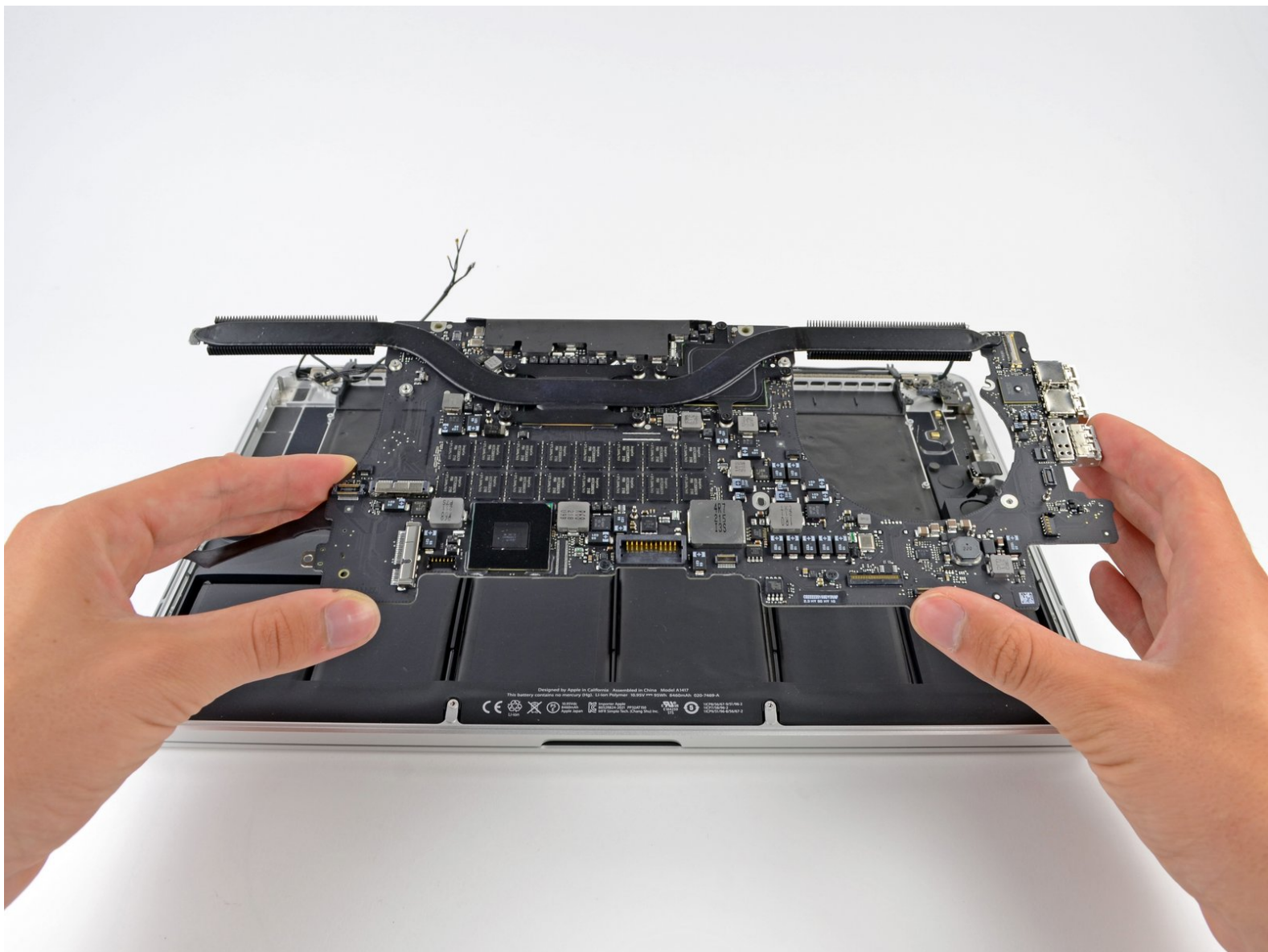




MacBook Pro 15" Retina Display Late 2013

Logic Board Assembly Replacement

