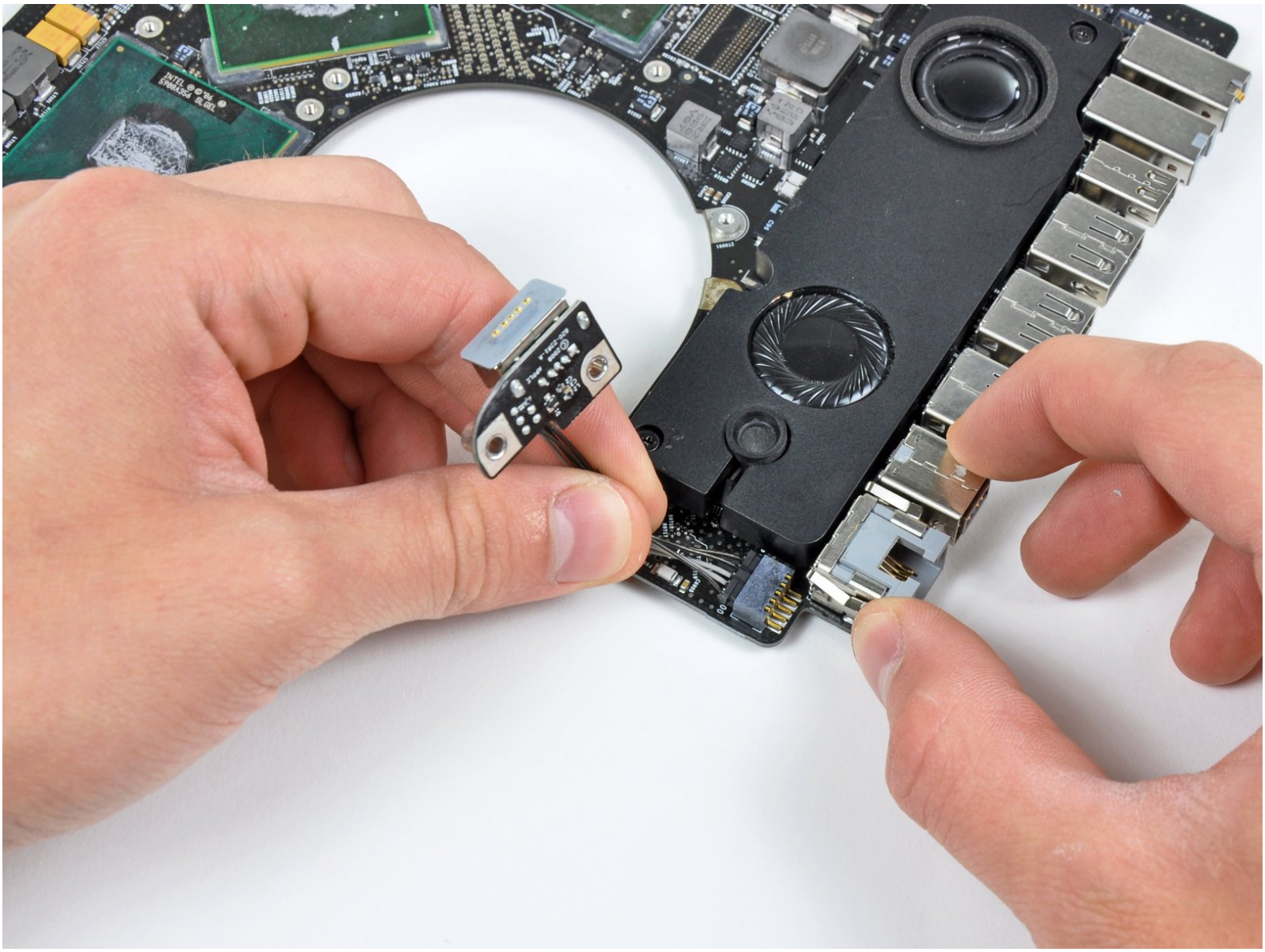
MacBook Pro 17" Unibody Logic Board Replacement

Completely replace the logic board on your MacBook Pro 17" Unibody.

Written By: Andrew Bookholt



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INTRODUCTION

Use this guide to replace your MacBook Pro's logic board. Before reattaching the heat sink, it is essential to apply a new layer of thermal paste.

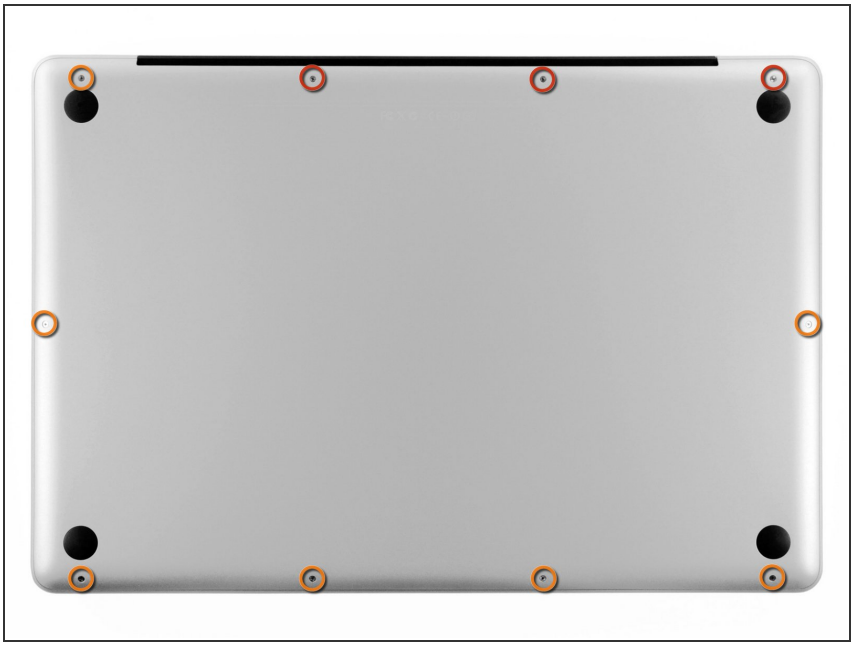
TOOLS:

- Arctic Silver ArctiClean (1)
- Arctic Silver Thermal Paste (1)
- Phillips #00 Screwdriver (1)
- Spudger (1)

PARTS:

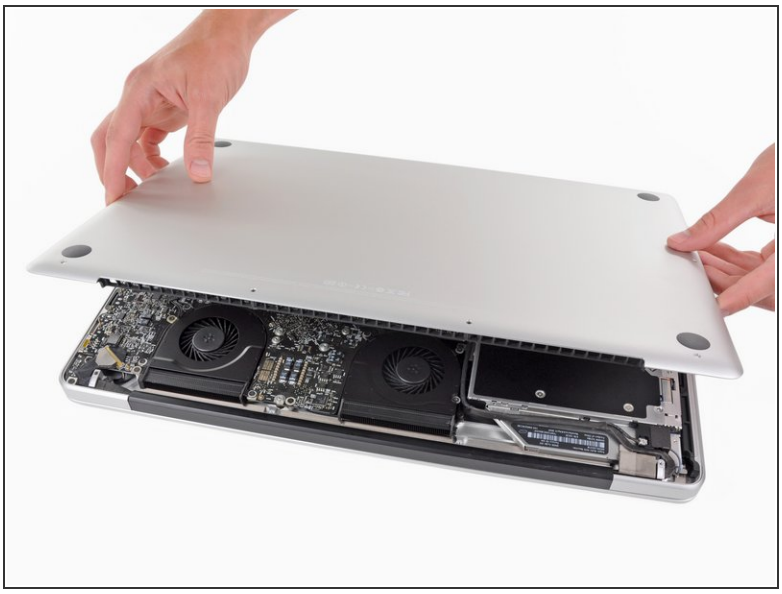
- MacBook Pro 17" Unibody (Early 2009) 2.66 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Mid 2009) 2.8 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Mid 2009) 3.06 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Mid 2010) 2.66 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Early 2011) 2.2 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Early 2011) 2.3 GHz Logic Board (1)
- MacBook Pro 17" Unibody (Late 2011) 2.4 GHz Logic Board (1)

Step 1 — Lower Case



- Remove the following ten screws securing the lower case to the upper case:
  - Three 13.5 mm Phillips screws.
  - Seven 3 mm Phillips screws.

