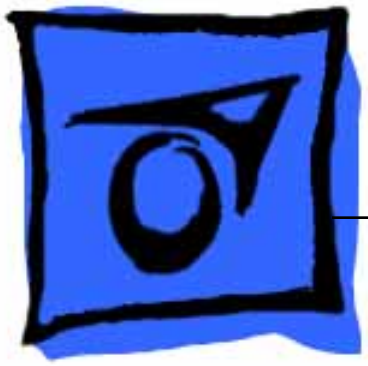
Service Source



iBook

**iBook (Opaque 16 VRAM), iBook (32 VRAM),
iBook (800 MHz 32 VRAM), iBook (900 MHz 32 VRAM)**

Updated April 22, 2003

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Service Source

Take Apart

iBook (Opaque 16 VRAM), iBook (32 VRAM),
iBook (800 MHz 32 VRAM), iBook (900 MHz 32 VRAM)

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General Information

Overview

The identifying characteristics of the iBook (Opaque 16 VRAM) and iBook (32 VRAM) computers are shown in the following table:

Configuration	Good	Better
Video RAM	16 VRAM	32 VRAM
Processor	700 MHz	800 MHz
Optical Drive	CD-ROM	Combo (DVD-ROM/ CD-RW)
Hard Drive	20 GB	30 GB
Memory	128 MB RAM	128 MB RAM
Display Hinge	Gray	Silver
Top Case	Textured	Smooth

To easily distinguish this computer from previous iBook models, note that the "iBook" font on the display bezel is different. In the following illustration, an earlier iBook computer bezel is pictured on the left, and the newer iBook bezel is pictured on the right.

The identifying characteristics of the iBook (800 MHz 32 VRAM) and iBook (900 MHz 32 VRAM) computers are shown in the following table:

Configuration	Good	Better
Video RAM	32 VRAM	32 VRAM
Processor	800 MHz	900 MHz
Optical Drive	CD-ROM	Combo (DVD-ROM/ CD-RW)
Hard Drive	30 GB	40 GB
Memory	128 MB RAM	128 MB RAM
Display Hinge	Silver	Silver
Top Case	Smooth	Smooth

New Procedures

If you are familiar with taking apart iBook computers, you will notice some differences with this iBook model:

- To reach most internal parts, it is not necessary to remove the bottom case or bottom shield.
- The number and types of screws differ somewhat from previous models.
- Additional parts that are offered for replacement include the display latch and RJ11 modem cable.

Tools

The following tools are recommended for the Take Apart procedures:

- Coin
- ESD wriststrap and mat
- #0 Phillips screwdriver
- Jeweler’s flat-blade screwdriver

- Small soft cloth
- Torx T8 screwdriver or 5/64 hex driver
- Black stick (or other nonconductive nylon or plastic tool)
- Metal paper clip

Note: To organize the screws you remove from the assembly, use a tray with divided compartments (such as a plastic ice cube tray).

Serial Number Location

In this computer, the product serial number is located in the battery bay and on the top case underneath the keyboard.

Battery

Tools

- Coin

Procedure

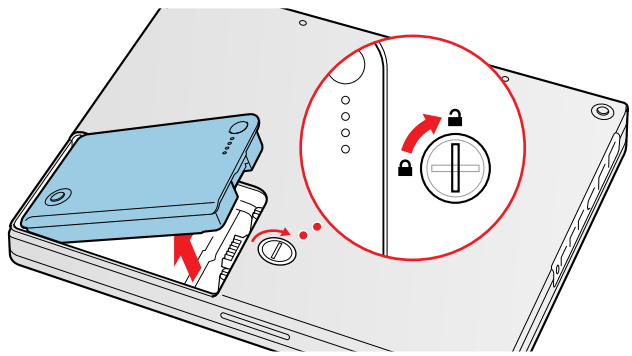
Warning: Always shut down the computer before opening it to avoid damaging its internal components or causing injury. After you shut down the computer, the internal components can be very hot. Let the computer cool down before continuing.

1. Place the computer on a clean, flat surface.
2. Shut down your computer and wait thirty minutes before continuing.
3. Disconnect the power cord and any other cables connected to the computer.
4. Close the computer, turn it over, and locate the battery latch.

   Use a coin to turn the battery latch 1/4 turn clockwise to unlock the battery. Gently remove the battery.

   Removing the battery will prevent you from accidentally turning on the computer.

   Warning: Removing the battery before shutting down your computer may result in data loss.



5. Install the replacement battery.
6. Reconnect the power cord and any other cables that were connected and restart the computer.

   Note: You may need to reset the date and time (using the Date & Time control panel).

   Warning: Never turn on the computer unless all of its internal and external parts are in place and it is fully reassembled. Operating the computer when it is missing parts can damage the computer or cause injury.

Keyboard and RAM Shield

Tools

- #0 Phillips screwdriver
- Jeweler’s flat-blade screwdriver (if keyboard is locked)
- Small soft cloth (if an optional AirPort Card is installed)

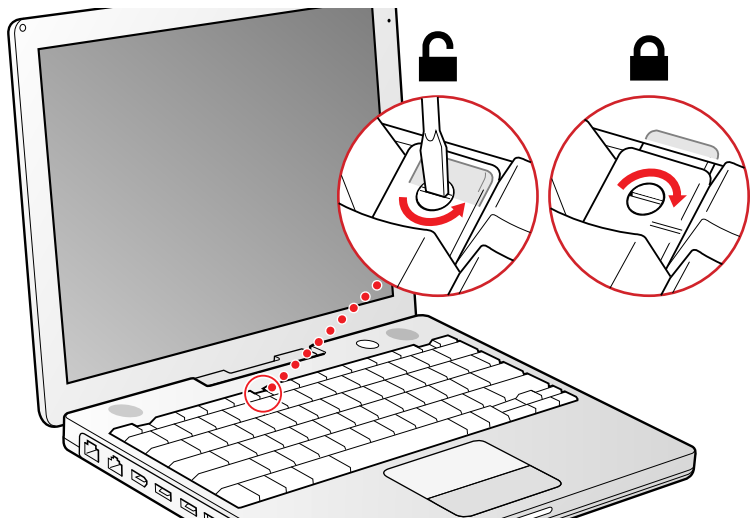
Preliminary Steps

Before you begin, remove the battery.

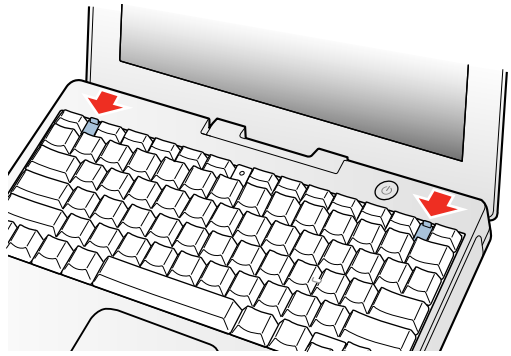
Procedure

1. Raise the display so you can access the keyboard.
2. Make sure the keyboard locking screw, located in the small plastic tab to the left of the Num Lock key, is not in the locked position. The iBook comes with the keyboard unlocked, so unless you or someone else locked the keyboard, you can skip this step.

