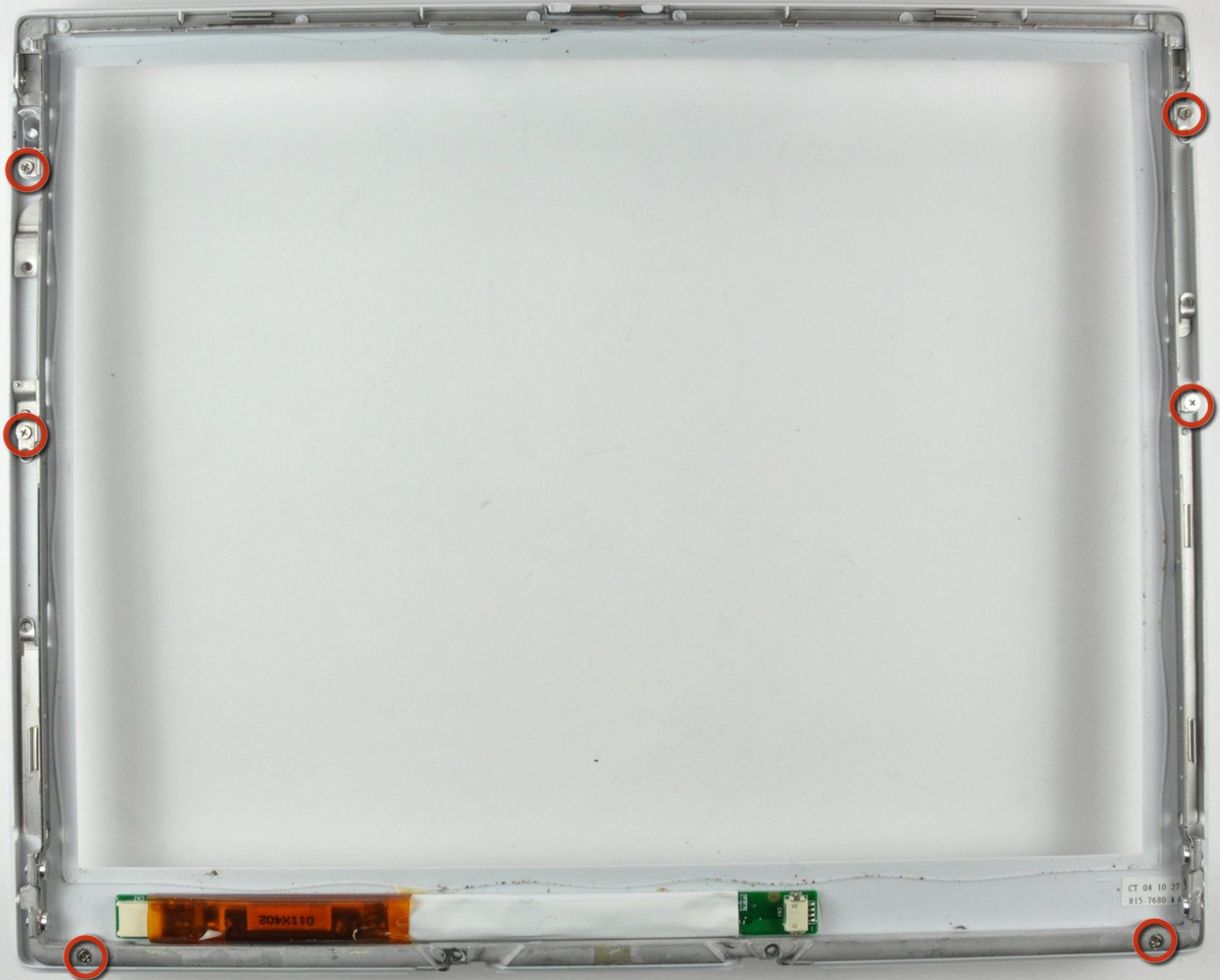




iBook G4 12" 1.33 GHz Clutch Hinges Replacement

Written By: Ben Eisenman



INTRODUCTION

Replace your broken display hinges to make your display open silky-smooth.



TOOLS:

- [1.5mm Hex Screwdriver](#) (1)
- [Coin](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Flathead 3/32" or 2.5 mm Screwdriver](#) (1)
- [Spudger](#) (1)
- [T8 Torx Screwdriver](#) (1)



PARTS:

- [iBook G3 or G4 12" Clutch Hinges](#) (1)

Step 1 — Battery



- Lay your iBook upside down on a flat surface.
- Use a coin to rotate the battery locking screw 90 degrees clockwise.
- Lift the battery out of the computer.

Step 2 — Keyboard



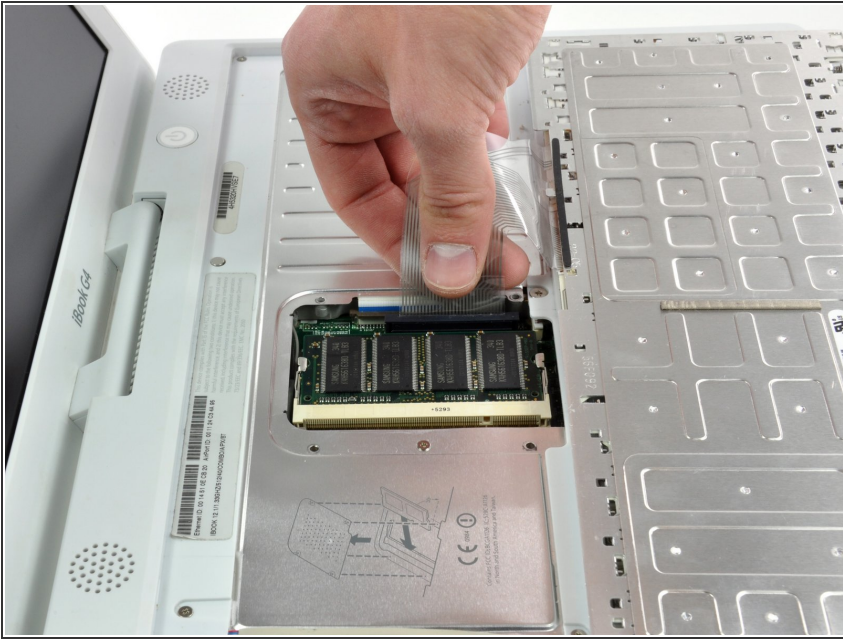
- Pull the keyboard release tabs toward you and lift up on the keyboard until it pops free.
- ❗ If the keyboard does not come free, use a small flathead screwdriver to turn the keyboard locking screw 180 degrees in either direction and try again.
- Flip the keyboard over, away from the screen, and rest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

Step 3



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

Step 4



- Pull the keyboard cable up from the logic board, holding the cable as close to the connector as possible.
- ★ Make sure that you reconnect the keyboard cable before replacing the RAM shield.

Step 5 — Lower Case



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

Step 6



- Remove the three newly-revealed Phillips screws.

Step 7



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

Step 8



- Remove the three hex screws using a T8 Torx screwdriver.

★ The shorter screw is in the center of the computer.

Step 9



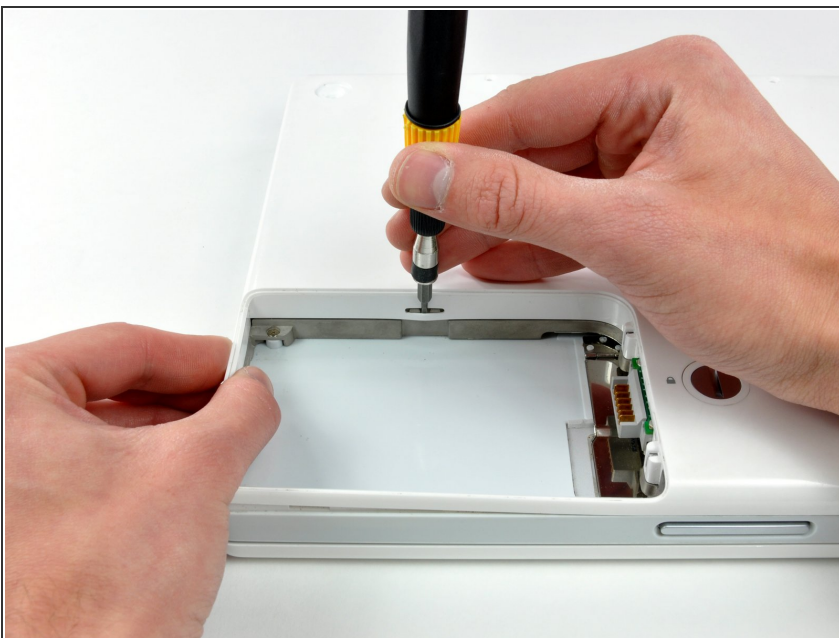
- Remove the two 4.5 mm Phillips screws on either sides of the battery contacts.

Step 10



- ❗ Breathe deeply. Trying times are ahead, but we promise the lower case does come off.
- Push the thin rims of the lower case surrounding the battery compartment in, bending them past the tabs, and then lift up to free that corner of the lower case.

