PowerBook G4 Aluminum 12" 867 MHz LCD Replacement

Written By: Ben Eisenman

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TOOLS:

- 4mm Nut Driver (1)
- Coin (1)
- Phillips #00 Screwdriver (1)
- Spudger (1)
- T6 Torx Screwdriver (1)

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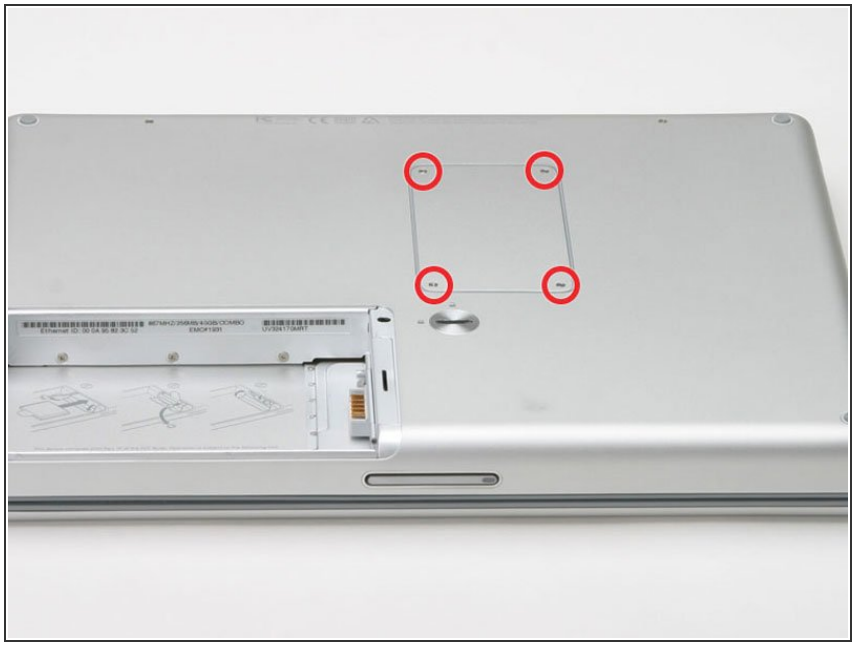
Step 1 — Battery

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

Step 2 — EMI Finger



- Remove the four Phillips screws from the memory door.
- Slide the memory door away from the memory compartment.

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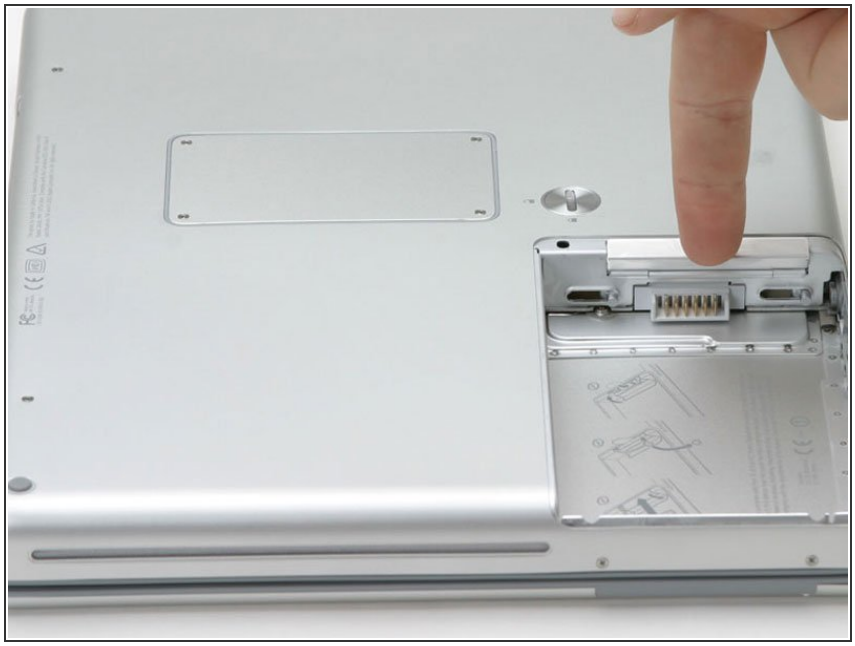
Step 3

- Remove the long black Phillips screw next to the memory card.
- Remove the small EMI finger beneath the black screw.

Step 4 — Airport Extreme Card



- Flip down the door on the right side of the battery compartment.

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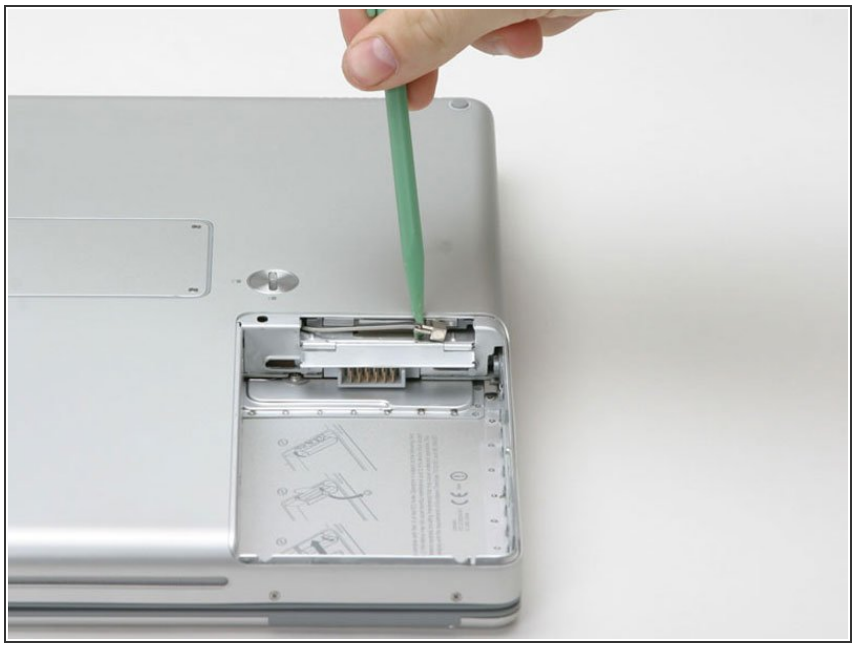
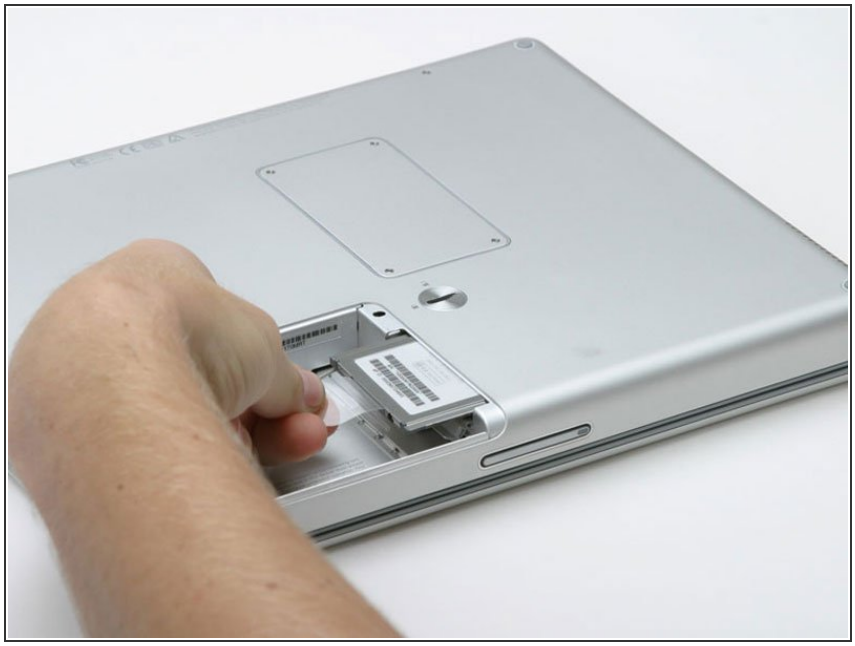
Step 5



- Use a spudger to disconnect the Airport antenna from the card.

Step 6



- Grasp the plastic tab and pull the card out all the way.

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Step 7 — Keyboard

- On the keyboard, remove the F1, F2, F11, and F12 keys.
- This is scary - take a deep breath before continuing. Place your index finger under the upper left corner of the key and lift up until you hear a click. Then, transfer your finger to the left edge of the key and lift up to pull the key off.
- You're freeing the two tabs on the left of the key from the two small holes in the plastic scissors mechanism.

When replacing the keys in the keyboard, place the key directly over the slot where it will go and press down until you hear the key click into place.

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Step 8

- Use your fingernail or a small flathead screwdriver to peel up the gray stickers covering each of the screws.

Step 9

- Remove the two short Phillips screws.

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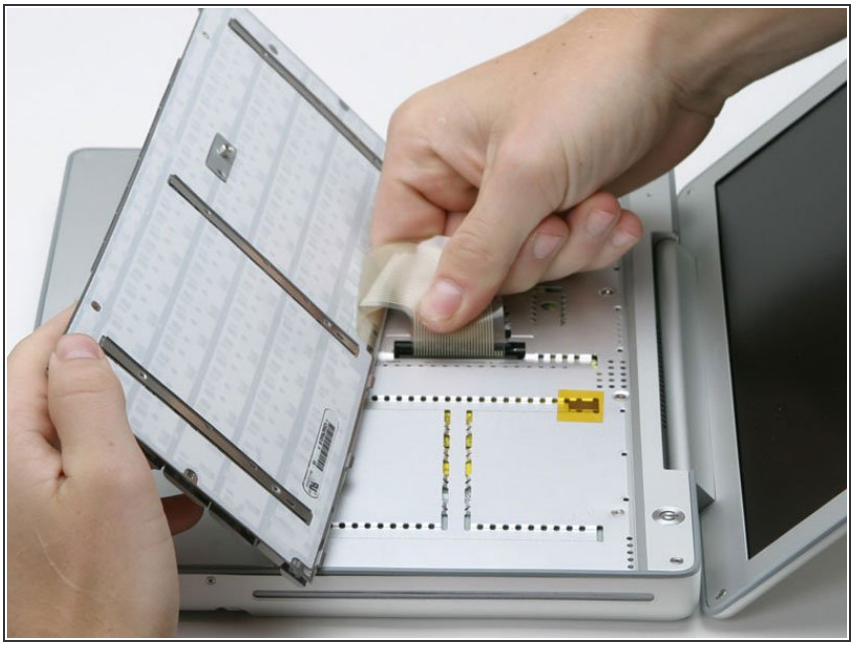
Step 10

- Lift the keyboard by the 'esc' and 'eject' keys and gently lift up until the keyboard is vertical.

Step 11



- Grasp the keyboard connector ribbon near the connector and disconnect it from the logic board.

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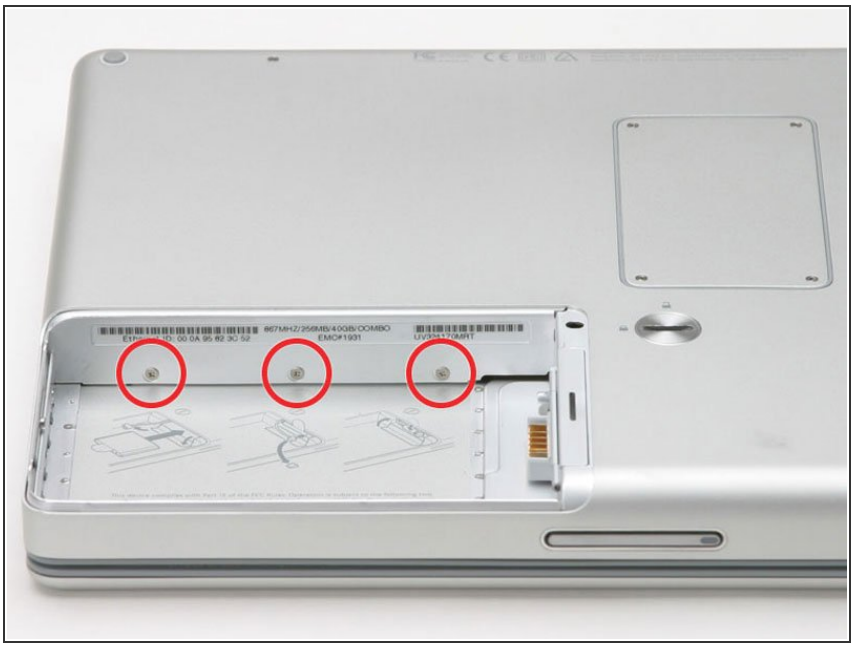
Step 12 — Upper Case



- Remove the three small Phillips screws from within the battery compartment.

Step 13

- Turn the computer 90 degrees clockwise and remove the two medium-length Phillips screws from the casing.

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Step 14

- Turn the computer 90 degrees clockwise again, and remove only the bottom screw on either side of the hinge.

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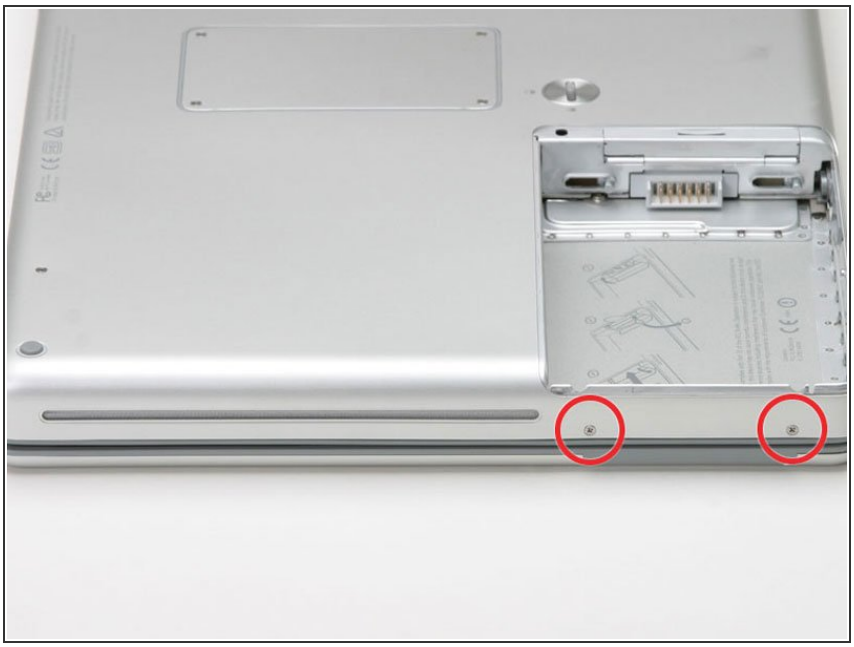
Step 15



- Turn the computer 90 degrees clockwise just one more time, and remove the two Phillips screws on the exterior wall of the battery compartment.

Remember these two screws are longer and have shoulders.