Step 2

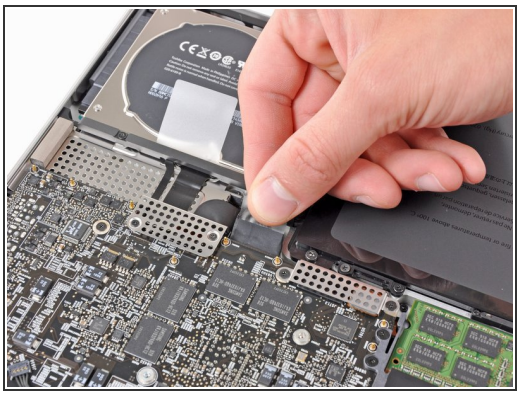


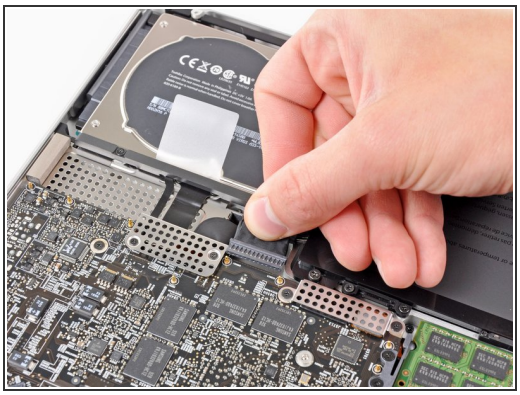
- Wedge your fingers between the lower case and the vent, and lift upward to release the two clips holding the lower case to the upper case.

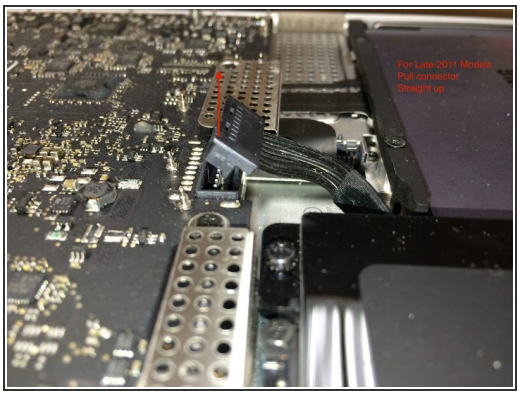
  During reassembly, carefully align the lower case and then press it firmly until both clips engage.

- Remove the lower case.

Step 3 — Battery







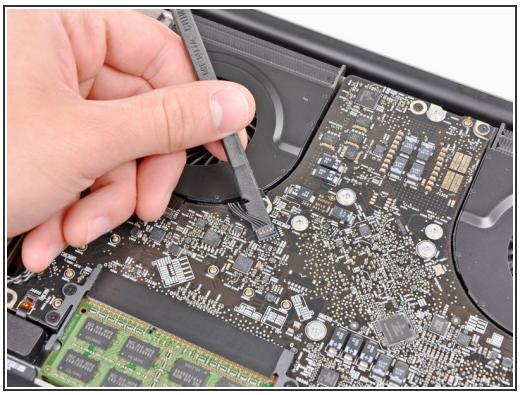
Whenever working near the logic board, it is always wise to first disconnect the battery to avoid short circuits.

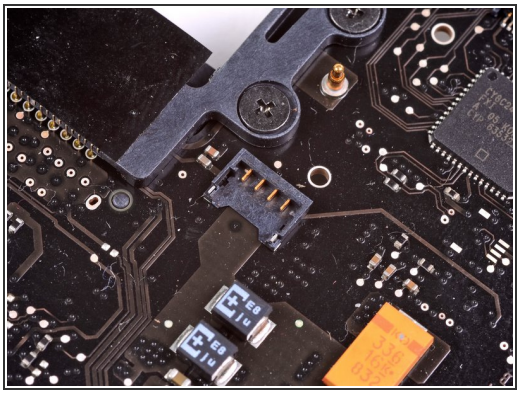
- If present, grab the plastic tab attached to the battery connector and pull it toward the front edge of the device. For Late-2011 models the battery connector will not have a tab and is simply a plug that inserts straight down into the motherboard--to remove pry the plug straight up.

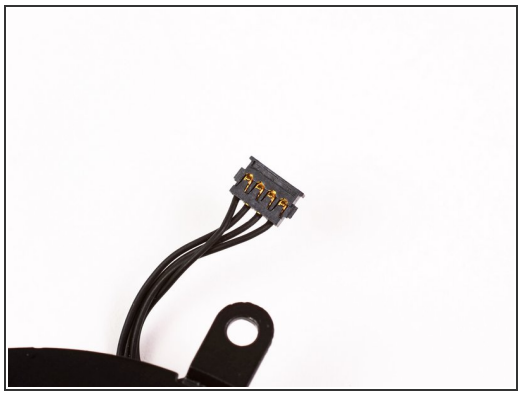
If the plastic tab is missing, use a spudger to pry the connector up from its socket.

Pull the tab parallel to the face of the logic board.

Step 4 — Right Fan





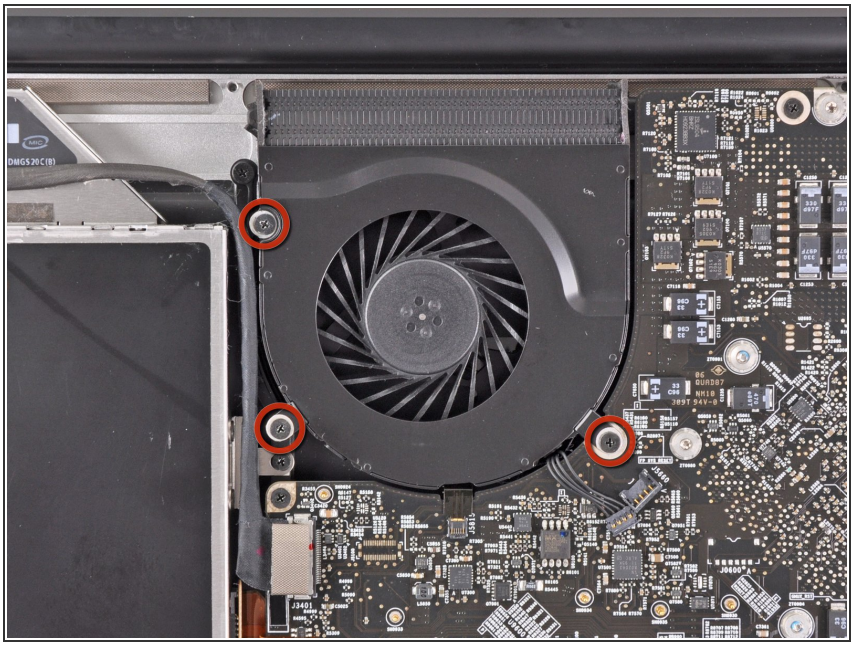


- Use the flat end of a spudger to lift the right fan connector out of its socket on the logic board.

It is useful to twist the spudger axially from beneath the fan cable wires to release the connector.

The fan socket and the fan connector can be seen in the second and third pictures. Be careful not to break the plastic fan socket off the logic board as you use your spudger to lift the fan connector straight up and out of its socket. The layout of the logic board shown in the second picture may look slightly different than your machine but the fan socket is the same.

Step 5



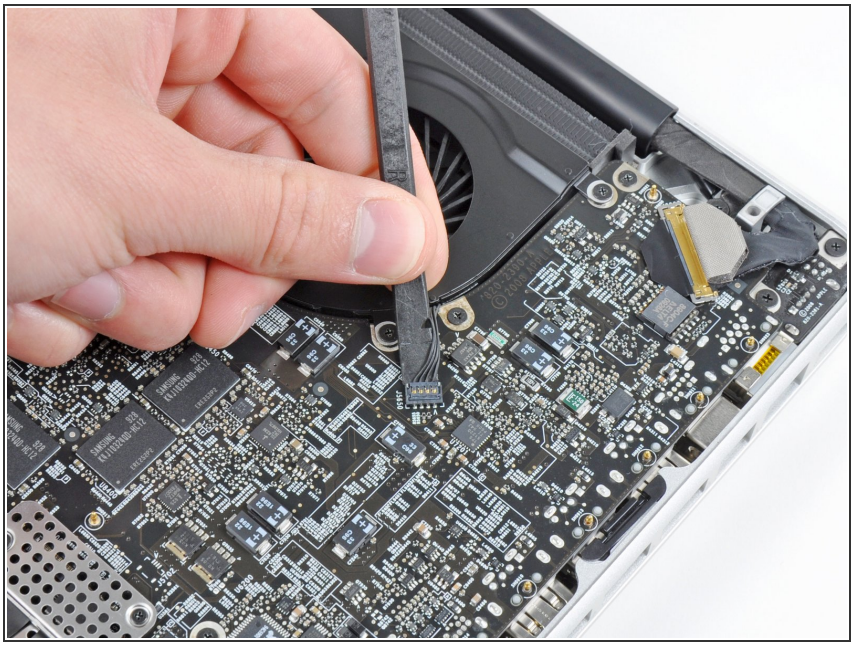
- Remove the three 3.1 mm Phillips screws securing the right fan to the logic board.

