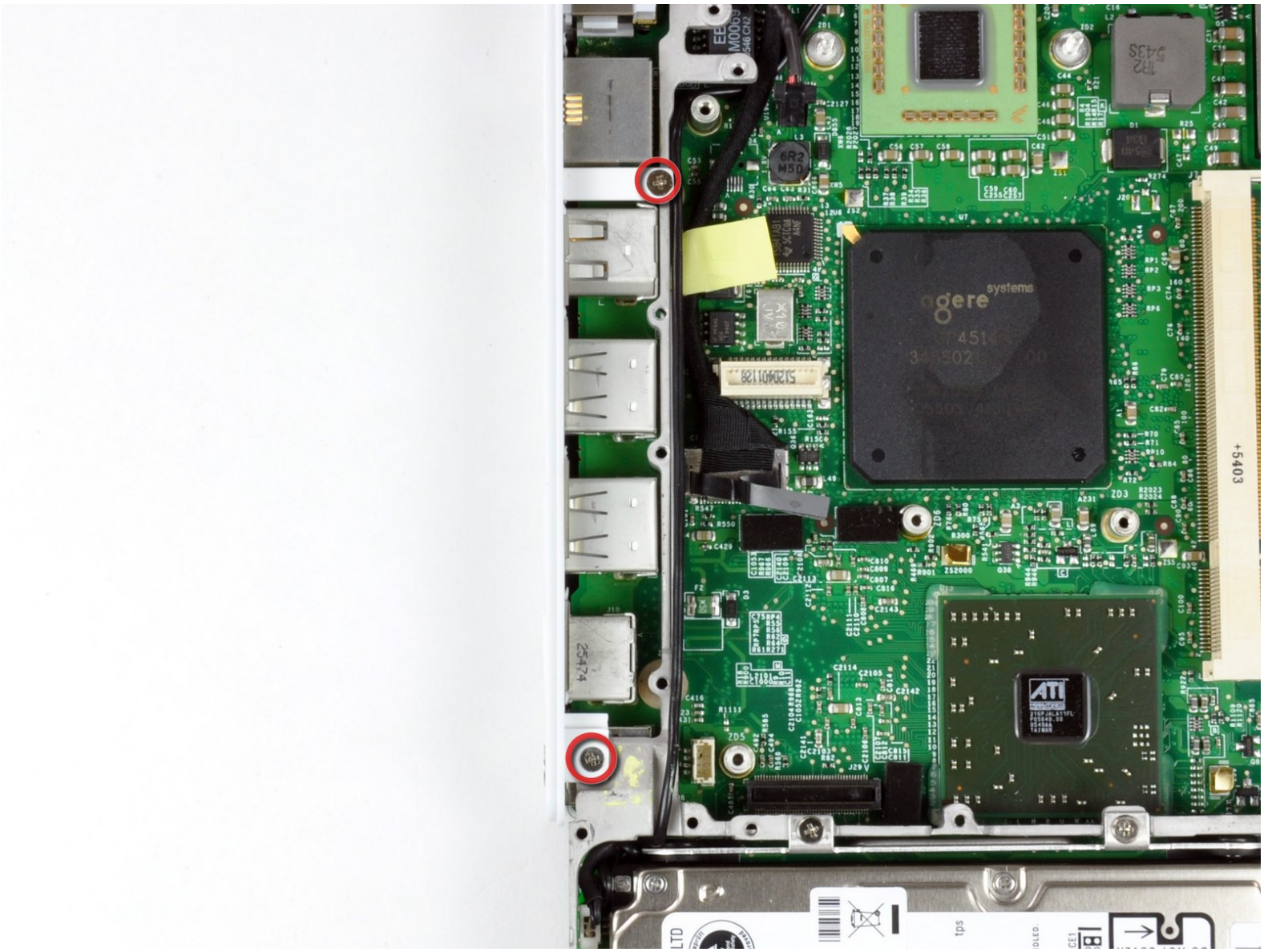
iBook G4 14" 1.42 GHz Logic Board Replacement

Written By: Dozuki System



INTRODUCTION

The motherboard includes all ports except the DC-In board.

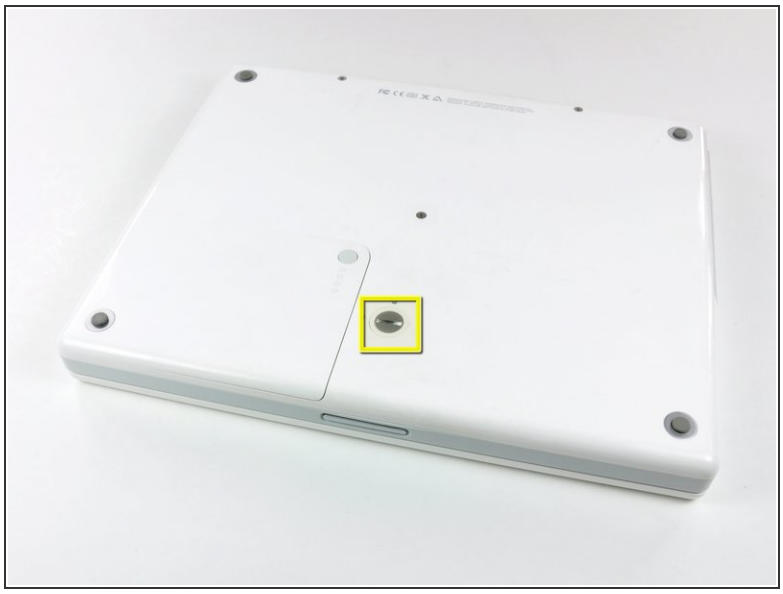
TOOLS:

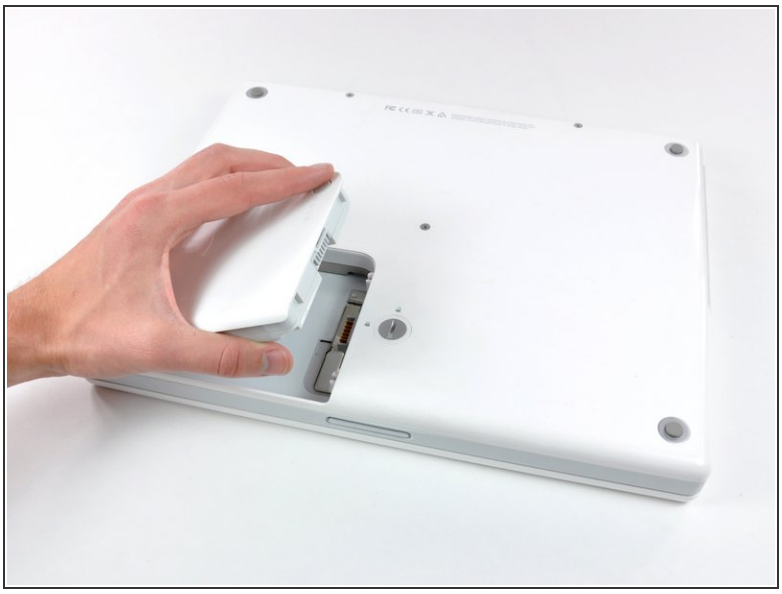
- 4mm Nut Driver (1)
- Anti-Static Wrist Strap (1)
- Coin (1)
- Phillips #00 Screwdriver (1)
- Flathead 3/32" or 2.5 mm Screwdriver (1)
- Spudger (1)
- T8 Torx Screwdriver (1)

PARTS:

- iBook G4 14" 1.42 GHz Logic Board (1)

Step 1 — iBook G4 14" 1.42 GHz Logic Board Replacement





- Use a coin to rotate the battery locking screw 90 degrees clockwise.
- Lift the battery out of the computer.

Step 2

- Pull the keyboard release tabs (shown in yellow) toward you and lift up on the keyboard until it pops free.
- If the keyboard does not come free, use a small flathead screwdriver to turn the keyboard locking screw (shown in orange) 180 degrees in either direction and try again.
- Flip the keyboard over, away from the screen, and rest it face-down on the trackpad area.

Step 3

- Loosen the four silver Phillips screws that secure the RAM shield.

ⓘ These screws will not come out all the way. The screws are held captive to the RAM shield to prevent them from getting lost.

Step 4

- Remove the RAM shield from the computer.

ⓘ The four captive screws will come out with the RAM shield.

Step 5

- Pull the keyboard cable up from the logic board, holding the cable as close to the connector as possible.

When reassembling your iBook, make sure that you reconnect the keyboard cable before replacing the RAM shield.

Step 6

- Close the display and flip the computer over.
- Remove the three hex screws using a T8 Torx screwdriver.

The shorter screw is in the center.

Step 7

- Use a spudger or small flathead screwdriver to remove the three rubber feet from the lower case.

Step 8

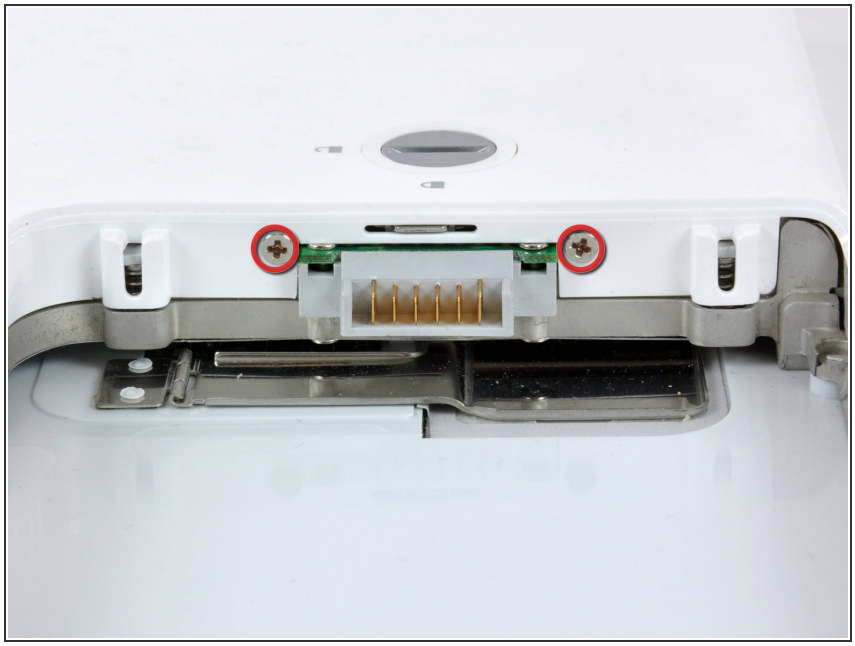
- Remove the three newly-revealed Phillips screws.

