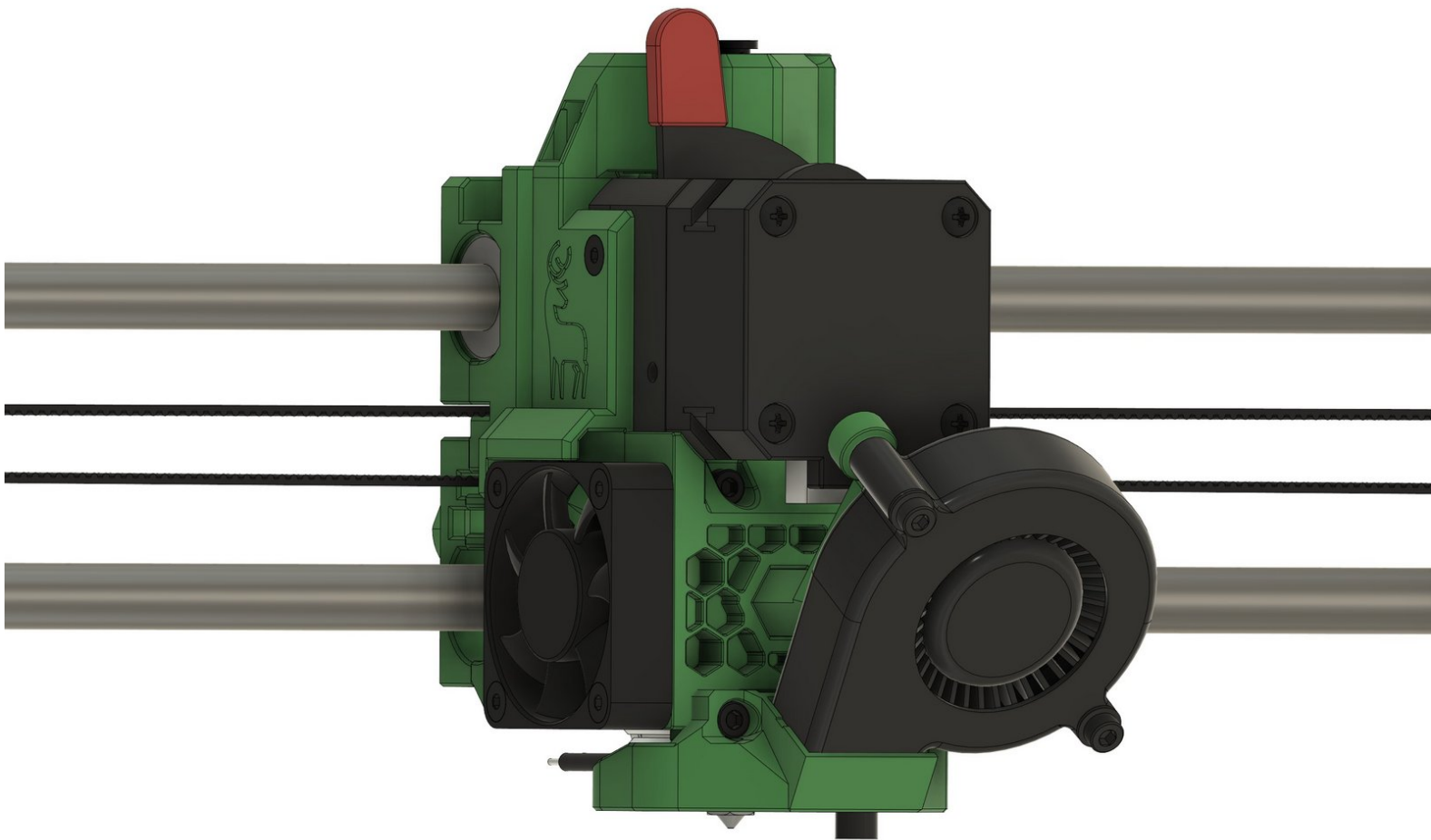


caribou3d

15.2. Installing the Bondtech LGX with Mosquito

Written By: Sarah Briel



INTRODUCTION

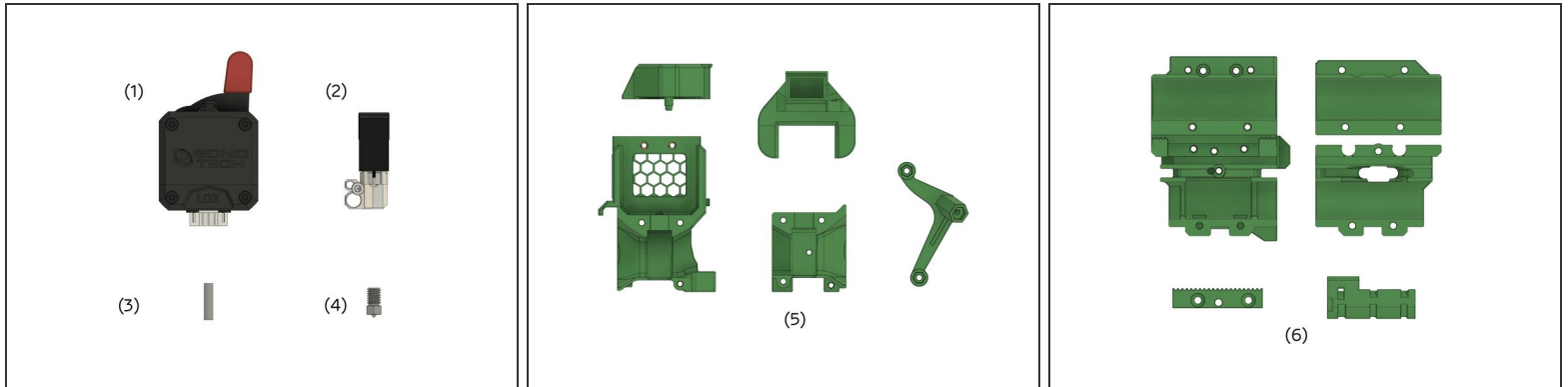
Manual for installing the LGX - Mosquito extruder on a 10mm Caribou. This manual covers the FDM as well as the SLS printed parts.

