



MacBook Pro 13" Touch Bar Late 2016 Logic Board Assembly Replacement

Prerequisite-only guide for removing the logic board and heat sink together as one assembly.

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INTRODUCTION

Prerequisite only—remove the logic board and heat sink together as a single assembly, either for further disassembly or simply to get it out of the way.

TOOLS:

- [P5 Pentalobe Screwdriver Retina MacBook Pro and Air](#) (1)
 - [Suction Handle](#) (1)
 - [iFixit Opening Picks set of 6](#) (1)
 - [Tweezers](#) (1)
 - [Spudger](#) (1)
 - [T5 Torx Screwdriver](#) (1)
 - [T3 Torx Screwdriver](#) (1)
 - [iOpener](#) (1)
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Step 1 — Remove the keyboard connector screws



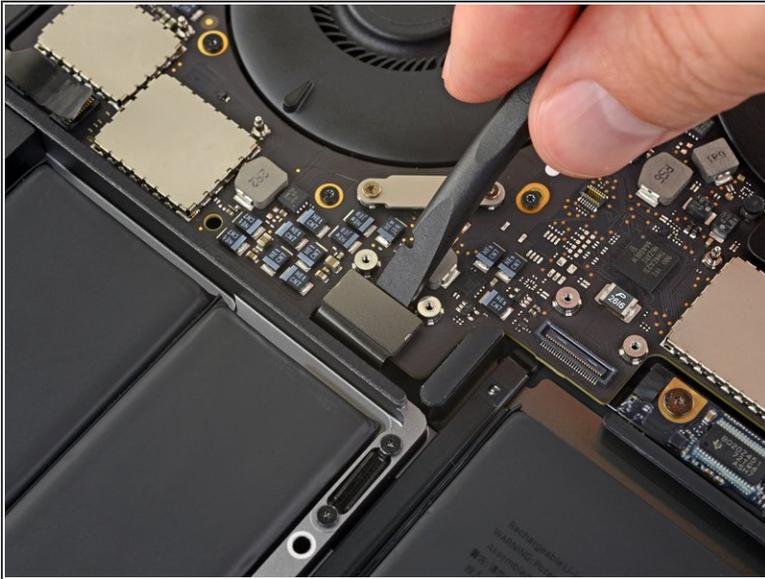
- Use a T3 Torx driver to remove the two 1.9 mm screws from the keyboard connector bracket.

Step 2



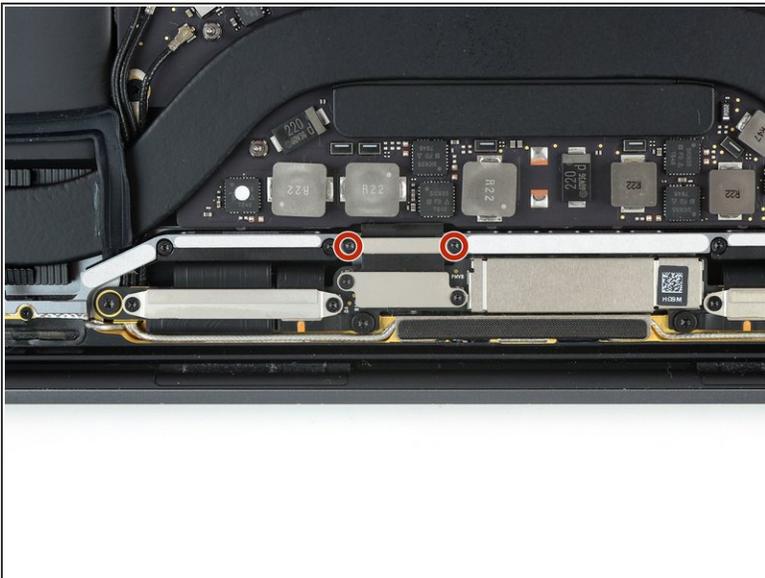
- Remove the keyboard connector bracket.

Step 3 — Disconnect the keyboard



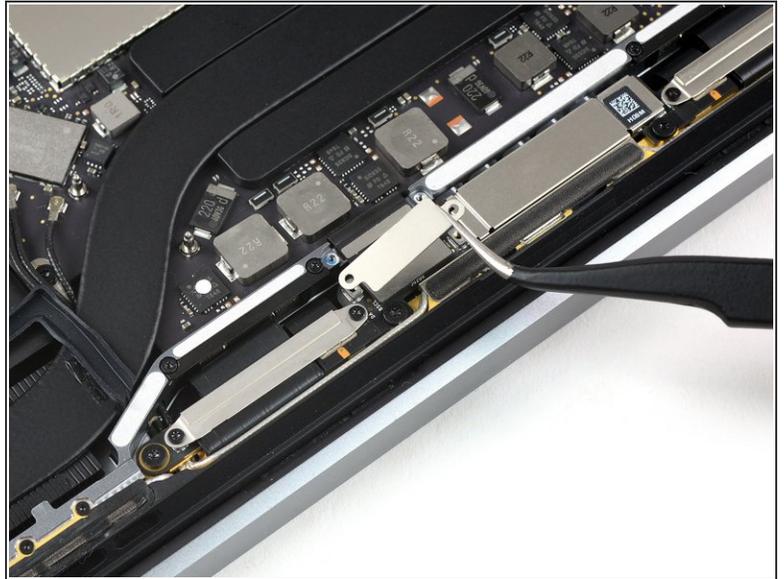
- Use a spudger to disconnect the keyboard connector by prying it straight up from the logic board.

Step 4 — Disconnect the display board



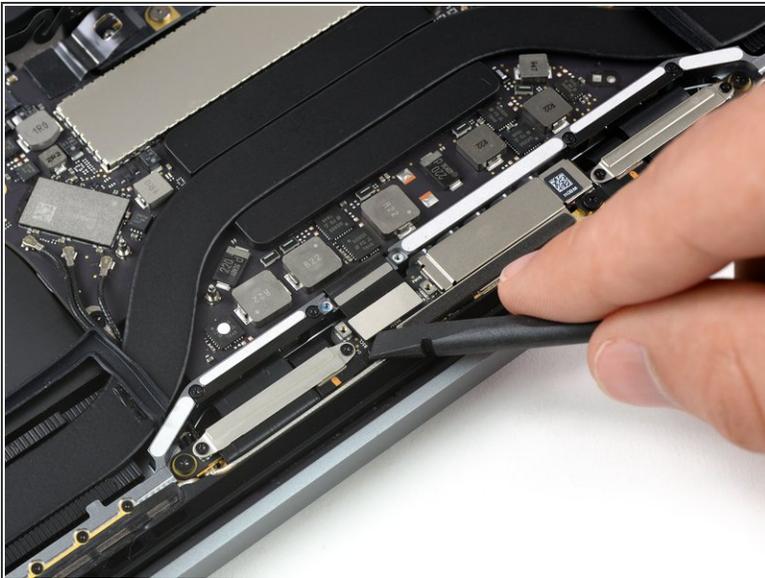
- Remove the two 2.9 mm T3 Torx screws securing the aluminum cover on top of the main display cable.
- Remove the cover.

Step 5



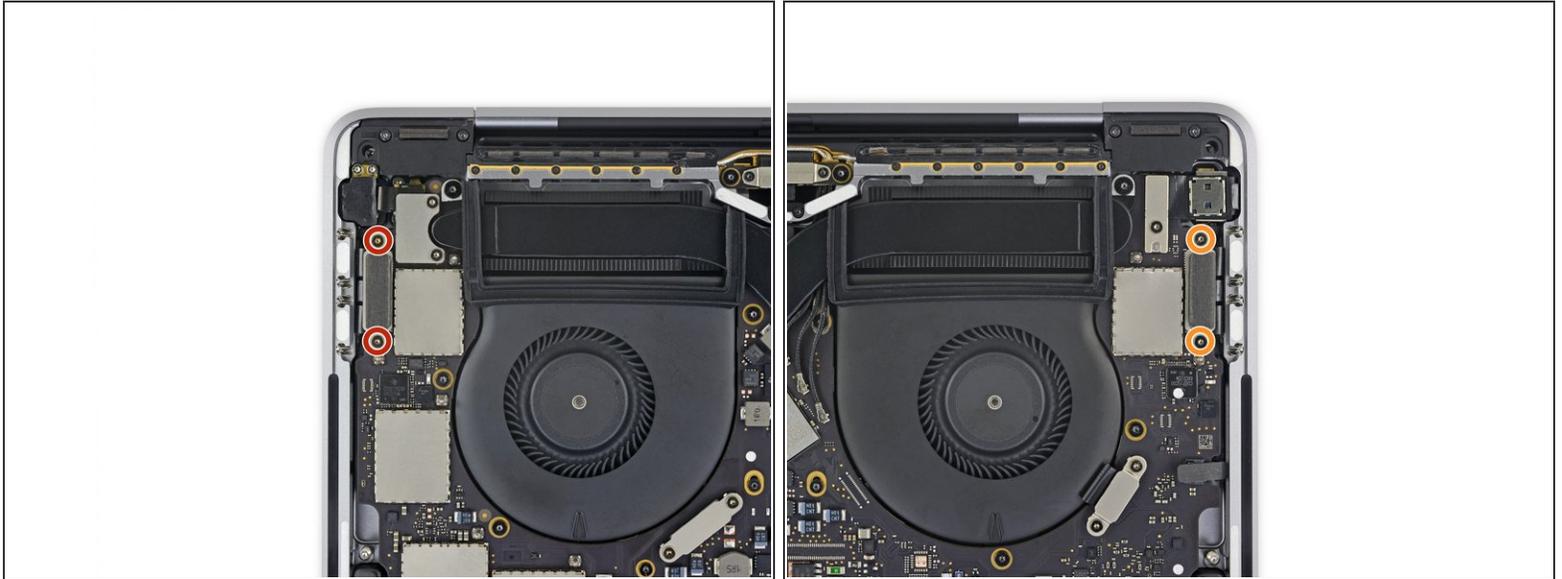
- Remove the two 1.7 mm T3 Torx screws securing the aluminum cover on top of the display cable flex connector.
- Remove the cover.