ⓘ One screw is underneath each bumper (three total).

Step 9

- Use a spudger or small flathead screwdriver to pry up the three metal rings that housed the rubber bumpers.

Step 10



- Remove the two Phillips screws on either side of the battery contacts.

Step 11

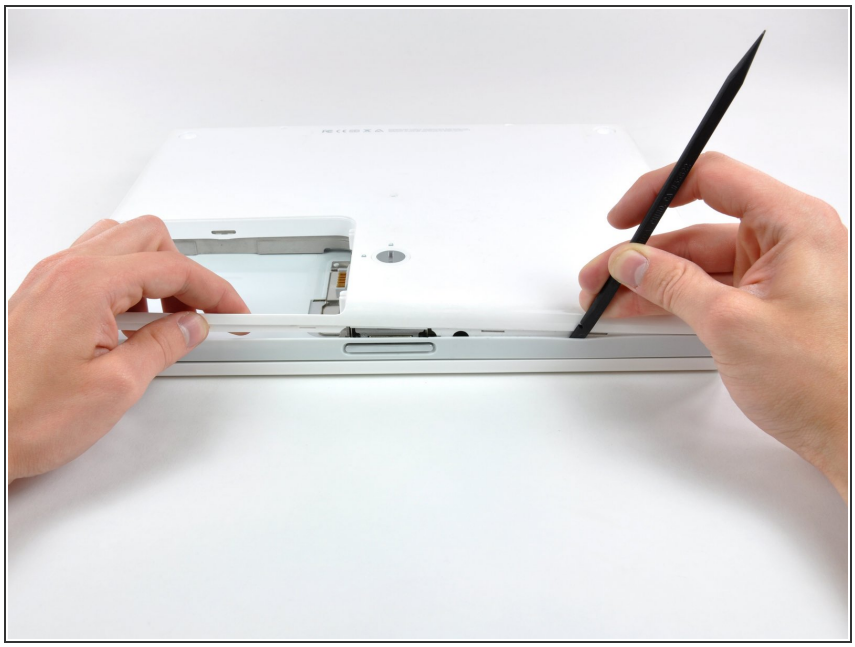
Breathe deeply. Trying times are ahead, but we promise the lower case does come off.

- Push in the thin rims of the lower case surrounding the battery compartment, bending them past the tabs, and then lift up to free that corner of the lower case.

Step 12

- There is a slot on the wall of the battery compartment that locks the lower case in place. Use a small flathead screwdriver to pry out the slot's lower rim and pull up on the lower case to free the slot from the tabs holding it.

Step 13

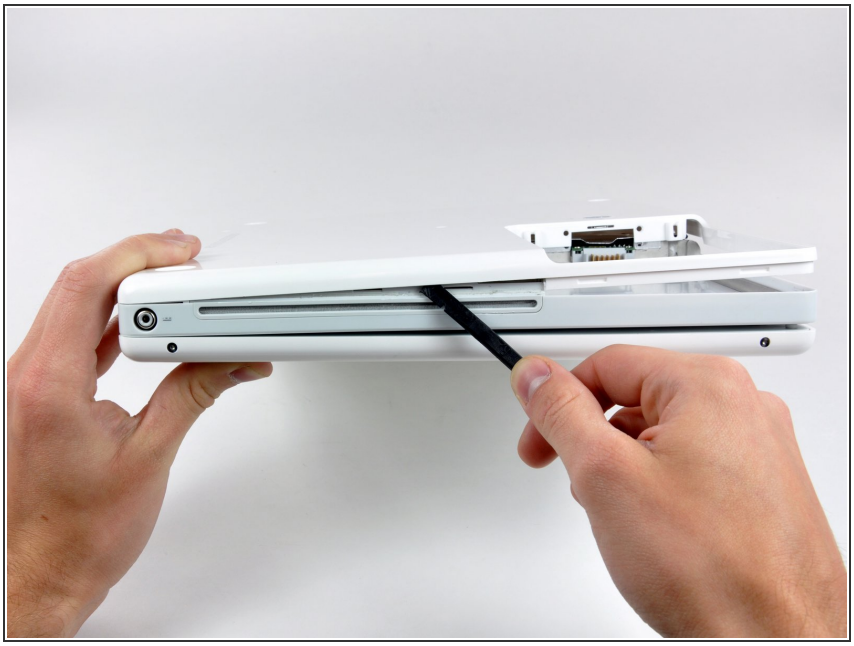


- Run a spudger along the seam between the lower case and upper case on the front of the computer to free the tabs locking the lower case. Pull up on the lower case and continue to use the spudger as necessary until you hear three distinct clicks.

Step 14

- Continue to run the spudger around the front, right corner. There are two tabs on the port side of the computer, one near the front corner and one near the sound-out port.

Step 15



- There are three tabs over the optical drive that must be released before the lower case can come off. Slide the spudger into the lower case above the optical drive and run it toward the back of the computer until you hear three distinct clicks.

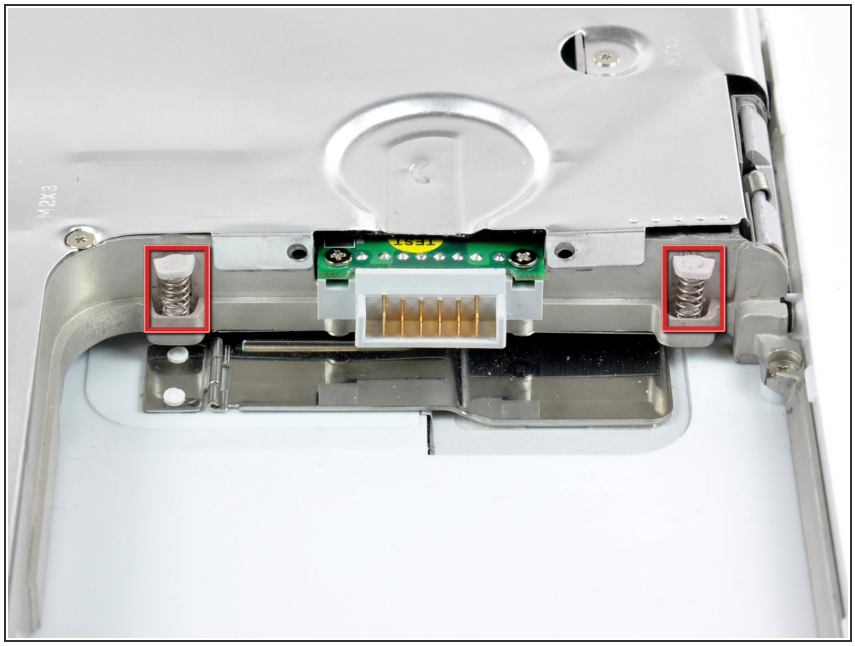
Step 16

The front and sides of the lower case are now free.

- Turn the computer so that the back is facing you and pull the lower case up and toward you until the back tabs pop free.

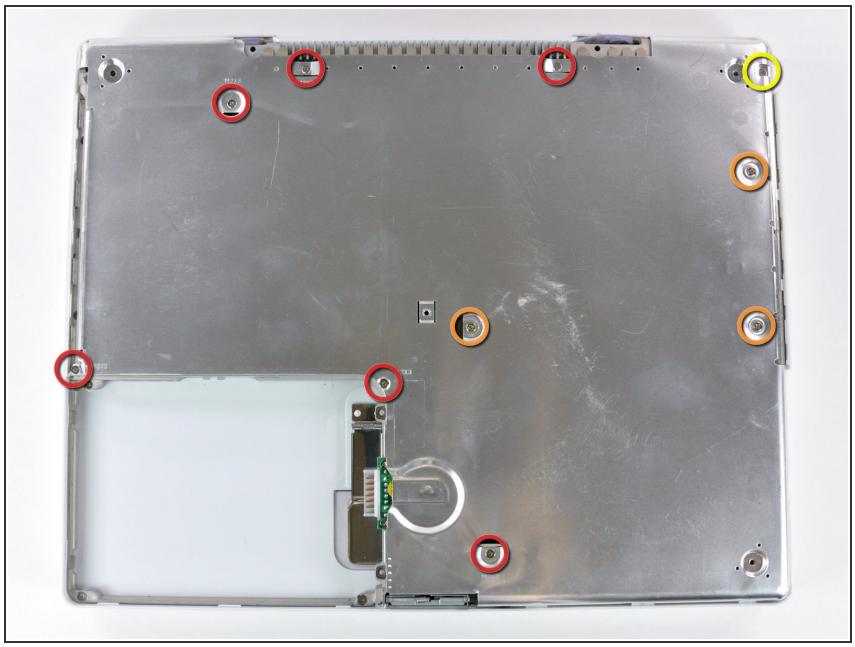
It may be helpful to jiggle the case up and down.