Step 1 — Required Tools



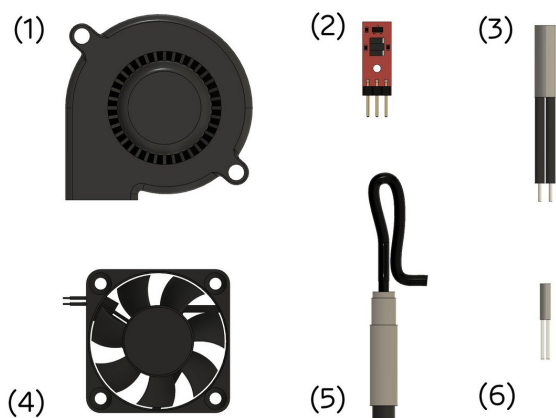
- (1) [2.0x75mm Screwdriver for hexagon socket screws](#)
- (2) [2.5x75mm Screwdriver for hexagon socket screws](#)

Step 2 — Required Extruder and Plastic Parts



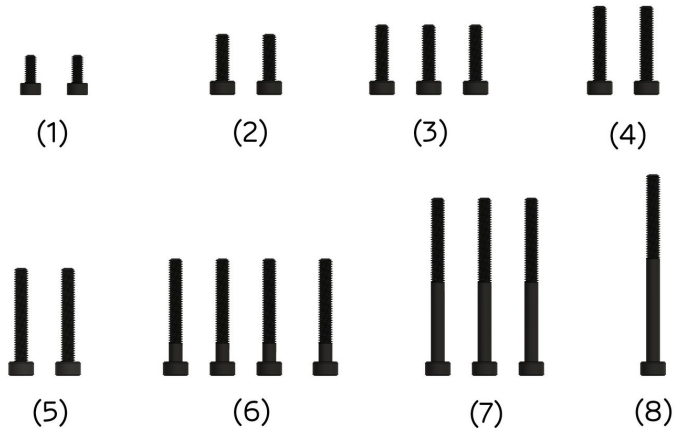
- (1) [Bondtech LGX™ Large Gears eXtruder](#)
- (2) [Mosquito Hotend](#) or [Mosquito Magnum Hotend](#)
- (3) [PTFE tube](#)
- (4) [Nozzle](#)
- (5) Set of Plastic Parts for LGX Mosquito (filament sensor folder, LGX holder, LGX cover, fan shroud, radial fan holder)
- (6) x-carriage, x-carriage back top and bottom, belt holder, x-cable holder

Step 3 — Required Parts



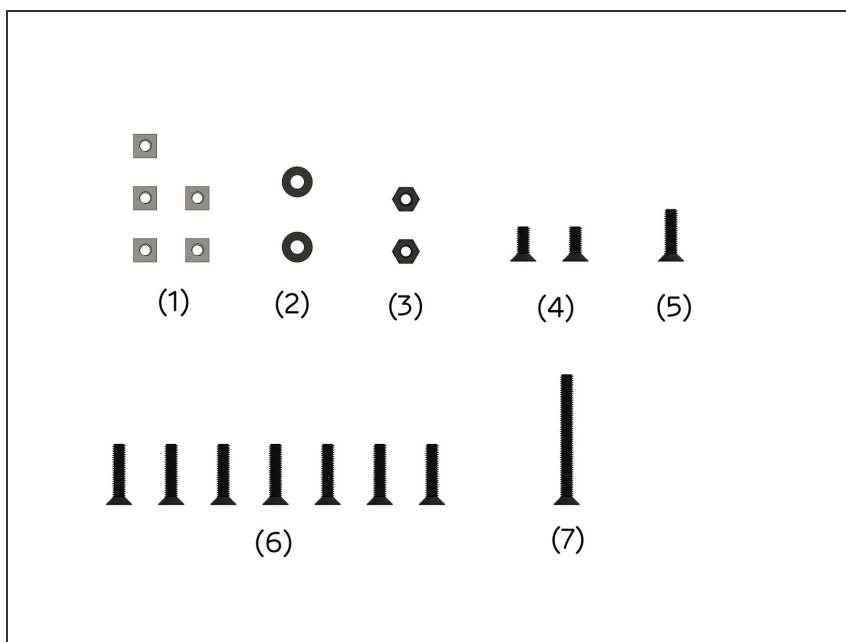
- (1) [Radial fan](#)
- (2) [Filament sensor + cable \(optional\)](#)
- (3) [Heater](#)
- (4) [Sunon fan](#)
- (5) [PINDA2](#) / [SuperPINDA](#)
- (6) [Thermistor](#)
- (7) Nylonfilament (not in the picture)
- Caribou 220: 47cm Caribou 320: 57cm Caribou 420: 67cm