In the Late 2011 MacBook Pro 17" Unibody these screws will be T6 Torx.

Step 6

- Remove the right fan from the upper case, minding its cable that may get caught.

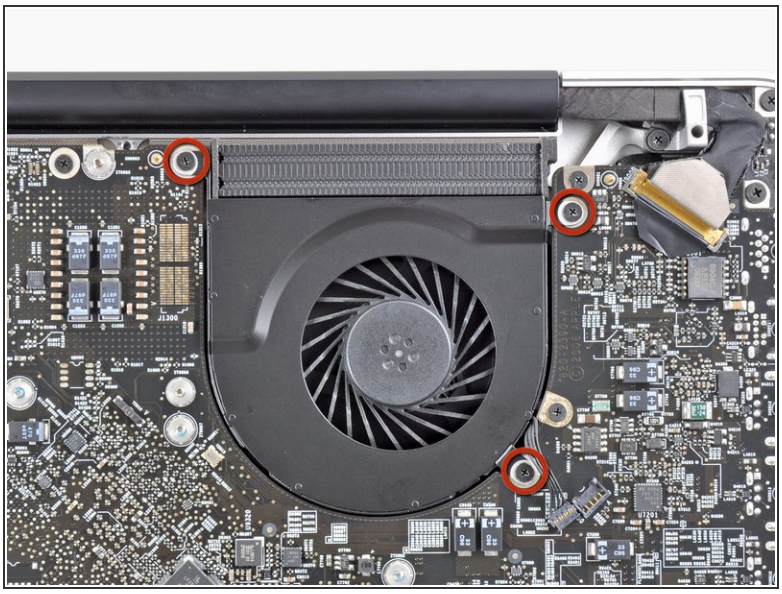
Step 7 — Logic Board

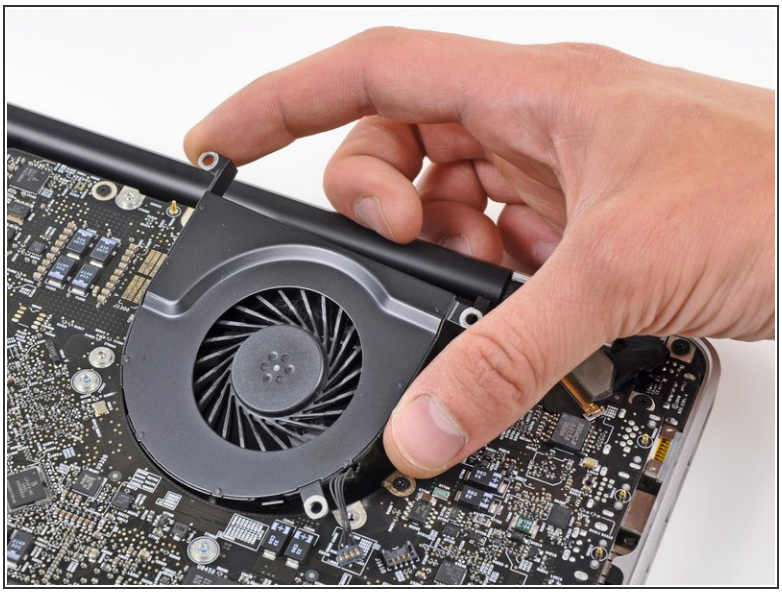


- Use the flat end of a spudger to lift the left fan connector out of its socket on the logic board.

It is useful to twist the spudger axially from beneath the fan cable wires to release the connector.

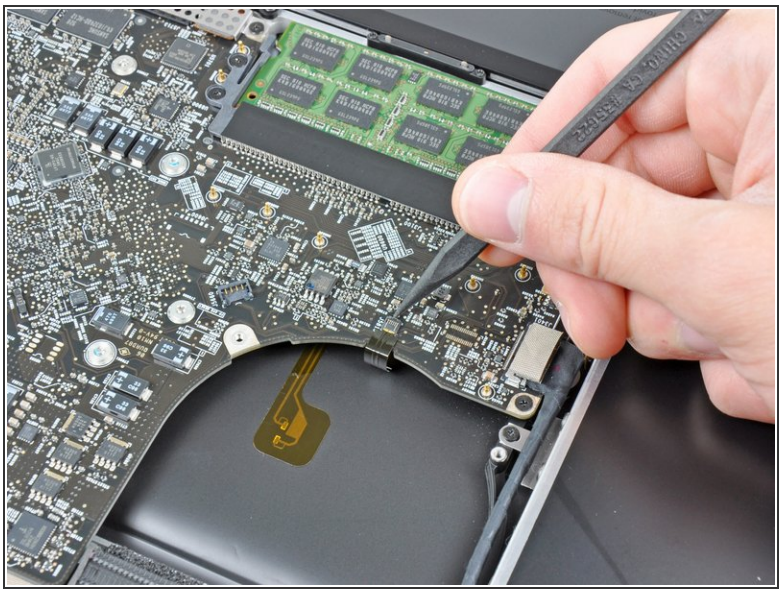
Step 8

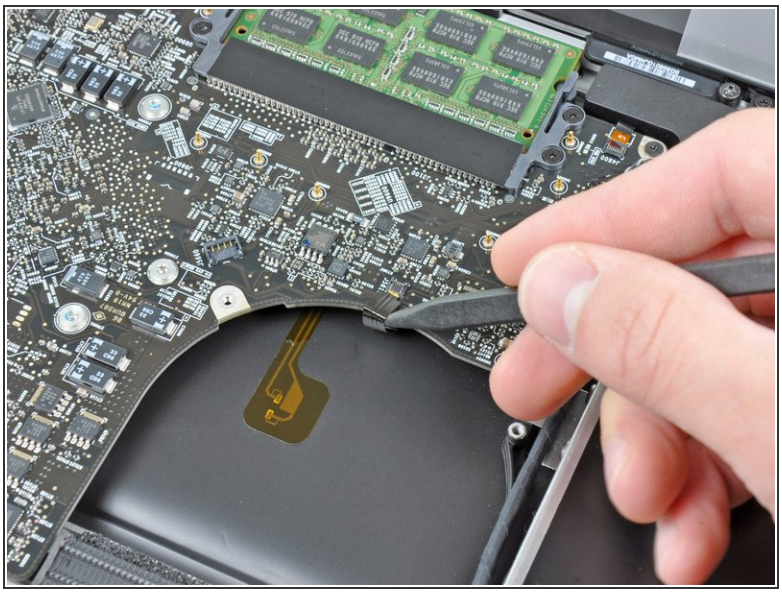




- Remove the three 3.1 mm Phillips screws securing the left fan to the logic board.
- Remove the left fan from the upper case, minding its cable that may get caught.

Step 9



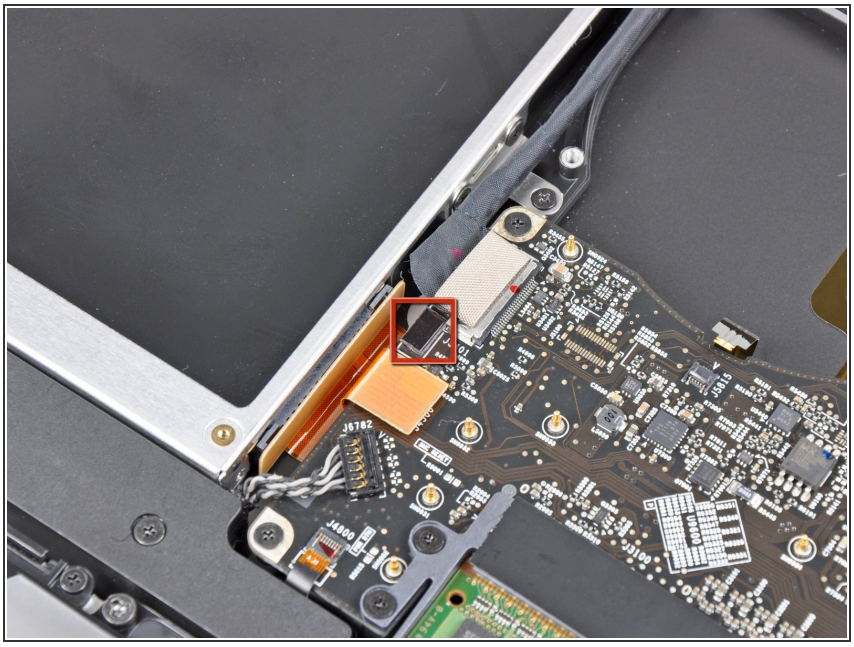


- Use the tip of a spudger or your fingernail to flip up the retaining flap on the keyboard backlight ribbon cable.

