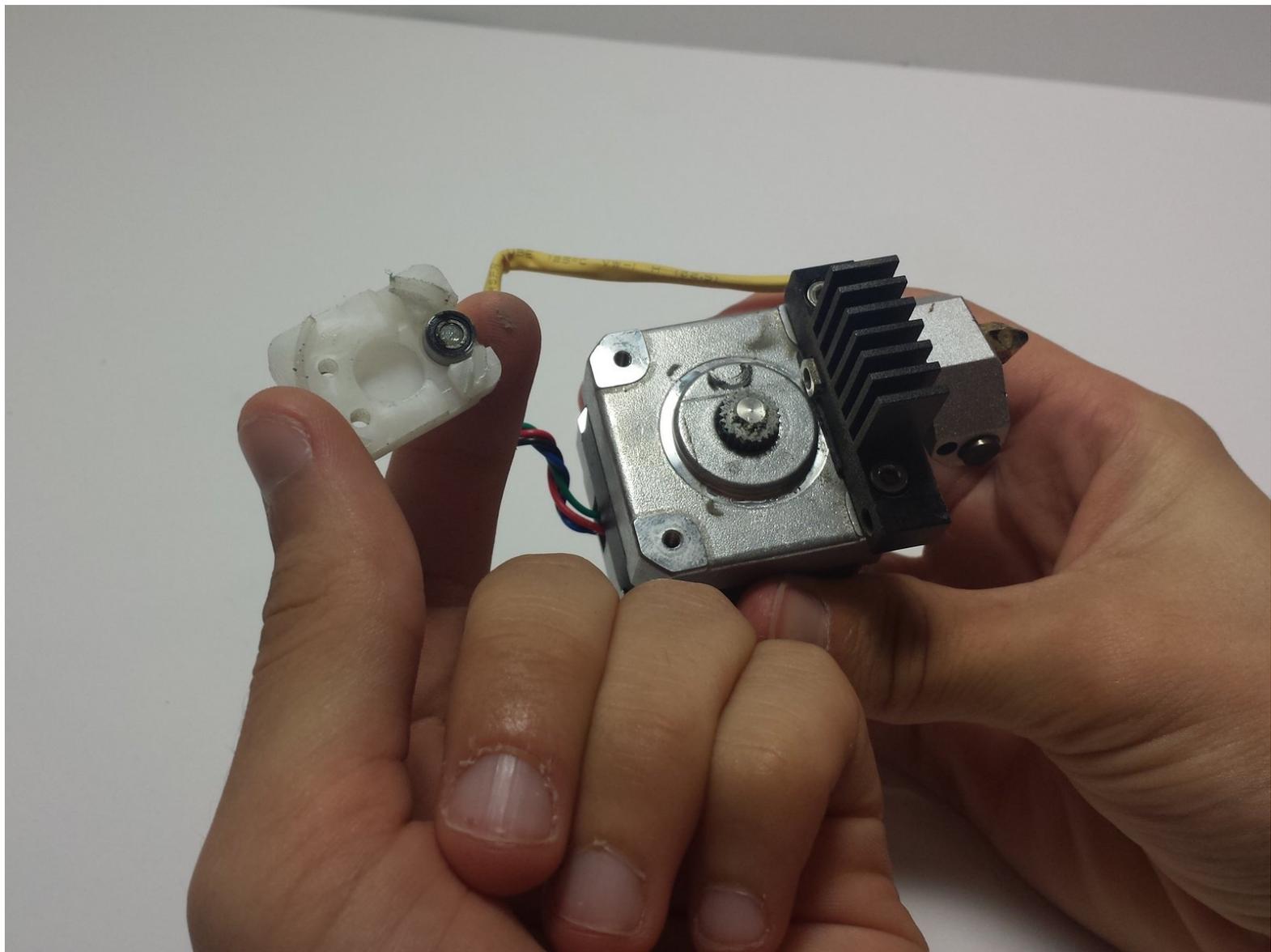




How to clean the UP! Plus 2 gearbox

Get into the gearbox of the extruder assembly to clean out any debris that has built up, and replace the extruder gear if necessary.

