

Internal view of a MacBook Pro showing the logic board, RAM, and storage. Four red circles highlight the screws securing the logic board. Handwritten text "2A" and "7A" are visible on the right side of the logic board.

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# INTRODUCTION

Replacing the metal bottom case.



## TOOLS:

- [Arctic Silver ArctiClean](#) (1)
- [Arctic Silver Thermal Paste](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Spudger](#) (1)
- [T6 Torx Screwdriver](#) (1)



## PARTS:

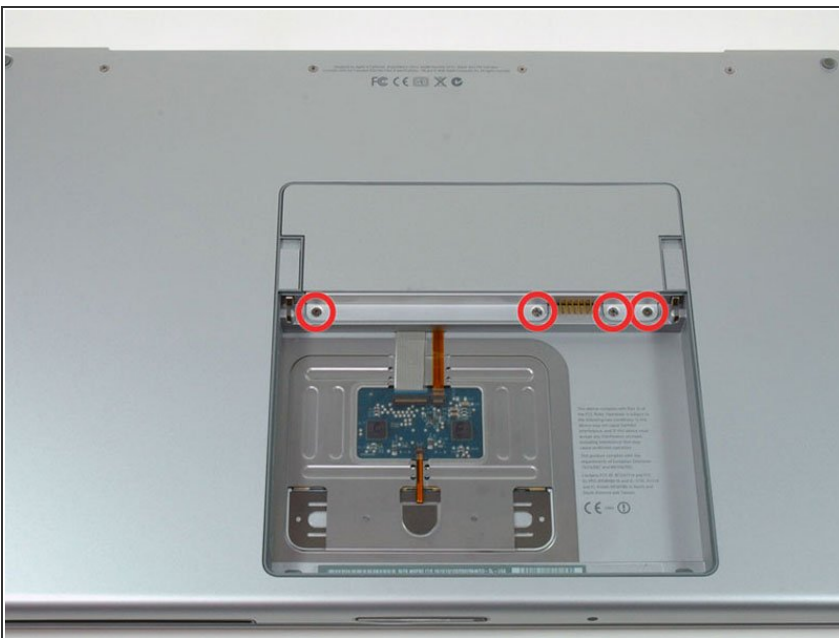
- [MacBook Pro 17" \(Model A1151\) Lower Case](#) (1)
- [MacBook Pro 17" \(Model A1212\) Lower Case](#) (1)
- [MacBook Pro 17" \(Model A1229\) Lower Case](#) (1)
- [MacBook Pro 17" \(Model A1261\) Lower Case](#) (1)

## Step 1 — Battery



- Use your fingers to push both battery release tabs away from the battery and lift the battery out of the computer.

## Step 2 — RAM Shield



- Remove the four identical Phillips 3.4 mm screws from the memory door. These screws have 4 mm

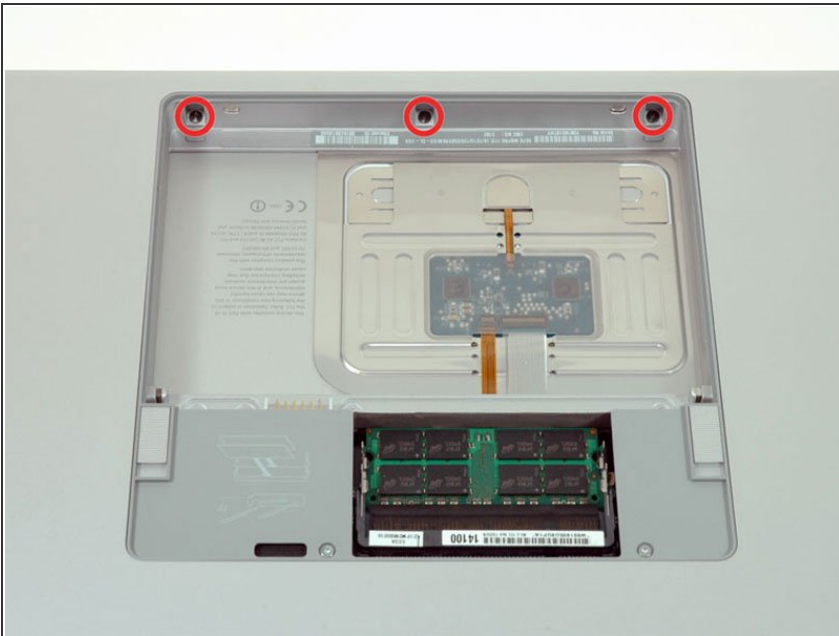
diameter heads rather than the 3 mm heads on the body screws.

### Step 3



- Lift the memory door up enough to get a grip on it, and slide it toward you, pulling it away from the casing.

### Step 4 — Upper Case



- Remove the three Phillips screws in the battery compartment near the latch. Apple was nice enough to tilt these screws at a slight angle to make them easier to remove. On the A1261 these screws have 4 mm diameter heads rather than the 3 mm heads on the body screws.

## Step 5



- Remove the following six screws:
  - Two 14.5 mm T6 Torx screws on either side of the RAM slot.
  - Four 3.4 mm Phillips screws along the hinge.

## Step 6



- Remove the four 3.4 mm Phillips screws on the port side of the computer.



## Step 7



- Rotate the computer 90 degrees and remove the two Phillips screws from the rear of the computer.


## Step 8



- Rotate the computer 90 degrees again and remove the four Phillips screws from the side of the computer.

