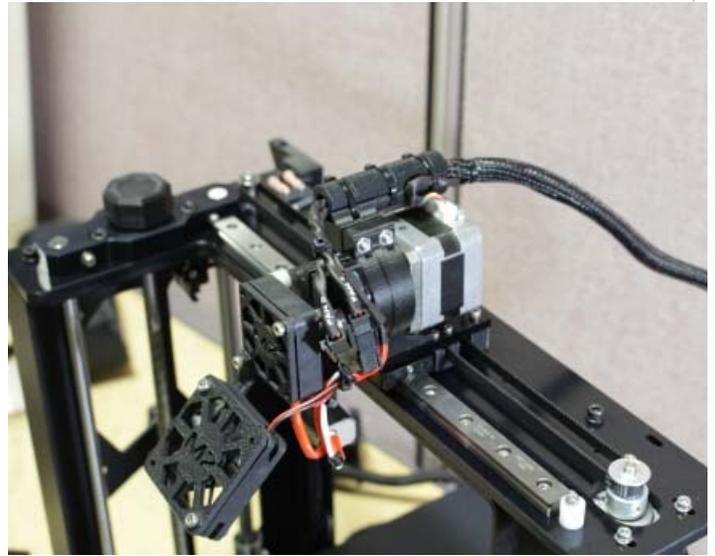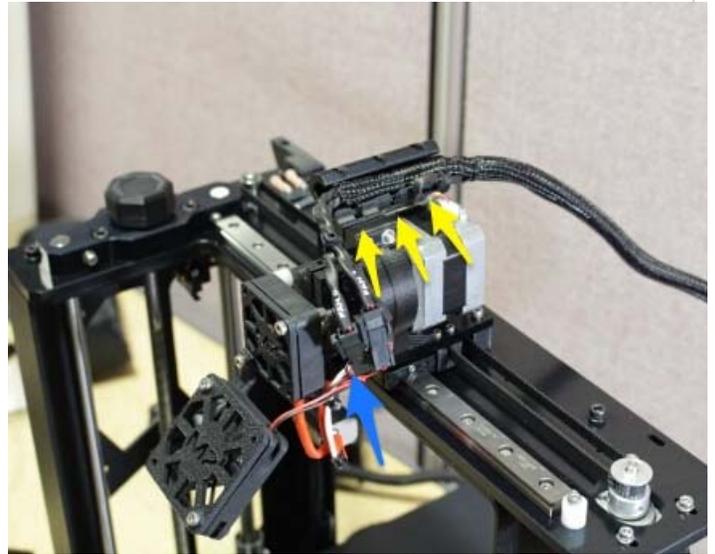To begin, position the extruder near the center of X travel.


Now snip and remove the three zipties securing the plastic Extruder Motor Mount cover (IN YELLOW), and the one ziptie securing the hotend and fan wires to the side of the filament drive (IN BLUE - ziptie is hidden by wires).


Now remove the cover, and disconnect all connectors (Extruder motor, hotend thermistor and heater, and both fans - IN YELLOW) from the Extruder harness; set the harness aside.

Next remove the fan assembly from the filament drive, by using your 2.5mm Allen wrench to loosen and remove the M3x40mm bolt in the top left corner of the 40mm fan (hidden behind the fan cover, in BLUE).
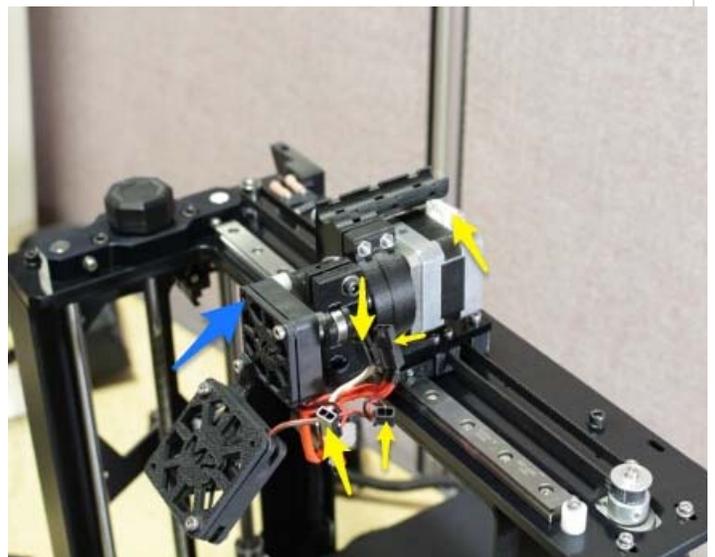
Now remove the filament drive assembly from the Extruder motor, by removing the two M3x25mm bolts securing it to the motor face (IN YELLOW).