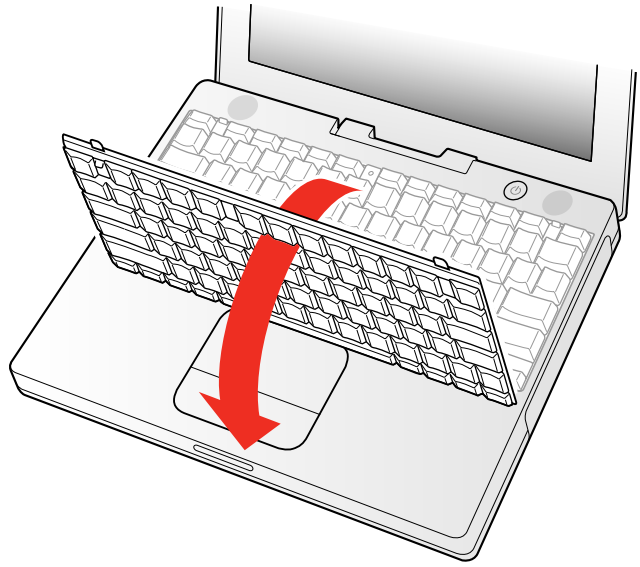
   To unlock the keyboard, turn the screw 1/2 turn.



3. Release the keyboard by pulling down on the keyboard release tabs (located to the left of the F1 and F12 keys), then lift the top portion of the keyboard up slightly, and toward the display.

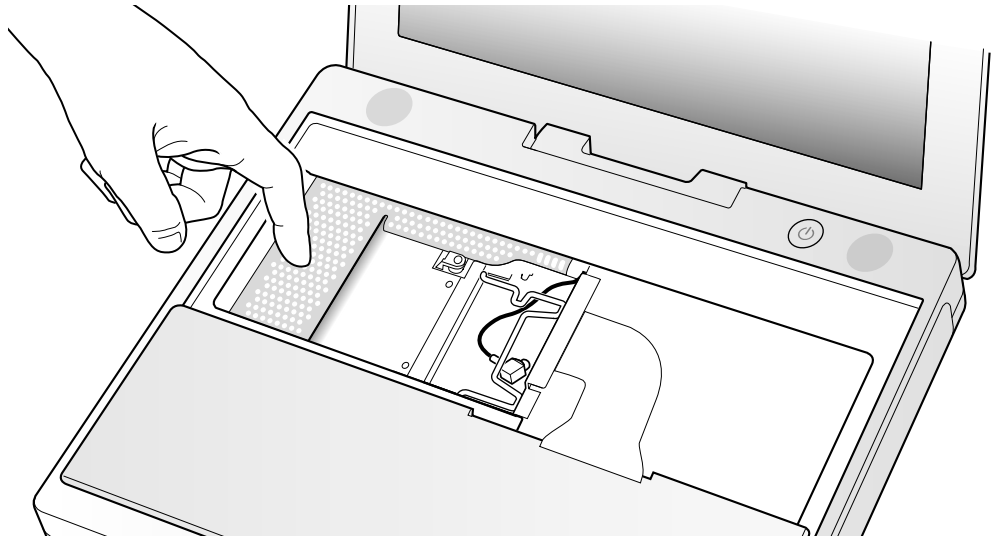


4. Flip the keyboard over and lay it on the palm rests and trackpad.



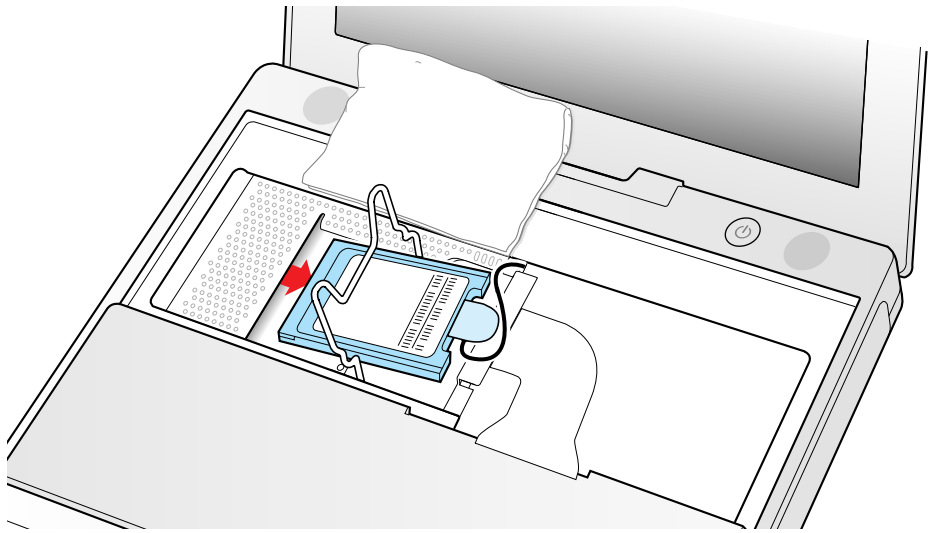
5. Touch a metal surface on the inside of the computer to discharge any static electricity, as shown.

   Important: To avoid electrostatic discharge damage, always ground yourself by touching the computer's framework before you touch any parts or install any components inside the computer. To avoid static electricity building back up in your body, do not walk around the room until you have completed the installation and closed the computer.

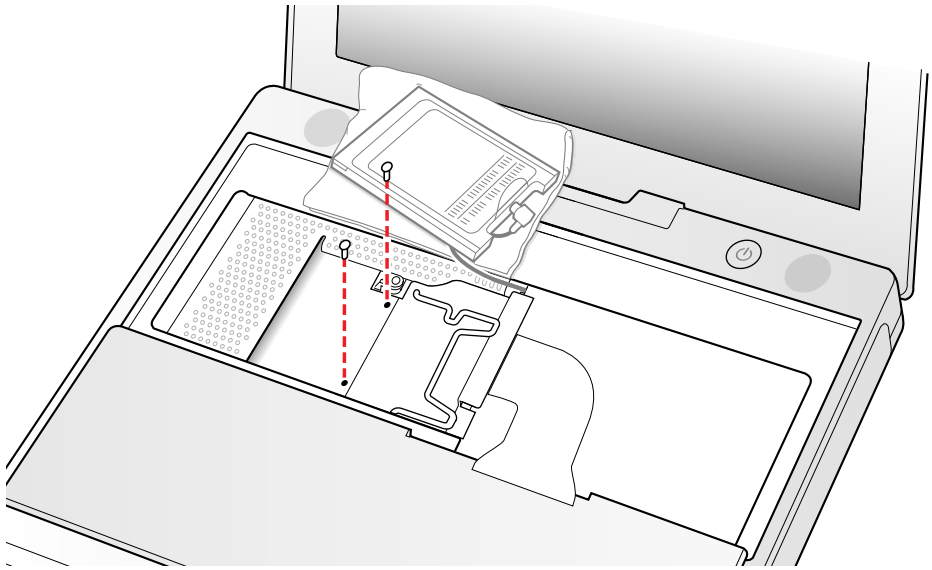


6. If the computer has the optional AirPort Card installed, unlatch the flexible wire holder that secures the card.
7. Use the pull-tab on the card to remove it from the slot. (You do not need to disconnect the antenna.)