Step 17



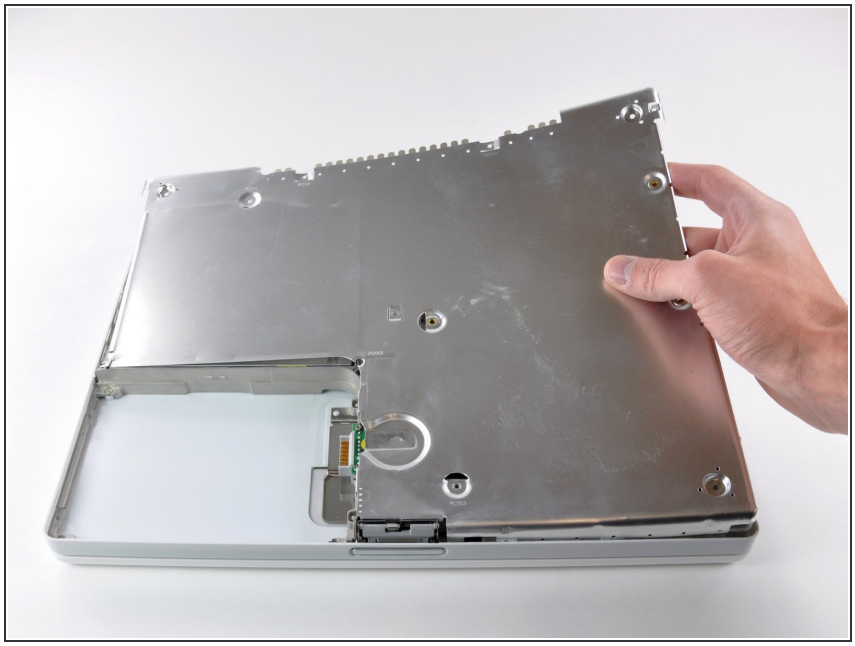
- Remove the small greasy springs with white plastic caps from either side of the battery contacts.

Step 18



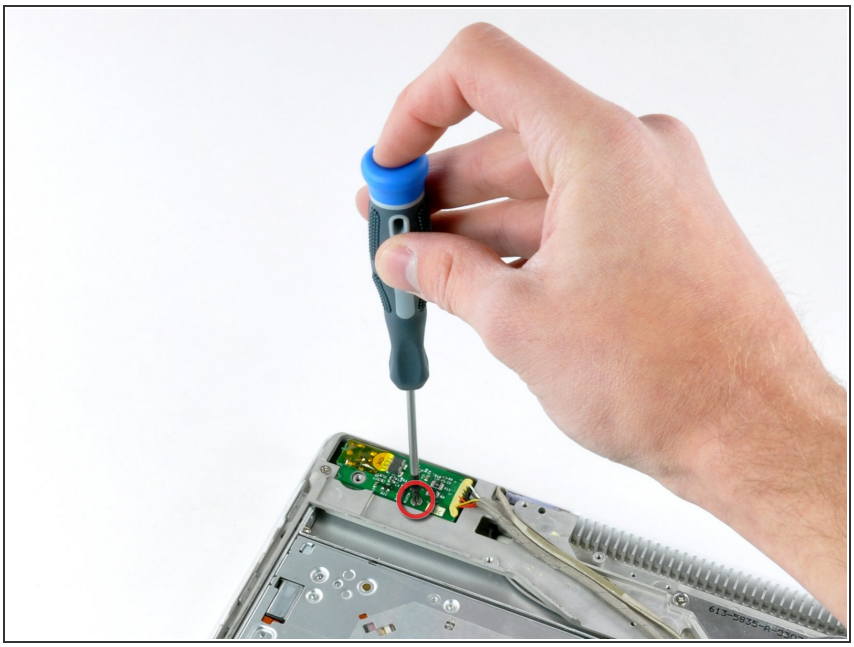
- Remove the following 10 screws from the bottom shield:
  - Six 3 mm Phillips
  - Three 7.5 mm Phillips
  - One 14 mm Phillips

Step 19



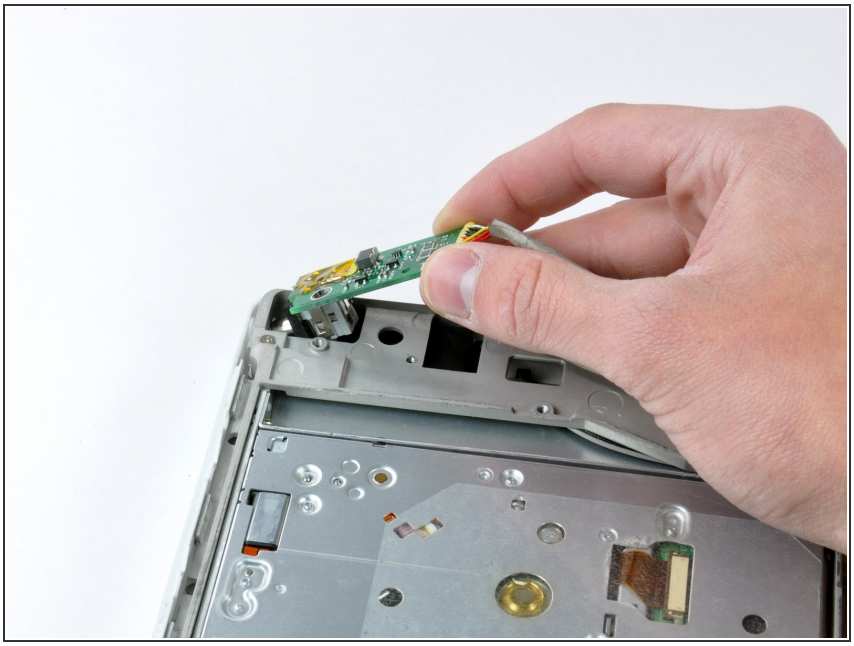
- Lift the bottom shield off.

Step 20



- Remove the single Phillips screw securing the DC-In board.

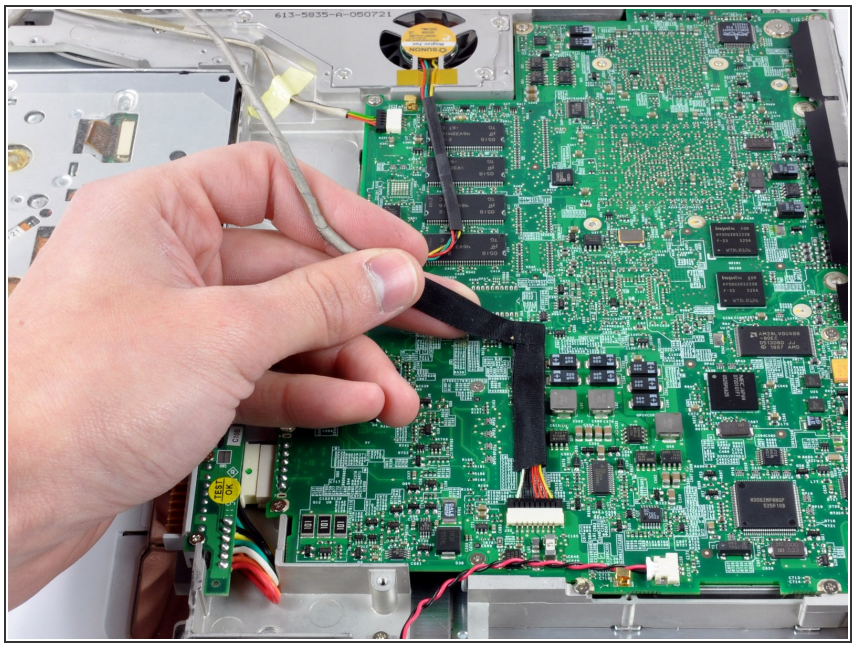
Step 21



- Angle the DC-In board out of its compartment.

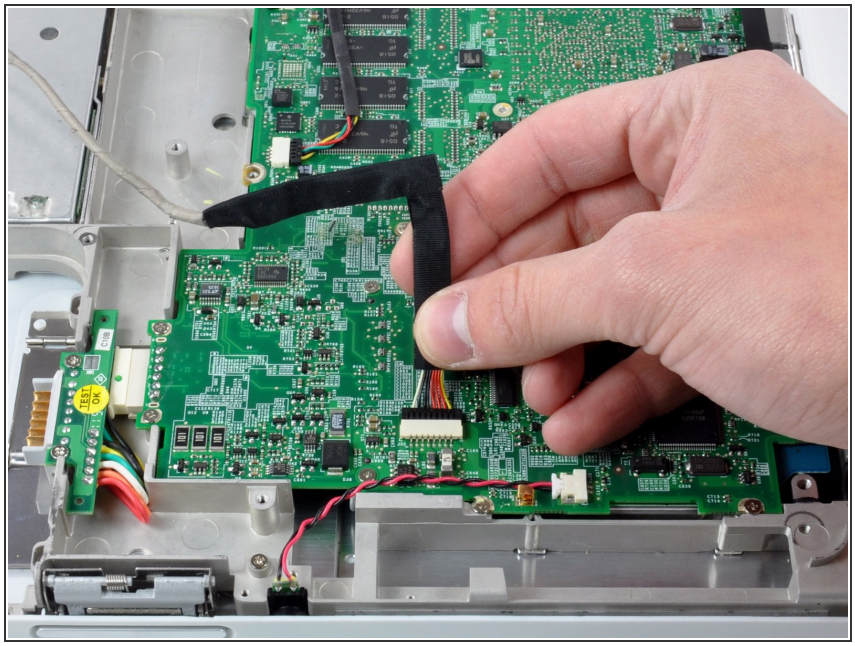
ⓘ You may need to remove tape that secures the DC-In board cable to the case.

Step 22



- Lift the DC-In cable from the adhesive attaching it to the logic board.

