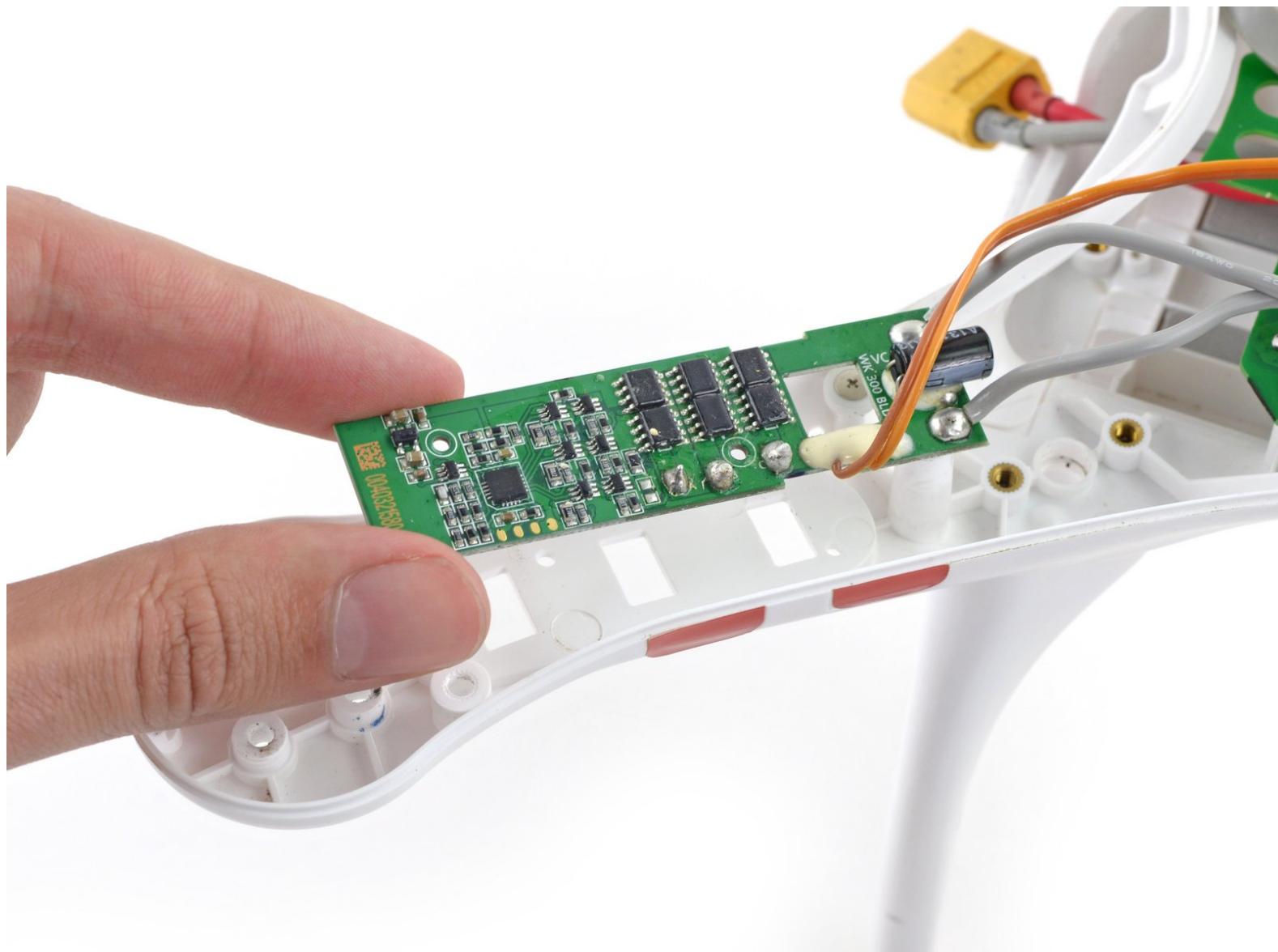




DJI Phantom ESC Replacement

Use this guide to replace an Electronic Speed Controller (ESC) in your DJI Phantom drone.