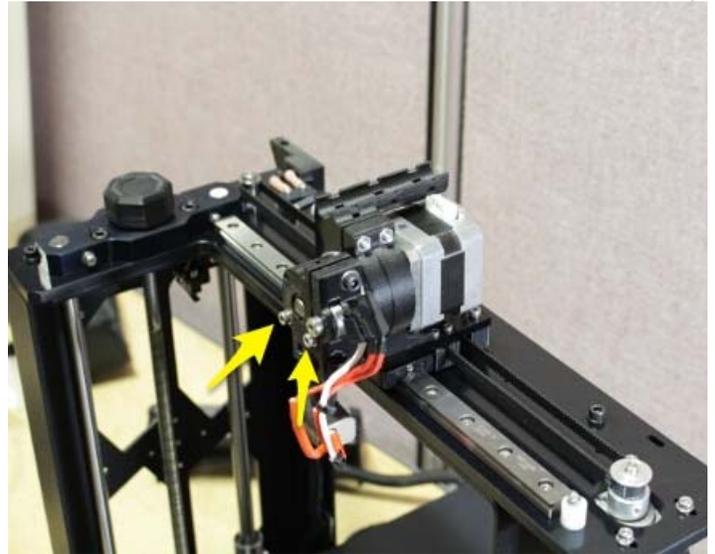
Now use your 3mm Allen wrench to loosen the two M4x35mm bolts clamping the plastic Extruder Motor Mount around the Extruder motor (IN YELLOW - bolt heads are on other side of Extruder Motor Mount).
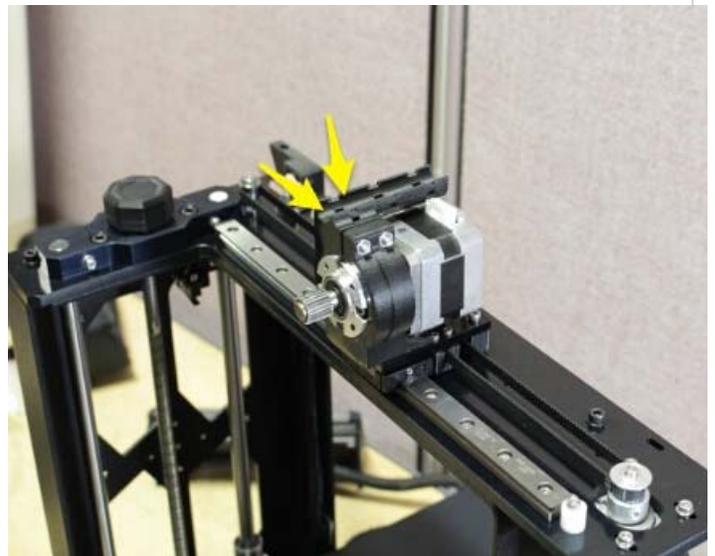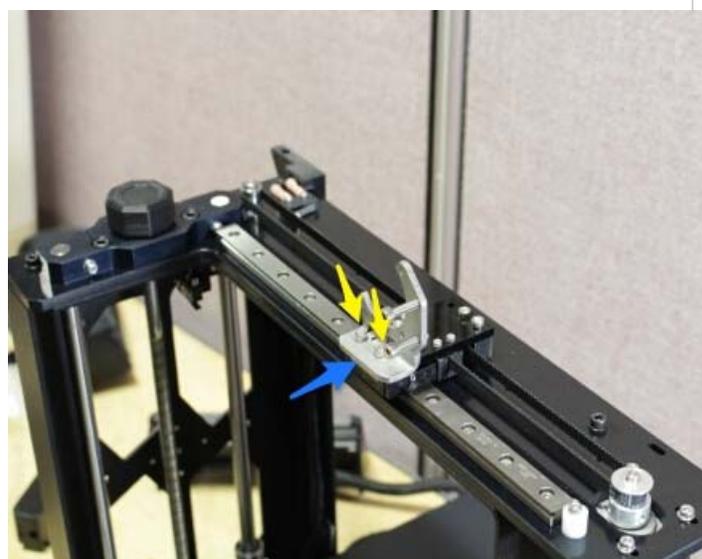
Remove the Extruder Motor from the Extruder Motor Mount. Next, remove the four M3x16mm bolts securing the printed Extruder Motor Mount to the X Carriage (IN YELLOW - only one is visible in this image).
