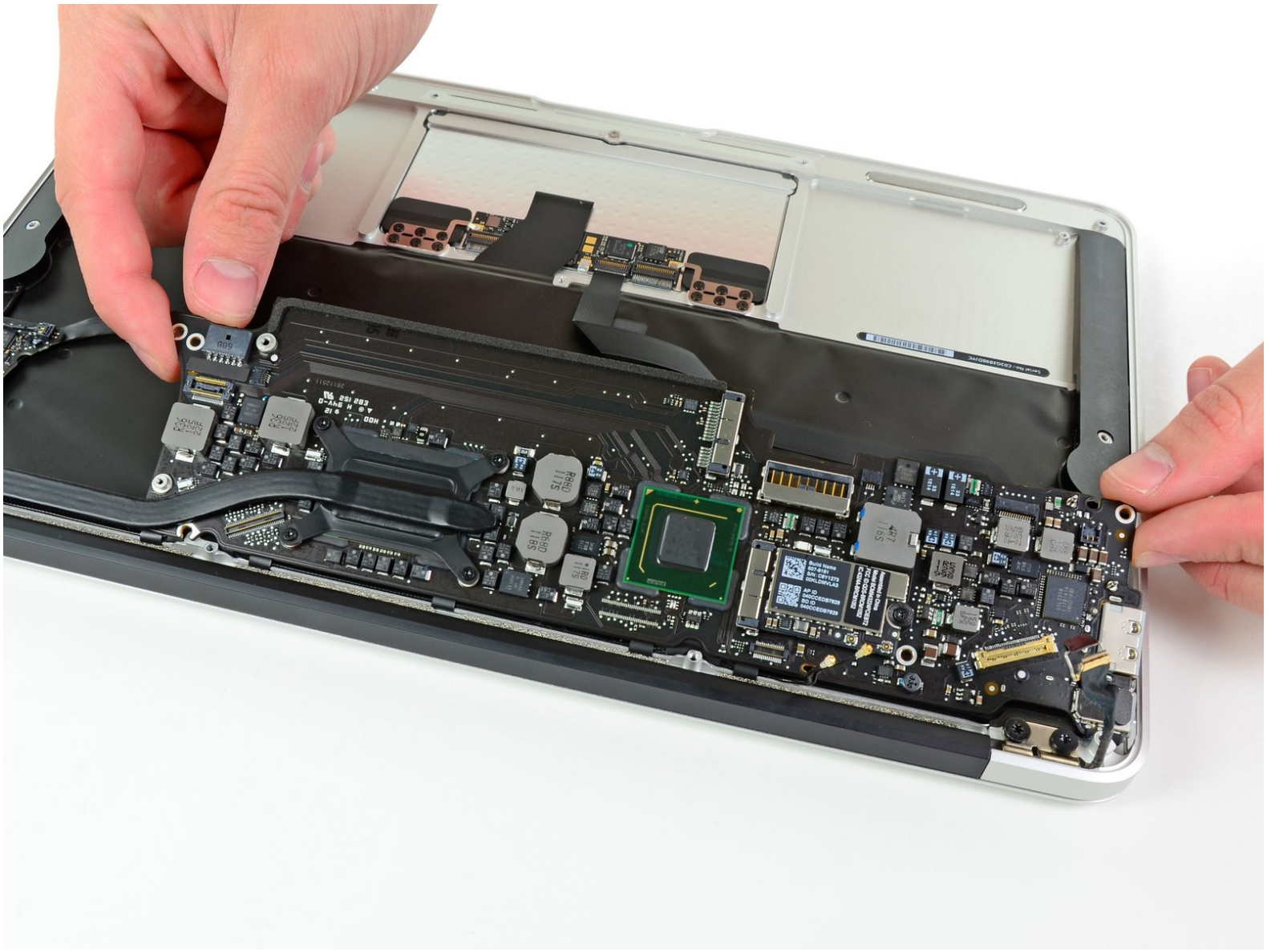
MacBook Air 11" Mid 2012 Logic Board Replacement

Replace the logic board on your Mid 2012 MacBook Air 11".

Written By: Andrew Optimus Goldheart



INTRODUCTION

Use this guide to replace a damaged logic board.

TOOLS:

- P5 Pentalobe Screwdriver Retina MacBook Pro and Air (1)
- Spudger (1)
- T5 Torx Screwdriver (1)
- Arctic Silver ArctiClean (1)
- Arctic Silver Thermal Paste (1)
- Coffee Filters or a lint-free cloth (1)

PARTS:

- MacBook Air 11" (Mid 2012) 1.7 GHz Logic Board (1)
- MacBook Air 11" (Mid 2012) 2.0 GHz Logic Board (1)

Step 1 — Lower Case

Shut down and close your computer. Lay it on a soft surface top-side down.

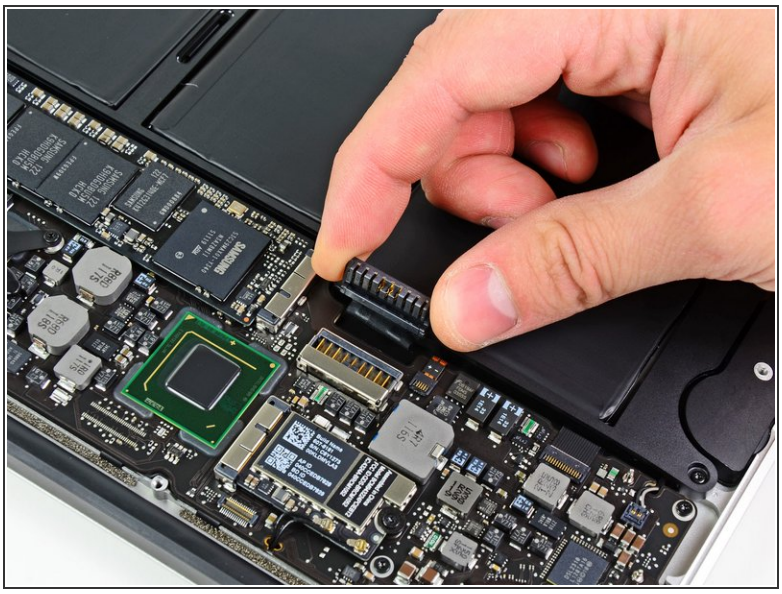
- Remove the following ten screws:
  - Two 8 mm 5-point Pentalobe screws
  - Eight 2.5 mm 5-point Pentalobe screws

The special screwdriver needed to remove the 5-point Pentalobe screws can be found here.