Written By: David Hoyt



INTRODUCTION

Use this guide to replace an Electronic Speed Controller (ESC) in your DJI Phantom Drone. The ESC receives power from the central board, and a PWM control signal from the flight controller. There is one ESC for each motor, for a total of four. Removing the ESC requires soldering.

TOOLS:

- [12mm Socket or Wrench \(1\)](#)
- [2 mm Hex Screwdriver \(1\)](#)
- [Phillips #0 Screwdriver \(1\)](#)
- [Soldering Iron \(1\)](#)

Step 1 — Open the Battery Compartment



- Press down on battery door release tab to flip the battery door open.

Step 2 — Remove the Battery



- Pull out the battery pack.

⚠ Avoid pulling on the battery wires, excess stress may break the wires, damage the power connectors, or crack the internal solder joints.

Step 3 — Disconnect the Battery



- Pull the two halves of the XT60 power connector apart.

⚠ It's a tight fit, so be careful not to hit your drone or yank on the cables when it releases!

Step 4 — Identifying Silver and Black Collets



- Silver-topped propeller collets unscrew counter-clockwise
- Black-topped propeller collets unscrew clockwise

Step 5 — Unscrewing Silver Collets



- **For propellers with silver collets:** Use a 12 mm wrench or socket to loosen silver collets in the **counter-clockwise** direction.
- Once free, unscrew and remove the collet.

Step 6 — Unscrewing Black Collets



- **For propellers with black collets:** Use a 12 mm wrench or socket to loosen black collets in the **clockwise** direction.
- Once free, unscrew and remove the collet.

Step 7 — Remove the Propeller



- Gently press down the motor shaft and lift the propeller up to remove it.

Step 8 — Remove Case Screws



(i) After removing all four propellers, flip the drone over.

- Remove the following screws from the underside of the drone:
 - Twelve 2.0 mm hex screws
 - Four Phillips #0 screws

Step 9 — Unplug Magnetometer



- Loosen the cable from the plastic landing gear.
- Unplug the magnetometer molex connector.