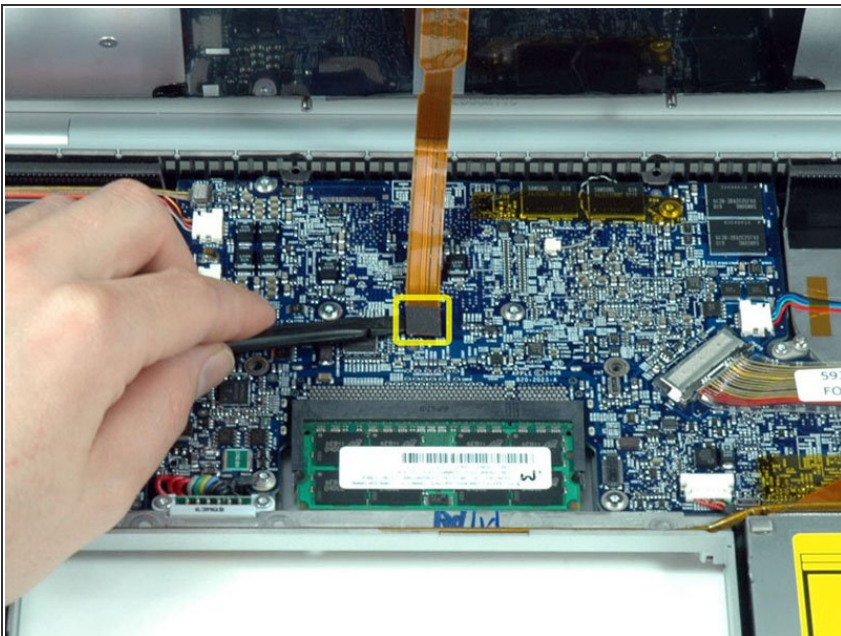
## Step 9



 Do not yank the upper case off quickly. The case is attached to the logic board via a ribbon cable.

- Lift up the back of the case and work your fingers along the sides, freeing the case as you go. Once you have freed the sides, you may need to rock the case up and down to free the front of the upper case.

## Step 10



- Disconnect the trackpad and keyboard ribbon cable from the logic board.
- Remove the upper case.

## Step 11 — Optical Drive



- Disconnect the orange SuperDrive ribbon cable from the logic board, removing tape as necessary.

## Step 12



- Remove the following three screws:
  - Two black 4 mm T6 Torx screws on either side of the SuperDrive.
  - One 8.7 mm silver (black in some models) T6 Torx screw at the back of the drive near the speaker.

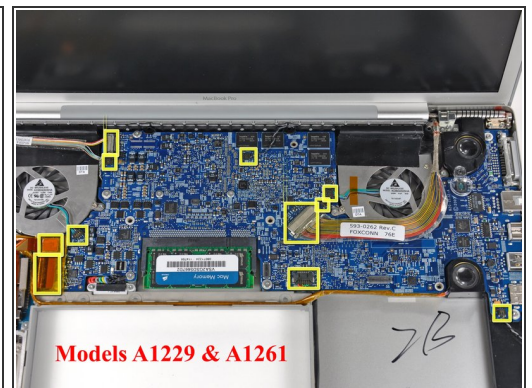
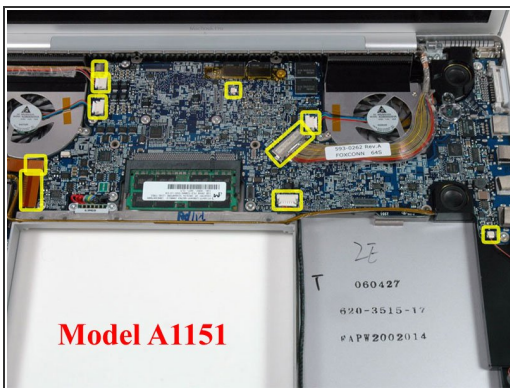


## Step 13



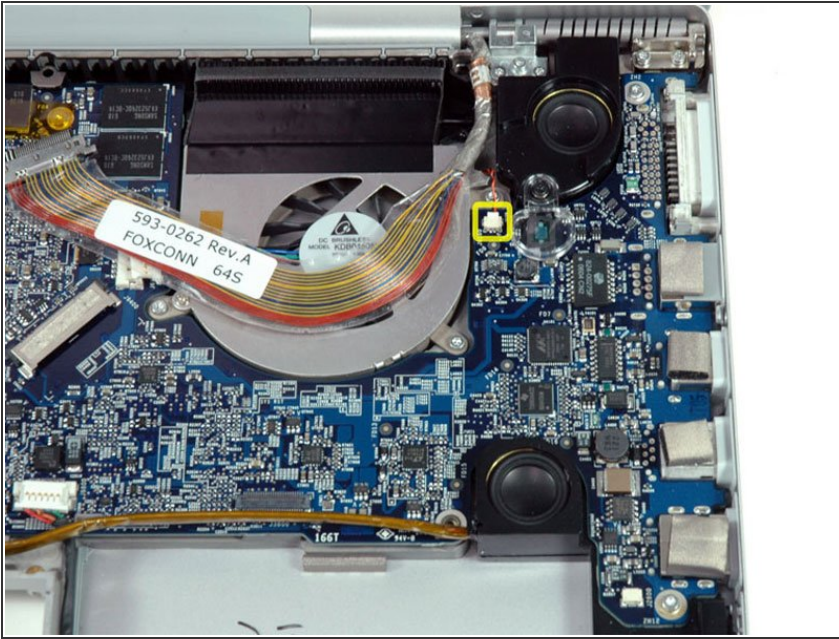
- Use one hand to pull back the speaker cable and use your other hand to lift the optical drive up and out of the computer.
- ⓘ If you have a CD or any other object jammed in your optical drive, we have an [optical drive repair guide](#).

## Step 14 — Logic Board



- Disconnect the ten indicated connectors from the logic board.
- ⓘ The connectors have different positions for the four MacBook Pro revisions covered by this guide, and their locations are highlighted in the three pictures on this step.

## Step 15



- Rotate the large display data cable to the left and disconnect the small right thermal sensor cable beneath.
- ❗ If you have the A1261 model, the right thermal sensor cable is located in between the right fan connector and display data cable.