Step 6



- Pry the display board flex cable straight up from its socket to disconnect it from the display board.

Step 7 — Remove the Thunderbolt port screws



- Using a T3 Torx driver:
 - Remove two 1.4 mm screws from the Thunderbolt port connector bracket on the left.
 - Remove two more 1.4 mm screws from the Thunderbolt port connector bracket on the right.

Step 8 — Disconnect the left Thunderbolt ports



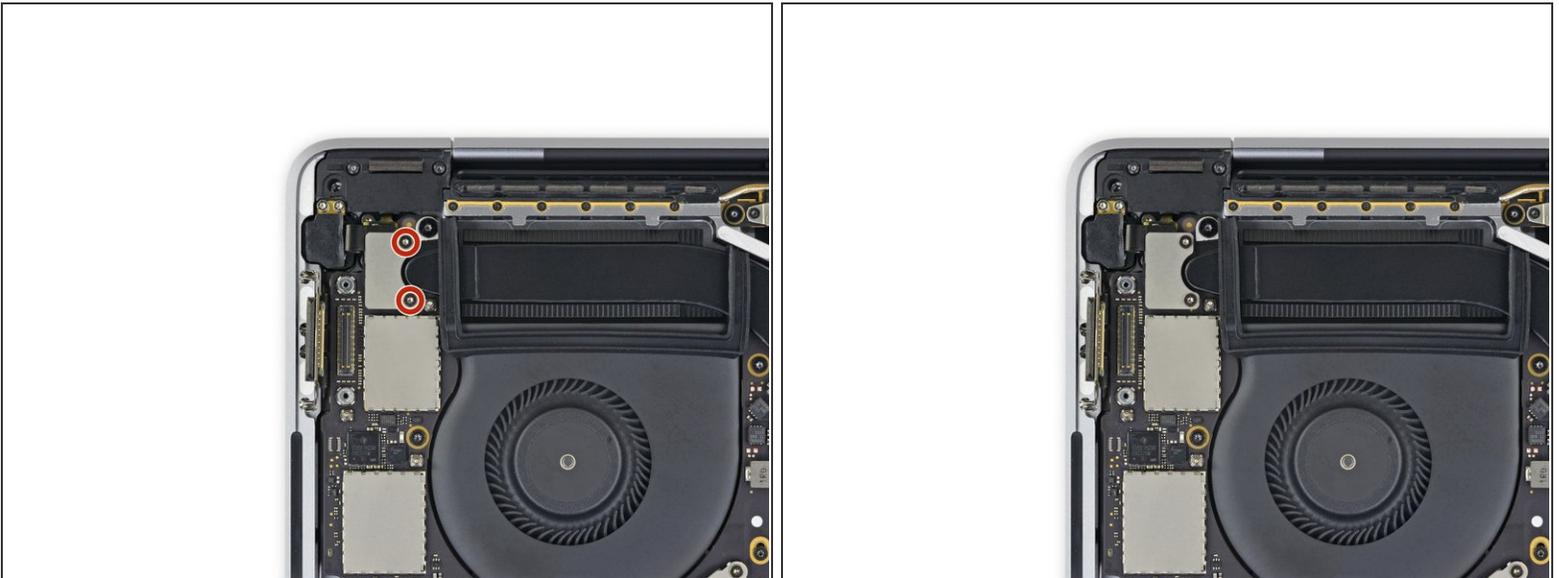
- Use a spudger to disconnect the left-side Thunderbolt port connector by prying it straight up from the logic board.
 - ⚠ Pry from the inside edge, nearest the fan.
- Gently push the connector aside so it won't interfere with logic board removal.

Step 9 — Disconnect the right Thunderbolt ports



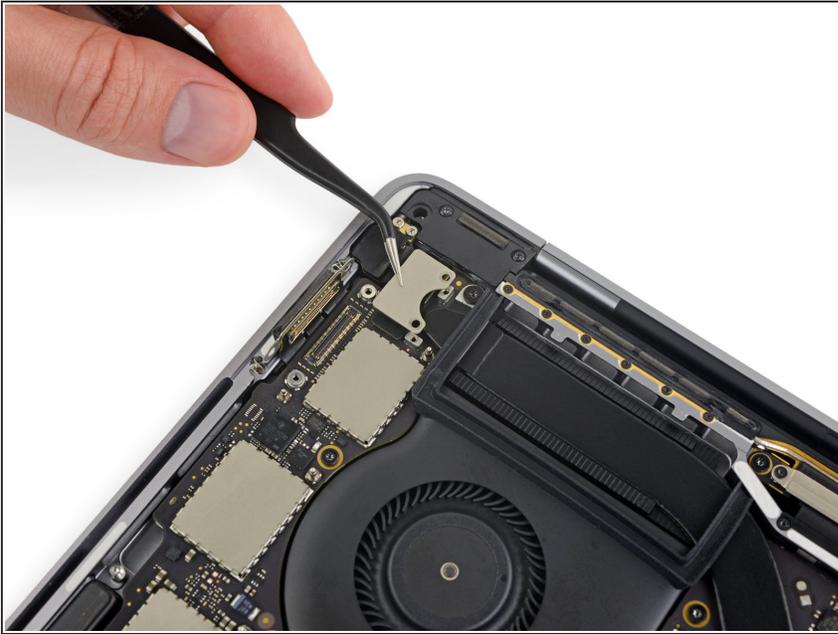
- Repeat for the right-side Thunderbolt port connector, prying it up from the inside edge and pushing it carefully aside.

Step 10 — Remove the Touch ID connector screws



- Use a T3 Torx driver to remove the two 1.9 mm screws from the cover bracket securing the Touch ID and 3.5 mm audio jack connectors.

Step 11



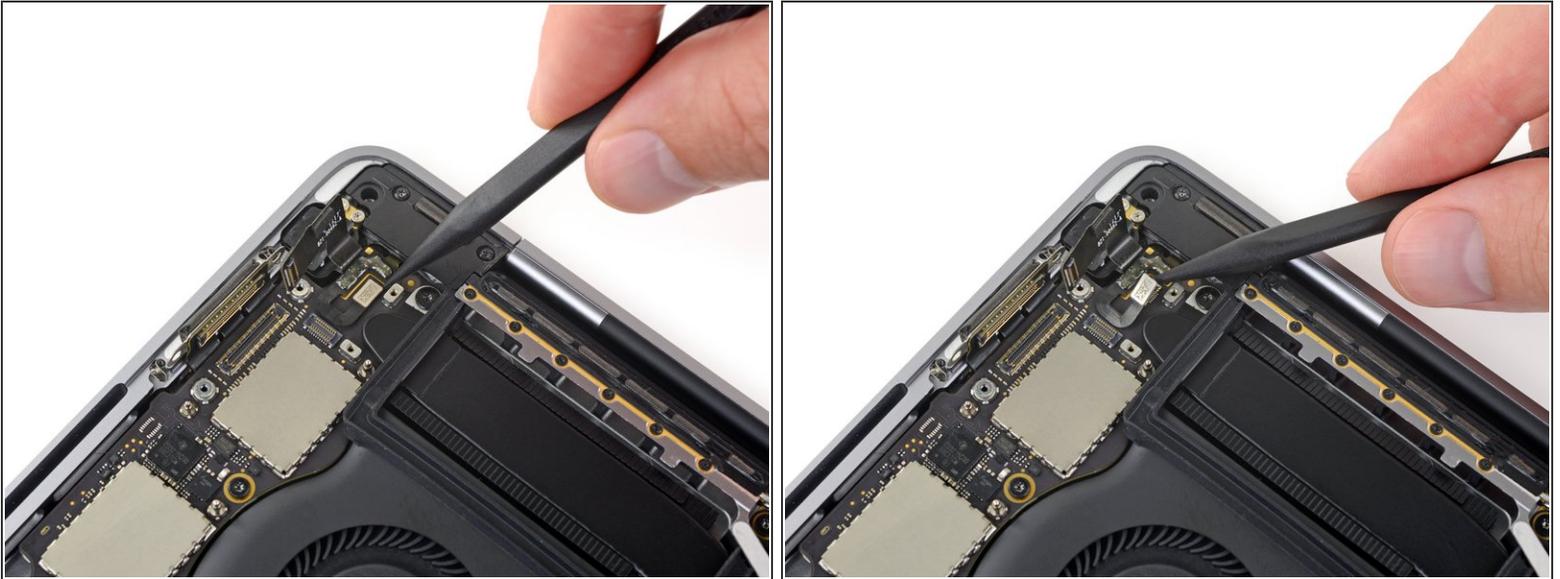
- Remove the bracket.