Step 2

- Wedge your fingers between the display and the lower case and pull upward to pop the lower case off the Air.

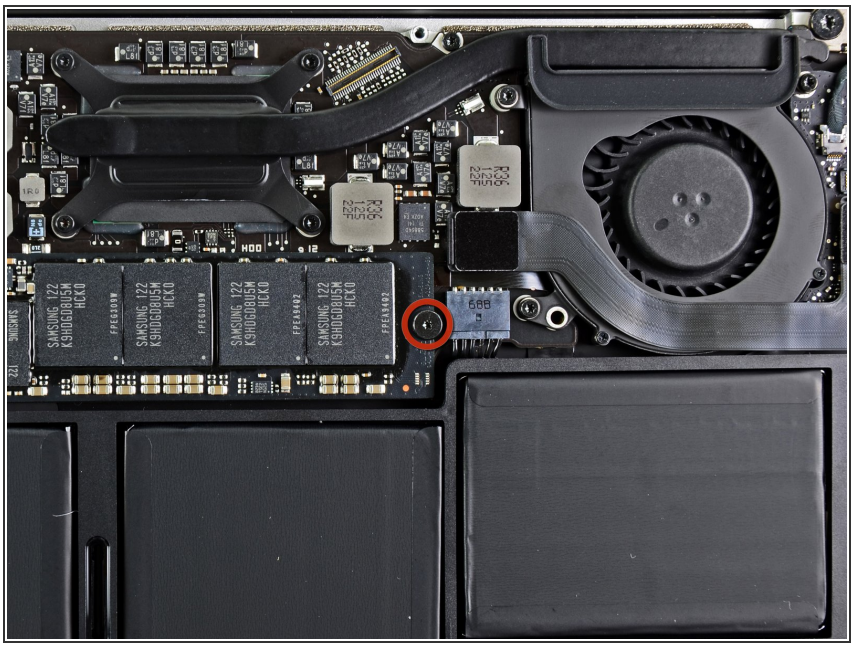
Step 3 — Battery



⚠ In this step you will disconnect the battery to help avoid shorting out any components during service.

- Use the flat end of a spudger to pry both short sides of the battery connector upward to disconnect it from its socket on the logic board.
- Bend the battery cable slightly away from the logic board so the connector will not accidentally contact its socket.

Step 4 — Solid-State Drive



- Remove the single 2.9 mm T5 Torx screw securing the SSD to the logic board.

Step 5

- Use a spudger to help lift the free end of the SSD just enough to grab it with your other hand.

⚠ Do not lift the end of the SSD excessively.

- Pull the drive straight out of its socket and remove it from the logic board.

When reinstalling the SSD, be sure it is properly seated before reinstalling its retaining screw.

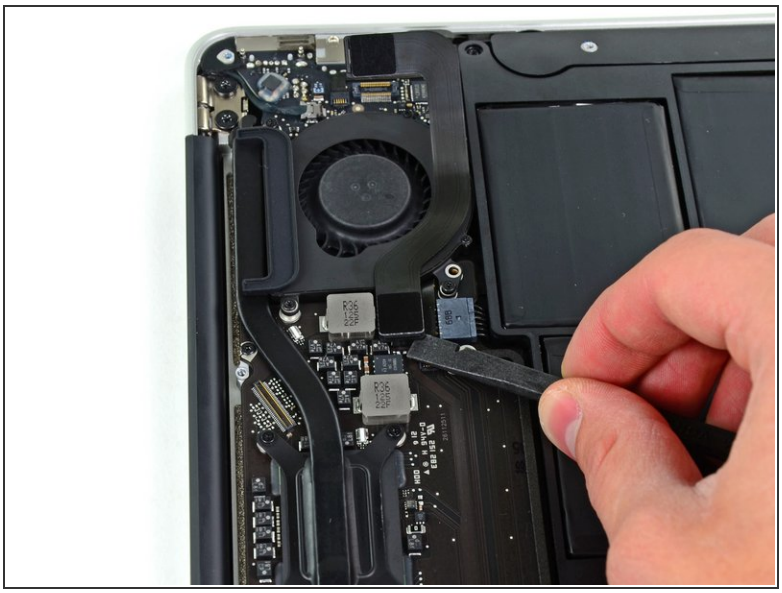
Step 6 — I/O Board Cable

- Use the flat end of a spudger to pry the I/O board cable up from its socket on the I/O board.

Step 7

- Peel the I/O board cable up from the adhesive securing it to the fan.