Written By: Brian Greenberg



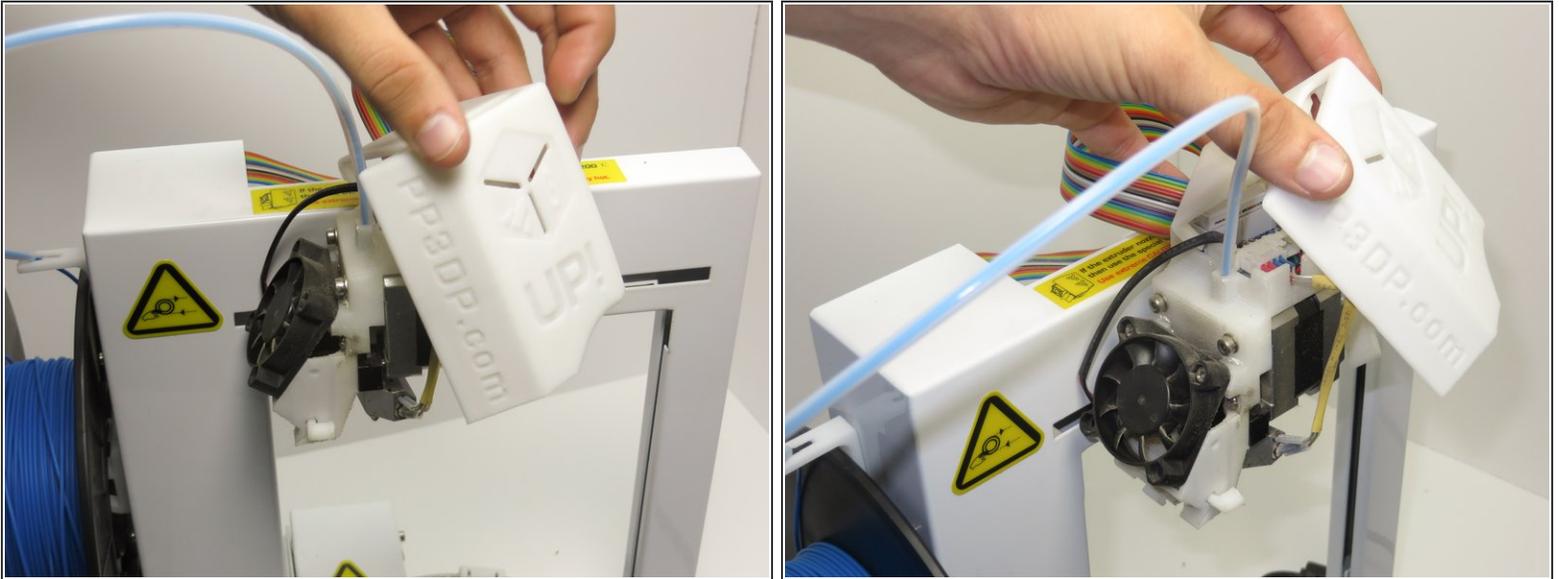
INTRODUCTION

The gearbox tends to get dust and other particles stuck in the gearbox over time as the extruder can grind away some of the plastic filament causing slippage. This is an important general maintenance that any serious user of the printer should consider doing if they are experiencing inconsistent extrusion.

TOOLS:

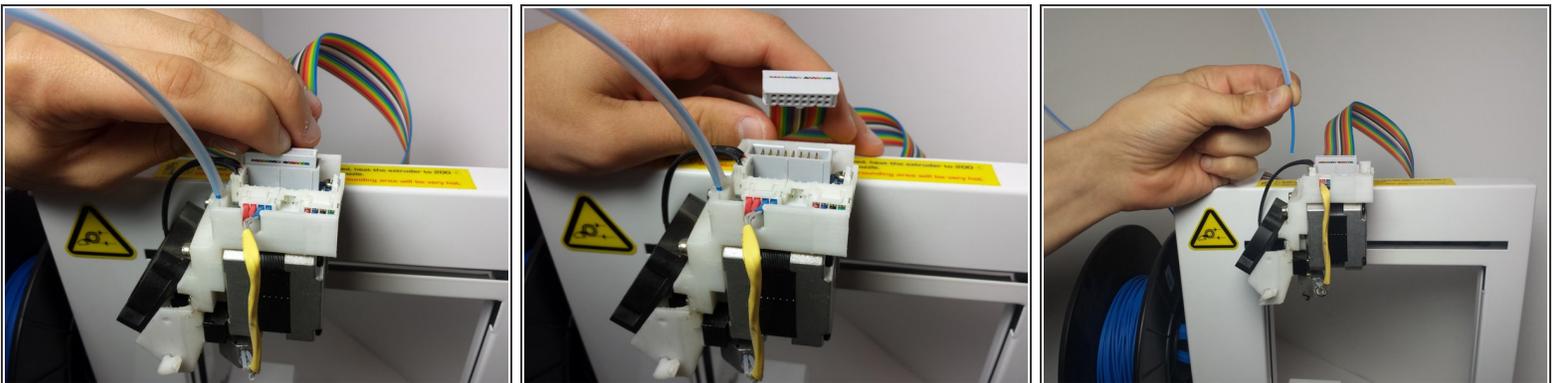
- [Toothbrush](#) (1)
 - [Phillips #0 Screwdriver](#) (1)
 - [3.0mm Hex Key](#) (1)
 - [2.5 mm Hex Bit](#) (1)
-

Step 1 — Remove Fan Cover



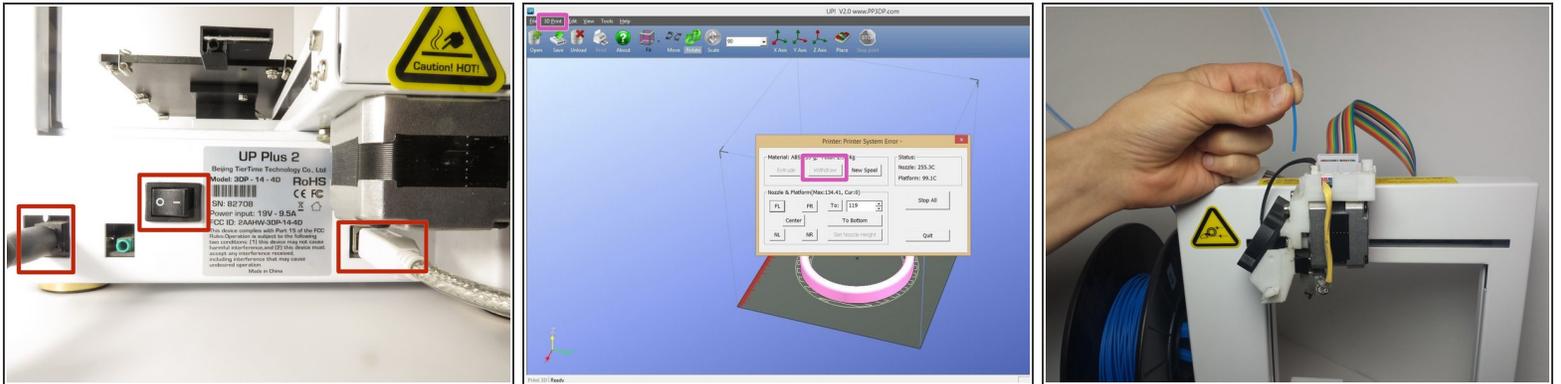
- Remove the 3D printed plastic cover by lifting up and to the left. The latches in the back should lift right out, however this can be tricky since the 3D printed connections don't always sit in place well.

Step 2 — Remove Ribbon Connector



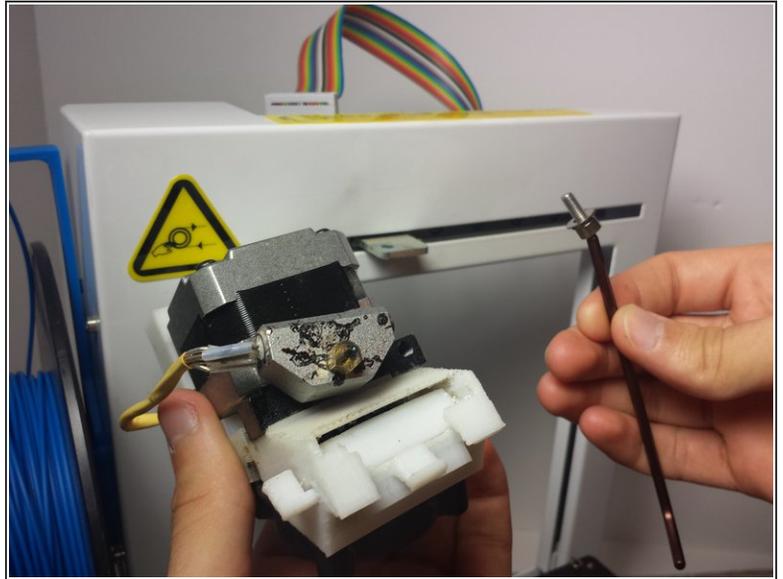
- Disconnect the large colored ribbon cable on the top of the printer by wiggling slightly side to side and pulling up to disconnect.