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

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

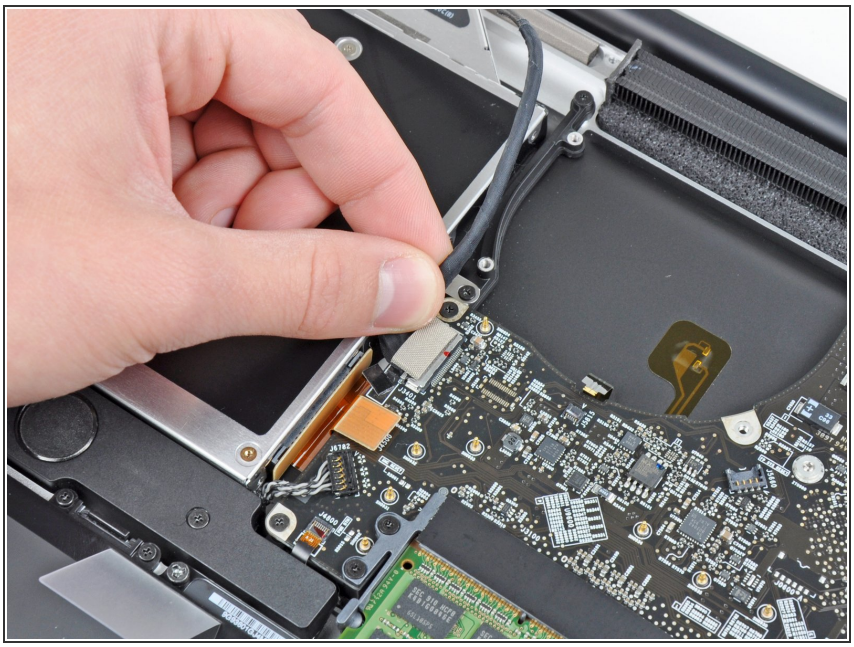
Step 10



ⓘ Before disconnecting the camera cable, a small plastic retainer stuck to the logic board must first be moved out of the way.

- Use the tip of a spudger to push the small plastic cable retainer away from the camera cable socket for enough clearance to remove the camera cable.

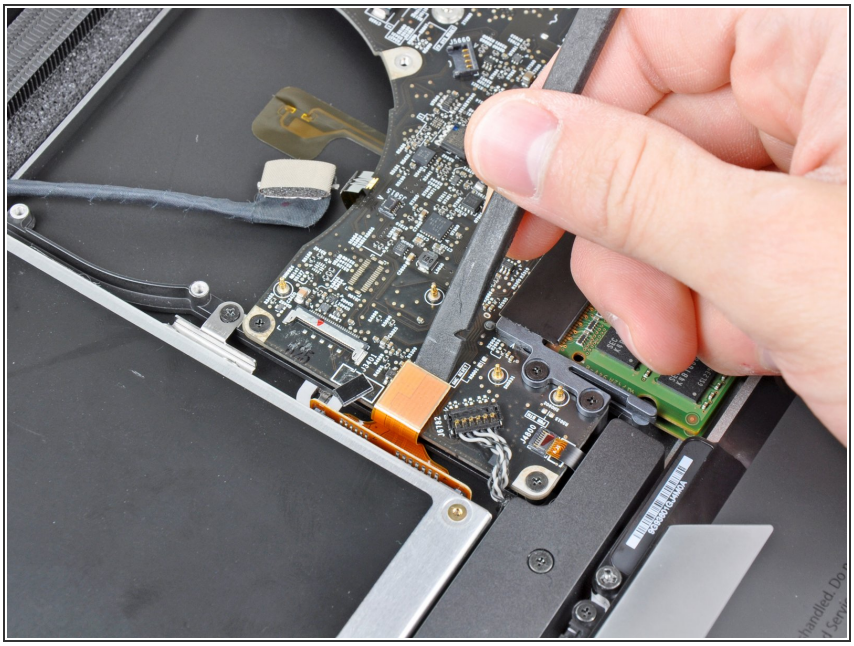
Step 11



- Pull the camera cable toward the optical drive opening to disconnect it from the logic board.

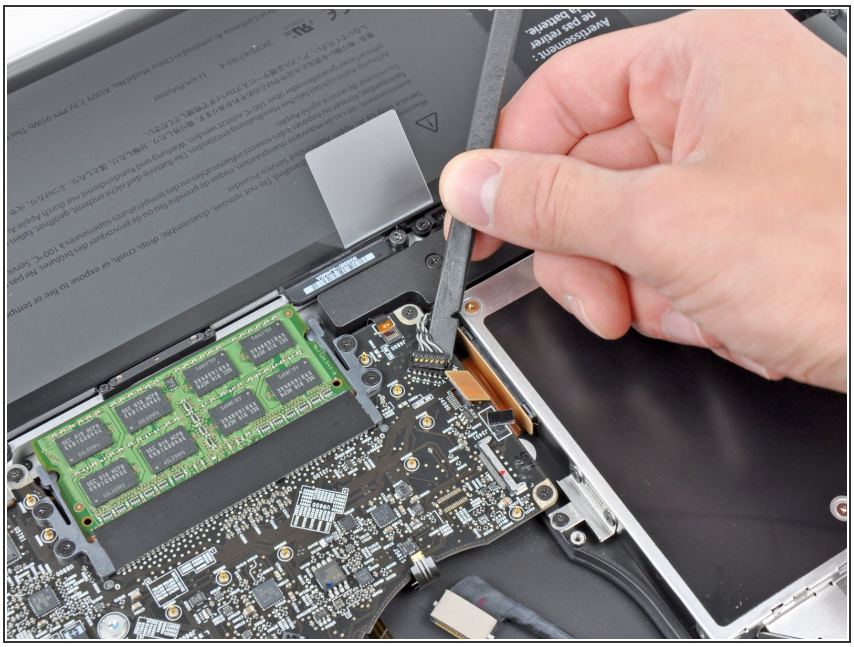
⚠ The camera cable socket is very fragile. Do not apply any upward force to this socket, as it may break off the logic board. Pull the camera cable parallel to the face of the logic board.

Step 12



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

Step 13



- Use the flat end of a spudger to lift the subwoofer & right speaker connector out of its socket on the logic board.

Pry up from beneath the wires.

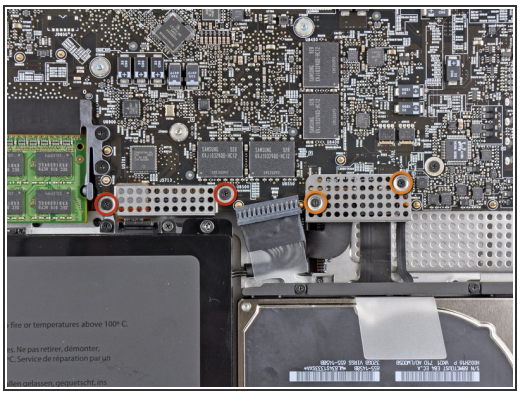
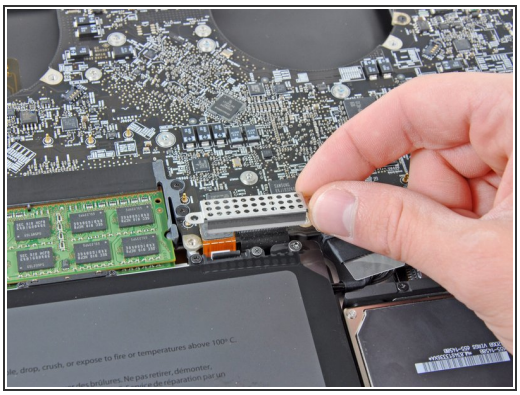
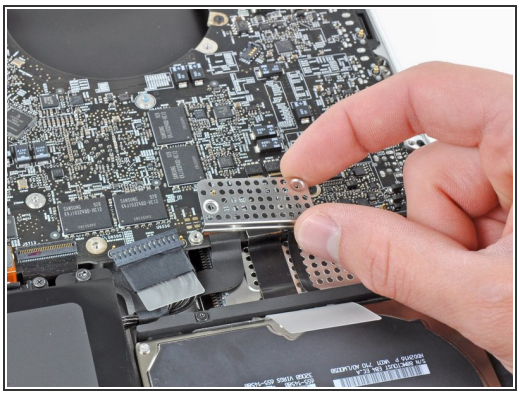
Step 14

