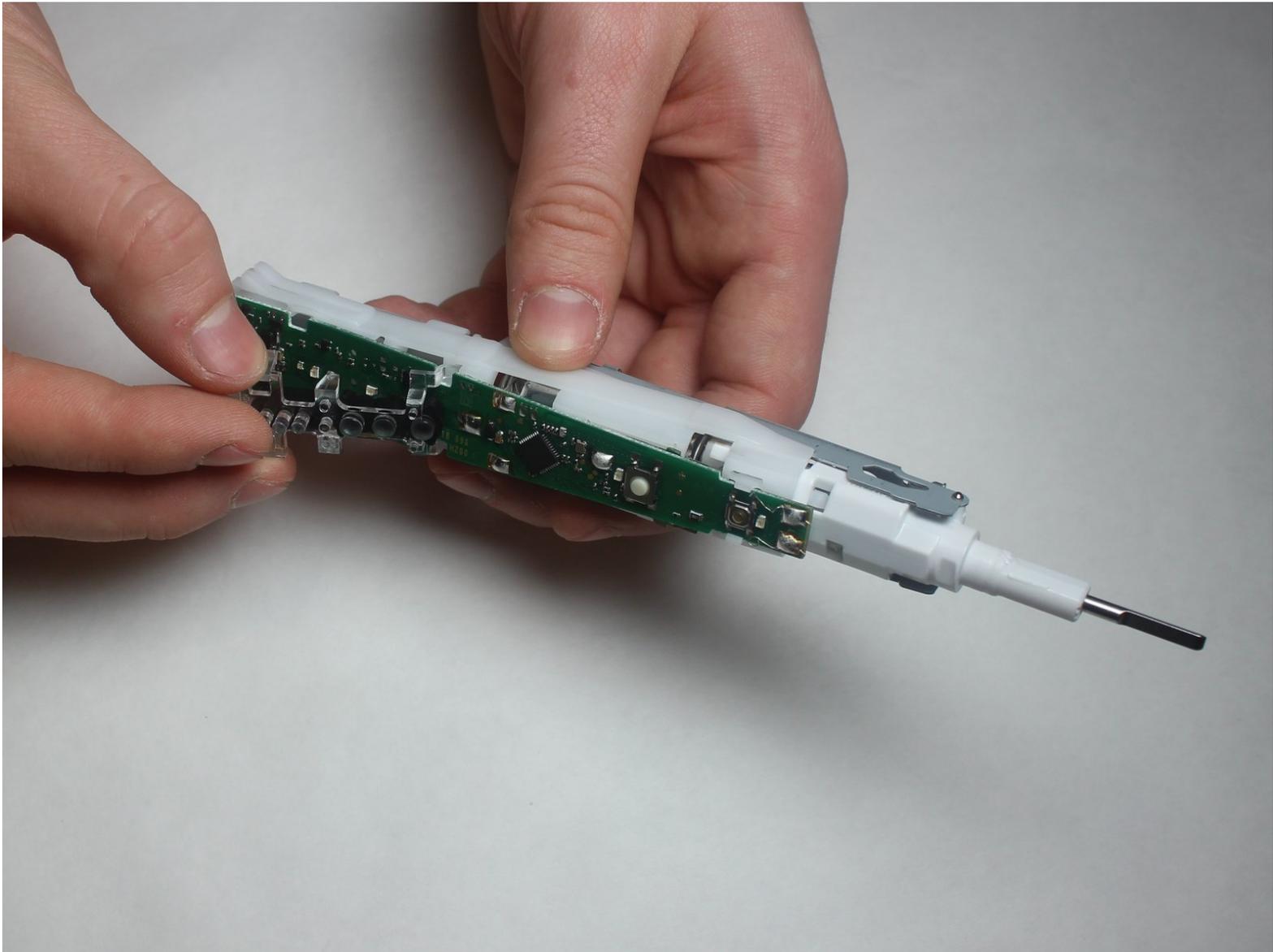




Oral-B Black 7000 Motherboard Replacement

How to replace the motherboard in the Oral-B Black 7000 toothbrush.

Written By: Jonathan Bowyer



INTRODUCTION

The motherboard is the brain of the device. It connects all the components to the power supply and will need to be replaced if it is damaged or wears out due to use. Some steps in this procedure require desoldering connections. For a review of soldering techniques, check out this [How to Solder Guide](#).