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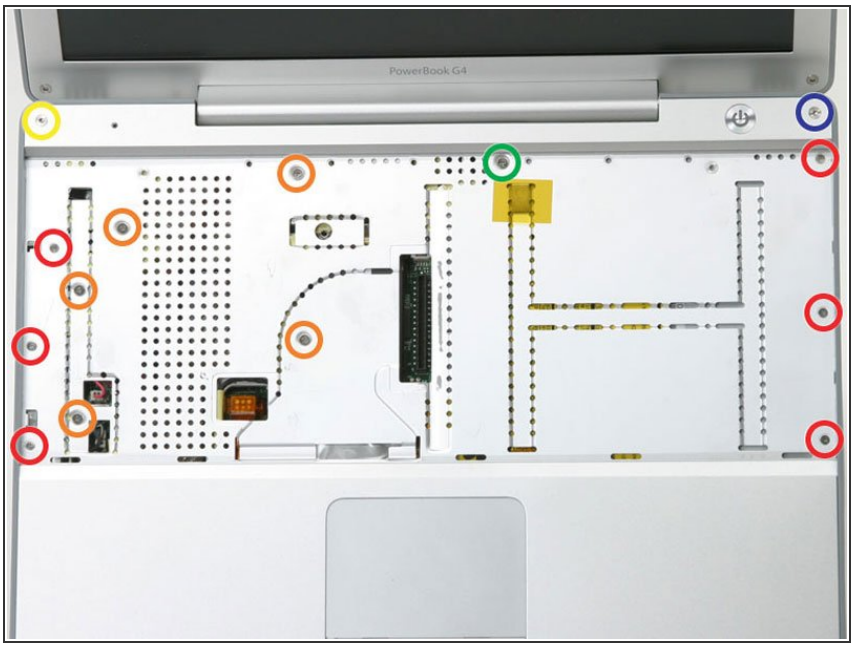
Step 16



- Turn the computer over and open it up.
- Remove the following 14 screws:
  - Six 2.5 mm Phillips on either side of the keyboard area.
  - Five 4.5 mm Phillips on the left half of the keyboard area.
  - One 7 mm hex in the upper left corner of the upper case (a T6 Torx driver will do the job nicely).
  - One 15 mm Phillips in the upper middle of the keyboard area.
  - One 16.5 mm hex in the upper right of the upper case (again, a T6 Torx driver will work well).

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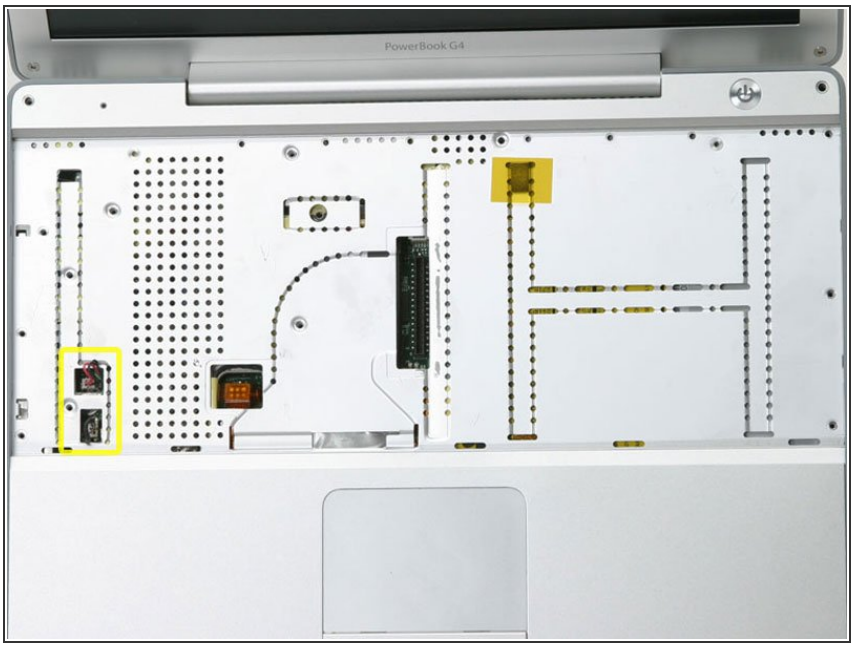
Step 17

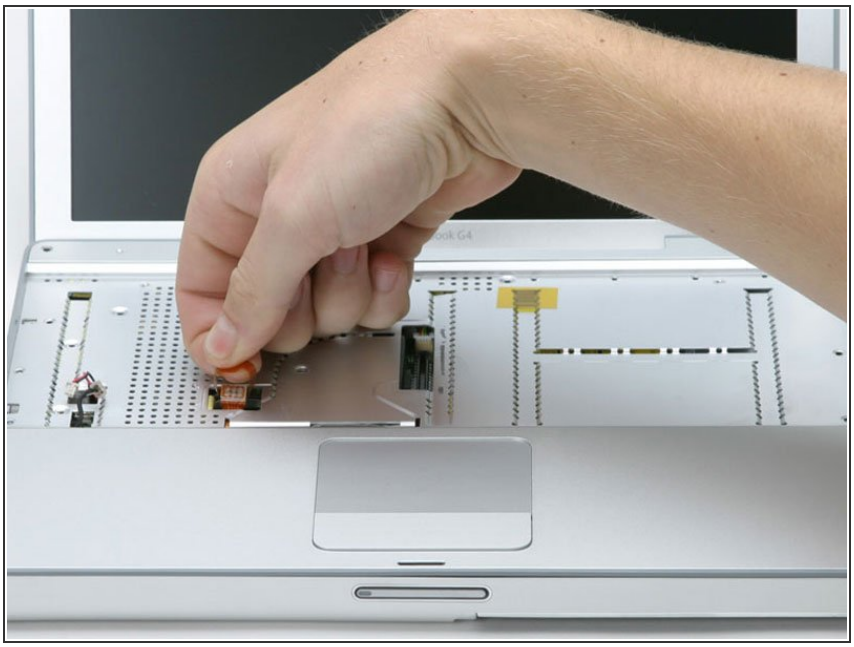


- Peel up the two pieces of foil tape on the left side of the keyboard area.

⚠ The connectors at the ends of the cables are attached very firmly to the sockets on the logic board. Pulling directly on the cable will either separate the cable from its connector or the socket from the logic board.

- Carefully disconnect the microphone and power cables from the logic board. Using your fingernails or a dental pick, carefully pry the connectors from their sockets. Make sure you're pulling only on the connector and not on the socket.

Step 18



- Use the orange plastic loop to disconnect the trackpad cable.

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Step 19

- Starting at one of the upper corners near the screen, work around the frame, separating the upper case from the lower case.

Step 20

- Lift the upper case off the computer.

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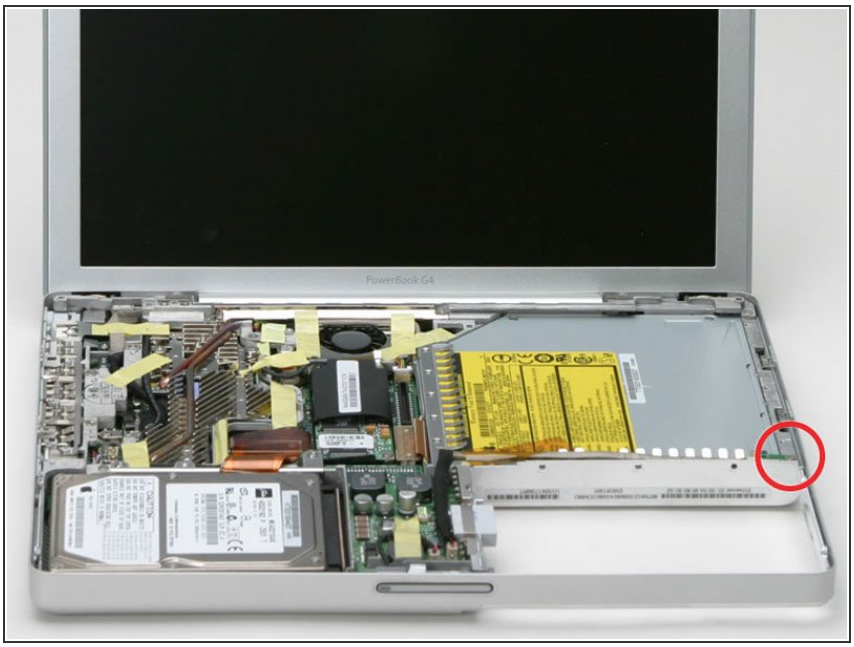
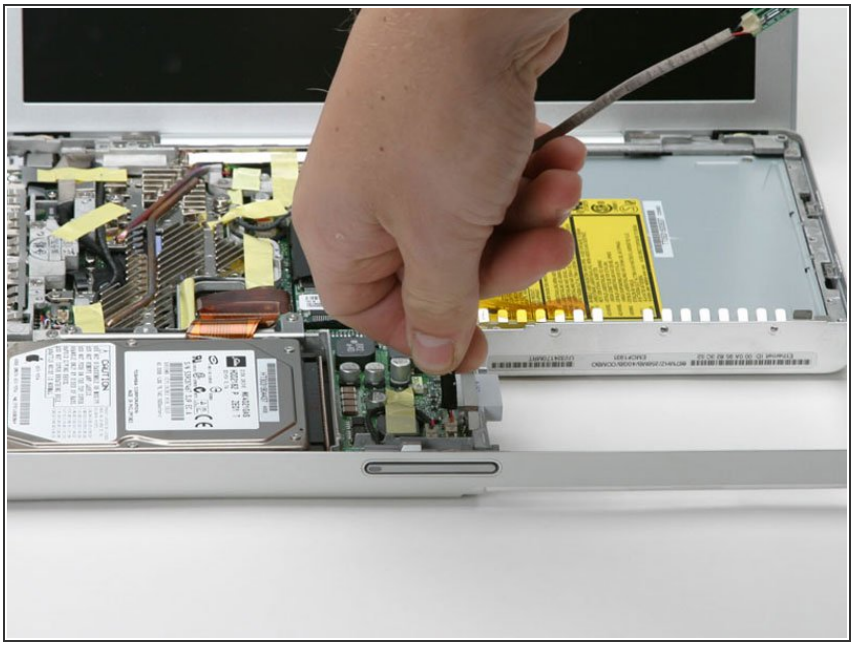
Step 21 — Reed Switch



- Remove the single Phillips screw from the reed switch board on the right side of the computer.
- Deroute the cable connecting the reed switch board to the DC-to-DC board.

Step 22



- Disconnect the reed switch cable from the DC-to-DC board.

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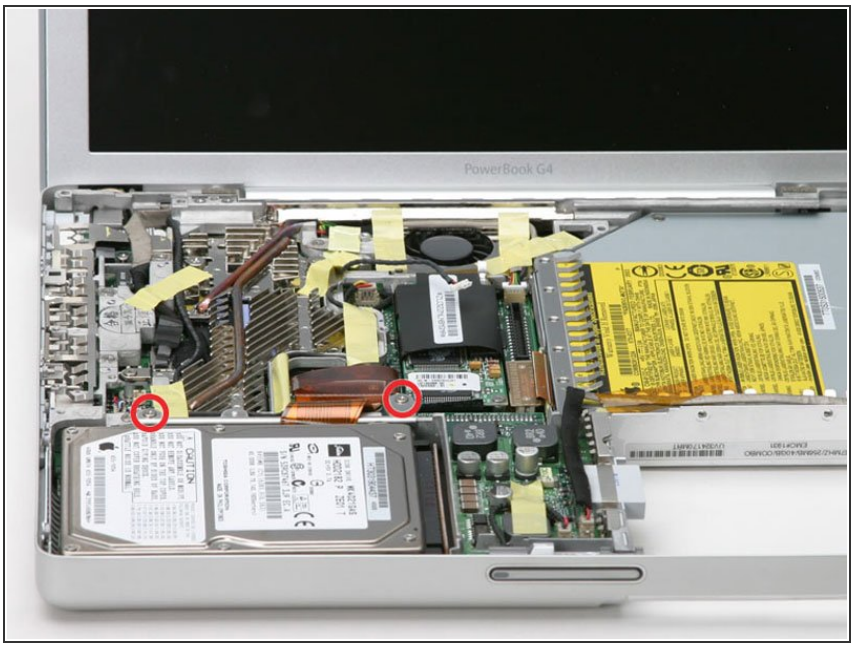
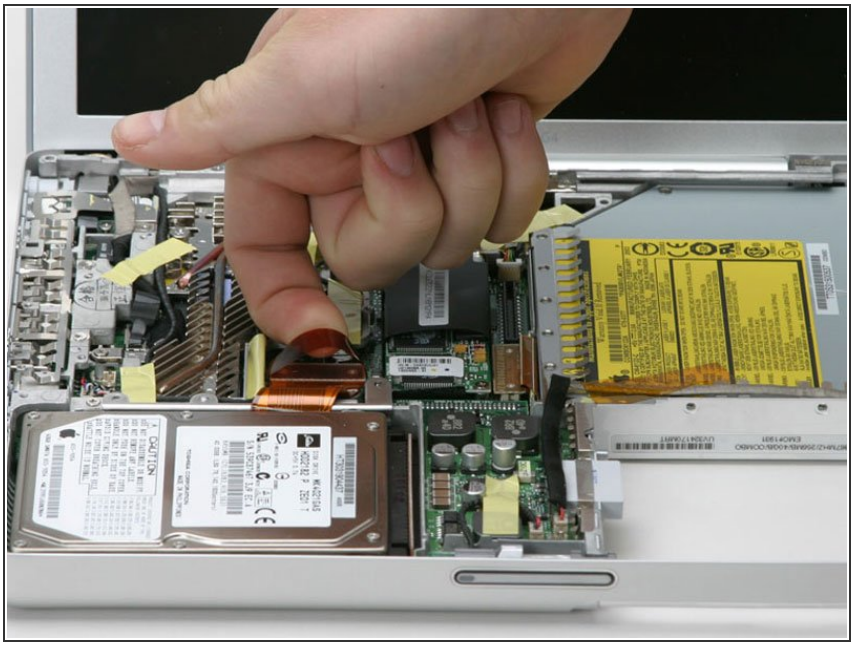
Step 23 — Hard Drive



- Remove the two Phillips screws from the hard drive bracket.

Step 24



- Use the orange plastic loop to disconnect the hard drive cable from the logic board.

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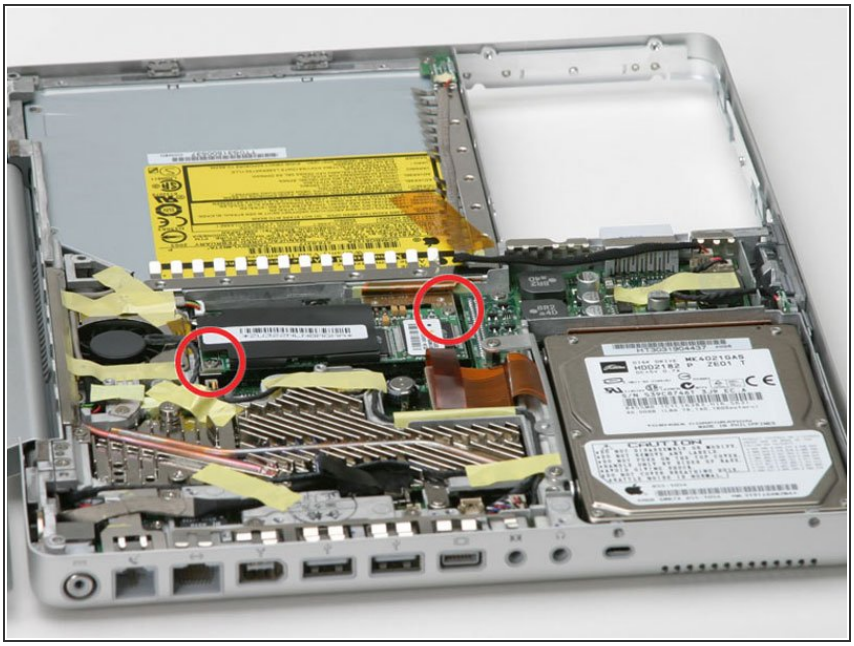
Step 25

- Use the orange cable to pull the hard drive up, then pull it and the hard drive bracket out of the computer.