Step 4 — Required Screws, Nuts, and Washers (1 / 2)



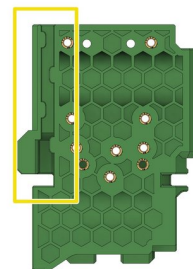
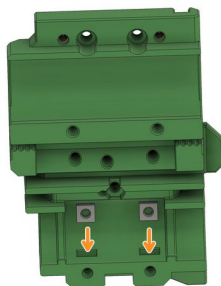
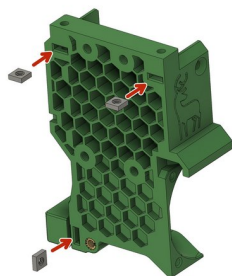
- (1) **2x** M2.5x6mm head cap screws (supplied with Mosquito hot end)
- (2) **2x** [M3x10mm hexagon socket head cap screws](#)
- (3) **3x** [M3x12mm hexagon socket head cap screws](#)
- (4) **2x** [M3x16mm hexagon socket head cap screws](#)
- (5) **2x** [M3x20mm hexagon socket head cap screws](#)
- (6) **4x** [M3x22mm hexagon socket head cap screws](#)
- (7) **3x** [M3x35mm hexagon socket head cap screws](#)
- (8) [M3x40mm hexagon socket head cap screw](#)

Step 5 — Required Screws, Nuts, and Washers (2 / 2)



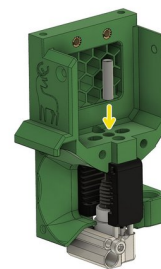
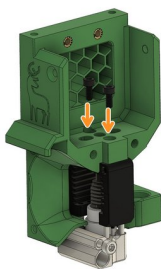
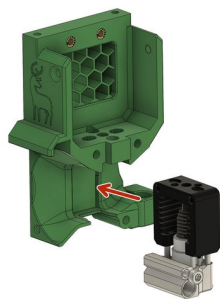
- (1) **5x** [M3 square nuts](#)
- (2) **2x** [M3 washers](#)
- (3) **2x** [M3 nuts](#)
- (4) **2x** [M3x8mm hex drive flat head screws](#)
- (5) [M3x12mm hex drive flat head screw](#)
- (6) **7x** [M3x16mm hex drive flat head screws](#)
- (7) [M3x30mm hex drive flat head screw](#)

Step 6 — Preparing the Plastic Parts



- Insert **3x M3 square nuts** into the back of the LGX holder.
 - Insert **2x M3 square nuts** into the bottom of the x-carriage.
 - Route the cable of the filament sensor through this channel. Let the cable stand out about 4cm at the top.
- ⚠ Make sure the cable has the correct orientation. The 3-pin connector goes to the sensor, the 5 pin connector goes to the board.

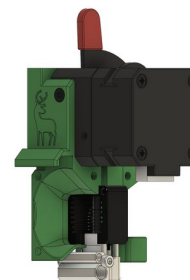
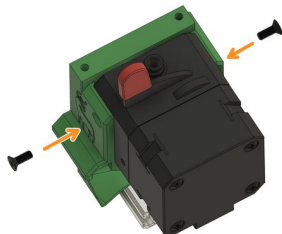
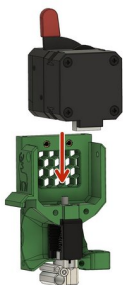
Step 7 — Mounting the Hotend



- Slide the hotend into the LGX holder.
- Use **2x M2.5x6mm head cap screw** to secure the hotend in place.
- Cut the PTFE tube to 19.7mm length using the provided cutting tool.
- Slide the PTFE tube into the middle hole. Make sure to insert the tube all the way into the top of the Mosquito.

⚠ Make sure the chamfered side of the tube shows to the top.

Step 8 — Mounting the Extruder

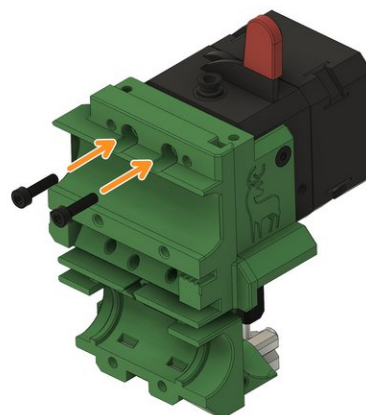
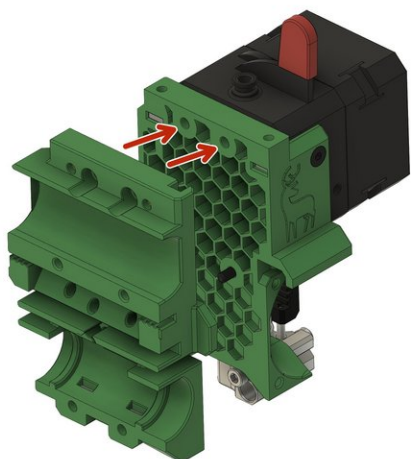


- Carefully slide the LGX extruder into place.