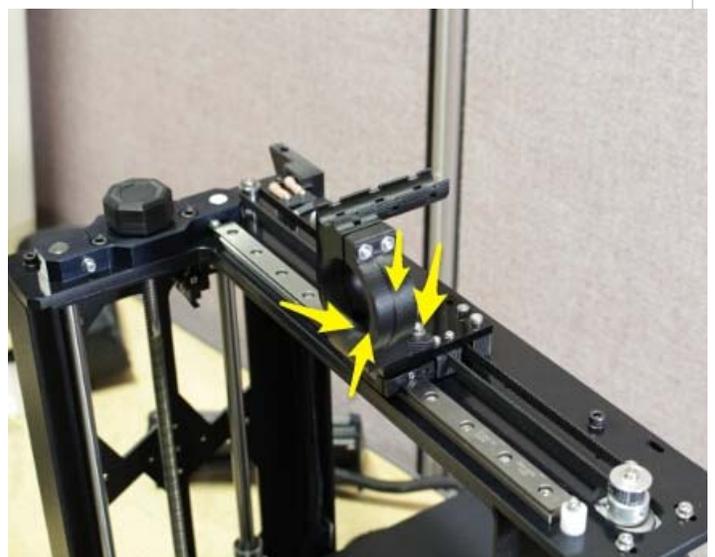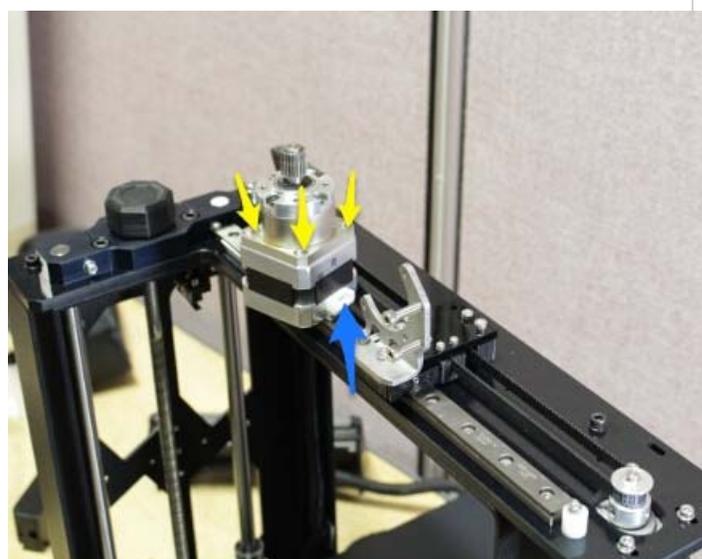
Once the printed Extruder Motor Mount is removed, use two M3x10mm bolts, with washers, to secure the acrylic Extruder Motor Plate to the X Carriage (IN YELLOW).