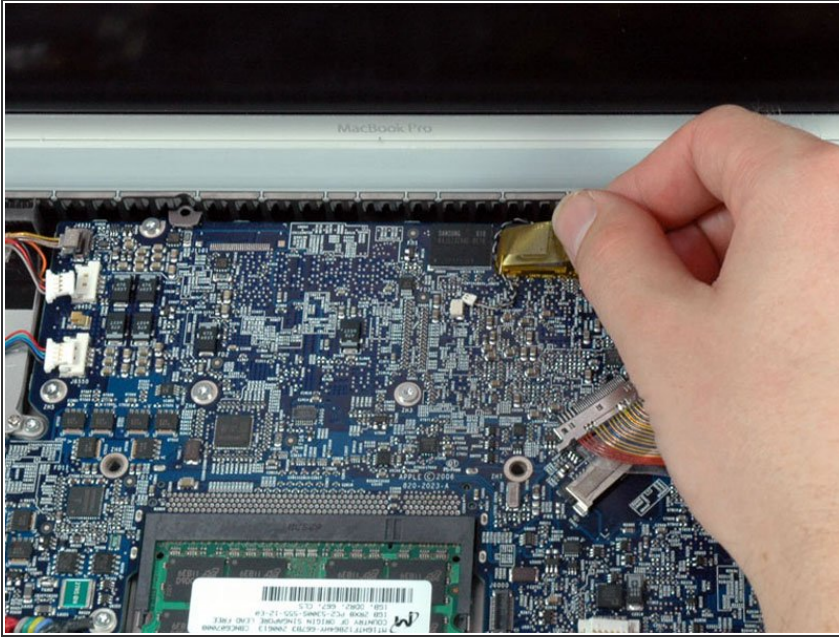
## Step 16



- Remove the single black 4 mm T6 Torx screw securing the clear plastic shield over the right ambient light sensor.
- Lift the clear plastic shield off the right ambient light sensor.

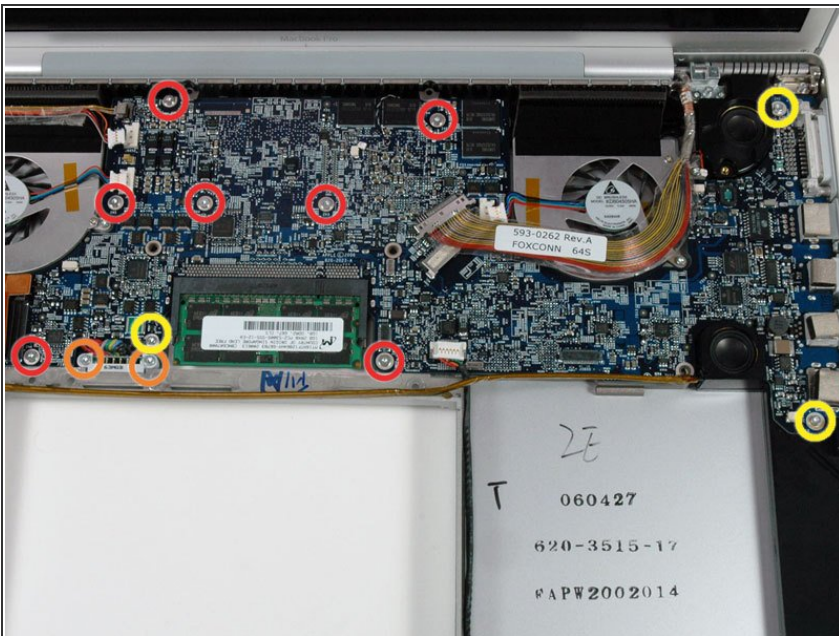


## Step 17



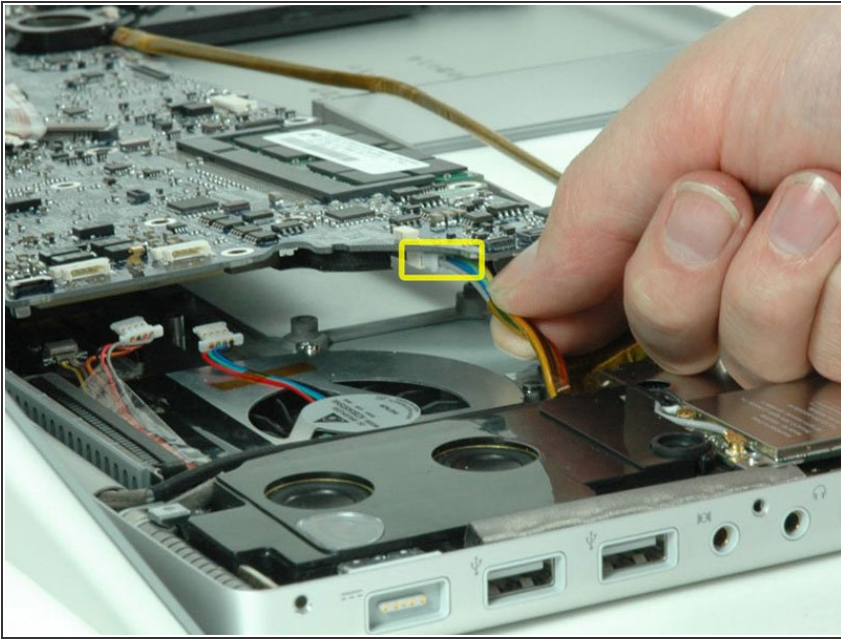
- Peel up the orange Kapton tape securing the left thermal sensor cable to the logic board.
- ❗ If you have a MacBook Pro 17" Model A1229, this is the middle thermal sensor.

## Step 18



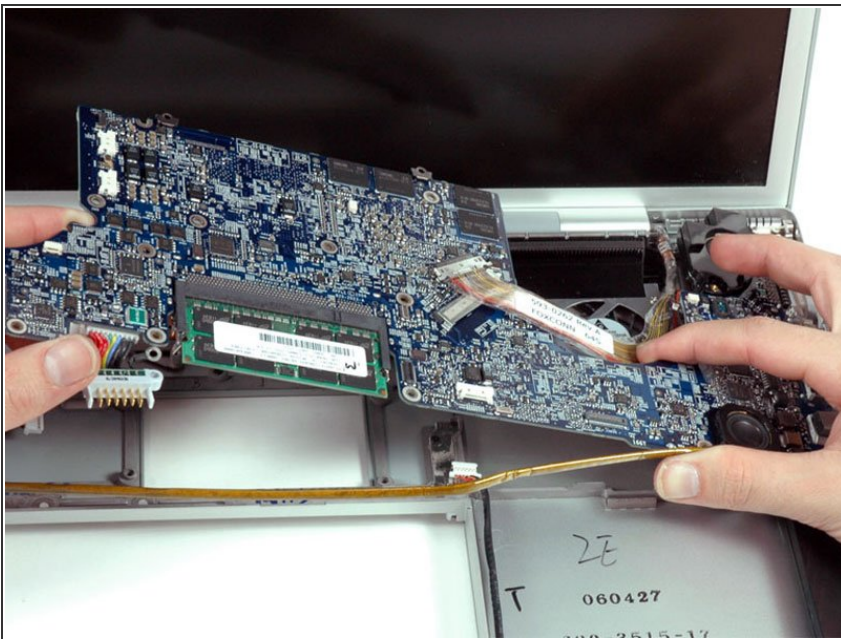
- Remove the following twelve screws:
  - Seven 6.5 mm T6 Torx screws.
  - Two shanked 7.6 mm T6 Torx screws securing the battery connector to the lower case.
  - Three 7.8 mm T6 Torx screws.