⚠ Make sure the PTFE tube slides into the hole at the bottom of the extruder.

- Use **2x M3x6mm flat socket head cap screws** to secure the extruder.

Step 9 — Attaching the x-Carriage

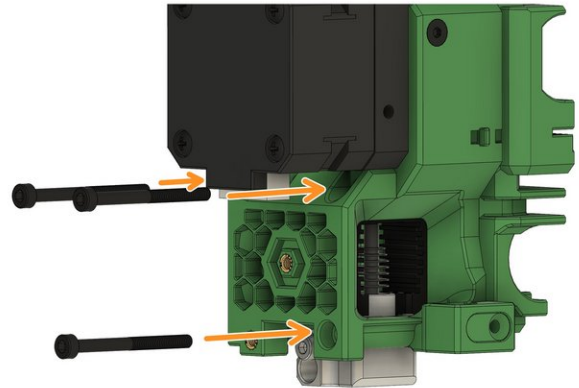
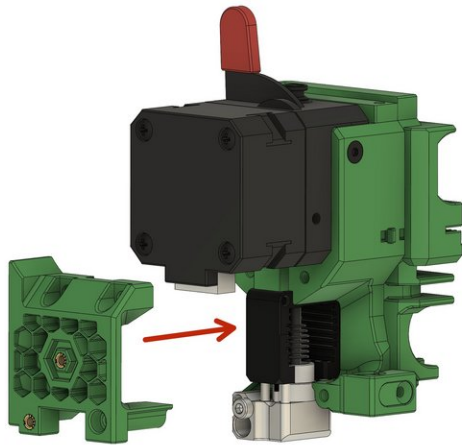


- Place the back of the x-carriage against the back of the LGX holder.

⚠ Make sure that the cable of the filament sensor sits in the channel of the x-carriage and is not pinched between the two plastic parts.

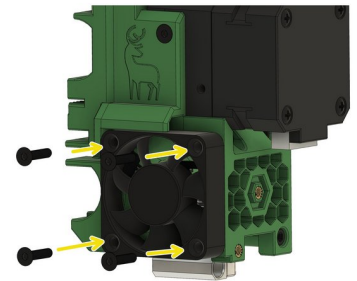
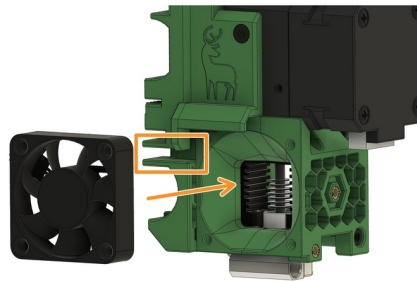
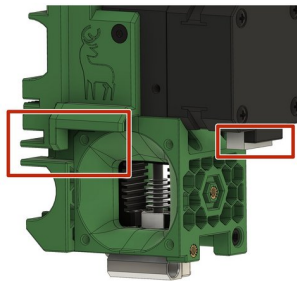
- Use **2x M3x12 head cap screws** to screw the parts together.

Step 10 — Attaching the Cover



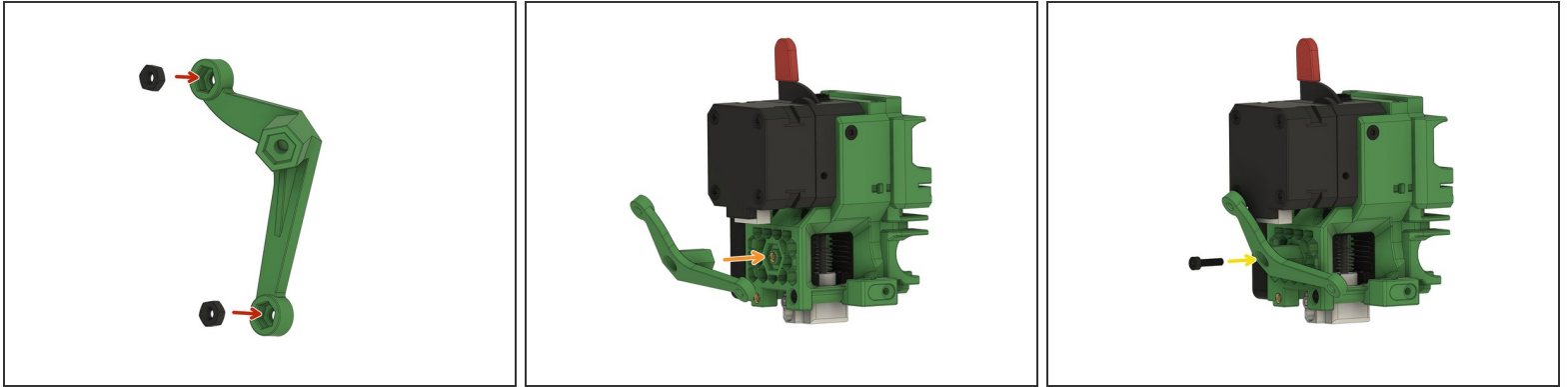
- Attach the cover (as shown in picture 1) to the front of the holder.
- Use **3x M3x35mm head cap screws** to fasten the cover.