Step 26 — Modem



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

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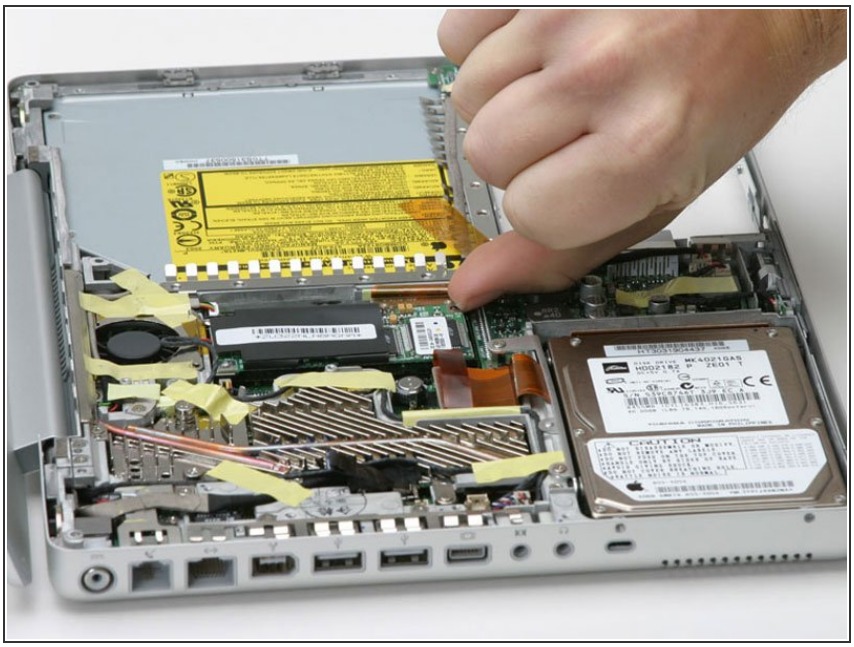
Step 27



- Pry the modem up from the trackpad side.

Step 28

- Disconnect the modem cable from the modem.

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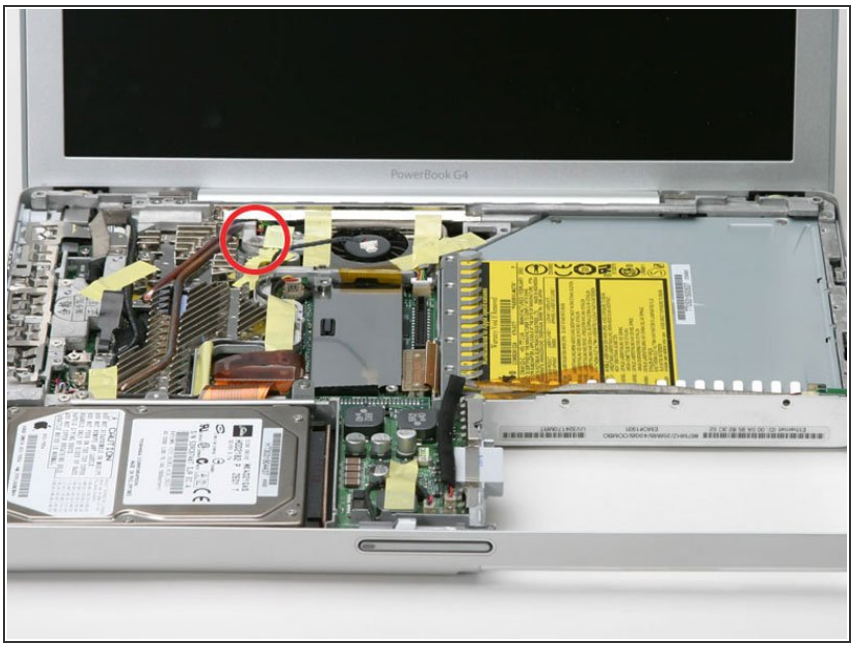
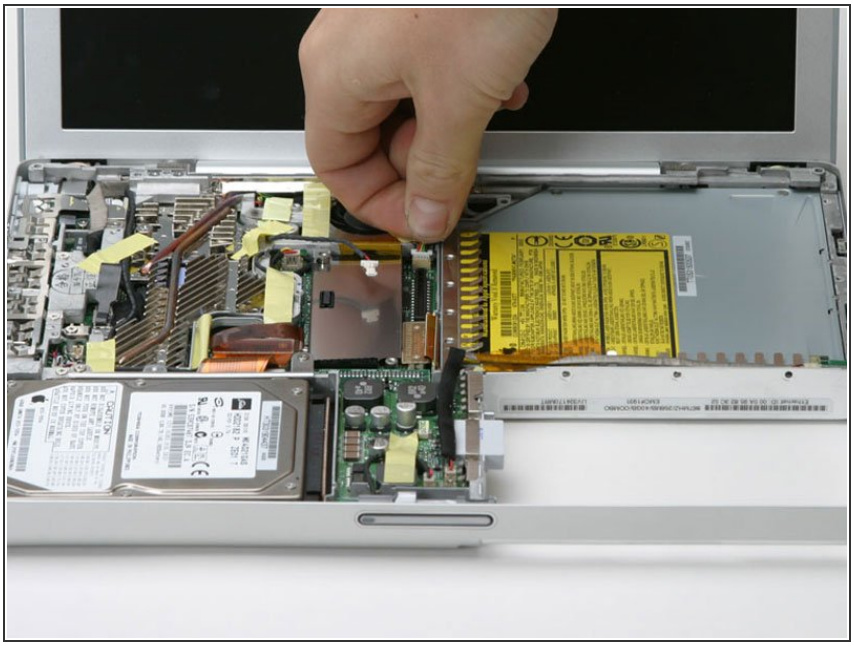
Step 29 — Heat Sink & Fan



- Remove the single Phillips screw fastening the inverter cable.

Step 30



- Disconnect the Bluetooth cable and deroute it.

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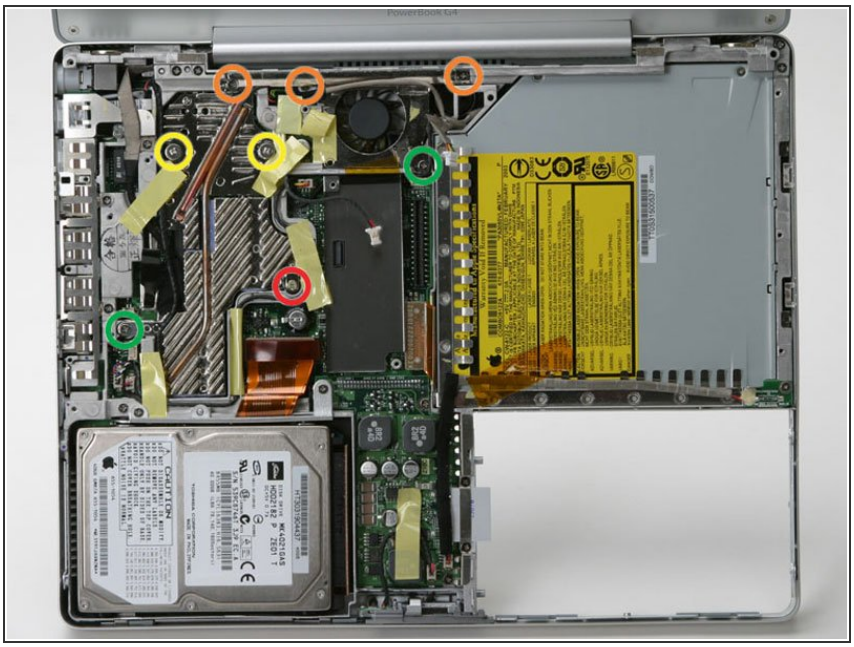
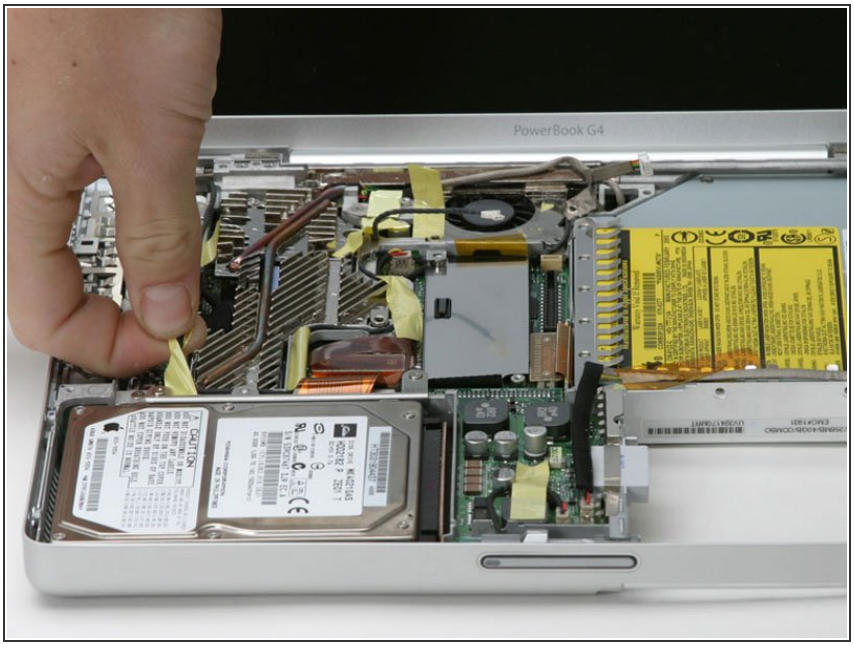
Step 31



- Peeling up yellow tape as necessary, remove the following 8 screws:
  - One 4.5 mm Phillips on the right side of the heat sink.
  - Three 6 mm Phillips near the display.
  - Two large 7.5 mm Phillips with springs (don't forget to remove the springs). If the springs are not releasing, needle nose pliers can help get this done.
  - Two 13 mm screws from the left side of the heat sink and the right side of the fan.

Step 32



- Remove the yellow tape to free the cable from the left side of the heat sink.

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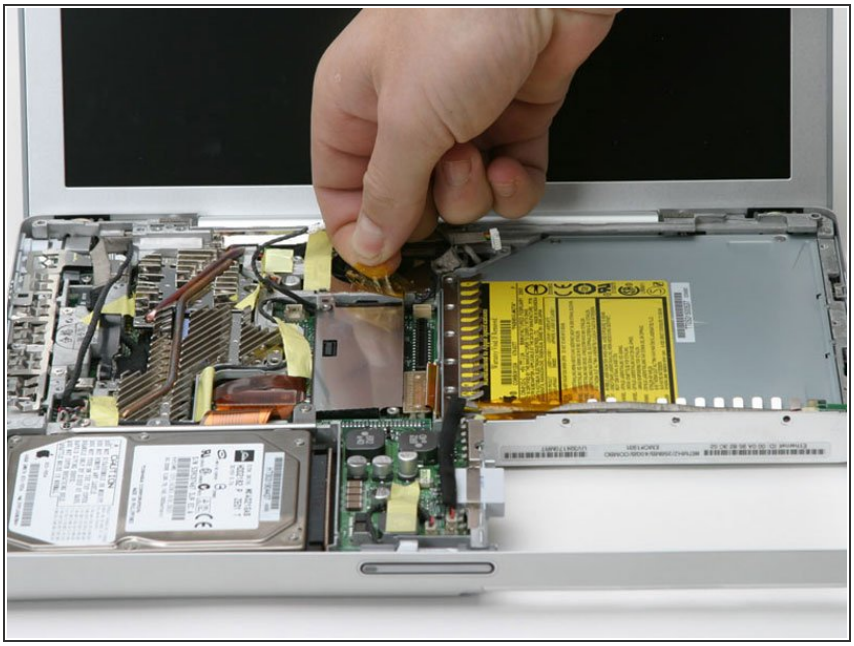
Step 33

- Disconnect the fan cable from the logic board.

Step 34



- Remove the orange tape on the trackpad side of the fan to free the fan cable.

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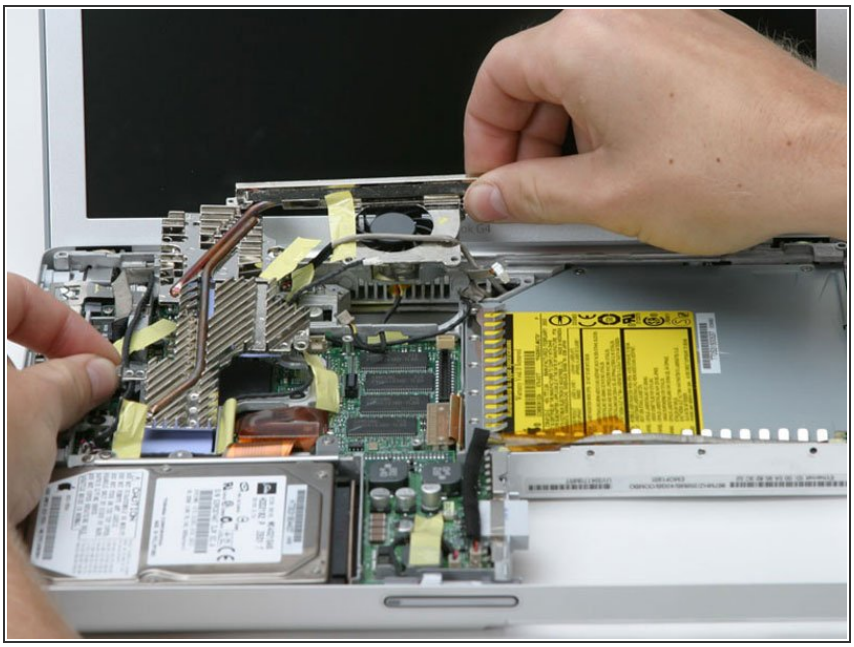
Step 35



- Grasp the heat sink near the copper conductor and lift it out of the computer, freeing it from tape and cables as necessary.

ⓘ 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.

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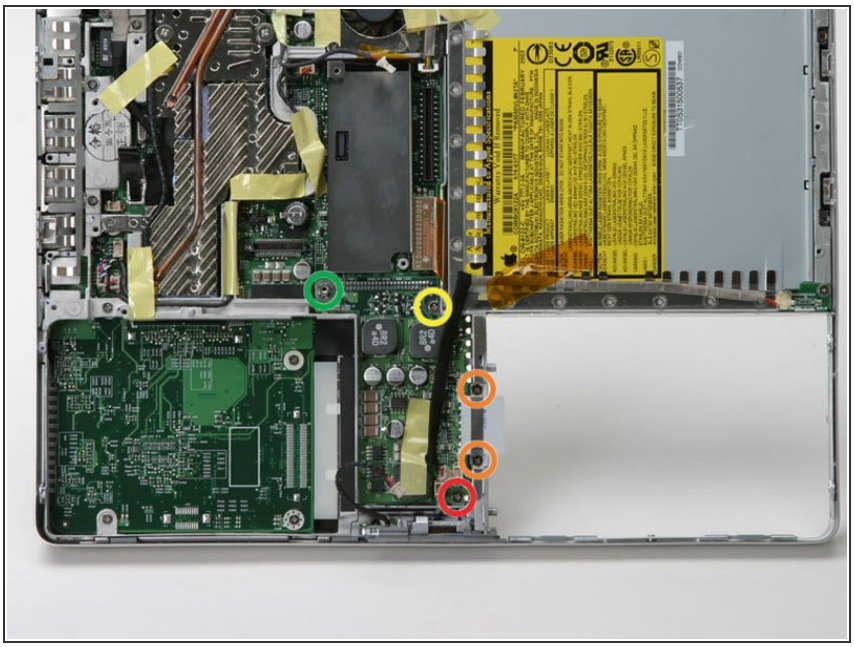
Step 36 — DC-to-DC Board



- Remove the following five screws:
  - One 3 mm Phillips near the screen latch (mind the big magnet on the screen latch).
  - Two 3.5 mm Phillips attaching the EMI fingers to the metal framework.
  - One 10 mm Phillips near the optical drive.
  - One 14 mm long 4 mm standoff in the upper left corner. You can remove this standoff either with a 4 mm nut driver or needlenose pliers.
- Lift the EMI fingers above the battery connector away from the metal framework.