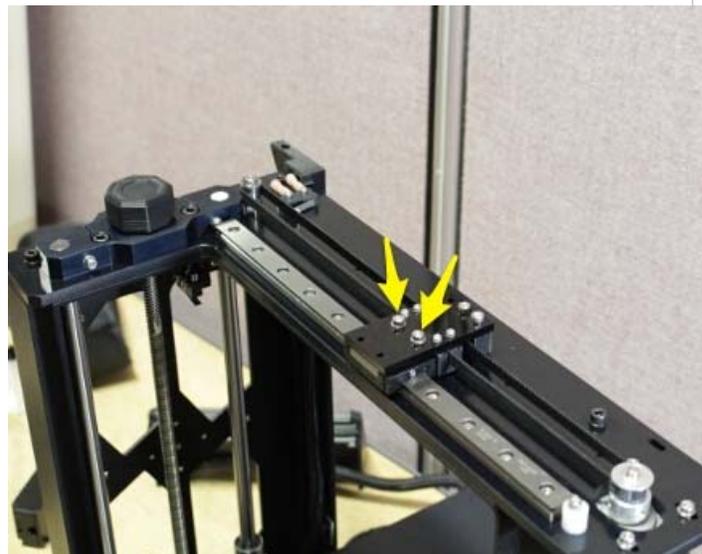
Next install the metal Extruder Motor Mount, using two M3x12mm bolts with washers (IN YELLOW). During installation, apply gentle _backward_ force (in the direction of the BLUE arrow) on the front center area of the metal Extruder Motor Mount to register it properly.

Prepare the Extruder Motor for installation, by removing three of the four M3x6mm bolts securing the gearbox flange to the stepper motor base (IN YELLOW). Note the location and relative position of the white connector on the stepper motor base (IN BLUE) - this orientation is required for proper wiring installation.
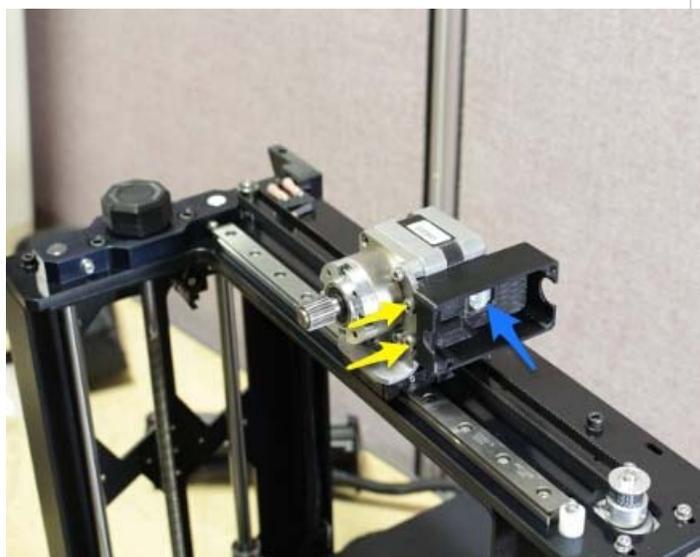
Place the Extruder Motor in the metal Extruder Motor Mount.
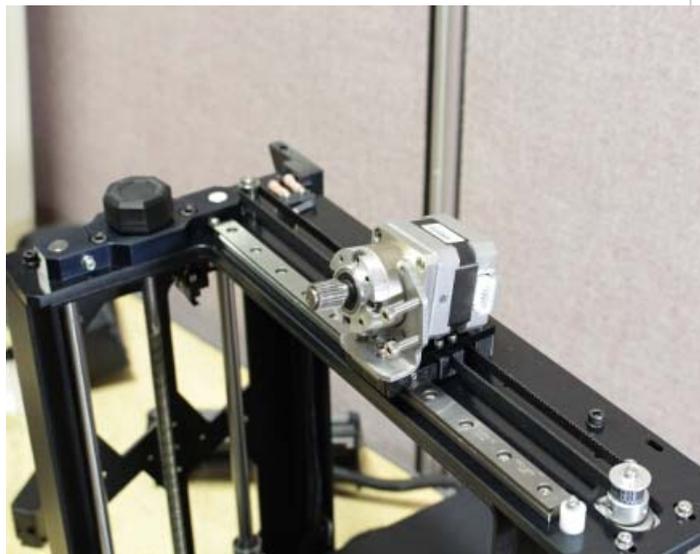
Then secure with three M3x12mm bolts (IN YELLOW - the bottom left bolt is not visible from this angle).