Written By: Andrew Optimus Goldheart

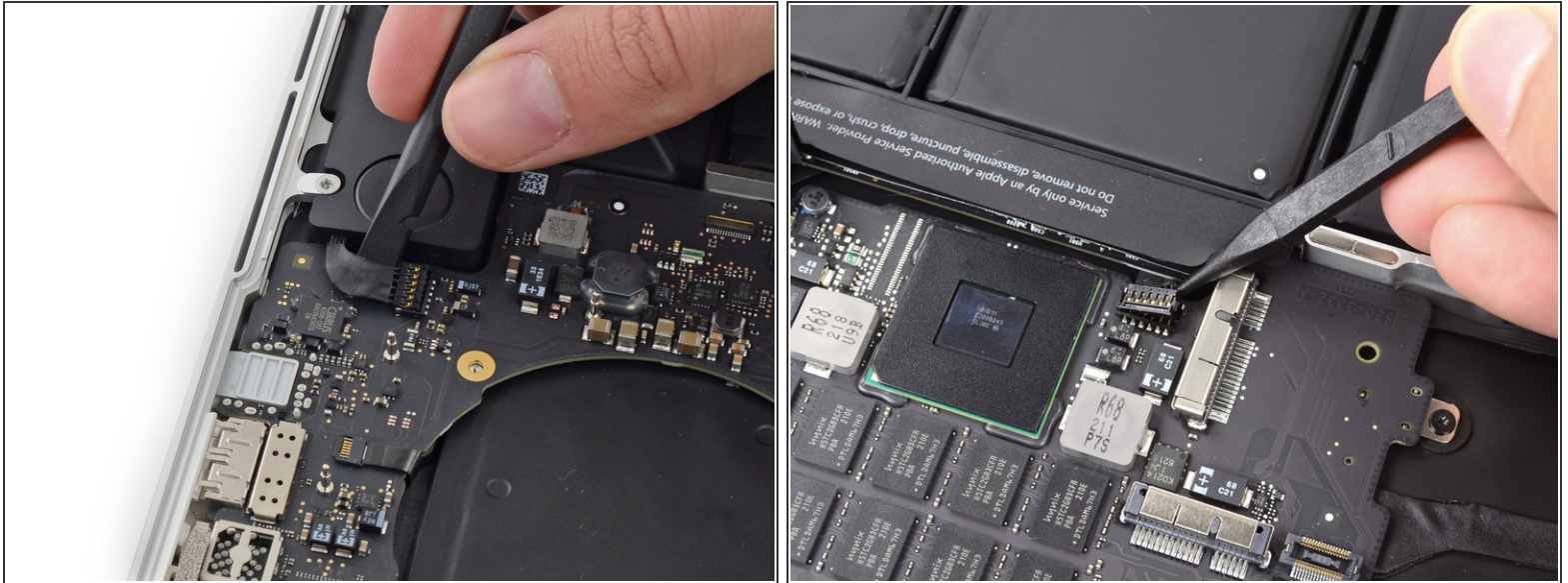




TOOLS:

- [T5 Torx Screwdriver](#) (1)
 - [Spudger](#) (1)
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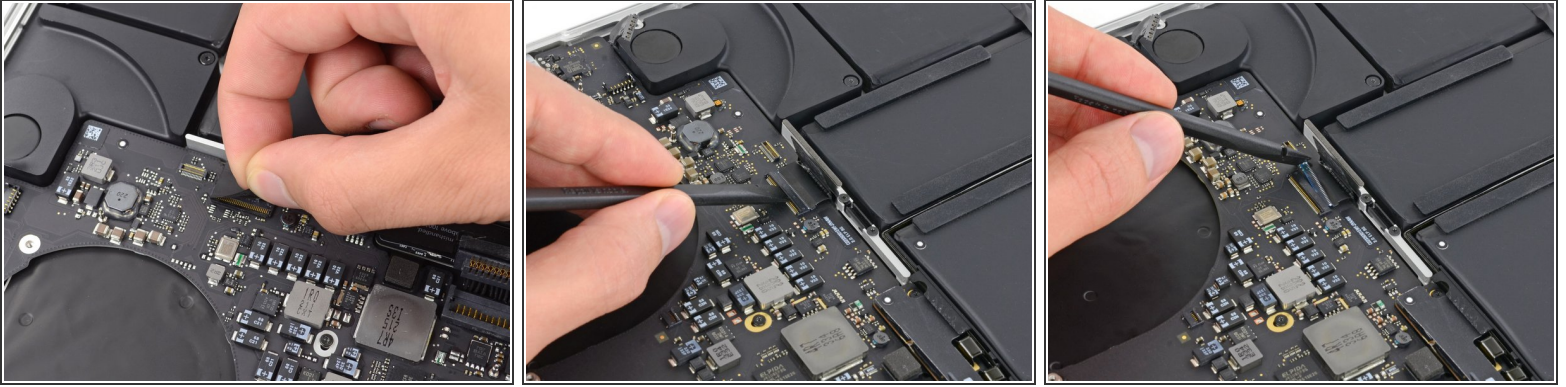
Step 1 — Logic Board Removal



- Use the flat end of a spudger to pry the left speaker connector up and out of its socket on the logic board.
- Use the tip of a spudger to pry the right speaker connector up and out of its socket on the logic board

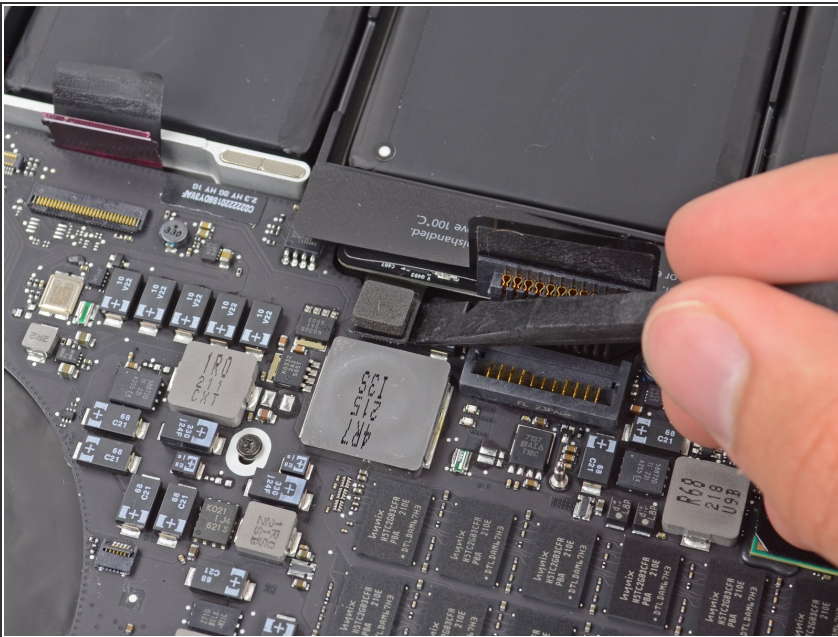
⚠ Be sure to pry on the cable head, and not on the socket itself. Prying on the socket may cause it to separate from the logic board.