Step 8



- Use the flat end of a spudger to lift the I/O board connector up and out of its socket on the logic board

⚠ Be sure to lift straight up on the connector as you disconnect it from its socket. The socket is very deep on the logic board and prying it from side to side may damage the logic board

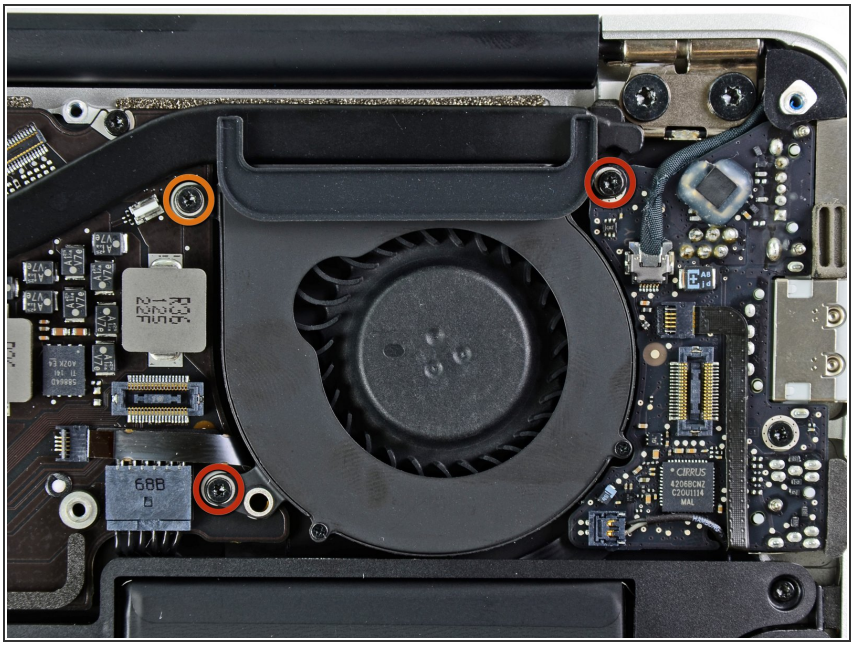
- Remove the I/O board cable.

Step 9 — Fan

- Use the tip of a spudger to carefully flip up the retaining flap on the fan cable ZIF socket.

⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.

Step 10

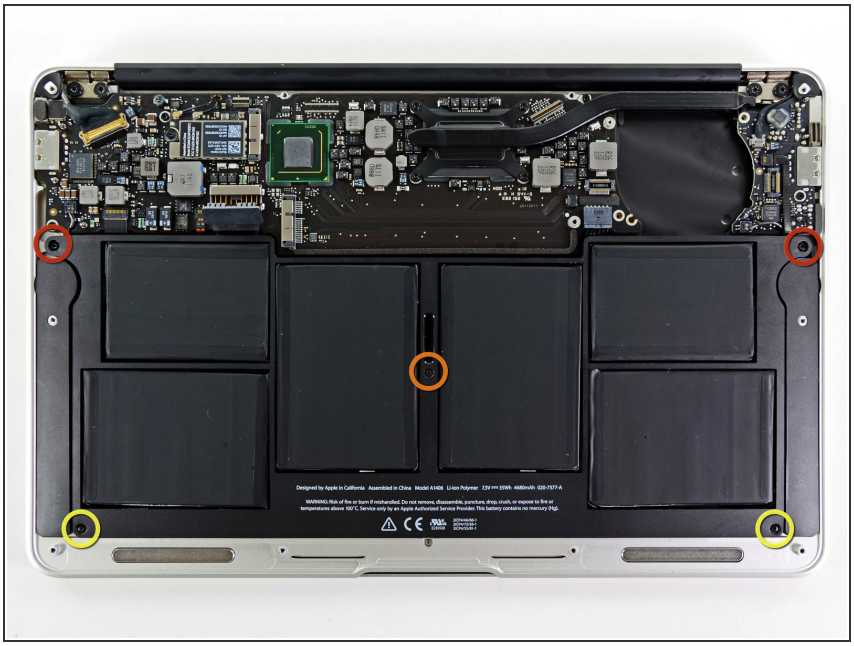


- Remove the following three screws securing the fan to the upper case:
  - Two 5.2 mm T5 Torx screws
  - One 3.6 mm T5 Torx screw

Step 11

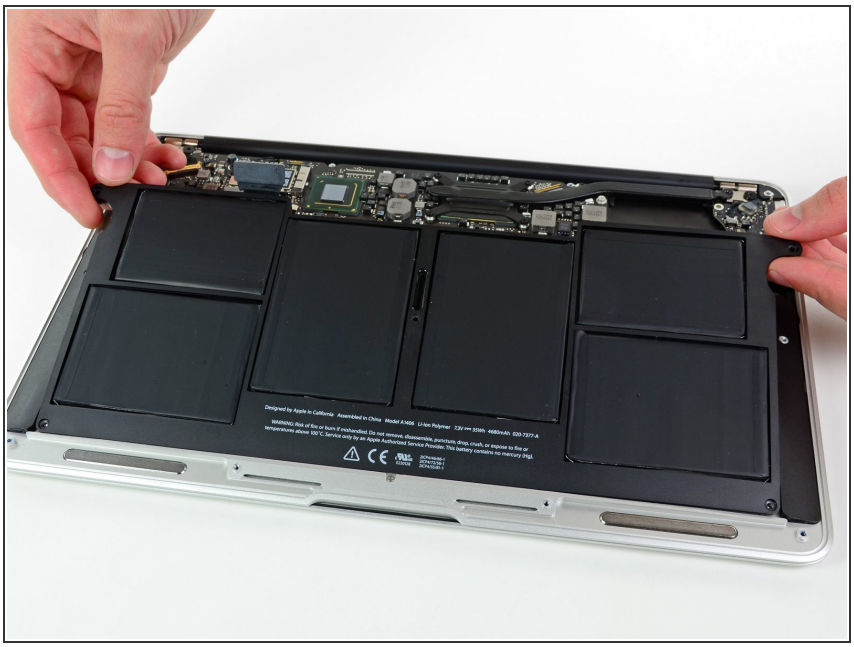
- Lift the fan out of the upper case and carefully pull the fan ribbon cable out of its socket as you remove it from the Air.