TOOLS:

- [Metal Spudger](#) (1)
 - [Tweezers](#) (1)
 - [Soldering Workstation](#) (1)
 - [Spudger](#) (1)
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Step 1 — Induction Charging Coil



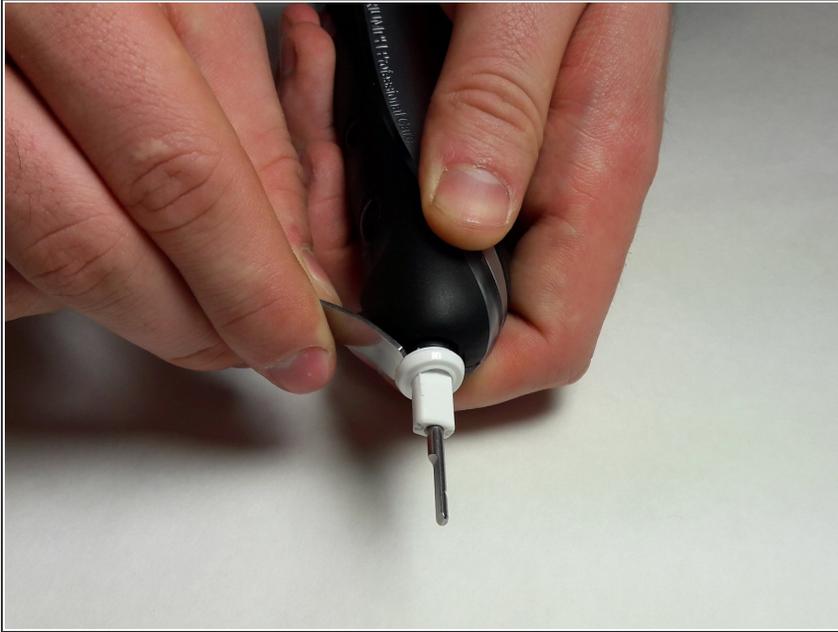
- Use the charging station to remove the a small plastic plug from the end of the toothbrush by inserting the charging station into the end insert and twisting counter-clockwise by 90 degrees.

Step 2



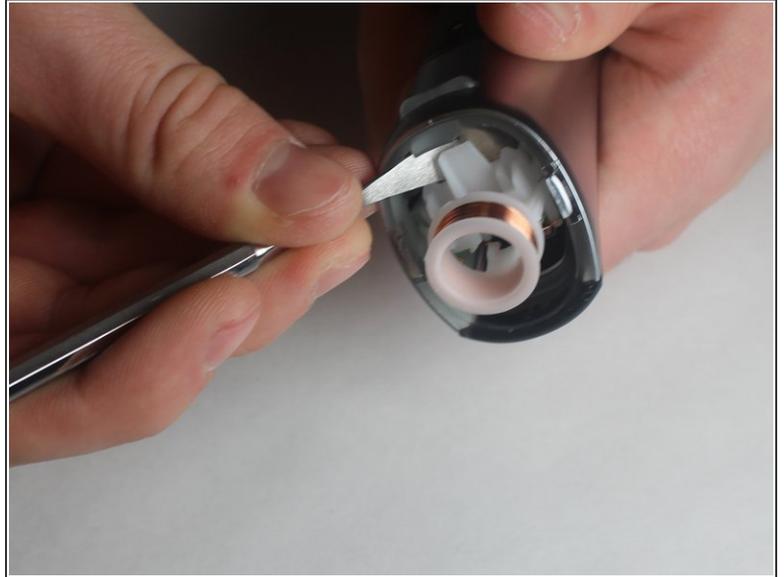
- Remove the end cap from the bottom of the toothbrush by prying it off with a spudger.

Step 3



- Remove the top cap by using a spudger to pry the plastic ring off of the toothbrush frame.

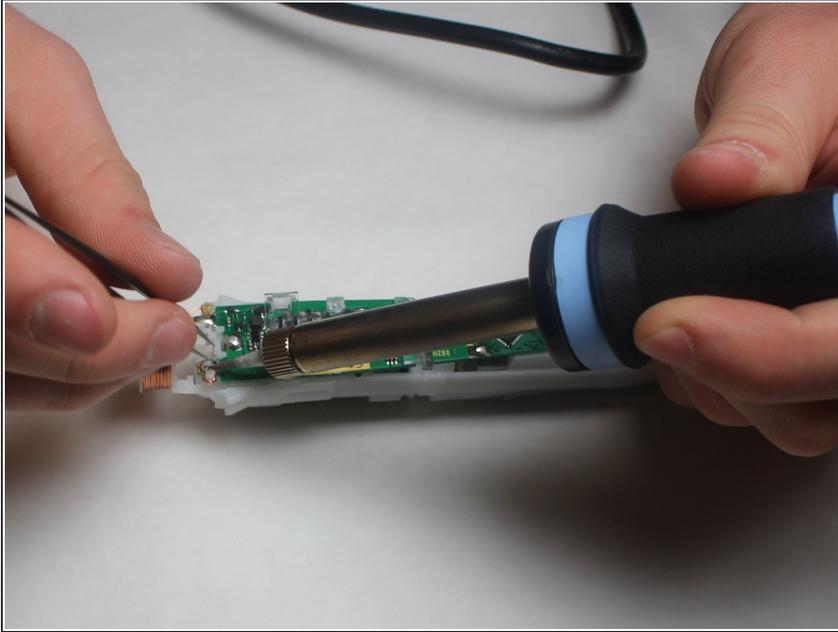
Step 4



- Use a spudger to loosen the two plastic tabs next to the induction coil that secure the internal assembly to the frame.
- Push on the rotating head in order to pop the assembly out of the black plastic casing.