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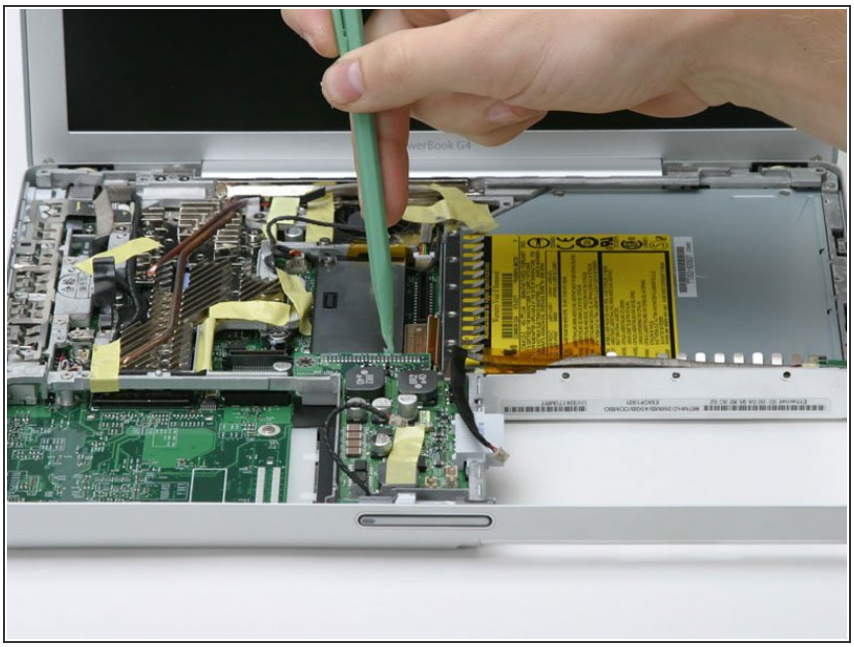
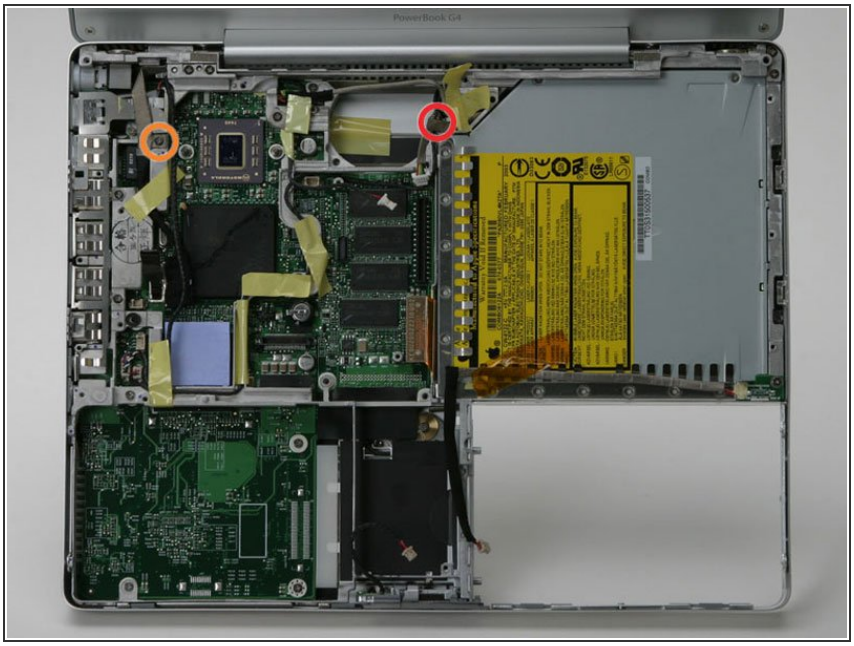
Step 37



- Lift the end of the DC-to-DC board closest to the display and pull the board out of the computer.

Step 38 — Metal Framework



- Disconnect the multicolor connector from the upper right corner of the logic board.
- Remove the following 2 screws:
  - One Phillips buried under the cable to the right of the fan area.
  - One Phillips holding down the display data cable on the left side of the computer.

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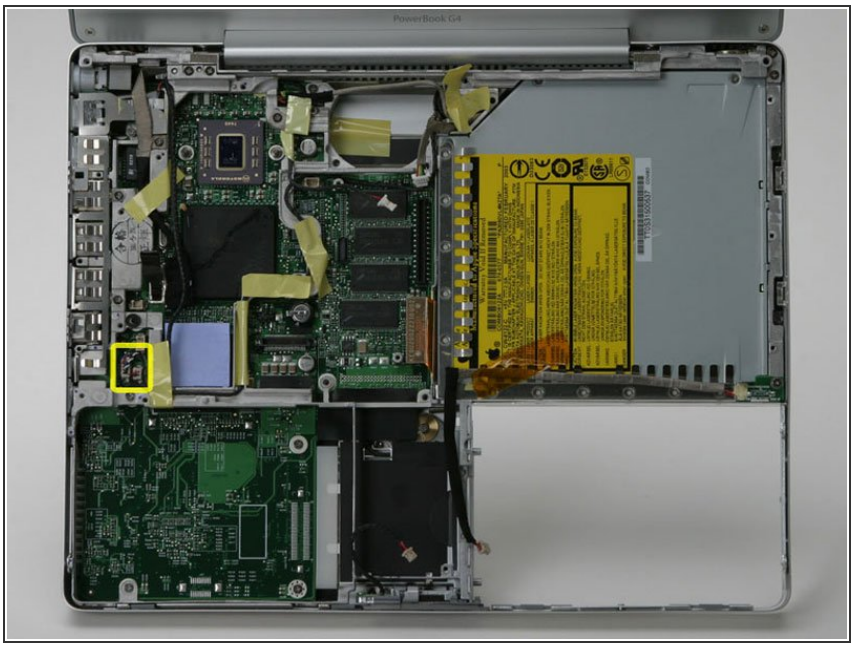
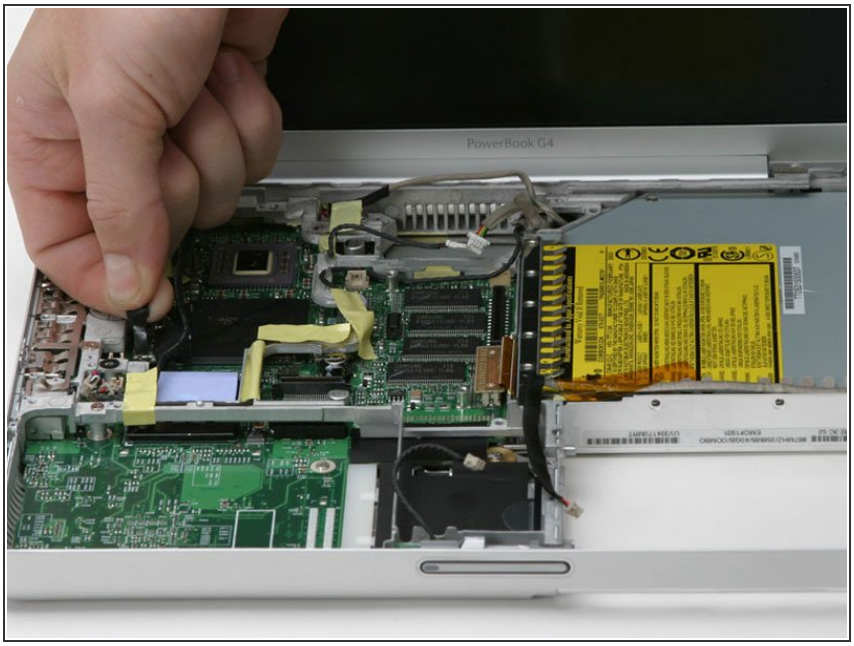
Step 39



- Disconnect the two connectors on the left side of the computer near the ports.

Step 40



- Use the black plastic pull tab to disconnect the display data cable from the logic board.
- Deroute the display data cable, pulling up the yellow tape at the RJ-11 board.

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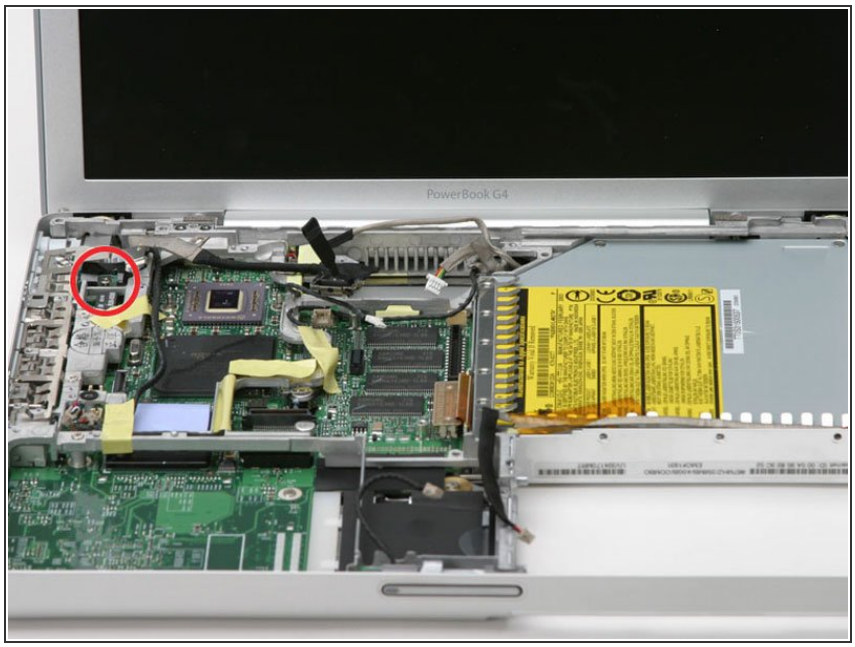
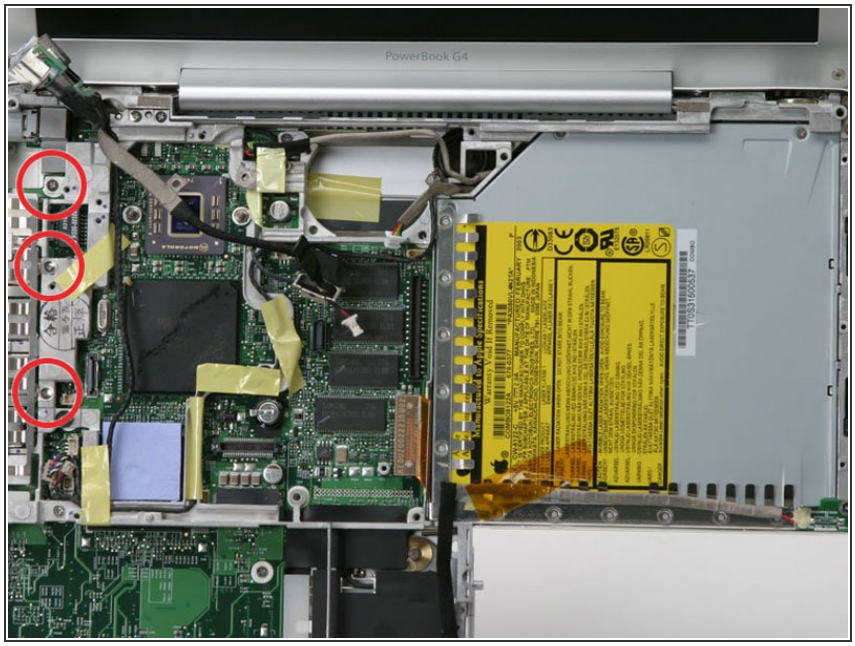
Step 41



- Remove the single Phillips screw from the RJ-11 board.

Step 42



- Lift up the RJ-11 board from the left side and remove the Phillips screw from the metal framework.
- Remove the two Phillips screws securing the EMI fingers to the ports.
- Lift away the EMI fingers.

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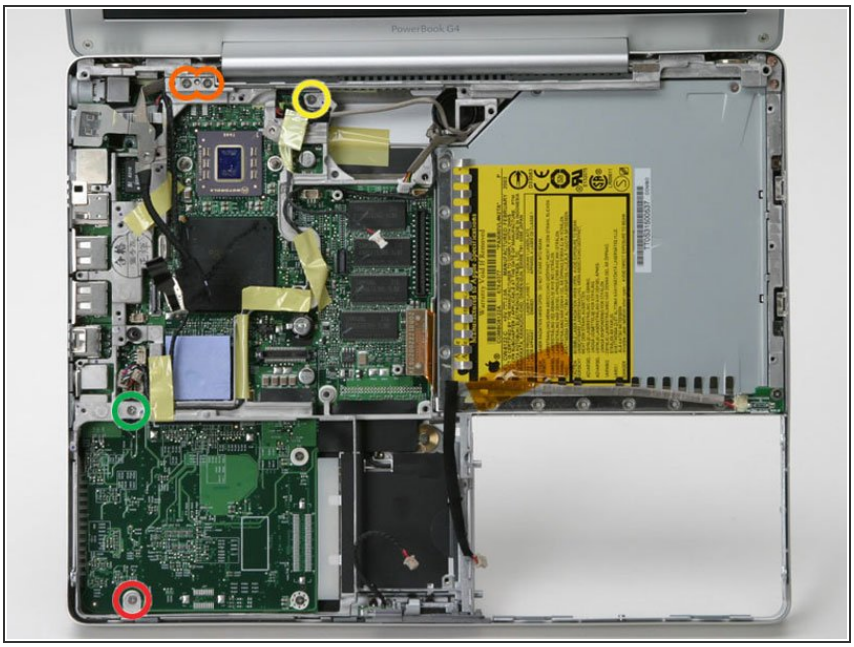
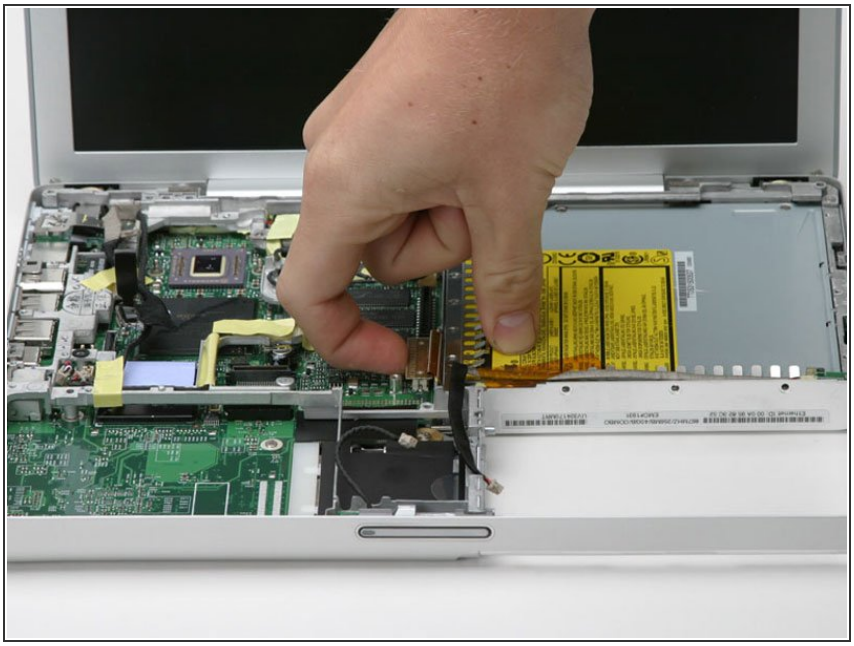
Step 43



- Remove the following 5 screws:
  - One 4.5 mm Phillips in the bottom left corner of the logic board.
  - Two 6 mm Phillips to the left of the display hinge.
  - One 10 mm Phillips to the upper left of the fan area.
  - One 13 mm Phillips to the right of the headphone jack on the metal framework.