Step 12 — Battery



- Remove the following five screws securing the battery to the upper case:
  - Two 5.2 mm T5 Torx screws
  - One 6 mm T5 Torx screw
  - Two 2.6 mm T5 Torx screws

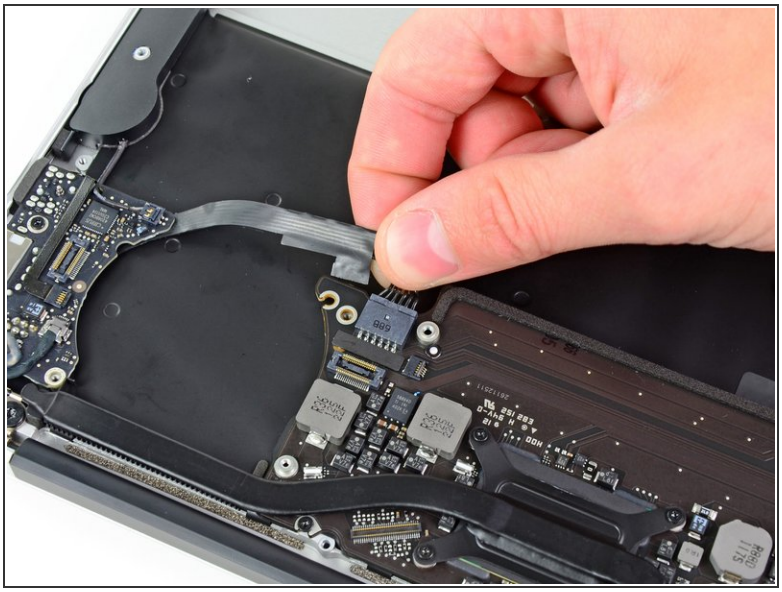
Step 13



⚠ Do not touch or squeeze the six lithium polymer cells when handling the battery.

- Lift the battery from its edge nearest the logic board and remove it from the upper case.

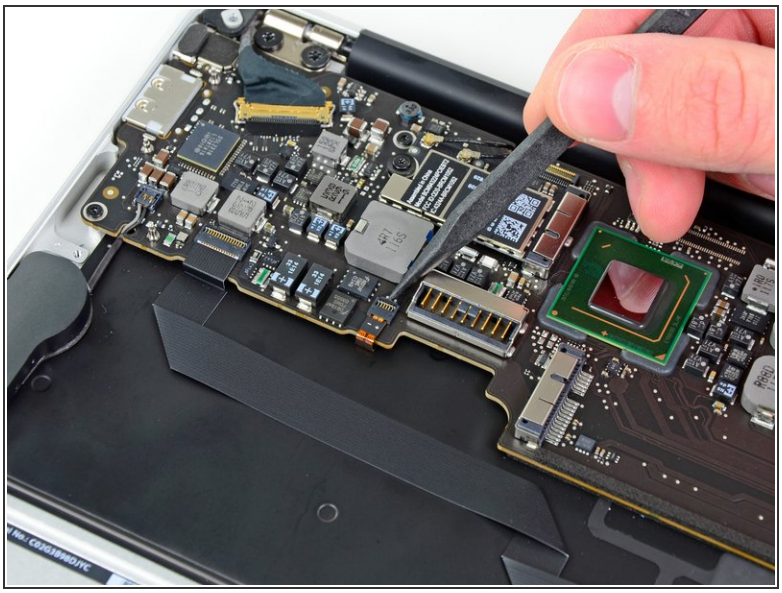
Step 14 — Logic Board



- Use the flat end of a spudger to free the adhesive loop securing the I/O board power cable to the upper case.
- Disconnect the I/O board by pulling the power cable away from its socket on the logic board.

ⓘ Pull the cable parallel to the face of the logic board toward the front edge of the Air.

Step 15

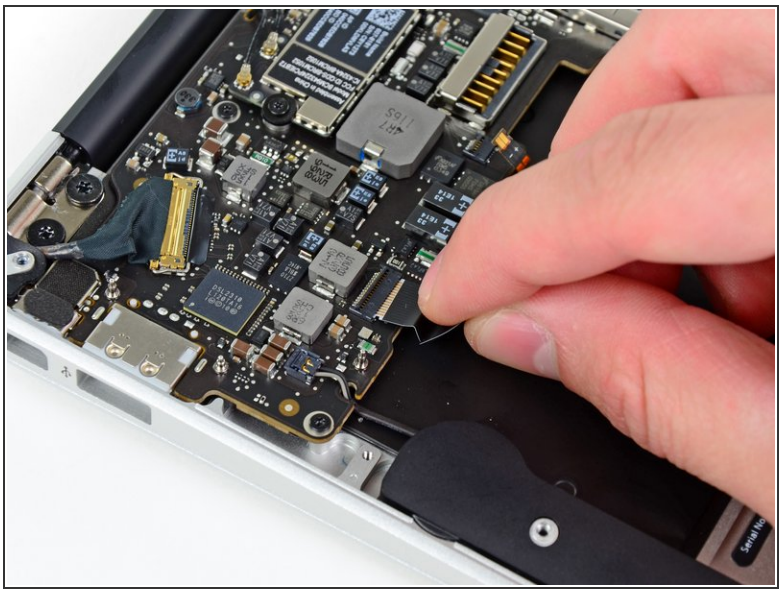


- Use the tip of a spudger to flip up the retaining flap on the keyboard backlight ribbon cable ZIF socket.

⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.

- Pull the keyboard backlight ribbon cable out of its socket.