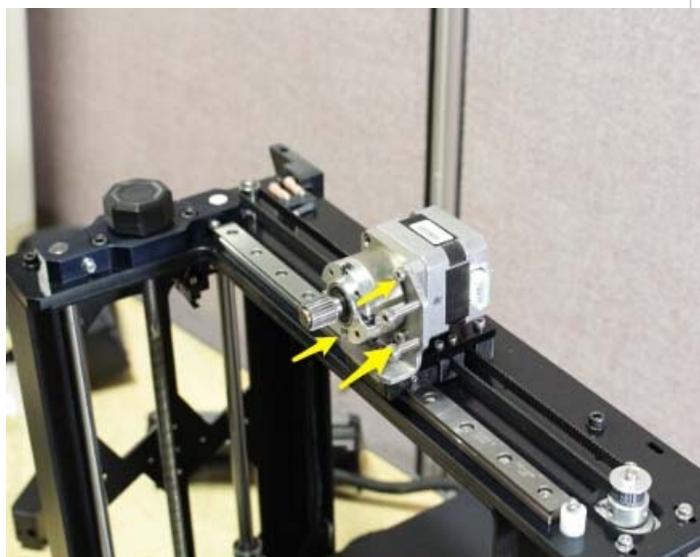
Place the printed Extruder Wire Shroud on the side of the Extruder Motor (note the connector clearance - IN BLUE), and tighten the two M4x16mm bolts (IN YELLOW) to secure it to the metal Extruder Motor Mount.

Install the filament drive and hotend assembly, by tightening the two M3x25mm bolts (IN YELLOW).
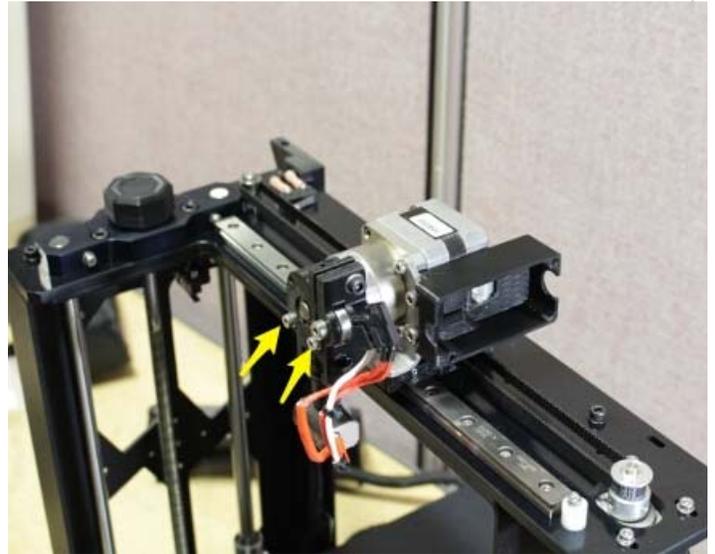
Install the fan assembly by tightening the hidden M3x40mm bolt (IN YELLOW). Then install the wiring harness, by first connecting the Extruder motor connector (IN BLUE - hidden by wires), then reconnecting the fans and hotend thermistor and heater connectors (IN GREEN).

At this point, you can decide to either modify your current harness, or use it as-is. The new wire shroud design will have the harness wires run all the way through. You may want to adjust the wiring harness so that less length of wire comes out the front of the wire shroud. To modify the harness, connect all connectors and snip the zipties securing the harness cables inside of the black braided wire loom. Now you can freely pull the wires through the harness. If you choose to modify the harness, ensure that there is still enough slack in the harness running to the wire shroud, so that at all points of X travel the harness is not being bent, stretched or pinched. Modifying the harness is beyond the scope of this guide - the following pictures use the harness as-is.