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

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

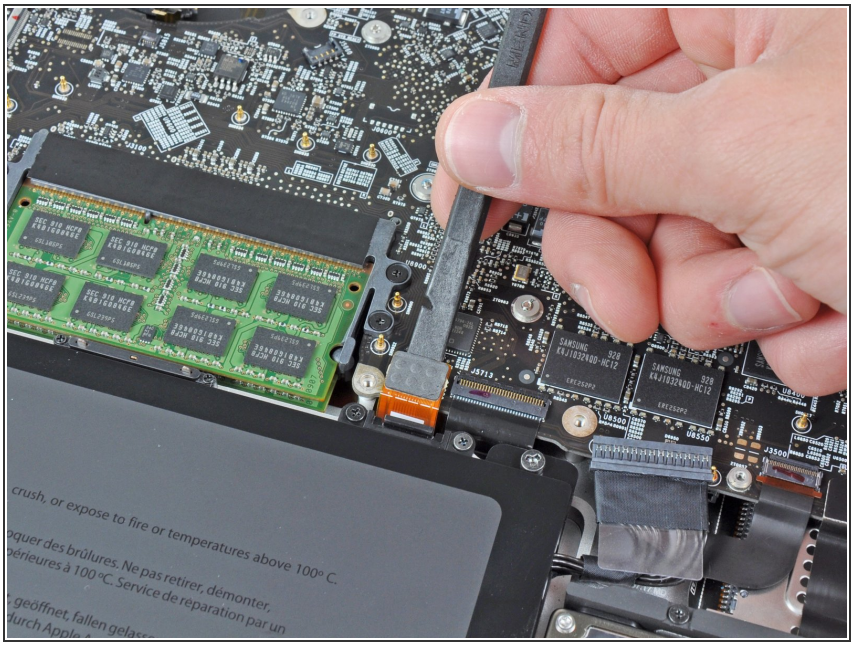
- Pull the IR sensor ribbon cable out of its socket.

Step 15

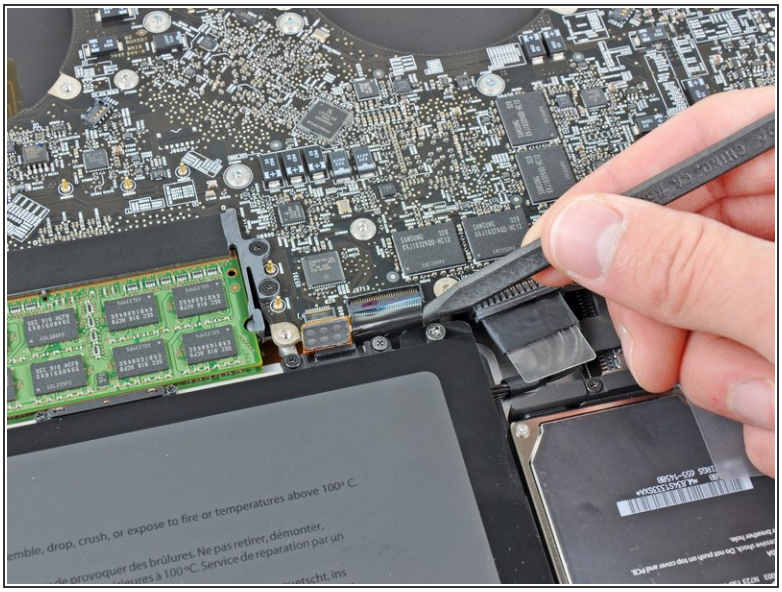
- Remove the following four screws:
  - Two 3.5 mm Phillips screws
    - These may be T5 Torx screws in the Early 2011 model
  - Two 1.6 mm Phillips screws
- Remove both connector shields from the logic board.

Step 16



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

Step 17



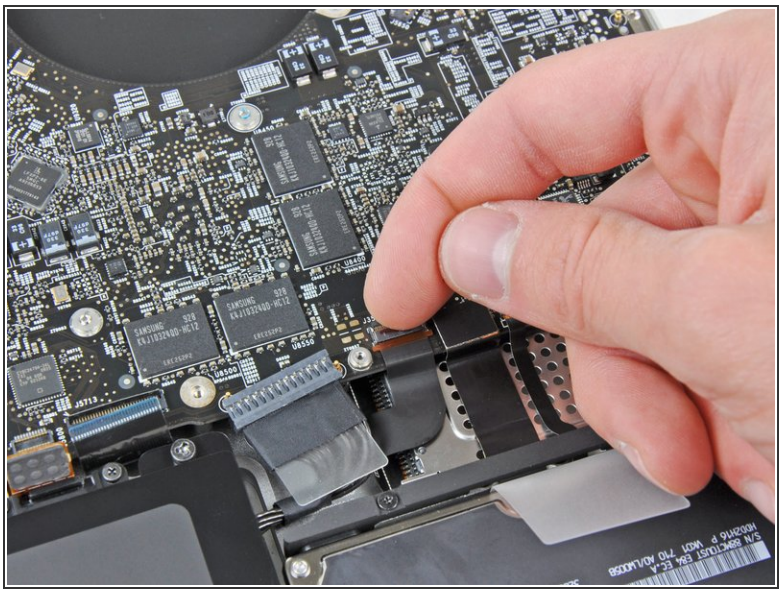
- Use your fingernail to flip up the retaining flap on the keyboard ribbon cable socket.

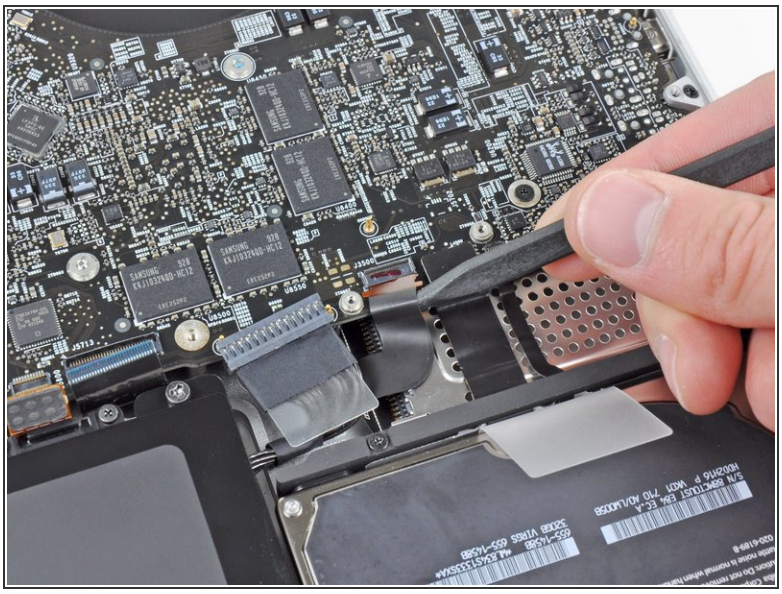
⚠ Be sure you are prying up on the retaining flap, **not** the socket itself.

- Pull the keyboard ribbon cable out of its socket.

For reassembly, it can be helpful to put a small piece of tape on the keyboard ribbon cable (being careful not to stick any to the contacts), to create a small handle. Align the cable with the socket and gently pull with the tape to fully seat it.