Step 16

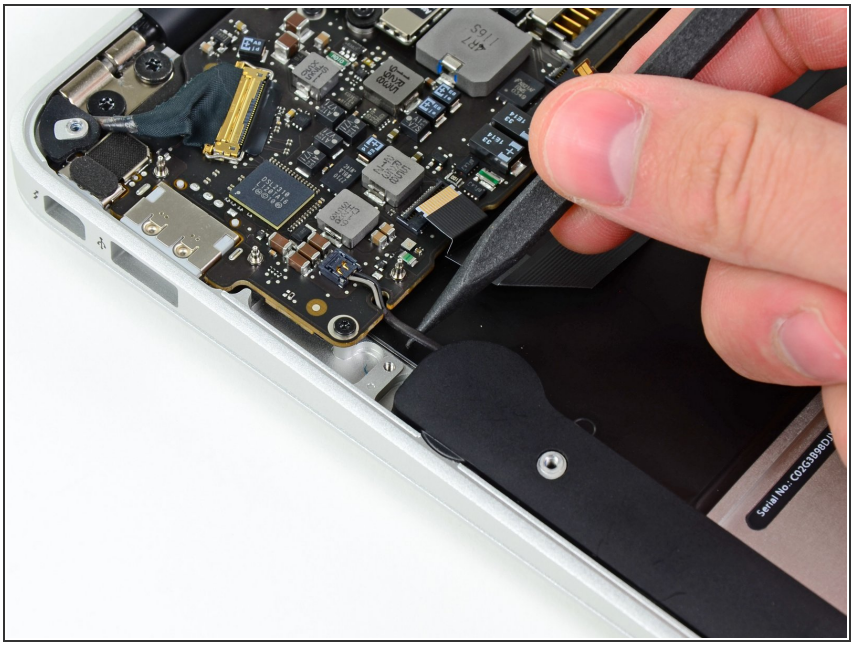


- Use the tip of a spudger or your fingernail to flip up the retaining flap on the trackpad ribbon cable ZIF socket.

⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.

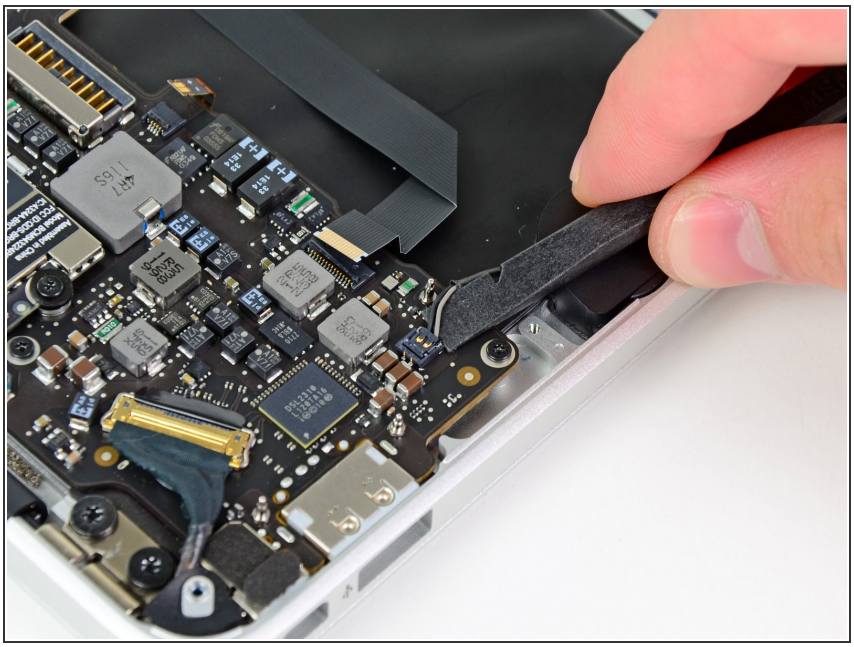
- Pull the trackpad ribbon cable straight out of its socket toward the front edge of the Air.

Step 17



- Use the tip of a spudger to de-route the right speaker cable from the slot cut into the logic board.

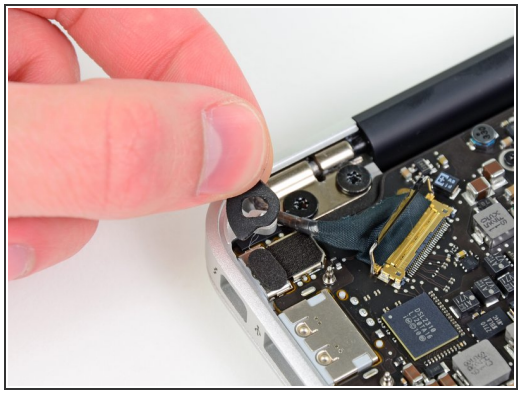
Step 18



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

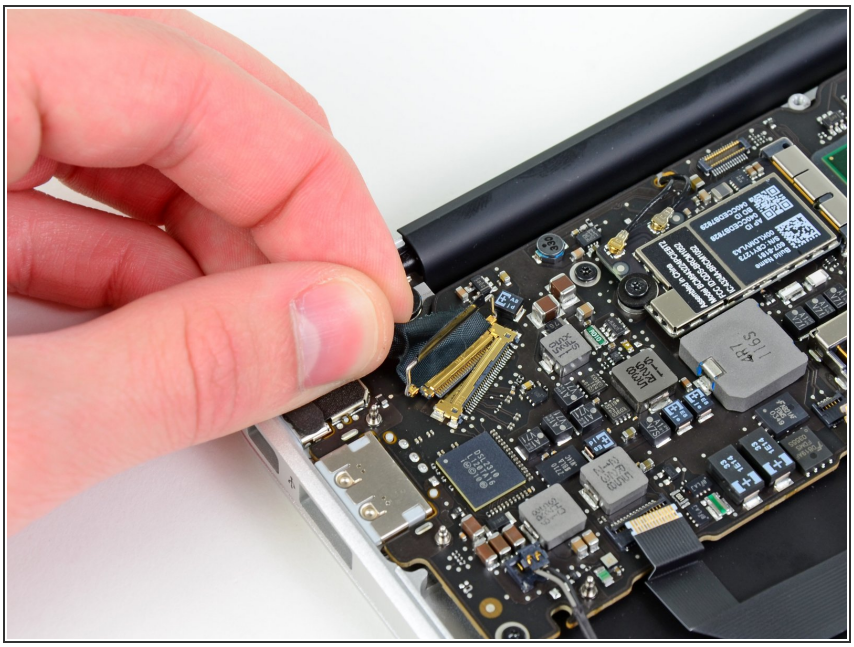
Pry up from beneath the cables.