## Step 19



- Lift up the left side of the logic board and disconnect the multi-colored power connector from the bottom of the board.

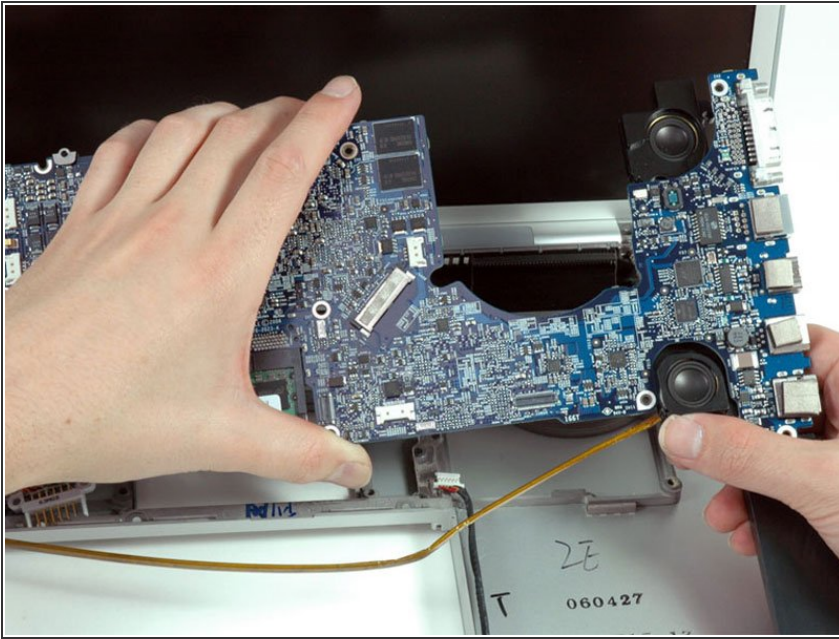
## Step 20



- Grasp the logic board at the left side and at the thin section near the right fan, and rotate the logic board out of the lower case.

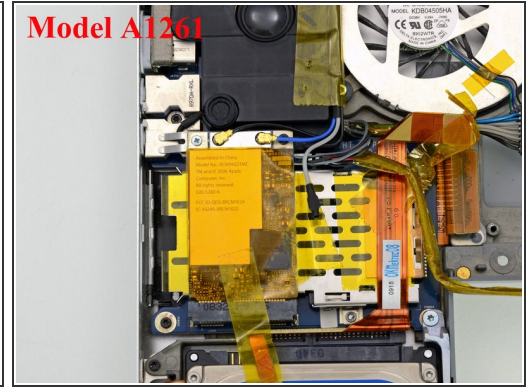
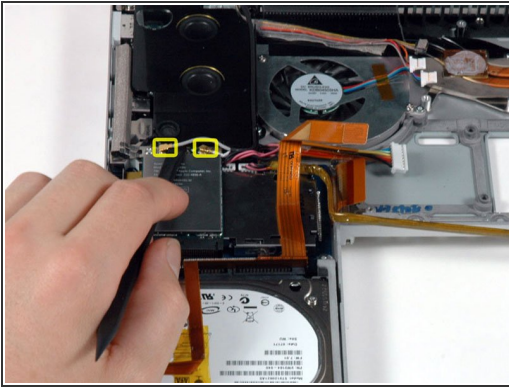


## Step 21



- If the right speaker assembly remains attached to the logic board, hold the logic board with one hand and slide the speaker up slightly to free it from the logic board.
- To properly reassemble your MacBook Pro, you'll have to clean off and replace the thermal compound from the three chips on the underside of the logic board. Use our [Applying Thermal Paste Guide](#) to prepare the processor and heat sink surfaces.

## Step 22 — Heat Sink



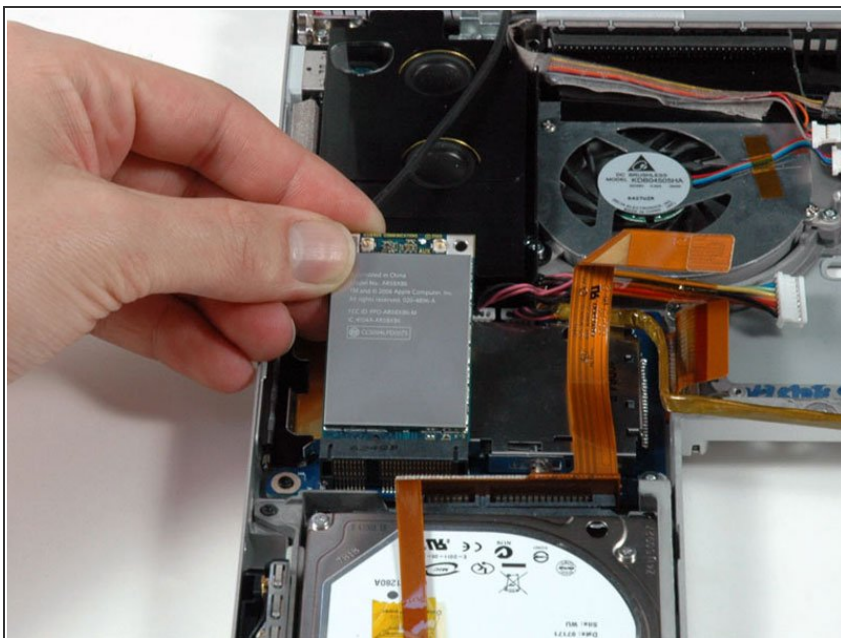
- Disconnect the two antenna cables attached to the AirPort Extreme card.
- ✦ The cable with the gray shielding attaches to the left side connector, while the cable with the white shielding attaches to the right side.
- i If you have a MacBook Pro 17" Model A1229, there are three antenna cables attached to the AirPort Extreme card instead of two.
- i If you have a MacBook Pro 17" Model A1261 the cable with the black shielding attaches to the left side of the connector, while the cable with blue shielding attaches to the right side. The gray cable is unattached and the end covered.