Step 11



- 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 12



- 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 13



- 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 14



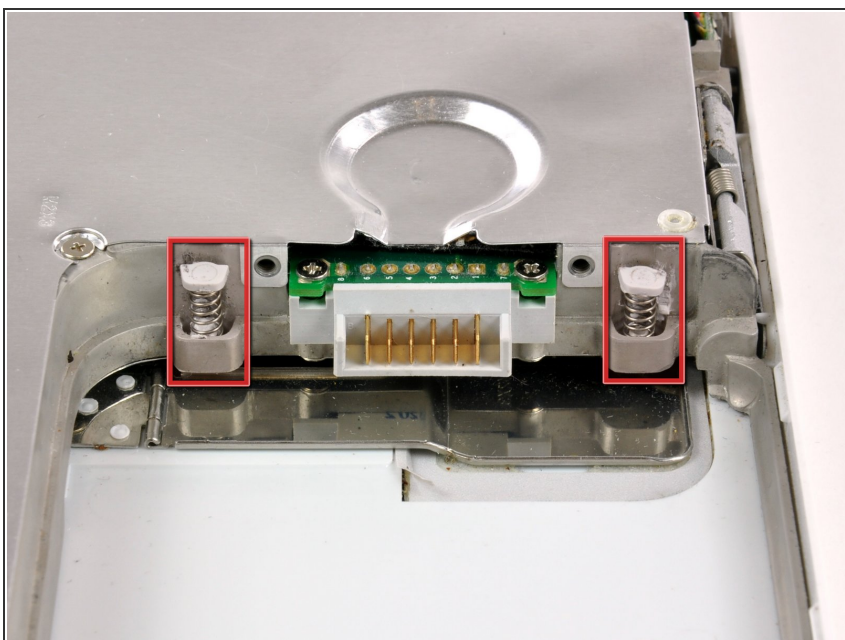
- There are three tabs over the optical drive that must be released before the lower case can come off. Slide the spudger into the lower case above the optical drive and run it toward the back of the computer until you hear three distinct clicks.

Step 15



- i 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 16



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

Step 17



- Have patience and follow the directions, the end result is up to you. In my case it worked. But I was a Technician TRW Automotive. and worked on Air Bag modules that was returned from customer's that needed them analyzed. I just retired after 26 years.

Step 18 — Bottom Shield



- Remove the following 4 screws from the bottom shield:
 - Two 3 mm Phillips.
 - Two 7.5 mm Phillips.

Step 19



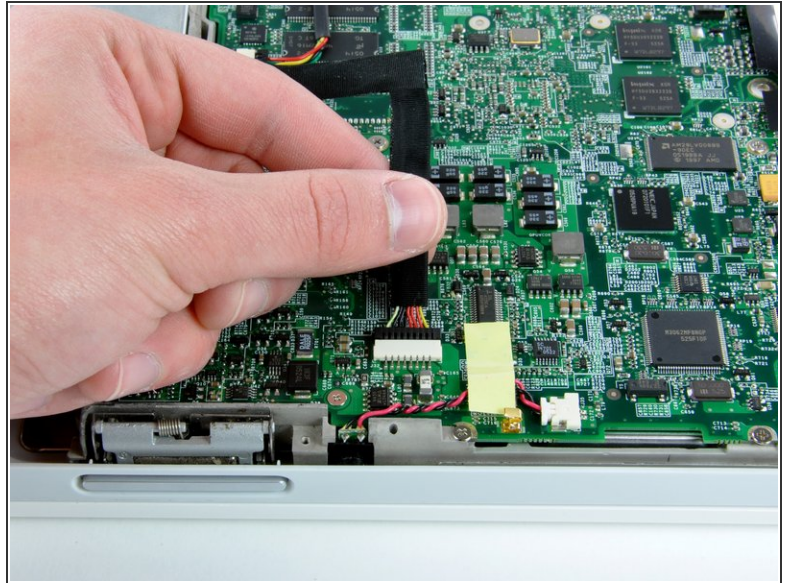
- Lift the bottom shield off.

Step 20 — DC-In Board



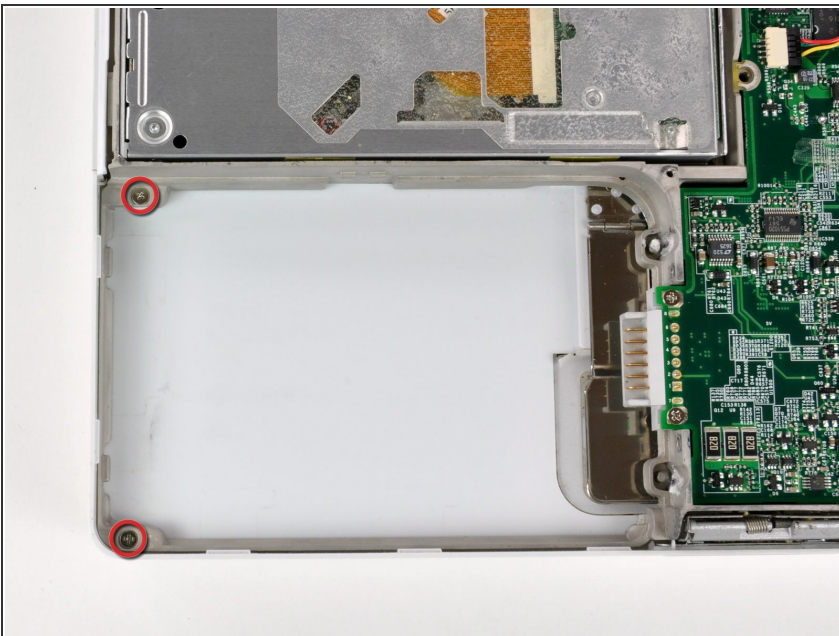
- Remove the two Phillips screws securing the DC-In board, removing tape as necessary.

Step 21



- Deroute the cable from around the optical drive, removing tape as necessary.
- Disconnect the DC-In cable from the logic board and angle the DC-In board out of its compartment.

Step 22 — Upper Case



- Remove the two 3 mm Phillips screws inside the left edge of the battery tray.
- 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 23



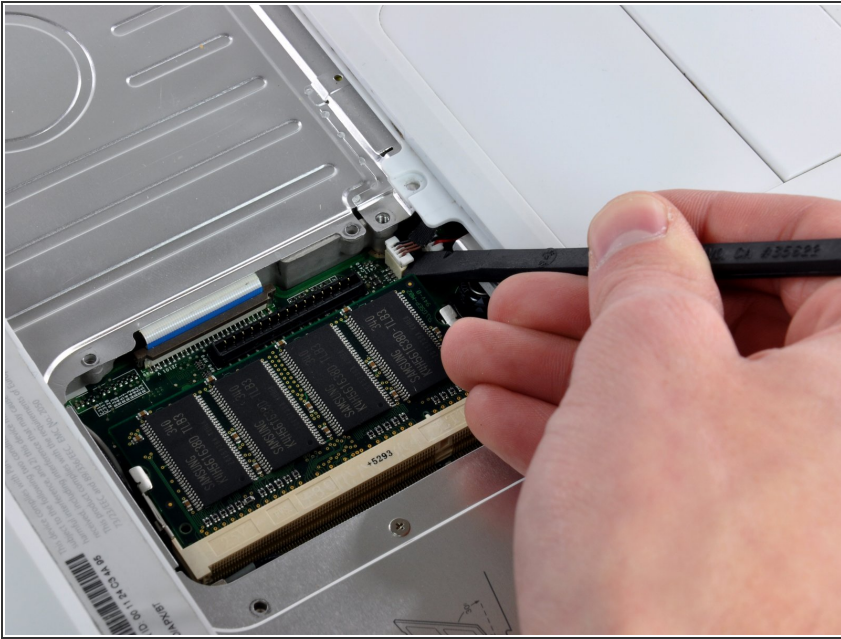
- ⓘ We recommend placing the computer on a soft cloth from this point on to prevent damaging the logic board.
- Turn over the computer and open it.
- Use the flat side of a flathead screwdriver to remove the small magnet covering a screw near the middle of the computer.
- ☑ The shorter screw goes in the lower left corner.