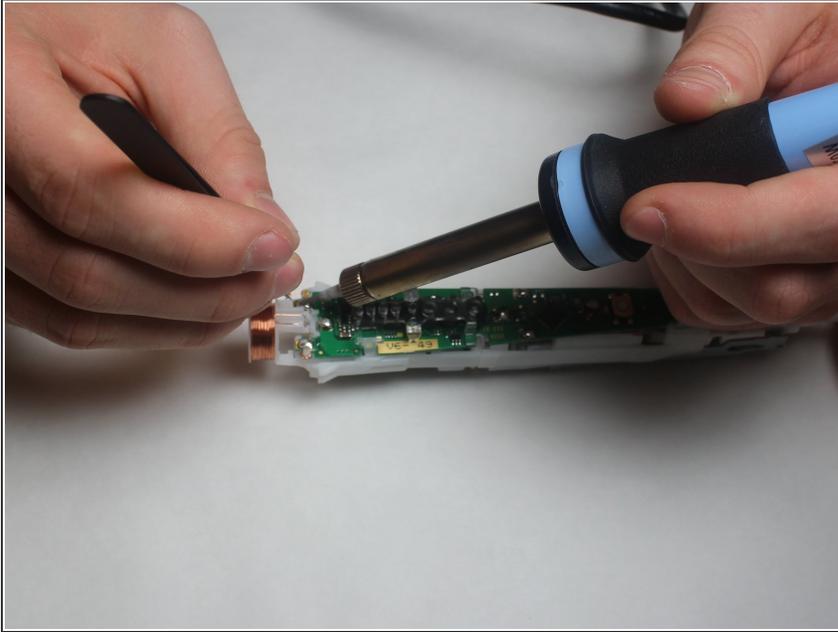
⚠ You can also use a spudger to leverage the assembly out, but this may break the copper wire connected to the induction coil, so be careful.

Step 5



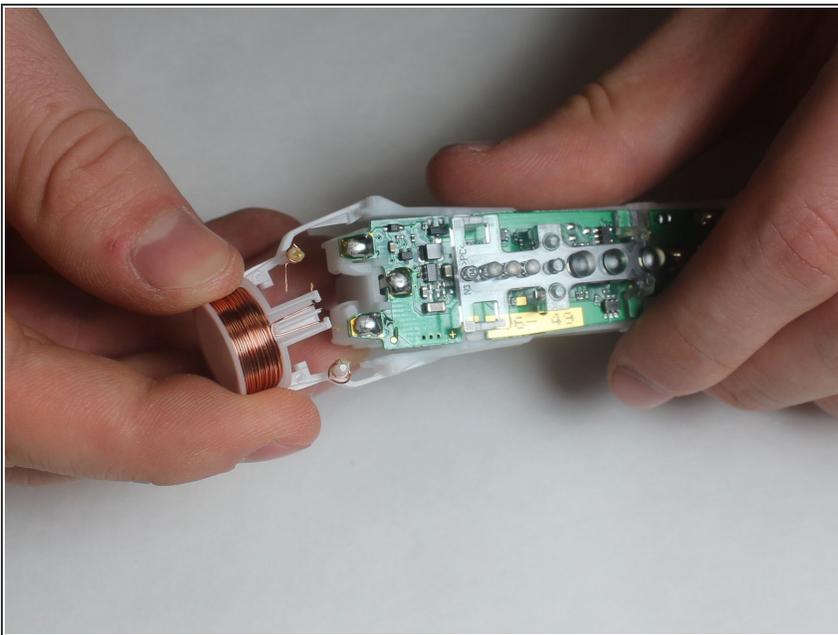
- Unwrap the ends of the wires from the white plastic pegs using a pair of tweezers.
- ⓘ Each wire end is wrapped around the peg 3-4 times.