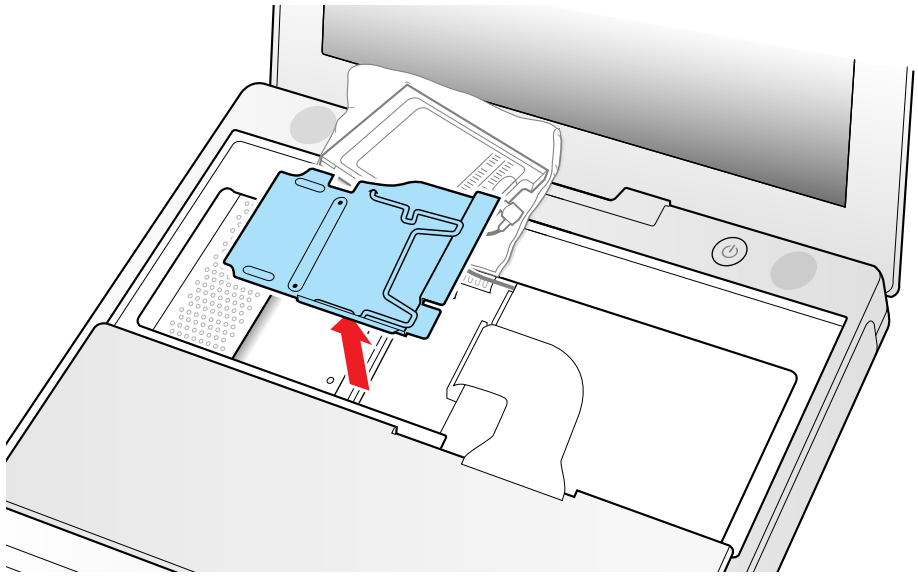
   Note: To avoid scratching the computer's case, place a soft cloth between the AirPort Card and the surface of the iBook.



8. If an AirPort Card is not installed, unlatch the flexible wire holder to release the AirPort Card antenna cable.
9. Remove the screws that secure the RAM shield.



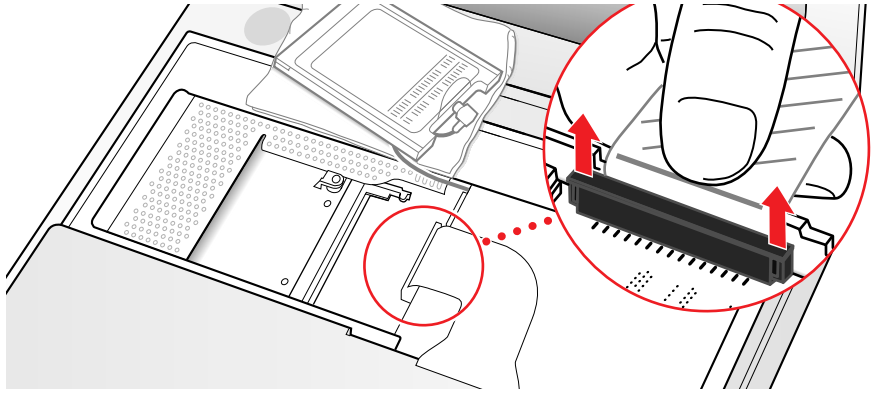
10. Lift the RAM shield out of the computer. Carefully pulling up on the wire holder may help to remove the shield.



11. Locate the keyboard cable connector.
12. Firmly grasp the cable as shown in the illustration.
13. Carefully pull straight up on the cable until the connector releases.

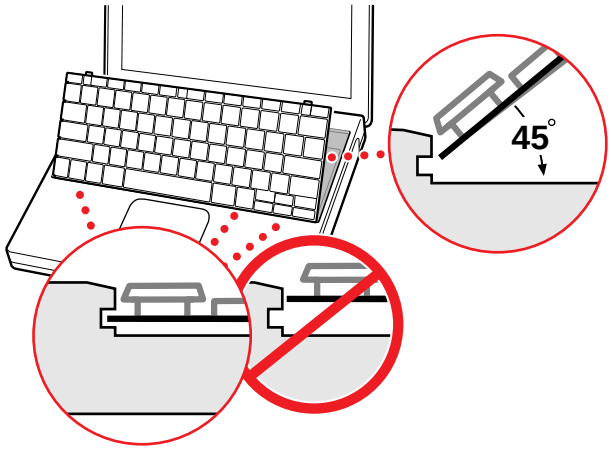
    Important: Pull straight up, do not twist or pull the cable sideways.

    Note: If needed, use your fingers to pry up the connector from side to side.

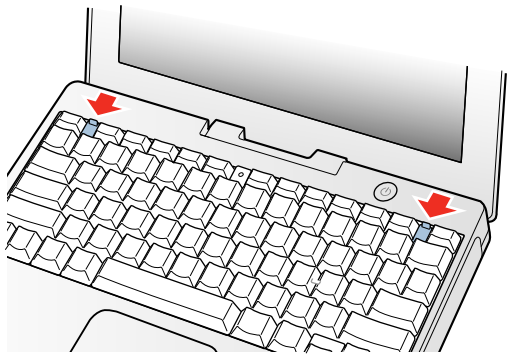


14. Install the replacement keyboard, RAM shield, and AirPort Card (if used).

    Make sure the replacement keyboard is firmly seated:
    - Flip the keyboard back toward the keyboard opening in the case.
    - Hold the keyboard at a 45-degree angle above the keyboard opening, and insert the tabs on the bottom edge of the keyboard into the slot under the edge of the opening.
    - **Important:** Make sure that all the tabs are seated and that the keyboard rests flush against the edge of the opening.
    - Lay the keyboard flat into the keyboard opening.



    - Pull down on the keyboard release tabs and then press down on the top portion of the keyboard.



AirPort Card

Tools

- Small soft cloth (if an optional AirPort Card is installed)

Preliminary Steps

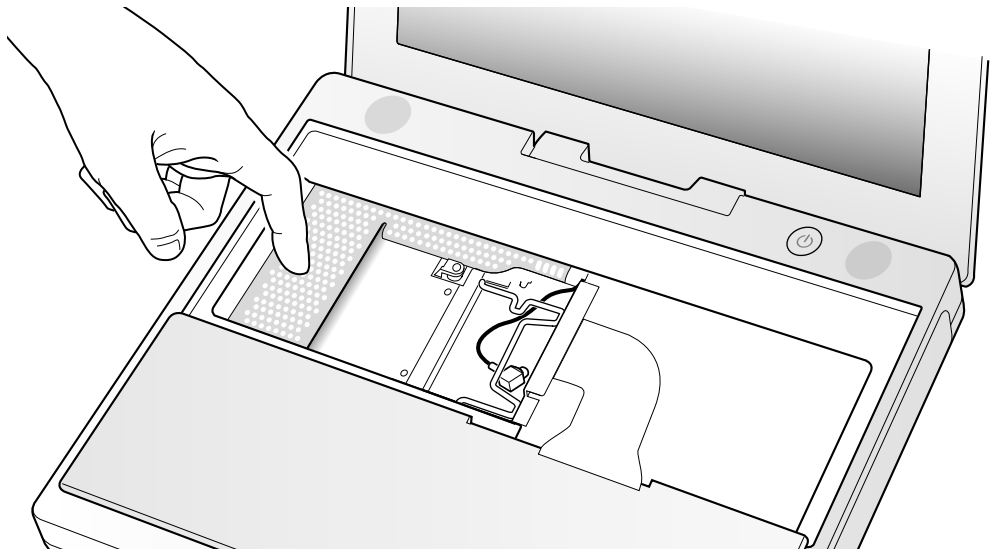
Before you begin, remove the following:

- Battery
- Keyboard

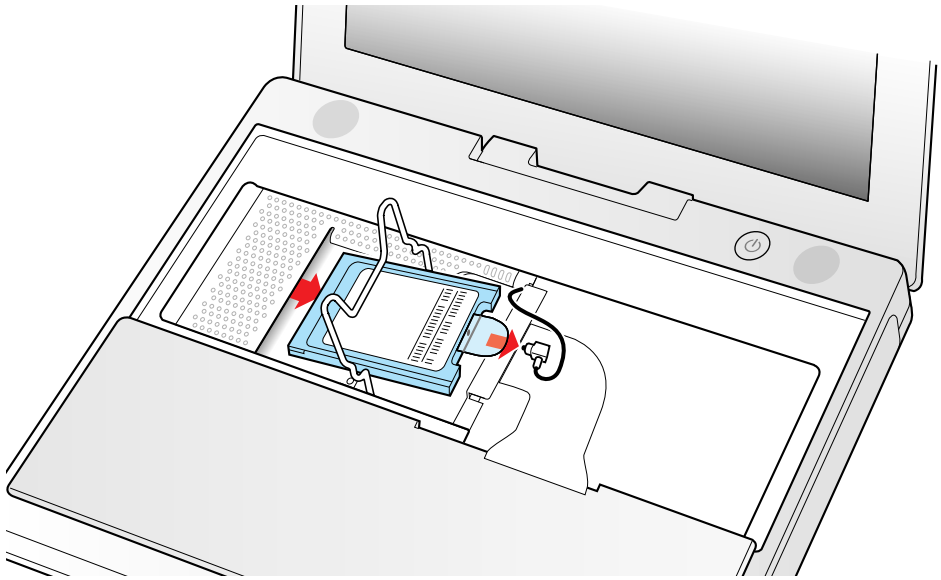
Procedure

1. Touch a metal surface on the inside of the computer to discharge any static electricity, as shown.

   Important: To avoid electrostatic discharge damage, always ground yourself by touching the computer's framework before you touch any parts or install any components inside the computer. To avoid static electricity building back up in your body, do not walk around the room until you have completed the installation and closed the computer.



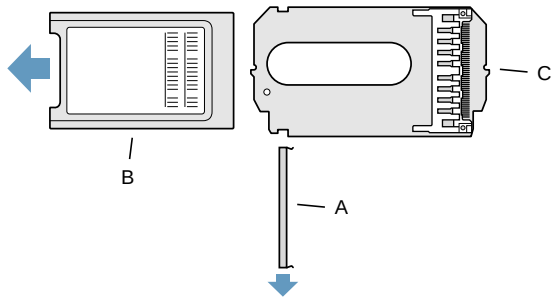
2. Unlatch the flexible wire holder that secures the card.



3. Use the pull-tab on the card to remove it from the slot.
4. Disconnect the antenna cable from the AirPort Card by pulling straight back on its connector.

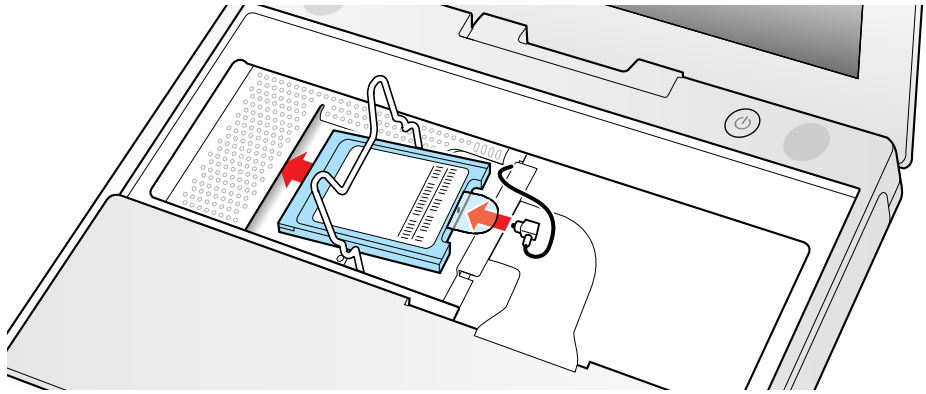
5. Install the replacement AirPort Card:

   If the AirPort Card came with the AirPort adapter, remove the metal clip (A) and pull the AirPort Card (B) from the adapter (C).

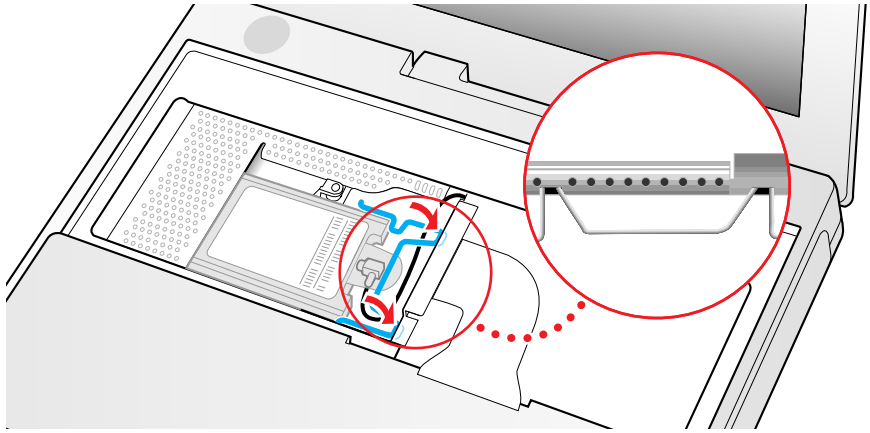


   Plug the AirPort antenna cable connector into the port (located just below the pull-tab) on the end of the AirPort Card. Make sure the connector is straight before inserting it into the card.

   Gently slide the AirPort Card (with the AirPort ID number and bar code facing up) under the wire bracket and securely into the AirPort Card slot.



   Use the wire holder to secure the AirPort Card in place by inserting its prongs into the slots in the RAM shield.



Memory Card

Warning: Memory cards come in various specifications. Only install memory cards that are approved for this computer.

