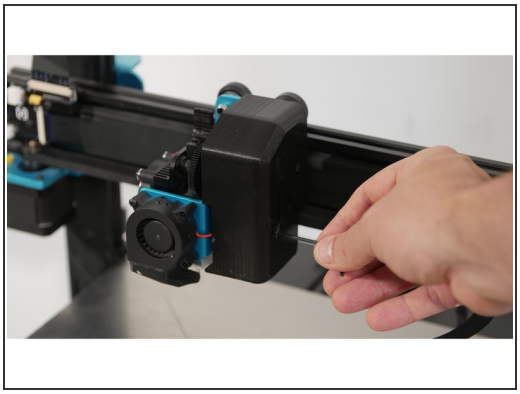


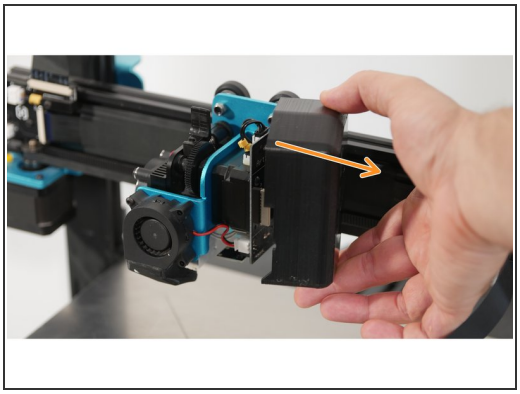


- Unplug the ribbon cable by pulling gently

Step 4 — Disassembly







- Locate the screws holding the cover in place
- Unscrew the two screws with a 2mm allen key
- Remove the cover

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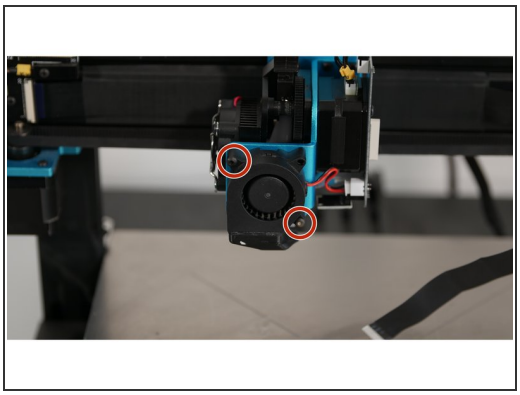
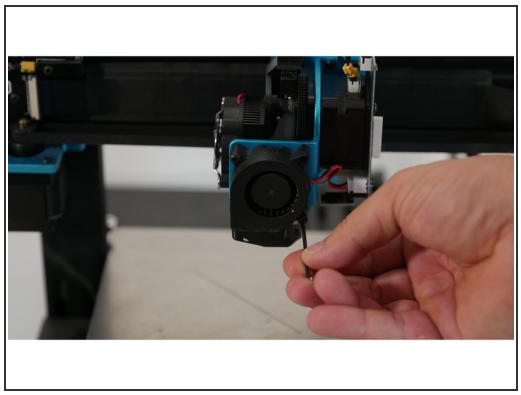
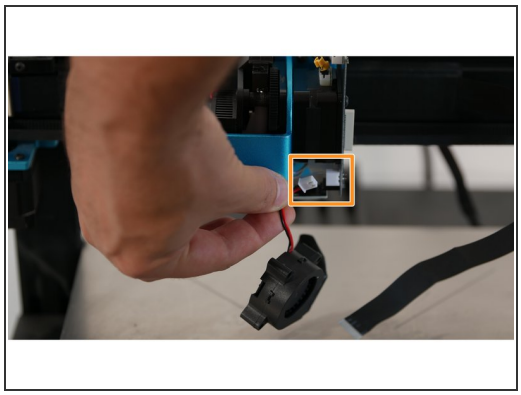
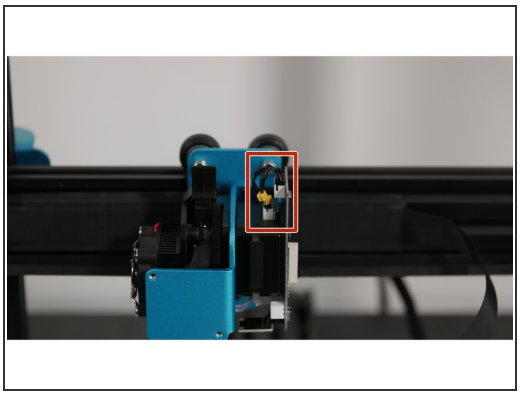
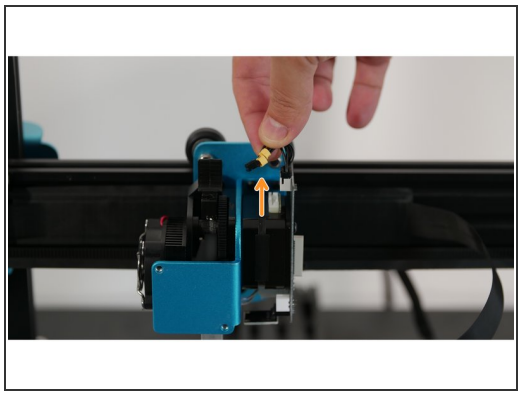
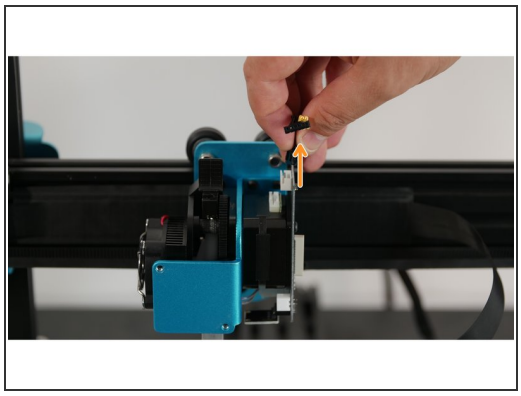
Step 5 — Disassembly