## Step 23



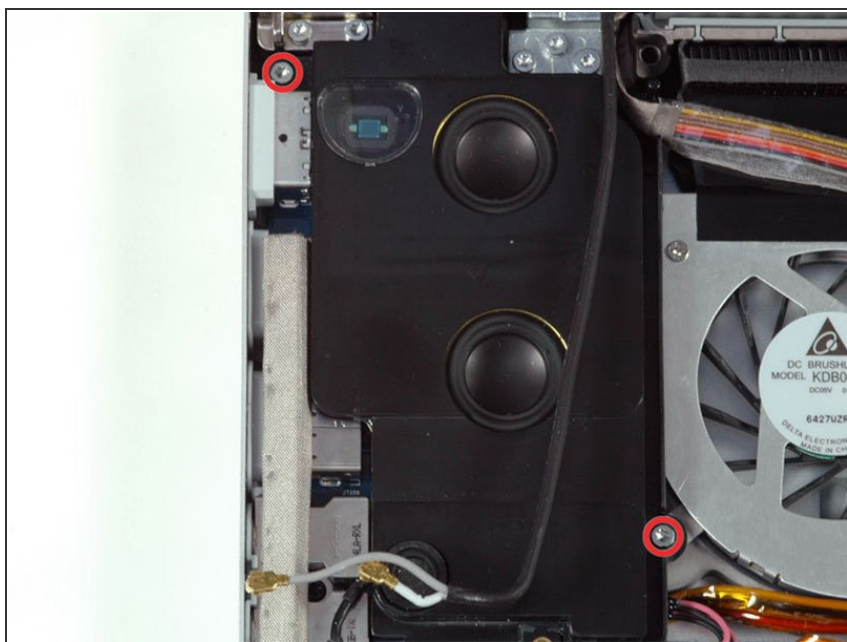
- Remove the single black 4 mm T6 Torx screw from the top right corner of the AirPort Extreme card.

## Step 24



- Lift the AirPort Extreme card up and slide it out of its connector.

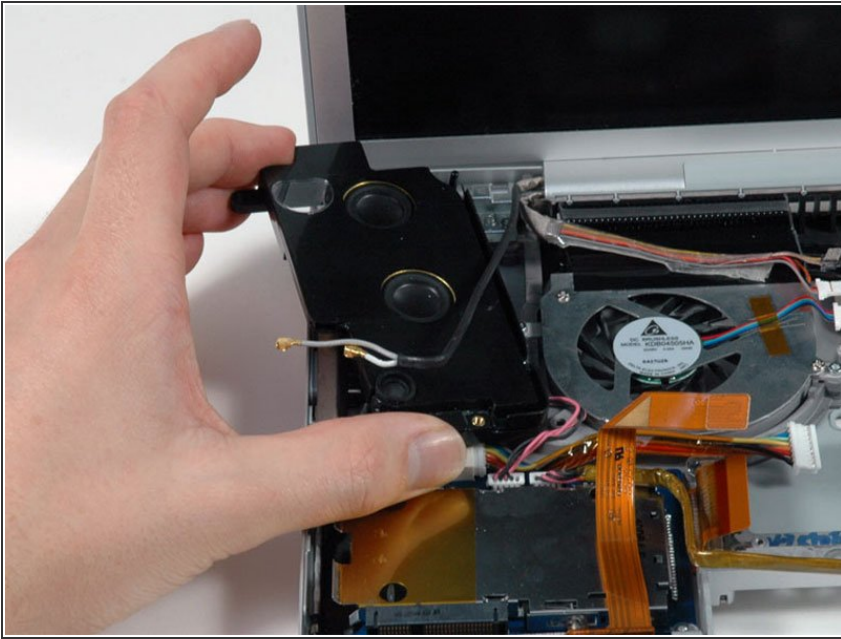
## Step 25



- Remove the two 7.8 mm silver T6 Torx screws from the top left and bottom right corners of the left speaker assembly.
- ⓘ The magnet in the MagSafe connector may pull the upper screw towards it after the screw has been freed.