Step 12 — Disconnect the headphone jack



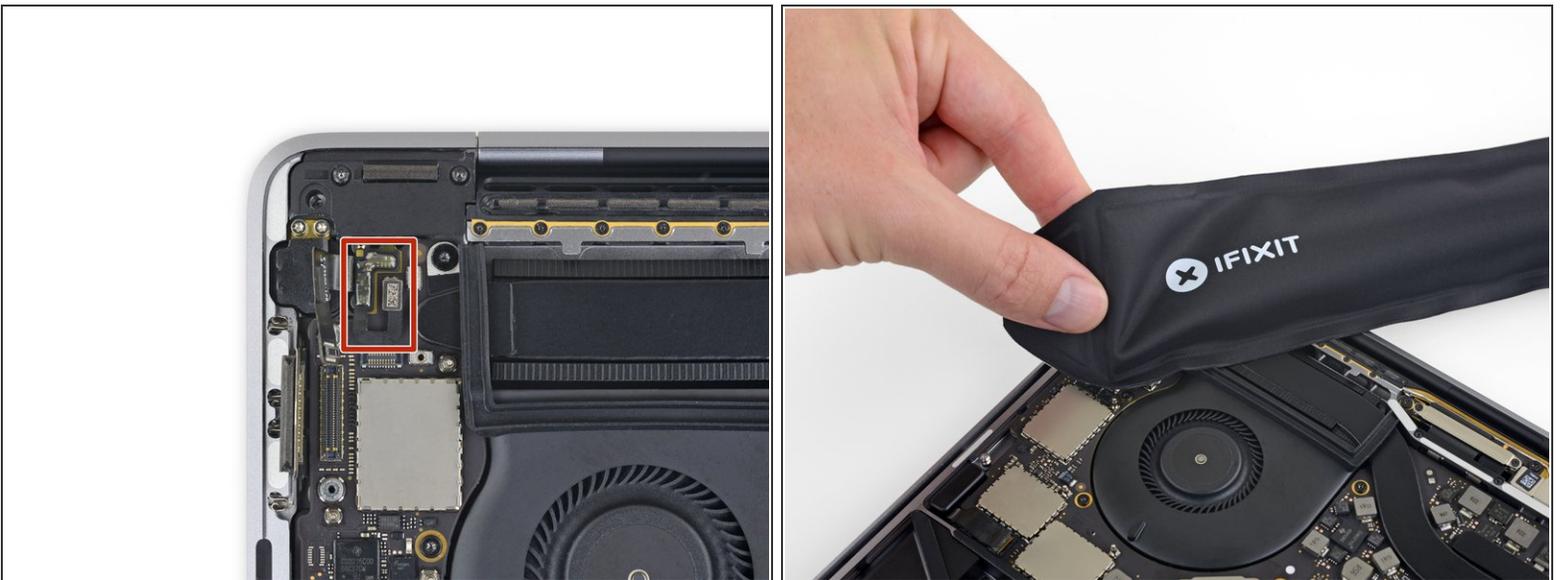
- Use a spudger to disconnect the 3.5 mm audio jack flex cable by prying it straight up from the logic board.
- Gently push the flex cable aside.

Step 13 — Disconnect Touch ID



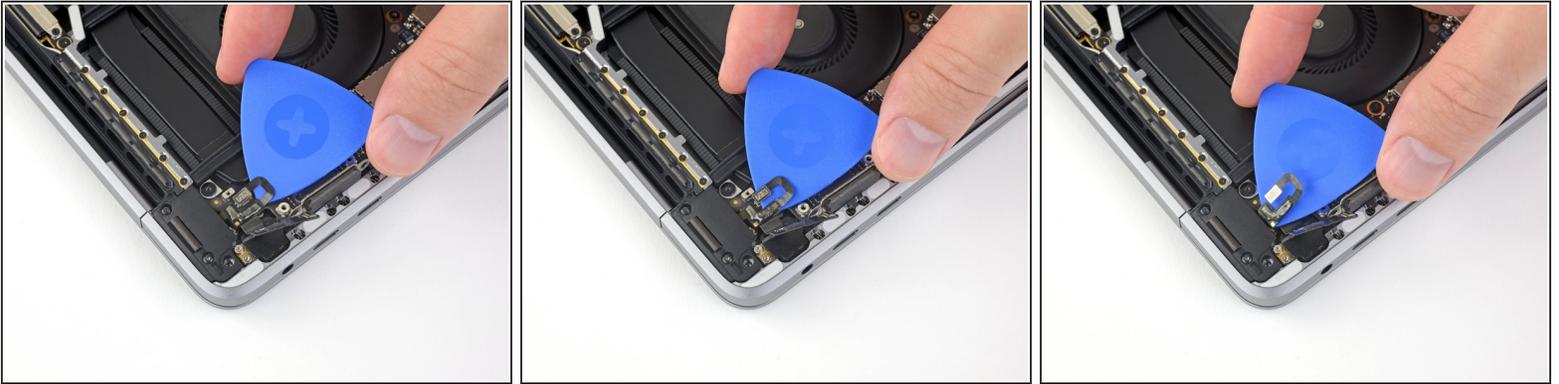
- Disconnect the Touch ID and power button flex cable by prying it straight up from the logic board.

Step 14 — Heat the Touch ID cable



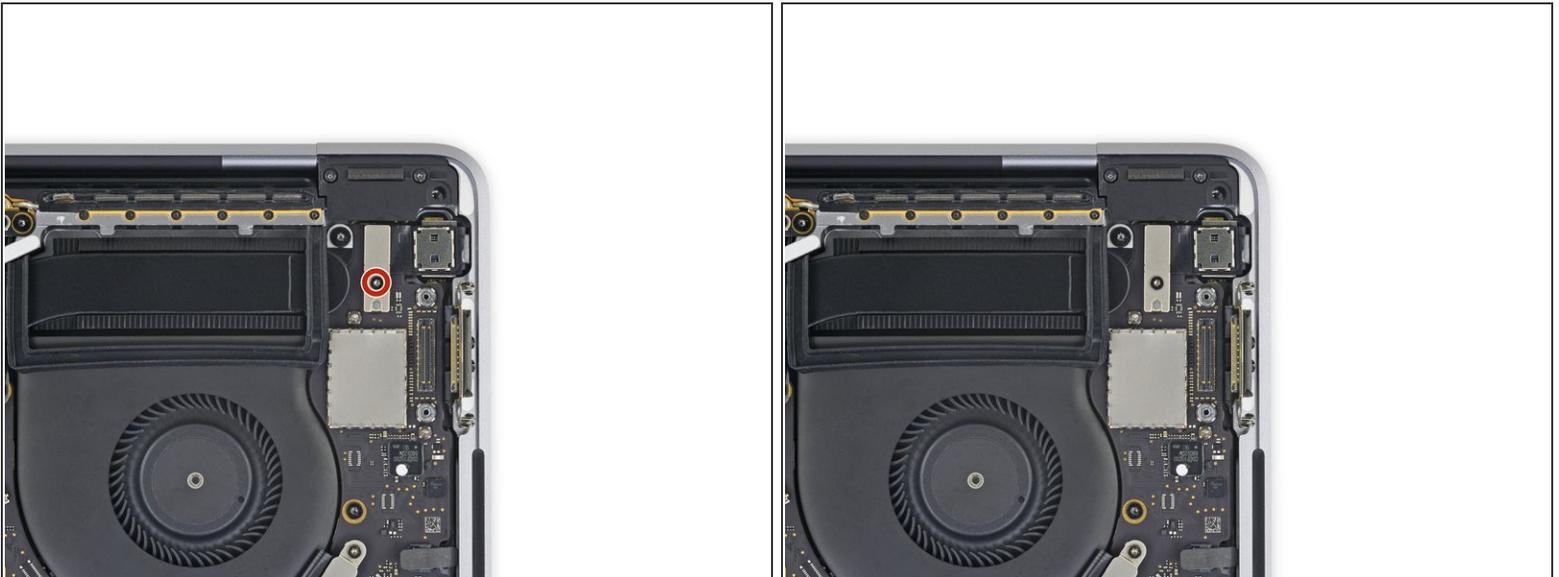
- Apply mild heat using an iOpener, heat gun, or hair dryer to soften the adhesive under the power button/Touch ID flex cable.

Step 15 — Pry up the Touch ID cable



- Carefully slide an opening pick under the flex cable to separate it from the logic board, and push it carefully aside.
- ⚠ Be very careful not to damage this delicate flex cable. The attached Touch ID sensor is uniquely paired to your MacBook's logic board—if damaged, only Apple can successfully replace it.
- If you have trouble, don't force it—apply a little more heat and try again.