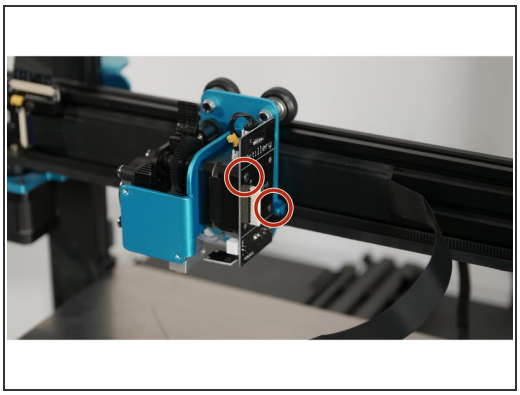
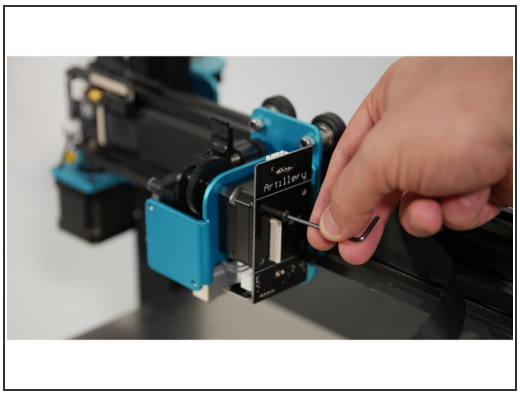
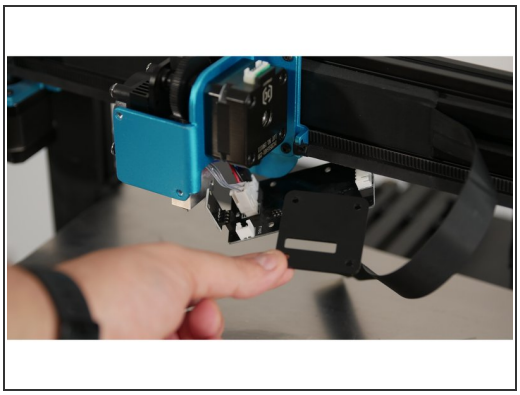
- Locate the two screws holding the front fan in place
- Unscrew the two screws
- Unplug the fan wire from the connector breakout board

Step 6 — Dissassembly

- Locate the stepper motor wire plugged into the top of the stepper motor
- Unplug the wire from the stepper motor by pulling upwards
- Unplug the other end from the connector breakout board

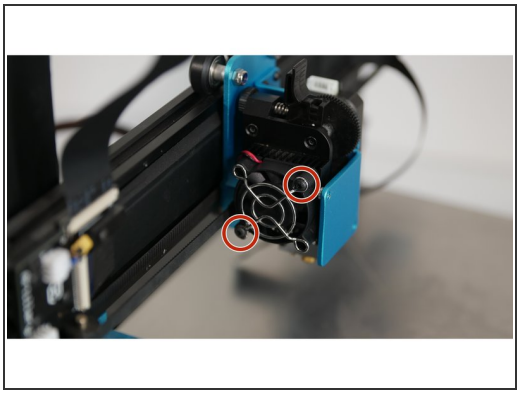
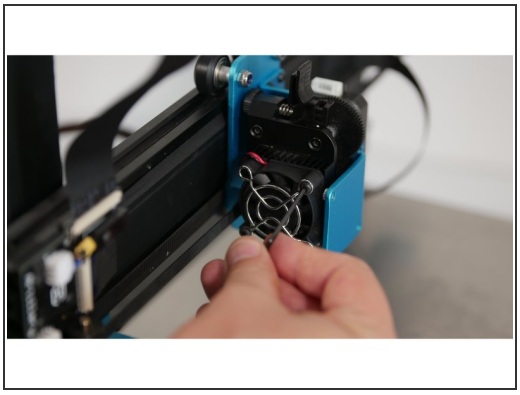
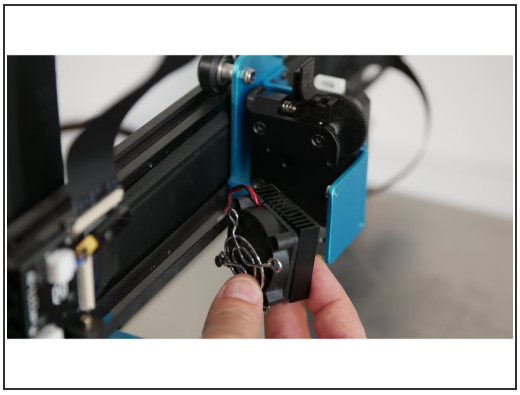
Step 7 — Dissassembly

- Locate the two screws holding the connector breakout board in place
- Unscrew the two screws

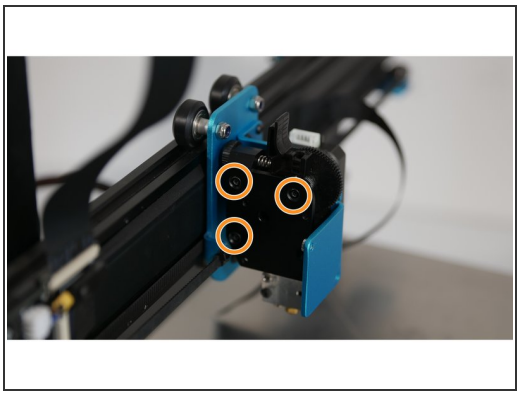
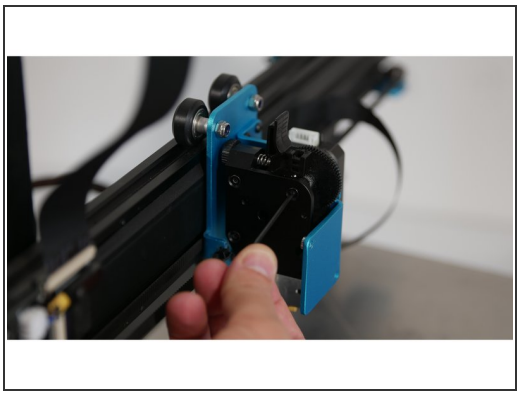
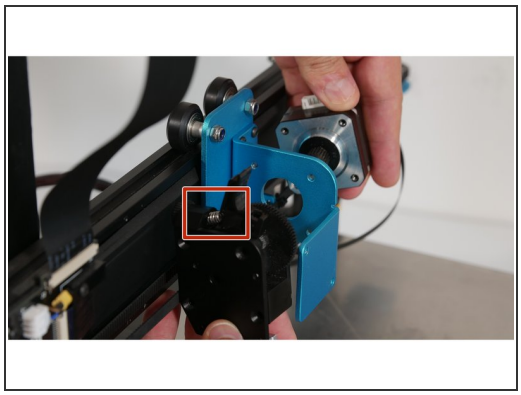
Be careful, as wedged in between the board and the stepper motor is a piece of acrylic separator. You can put this aside.