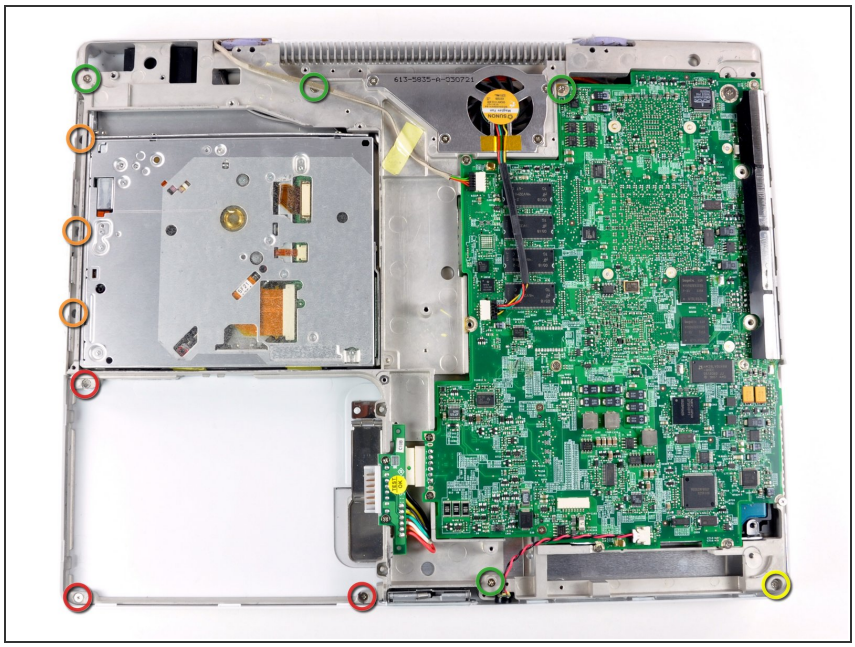
Step 23



- Disconnect the DC-In cable from the logic board.

ⓘ Wiggling the connector parallel to the surface of the logic board while applying slight tension may aid in removal.

Step 24



- Remove the following 11 screws from the bottom of the computer:
  - Three 3 mm Phillips around the battery compartment.
  - Three 4.5 mm Phillips along the optical drive bezel. (a magnetic screwdriver may help to lift these screws out)
  - One 12 mm Phillips in the lower right corner.
  - Four 14.5 mm Phillips.

Step 25

We recommend placing the computer on a soft cloth from this point on to prevent damaging the logic board.

- Turn over the computer and open it.
- Remove the 3 Phillips screws from the edges of the keyboard area.

The shorter screw goes in the lower left corner. The left corner is indicated by a blue "L" in the photograph and is on the right side.

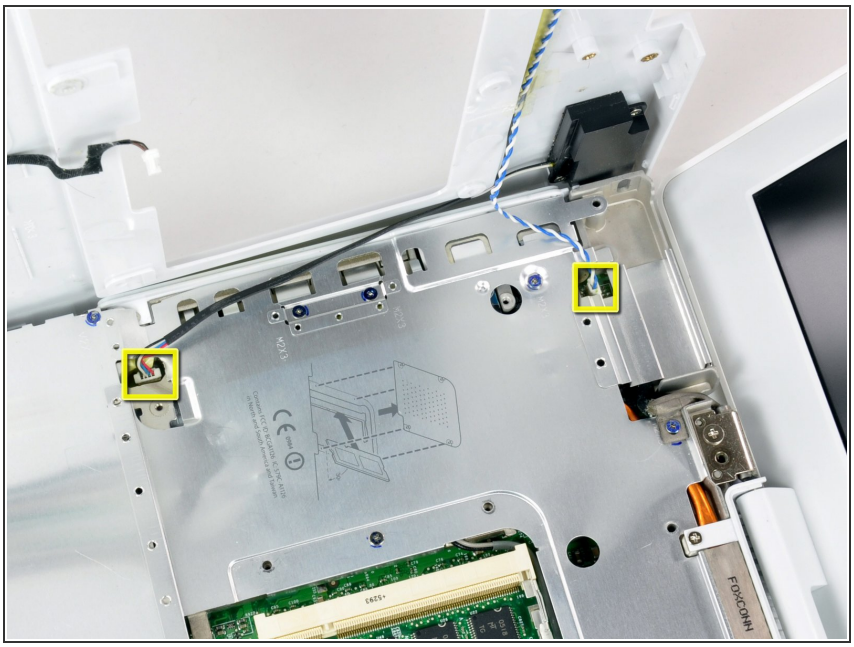
Step 26

Be especially careful while disconnecting the cables in the forthcoming steps. Never pull directly on the cables, but use a spudger to pry up the connector directly from its socket.

- Lift the upper case and use a spudger or your finger to disconnect the trackpad connector hidden beneath the white plastic tab.

Be careful while lifting the upper case, as its tabs are still hanging on the metal frame.

Step 27

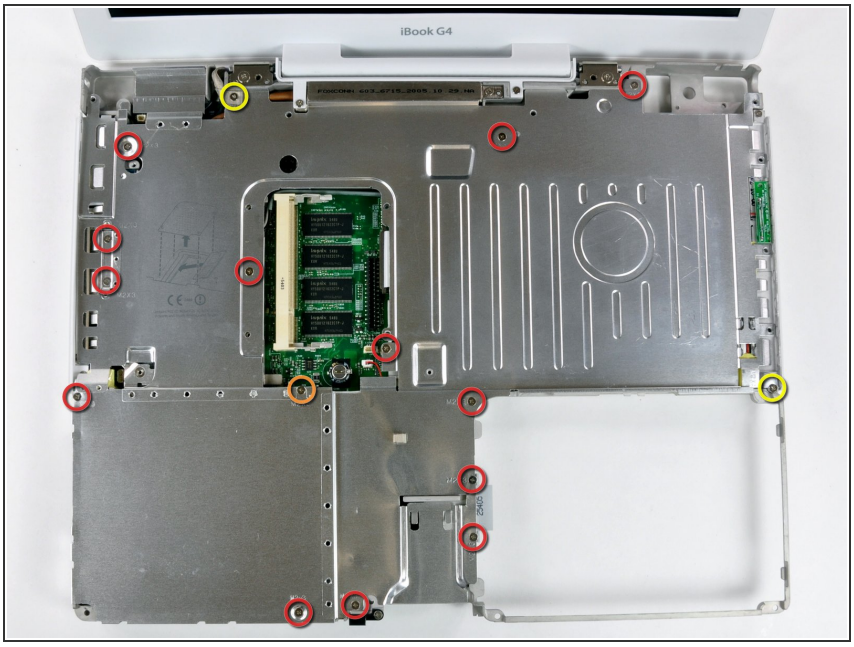


The sockets attached to the motherboards of most iBooks are very weak and easily broken. Use extreme caution when pulling connectors out of their sockets.

- Lift the upper case enough to disconnect the blue and white power cable from the logic board. Using your fingernails, carefully pry the connector from its socket.

- Carefully disconnect the multicolored speaker cable from the logic board in the same fashion.

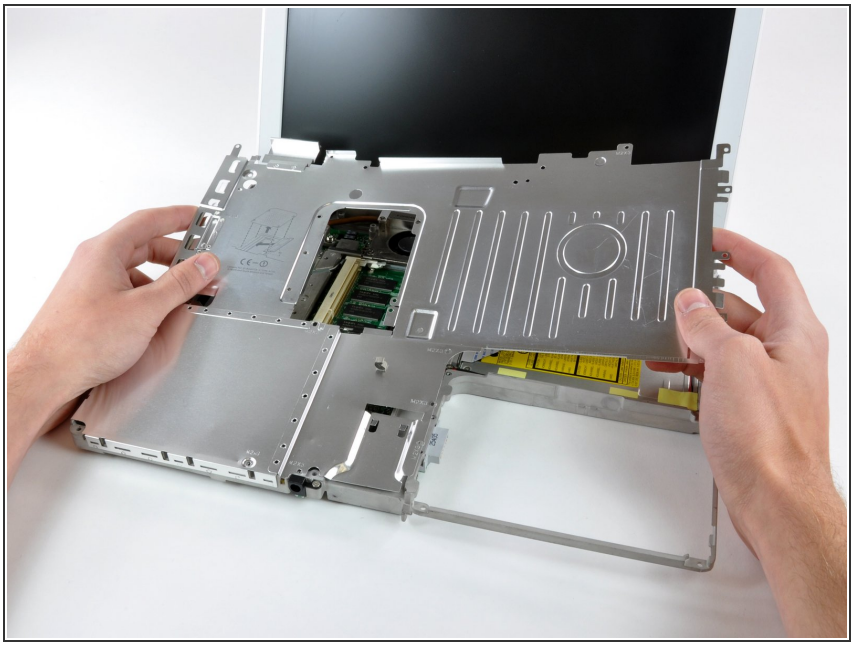
Step 28



- Remove the following 16 screws:
  - Thirteen 3 mm Phillips.
  - One 3 mm Phillips.
  - Two 4 mm Phillips.