Step 2



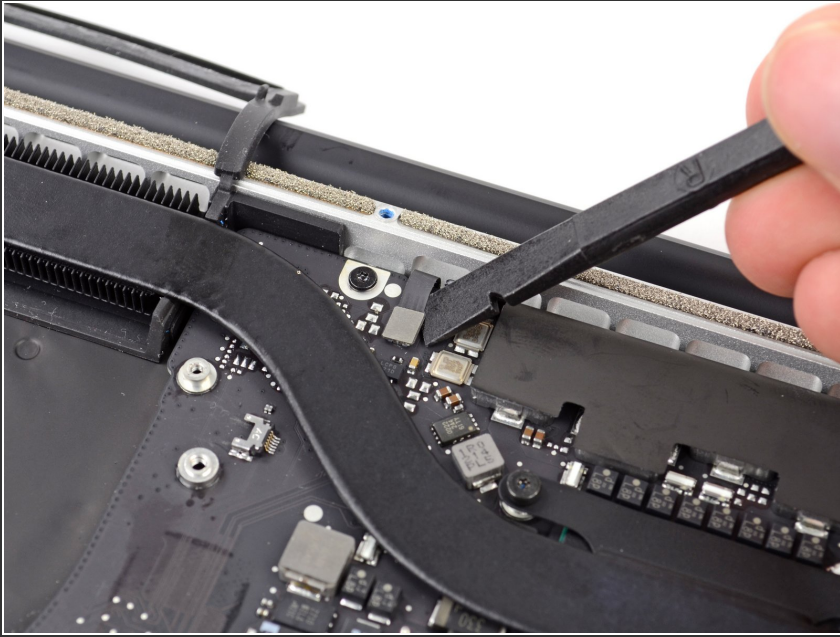
- Peel back the tape covering the top of the keyboard ribbon cable connector.
- Use the flat end of a spudger to flip up the retaining flap on the keyboard ribbon cable [ZIF socket](#).
⚠ Be sure you are prying up on the hinged retaining flap, **not the socket itself.**
- Use the flat end of a spudger to push the keyboard ribbon cable out of its socket.

Step 3



- Use the flat end of a spudger to pry the trackpad ribbon cable connector up out of its socket.

Step 4



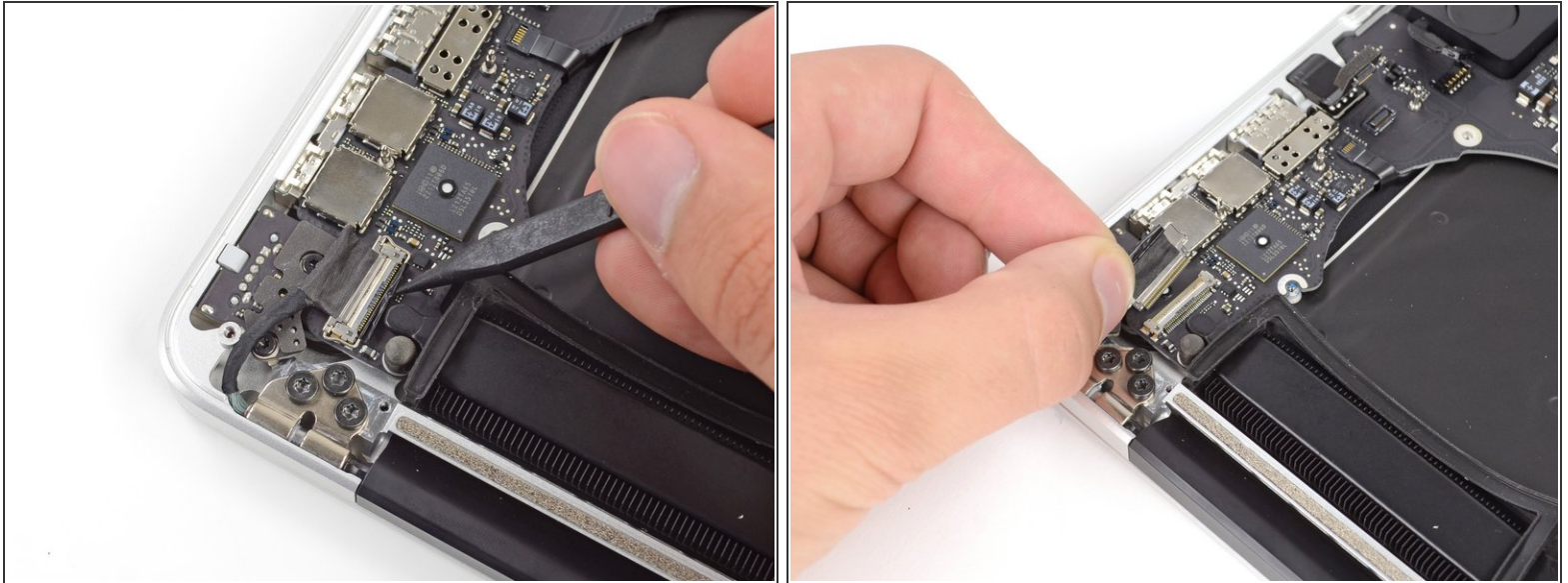
- Use the flat end of a spudger to pry the keyboard backlight connector up from its socket on the logic board.