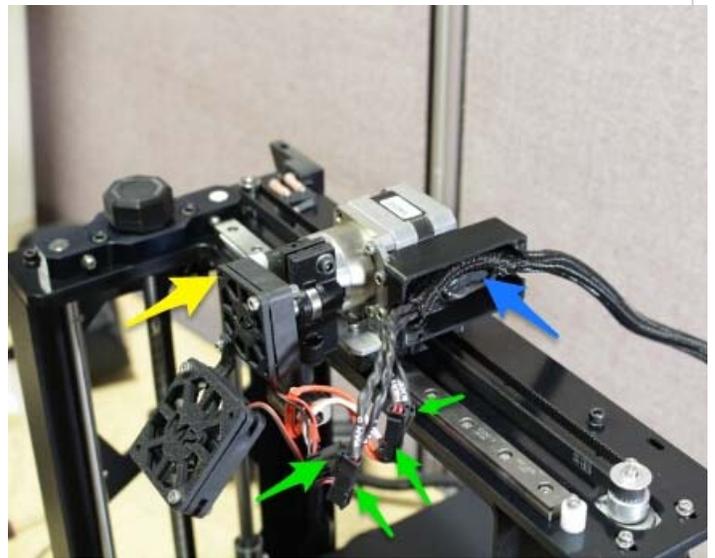
Install the Wire Shroud side panel (making sure the wires are in the slots, at front and rear - IN YELLOW) by using your 2mm Allen wrench to tighten the two M3x10 black oxide button head bolts (IN BLUE).
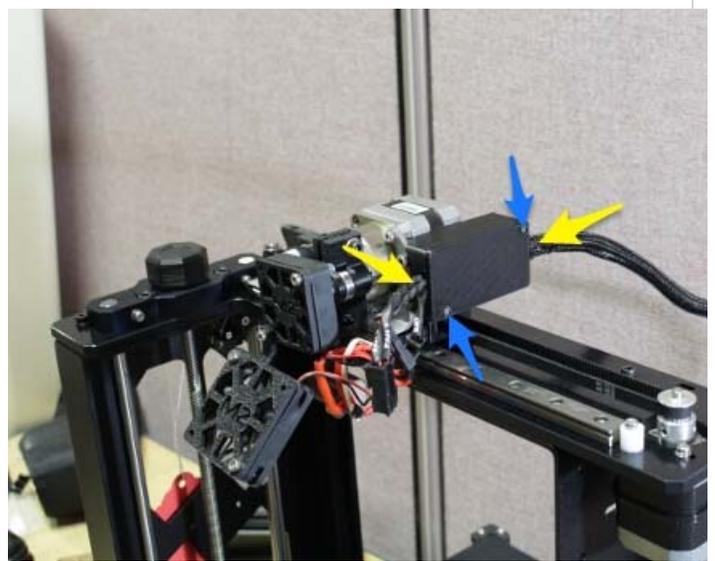
Secure the fan and heater wires to the side of the filament drive with a ziptie (IN YELLOW), then snip the excess.
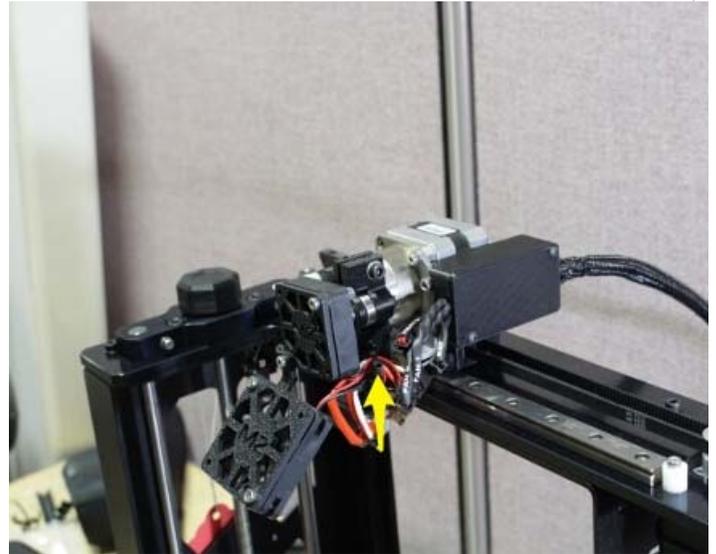
Power back up, check your Z endstop activation point, and then check all systems that were changed - fans (both automatic 40mm extruder fan, and 50mm bed fan), hotend temperature reading, and hotend temperature control.