Step 11 — Attaching the Extruder Fan



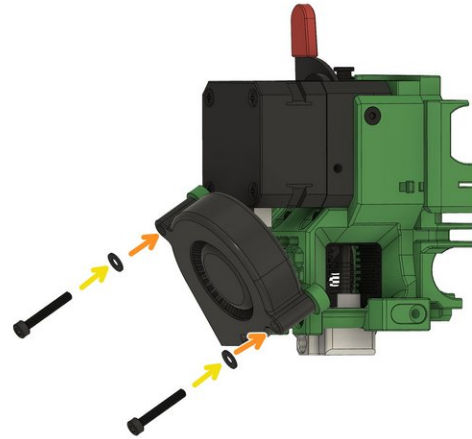
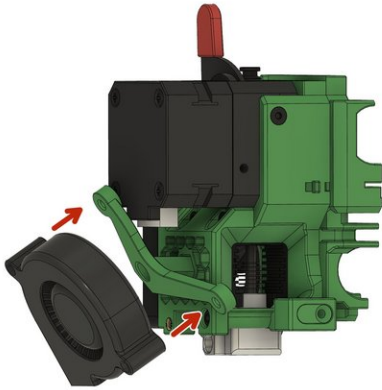
- Connect the motor cable to the motor and route the cable through the channel.
 - Place the extruder on the LGX holder in such a way that (1) the cables are pointing towards the channel and (2) the sticker on the fan is pointing towards the inside of the extruder.
 - Use **4x M3x16mm flat socket head cap screws** to fasten the extruder fan.
- i** Route fan's cable through the channel to the back of the x-carriage.

Step 12 — Attaching the Radial Fan (1 / 2)



- Push **2x M3 nuts** into the radial fan holder.
- Place the radial fan holder in front of the cover.
- Use a **M3x12mm head cap screw** to fasten the holder.

Step 13 — Attaching the Radial Fan (2 / 2)

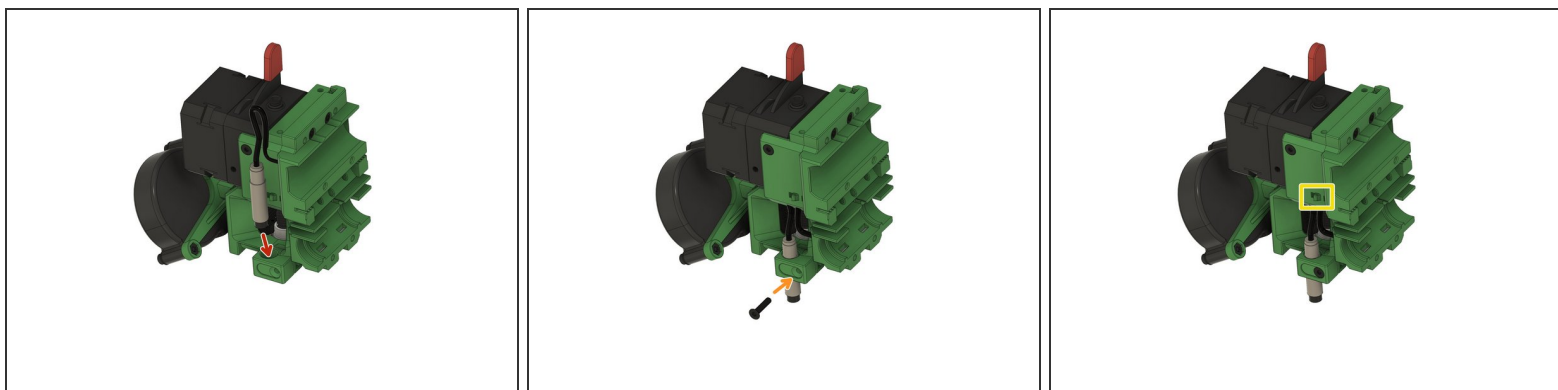


- Place the screw holes of the radial fan in front of the screw holes of the radial fan holder.

⚠ Pay attention to the orientation of the fan.