Step 5



- Use the tip of a spudger or your fingernail to flip up the retaining flap on the microphone ribbon cable ZIF socket.
- ⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.
- Pull the microphone ribbon cable out of its socket.

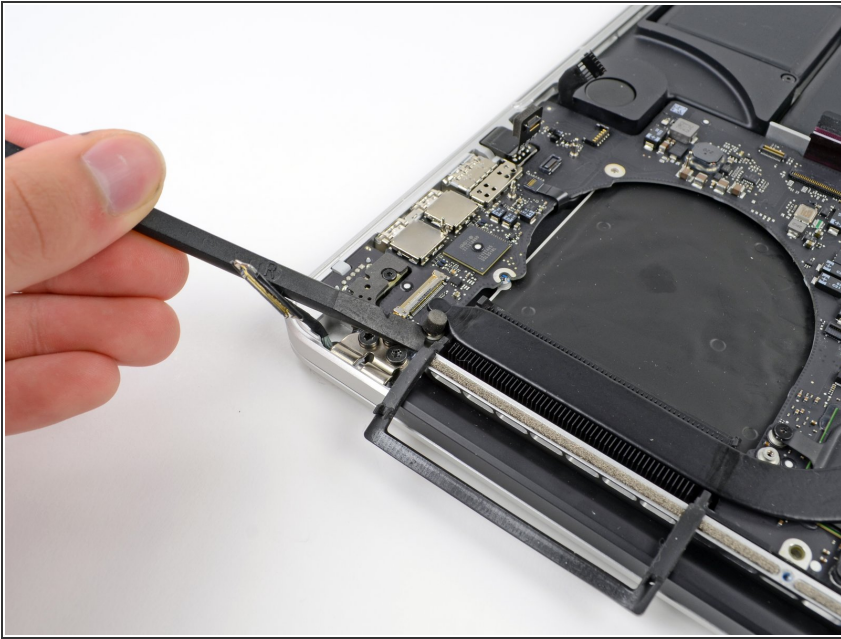
Step 6



- Use the tip of a spudger to flip up the display data cable lock and rotate it toward the DC-In side of the computer.
- Pull the display data cable straight out of its socket on the logic board.