Step 3 — Removing the Filament



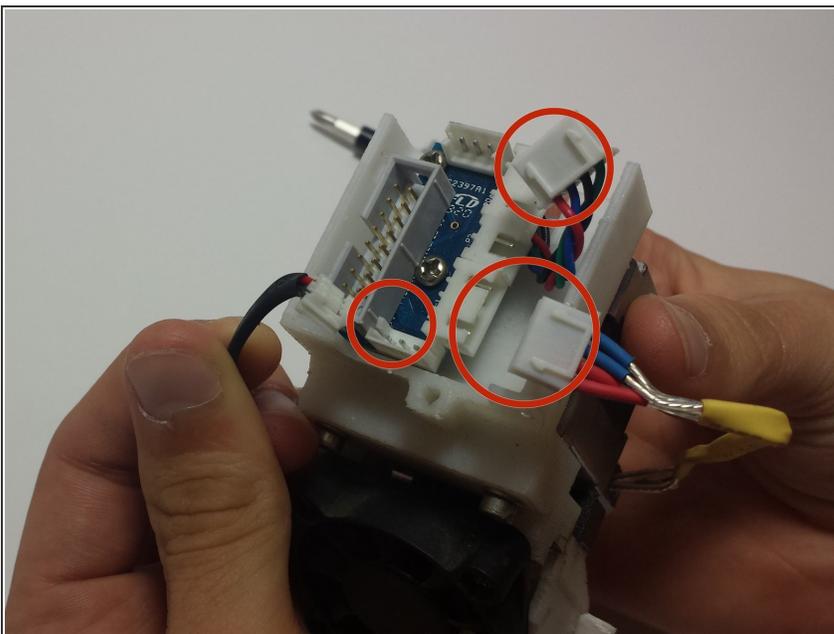
- Set up the printer as you would use it normally by connecting the USB cable from the rear of the printer to your computer and then turning it on.
- Once connected to your computer bring up the included up software and click 3D print at the top and select Maintenance. Under the new maintenance window, click withdraw.
- Wait for the printer to beep to indicate it has fully withdrawn the plastic before you remove the remaining end from the extruder assembly.