Step 16 — Remove the Touch Bar digitizer screw



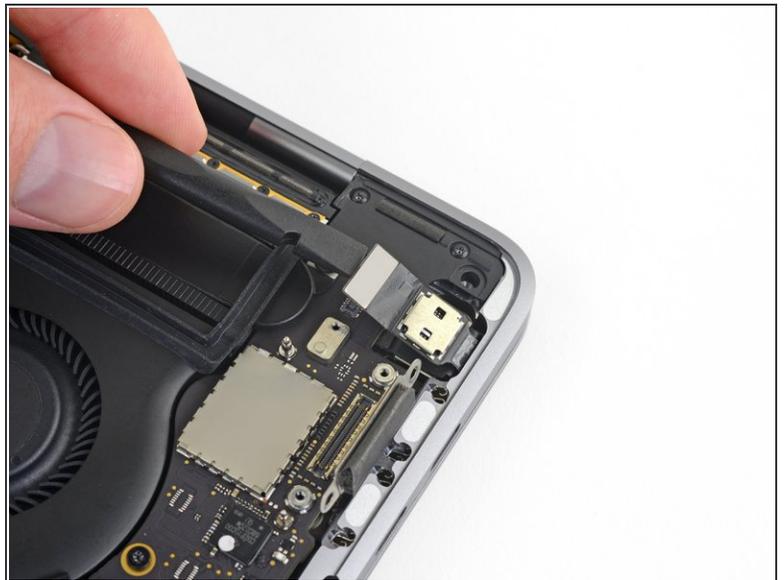
- Use a T3 Torx driver to remove the 1.9 mm screw from the Touch Bar digitizer connector bracket.

Step 17



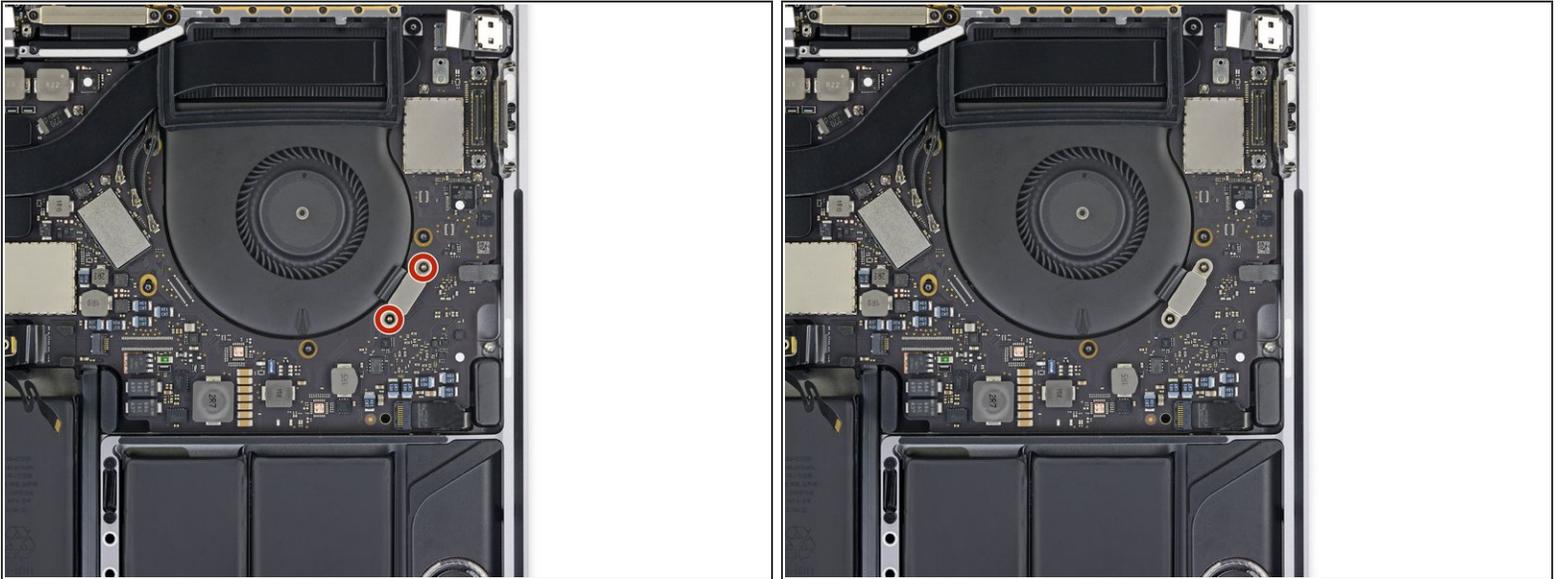
- Remove the bracket.

Step 18 — Disconnect the Touch Bar digitizer



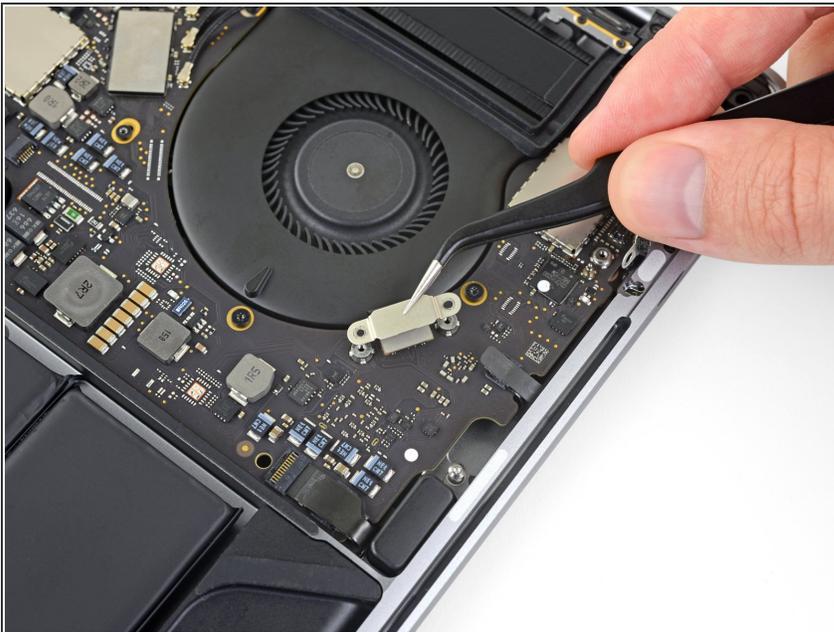
- Use a spudger to disconnect the Touch Bar digitizer by prying its connector straight up from the logic board.

Step 19 — Remove the Touch Bar display screws



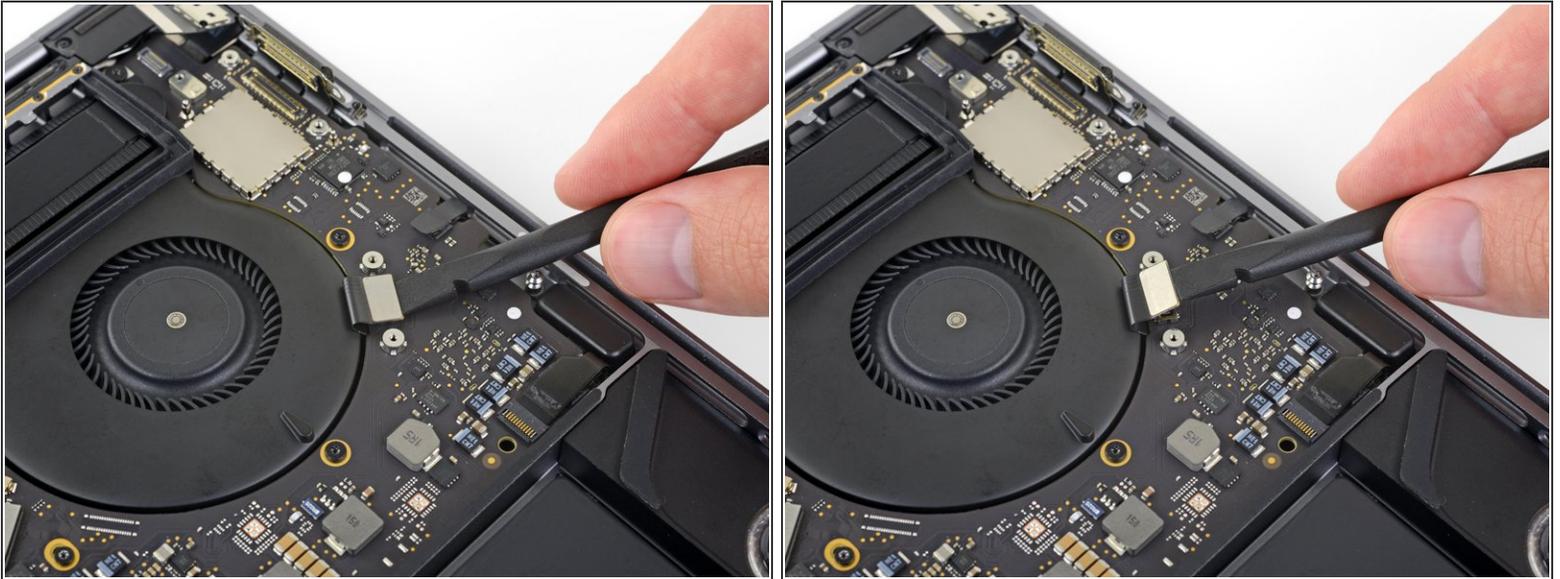
- Use a T3 Torx driver to remove two 1.9 mm screws from the Touch Bar display connector bracket.