Step 6



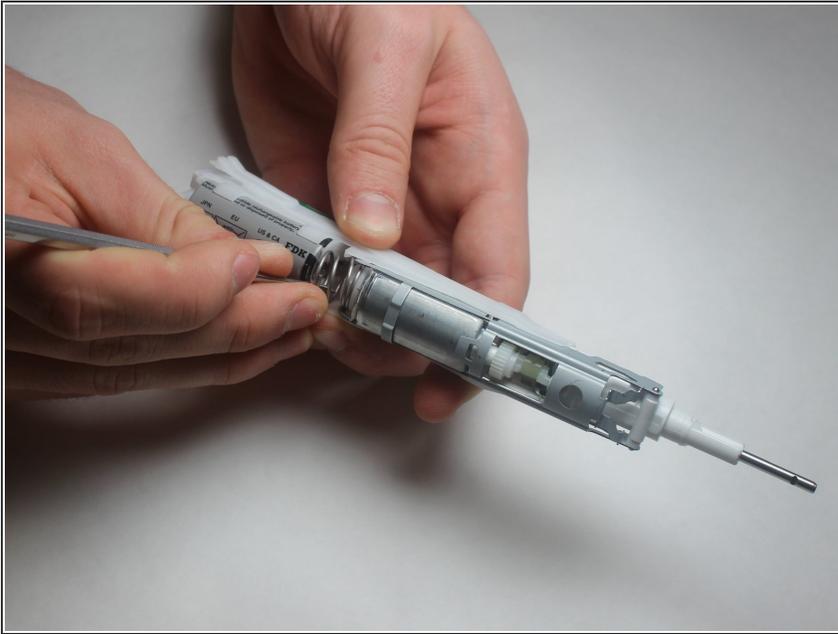
- Melt the solder at the two pads on either side of the top of the motherboard. This will require a high heat soldering iron. Remove the wire from the solder pads using tweezers once the solder melts.

Step 7



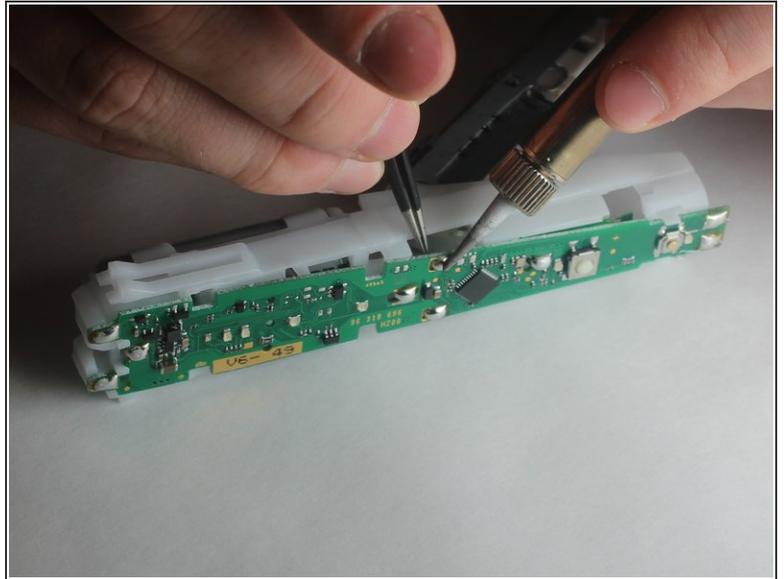
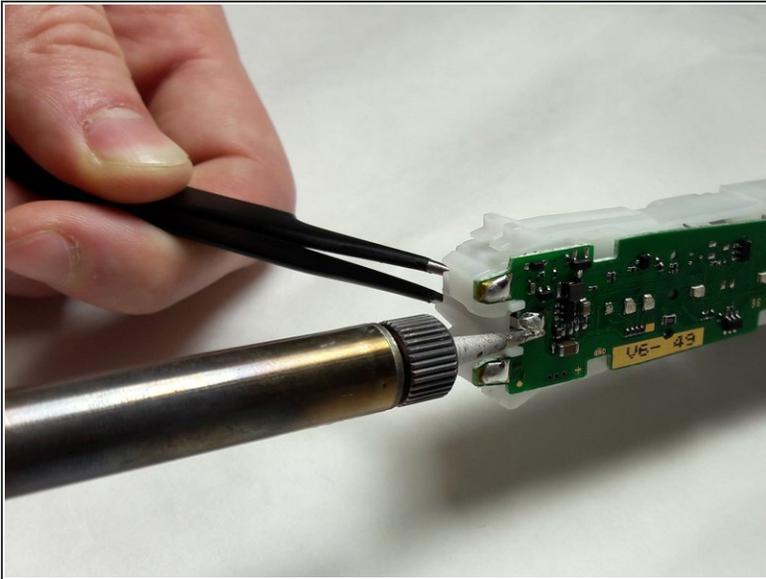
- Remove the induction coil by pulling the plastic tabs out of their keepers.
- ⓘ A spudger can be used to remove the plastic tabs from their keepers if necessary.

Step 8 — Battery



- Remove the spring from the housing using a nylon spudger.