Step 18



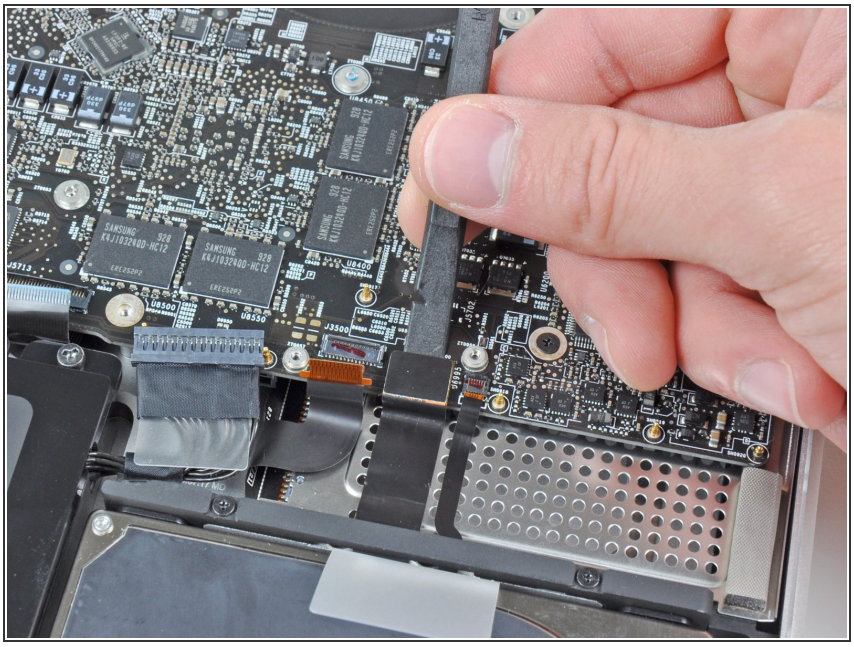


- Use your fingernail to flip up the retaining flap on the express card cage ribbon cable socket.

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

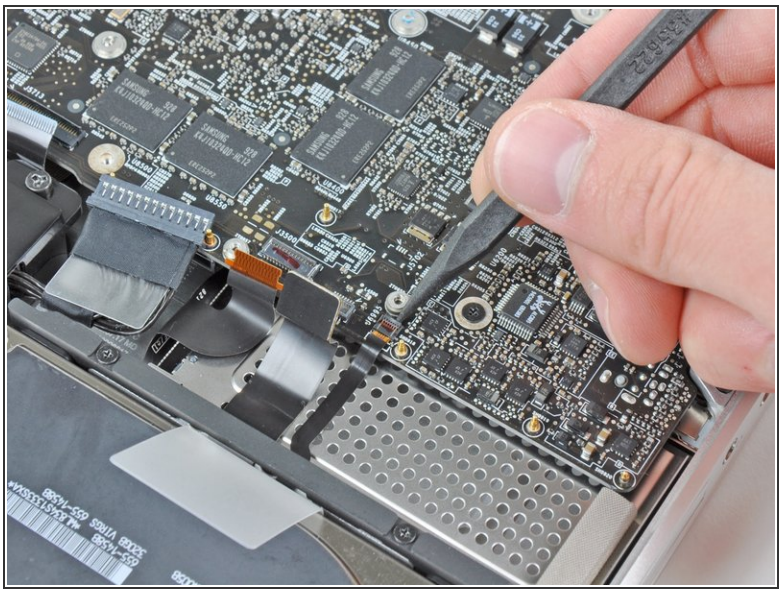
- Pull the express card cage ribbon cable out of its socket.

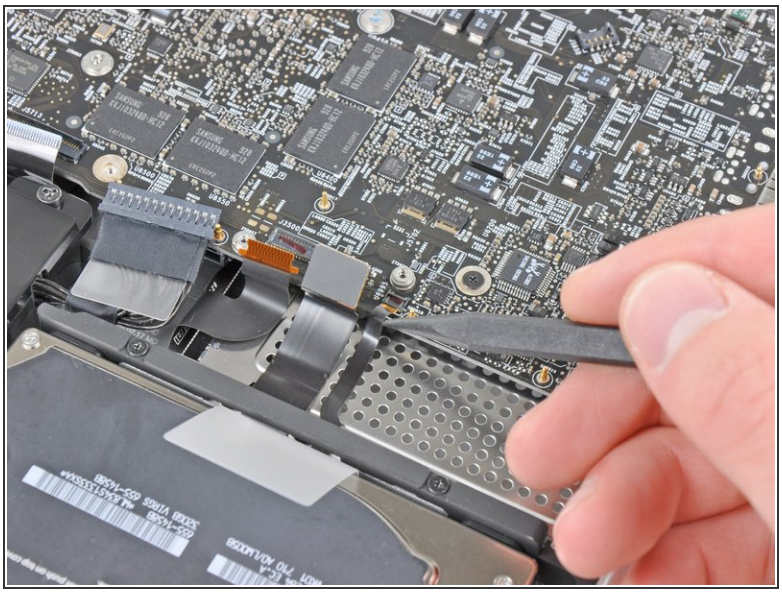
Step 19



- Use the flat end of a spudger to lift the hard drive cable connector up and out of its socket on the logic board.

Step 20



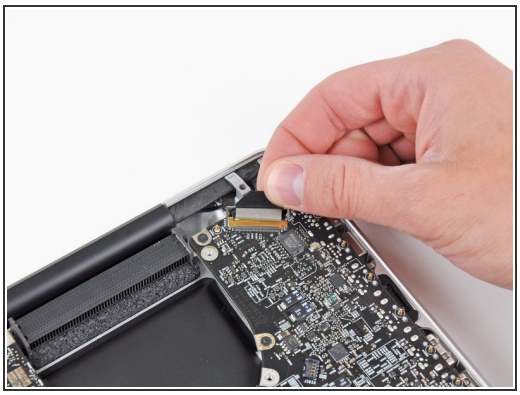
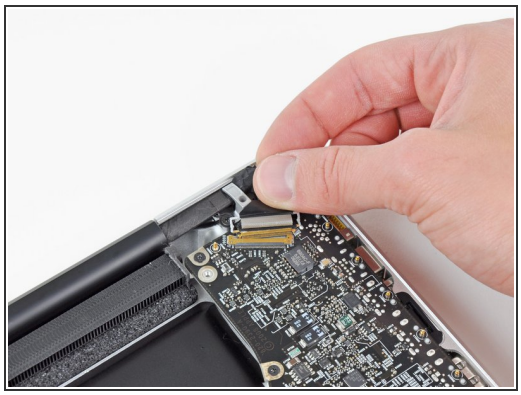


- Use the tip of a spudger or your fingernail to flip up the retaining flap on the battery indicator cable socket.

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

- Pull the battery indicator ribbon cable out of its socket.

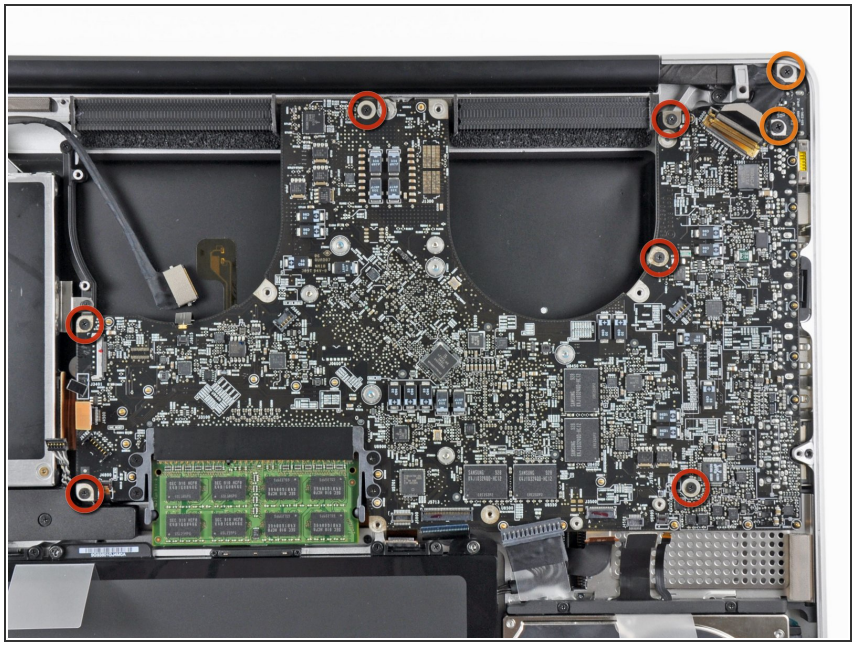
Step 21

- Lift the black plastic flap attached to the display data cable retainer and rotate it toward the DC-In side of the MacBook.
- Pull the display data cable out of its socket.

⚠ The display data cable socket is very fragile. **Do not** lift the connector upward as you disconnect it, as the socket may break off the logic board. Pull the cable parallel to the face of the logic board.