Step 20



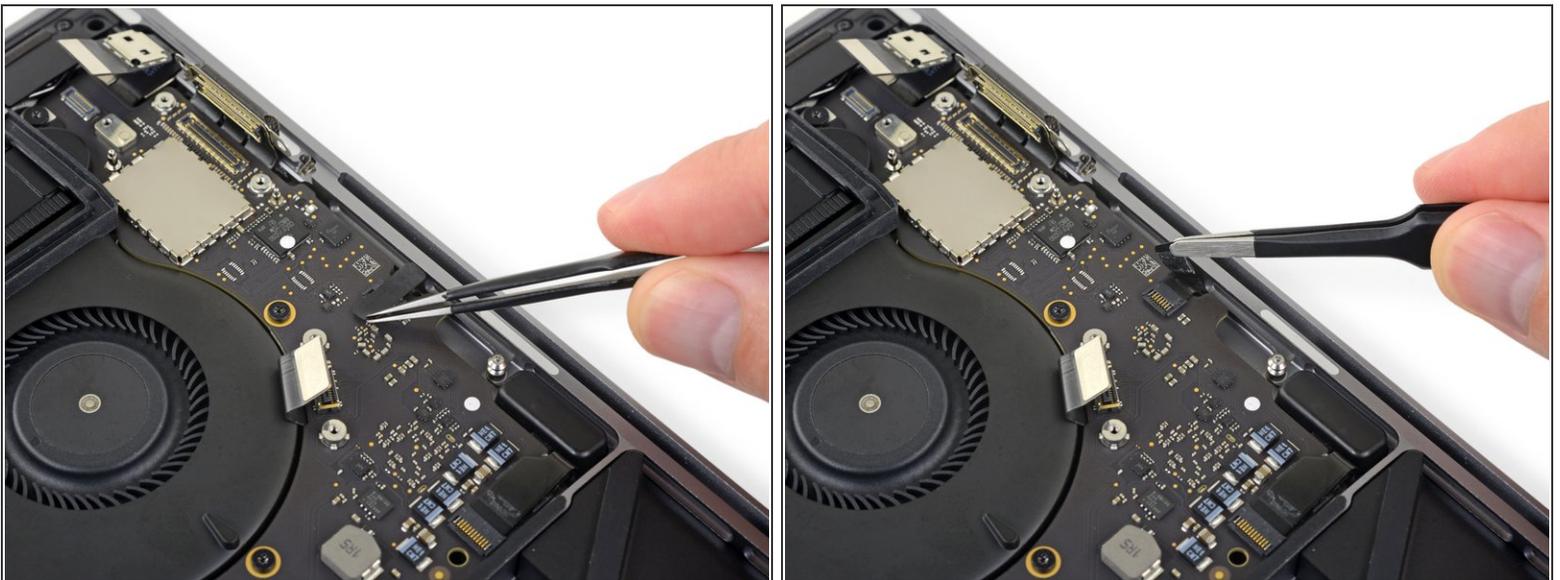
- Remove the bracket.

Step 21 — Disconnect the Touch Bar display



- Use a spudger to disconnect the Touch Bar display connector by prying it straight up from the logic board.

Step 22 — Uncover the microphone connector



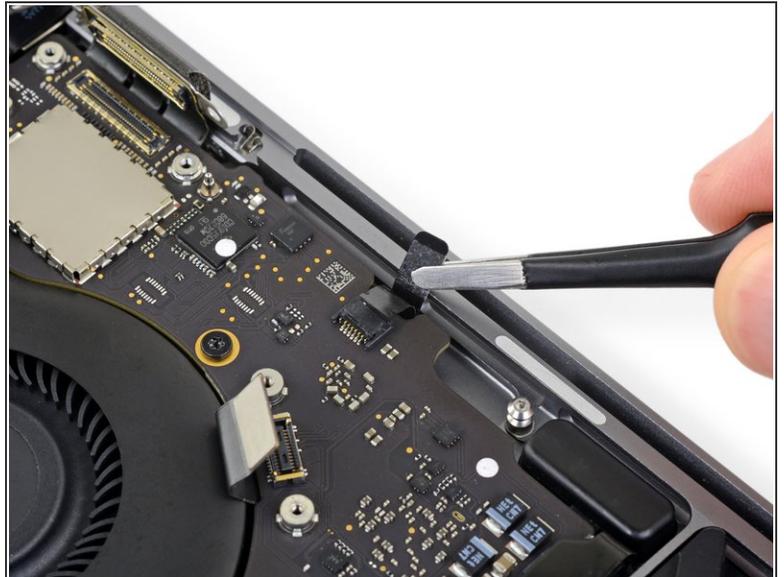
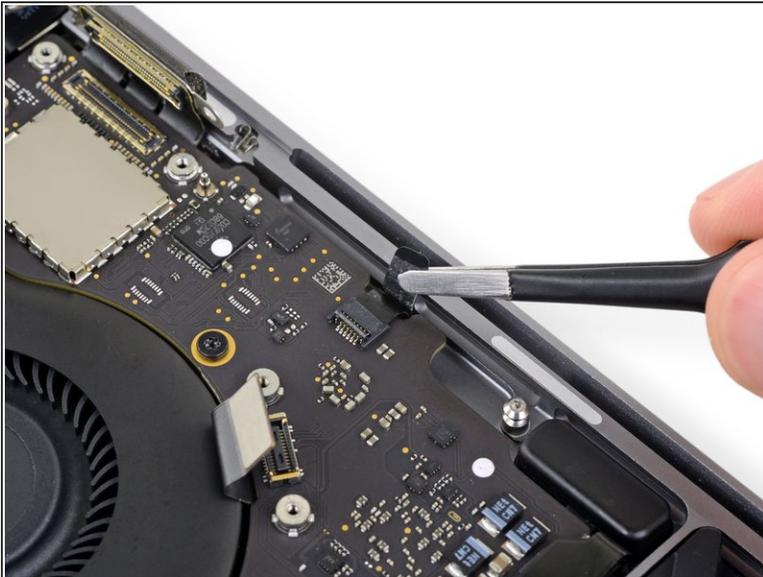
- Peel back any tape covering the microphone connector socket.

Step 23 — Disconnect the microphone



- Open the locking flap on the microphone cable's [ZIF connector](#) by prying it straight up from the logic board.

Step 24



- Disconnect the microphone cable by pulling it back—away from the fan—until it slides out of its socket.
- If possible, pull on the attached tape, rather than on the cable itself.

Step 25



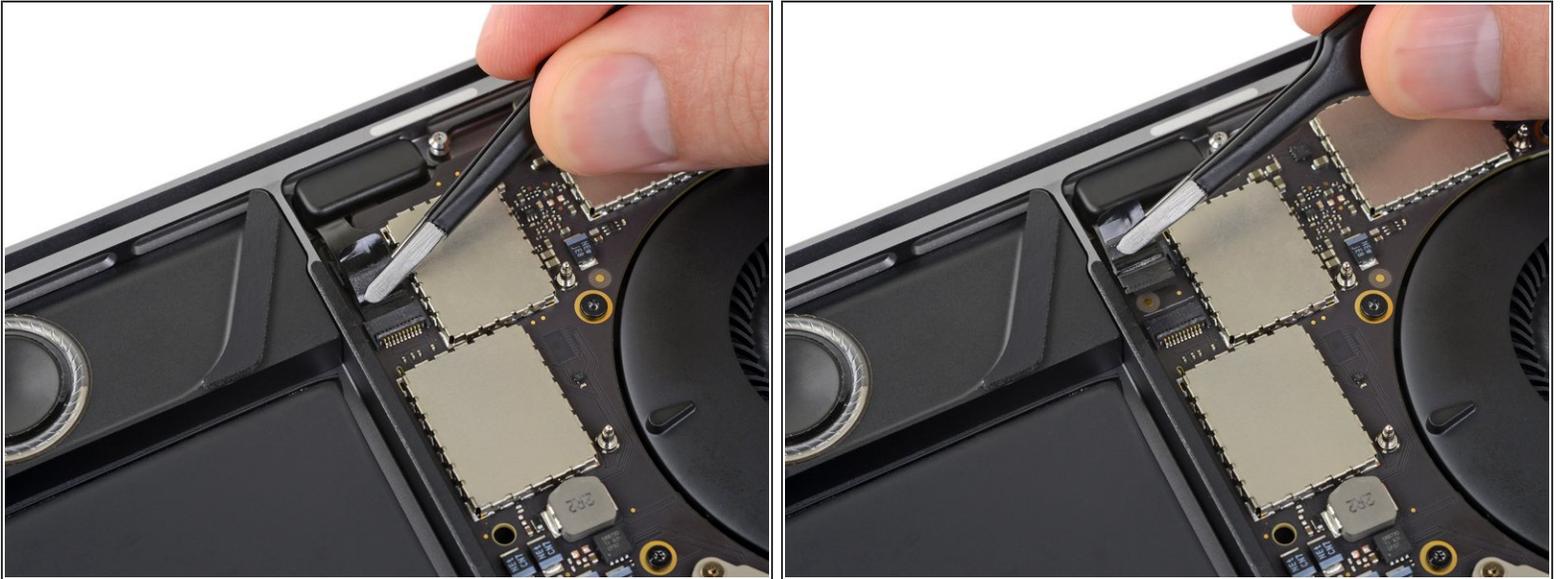
- Peel back any tape covering the connector for the left-side tweeter.