Step 9



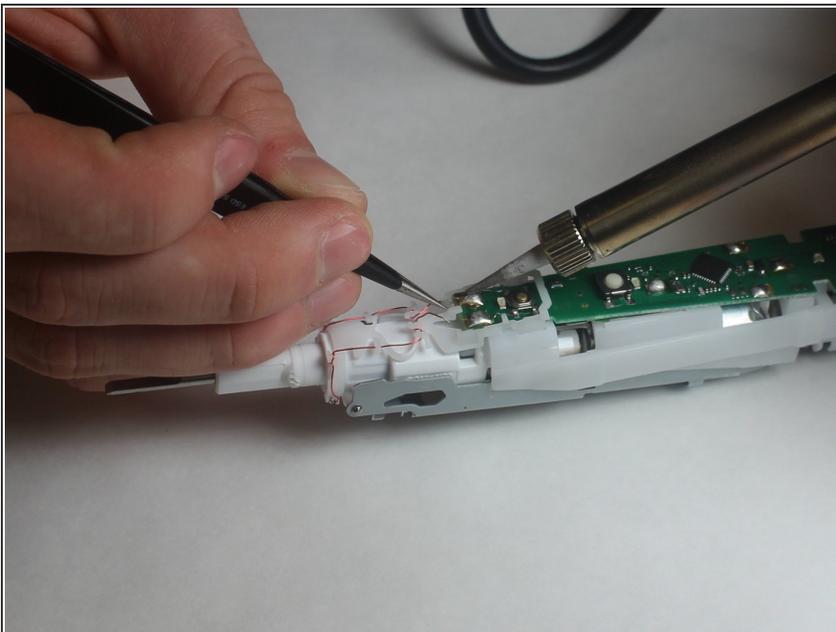
- Use a soldering iron to melt the solder pad at the top of the motherboard, which attaches a battery electrode to the board. Remove the electrode by pulling it through the plastic housing after it has been desoldered from the board.
- Repeat with the two solder pads on either side of the motherboard just above the black diamond-shaped component. The electrode foils can be pulled through the board from the back after the solder is melted.

Step 10



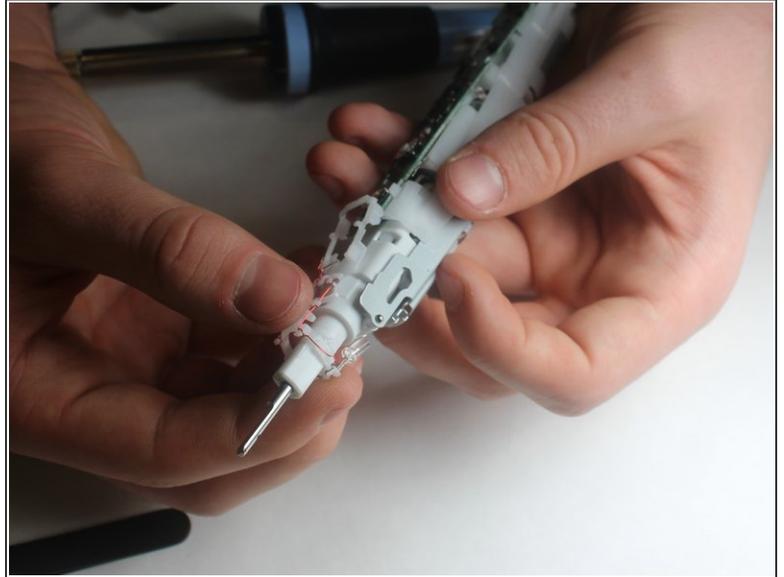
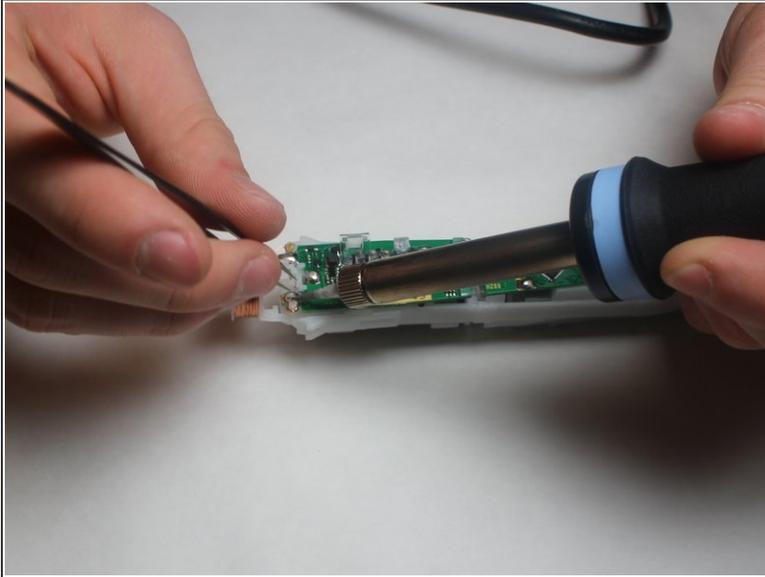
- Use a metal spudger to pop the battery out of its casing. The electrodes will remain attached to the battery.