Step 8 — Dissassembly

- Locate the two screws holding the hotend fan, fan guard and heatsink in place
- Unscrew the screws using a 2mm Allen Key

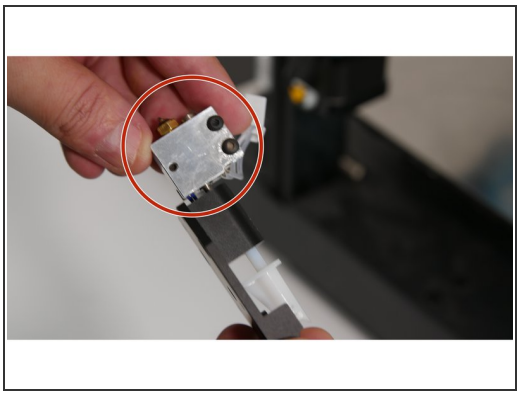
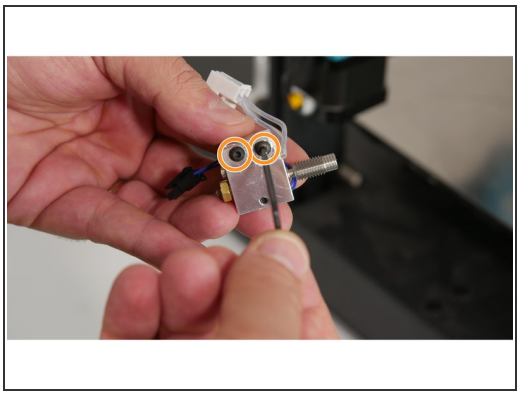
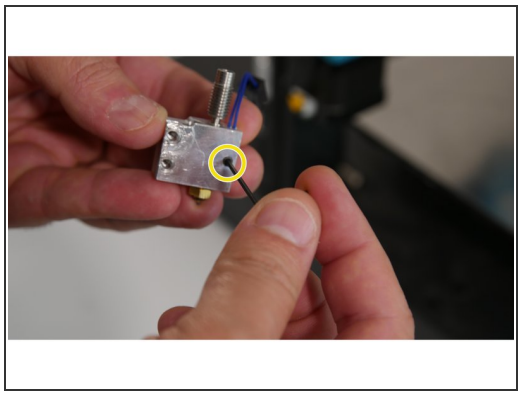
Step 9 — Dissassembly

- Locate the 3 screws holding the extruder assembly in place
- Unscrew the screws with a 2mm allen key
- Holding the stepper motor, gently pull away the extruder assembly.

⚠ **CAUTION:** The extruder idler is spring loaded and this may fly off, so remove it gently.

Step 10 — Dissassembly

- Unscrew the heatblock from the extruder base by gently turning the heatblock counter-clockwise while holding the heatsink plate
- Unscrew the two screws holding the heater cartridge in place and remove the cartridge
- Unscrew the screw holding the thermistor in place to remove that as well

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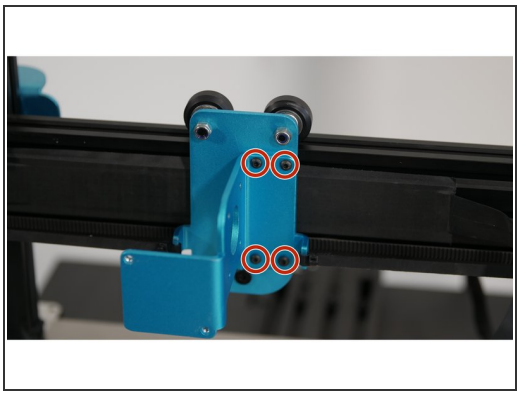
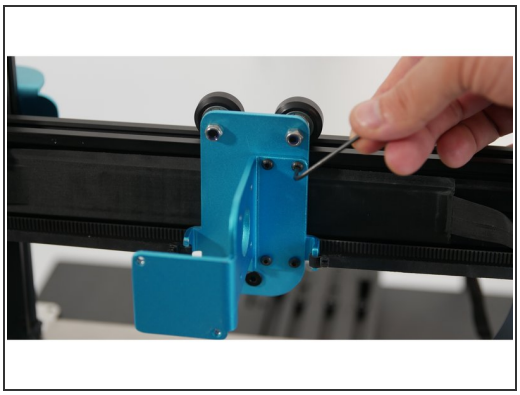
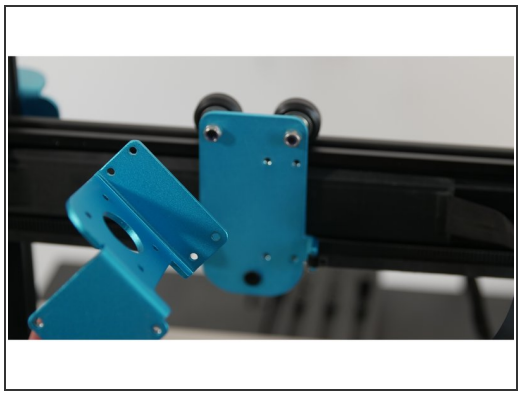
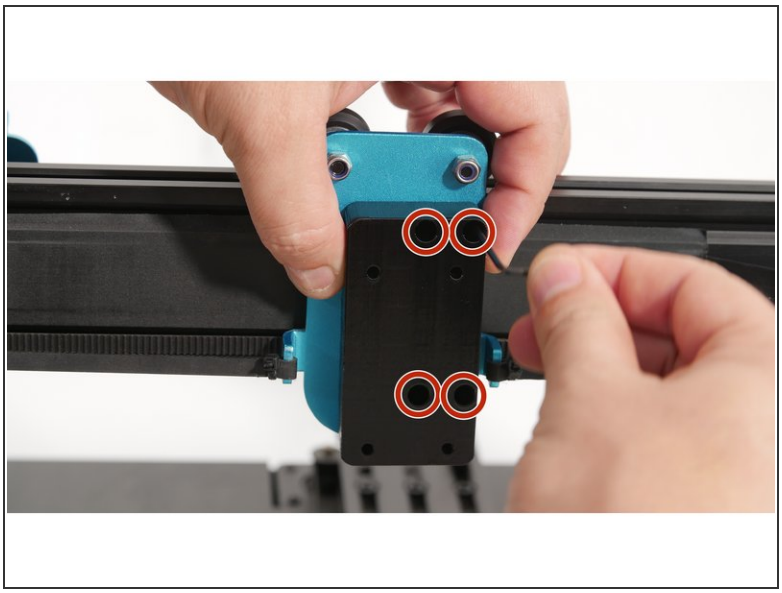
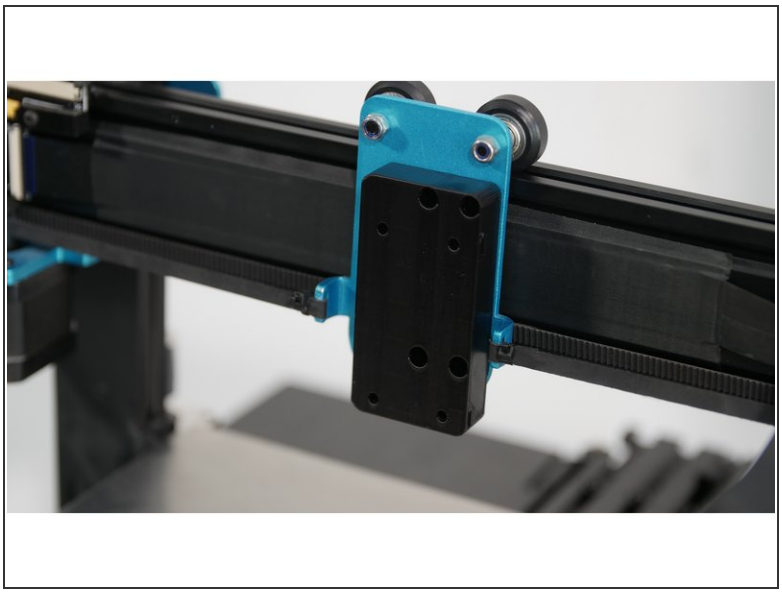
Step 11 — Dissassembly