Step 4 — Remove Extrusion Assembly



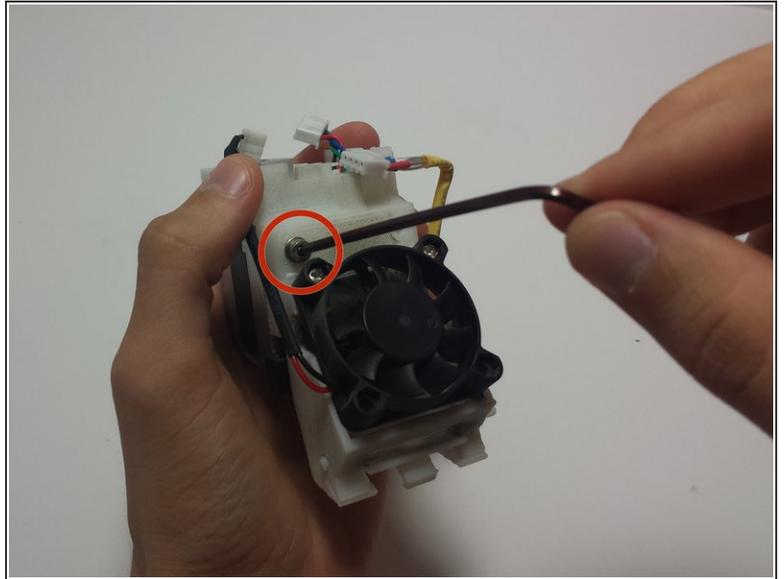
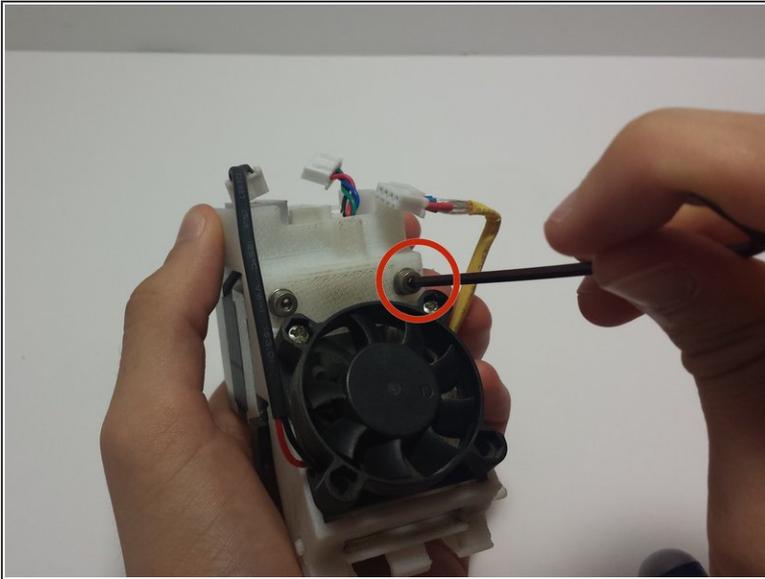
- Unscrew the 3mm hex screw, on the underside immediately behind the nozzle heater that holds the entire extrusion assembly in place.
- ⚠ Be careful when unscrewing this as there are two small flat washers that can easily fall off. Be mindful that unscrewing this screw will mean that the entire extrusion assembly can come free of the printer body.

Step 5 — Remove Connectors



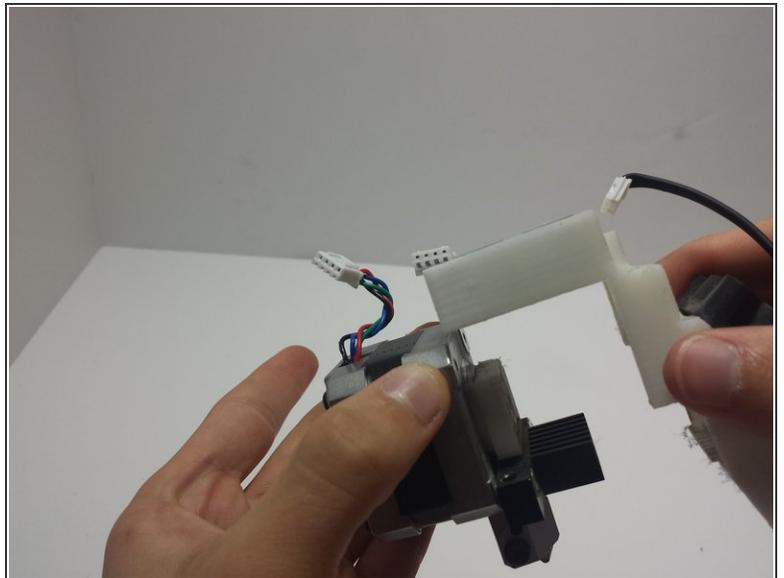
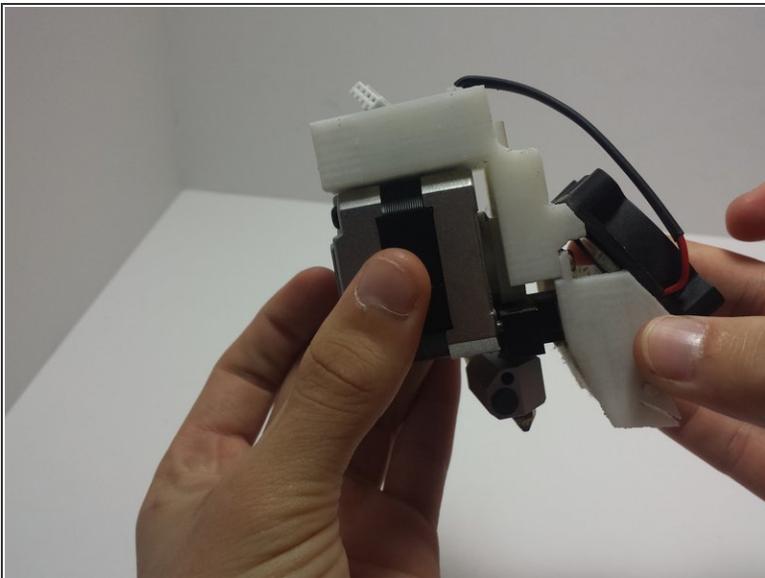
- Disconnect the three and four pin connectors on the top of the extruder assembly by gently wiggling the connectors side to side until they become loose and pull out.
- ⓘ These connectors are designed to latch in once in place, so they may be hard to remove.