Step 24



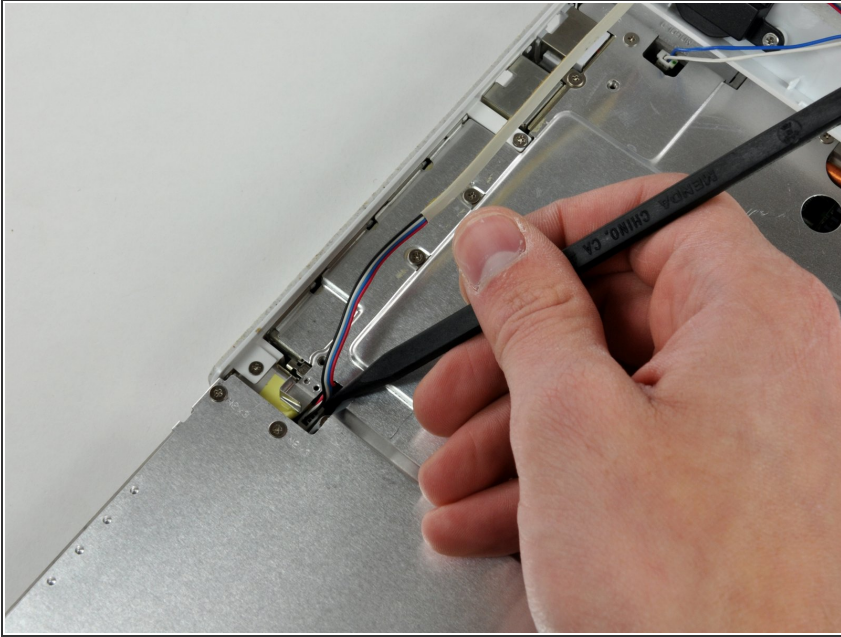
- Remove the following 7 screws from the edges of the keyboard area.
- Three 2 mm Phillips along the right edge.
- One 4.5 mm Phillips underneath where the magnet was.
- One 6 mm Phillips with a small head in the lower left corner.
- Two 6 mm Phillips with large heads, one in the upper left corner and one in the middle.

Step 25



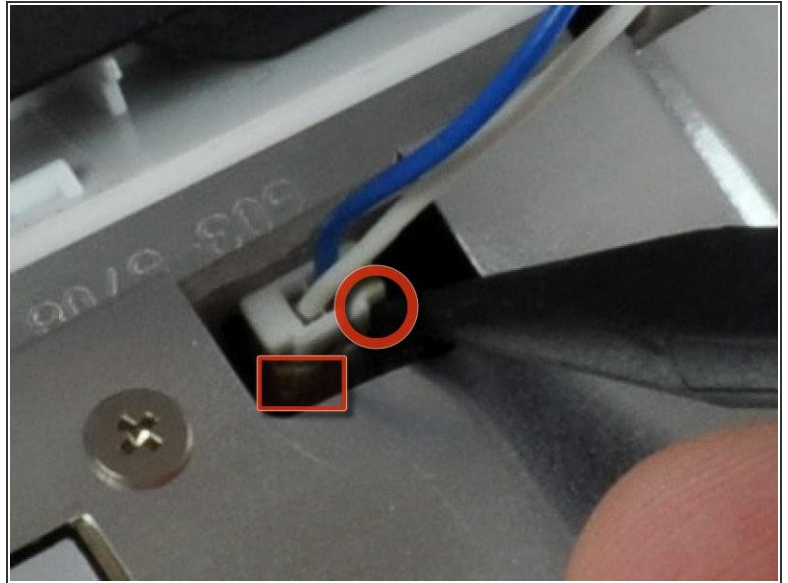
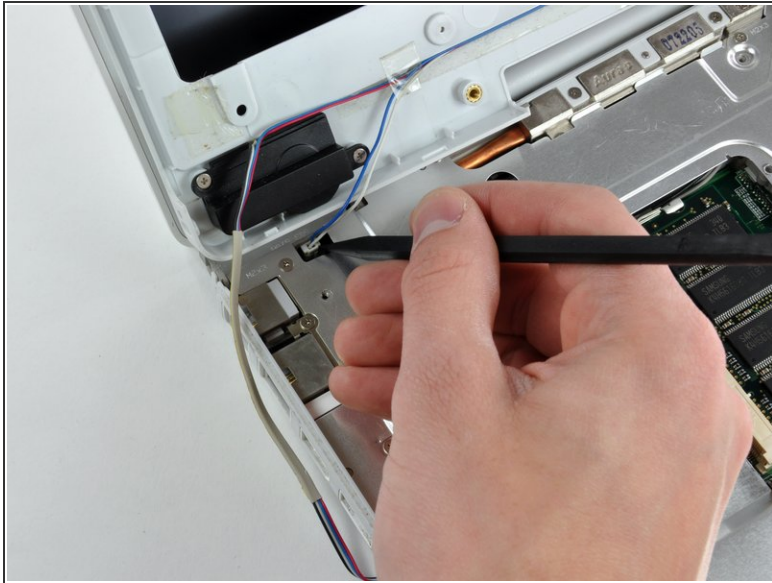
- ❗ Before you can yank the upper case off, you must disconnect the trackpad connector, the blue and white power cable, and speaker cable as described in the next steps. Be especially careful with these cables; never pull directly on the cables, but use a spudger to pry up the connector directly.
- Carefully lift the upper case slightly and move it toward the front of the computer to reveal the trackpad connector. Use a spudger or your finger to disconnect the trackpad connector hidden beneath the white plastic tab.
- After disconnecting the track pad connector, carefully rotate the upper case away from you and rest it against the display.

Step 26



- ⓘ The connectors at the ends of the following 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.
- Use the sharp end of a spudger to disconnect the speaker cable connector.

Step 27



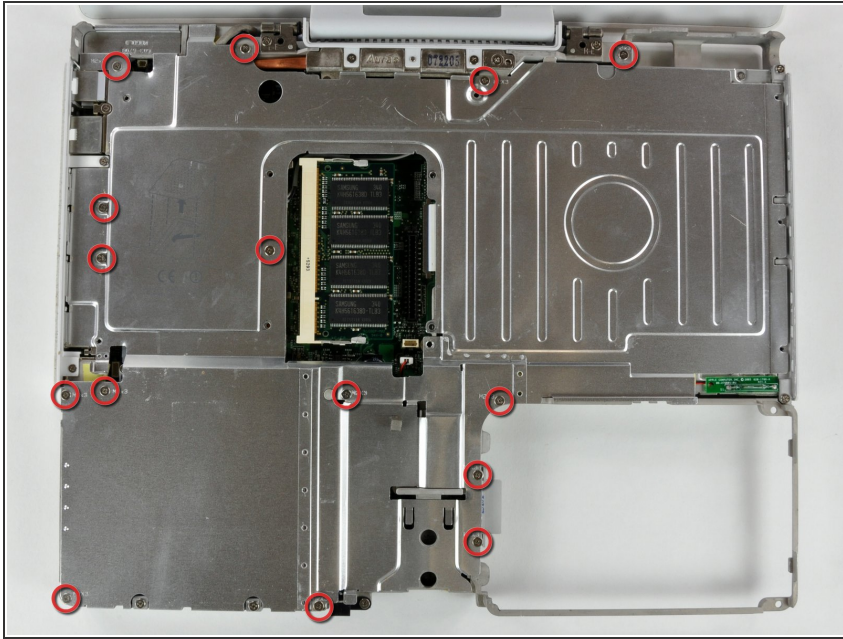
- Using the sharp end of a spudger, disconnect the connector for the blue and white power cables. Again, be careful to pry up only on the connector.

 It is very easy to break the connector from the board, so be careful.

 The key is to apply force in two directions, down to keep the surface board connections intact, up to release the connector.

- The upper case is now free and can be removed from the computer.

Step 28 — Top Shield



- Remove the fifteen 3 mm Phillips screws securing the top shield to the computer.
- Remove the following 16 screws:
 - Thirteen 3 mm Phillips.
 - One 3 mm Phillips. (actual screw not present in image)
 - Two 4 mm Phillips.
- ☑ 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 — Modem



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

Step 31



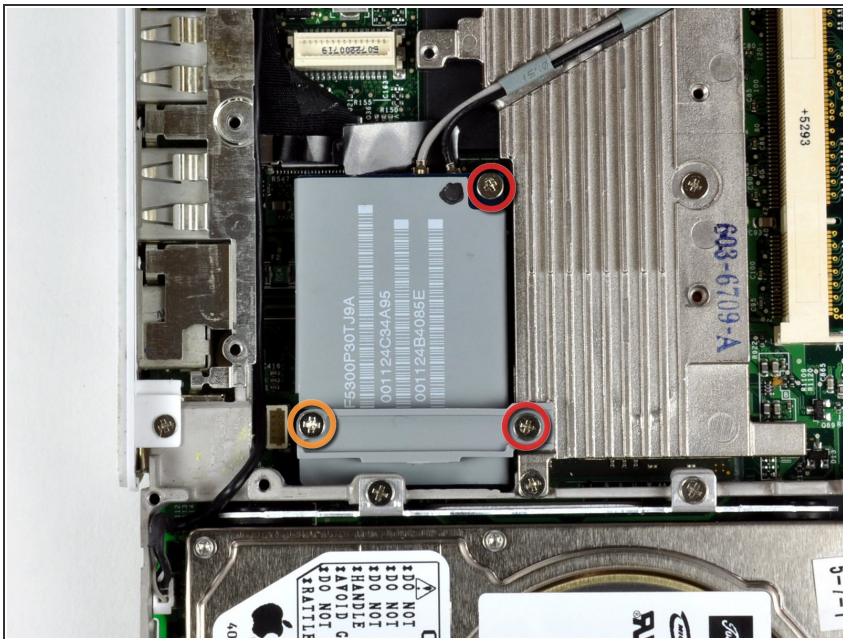
- Remove the two Phillips screws at the corners of the modem.

Step 32



- Lift the modem and modem shield from the bottom.
- ✦ When replacing the modem, seat the shield first, and then connect the modem and press it firmly into the shield, making sure that it is connected to the logic board.