Step 11 — Motor



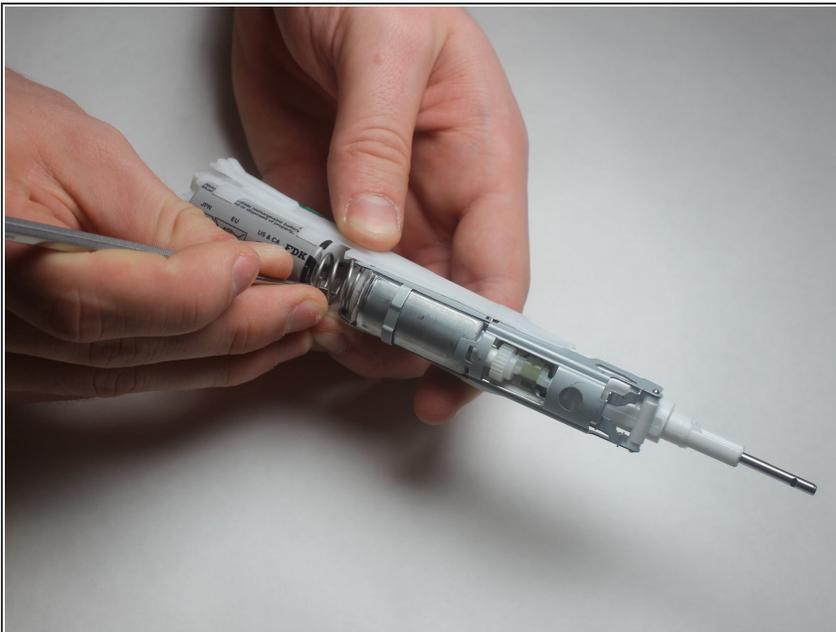
- Desolder the red LED wires from the solder pads near the rotating head of the device.
- ⚠** These wires are quite delicate, so be sure the solder is fully melted before attempting to pull the wire out.

Step 12



- Use a pair of tweezers to remove the plastic housing and the LED from the device.

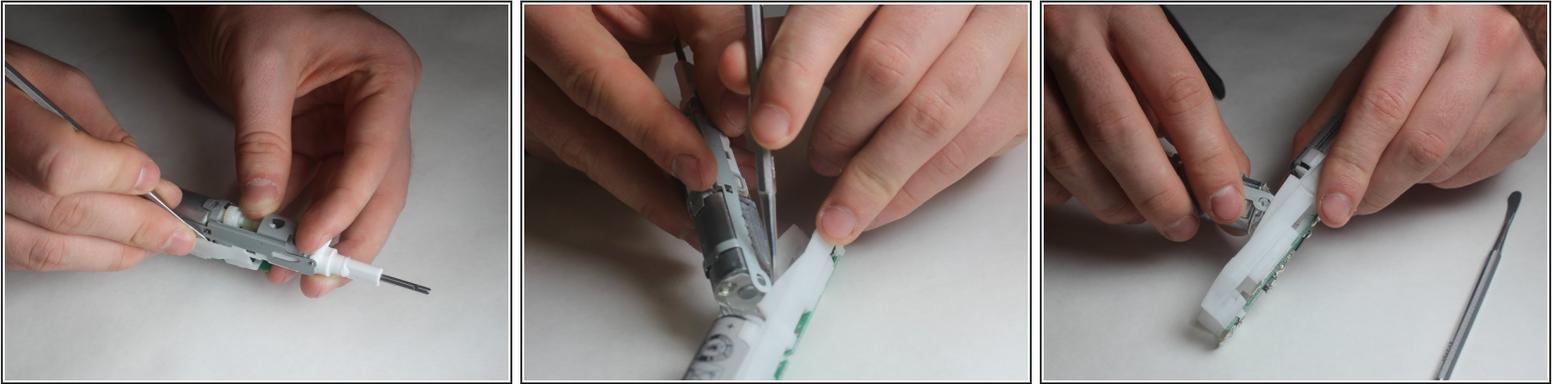
Step 13



- Remove the spring from the housing using a nylon spudger.