Step 6



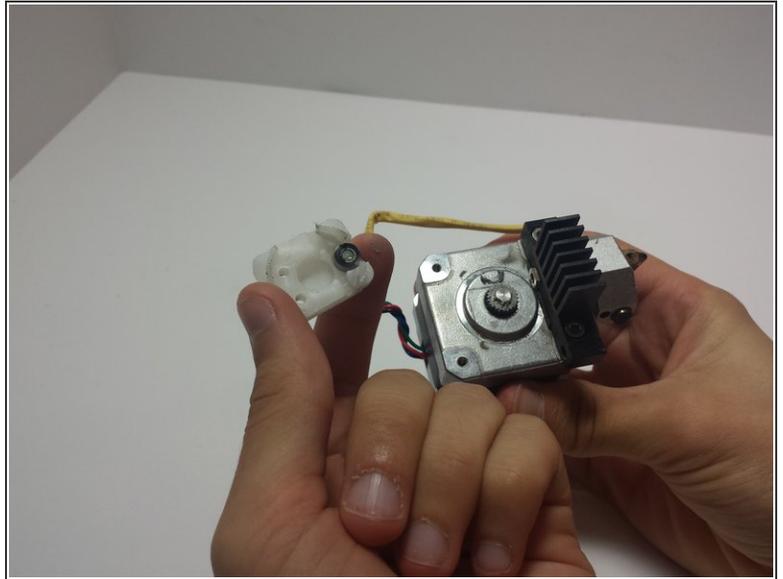
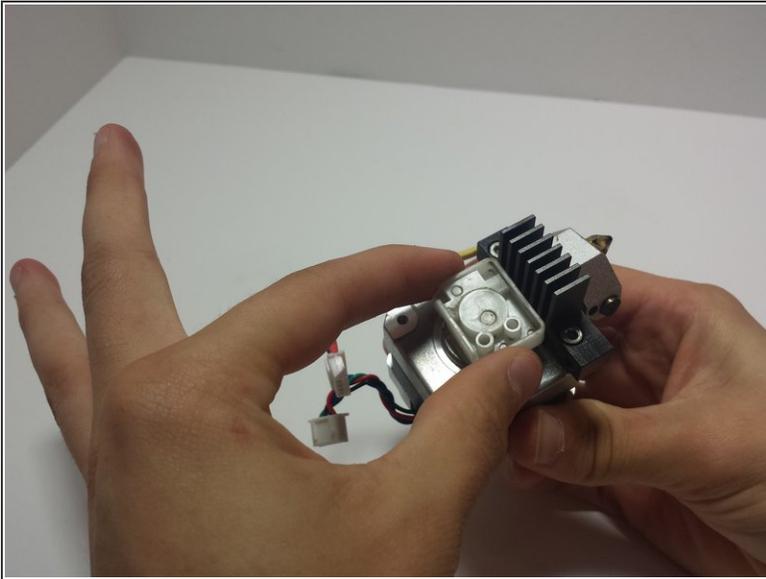
- With the 2.5mm hex tool unscrew the two small hex screws immediately above the top left and right corners of the fan.
- ⓘ You do not need to unscrew the fan or unplug the fan connector.