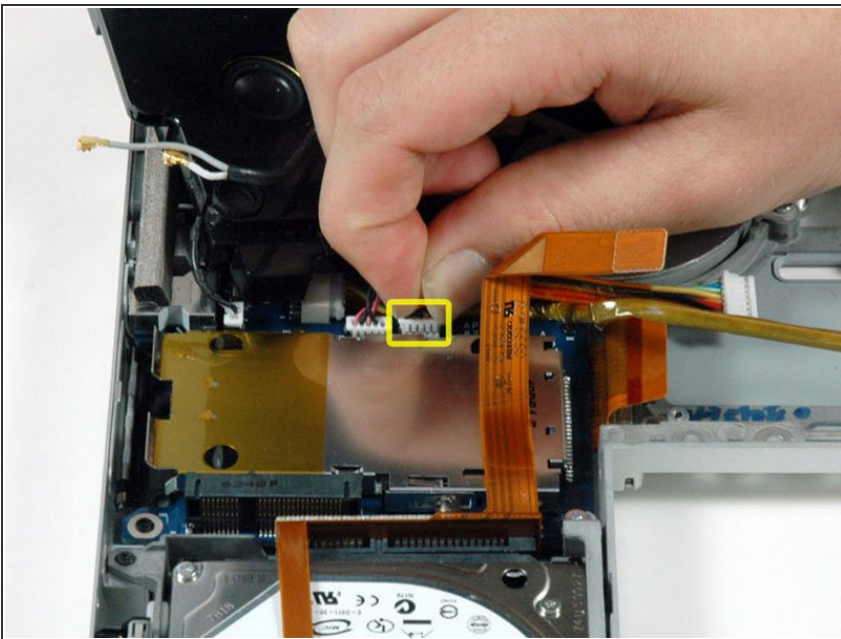


## Step 26



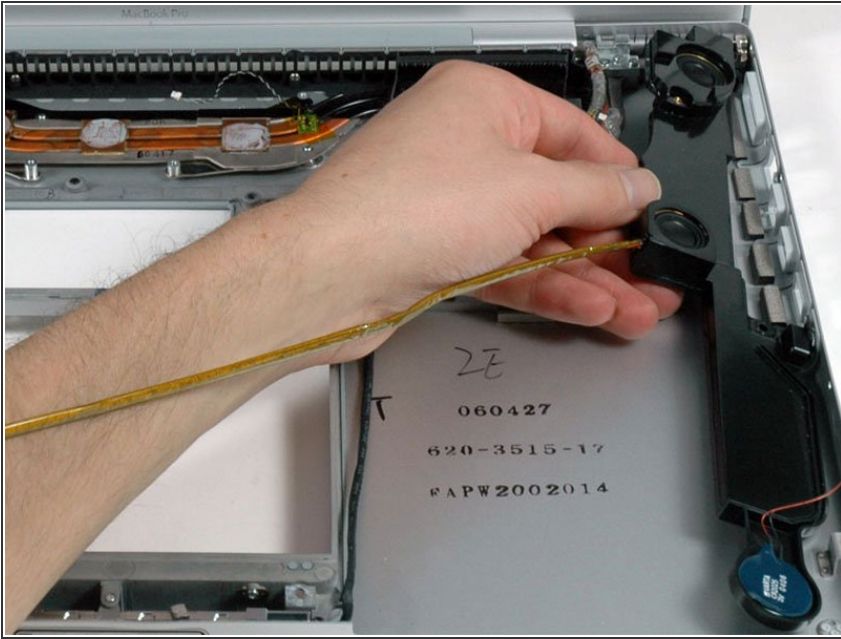
- Lift up on the left speaker assembly and rotate it slightly. It is not possible to entirely remove the speaker yet, as it is still connected to the left I/O board beneath.

## Step 27



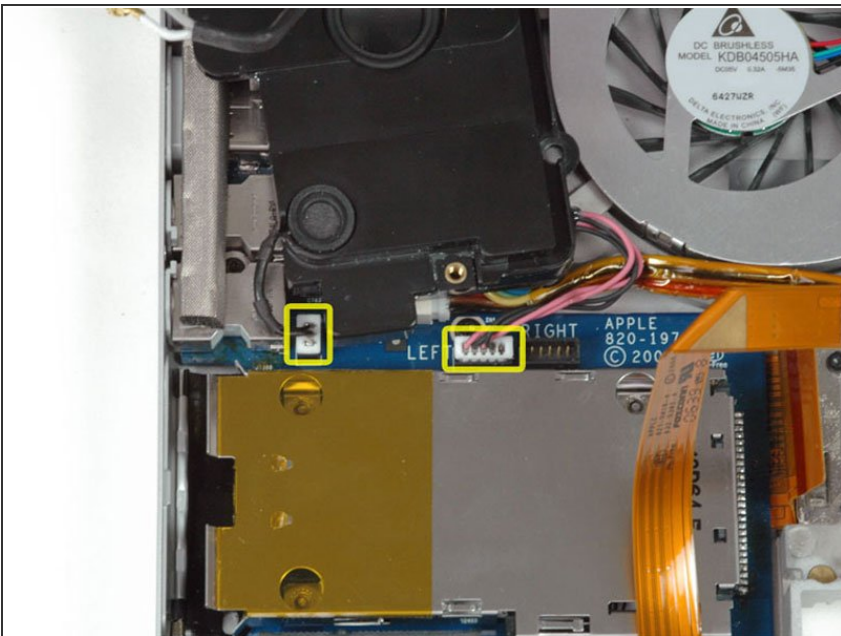
- Disconnect the right speaker from the left I/O board. Make sure to pull on the top section of the white connector, not the cable itself.

## Step 28



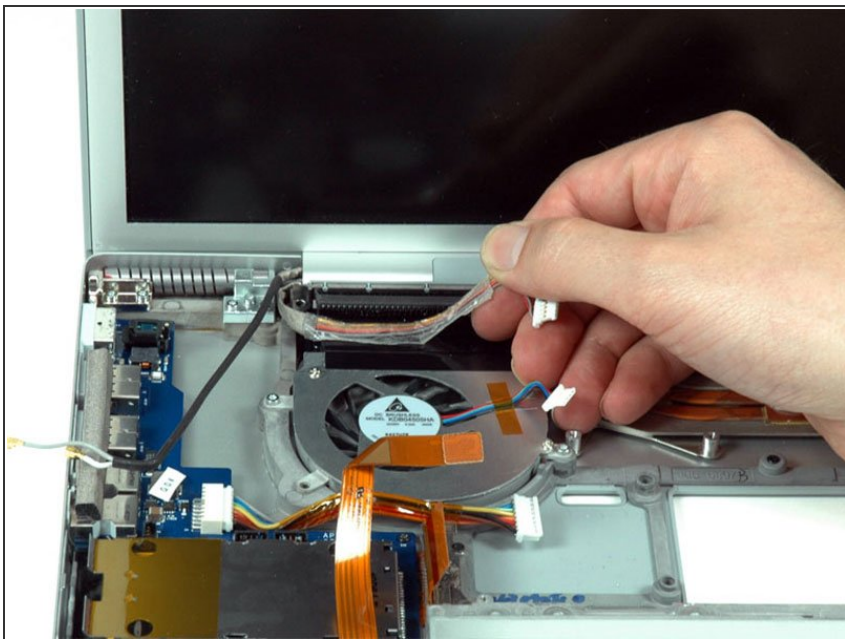
- Lift the right speaker assembly out of the computer.