Step 33 — Display



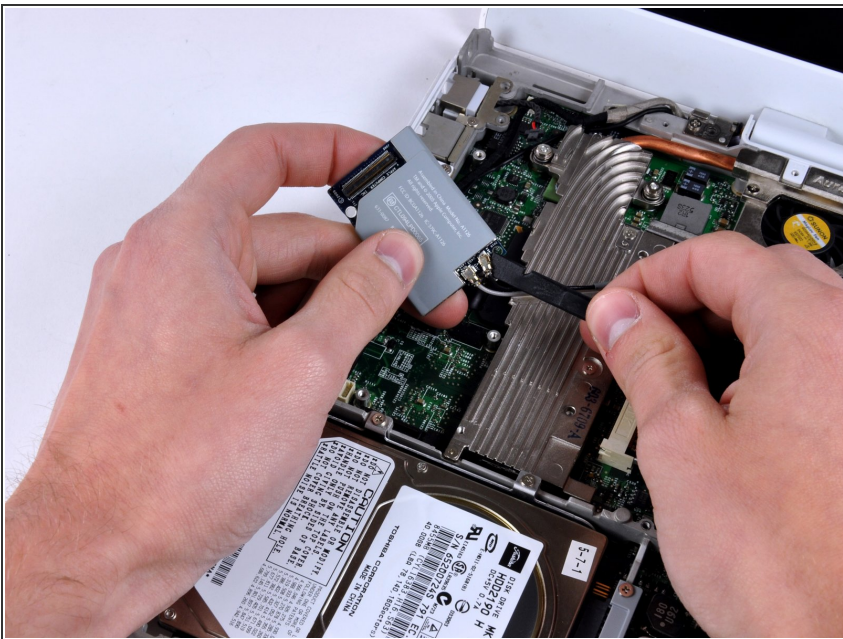
- Remove the following three screws:
 - Two 3mm Phillips screws.
 - One 7.5 mm Phillips screw.
- Lift the small plastic retaining bracket up and out of the computer.

Step 34



- Using a spudger, pry up the AirPort/Bluetooth board from the end closest to the hard drive. Be sure to pry against the metal framework, as shown in the picture.

Step 35



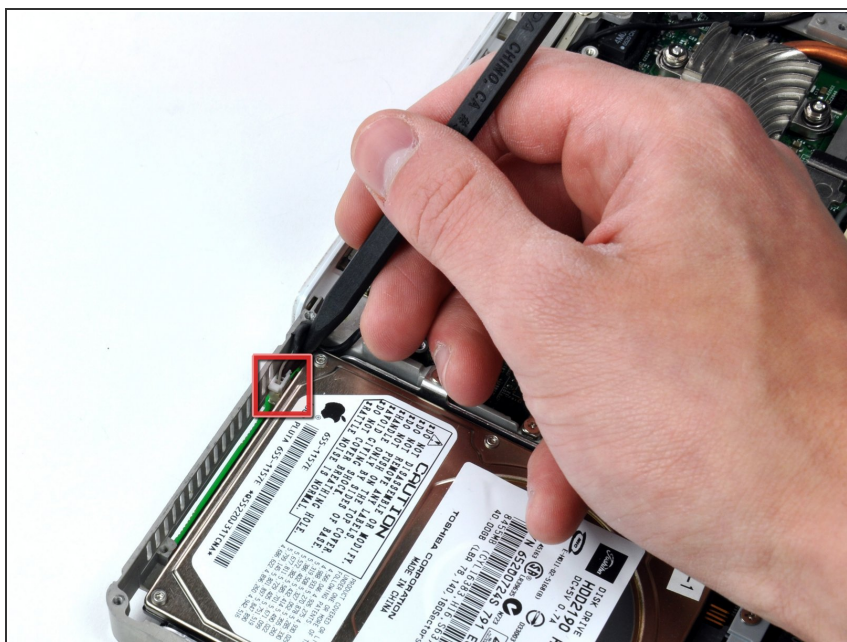
- Hold the AirPort/Bluetooth board in one hand and use a spudger to disconnect the two antenna cables.
- Remove the AirPort/Bluetooth card from the computer.

Step 36



- Turn the computer over.
- Disconnect the inverter cable from the logic board and deroute it from the metal framework, removing tape as necessary.

Step 37



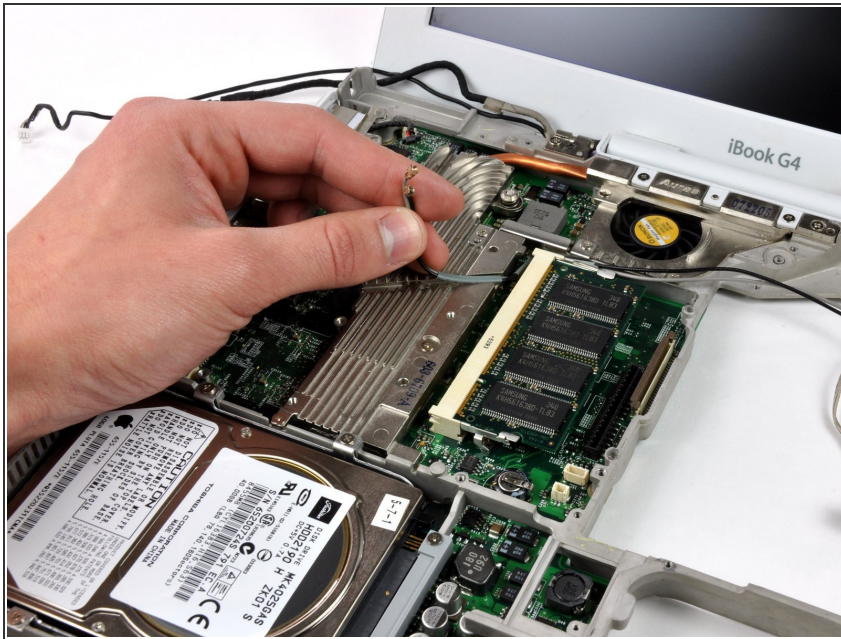
- Turn the computer back over.
- ⚠ The cable you're about to remove is very fragile - do not pull directly on the wires. Instead, try to pry up the connector directly, using a spudger or a small flathead screwdriver if necessary.
- Disconnect the microphone cable at the front of the computer, between the left side of the hard drive and the metal framework, removing tape as necessary.
- Although not absolutely essential, removal of the [hard drive](#) will give enough space to remove the connector with your fingers.

- ## Step 39



- Peel up the yellow tape holding the display data cable to the metal framework and remove the single Phillips screw beneath it.

Step 40



- De-route the AirPort antenna cables from the heat sink.

Step 41



- Support the display with one hand and remove the single Phillips screw on either side of the hinge (two screws total).
- ★ The screws go in the outer holes on each side (you can see the threads in the correct hole).

Step 42



- Tilt the display back, freeing it from the two metal alignment posts holding the hinges in place, and lift it from the computer.
- Display remains.

Step 43 — Rear Display Bezel



- Use a 1.5mm hex screwdriver to remove the two hex screws on either side of the display (four screws total).
- ⓘ If you don't have a 1.5mm hex driver, you can probably get these screws out with a T6 Torx screwdriver. However, if you use a T6 Torx driver you'll be more likely to strip the screws.

Step 44



- Insert the flat end of a spudger perpendicular to the face of the display into the gap between the front and rear bezels near the upper left corner of the display.
- Rotate the spudger away from the display to pry the rear bezel off the front bezel.

Step 45



- Run your spudger along the top edge of the front display bezel to evenly separate the two bezels.

Step 46



- Working down from the upper left corner, use the flat end of a spudger to pry the rear bezel away from the left edge of the display.

Step 47



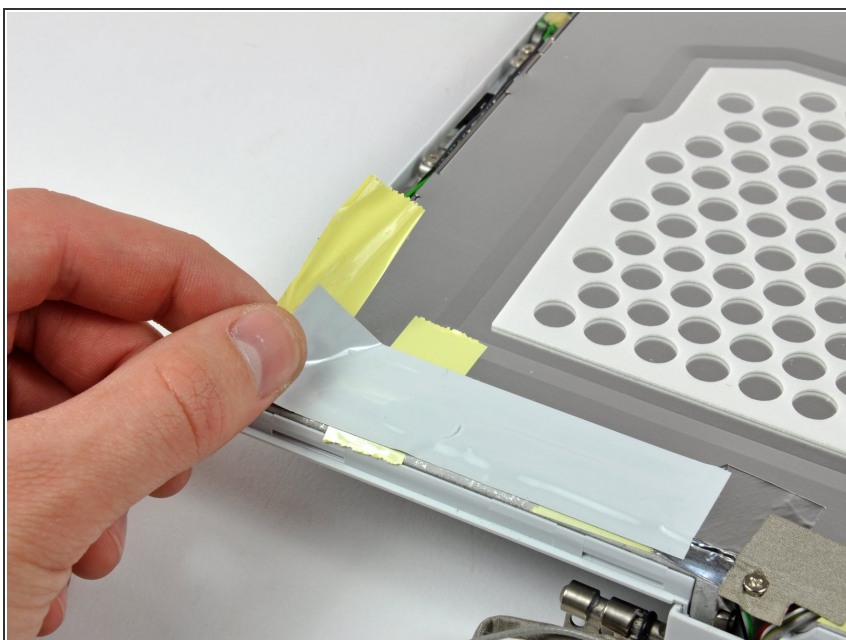
- Use the flat end of a spudger to pry the rear bezel away from the right edge of the display.
- If necessary, pry along the bottom edge of the rear bezel to separate it from the display assembly.