Step 7 — Separate Stepper Motor



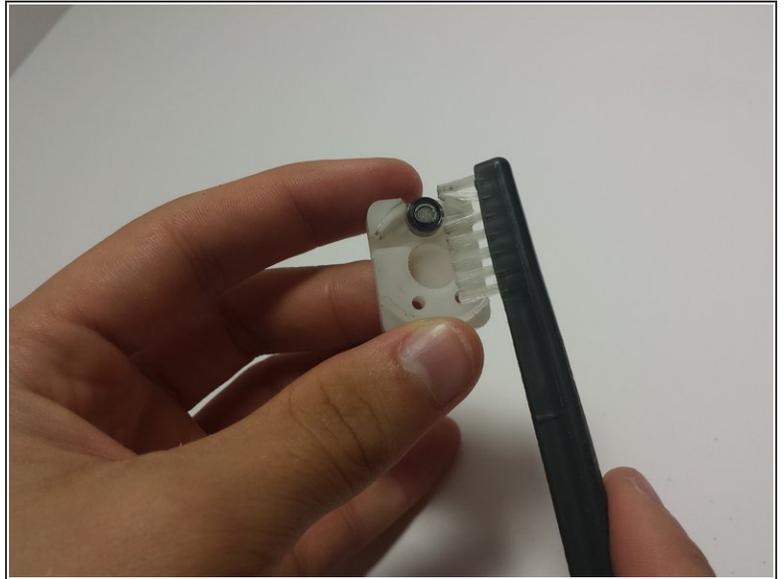
- Once the two screws have been removed the entire plastic body, with fan and connector board, should be able to slide off of the stepper motor by pulling the plastic assembly towards you.

Step 8 — Remove Gear Box



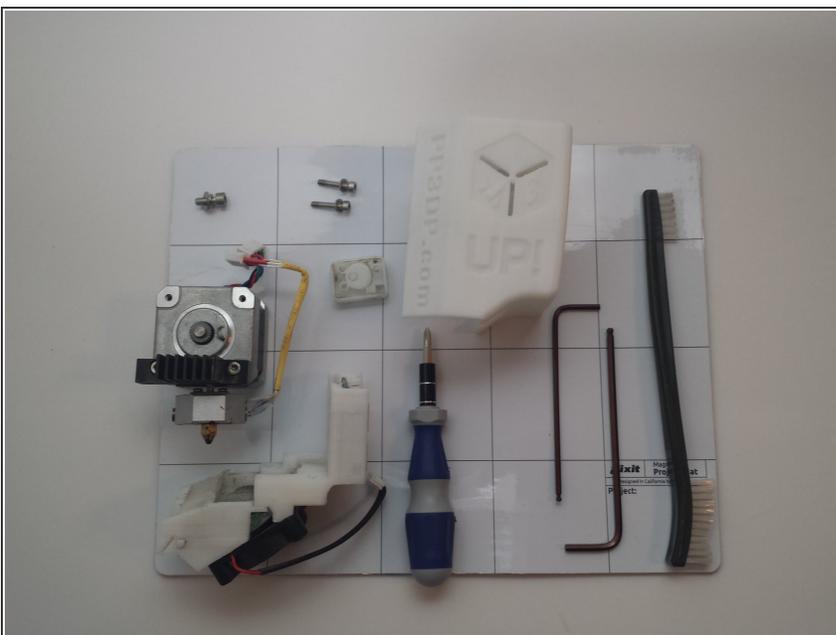
- Remove the small white plastic gearbox at the base of the stepper motor.
- Check for any ground down gear teeth or signs of excessive wear.

Step 9 — Clean The Stepper Motor Gear



- Clean the stepper motor gear by brushing it with a fine stiff brush and ensure that all of the plastic remnants and dust have been removed.
- ⓘ If needed, use q-tips dipped in rubbing alcohol (higher percentage the better) to swab out the remaining particles left over.

Step 10 — Replace Gearbox



- ⓘ This picture shows all the tools and parts in the guide.
- Replace the gearbox in the same orientation as before in the previous step.
- ⓘ The gearbox should make an audible “snap” as you fit it into place.
- Repeat the steps backwards to reassemble the module.

To reassemble your device, follow these instructions in reverse order.