## Step 29



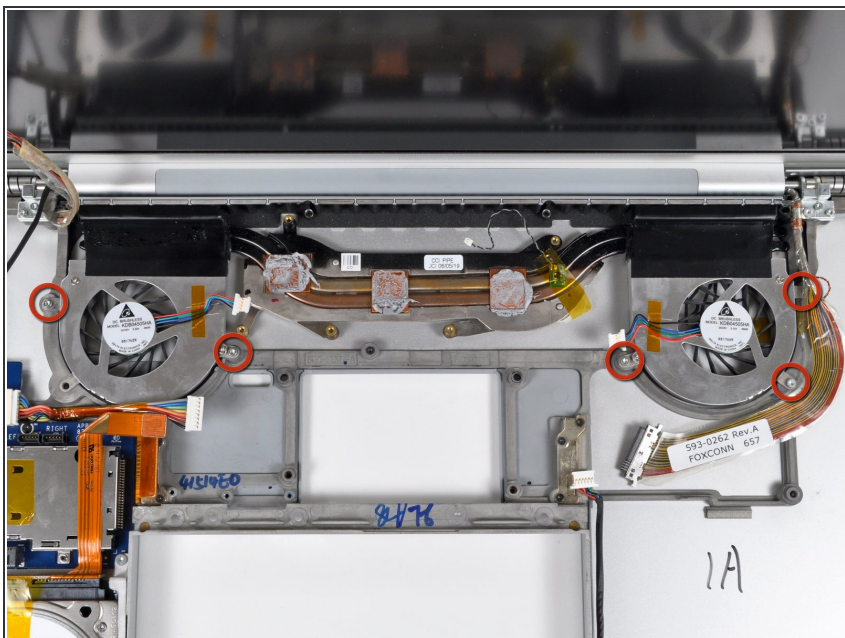
- ⓘ If tape is attaching the antenna cable bundle to the left speaker assembly remove it.
- Disconnect the two cables attaching the left speaker assembly to the left I/O board.

## Step 30



- Peel up the iSight and inverter cables which are attached with a mild adhesive above the left fan.

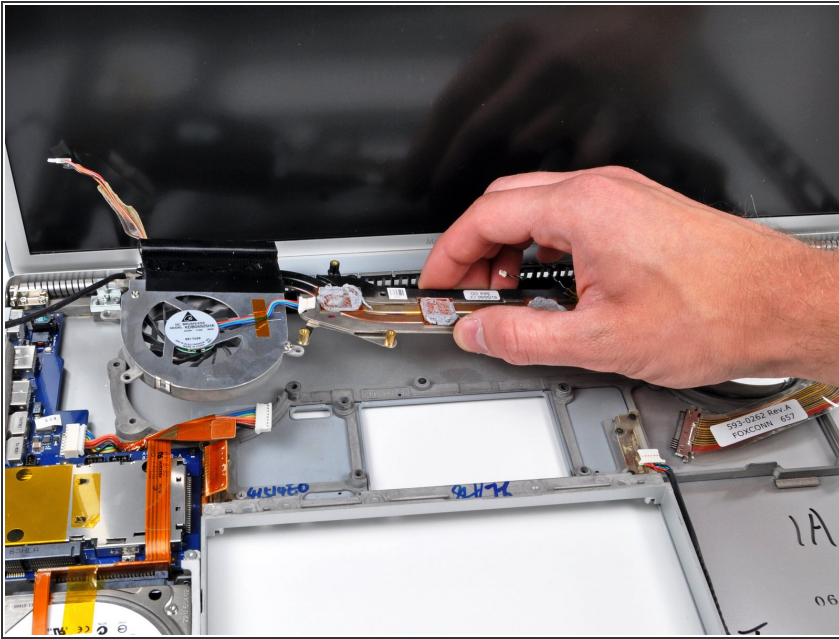
## Step 31



- Remove the five 7.8 mm T6 Torx screws securing the fans to the lower case.



## Step 32



- Lift the heat sink and attached fans out of the computer.
- ★ If you are replacing the heat sink, be sure to transfer the attached thermal sensor to your new heat sink.
- ❗ If you need to mount the heat sink back into the laptop, we have a [thermal paste guide](#) that makes replacing the thermal compound easy.
- Now is a good time to lean the fans back and clean out any dust bunnies from the grill. Also clean any dried thermal paste from the heat sink contact pads.

## Step 33 — Lower Case



- Remove the ten silver T6 Torx screws securing the display (five on each side). On the right a 9.6 mm screw secures the display data cable, also on the left the screw closest to the inside is 9.6 mm. The others are 7.8 mm.
- ★ Don't forget to replace the hinge end caps when reinstalling the display assembly. The end caps are side specific, so be sure that the posts are facing towards the lower case.



## Step 34



- Grasp the display assembly on both sides and lift it up and out of the computer.

## Step 35



- Lift the Bluetooth assembly out of its slot on the left side of the hard drive.

## Step 36



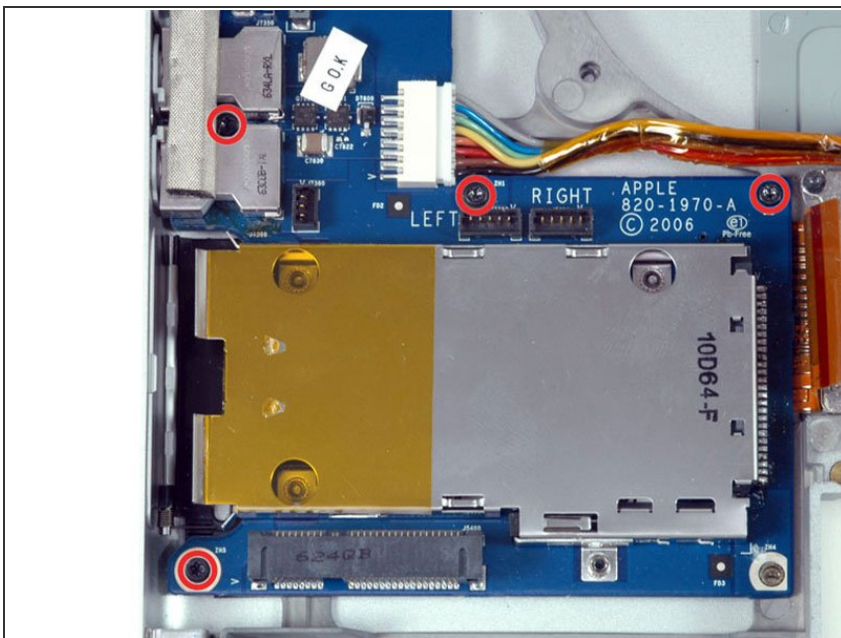
- Remove the two silver T6 Torx screws securing the gray metal retaining bracket to the right side of the hard drive.
- Lift the gray metal retaining bracket out of the computer.