Step 22



- Remove the following eight screws securing the logic board and DC-In board to the upper case:
  - Six 3.2 mm Phillips screws
    - ⓘ These may be T6 Torx screws on the Early 2011 model.
  - Two 7.6 mm Phillips screws

Step 23

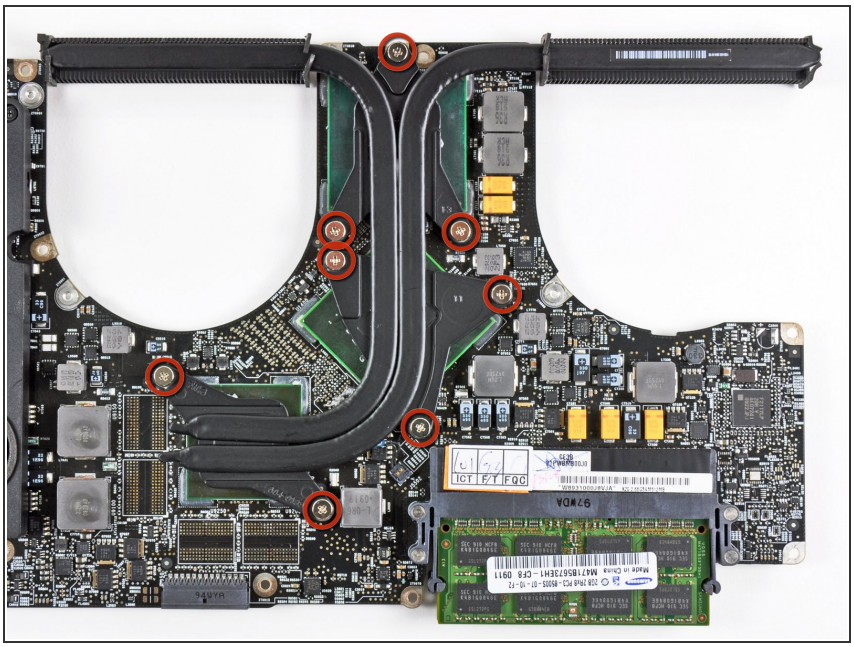
⚠ Handle the logic board assembly by its edges only.

- Lift the logic board assembly from the side nearest the optical drive and lift it away from the upper case.

  ⓘ Note that you'll be removing the logic board and DC-in board together.

- Carefully pull the ports and DC-In board away from the side of the upper case and remove the logic board assembly, minding any cables that may get caught.

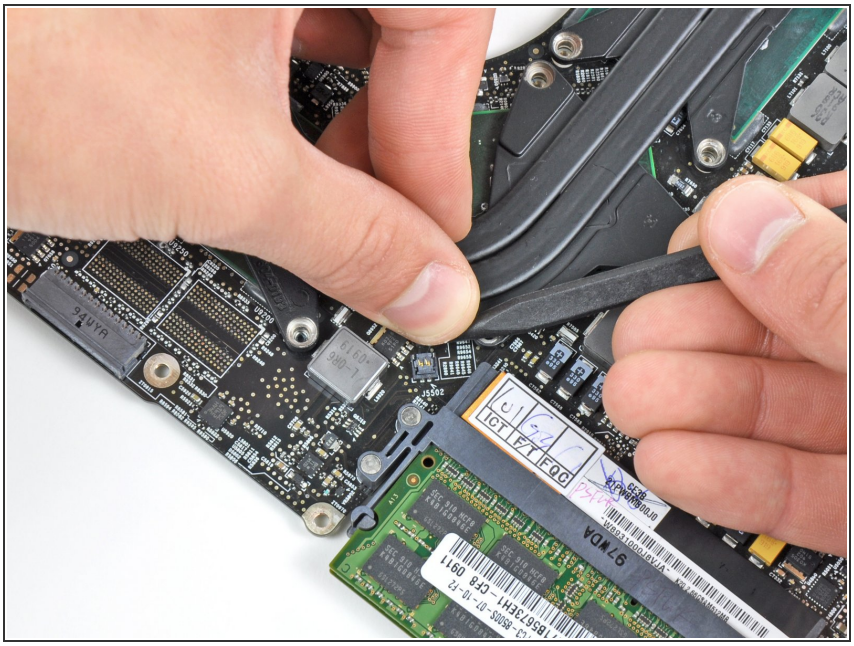
Step 24 — Heat Sink



- Remove the eight 8.3 mm Phillips screws securing the heat sink to the logic board.

Be sure to keep track of the springs held under each of the screws.

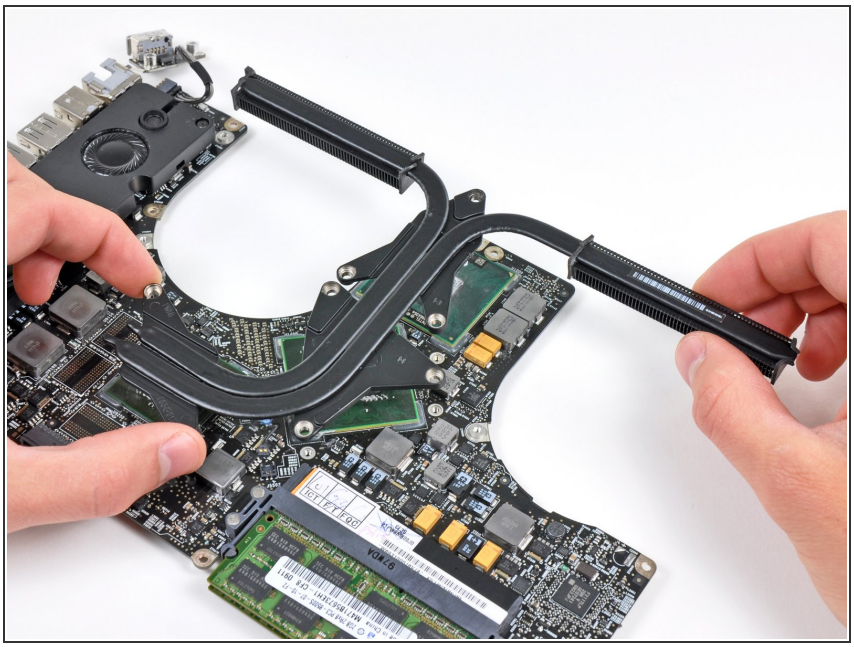
Step 25



- Squeeze the heat sink thermal sensor cable between your thumb and the tip of a spudger.
- Lift the spudger upward to lift the thermal sensor connector out of its socket on the logic board.

The early 2011 model may not have a thermal sensor connector.

Step 26

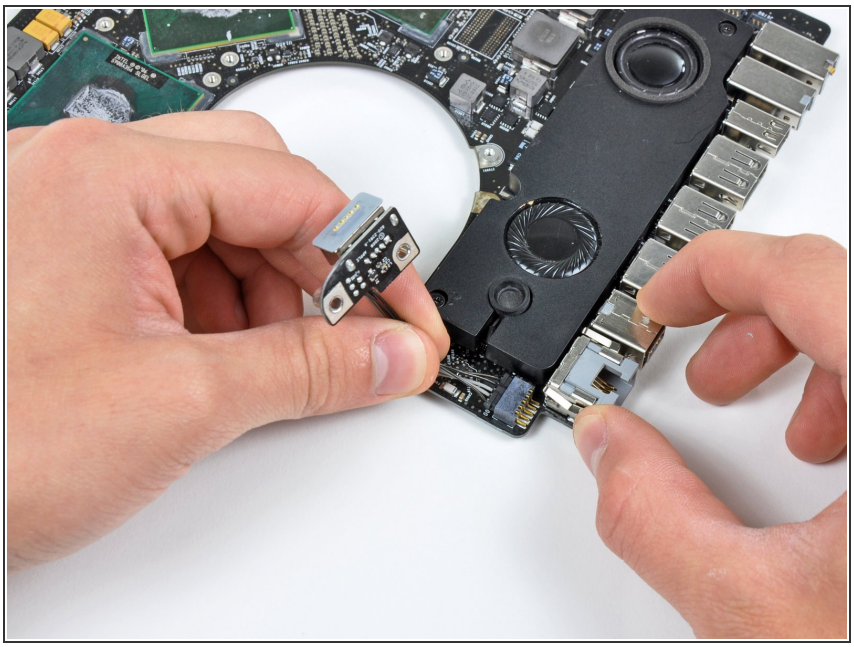


- Remove the heat sink from the logic board.

If the heat sink appears to be stuck to the logic board after removing all eight screws, it may be helpful to use a spudger to separate the two components.

If you need to mount the heat sink back onto the logic board, we have a thermal paste guide that makes replacing the thermal compound easy.