Step 26 — Disconnect the left tweeter



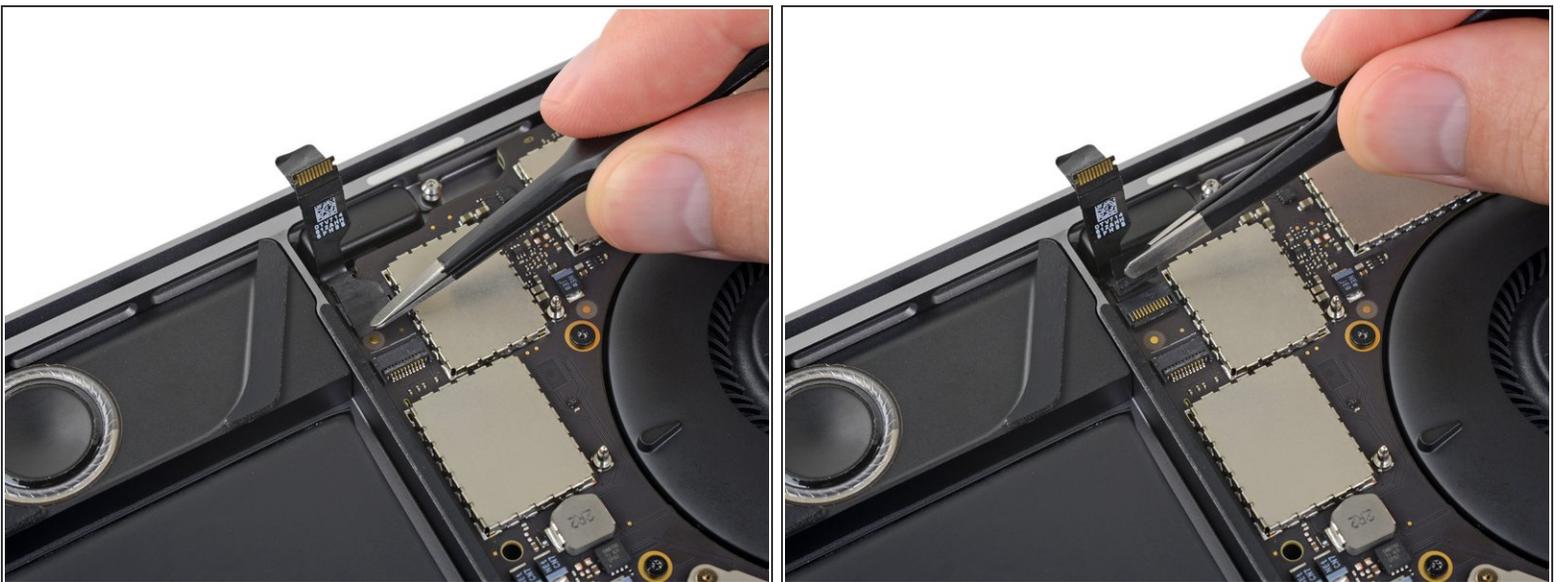
- Flip open the locking flap for the left-side tweeter ZIF connector by prying it straight up from the logic board.

Step 27



- Disconnect the cable by pulling it towards the tweeter until it slides out of its socket.
- If possible, pull on the attached tape rather than the cable itself.

Step 28



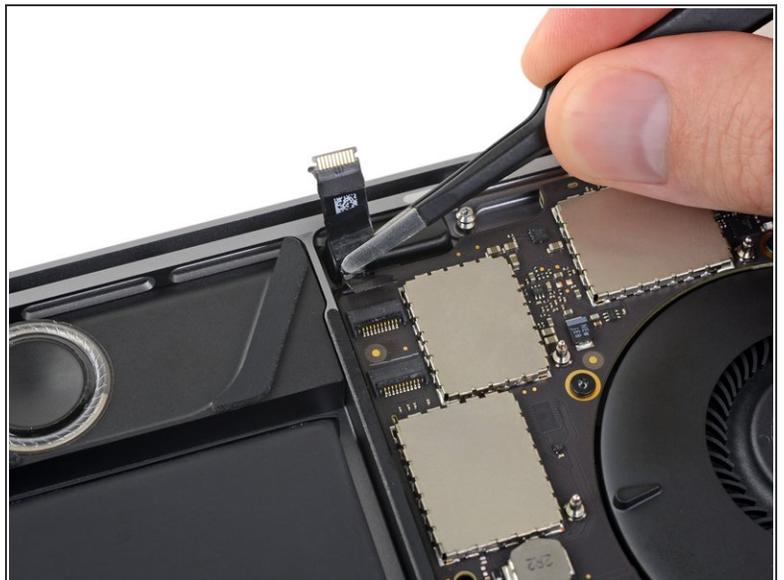
- ⓘ Underneath the tweeter's flex cable lies a second ZIF connector, for the left main speaker.
- Peel back any tape covering the socket for the left main speaker.

Step 29 — Disconnect the left main speaker



- Flip open the locking flap for the left main speaker ZIF connector by prying it straight up from the logic board.

Step 30



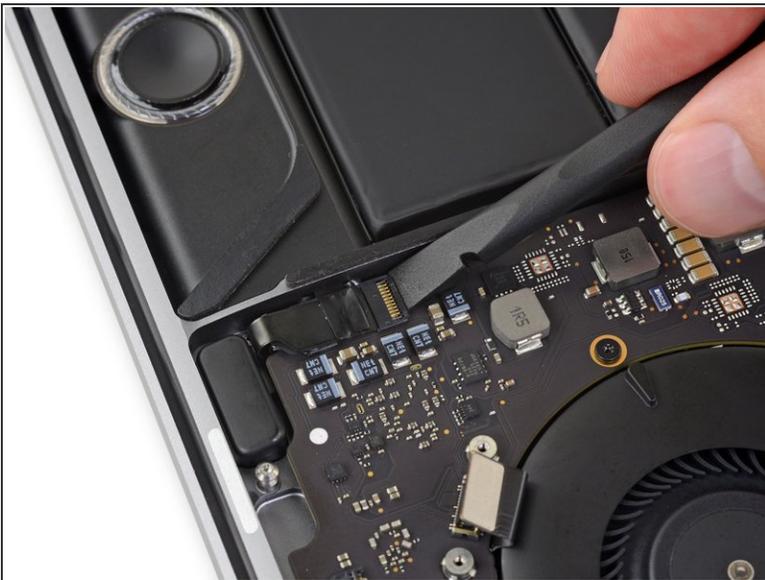
- Disconnect the left main speaker cable by pulling it toward the tweeter until it slides free from its socket.
- Remember to pull on the attached tape, not the cable.

Step 31



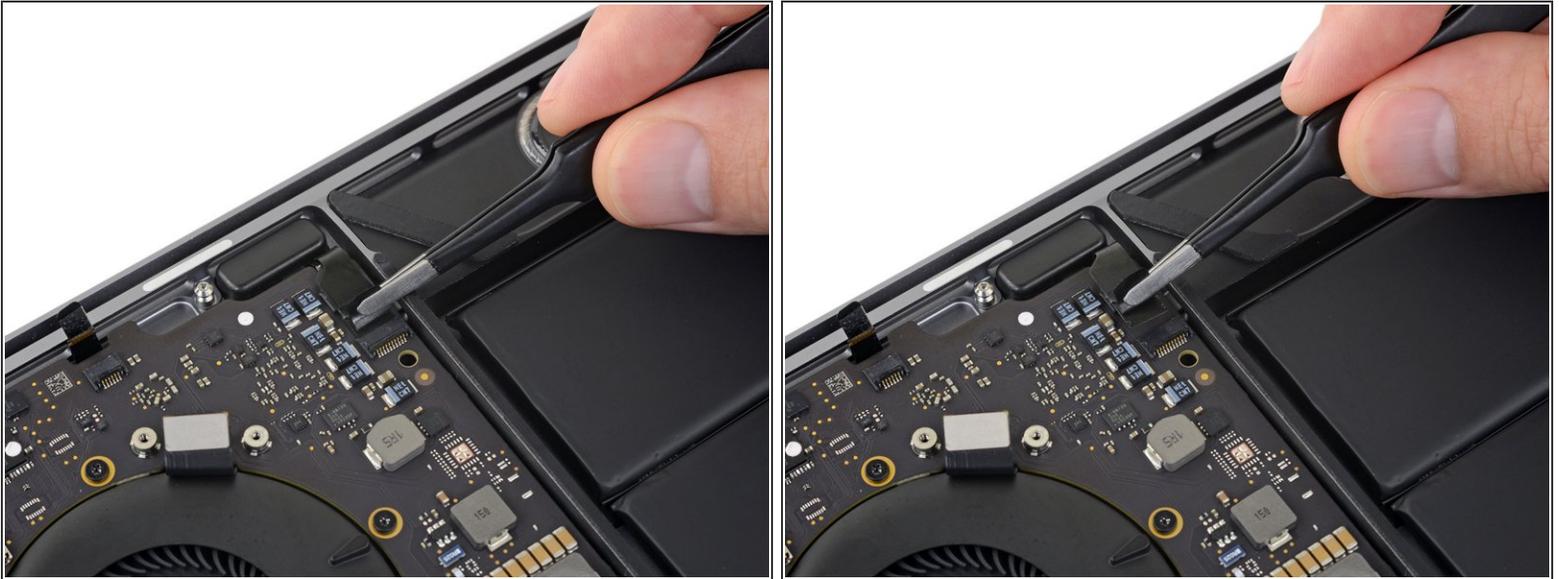
- Repeat the previous six steps to disconnect the opposite tweeter and main speaker, on the right.
 - Begin by peeling back any tape covering the tweeter connector.