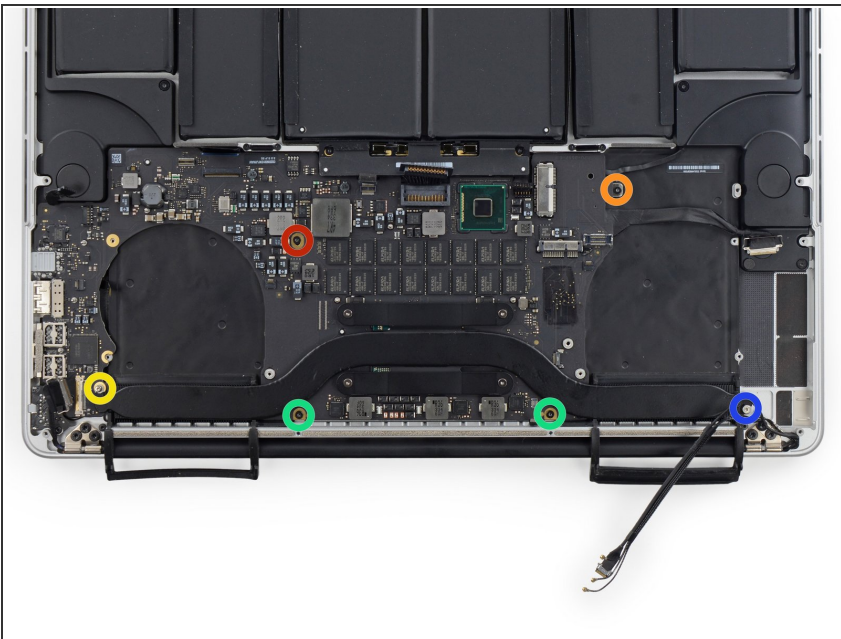
⚠ Do not lift up on the display data cable, as its socket is very fragile. Pull the cable parallel to the face of the logic board.

Step 7



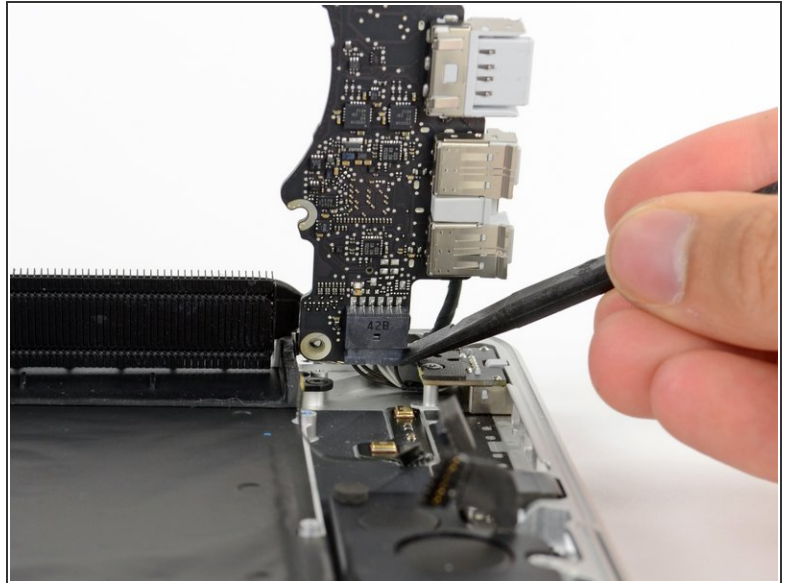
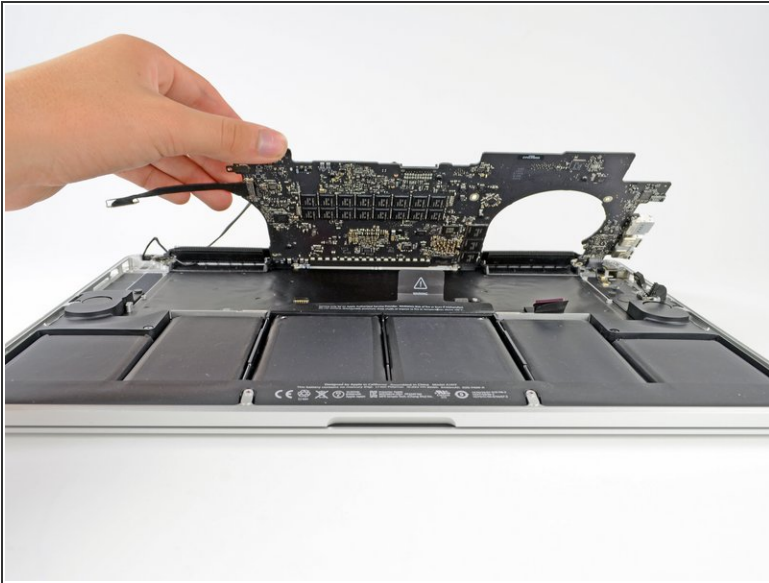
- Use the flat end of a spudger to carefully pry off the rubber screw cap on the raised screw head near the MagSafe 2 connector.
- ⓘ The location of this screw may vary between models.