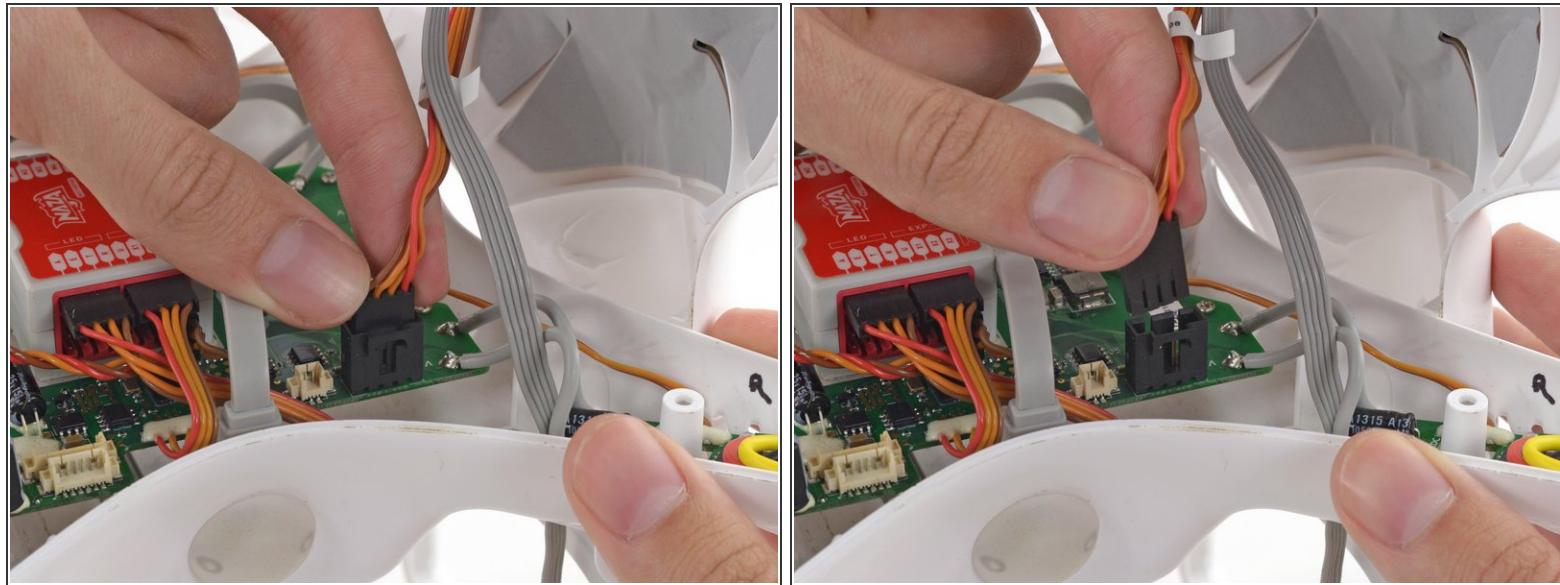
Step 10 — Remove the Top Shell



- Lift up on the top portion of the shell and set it on its side.

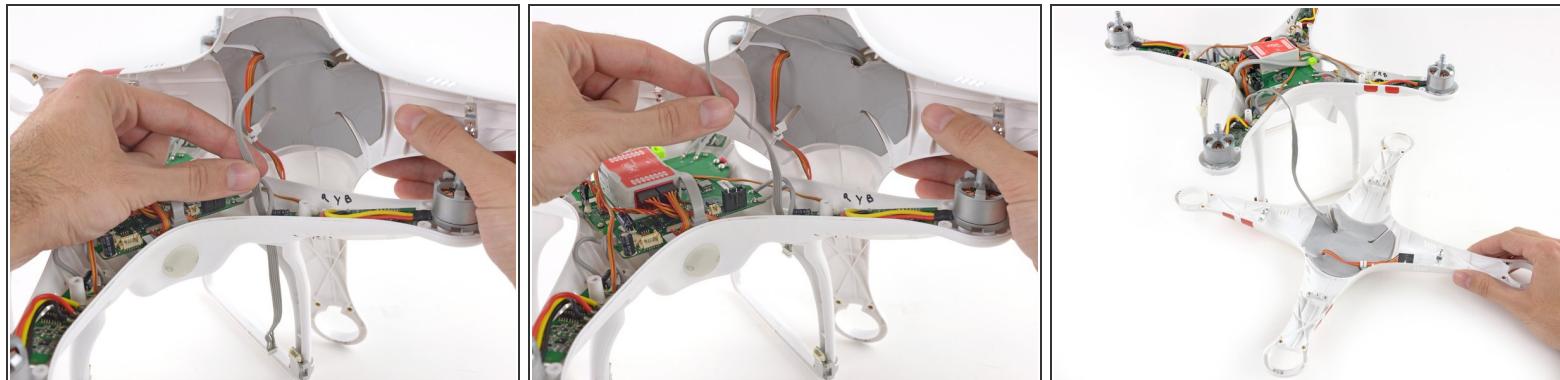
⚠ Do not attempt to fully remove the case. The GPS and Magnetometer cables connect the top shell to the rest of the Phantom, be careful not to stress or break these cables.