Step 32 — Disconnect the right tweeter



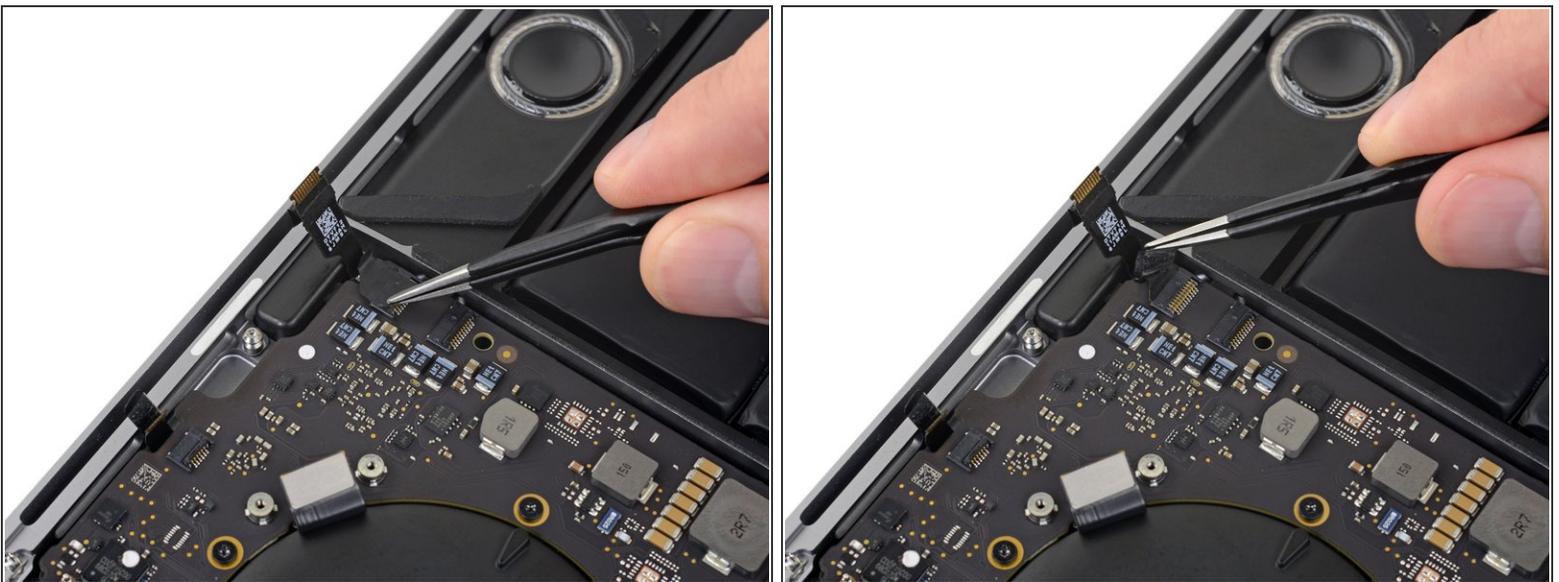
- Flip open the locking flap for the right-side tweeter ZIF connector by prying it straight up from the logic board.

Step 33



- Disconnect the cable by pulling it towards the tweeter until it slides out of its socket.
- Remember to pull on the tape if possible—not the actual cable.

Step 34



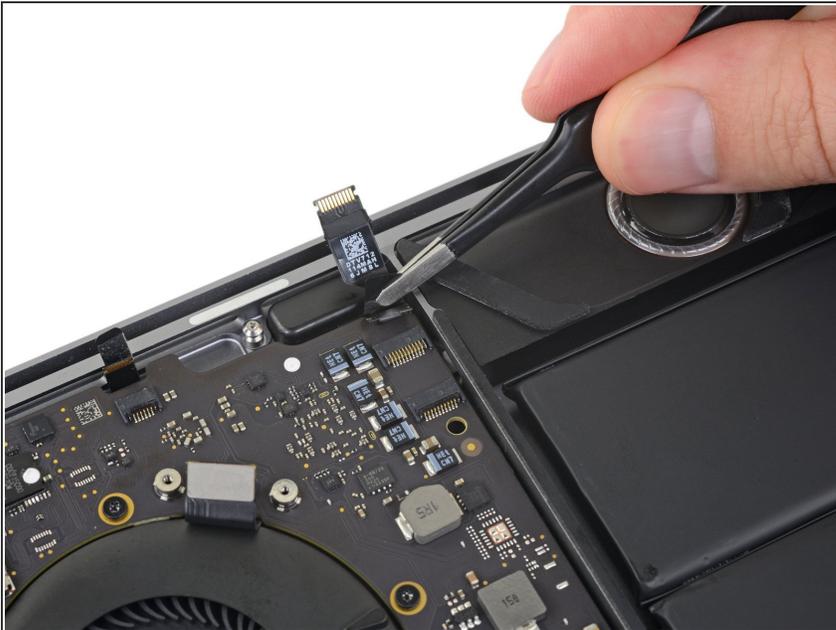
- Peel back any tape covering the connector for the right-side main speaker.

Step 35 — Disconnect the right main speaker



- Flip open the locking flap for the right-side main speaker ZIF connector by prying it straight up from the logic board.

Step 36



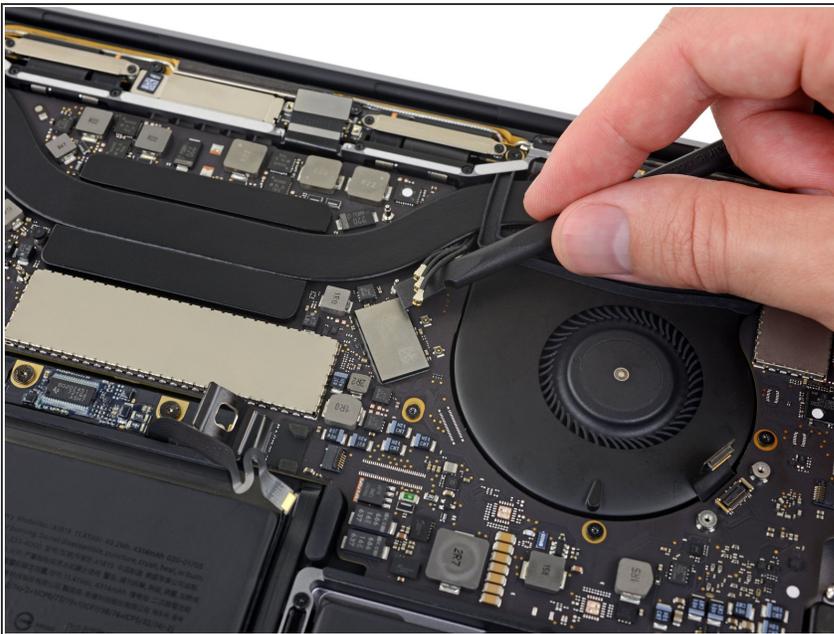
- Pull the right-side main speaker cable toward the tweeter until it slides free from its socket.

Step 37 — Disconnect the antennas



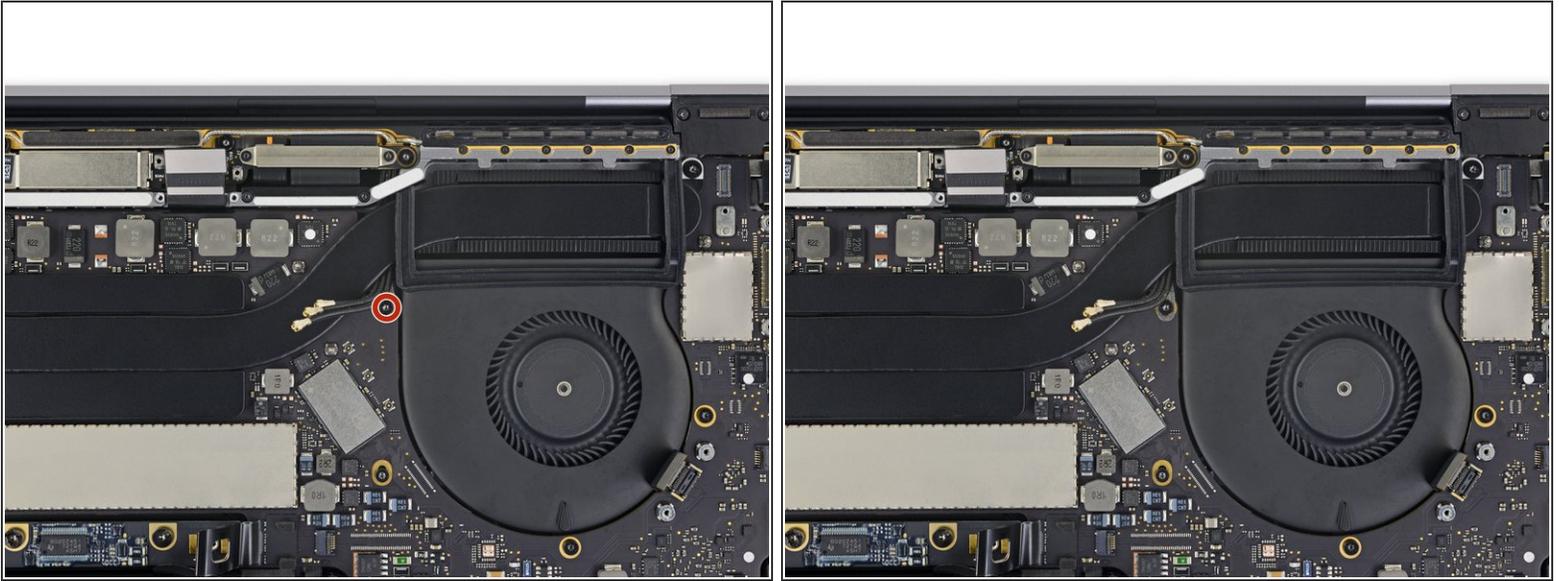
- Disconnect the first antenna cable by prying it straight up from its socket.
- Carefully slide your tweezers or the flat end of your spudger underneath the cable until it's near the socket, and then gently twist or pry up to disconnect it.