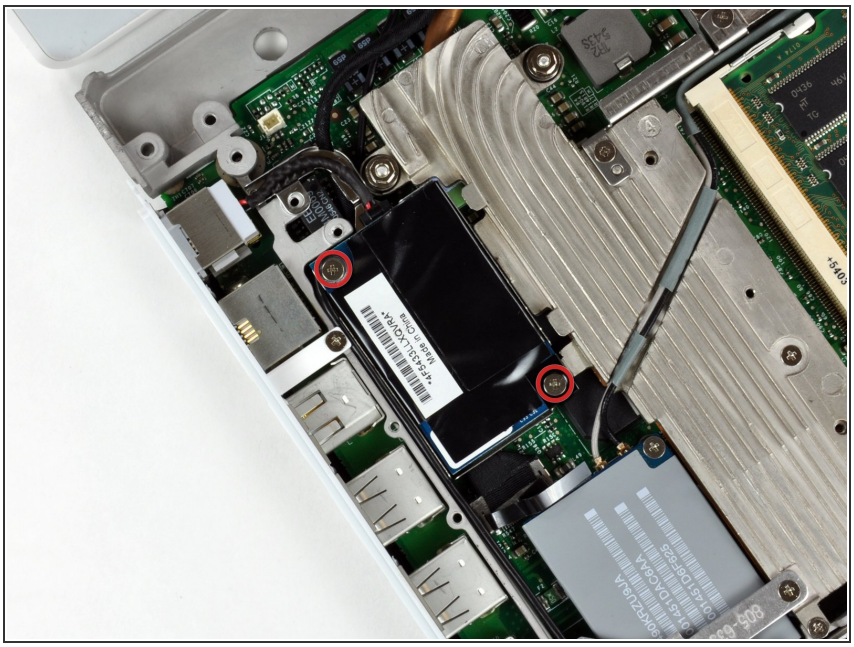
During reassembly, be sure to fit the screw near the left hinge through the loop in the display data cable, securing the cable to the upper case.

Step 29



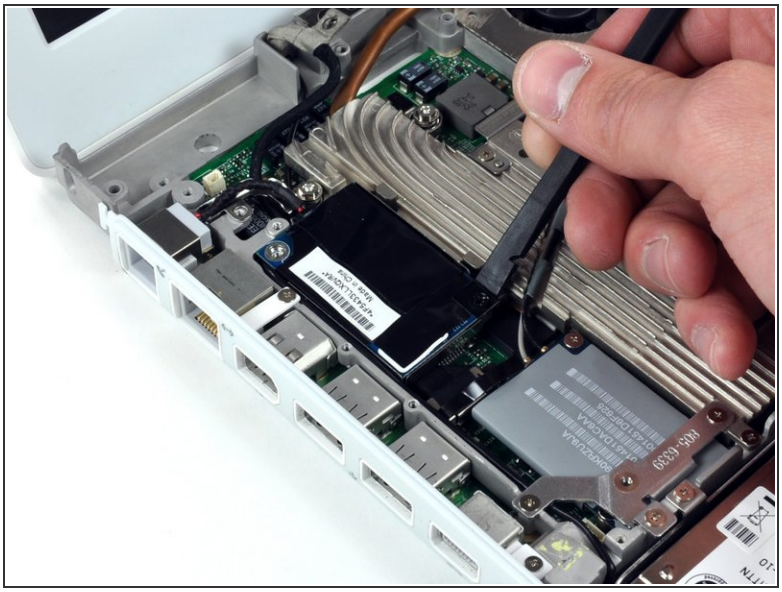
- Lift the top shield up from the right side, minding the upper left corner which may catch on the metal framework.

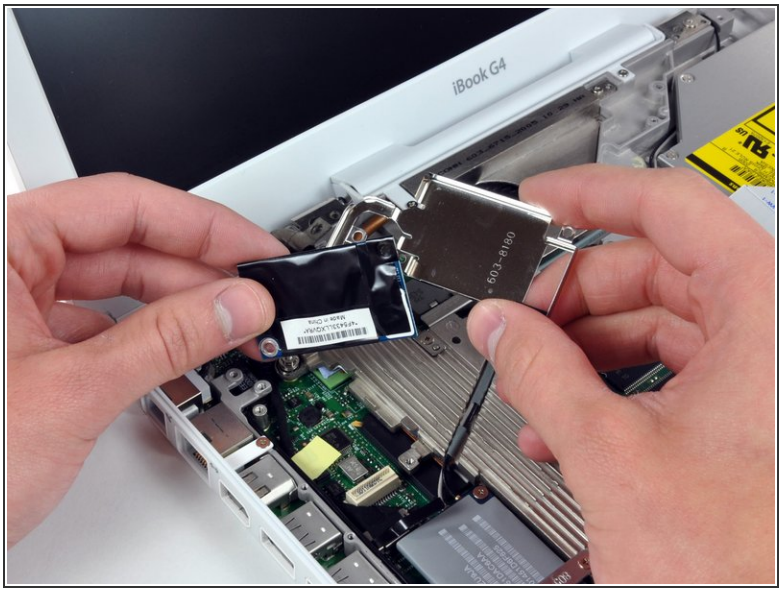
Step 30



- Remove the two Phillips screws at the corners of the modem.
- Remove the two Phillips screws at the corners of the modem.

Step 31





- Use a spudger to pry the modem up from the end nearest the AirPort card to separate its connector from a socket on the logic board.

ⓘ Be sure to pry only against the heat sink or the metal framework.

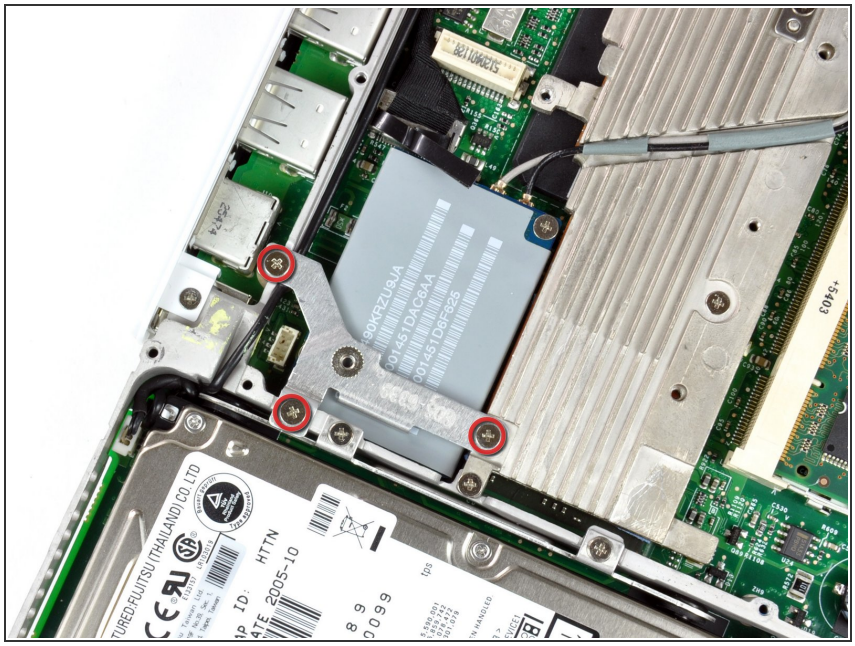
- Use your hands to seperate the modem from the modem shield.

Step 32

- Disconnect the RJ-11 cable from the end of the modem.

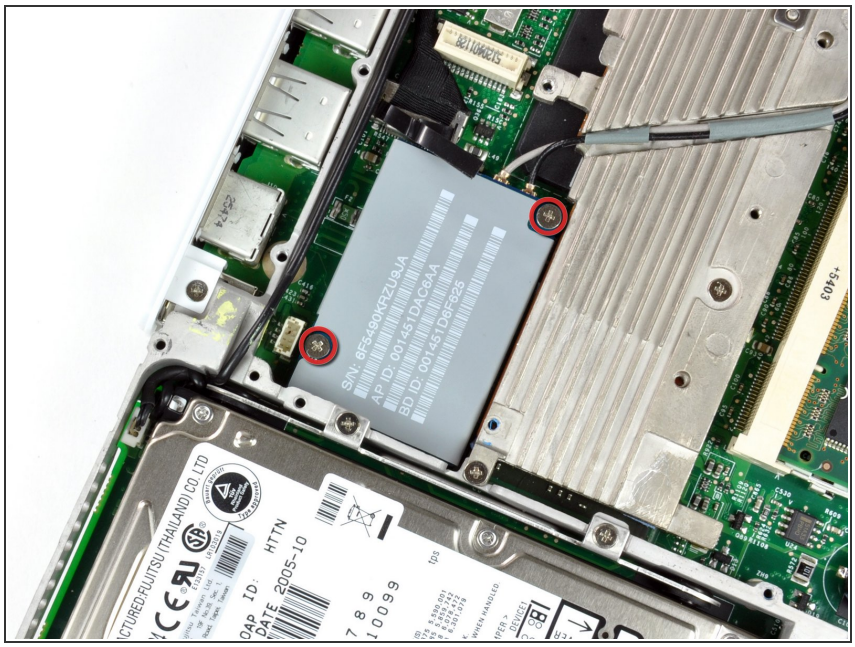
When replacing the modem, first make sure that both the microphone and display data cables are routed beneath where the modem lies.

Step 33



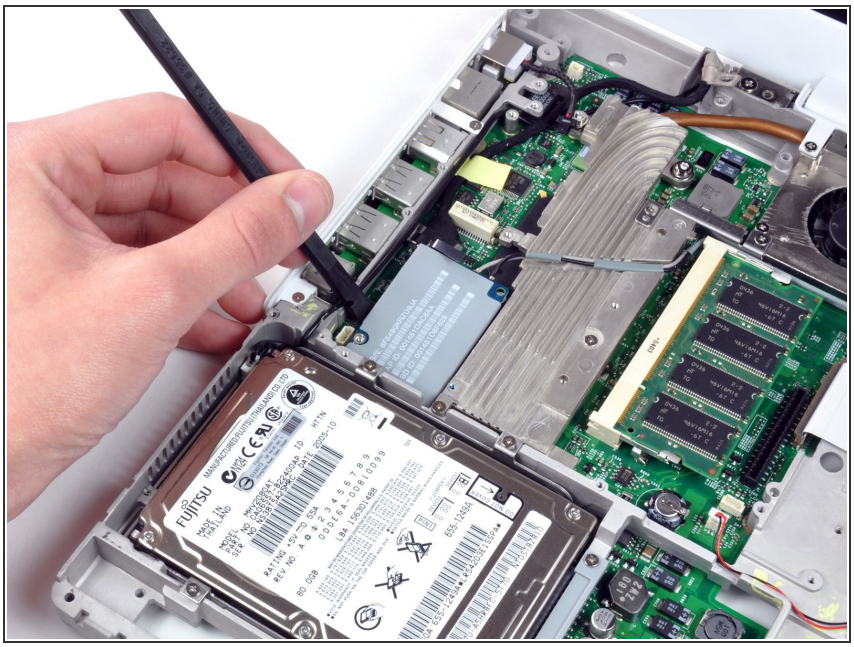
- Remove the three 3 mm Phillips screws securing the AirPort card bracket to the metal framework.
- Lift the AirPort card retaining bracket up and out of the computer.