Step 19



- Gently push the tip of a spudger under the black plastic flap stuck to the display data cable lock to make the lock pop upward and away from the socket.
- Remove the small rubber gasket from the corner of the upper case near the display data cable.

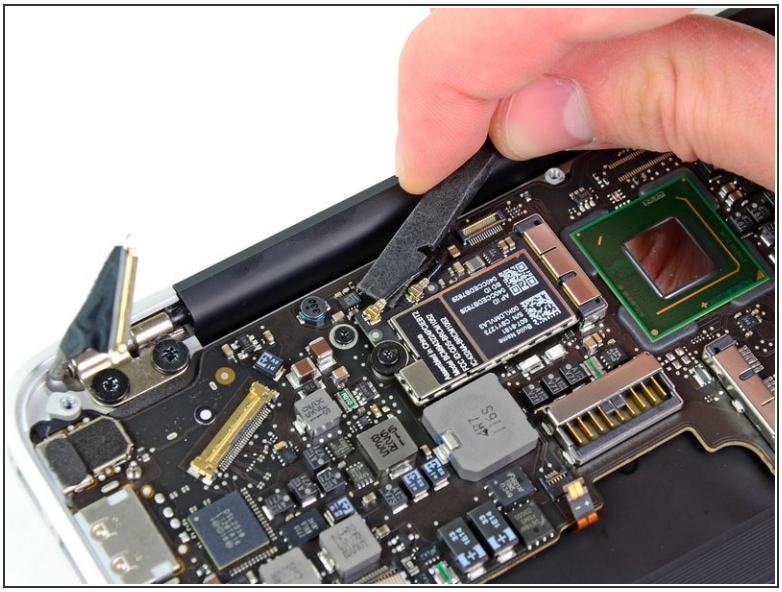
Step 20



- While holding the lock away from the socket, gently pull the display data cable out of its socket.

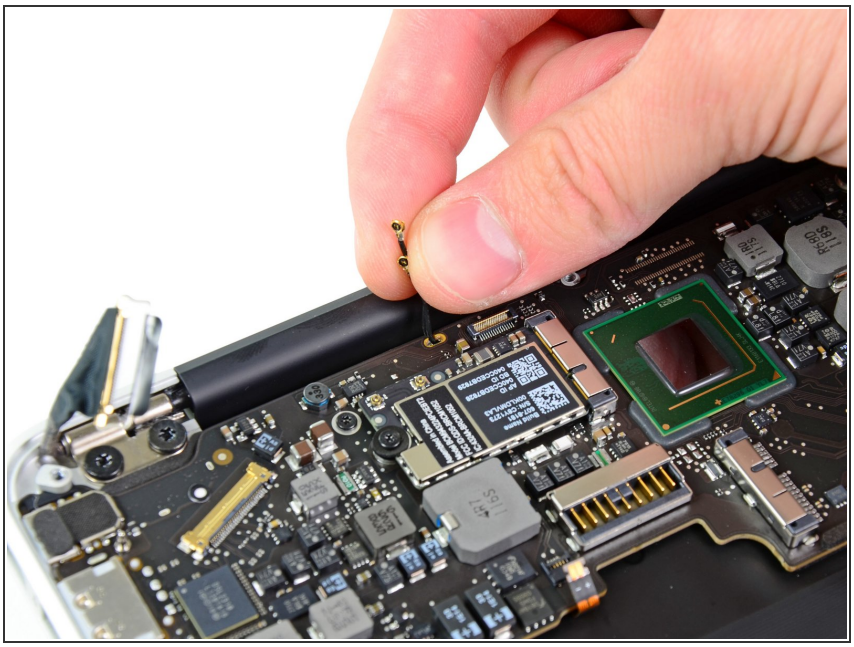
⚠ Do not pull upward on the display data cable as you disconnect it, as its socket may break off the logic board.

Step 21



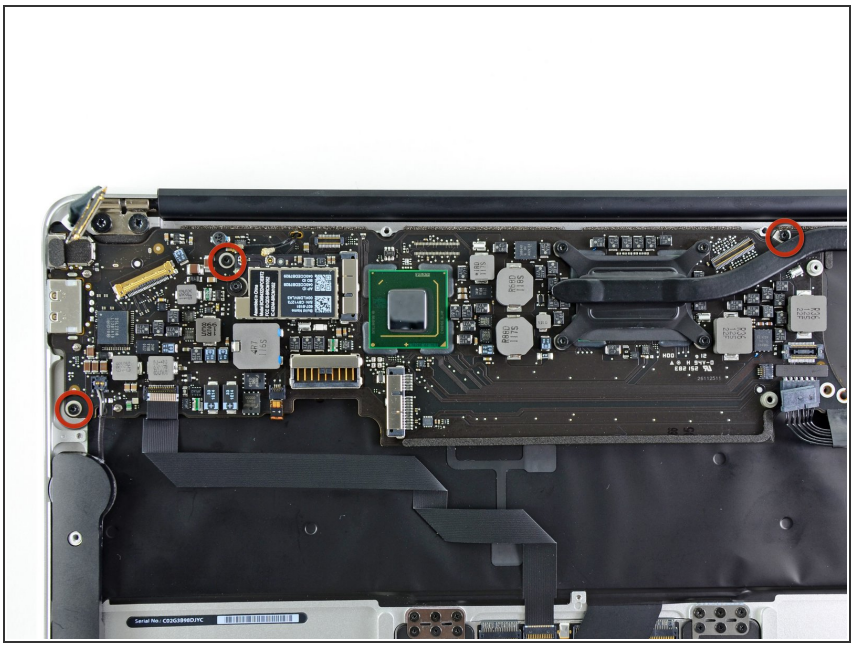
- Use the flat end of a spudger to pry both antenna cable connectors up and off their sockets on the AirPort/Bluetooth card.