Step 48



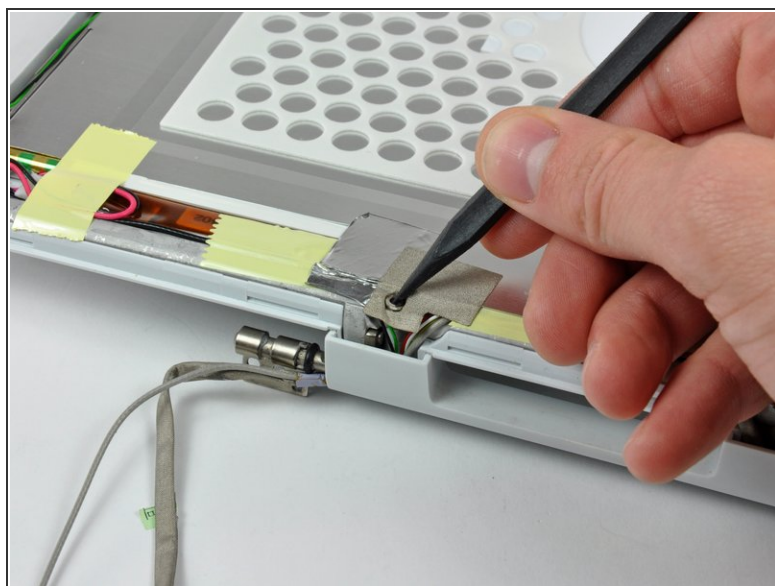
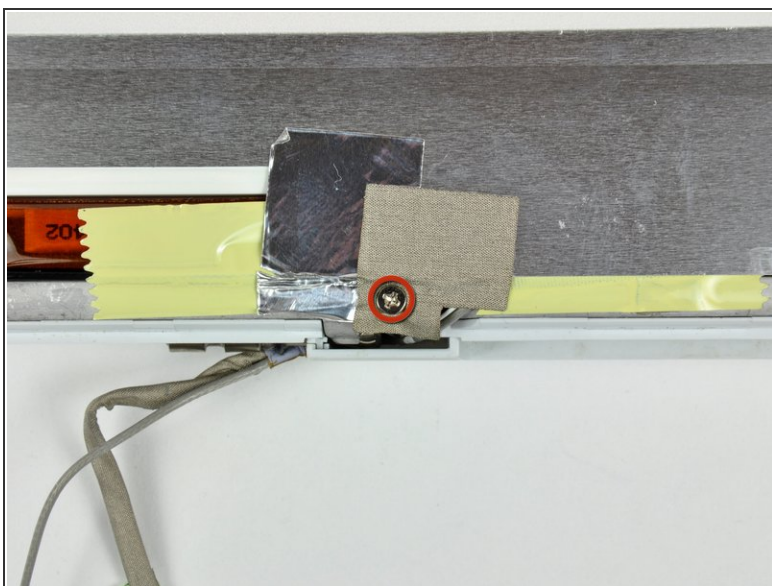
- Lift the rear bezel off the display assembly.

Step 49 — LCD Cover



- Remove the large piece of tape near the lower right corner of the display.

Step 50



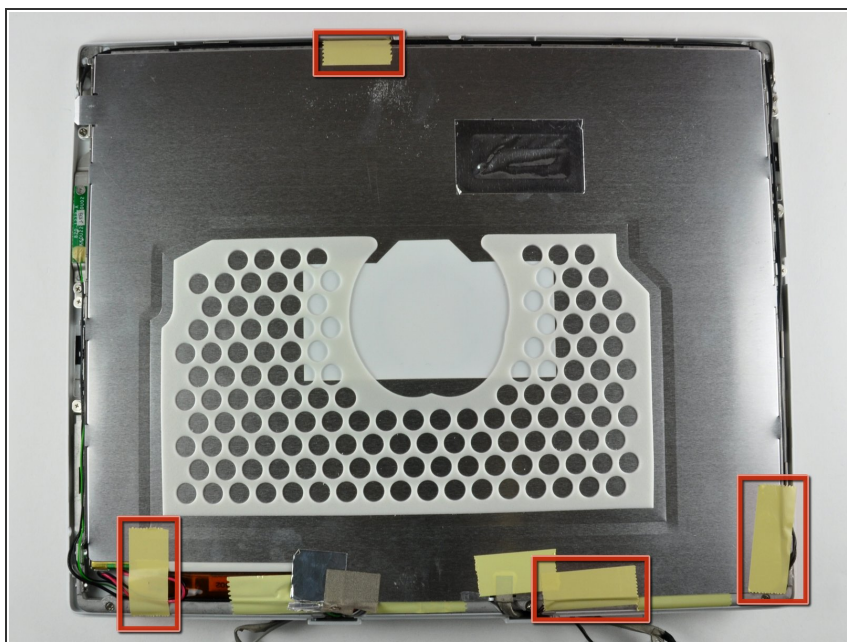
- Remove the single screw inserted through the piece of EMI tape near the bottom edge of the display (it's the first of the two clutch cover screws).
- Use the tip of a spudger to remove the small washer under the screw you just removed.

Step 51



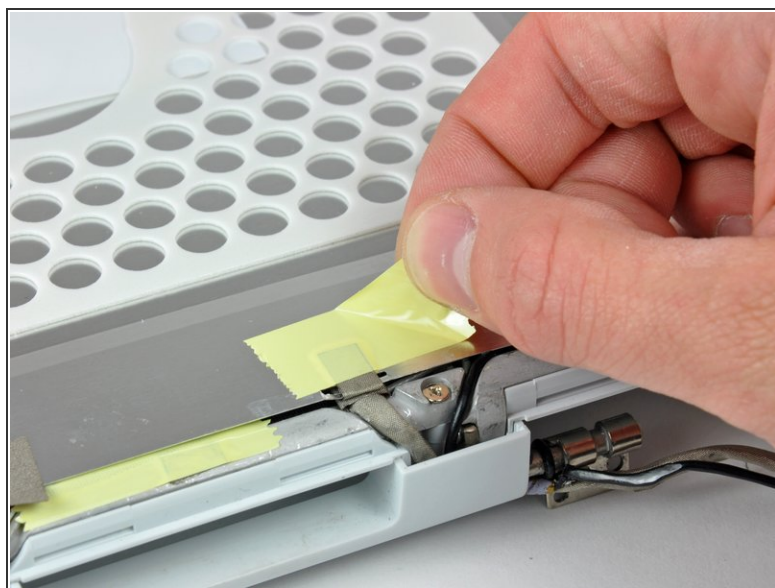
- Peel the aluminum/EMI tape as one piece off the cast aluminum frame of the clutch hinges.
- ⓘ It is not necessary to peel the tape off the thin steel LCD cover.

Step 52



- Remove the pieces of readily removable tape from around the perimeter of the display.

Step 53



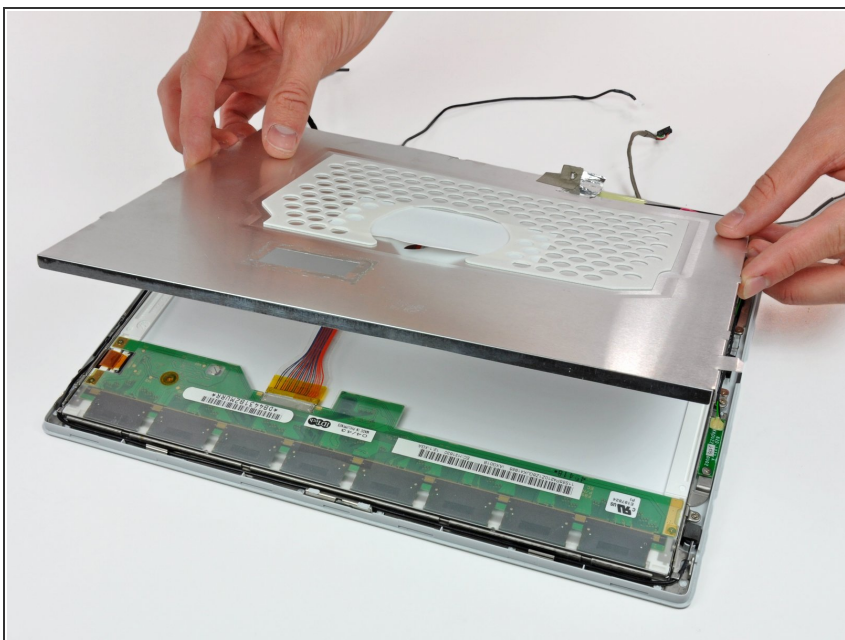
- Remove the piece of aluminum tape near the center of the LCD cover.
- Peel back the piece of tape securing the display data cable ground loop to the thin steel LCD cover.