Step 34



- Remove the two 3 mm Phillips screws securing the AirPort card to the logic board.

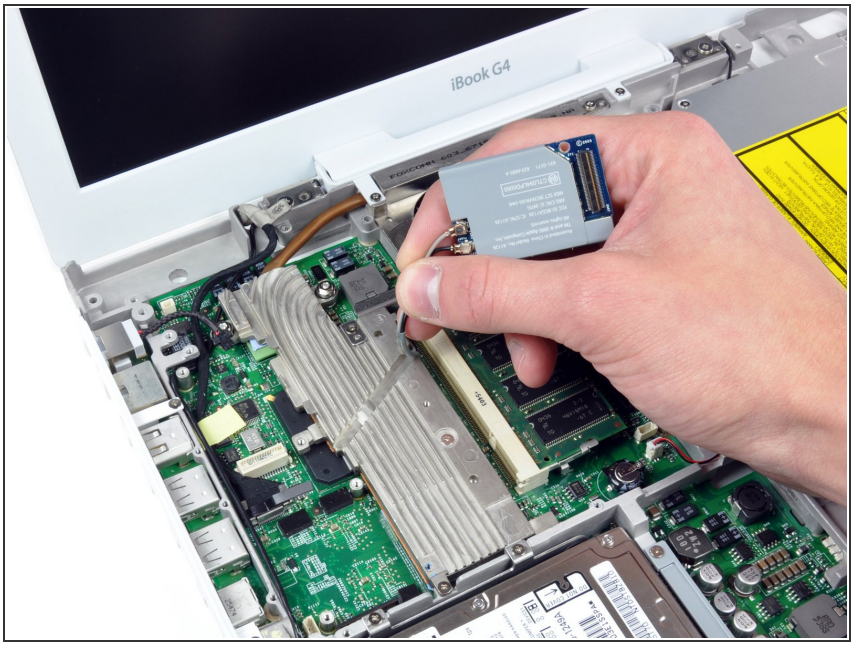
Step 35



- Using a spudger, pry up on the AirPort card from the end nearest the hard drive to separate the connector from its socket on the logic board.

ⓘ Pry only between the metal framework and the AirPort card.

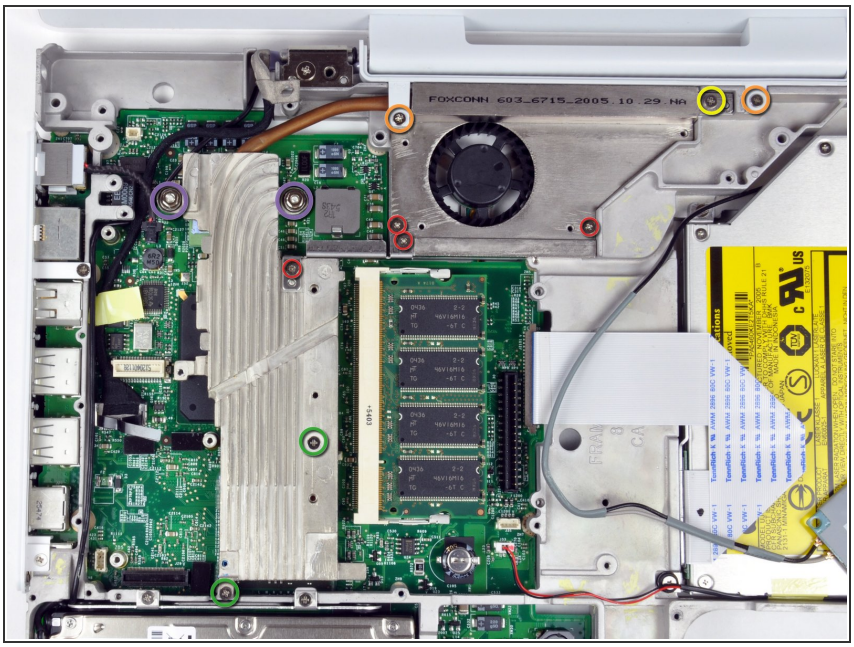
Step 36



- De-route the AirPort antenna cables from above the heat sink and lay them aside.

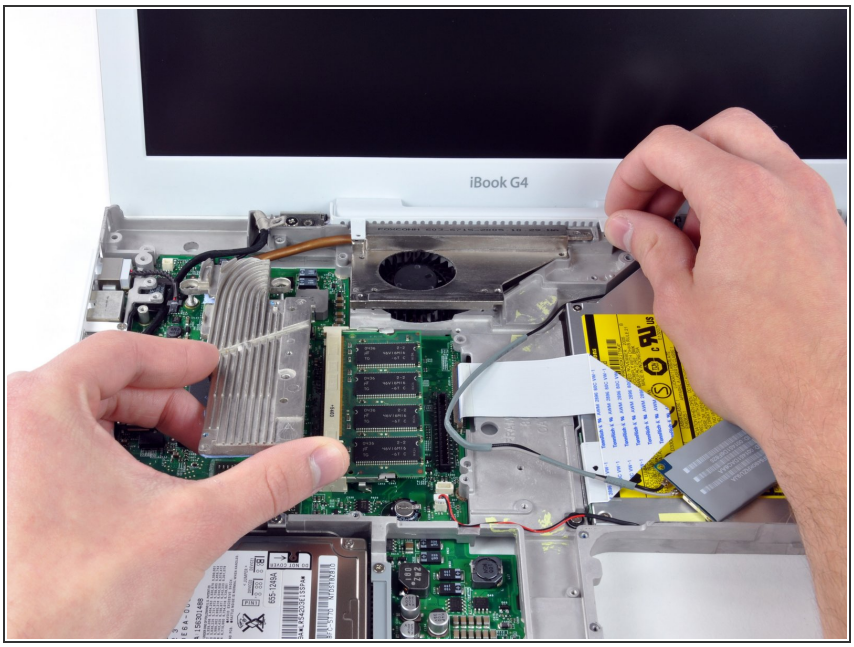
ⓘ It is not essential to disconnect the antenna cables from the AirPort card.

Step 37



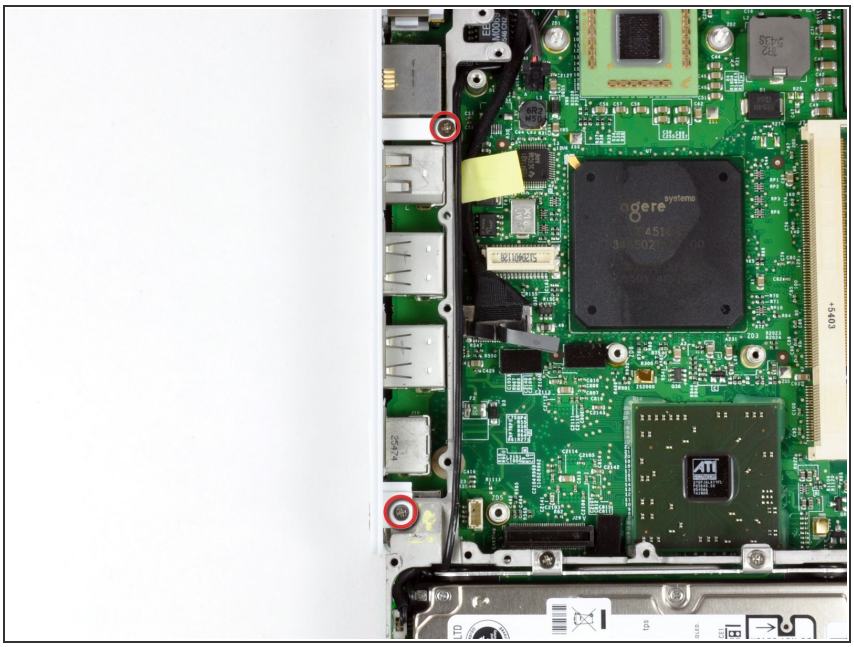
- Remove the following 9 screws and 2 nuts from the heat sink:
  - Four 3 mm Phillips from around the fan and the heat sink bracket. The bracket can also be removed at this point.
  - One 11.5 mm (left) and one 4.5 mm (right) Phillips from the plastic fingers of the hinge grill.
  - One 4.5 mm Phillips at the top right corner of the heat sink.
  - Two 6 mm Phillips on the lower left corner and face of the heat sink.
  - Two 4 mm screw nuts with attached springs from either side of the heat sink.

Step 38



- It may be necessary to soften the thermal paste between the logic board and heat sink. You can soften the thermal compound using a hairdryer. Move the hairdryer back and forth over the ribbed metal section of the heat sink. At this point, the heat sink should come free easily.
- If necessary, use a spudger to pry up the heat sink from the left side near the hard drive.
- While lifting straight up on the hinge grill with your right hand, lift the heat sink with your left hand from the end nearest the hard drive and remove the heat sink assembly from the computer.
- The hinge grill is held captive by the display assembly/clutch cover, and can only be partially raised.

Step 39



- Remove the two Phillips screws securing the white plastic fingers of the I/O bezel to the metal framework.