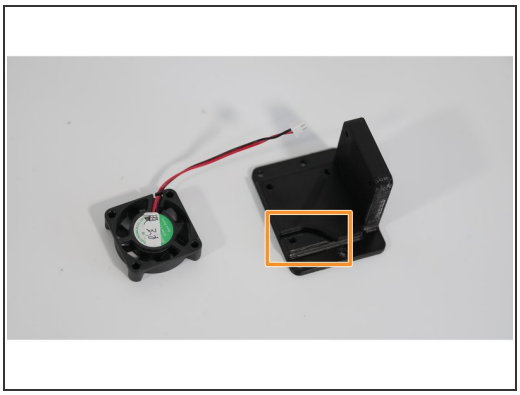
- Locate the 4 screws holding the aluminum extruder bracket in place
- Unscrew the screws using a 2mm allen key
- Remove the bracket

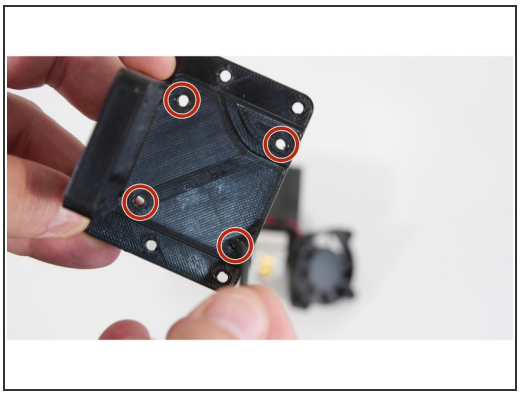
Step 12 — Assembly

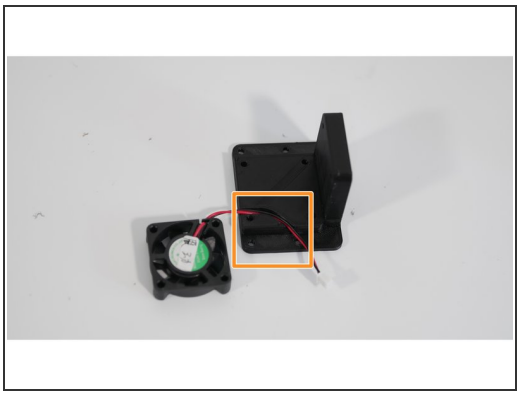



- Locate the printed Carriage Bracket and align it with the aluminum base plate in the correct orientation
- Align the holes and mount it using the same 4 screws used to hold the aluminum plate in the previous step

Step 13 — Assembly







- Locate the printed Bracket Mount and the original Sidewinder hotend fan ready
- Poke holes with the allen key through the 4 mounting holes
- Pass the fan wire through the slot on the printed Bracket Mount