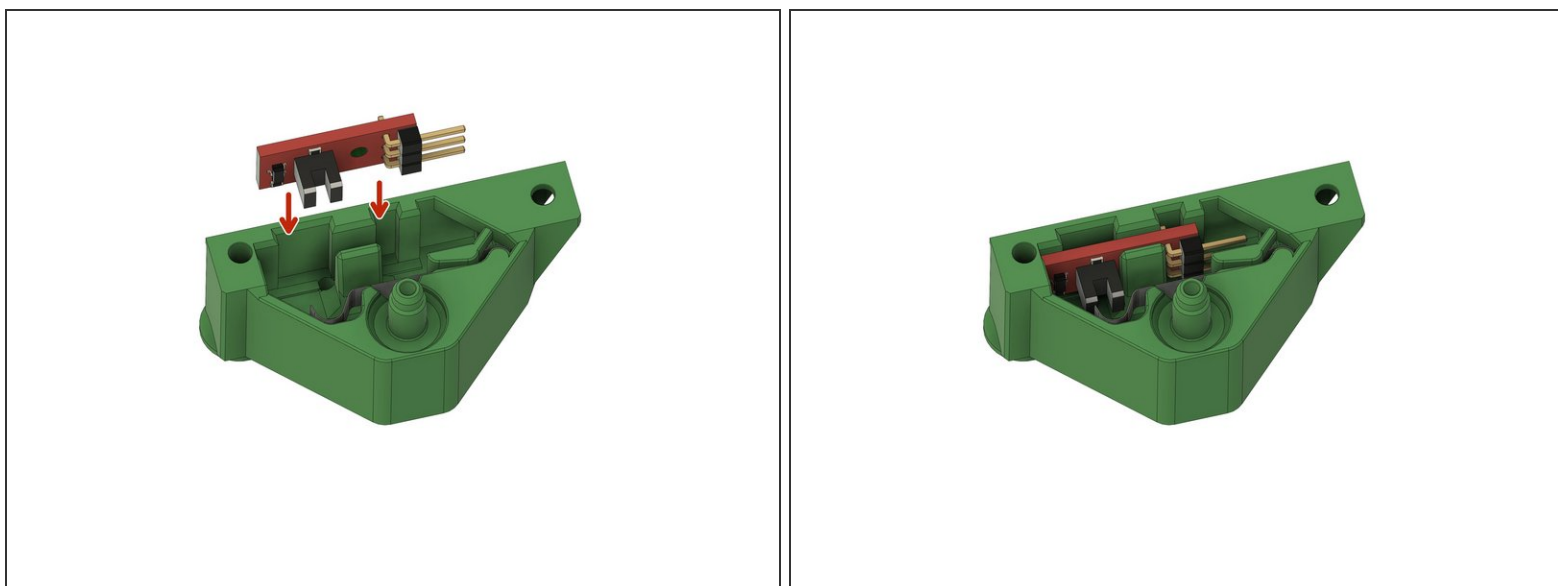
- Use **2x M3 washers** and...
- **2x M3x20mm head cap screws** to fasten the fan to the holder.

Step 14 — Installing the PINDA / SuperPINDA



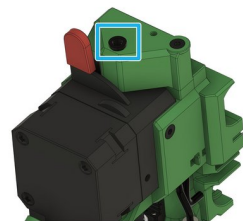
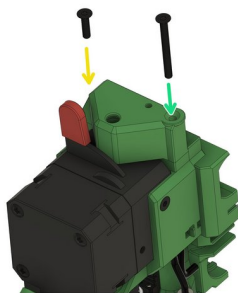
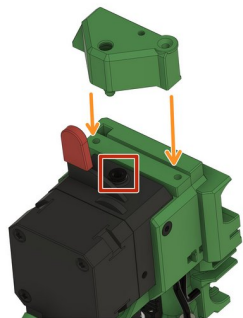
- Insert the PINDA / SuperPINDA into the hole on the side of the holder.
- Fasten the sensor with a **M3x12mm flat socket head cap screw**.
- ① First, route the cable of the radial fan through the channel.
- ① Form a loop with the sensor cable and route it through the channel.
- Fasten the loop with a zip-tie to the LGX holder.

Step 15 — Installing the Filament Sensor (1 /2)



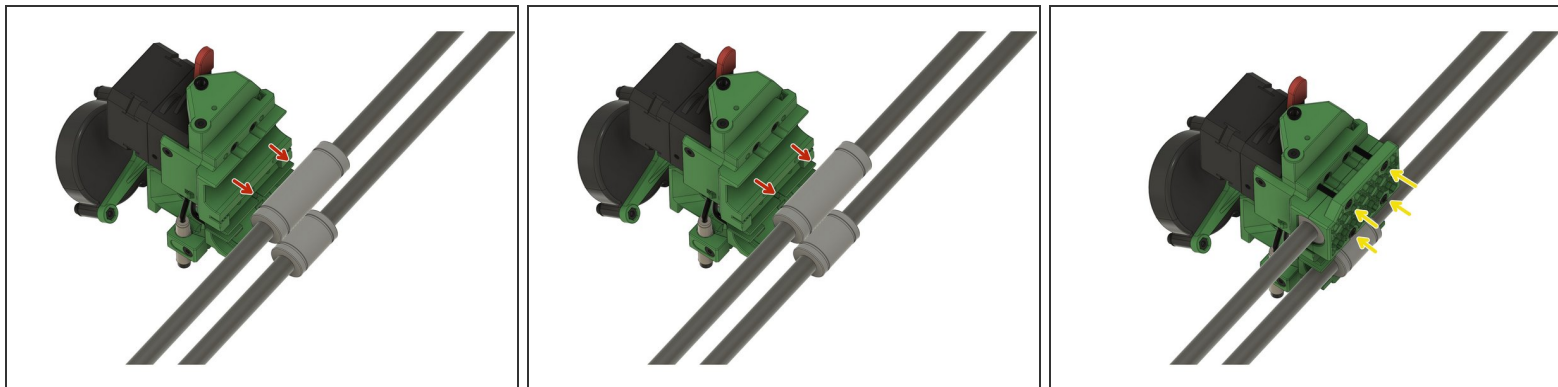
- Insert the filament sensor into the housing.