Step 22



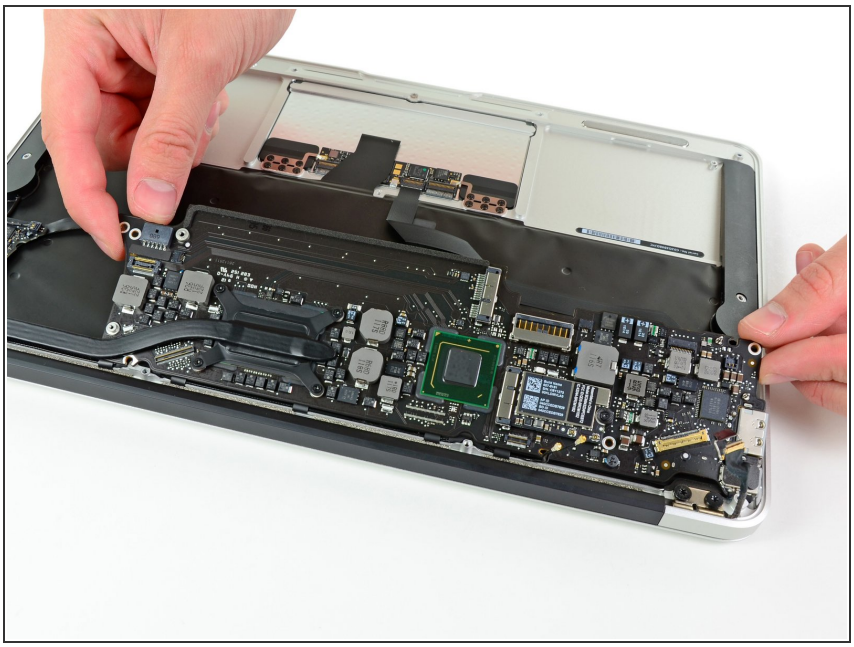
- Gently de-route the antenna cables from the slot cut into the logic board.

Step 23



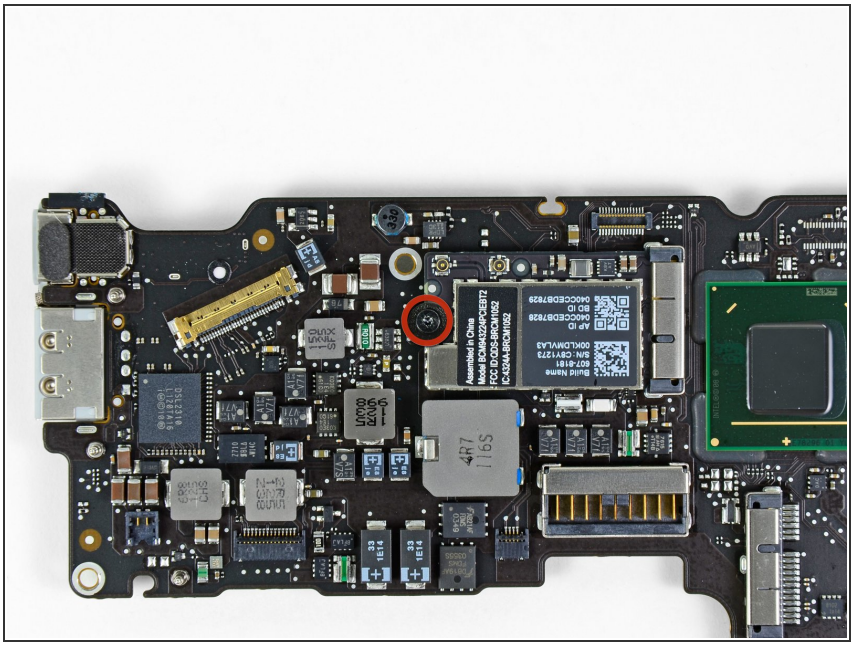
- Remove the three 3.6 mm T5 Torx screws securing the logic board to the upper case.