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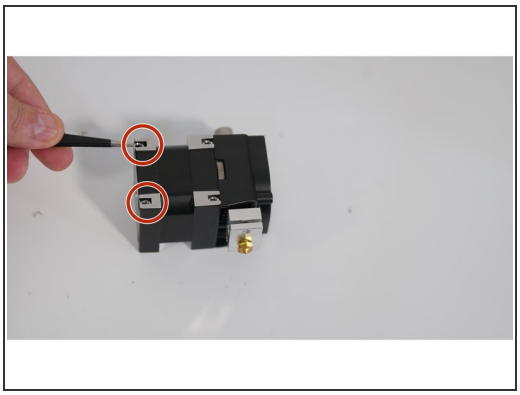
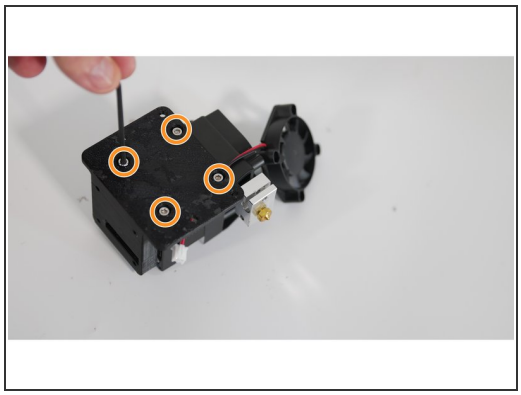
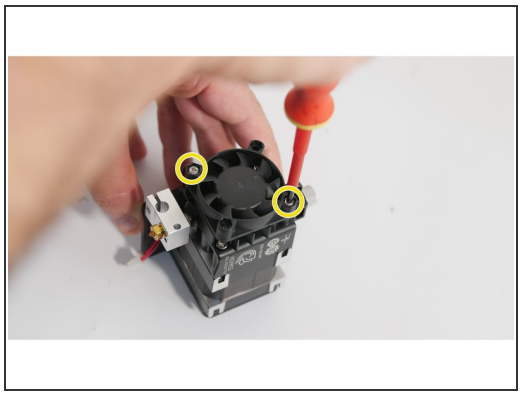
Step 14 — Assembly

- Insert x2 square nuts into the Hermes as shown in the photo taking note of the orientation
- Place the printed Bracket Mount on the Hermes as shown and screw in x4 M3x8 screws.

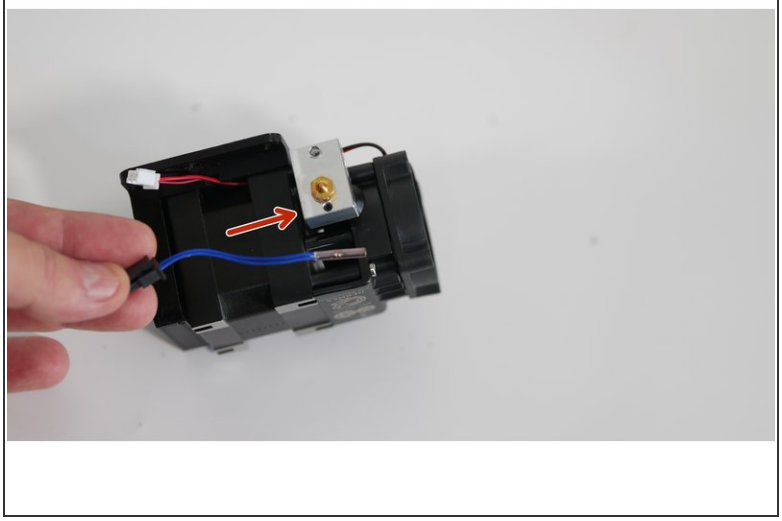
NOTE: make sure the fan cable stays in its position within the recessed channel of the bracket

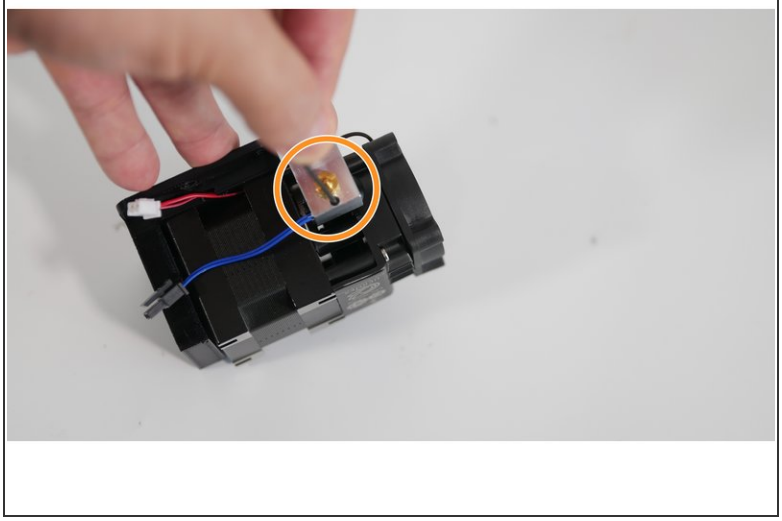
- Use the two Phillips screws provided in the Hermes kit to secure the fan in place by screwing them as shown in the photo

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.

Pictured above is a non stock fan, please do not use the stock artillery fan, We recommend the use of the supplied Hemera fan instead.

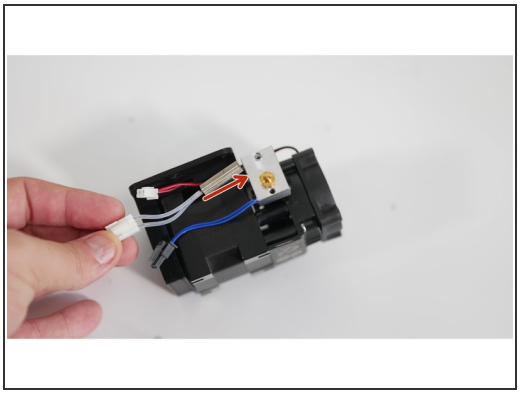
Step 15 — Assembly

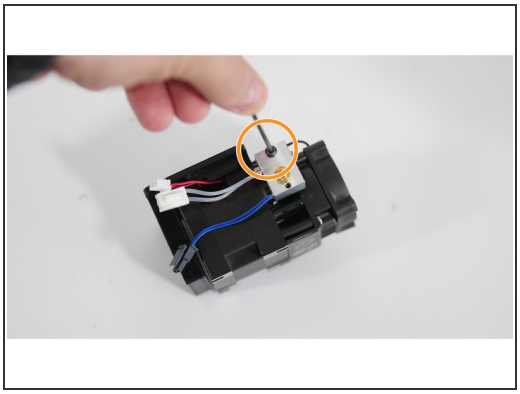


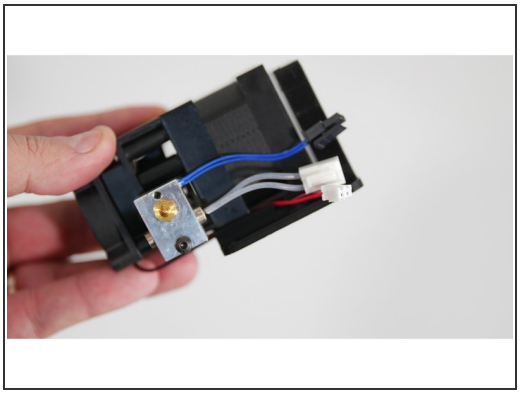


- Locate the thermistor provided in the Hermes kit
- Secure it in place in the heatblock with the provided grub screw