Step 16 — Installing the Filament Sensor (2 / 2)



- Remove the bowden coupler from the extruder.
- Place the sensor housing on top of the extruder.
- Use a **M3x12mm flat socket head cap screw**...
- ...and a **M3x30mm flat socket head cap screw** to fasten the filament sensor housing.
- Insert the bowden coupling into the filament sensor housing.
- Attach the cable to the sensor.

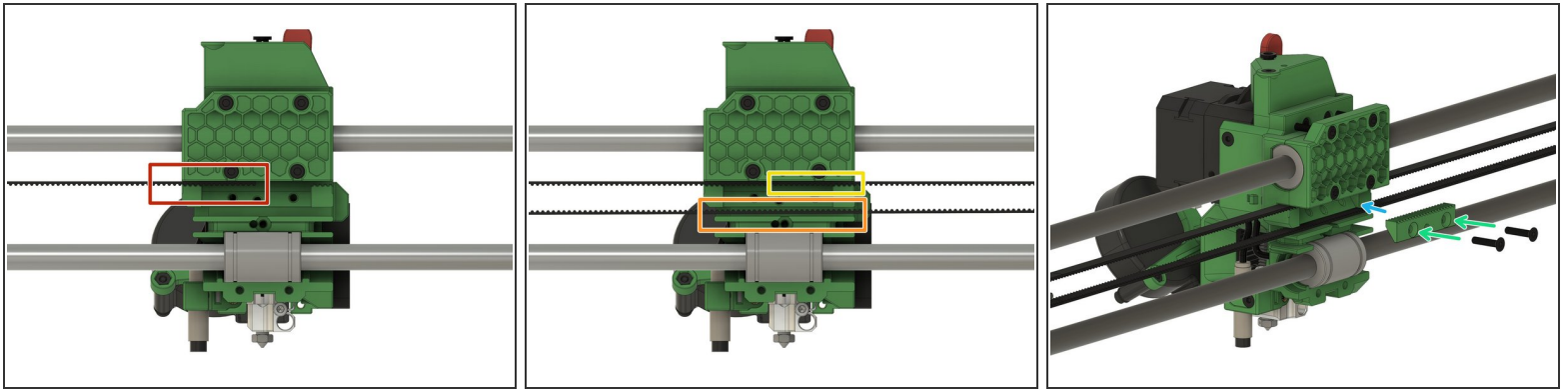
Step 17 — Installing the Extruder on the x-Axis



- Align the bearings with the x-carriage back.
- Bring the top holder back into position.
- Use **4x M3x22 head cap screws** to fasten the back part.

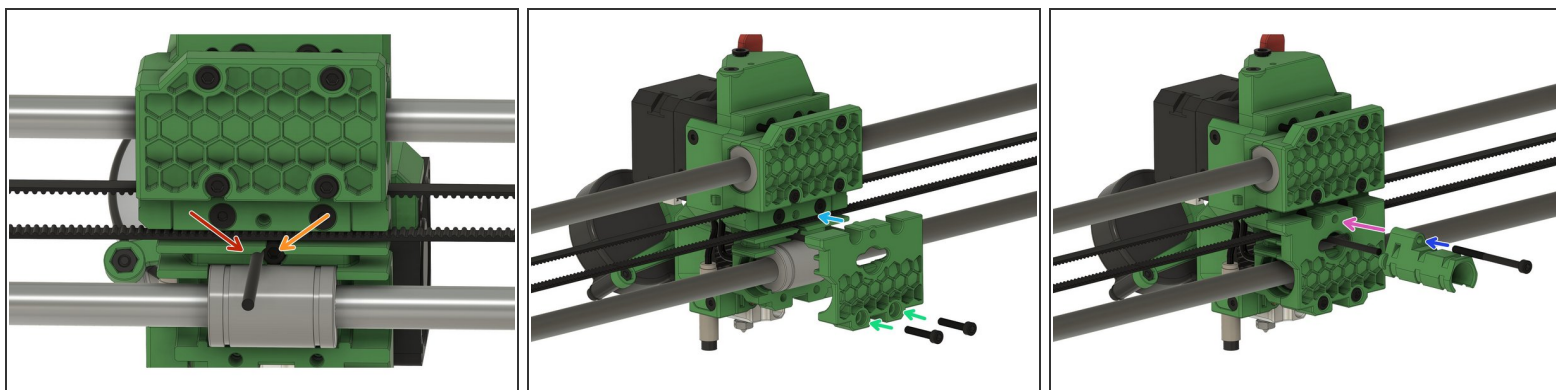
⚠ Do not overtighten the screws!