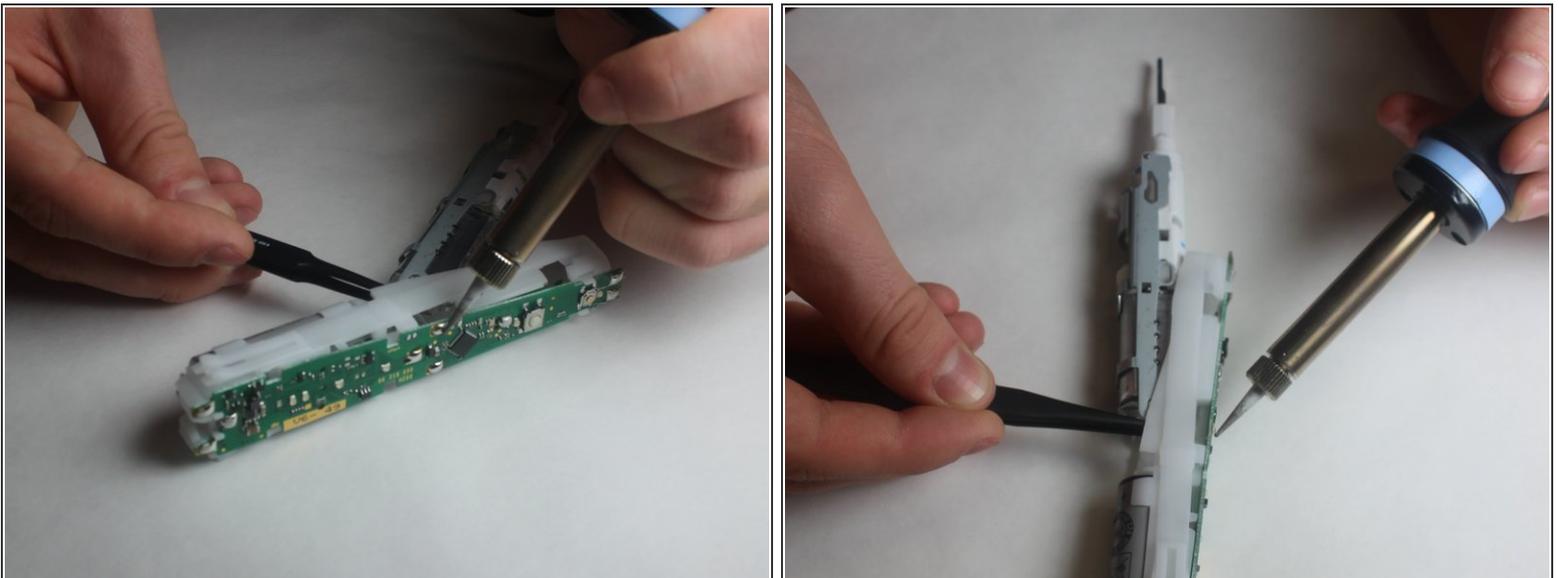
⚠ Use a nylon spudger rather than a metal one in order to minimize the risk of puncturing the battery.

Step 14



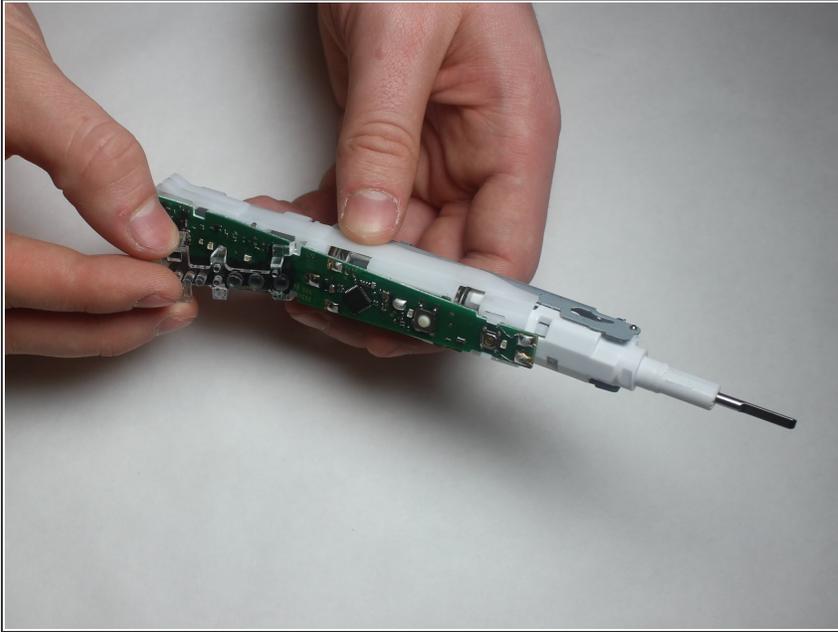
- Remove the motor housing from the plastic casing. This can be accomplished by using the nylon spudger to pry the motor housing out of the supporting structures.
- ⓘ The physical parts holding onto the motor are plastic knobs built into the plastic casing. Any manipulation done to the casing to remove the motor should be done within reason so that the casing is able to be reused.