Step 11 — Disconnect GPS Cable



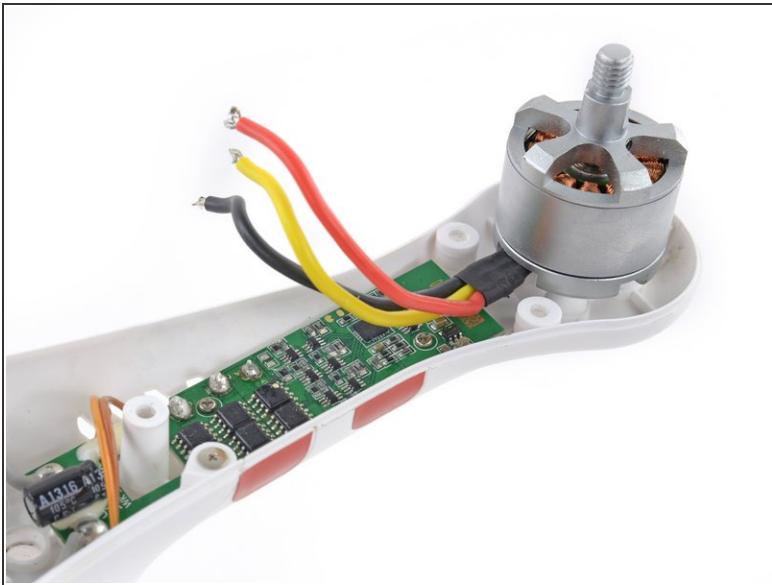
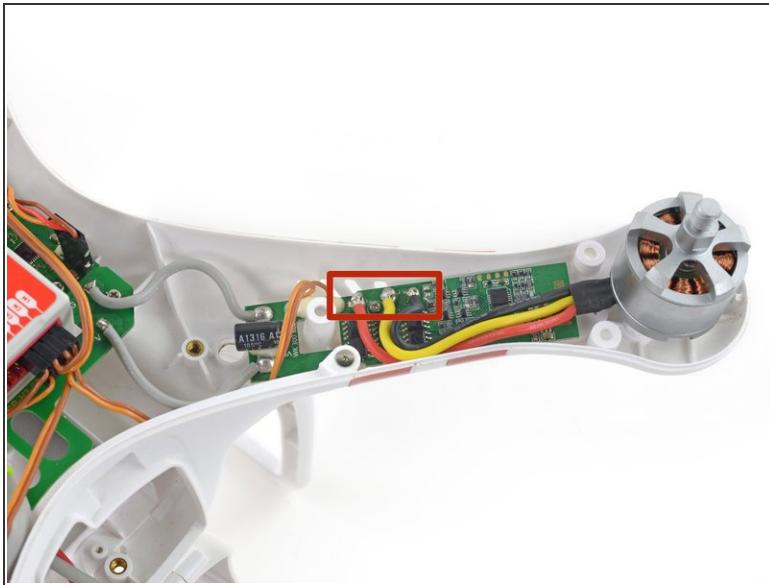
- Lift the GPS cable molex connector up out of its socket on the main board.

Step 12 — Loosen Magnetometer Cable



- Gently pull the slack of the magnetometer cable through the case bottom shell.
- The case top shell should now have enough slack to work on the interior of the Phantom.

Step 13 — Motor



- Desolder all three motors wires from the speed controller board.
- Follow our [soldering guide](#) to learn how, or just to brush-up on your skills.

! Be careful not to melt the plastic case bottom shell with your soldering iron or damage any electronic components.

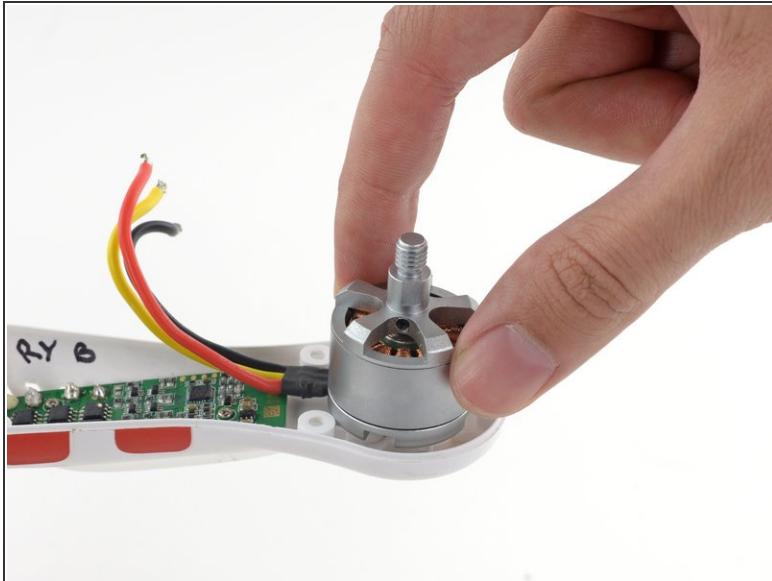
★ When you're reassembling, solder the motor leads back in their original order. **This may be different from the picture.** Motors on arms across from each other have the same color order, so check the opposite arm for reference.