Tools

- Small soft cloth (if an optional AirPort Card is installed)

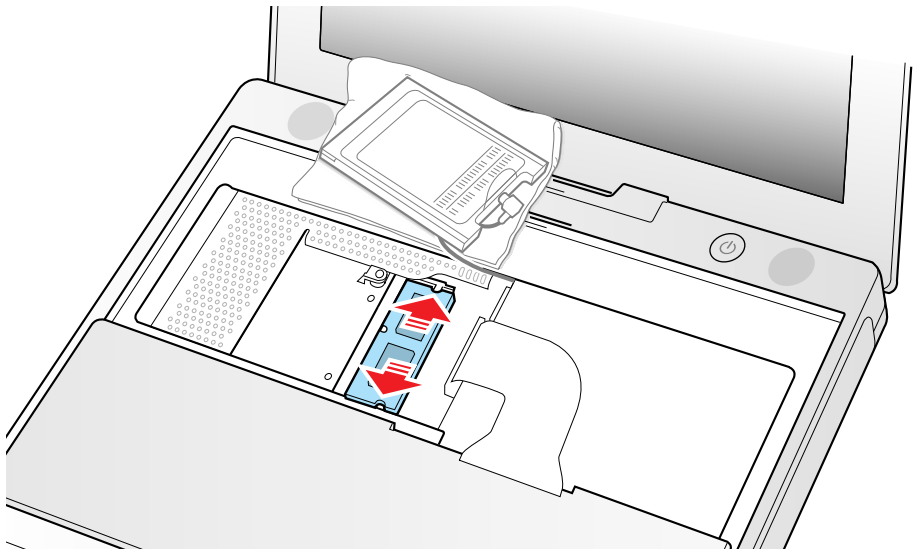
Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- AirPort Card (if installed)

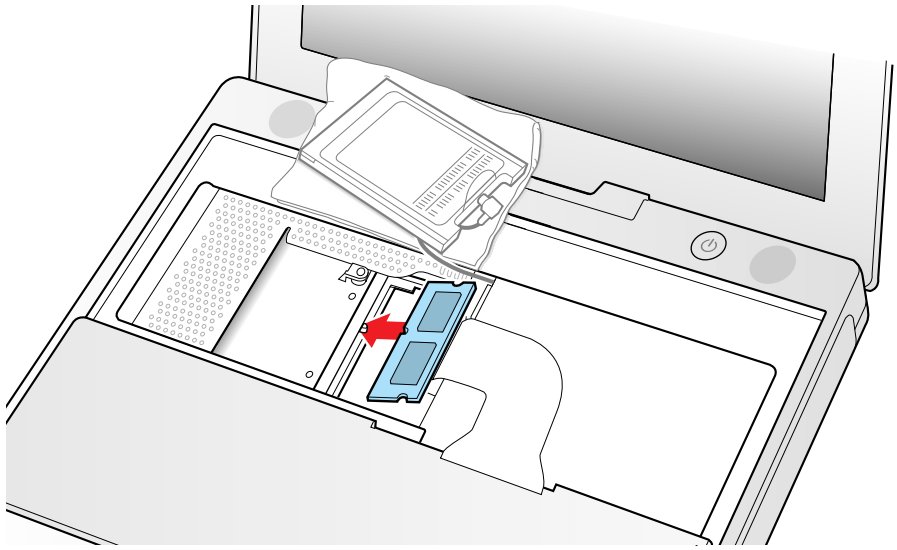
Procedure

1. Locate the installed memory card and brackets that secure the card on both sides.
2. Carefully spread the brackets apart until the card releases on each side. Pull the card up and out of the memory slot.



3. Line up the notch in the replacement memory card with the small tab in the memory slot. Hold the card at a 30-degree angle, then push the card into the slot until it is firmly seated.

   Note: If you feel resistance when inserting the card, try pushing one side at a time.



4. Gently push the top of the card down until the brackets snap onto both sides of the memory card to lock it into place.

   Warning: Apply gentle pressure to the memory card only. Pressing on nearby connectors or components can cause electrical damage.

Bottom Case

Tools

- Soft cloth
- Torx T8 screwdriver or 5/64 hex driver
- Black stick (or other nonconductive nylon or plastic tool)
- #0 Phillips screwdriver

Preliminary Steps

Before you begin, remove the battery.

Procedure

1. Place the computer upside down on a soft cloth.
2. **Important:** To avoid damaging the case, be careful that the screwdriver tip does not slip out of the screw head during removal.

   Remove the three screws (two identical screws in the back, one shorter screw in the center of the bottom case).

3. Using a black stick, peel up the three rubber feet from the metal sockets.

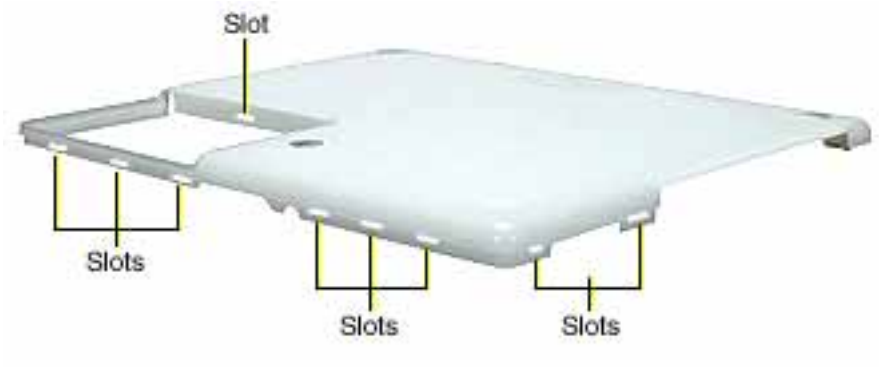
   Note: When reassembling the computer, do not reuse the feet. Install three new rubber feet.

4. Remove the three identical Phillips screws from the metal sockets.
5. Use a black stick to lift out the metal sockets.

   Note: When reassembling the computer, note that the metal sockets are keyed. Rotate them until they sit flat against the bottom case.

6. Remove the two identical Phillips screws next to the battery connector.

7. Note the locations of the slots on the bottom case. The computer frame has tabs that fit into slots within the bottom case (six tabs in front; two on each side; three in back). When using a black stick to pry off the bottom case, it helps to know where the slots are as you free the tabs from the slots.



8. In the battery compartment, lift up the corner of the bottom case, and use a black stick or jeweler's flat-blade screwdriver to gently pry up the slot from the inner tabs on the frame.

9. Starting at the battery compartment, use a black stick to carefully pry up the bottom case from the computer.

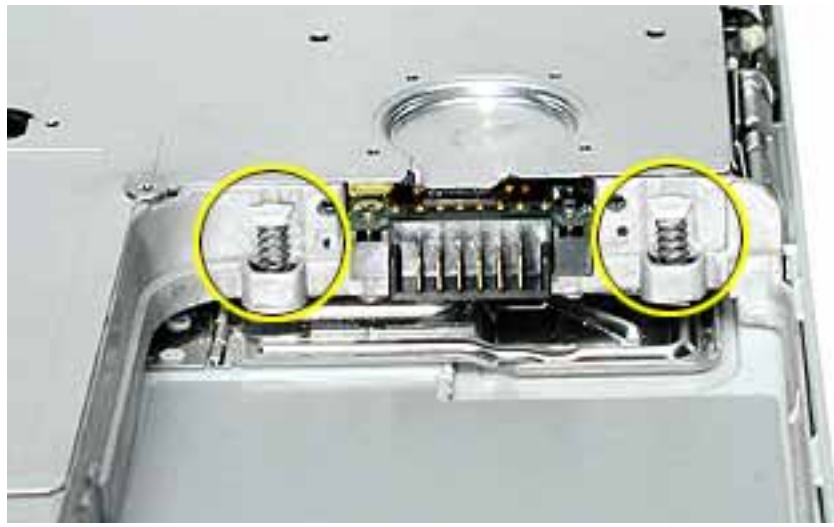
10. **Warning: To avoid damaging the sleep light and other delicate components, do not insert the black stick too far into the computer as you free the bottom case from the computer. Use just the tip of the black stick to pry up the bottom case.**

11. Carefully work the black stick around the corners of the bottom case.

12. The bottom case fits snugly. Use moderate force to remove the remaining tabs from the slots.
13. When all tabs have been freed from the slots, lift up the bottom case.