Step 16 — Assembly



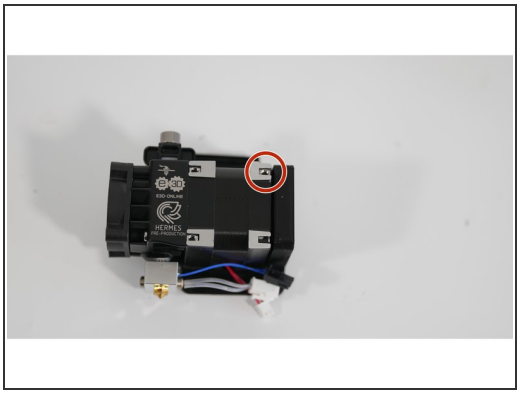
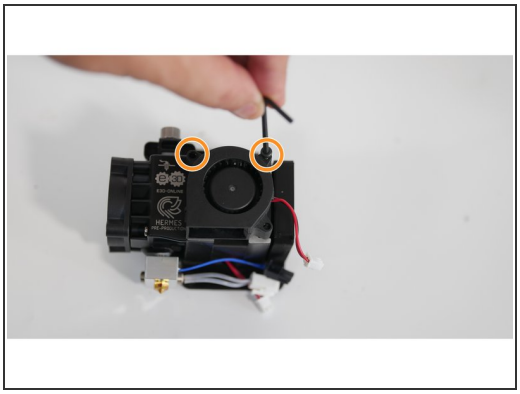
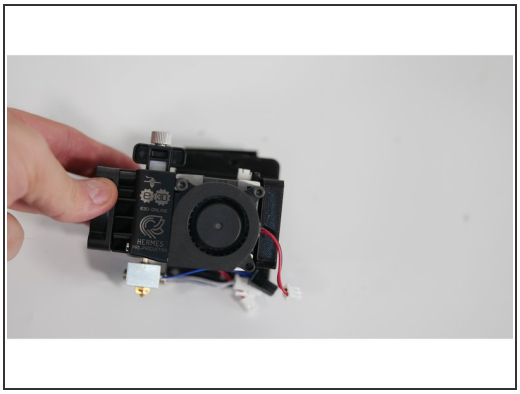




- Locate the heater cartridge.
- Insert the cartridge in the heater block and secure it with the provided screws in the Hemera kit

⚠ Please note the images show the use of the stock artillery heater cartridge - We **DO NOT** recommend the use of the stock cartridge and suggest using the e3d heater cartridge.

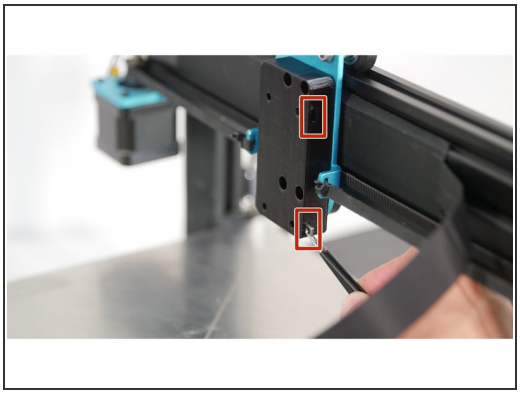
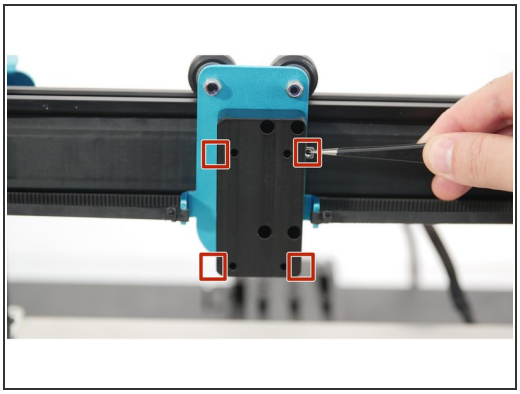
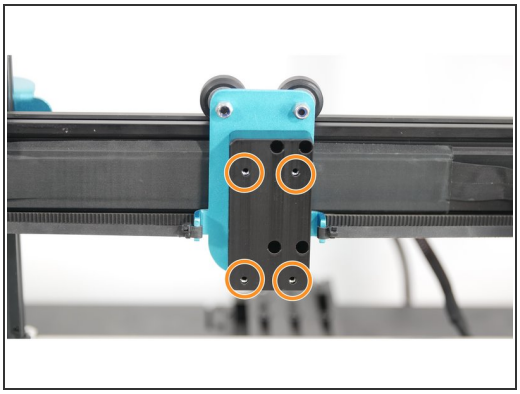
Step 17 — Assembly

- Insert an M3 square nut into the top right hand slot of the Hermes
- Secure the hotend fan in place by screwing x2 M3x16 screws