Step 14 — Unmount the Motor



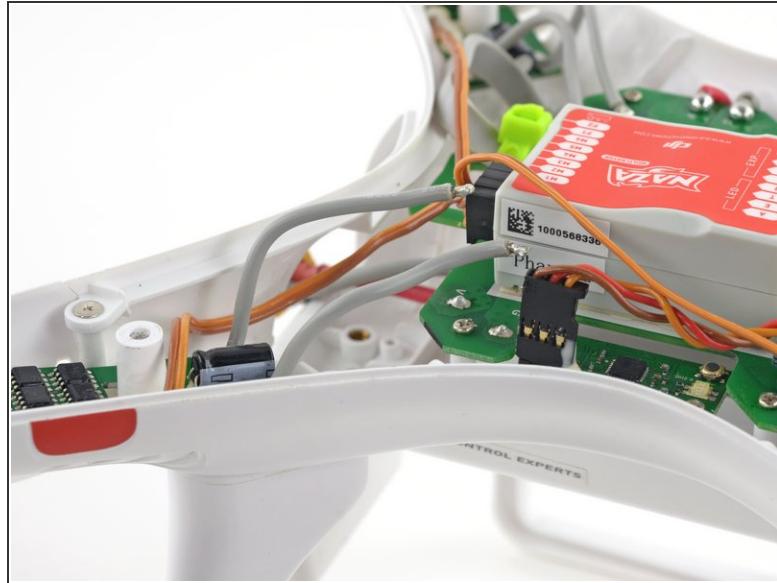
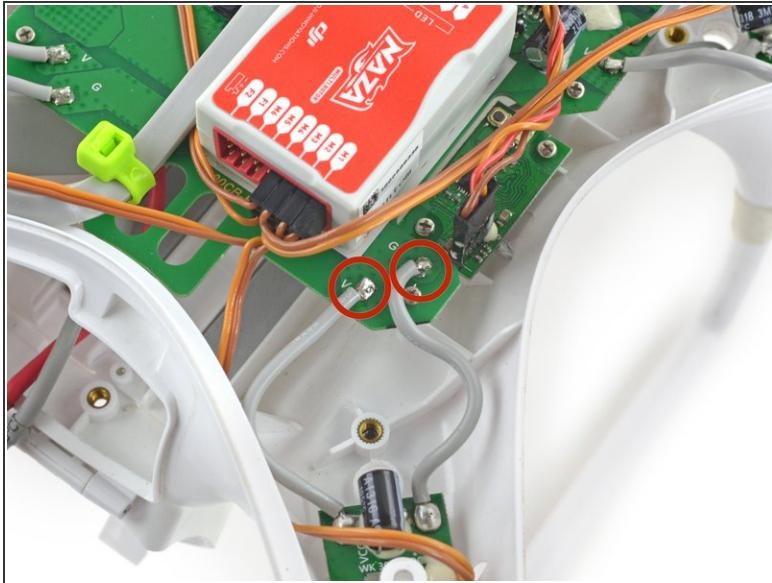
- Unscrew the four 2 mm motor hex bolts from the case bottom shell.

Step 15



- Remove the motor from the Phantom.