Step 18 — Installing the Belt



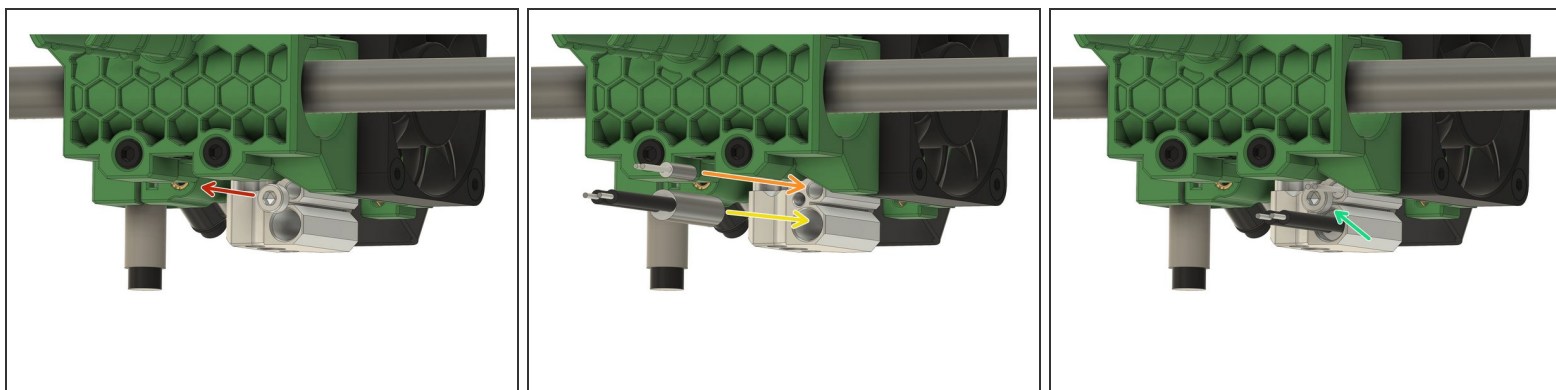
- Insert one end of the belt into the x-carriage. It should be inserted half way into the x-carriage.
- Route the belt through the x-idler and the x-motor holder (not shown here).
- The belt must run through the lower channel of the x-carriage.
- Cut the belt so that you can insert the other end of the belt into the x-carriage. Both belt ends should touch each other inside the x-carriage.
- Use **2x M3x14mm flat head screws** to...
- ...fasten the belt holder into the x-carriage.

Step 19 — Attaching the x-Carriage Back Bottom and the Cable Holder



- Insert the 2.85mm nylon filament into the hole next to the screw hole.
- Use a **M3x10mm head cap screw** to secure the nylon filament in position.
- Route the cables for the fans, the PINDA, the filament sensor cable, and the extruder motor through the hole.
- Use **2x M3x16mm head cap screws** to...
- ...fasten the carriage's back bottom part to the x-carriage.
- Use a **M3x40mm head cap screw** to...
- ...fasten the cable holder to the x-carriage.

Step 20 — Installing the Heater and Thermistor

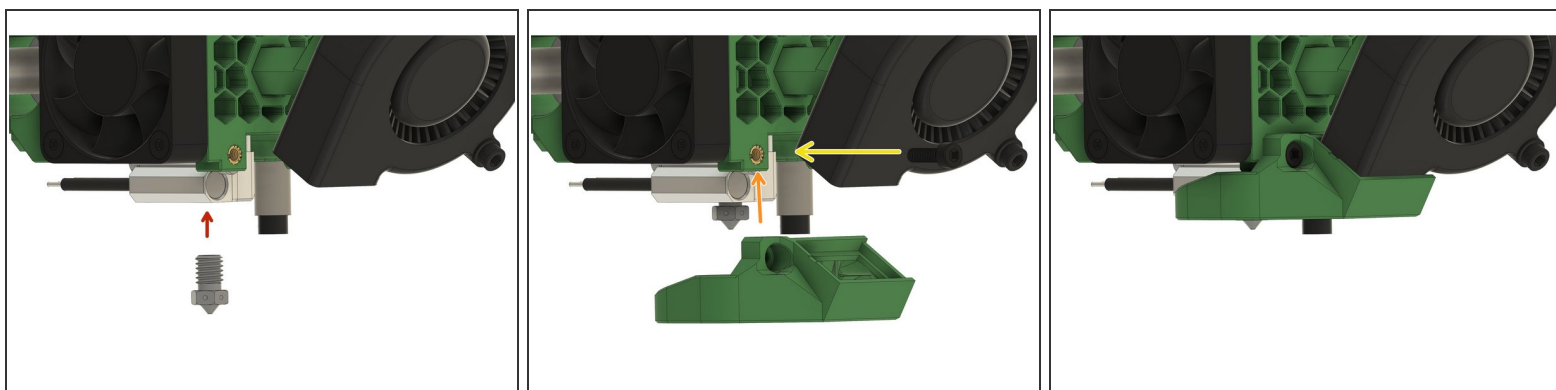


- Remove the **M2.5x5mm head cap screw** on the back of the Mosquito.

⚠ Apply boron nitride paste to both the heater cartridge and the thermistor cartridge.

- Insert the thermistor cartridge into the upper hole.
- Insert the heater cartridge into the lower hole.
- Fasten the **M2.5x5mm head cap screw** to secure the cartridges.

Step 21



- Screw the nozzle into the Mosquito heat block.

⚠ Fasten a Vanadium nozzle with the 1.5Nm torque wrench.

- Align the hole on the back of the fan shroud with the hole on the LGX cover.
- Fasten the fan shroud with a **M3x10mm head cap screw**.