Step 54



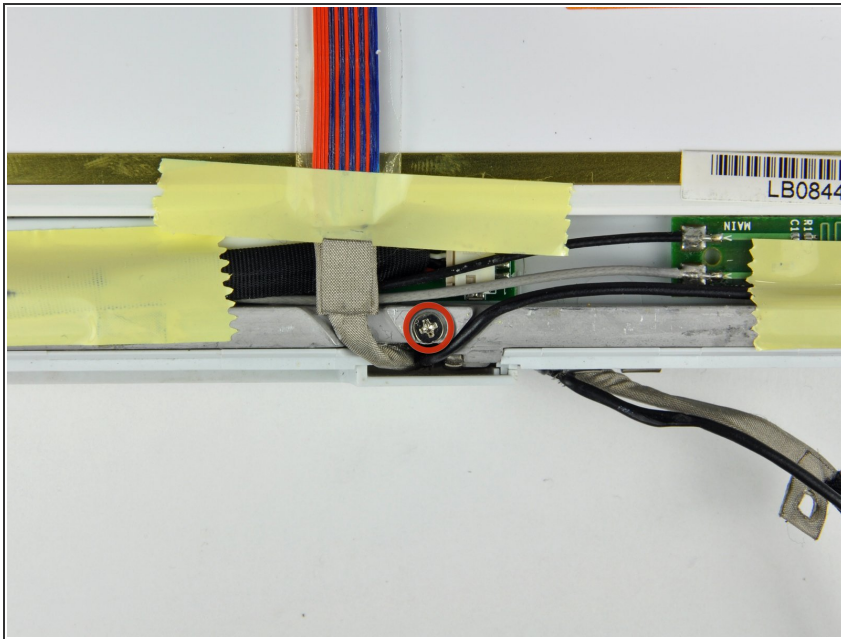
- Remove the two Phillips screws securing each side of the LCD to the clutch hinge frame (four screws total).

Step 55



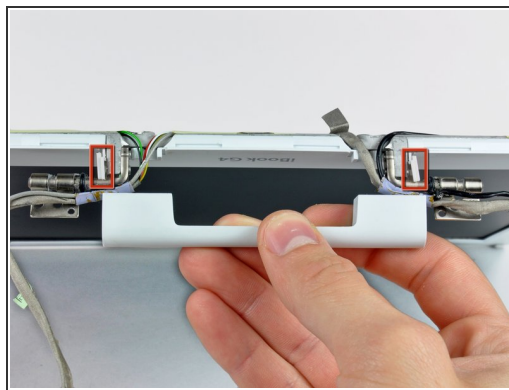
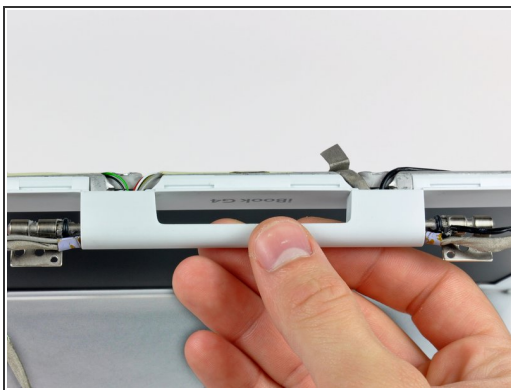
- Lift the thin steel LCD cover off the LCD.

Step 56 — Clutch Cover



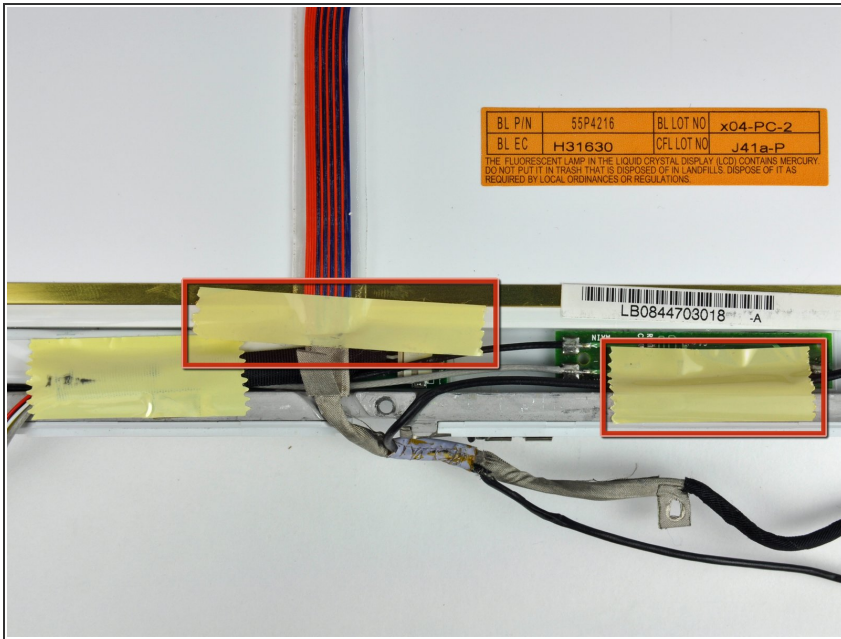
- Remove the second of the two Phillips screws securing the clutch cover to the cast aluminum frame of the clutch hinges.

Step 57



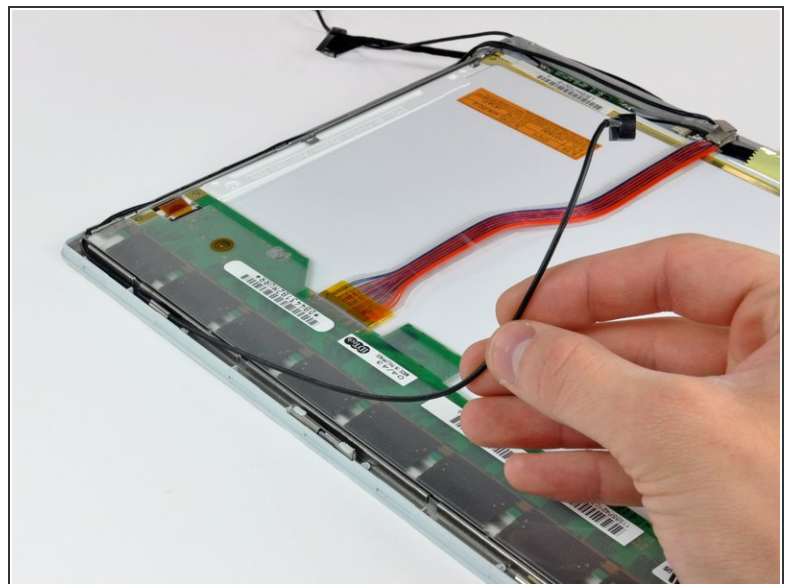
- Pull the clutch cover away from the front of the display.
- ⓘ Keep track of the two covers that close the ends of the clutch cover. The third picture shows their correct orientation on the clutch cover.

Step 58 — Display Data Cable



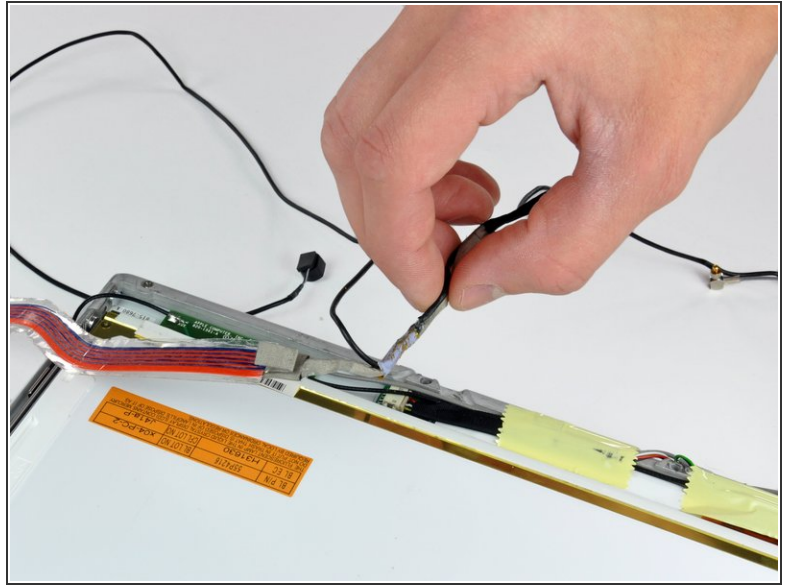
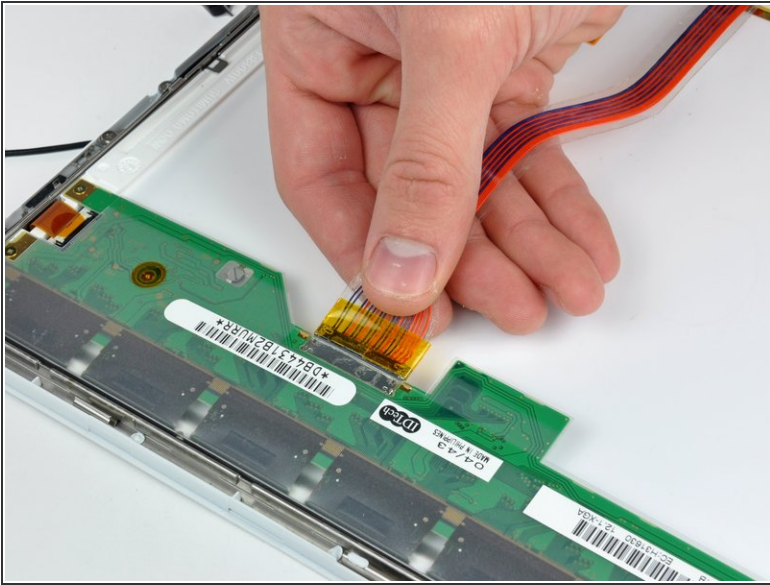
- Remove the two pieces of tape over the display data/microphone cables near the lower edge of the display.