Step 44



- Disconnect the orange optical drive cable from the logic board.

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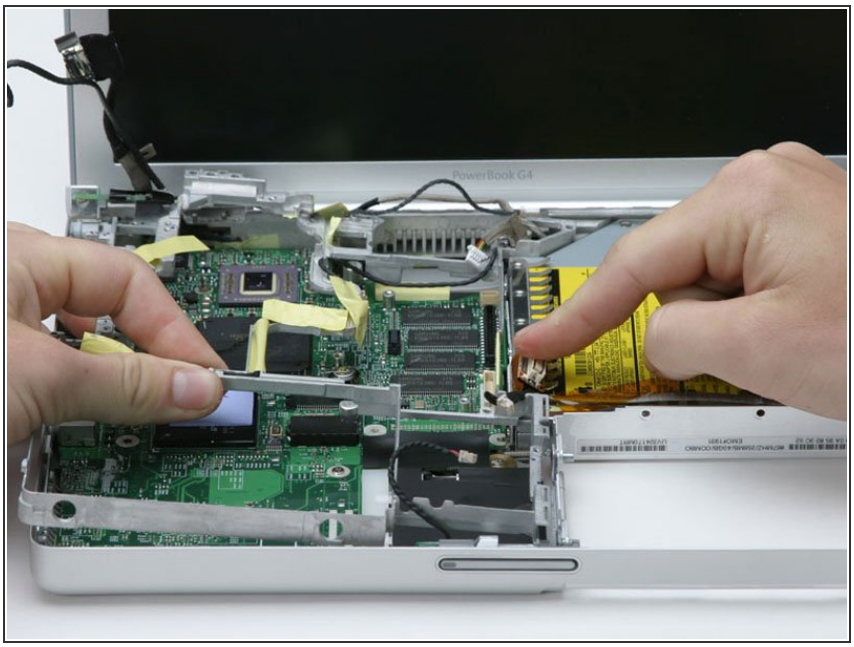
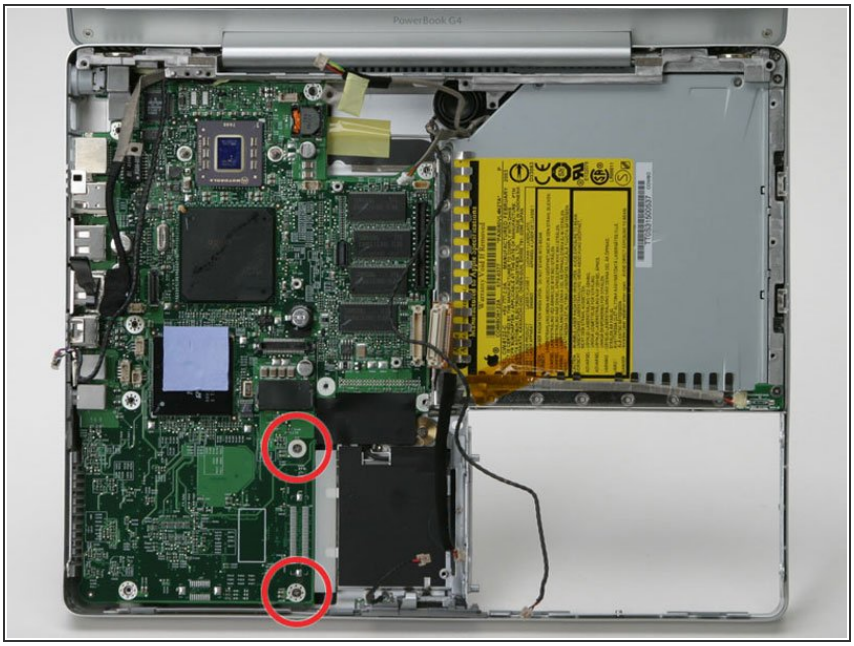
Step 45



- Lift the metal framework out of the computer. Be careful that the orange optical drive cable doesn't catch on the framework and be sure you haven't forgotten to disconnect any other connectors.

Step 46 — Logic Board



- Remove the two Phillips screws from the bottom right of the logic board.

ⓘ Do not lift the logic board out without disconnecting the DC-In connector underneath the logic board.

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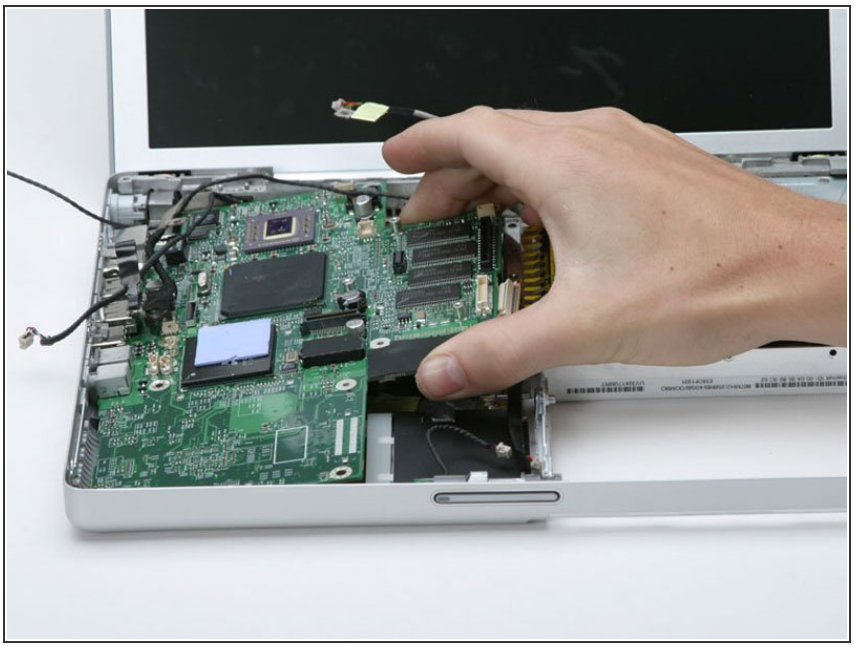
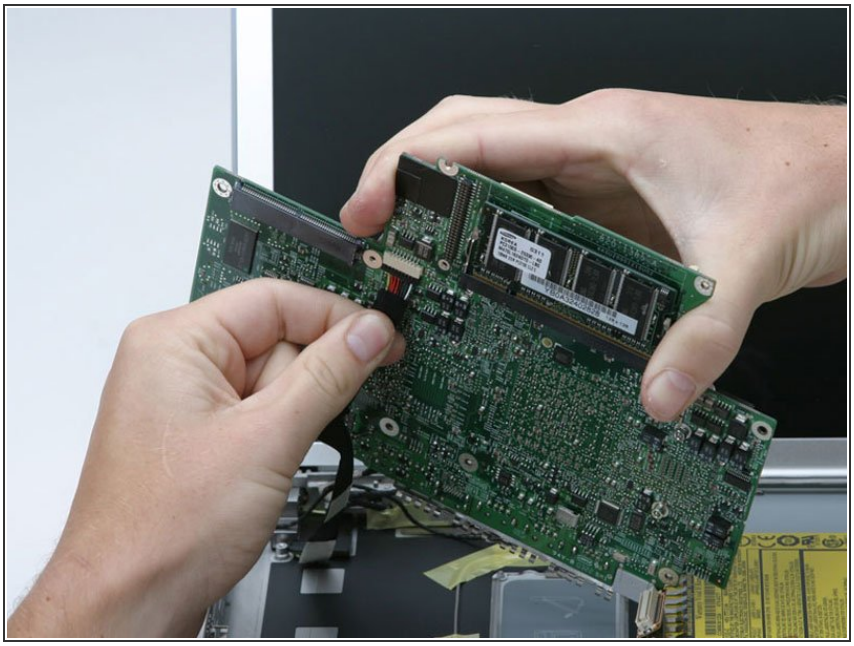
Step 47



- Lift the logic board partly up from the optical side.

Step 48



- Disconnect the DC-In connector from the underside of the logic board.

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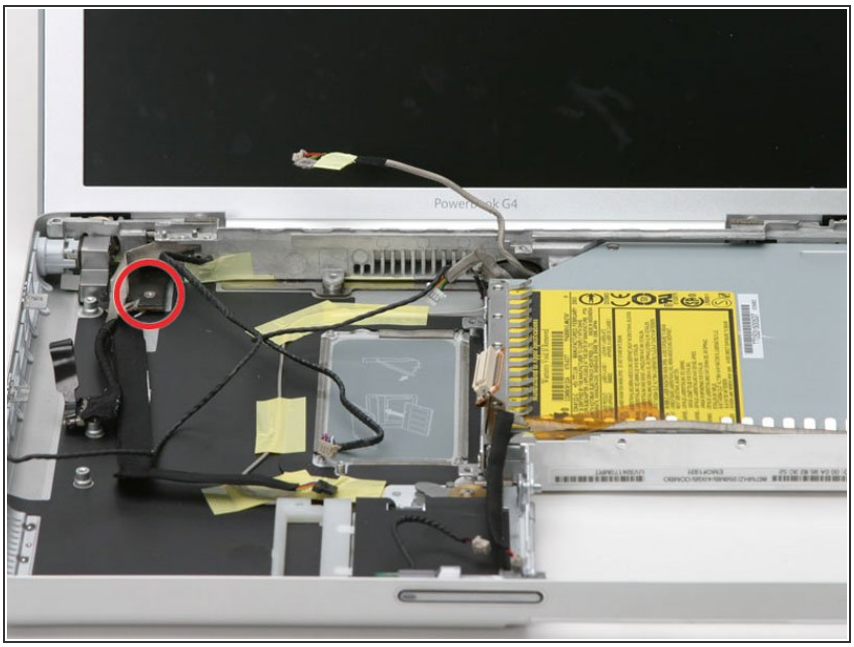
Step 49 — DC-In Board



There may be black tape covering the screw in the following step, remove it if necessary.

- Remove the single Phillips screw that attaches the DC-In board to the lower case.

Step 50

- Pull the flat, black DC power cable up from the bottom of the case, removing tape as necessary.
- Lift up the front right corner of the DC-In board and rotate it clockwise to slide the power receptacle out of the lower case.

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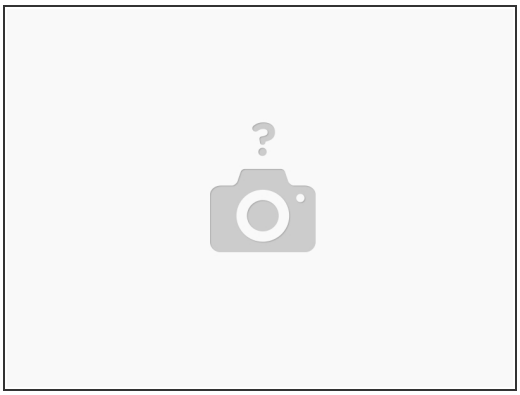
Step 51



- The tip of my power supply plug broke off inside the power receptacle.
- Once the DC-in board has been removed.
- Peal back the metal RFI shield.
- At the back of the power receptacle - gently pull the top of the center tab out away from the receptacle body. Forming a gap.
- From the front of the receptacle - use a screwdriver to push the broken tip out the gap.
- Push the center tab back in place.
- Replace the RFI shield.

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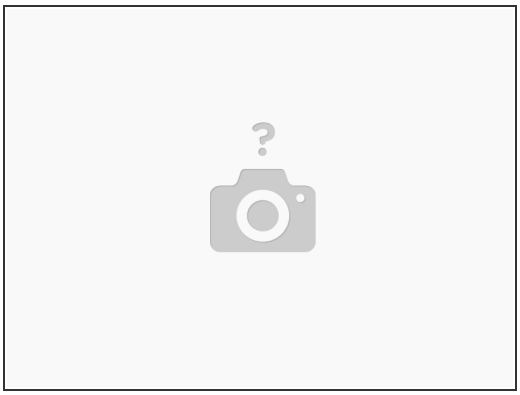
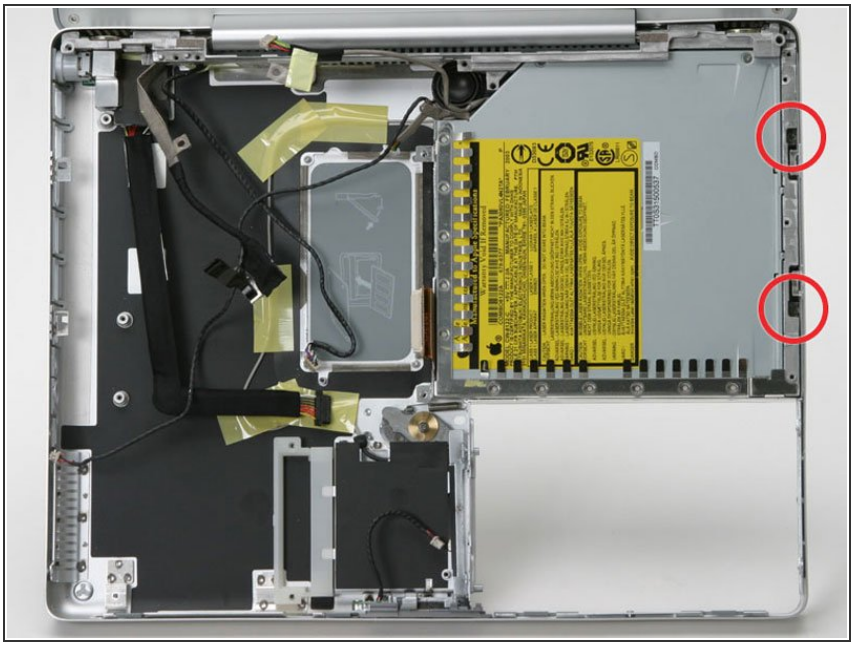
Step 52 — Optical Drive



- Remove the two Phillips screws from the upper right corner of the computer.
- Remove the newly-liberated small metal bracket.

Step 53



- Remove the two recessed Phillips screws on the right side of the optical drive.