Step 15



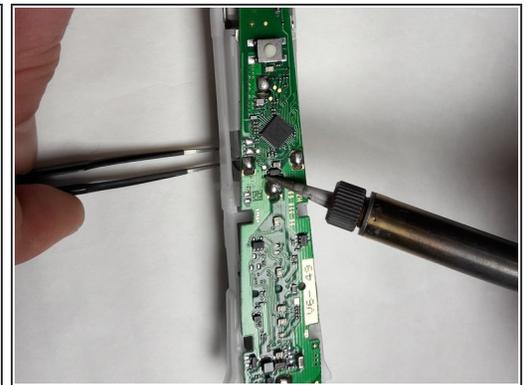
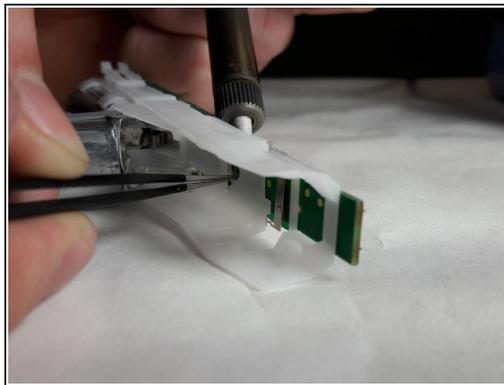
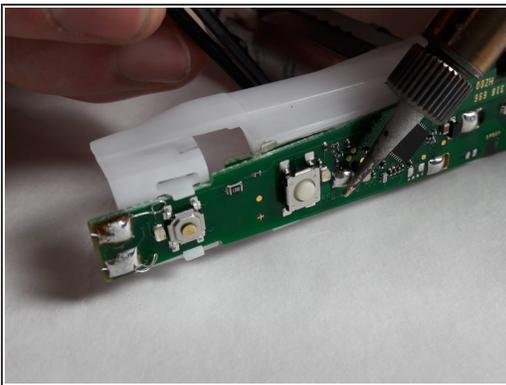
- Desolder the motor terminals from the motherboard and remove the motor assembly.

Step 16 — Motherboard



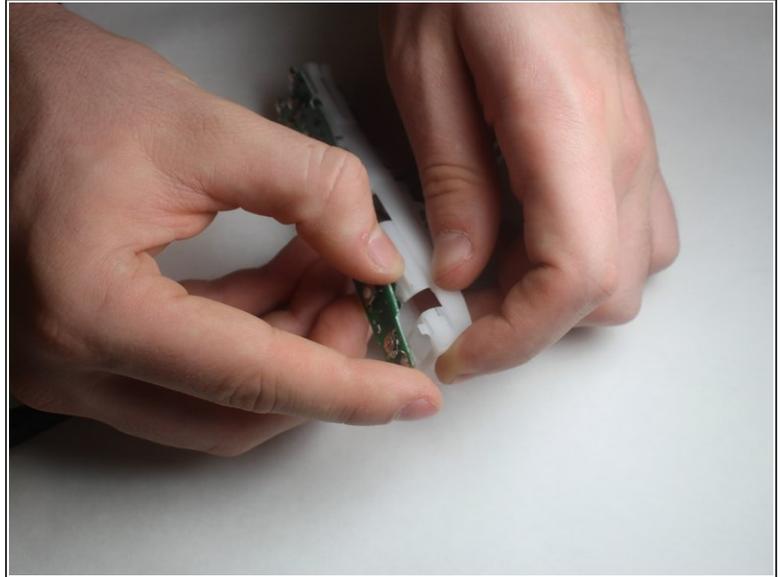
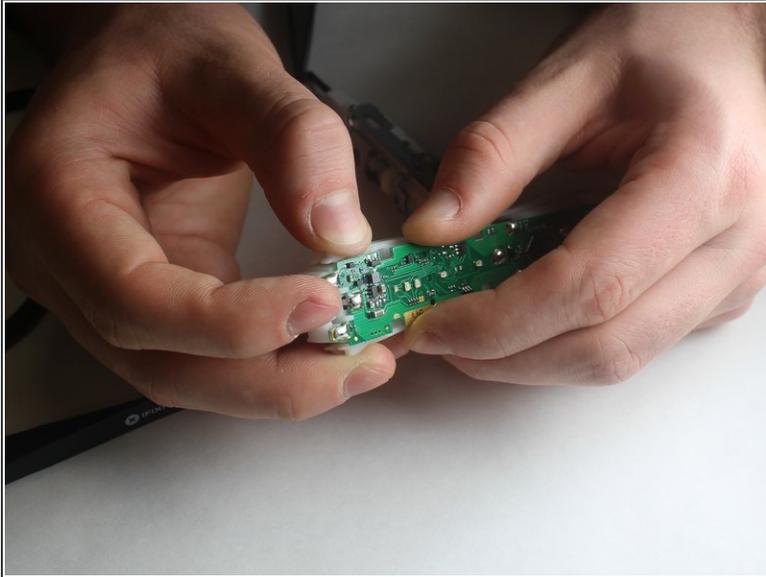
- Remove the indicator light lenses from the motherboard using your fingers or a spudger.

Step 17



- Desolder the wire just below the power button on the motherboard. Use a pair of needle nose tweezers to pull the electrode out of the board after the solder is completely melted.
- Do the same with the solder pad just above the black diamond-shaped component. Remove the electrode with a pair of tweezers.

Step 18



- All points of contact between the mother board and the other components should now be de-soldered. Remove the motherboard by gently pushing up on it, pulling it out of the plastic tabs that secure it to the housing.

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