    Note: When reassembling the computer, be careful not to pinch any cables as you press the bottom case back onto the computer. Check that the bottom case shows no raised surfaces and is fully snapped into place before installing the remaining screws, sockets, and feet.

14. If you are replacing any additional parts at this time, remove the two springs from the battery compartment so they do not fall out and get lost.



    Note: When reassembling the computer, make sure that the two springs in the battery connector are in place before installing the bottom case. Each spring has a plastic cap on one end. The cap should fit securely on the spring, and the curved side of the cap should be positioned against the inner frame.
15. Install the replacement bottom case, and reassemble and test the computer.

Bottom Shield

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

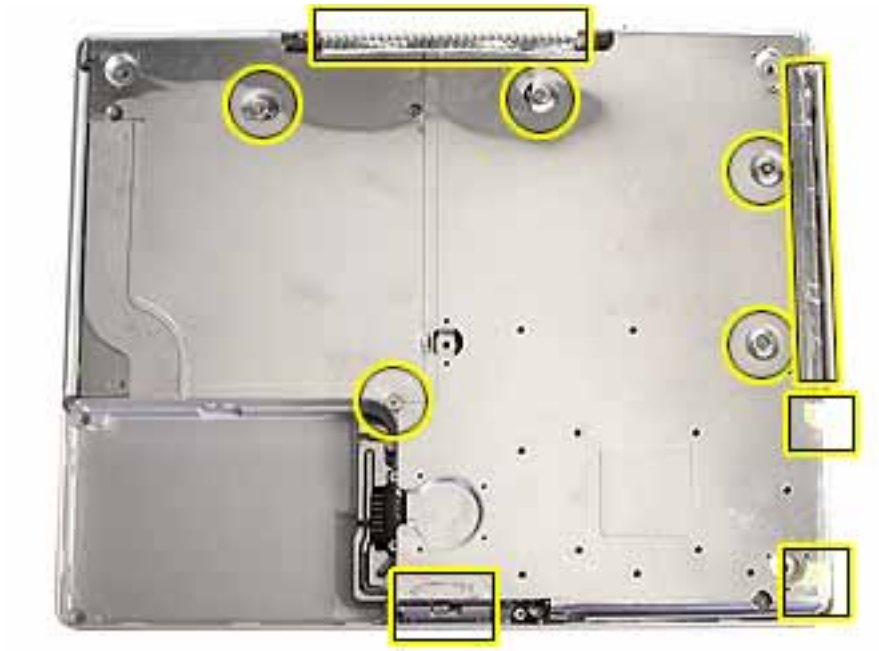
- Battery
- Bottom case

Procedure

1. With the computer on a soft cloth, remove the five identical Phillips screws from the bottom case.
2. Peel up, but do not remove, the pieces of yellow tape.

   Note: When reassembling the computer, reuse the tape to secure the replacement bottom shield.
3. Using a black stick, peel up—but do not remove—the strips of foil tape from the bottom shield.

   Note: When reassembling the computer, install the replacement bottom shield so that the corner of the shield closest to the longest strip of foil tape is secured first. (With the computer oriented as shown, this corner is the uppermost right corner.)

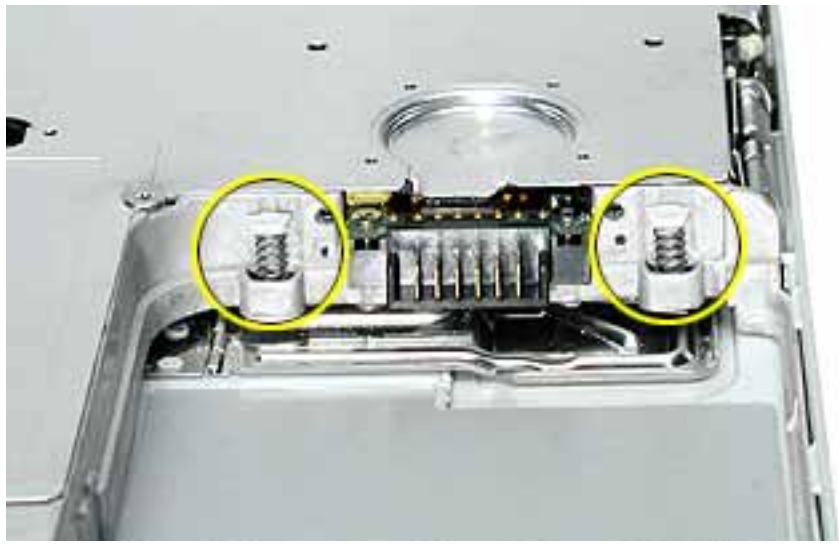


4. Peel up the tape at the computer latch. If the tape tears, replace it with new aluminum tape.

5. **Warning: Do not bend the bottom shield.**

   Lift the bottom shield off the computer, being careful where it might catch on the tape.

6. **Note:** The two springs in the battery connector can become loose. When reassembling the computer, make sure that the two springs in the battery connector are in place before installing the bottom case. Each spring might have grease on the coils, and each has a plastic cap on one end. Make sure the cap fits securely on the spring, and the curved side of the cap is positioned against the inner frame.



7. Install the replacement bottom shield, and reassemble and test the computer.

Fan

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Preliminary Steps

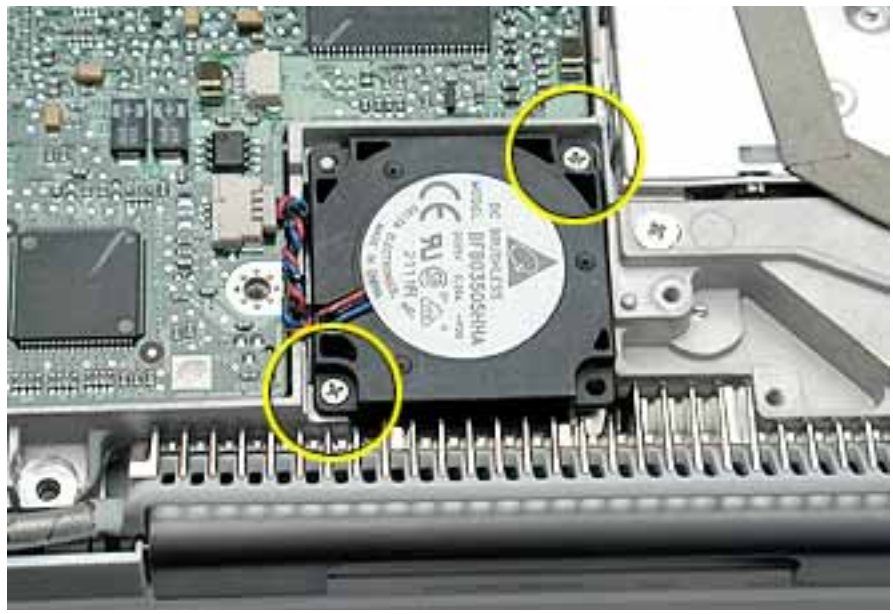
Before you begin, remove the following:

- Battery
- Bottom case
- Bottom shield

Procedure

1. With the computer on a soft cloth, remove the two screws from the fan.

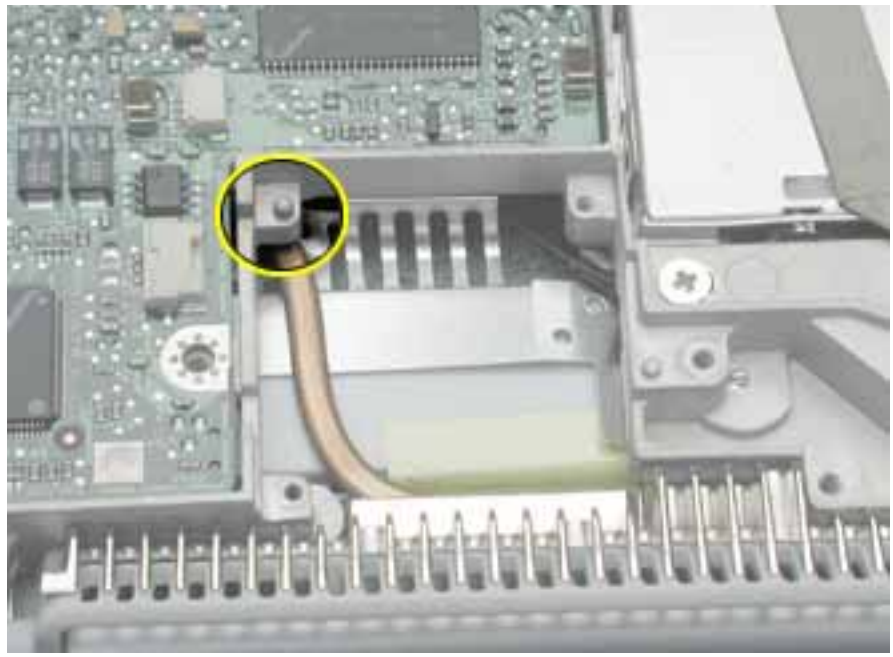
   Note: When reassembling the computer, route the cable beside the replacement fan. The replacement fan might include a piece of tape that secures the cable to the body of the fan. The tape can remain as long as it is not blocking the fan.



2. Lift the fan from the computer, and use a black stick to disconnect the connector from the logic board.

3. Install the replacement fan, and reassemble and test the computer.

   Make sure the replacement fan fits over the small corner post before you tighten the screws.



Top Case

Tools

This procedure requires the following tools:

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)
- Torx T8 screwdriver or 5/64 hex driver
- Small flat-blade screwdriver
- #0 Phillips screwdriver
- Metal paper clip

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

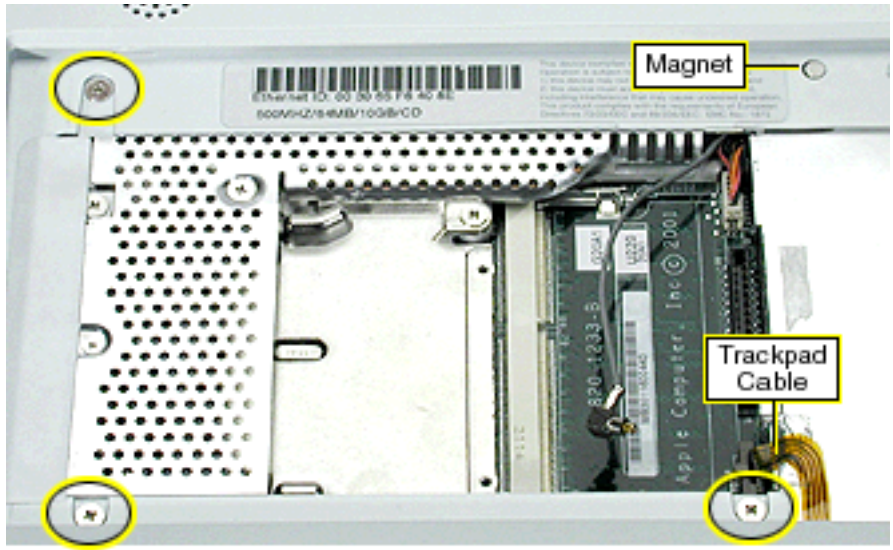
- Battery
- Keyboard and RAM shield
- AirPort Card

Procedure

1. With the computer upside down on a soft cloth, remove the screws from the battery bay and from the bottom case, as shown.

2. Turn over the computer. Using a black stick, pry up the sides of the trackpad cable connector to release the trackpad cable.
3. Remove the three identical screws from the keyboard well.
4. Using a small flat-blade screwdriver, pry up the magnet. Then remove the screw beneath it.

   Note: When reassembling the computer, note that the screw beneath the magnet is smaller than the other three screws. Be sure to install the magnet over the screw.



5. Peel up the speaker wire tape, but make sure that the speaker wire beneath it remains in place. Set aside the speaker wire tape.

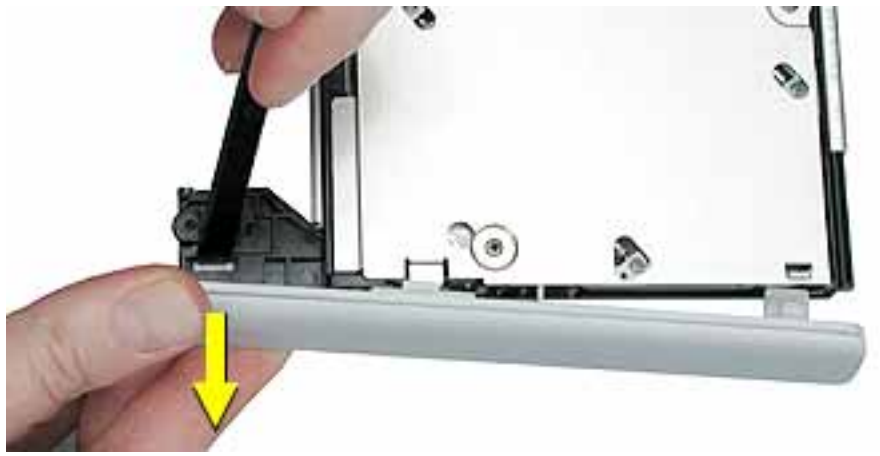
   Note: When reassembling the computer, reuse the speaker wire tape.

6. Use a soft cloth to protect the display face and close the computer.
7. Using a straightened paper clip, open the optical drive.

8. **Warning: Avoid pressure on the optical drive tray. When removing the optical drive bezel, putting pressure on the drive tray can damage the drive.**

   Remove the optical drive bezel as follows:
   - For a CD-ROM optical drive, turn over the computer and remove the two black screws. Hold the drive tray steady and pull the bezel straight off the drive.

- For a combo optical drive, use the pointed end of a black stick to press the recessed middle of the thin tab. Then press the wider tab, and hold the drive tray steady as you pull the bezel off of the tray.



9. Slide in the optical drive tray until it clicks into place. Remove the two small screws that secure the computer frame to the top case.

10. Using a black stick, begin to carefully separate the top case from the computer assembly.

    Move the computer as you work around the top case to open up the seam that joins the top case and bottom case.