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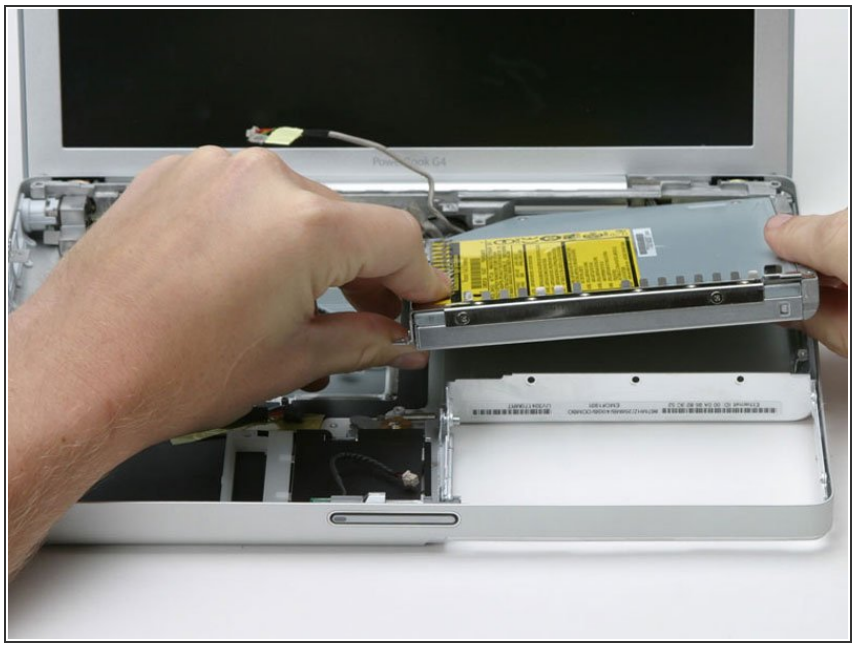
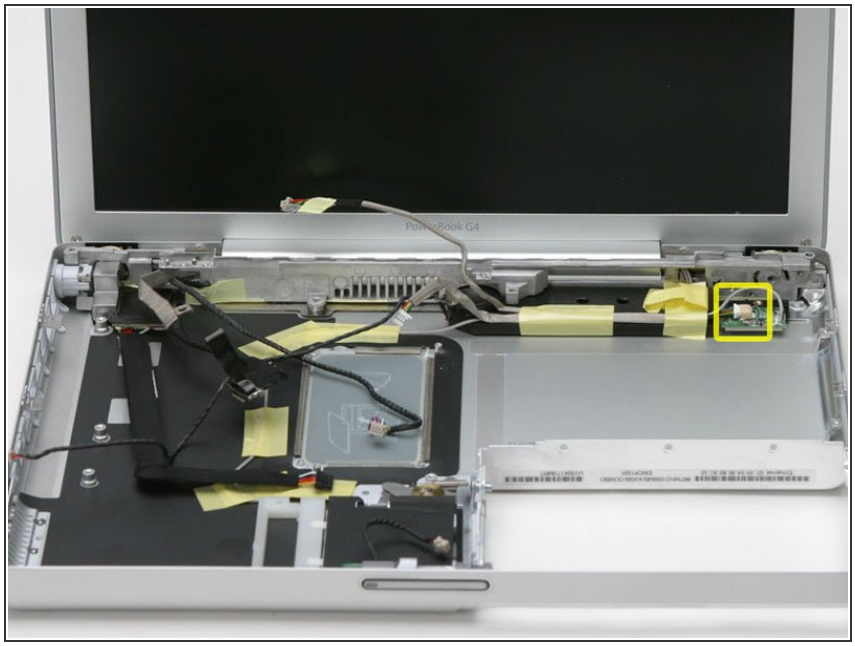
Step 54



- Lift the optical drive up by its front left corner and pull it 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 55 — Bluetooth



- Disconnect the multicolor connector by sliding it to the left.

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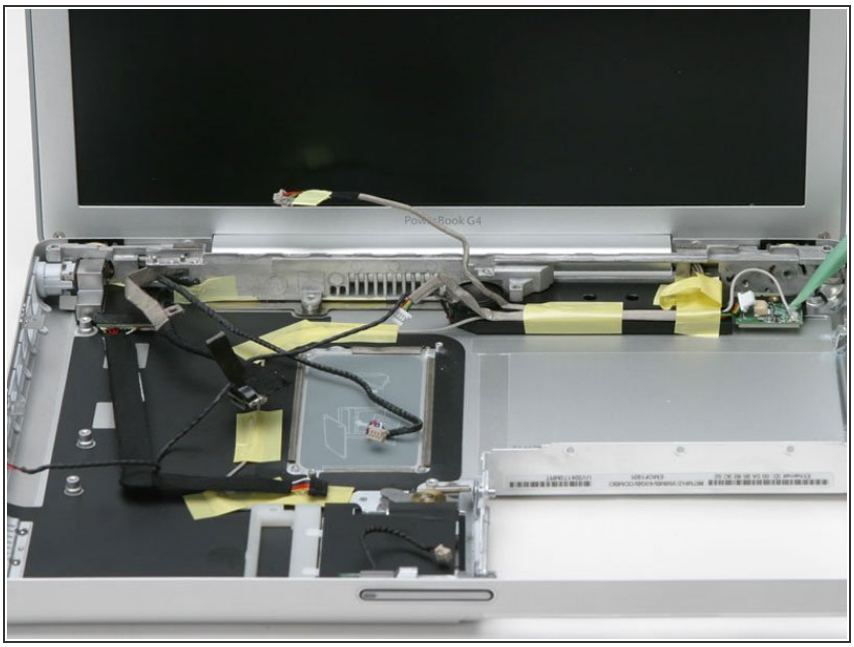
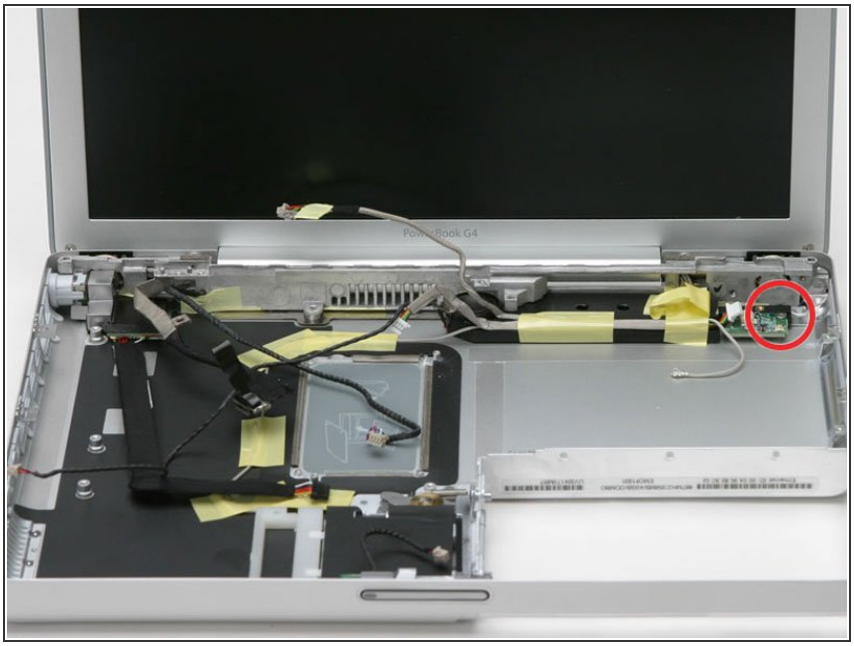
Step 56



- Disconnect the silver bluetooth cable by pulling directly up.

Step 57



- Remove the single Phillips screw from the right side of the board.
- Lift the bluetooth board out of the computer.

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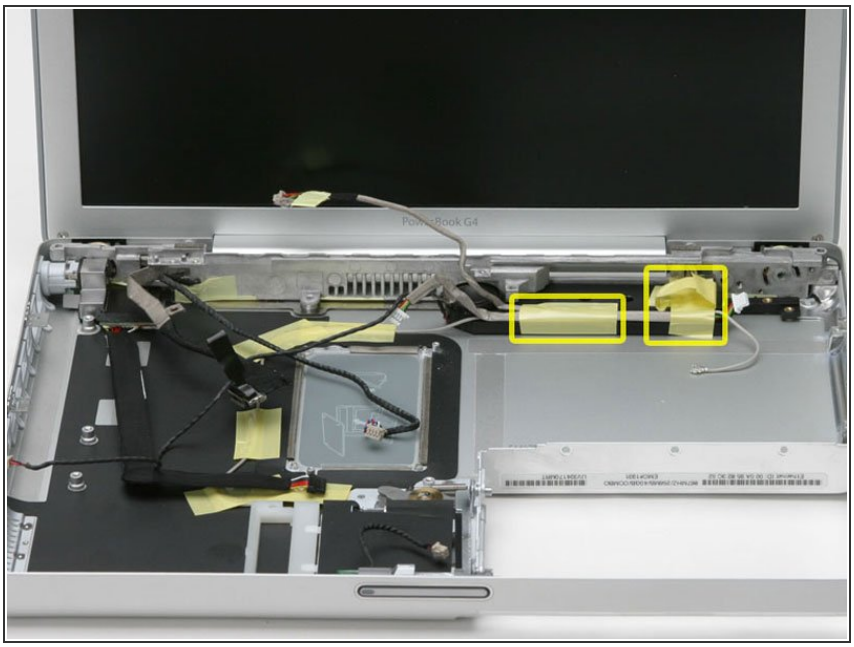
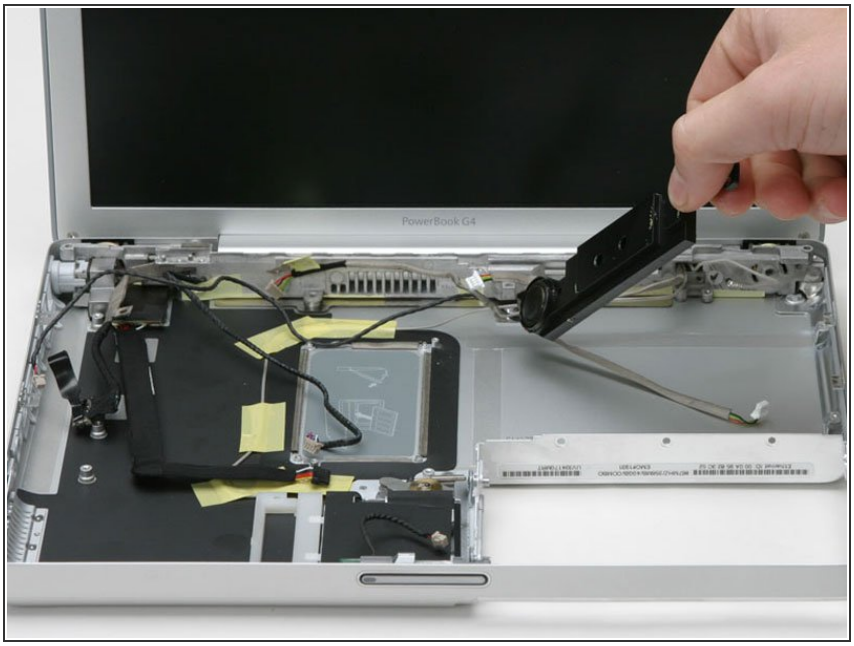
Step 58 — Subwoofer



- Peel back the yellow tape from the right side of the subwoofer.
- Remove the single Phillips screw from the right side of the subwoofer, under the tape you just removed.
- Remove the yellow tape that secures the remaining cables to the side of the subwoofer.

Step 59



- Slide the subwoofer away from the screen and out of the computer.

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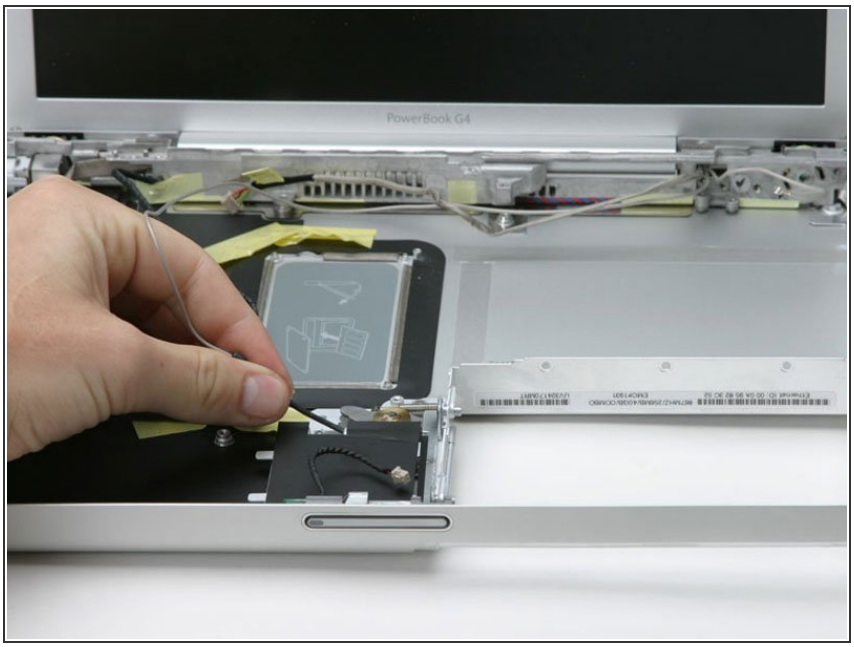
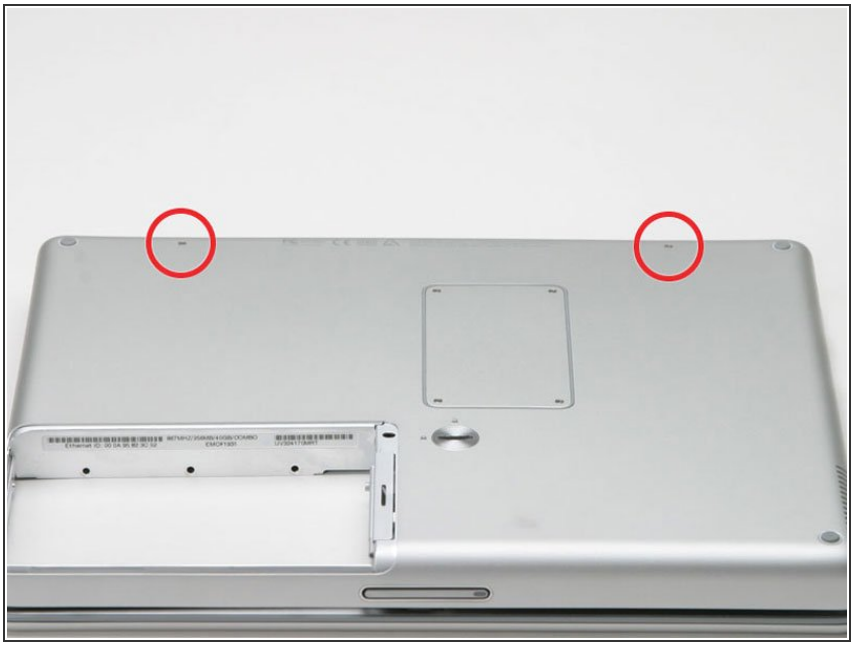
Step 60 — Display



- Deroute the Airport Extreme antenna from the card slot and lower case, removing tape as necessary.

Step 61



- Place a cloth between the screen and the bottom case.
- Close the bottom case and turn the laptop over.
- Remove the two Phillips screws from the bottom case.

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Step 62

- Remove the two Phillips screws from either side of the display hinge.