The longer screw goes into the longer finger, closer to the display.

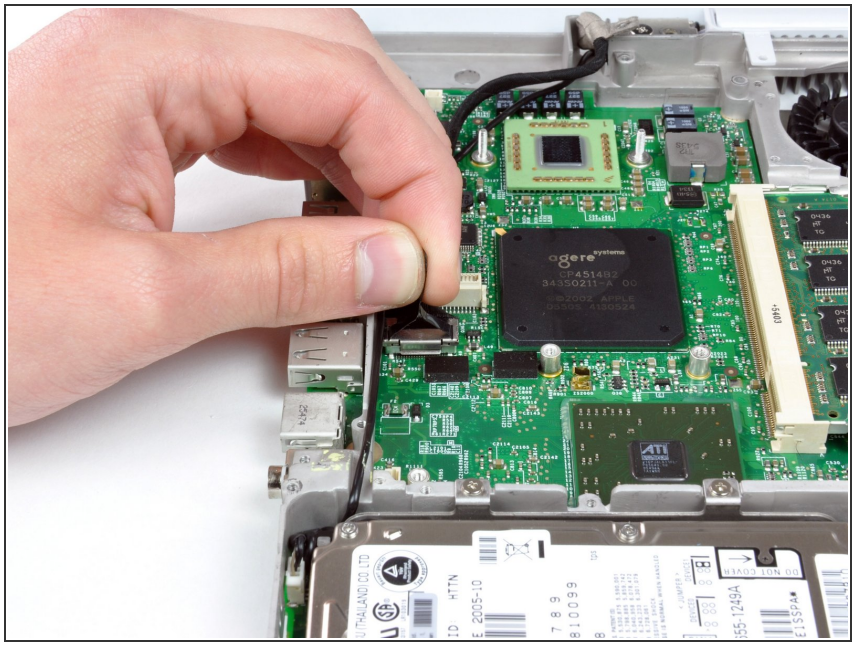
Step 40

- Lift up the left side of the computer and slide the I/O bezel away.

Step 41

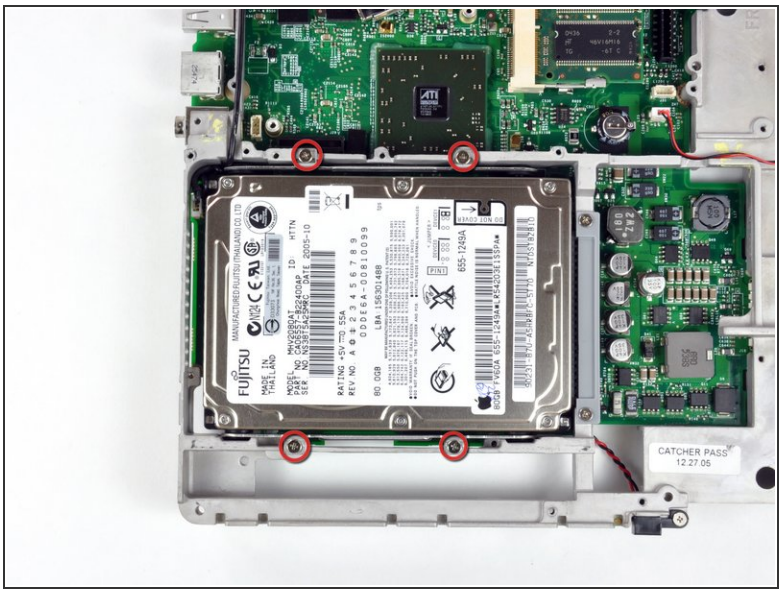
- Wedge a spudger between the RJ-11 board and the metal framework and slide the board to the left, off of the logic board.

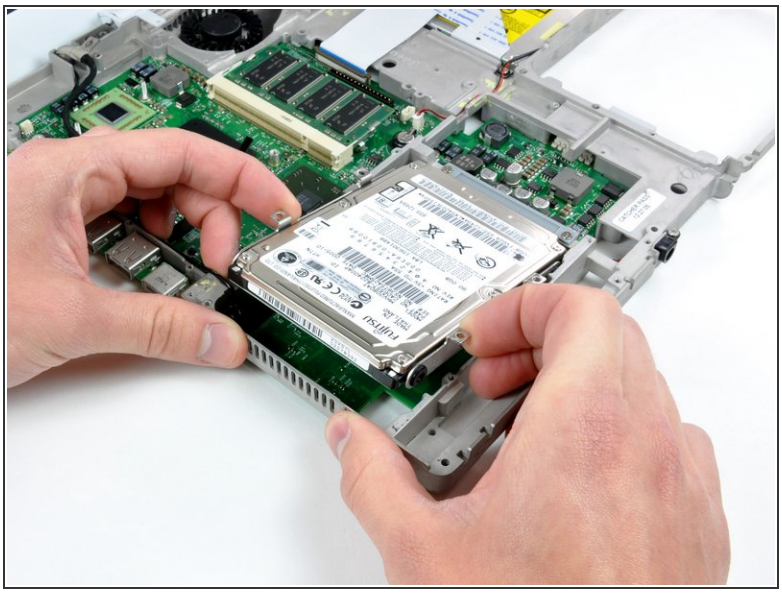
Step 42



- Use the black plastic loop to disconnect the display data cable from the logic board.

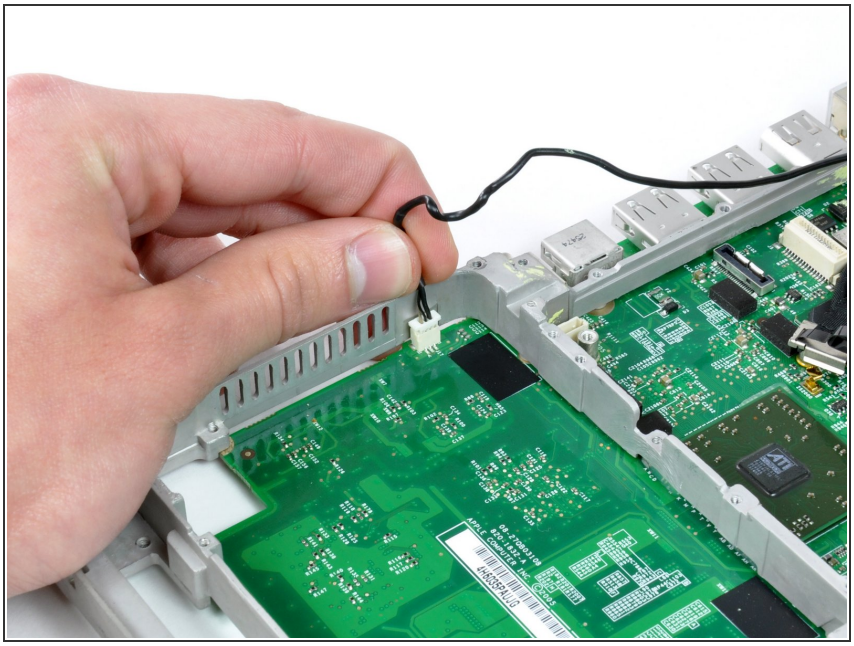
Step 43





- Remove the four 4mm Phillips screws securing the hard drive to the metal framework.
- Carefully lift up the hard drive.

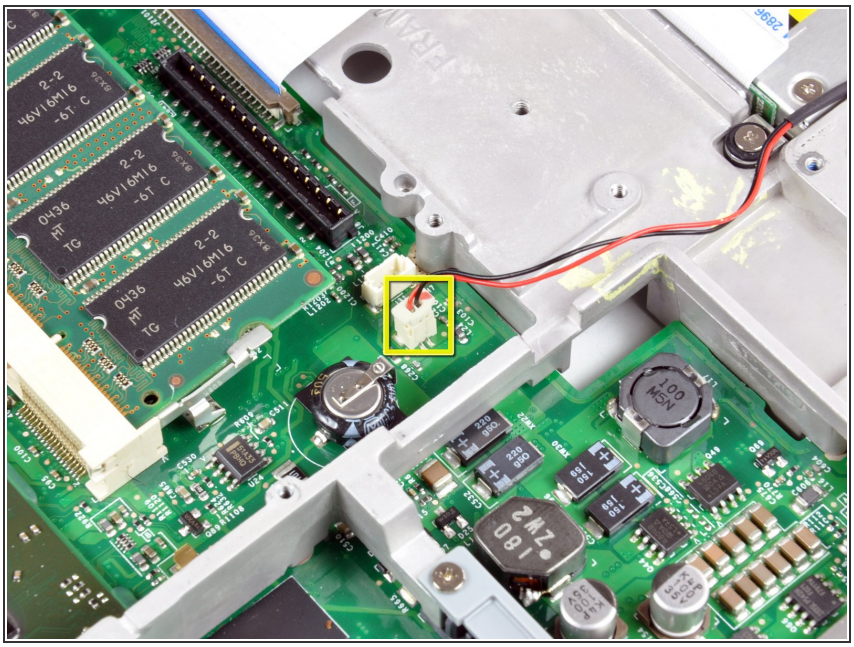
Step 44



⚠ The cable you're about to remove is very fragile.