Step 59



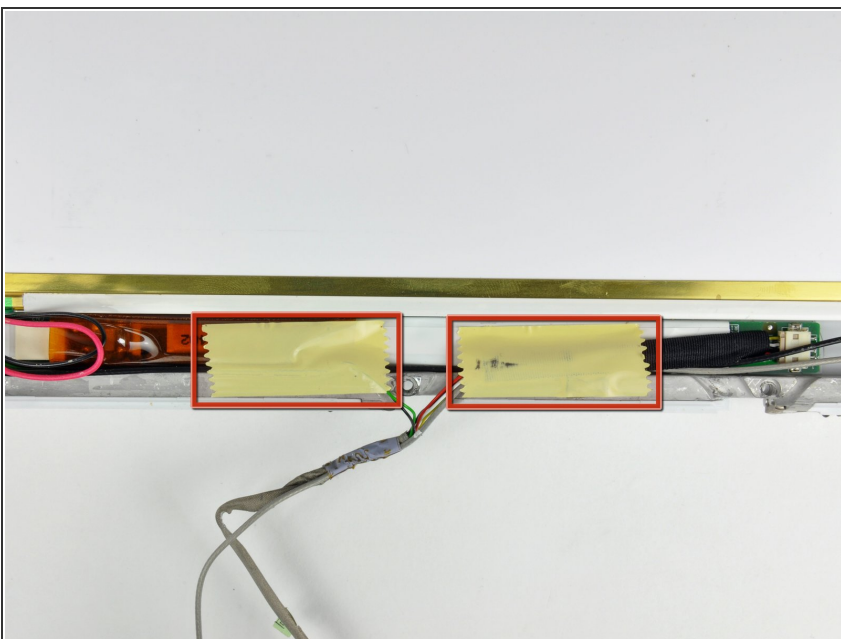
- Use the tip of a spudger to lift the microphone out of the front bezel.
- De-route the microphone cable from around the top and side of the display.

Step 60



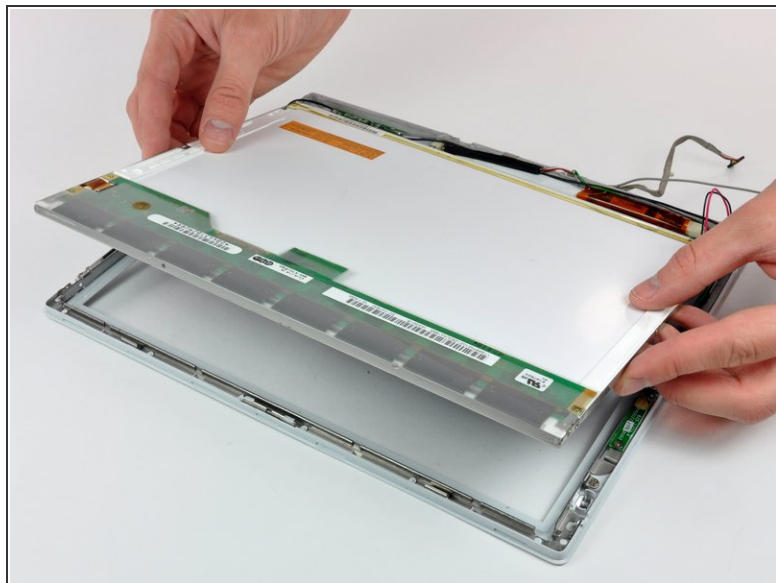
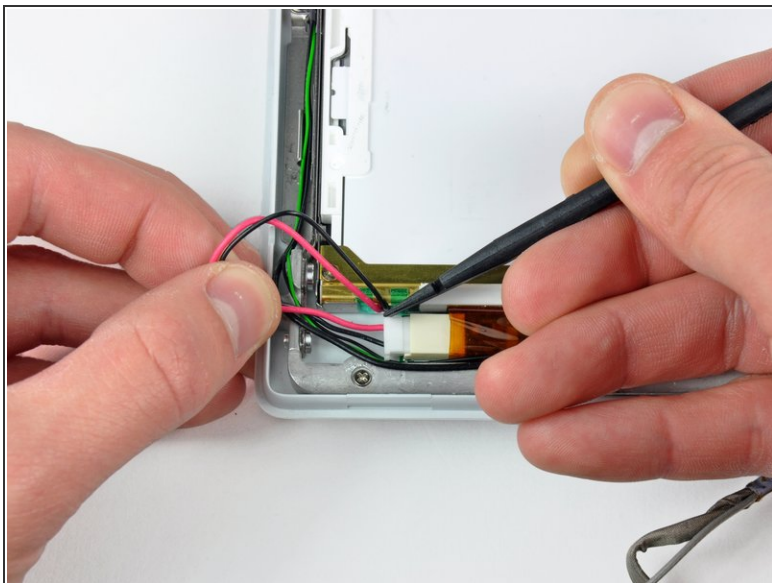
- Disconnect the display data cable by pulling its connector away from the socket on the LCD.
- ⓘ Pull the connector parallel to the face of the LCD.
- Remove the display data cable from the display.

Step 61 — Inverter/AirPort Cables



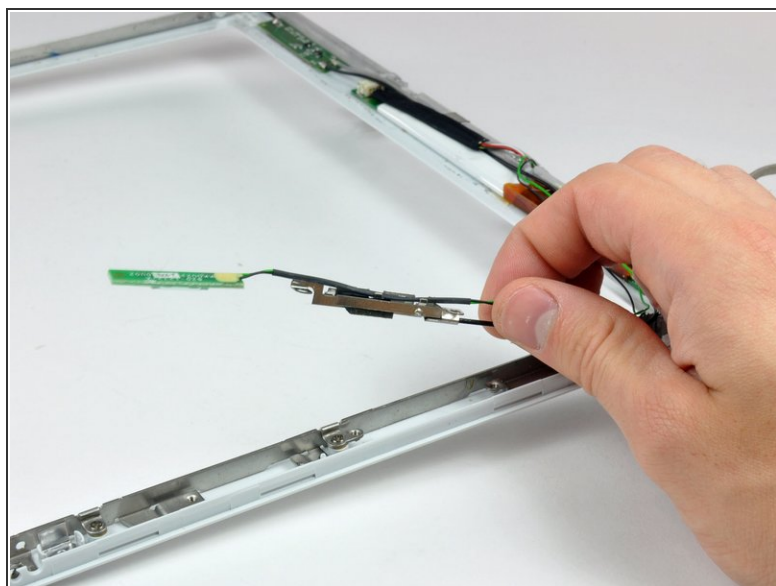
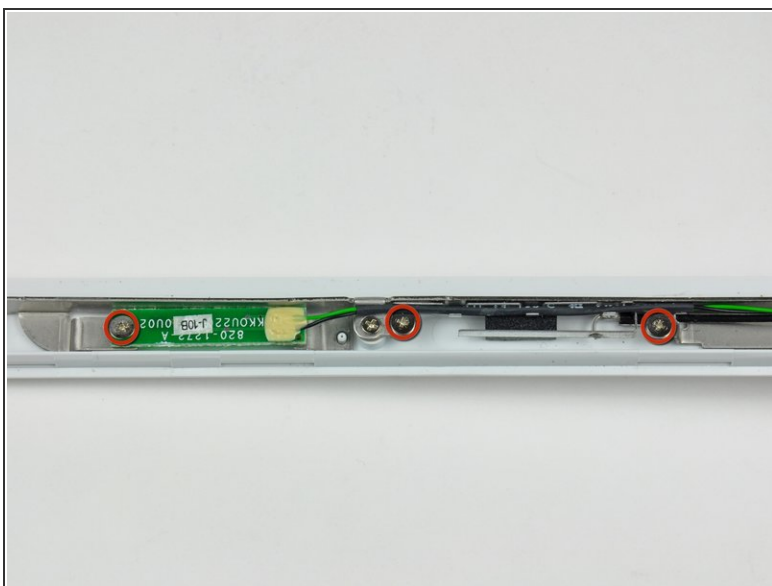
- Remove the two pieces of tape covering the inverter/AirPort cables along the lower edge of the display.