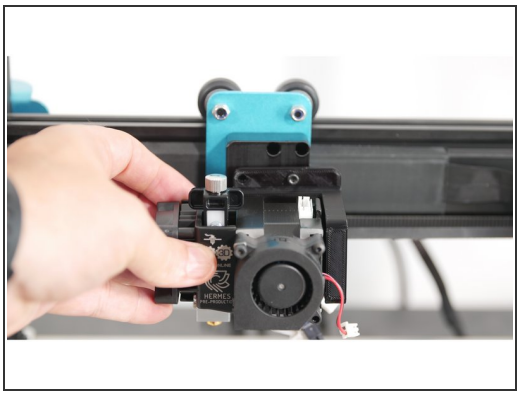
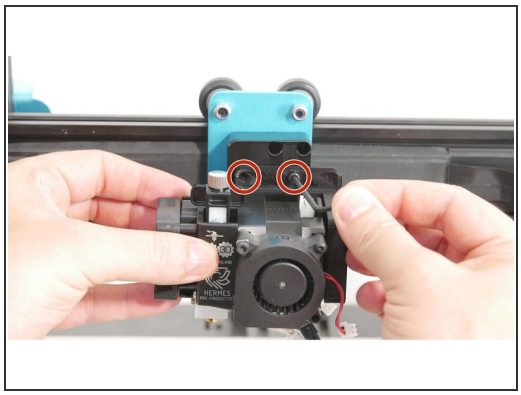
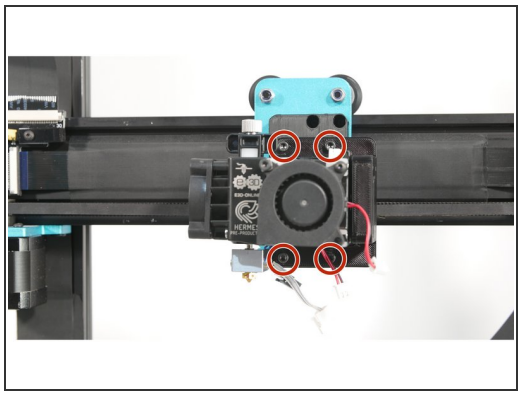
⚠ Be aware it is possible to crack the t slots if you use screws that are too long and bottoms out. Our recommendation is to use screws that protrude 3mm +- 0.25mm from the mounting surface to go into the T-Slots. Over tightening also risks snapping the T slot.

Step 18 — Assembly

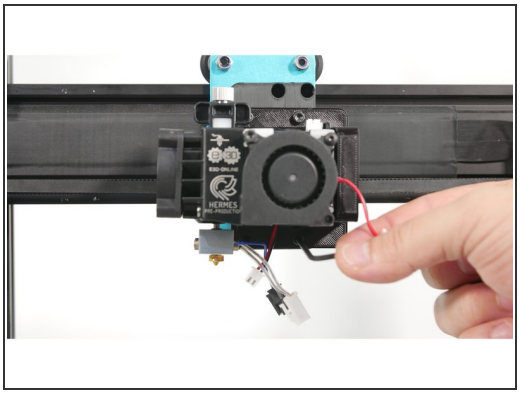
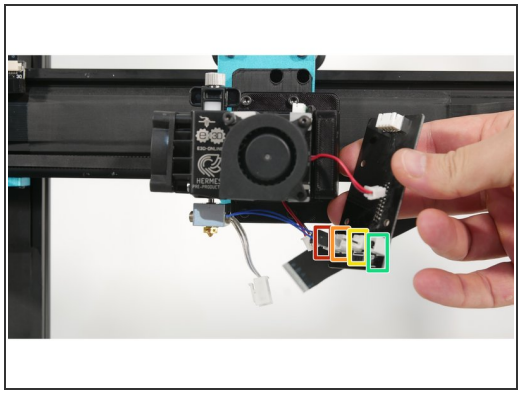
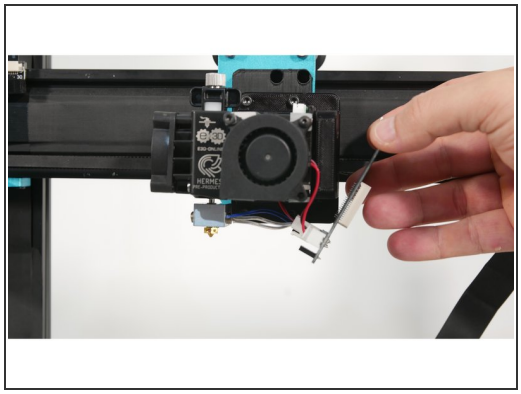
- Insert x4 M3 square nuts, 1 into each slot located on the sides of the printed Carriage Base using tweezers
- Push the square nuts all the way in to align them with the mounting holes with the tip of the tweezers

Step 19 — Assembly

- Locate the Hermes extruder and align the printed Bracket Mount holes with the ones on the printed Carriage Base
- Screw x4 M3x8 screws to secure the Hermes in place

Step 20 — Assembly

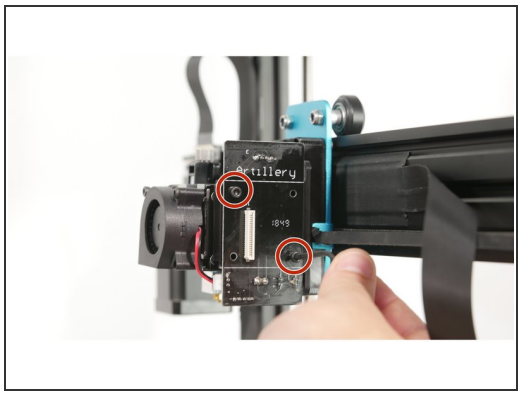
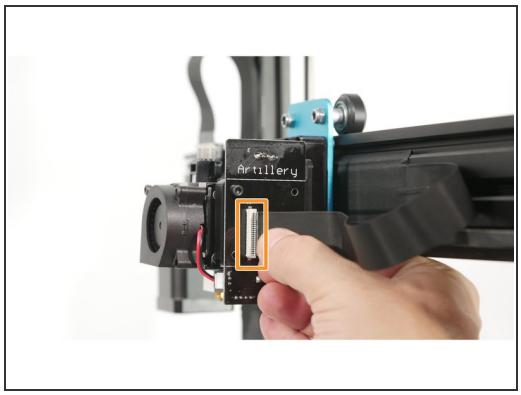
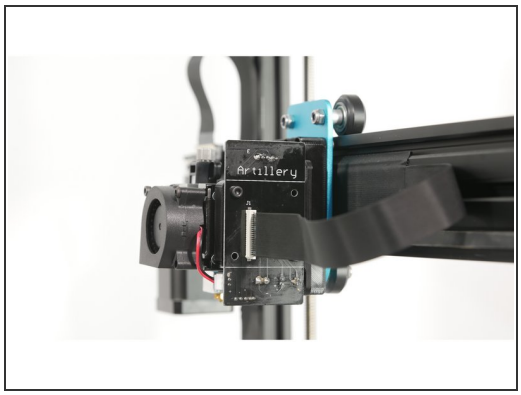




- Locate the connector breakout board which we took off from the Sidewinder. Connect the wires as per below working your way from the back connector to the front
- Connect the thermistor

NOTE: the connector is different, however it stil plugs in fine and polarity does not matter.