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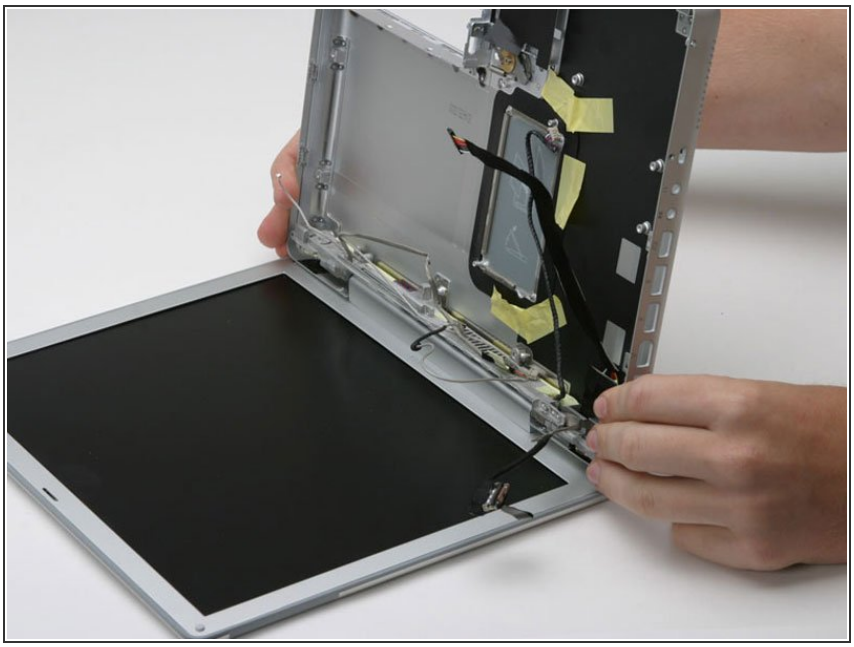
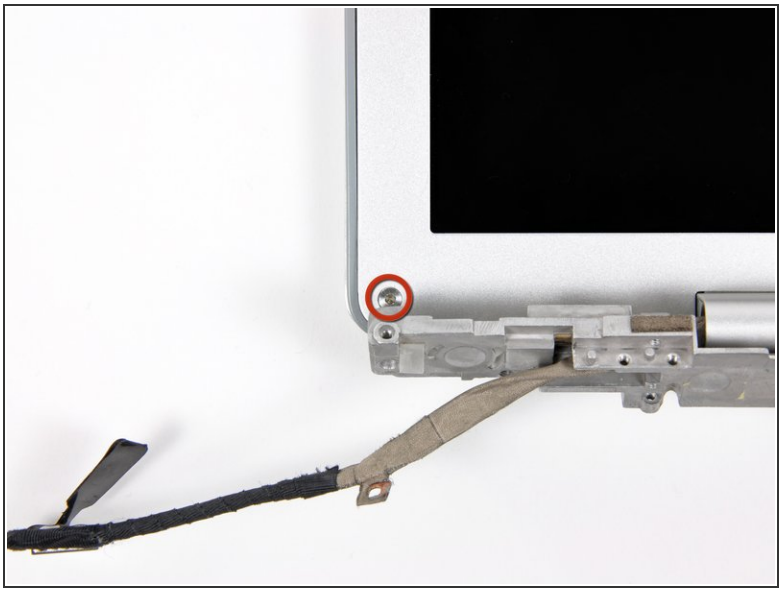
Step 63

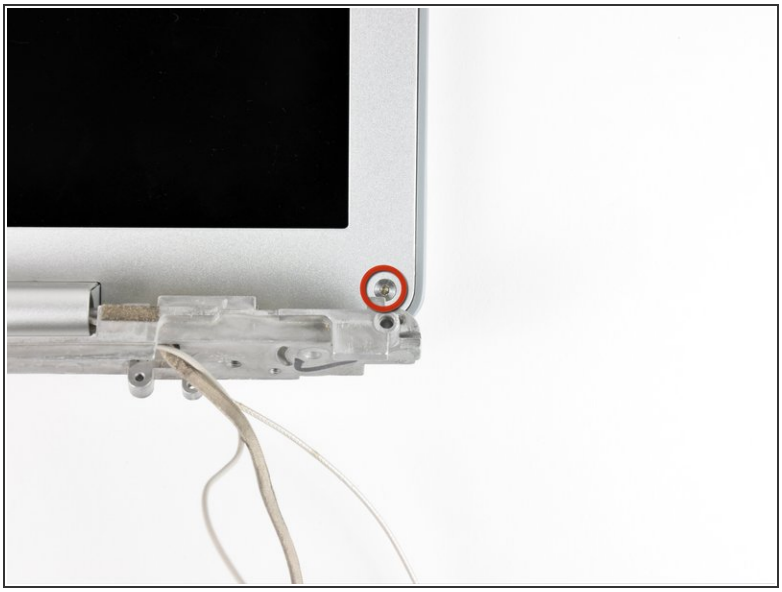


- Grasp the lower case and push down on the hinge side while rotating the other end of the case toward you until it pops free, then remove it entirely (leaving the display).

ⓘ You have effectively removed the computer from the display.

Step 64 — Rear Display Bezel





- Remove the two T6 Torx screws in the lower left and lower right corners of the display securing the rear bezel to the display assembly.

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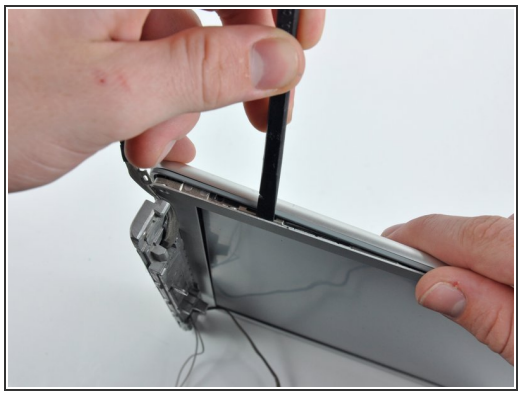
Step 65



- Insert the spudger between the left edge of the front display bezel and the plastic strip attached to the rear bezel, with the edge of the tool angled toward the LCD.
- Rotate the tool away from the LCD to pop the rear bezel off the tabs on the front display bezel.
- Work along the left edge of the display until the rear bezel is evenly separated from the front bezel.

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Step 66

- Insert a spudger between the right edge of the front display bezel and the plastic strip attached to the rear bezel, with the edge of the tool angled toward the LCD.
- Rotate the tool away from the LCD to pop the rear bezel off the tabs on the front display bezel.
- Work along the right edge of the display until the rear bezel is evenly separated from the front bezel.

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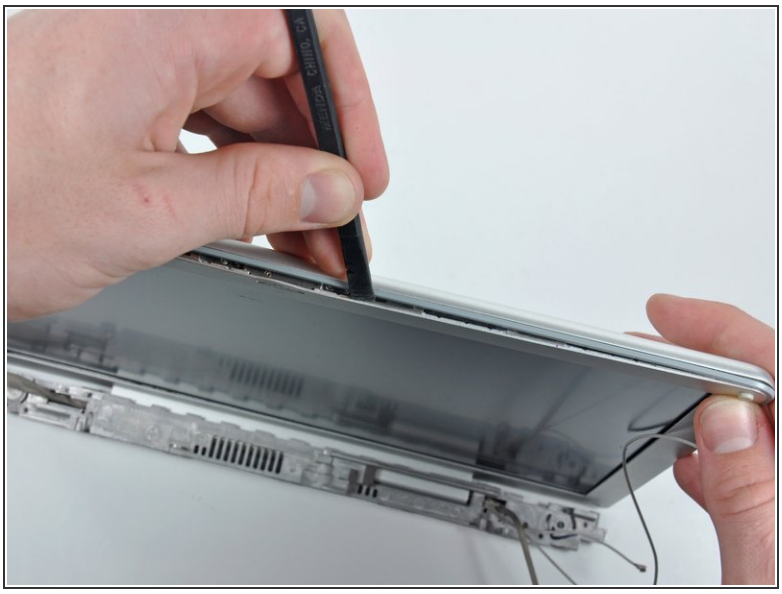
Step 67



- Insert a spudger between the top edge of the front display bezel and the plastic strip attached to the rear bezel, with the edge of the tool angled toward the LCD.
- Rotate the tool away from the LCD to pop the rear bezel off the tabs on the front display bezel.
- Work along the top edge of the display until the rear bezel is evenly separated from the front bezel.

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Step 68

- Insert a spudger in the space between the front bezel and the rear display bezel near the top left corner.
- Release the clip by rotating the spudger away from the screen.
- Repeat this process on the top right corner of the display.

ⓘ These clips are especially tough to undo, and may take some extra force to remove them.

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Step 69

- Lift the top edge of the rear display bezel slightly.
- Slide the rear display bezel away from you to undo the last few clips.
- Rotate the rear display bezel off, and lay it next to the display.

⚠ The rear bezel is still connected to the display via ribbon cables on the botom edge.

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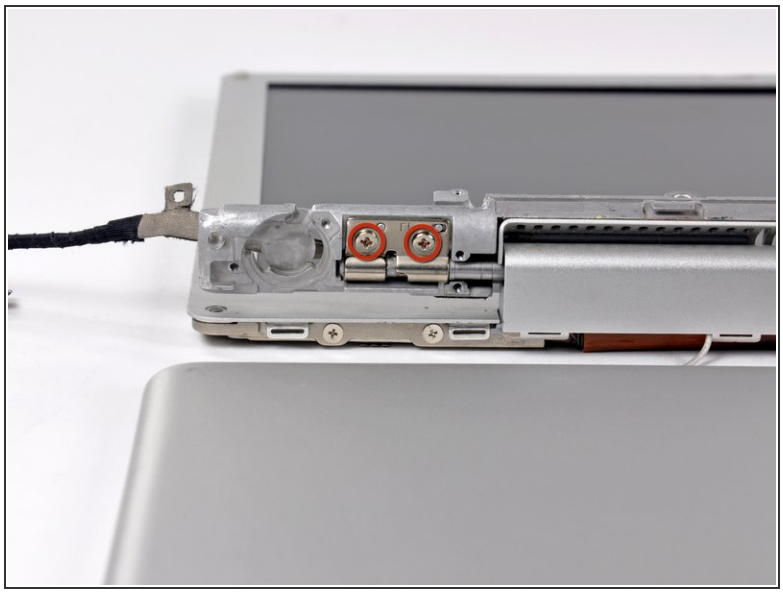
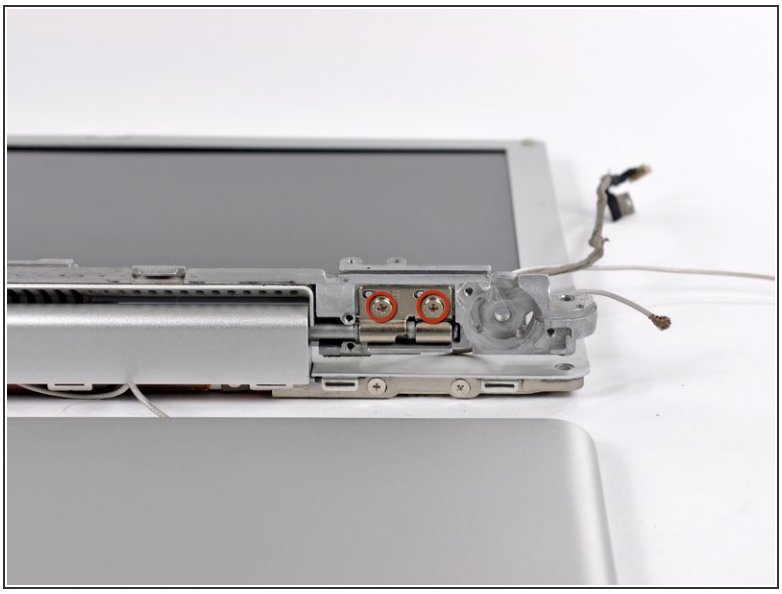
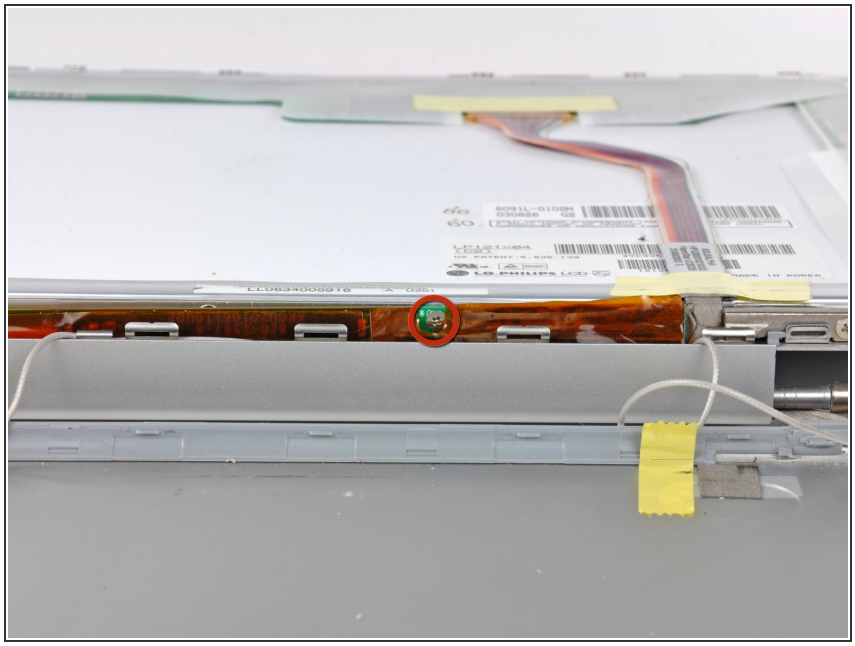
Step 70 — Clutch Cover





- Flip the device over and remove the two 4.5 mm Phillips screws on each side of the metal bracket (four screws in total).
- Thread the display inverter, antenna, and display data cables through the bracket and remove the metal bracket.

Step 71



- Flip the device over.
- Remove the 5.5 mm Phillips screw connecting the display inverter to the front display bezel.