Step 62



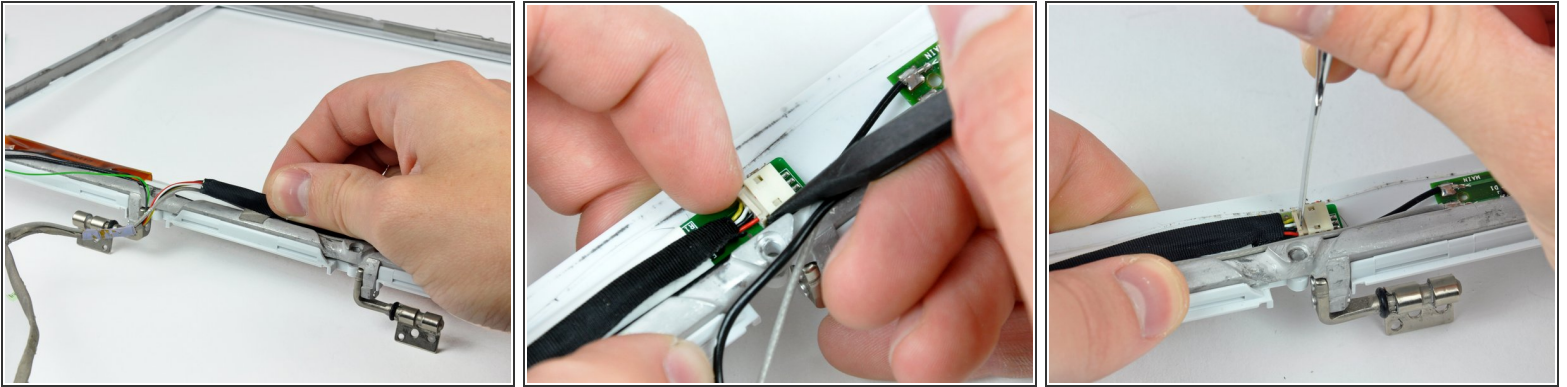
- Use the flat end of a spudger to push the backlight connector while gently pulling its cables away from the socket on the inverter.
- Lift the LCD out of the front bezel and set it aside.

Step 63



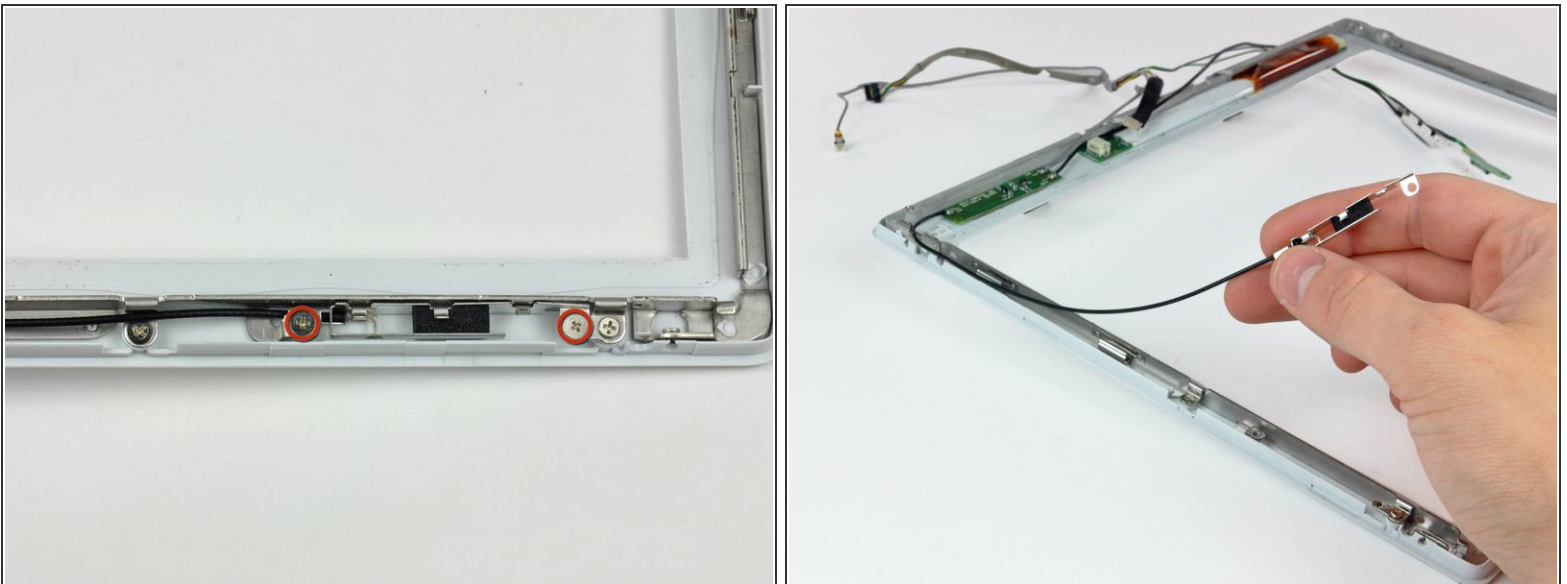
- Remove the three Phillips screws securing the reed switch board and the AirPort antenna to the front bezel.
 - ⓘ If you have a 1.33 GHz 12" G4 iBook, the reed switch board is located near the optical drive. Please skip to the next step.
- De-route the reed switch/AirPort antenna cables around the side of the display.

Step 64



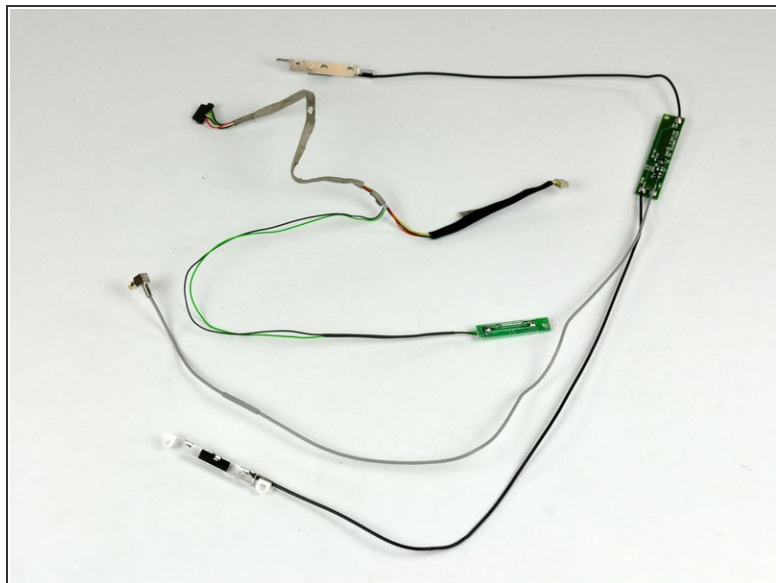
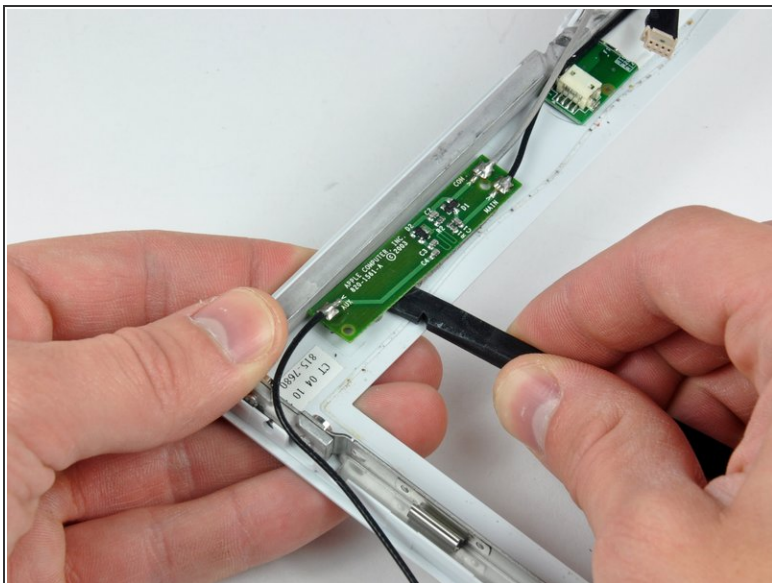
- Gently peel the inverter cable ground strap off the cast aluminum frame of the clutch hinges.
- While pulling the inverter cable away from its socket on the inverter board, use the tip of a spudger to push the connector out of its socket.
- ⓘ If the connector won't budge from its socket, insert a metal spudger or similar tool into the gap between the connector and its socket and twist to separate the two pieces.

Step 65



- Remove the two Phillips screws securing the AirPort antenna to the front bezel.
- De-route the AirPort antenna cable along the edge of the display.

Step 66



- If you have a 1.33 GHz 12" G4 iBook, simply remove the Inverter/AirPort cables.
 - For all other models, use the flat end of a spudger to remove the antenna board from the front bezel.
- ⚠ The antenna board is very thin and delicate.
- Remove the inverter/AirPort cables.

Step 67 — Clutch Hinges



- Remove the six Phillips screws securing the clutch hinges to the front display bezel.
- Lift the clutch hinges off the front display bezel.

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