## Step 37



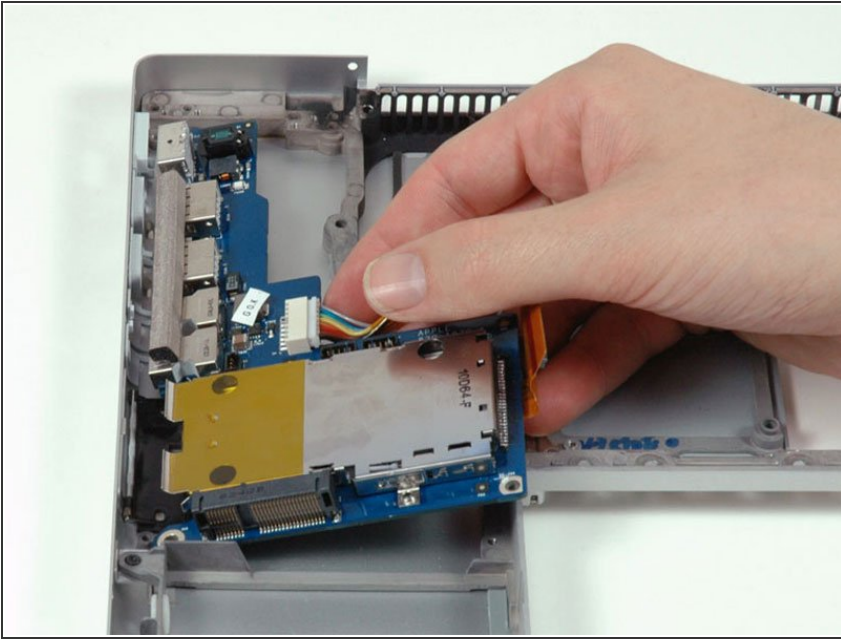
- Lift the hard drive up from the right side and remove it from the computer. The Bluetooth assembly and orange ribbon cable are still attached to the hard drive and will come out with the hard drive.

## Step 38



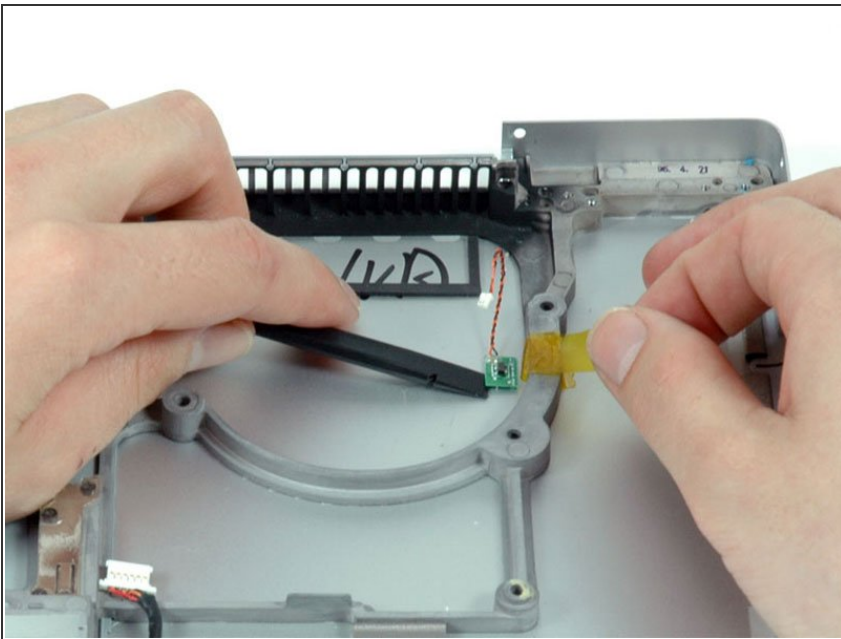
- Remove the four black 4 mm T6 Torx screws securing the left I/O board to the lower case.

## Step 39



- Lift up the right side of the left I/O board and slide it out of the computer.

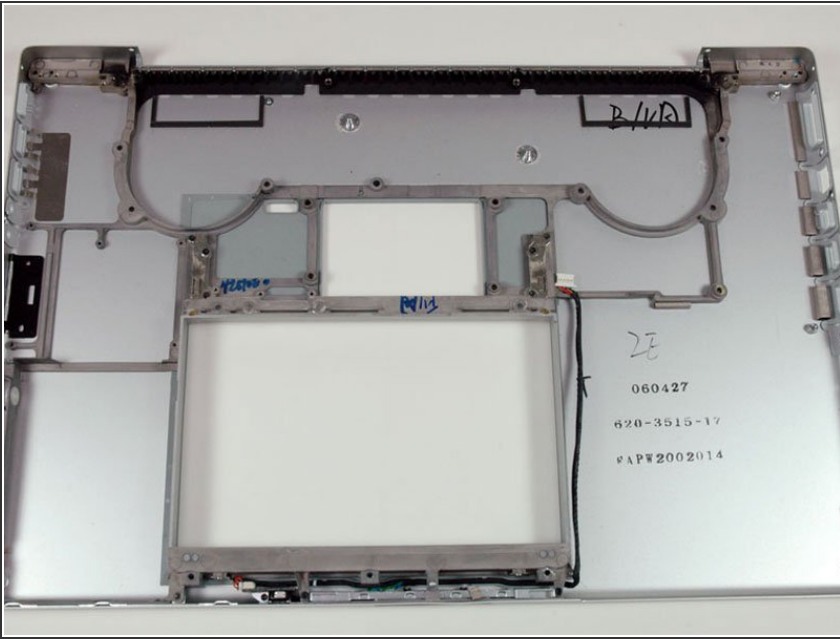
## Step 40



- Peel up the orange tape covering the right thermal sensor.
  - Use a spudger or your fingernail to pry the right thermal sensor off the lower case.
- ⓘ If you have a MacBook Pro 17" Model A1229 or A1261, repeat this process with the left thermal sensor. Note the locations are different, the right one is next to the inside fan screw receptacle. The left is on a line with the inside screw receptacle but 20 mm forward of it.



## Step 41



- Lower case remains.

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