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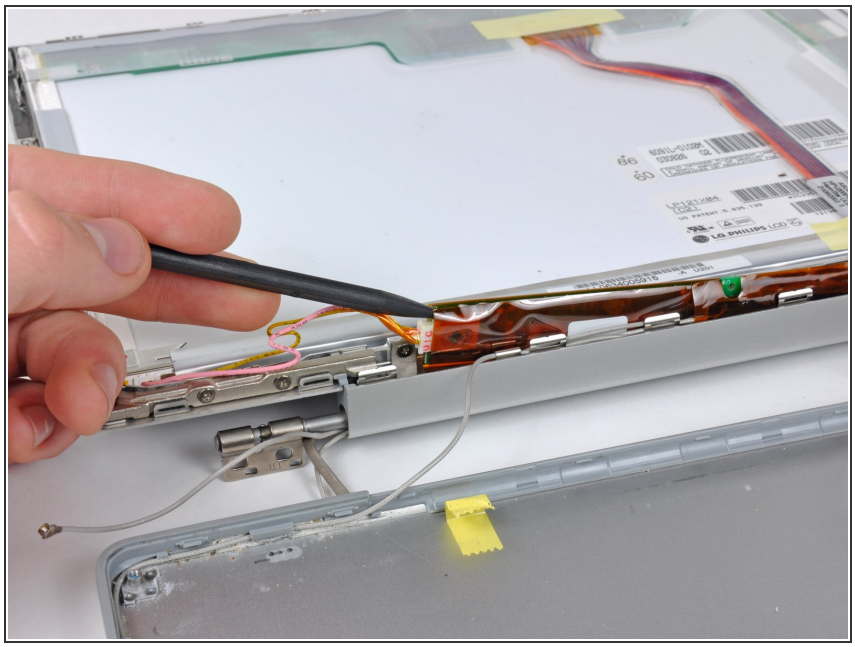
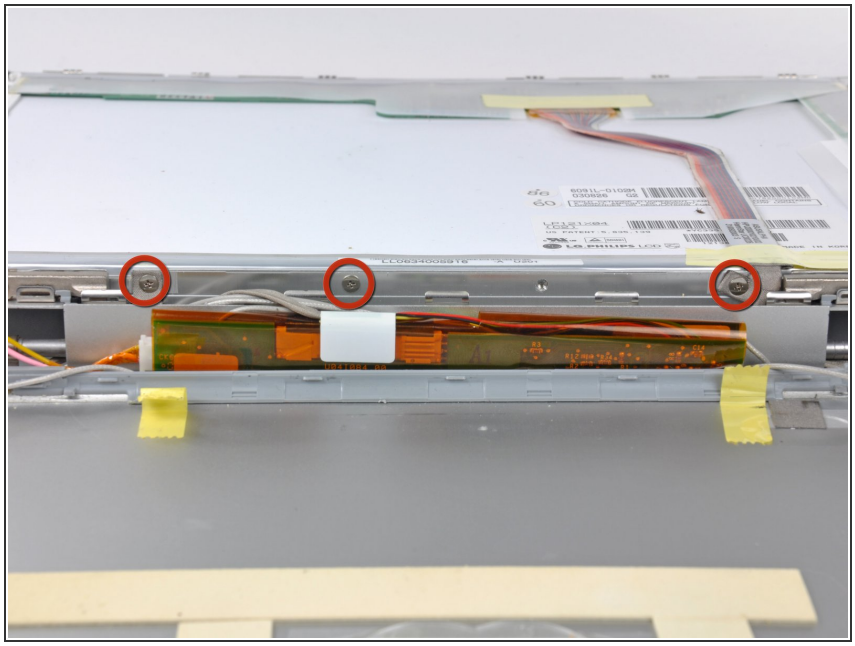
Step 72



⚠ The inverter is an extremely thin circuit board that is very delicate and easily cracked. Take care when handling.

- Using the pointed end of a spudger, lift the display inverter out of the clutch cover.

Step 73



- Remove the three 3.0 mm Phillips screws connecting the clutch cover to the front display bezel.

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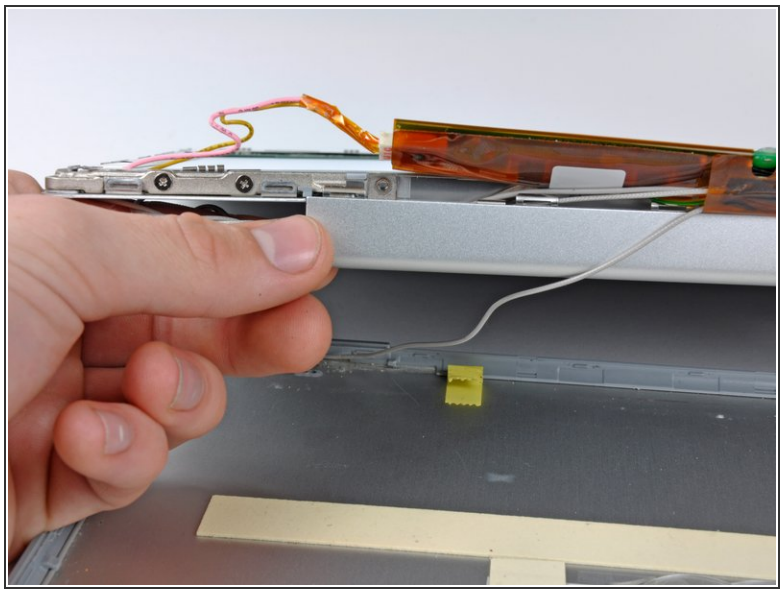
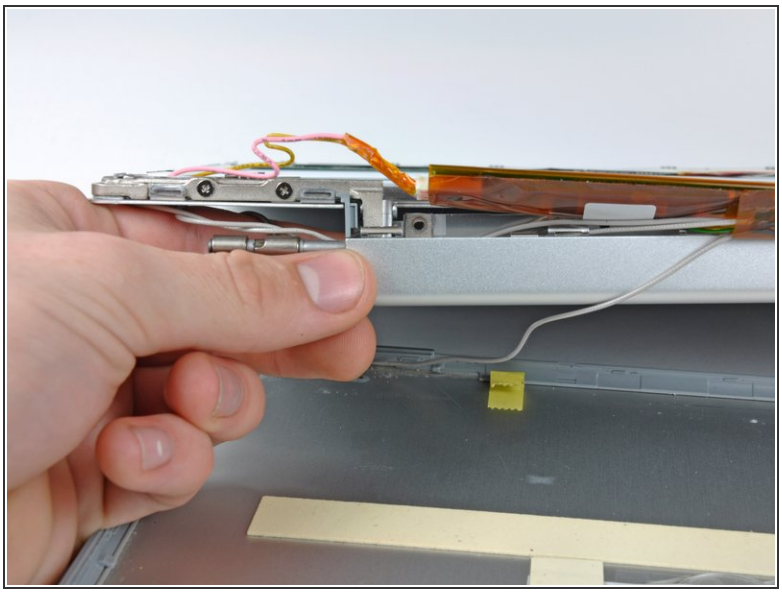
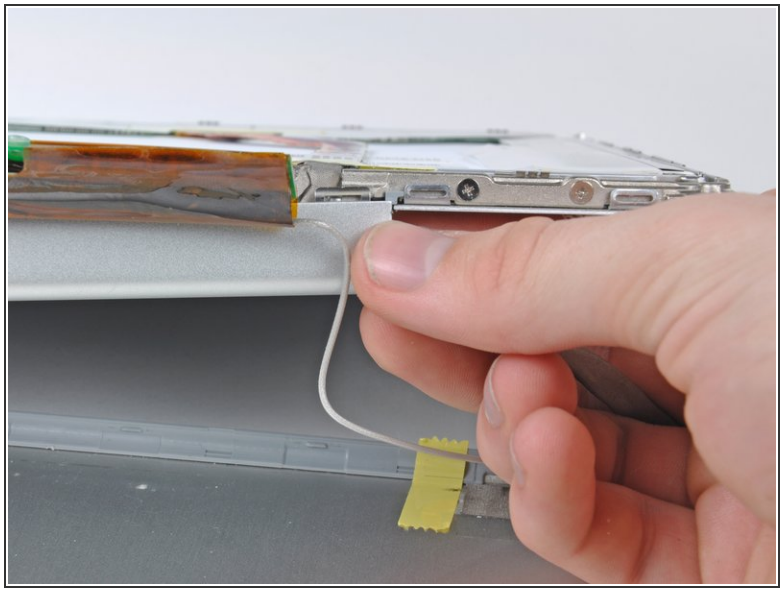
Step 74

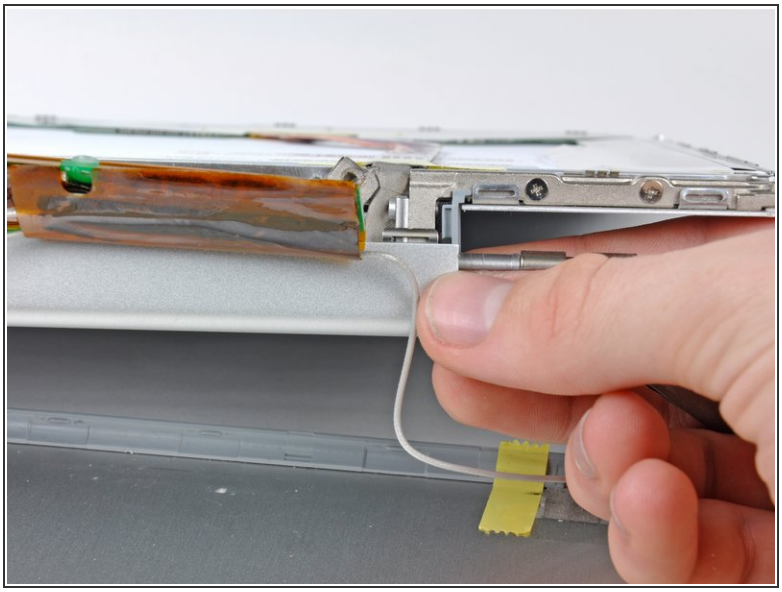




- Pull the left edge of the clutch cover downwards.

Step 75





- Pull the right edge of the clutch cover downwards.
- Remove the clutch cover from the device.

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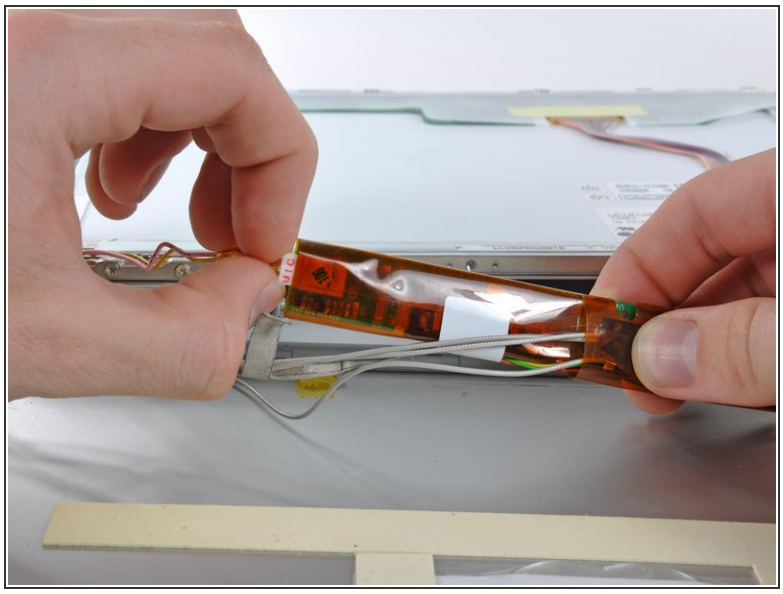
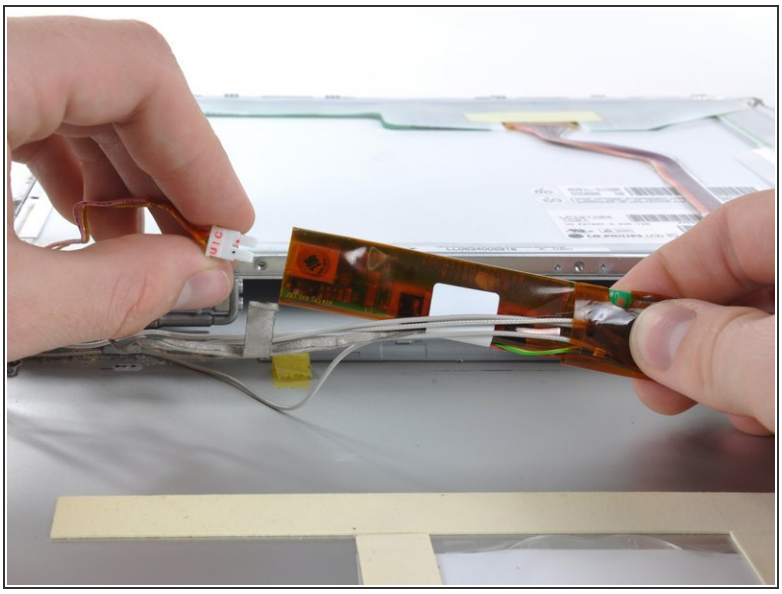
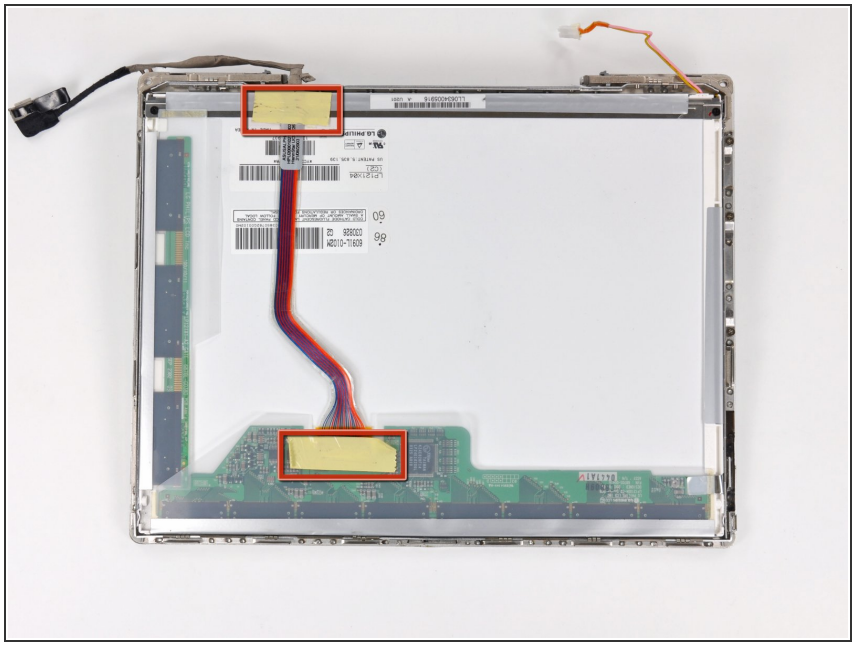
Step 76 — LCD





- Disconnect the inverter cable by pulling the connector away from the socket on the inverter board.

Step 77



- Remove the two pieces of tape covering the display data cable.

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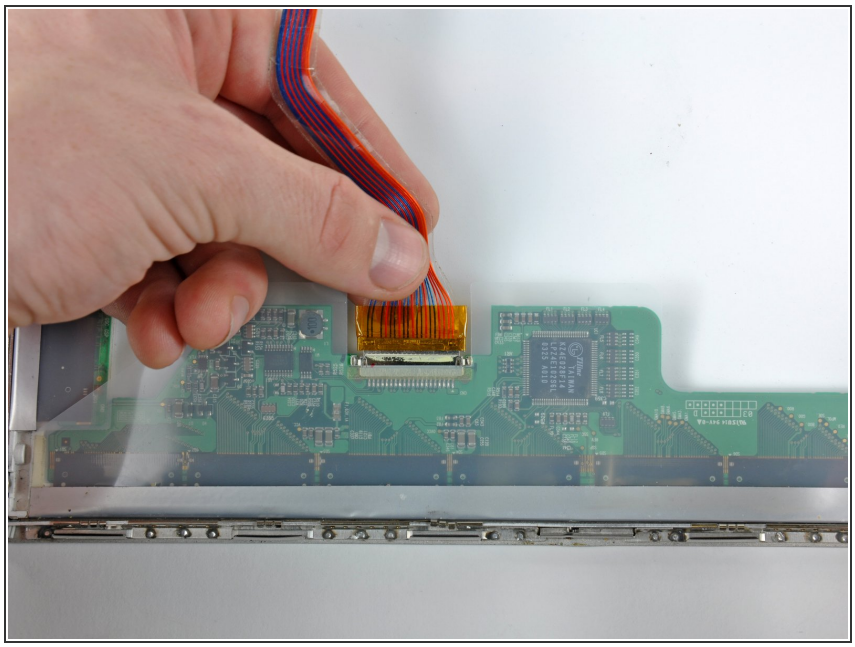
Step 78



- Pull the display data cable connector away from its socket to disconnect it from the LCD.

Step 79

- Remove the two 3.0 mm Phillips screws securing the LCD to the left side of the front display bezel.

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Step 80

- Remove the two 3.0 mm Phillips screws securing the LCD to the right side of the front display bezel.

Step 81

- Push the LCD away from the front display bezel.
- Remove the LCD.

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

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