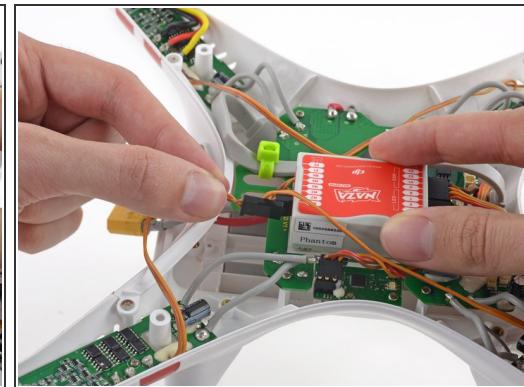
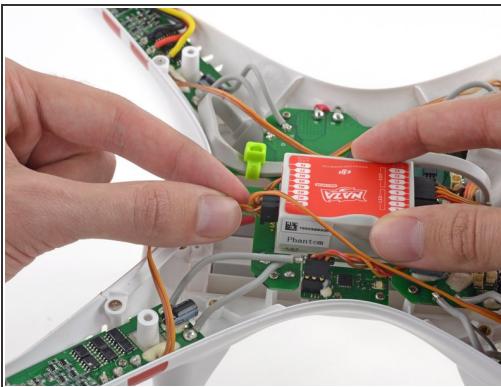
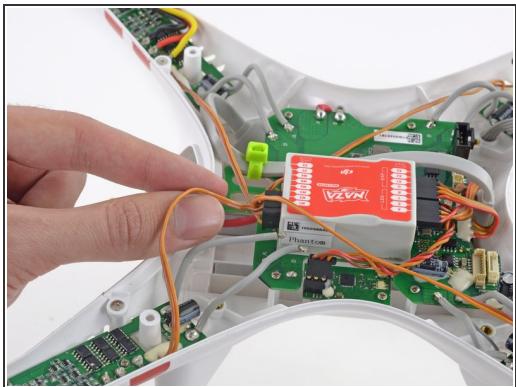
Step 16 — Unsolder the ESC



- Disconnect the ESC from the mainboard by desoldering the ground and voltage wires.

⚠ Be careful not to melt the plastic case bottom shell with your soldering iron or damage any electronic components.

Step 17 — Disconnect the ESC from the Flight Controller



- Unplug the ESC signal cable from the flight controller.

ⓘ You may need to remove other ESC signal cables next to your desired ESC's cable. Be sure to note which socket these cables go back into.

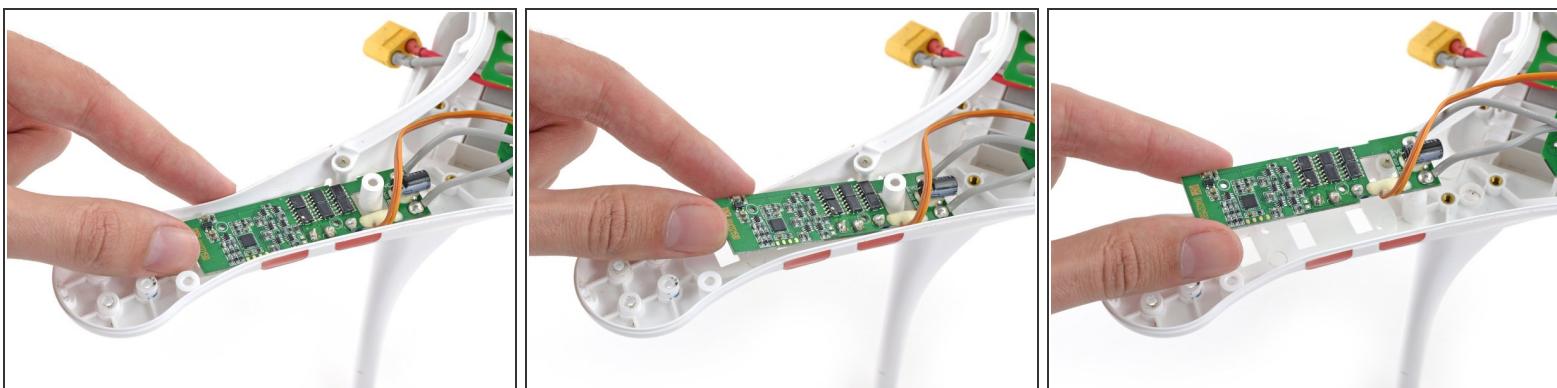
Step 18 — Unscrew the ESC



- Remove the two Phillips #0 screws securing the ESC.

(i) The clear plastic LED light cover may fall off after removing these screws. If it doesn't, remove it so you don't lose it.

Step 19 — Remove the ESC



- Remove the ESC from the Phantom.

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