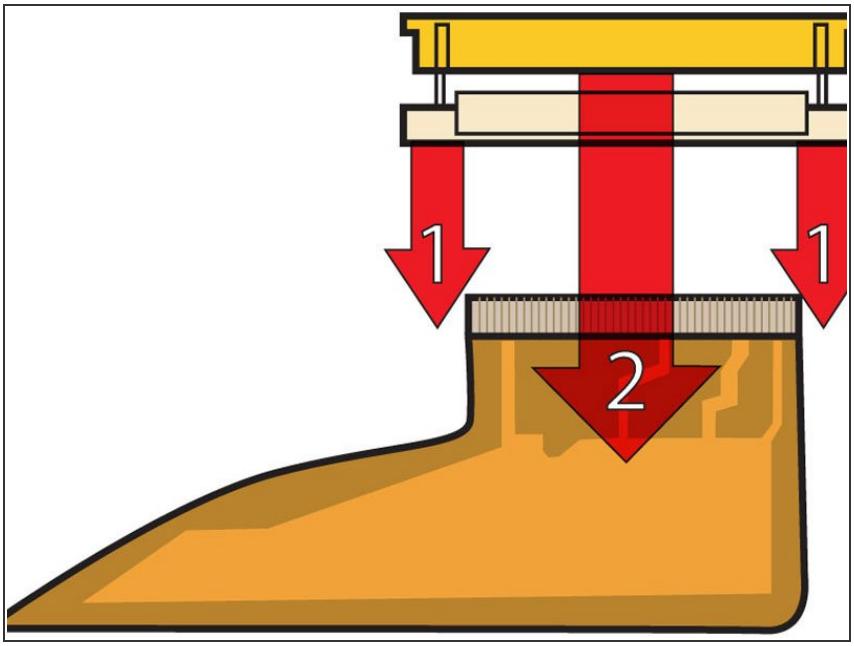
- Disconnect the microphone cable at the front of the computer, between the left side of the hard drive enclosure and the metal framework.

Step 45



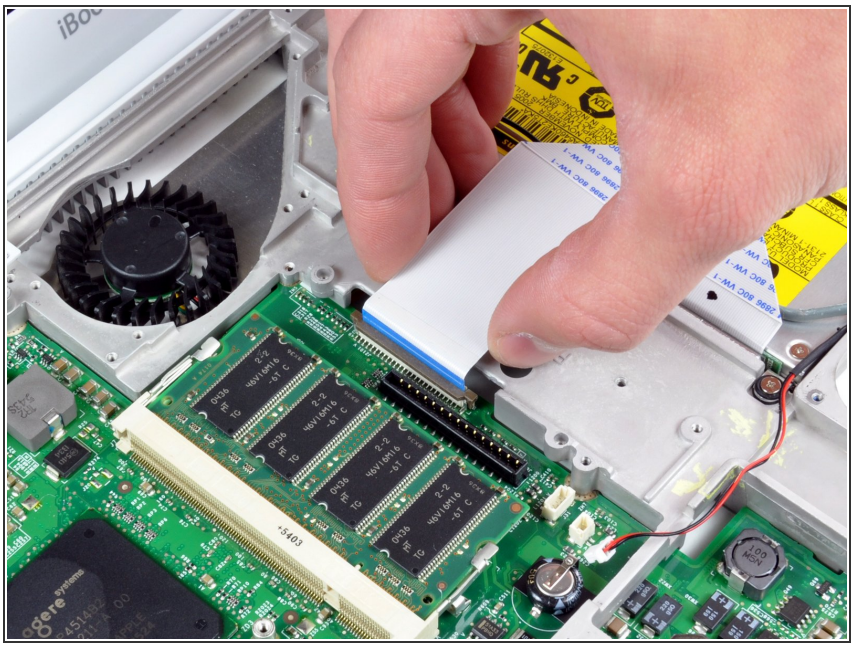
- Disconnect the Reed Switch board connector from the logic board.

Step 46



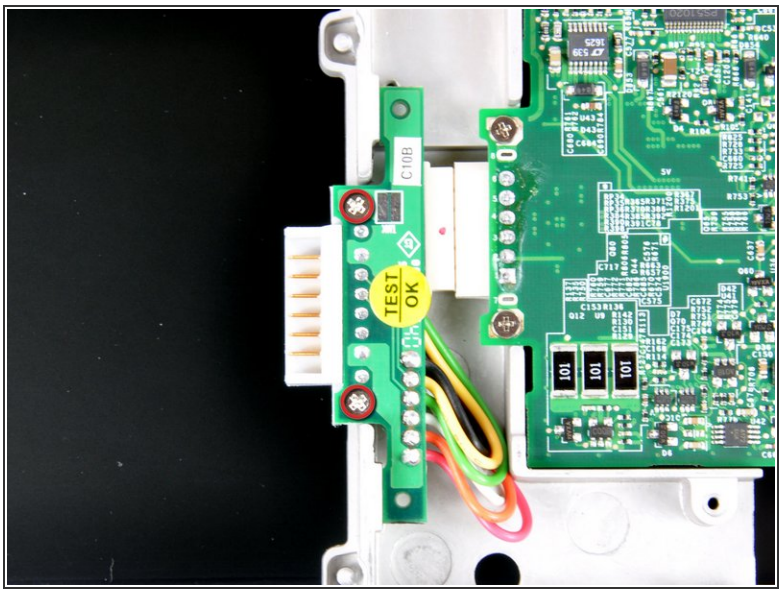
- This is a diagram of the ribbon clamp connector you will disconnect in the next step.
- 1) With your fingernails, grasp the locking bar on either side and pull up a small amount (about 1/16" or 2 mm).
- 2) After disengaging the locking bar, slide the cable out of the connector.

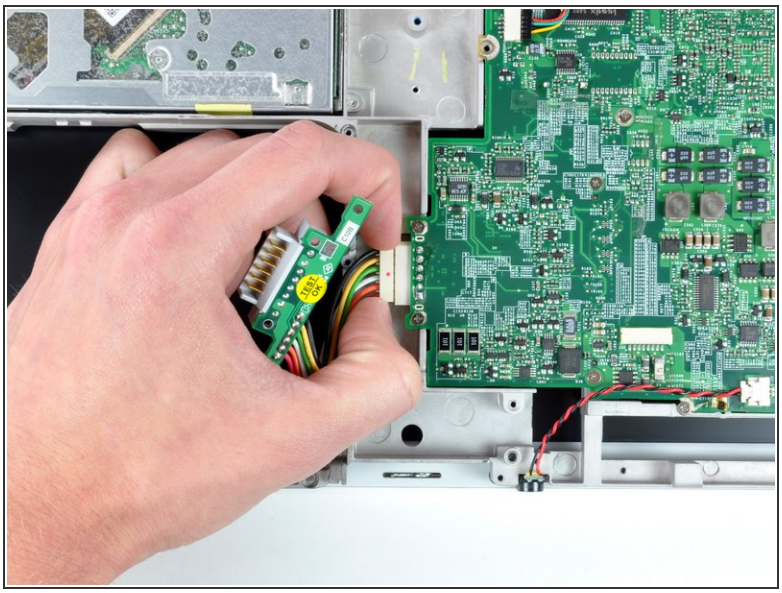
Step 47



- Release the optical drive ribbon clamp as described above. Slide the optical drive ribbon out of its connector.

Step 48

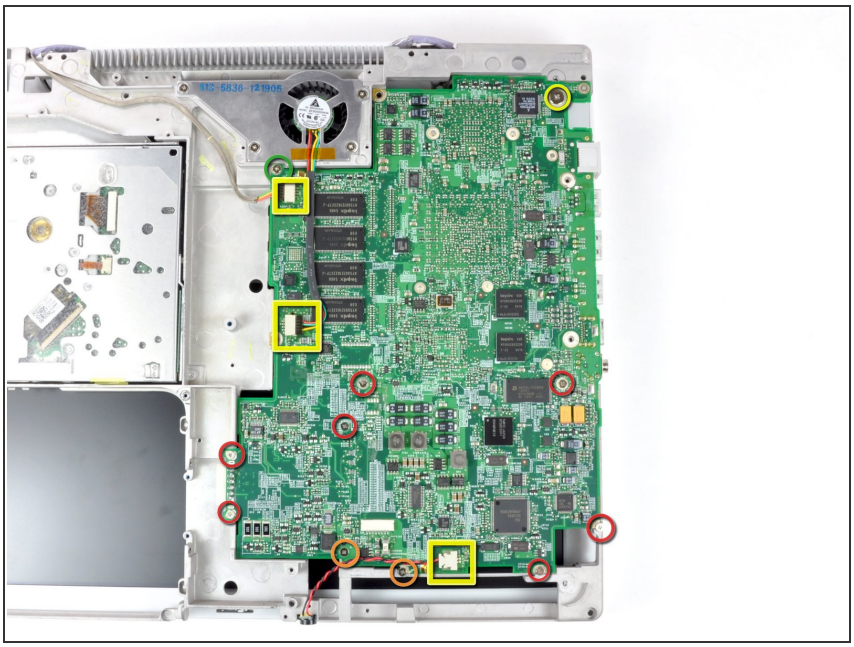




- Close the display and flip the computer over.
- Remove the two 5mm Phillips screws securing the battery connector to the metal framework.
- Lift the battery connector out of the metal framework and disconnect it from the logic board.

ⓘ This connector requires considerable force to remove. We recommend wiggling the connector while applying tension to slowly "walk" the connector out of its socket.

Step 49



- Remove the following 8 screws:
  - Eight 3.5 mm Phillips.
  - Two 3.5 mm Phillips near the sleep light connector.
  - One 3.5 mm Phillips with a large head in the lower left corner.
  - One 4.5 mm Phillips.
- From top to bottom, disconnect the inverter, fan, and sleep light cables from the logic board.

When replacing the logic board, make sure that the inverter cable is not pinned under the logic board.

When replacing the logic board, make sure that the inverter cable is not pinned under the logic board.

Step 50

- Lift the logic board up from the right side, and slide it up and out of the computer.

When replacing your logic board, be sure to transfer your old RAM chips to your new logic board.

Most 14" iBooks use thermally conductive pads rather than thermal paste to conduct heat from the processors to the heat sink. It is unlikely that these pads will fall off or become unusable during reinstallation. If so, be sure to apply a liberal amount of thermal paste to the surface of all processors before mounting the heat sink. This will avoid any damage from overheating.

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