Step 8



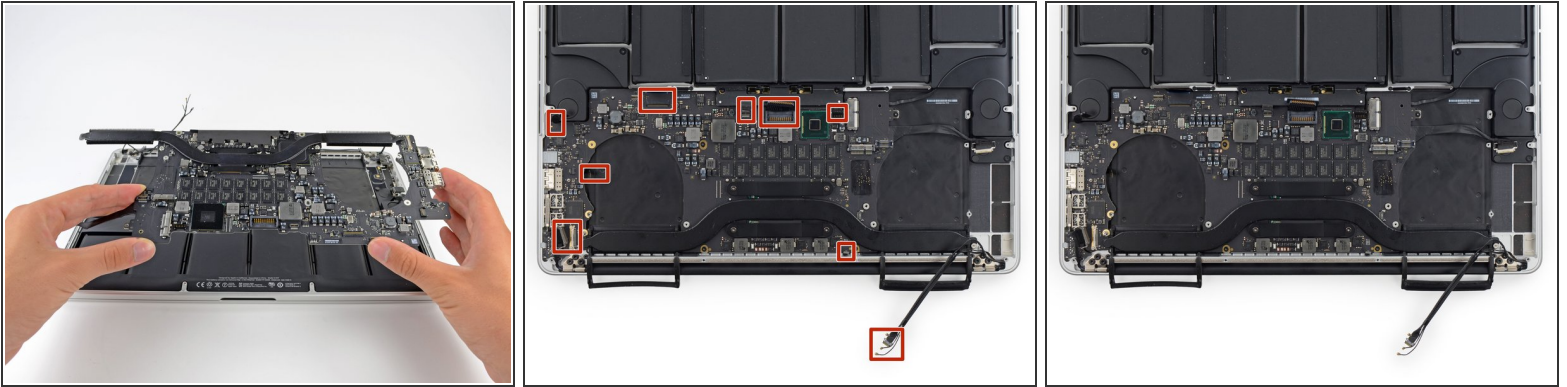
- Remove the following six screws securing the logic board to the upper case:
 - One 3.1 mm T5 Torx screw
 - One 2.5 mm T5 Torx screw
 - One 5.5 mm silver, raised-head T5 Torx screw
 - Two 5.7 mm T5 Torx screws
 - One 3.8 mm silver T5 Torx screw

Step 9



- Lifting from the side nearest the battery, rotate the logic board toward the top of the MacBook Pro.
 - ⓘ You may need to slide the logic board a few millimeters to the left in order to get clearance for the ports along the right edge of the board.
- Using the flat end of a spudger, carefully push the MagSafe 2 connector out of its socket on the bottom of the logic board.
 - ⓘ Disconnecting the MagSafe 2 connector can be difficult. If you are only removing the logic board to temporarily get it out of the way, such as for a battery replacement, you may find it easier to simply [remove the two 2.5 mm T5 Torx screws securing the MagSafe DC-In board](#), and then remove the logic board and MagSafe board together.

Step 10



- Remove the logic board assembly from the MacBook Pro.
- i While the logic board and fans are removed, use a can of compressed air and a soft, non-static brush to remove dust and other debris from the upper case and the logic board, particularly from the fan exhaust openings along the rear edge of the upper case.
- ✦ When reinstalling the motherboard, make sure all cables, and the two rubber heat sink/fan covers, are visible and not trapped under the motherboard.
 - Second photo, clockwise from top: battery, right speaker, keyboard backlight, AirPort/camera, display, microphone, left speaker, keyboard, and trackpad.

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