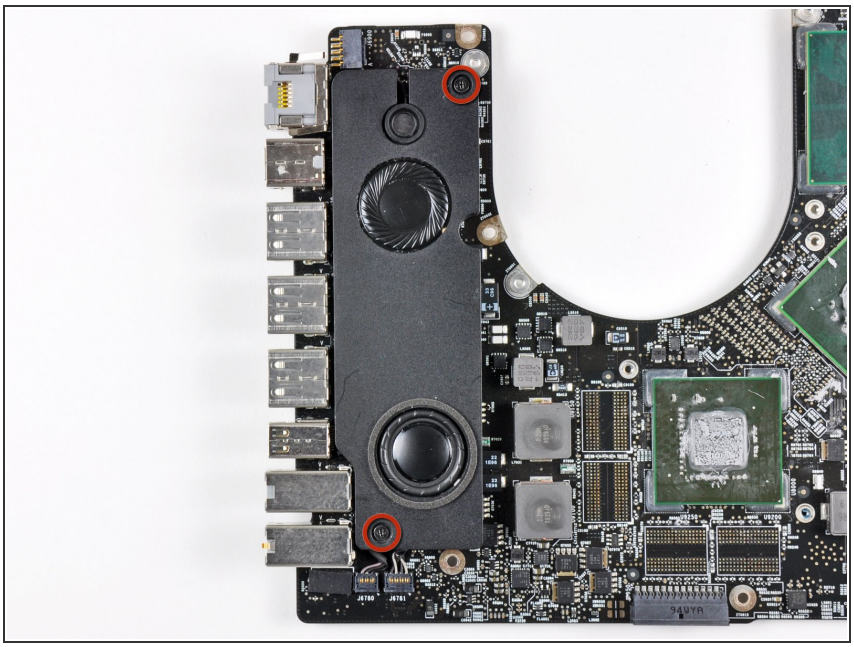
Step 27 — Logic Board



- Pull the DC-In board connector out of its socket on the logic board.

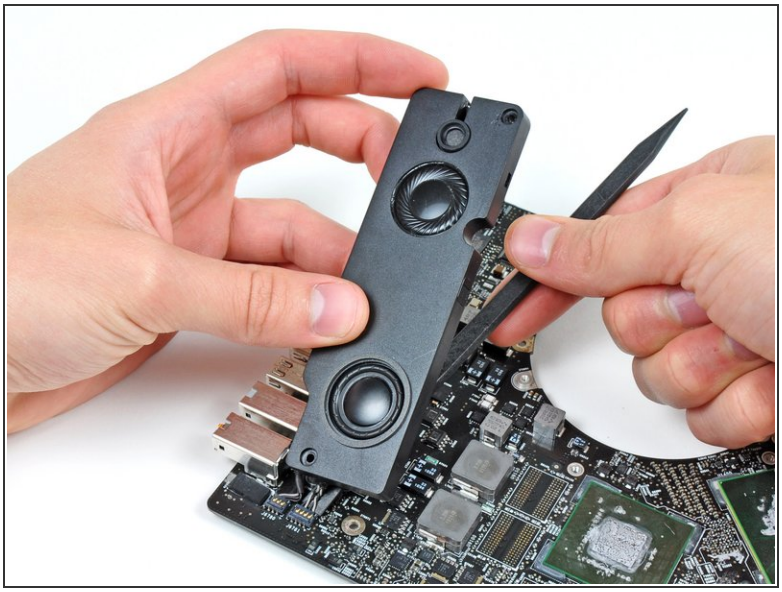
Pull the cables parallel to the face of the logic board toward the heat sink.

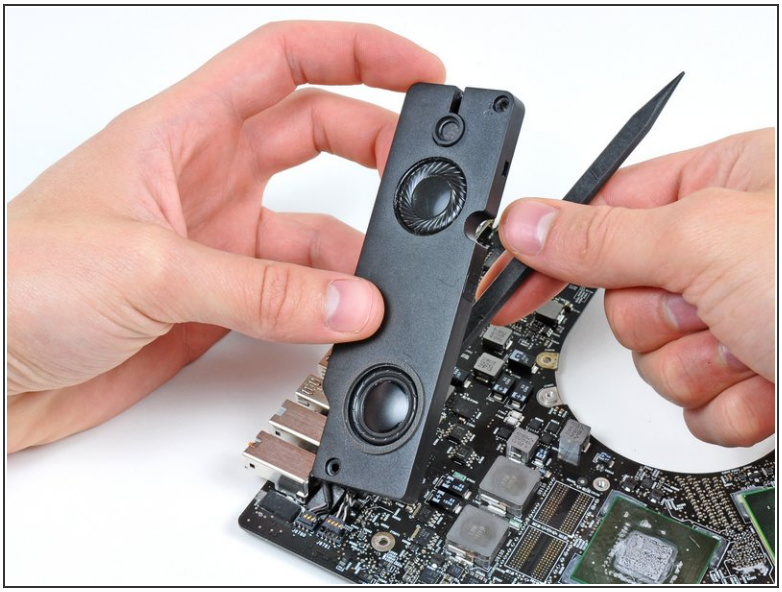
Step 28



- Remove the two 7.9 mm Phillips screws securing the left speaker to the logic board.

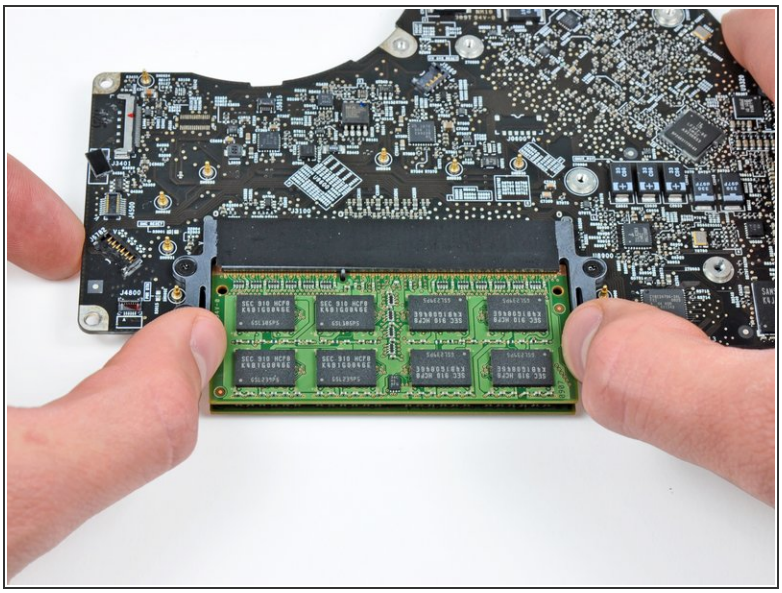
Step 29

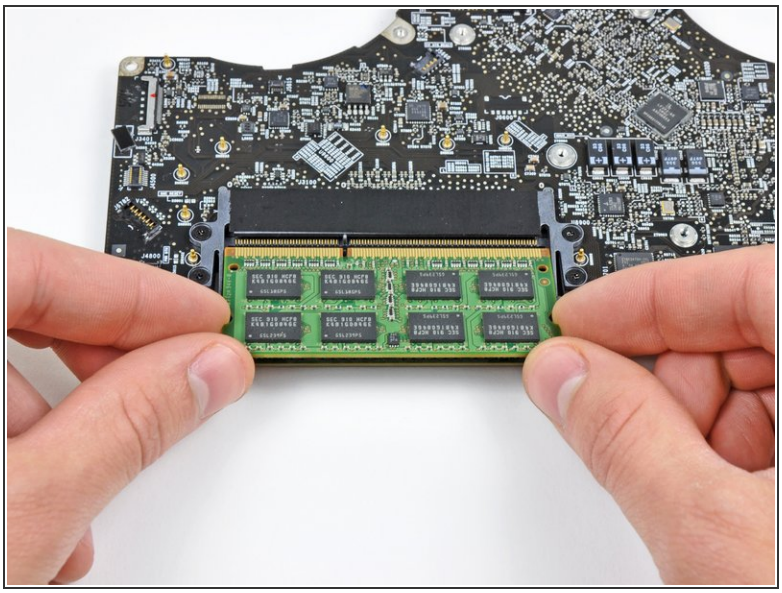




- Slightly lift the left speaker assembly away from the logic board.
- Use the flat end of a spudger to lift the left speaker and microphone connectors out of their sockets on the logic board.

Step 30





- Release the tabs on each side of the RAM chip by simultaneously pushing each tab away from the RAM.

These tabs lock the chip in place and releasing them will cause the chip to "pop" up.

- After the RAM chip has popped up, pull it straight out of its socket.

Repeat this process if a second RAM chip is installed.

- Logic board remains.

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