- Connect the Hotend cooling fan
- Connect the Heater Cartridge
- Connect the part cooling fan

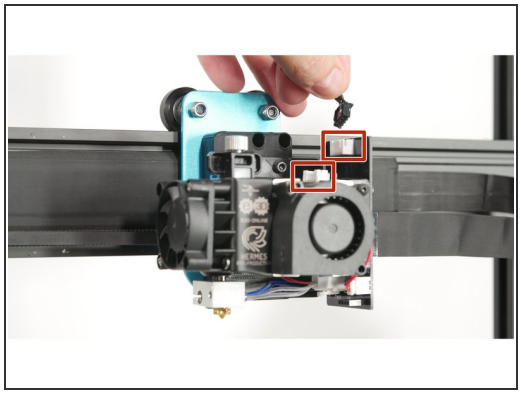
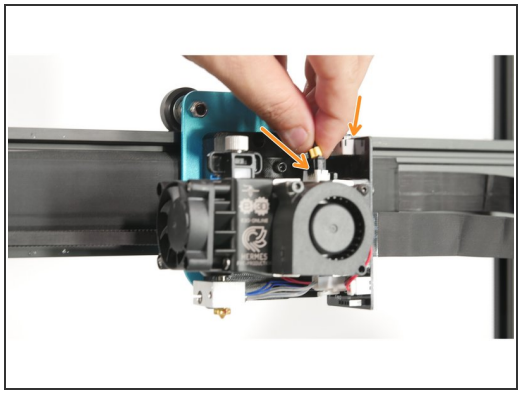
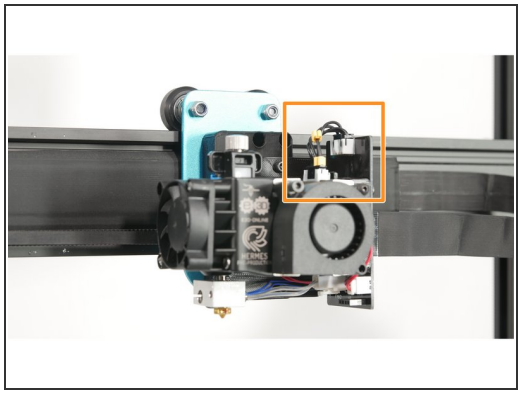
Step 21 — Assembly

- Screw x2 M3x8 screws to secure the breakout board to the printed Bracket Mount as shown
- Re-connect the cable running along the X-axis to the breakout board.

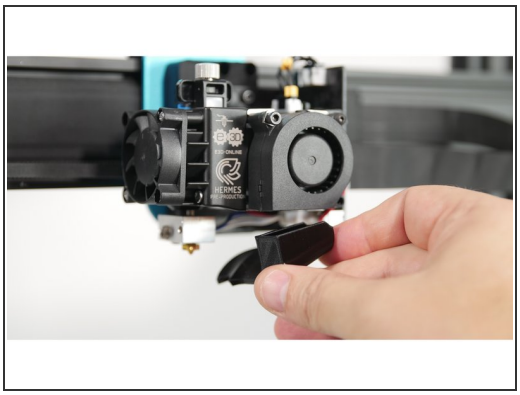
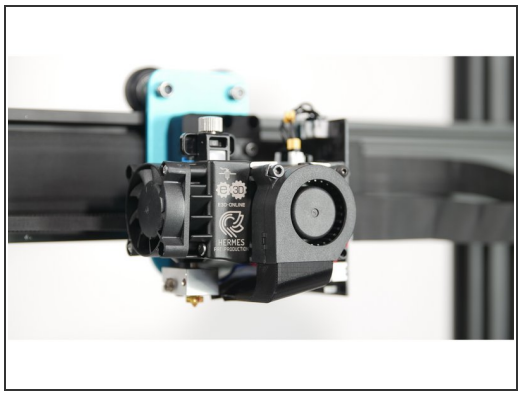
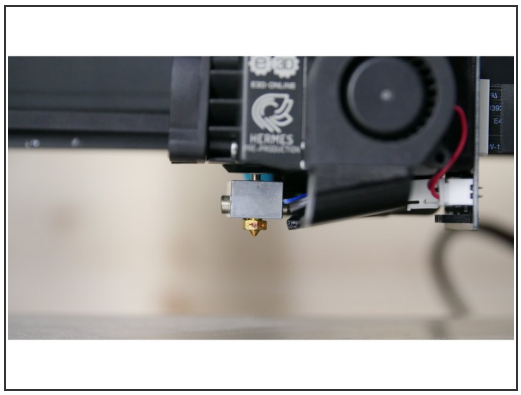
ⓘ Note that while they are not completely aligned, you will still be left with enough slack at the end of the X-axis movement

Step 22 — Assembly

- Locate the stepper motor cable from the Sidewinder
- Plug one end to the breakout board and the other side to the stepper motor

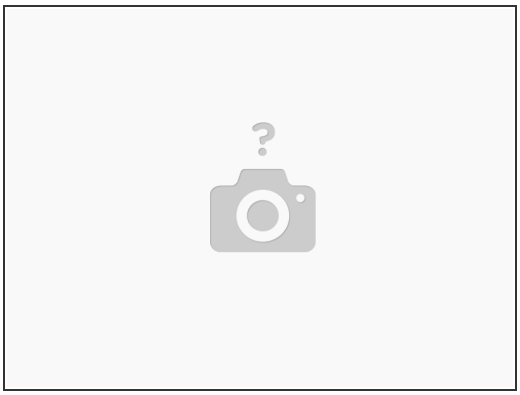
Step 23 — Assembly

- Locate the printed Fan Duct
- Slide it into the printed blower fan outlet
- The fit should be perfect. However using some type of glue to keep it in place is recommended.

ⓘ NOTE: make sure the exit from the fan duct aligns with the nozzle tip as shown in the last photo

Step 24



- For firmware modifications please see: Hemera Artillery (Evnovo) Sidewinder X1 Firmware Modification
- For VREF adjustments please see: 05 - E3D Hemera Current Adjustments (VREF)