Step 38



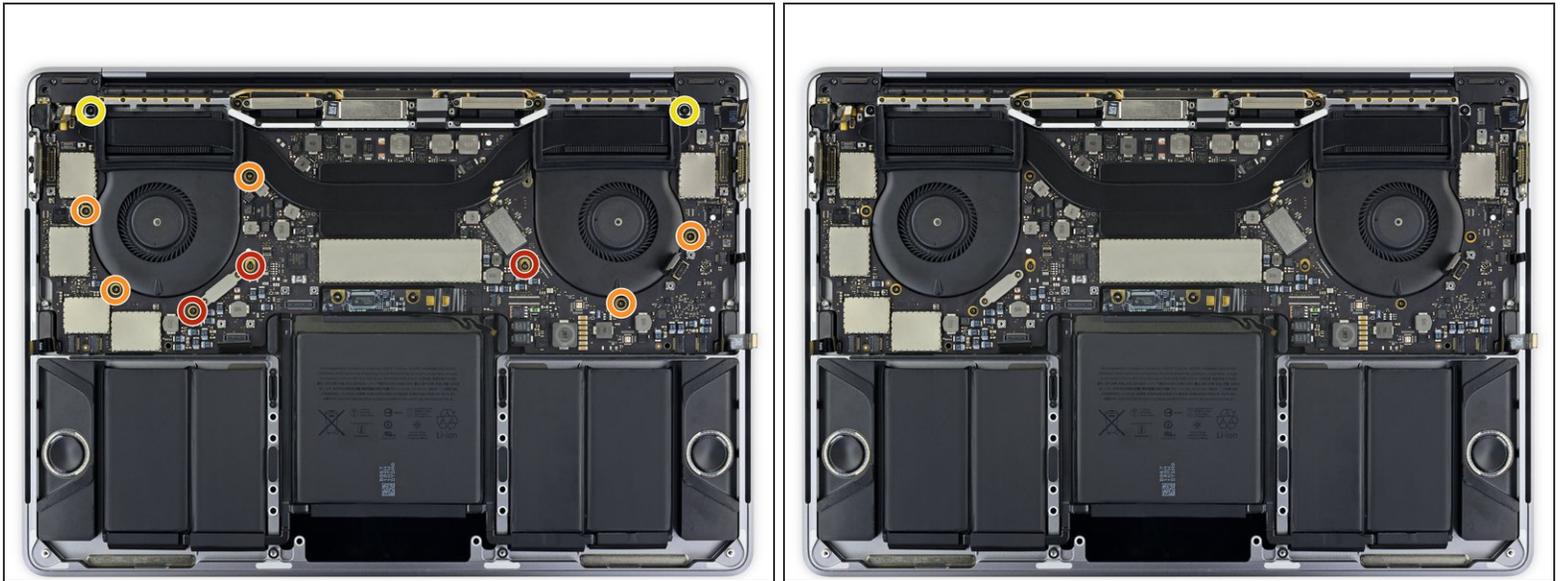
- Repeat the previous step to disconnect the two remaining antenna cables.
- ☑ To reconnect each cable, align the connector directly over its socket, and then press down to snap it into place.

Step 39 — Remove the antenna bundle screw



- Use a T5 Torx driver to remove the 2.9 mm screw securing the antenna cable bundle.

Step 40 — Unscrew the logic board



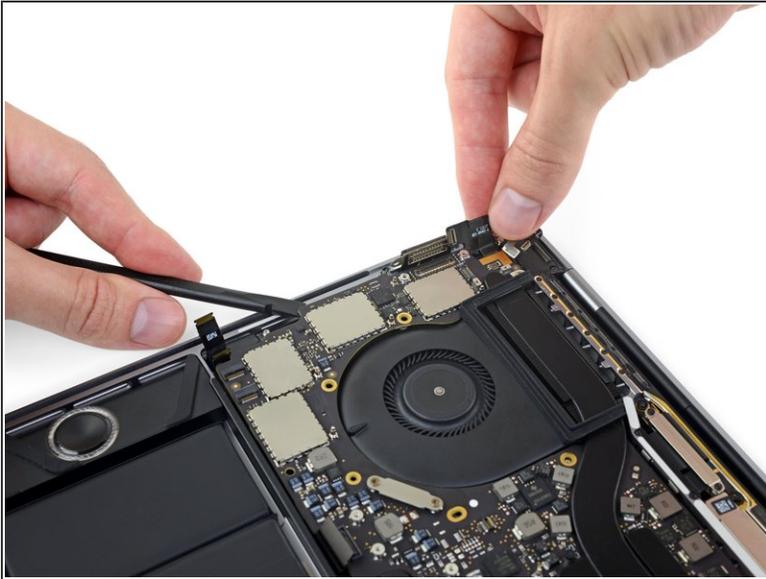
- Remove all ten screws securing the logic board assembly:
 - Three 2.5 mm Torx T3 screws
 - Five 2.9 mm Torx T5 screws
 - Two 3.0 mm Torx T5 screws
- ☑ During reassembly, install these screws loosely and adjust the logic board's position if necessary before tightening the screws.

Step 41 — Peel up the fan dampers



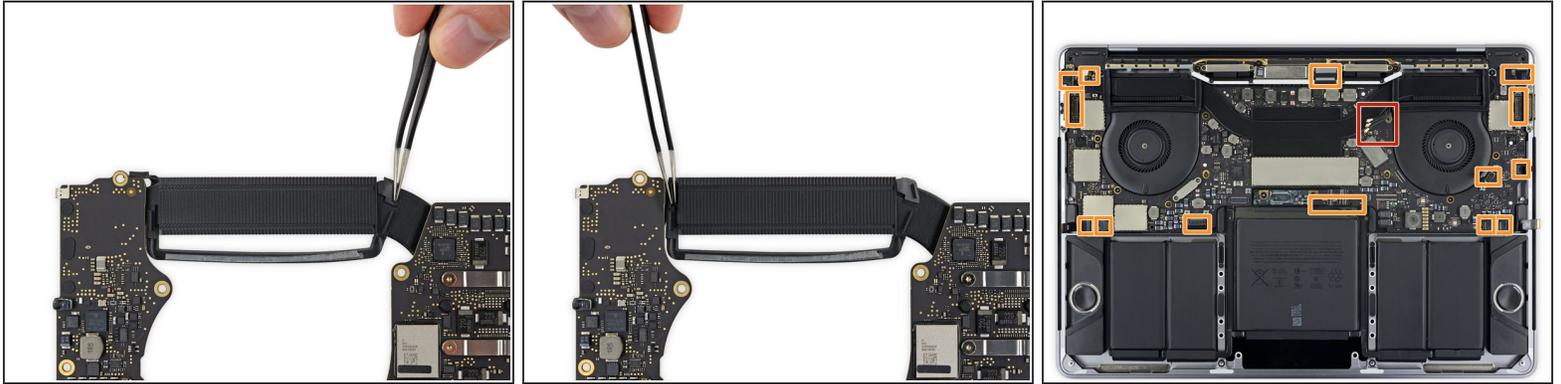
- Peel up (but don't remove) the two rubber vibration damping strips from the adhesive holding them to the fans.
- If needed, apply mild heat with an iOpener, hair dryer, or heat gun to soften the adhesive and make the dampers easier to separate.

Step 42 — Remove the logic board assembly



- ⓘ The logic board assembly is a tight fit, but you can make it easier to remove by inserting a spudger under the left edge and levering it up slightly.
- ⚠ There should be no resistance as you remove the logic board. Check all cables carefully and hold them out of the way if needed so they don't snag on the board.
- Lift from the left side to remove the logic board assembly.

Step 43 — Logic board installation



When reinstalling the logic board assembly:

- Check the alignment of the rubber vibration dampers, and adjust them as needed.
- Feed the antenna cable bundle through the gap between the logic board and heat sink, and make sure it lines up correctly as you lower the board into place.
- Verify that no cables get trapped under the board as you install it. Check each marked location carefully.

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