Step 24



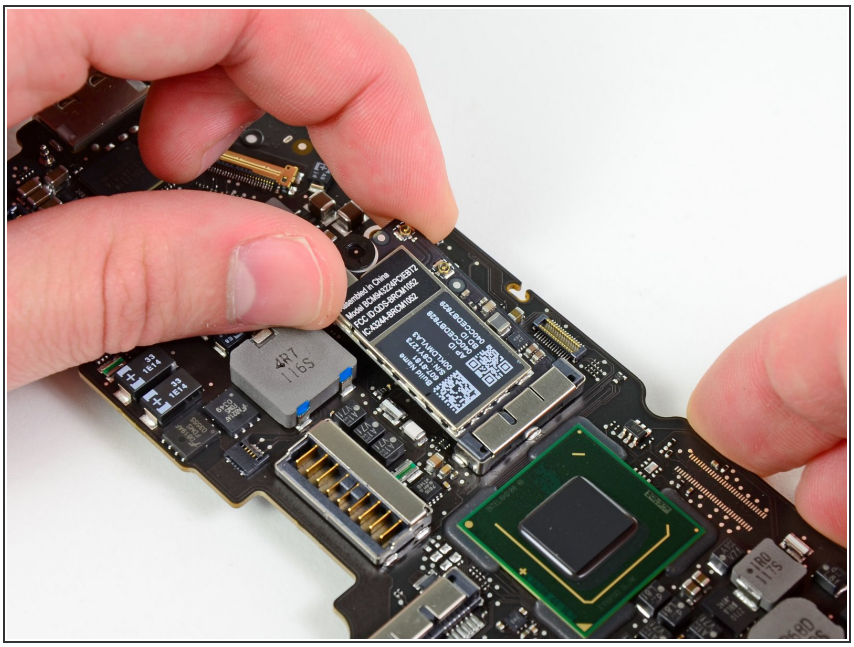
- Gently lift the logic board assembly out of the upper case, minding the fragile heat sink and any cables that may get caught.

Step 25 — Logic Board



- Remove the single 2.9 mm T5 Torx screw securing the AirPort/Bluetooth card to the logic board.

Step 26

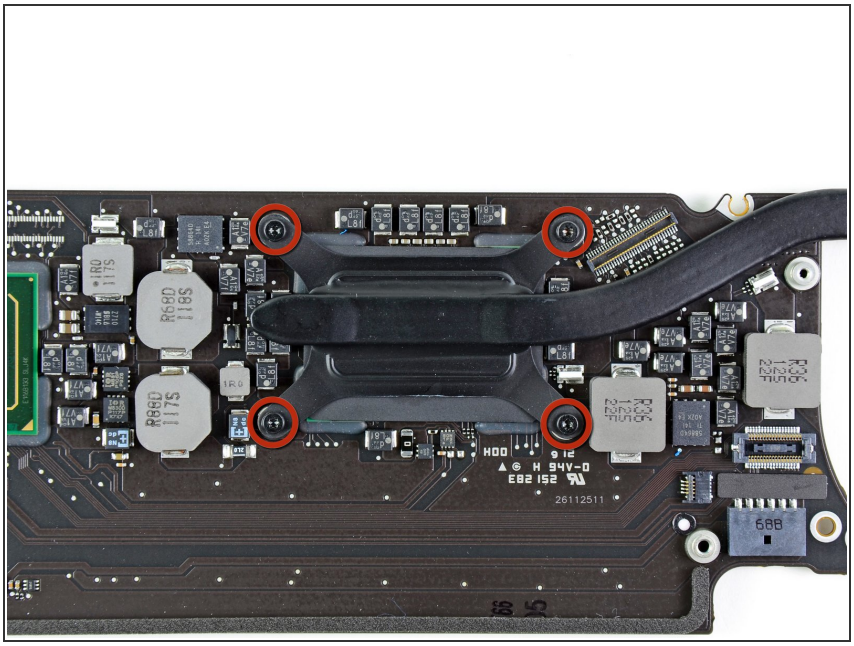


- Slightly lift the free end of the AirPort/Bluetooth board and pull it out of its socket on the logic board.

⚠ To avoid damaging its socket on the logic board, do not excessively lift the free end of the AirPort/Bluetooth card.

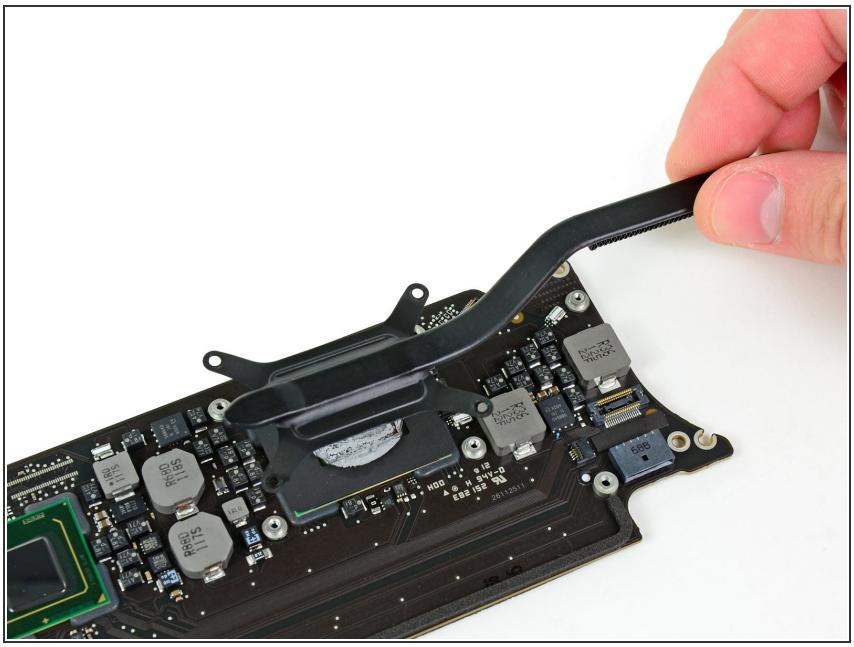
- Remove the AirPort/Bluetooth board from the logic board.

Step 27



- Remove the four 2.5 mm T5 Torx screws securing the heat sink to the logic board.

Step 28



If the heat sink seems to be stuck to the logic board after removing all four screws, use a spudger to carefully separate the heat sink from the faces of the CPU and GPU.

- Remove the heat sink from the logic board.
- Logic board remains.

When reinstalling the heat sink, be sure to apply a new layer of thermal paste. If you have never applied thermal paste before, we have a guide that makes it easy.

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