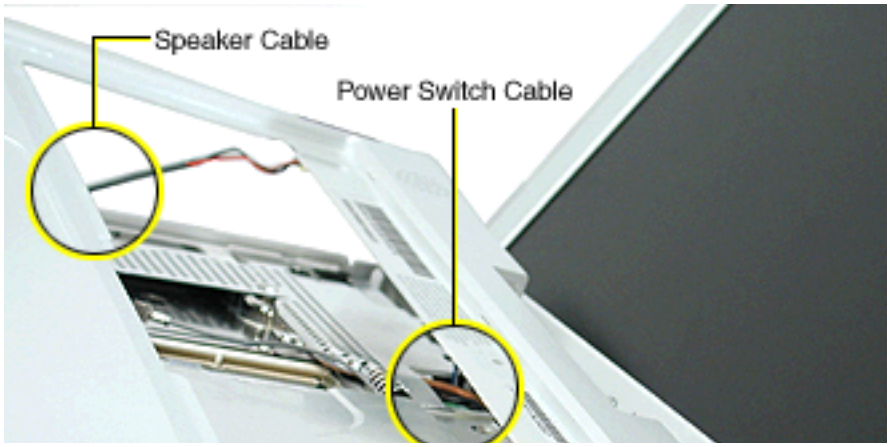
11. While continuing to loosen the top case, use caution around the battery bay. If necessary, flex the inner frame to release that corner of the top case.

12. With most of the top case loosened, tilt up the corner of the top case that fits over the DC connector.

    Warning: The top case is connected to the computer assembly with delicate cables. Do not remove the top case until the cables are disconnected (as instructed in the next step).

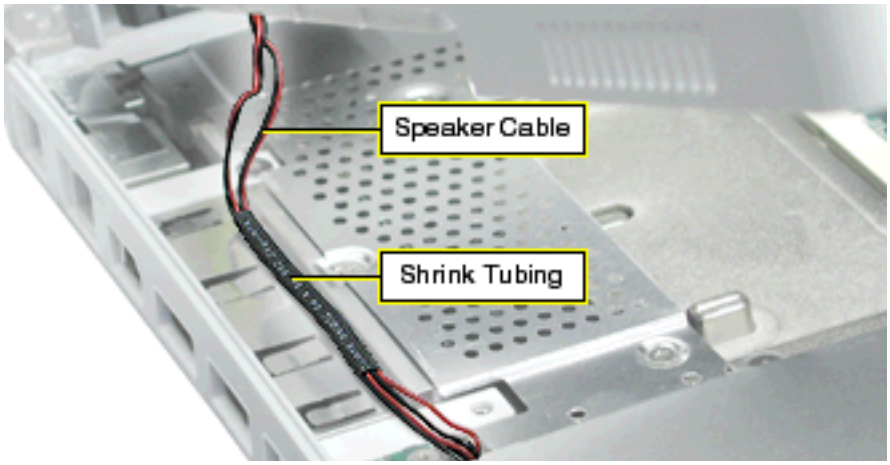
13. **Warning: When performing this step, make sure the speaker cable and power switch cable are not strained.**

    Tilt the top case up away from the computer latch.

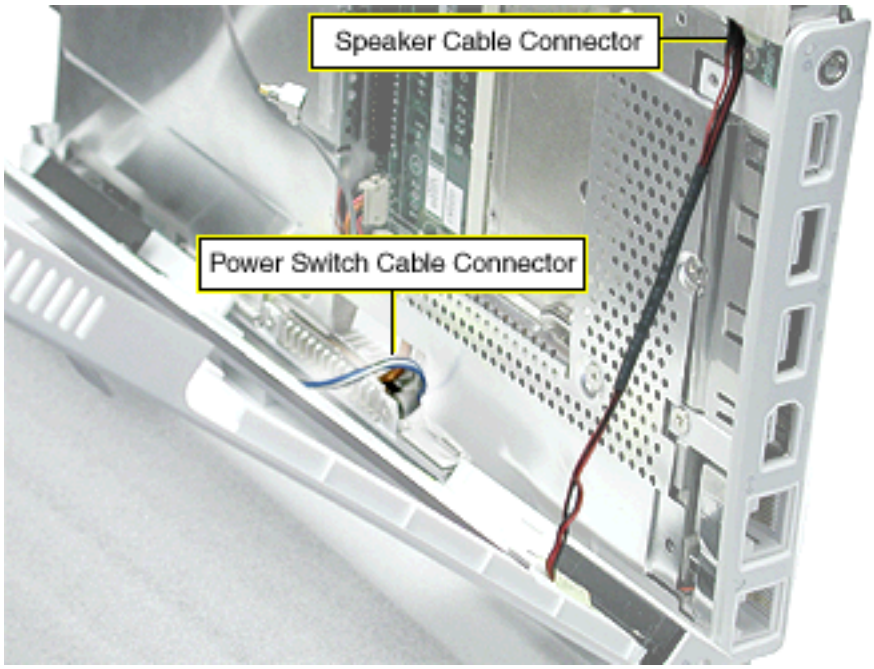


14. With the top case loosened, note how the speaker cable is routed.

    Note: When reassembling the computer, ensure that the shrink tubing section of the speaker cable sticks to the top shield and is routed as shown.

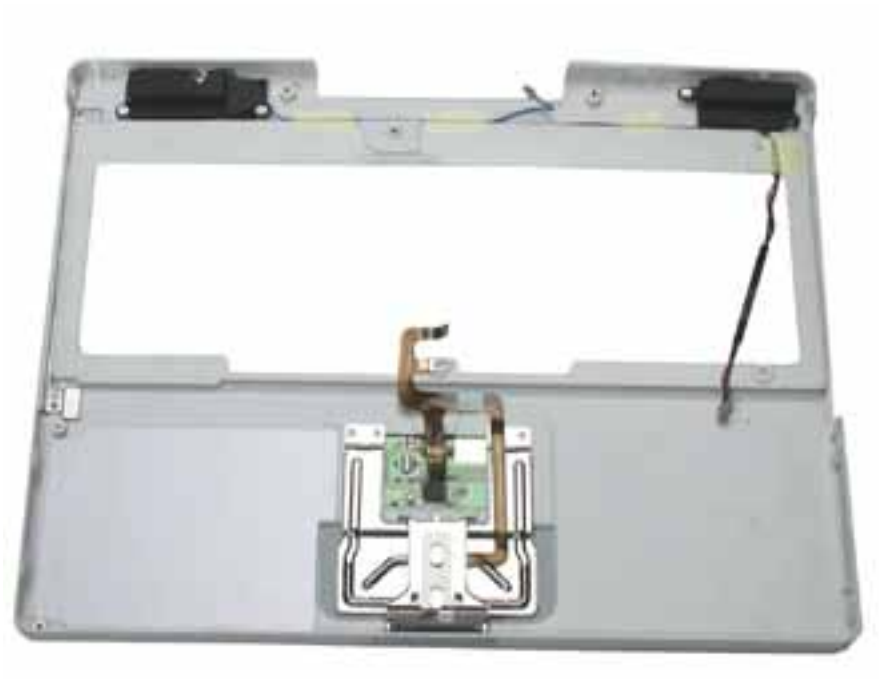


15. Disconnect the power switch cable connector from the logic board.
16. Disconnect the speaker cable connector from the logic board.



17. Remove the top case from the computer.

18. Before installing the replacement top case, make sure it includes the following:
    - Speaker set
    - Power button and board (under left speaker)
    - Speaker cable and power switch cable
    - Trackpad assembly with board and cable
    - Display latch
19. **Important:** Make sure you transfer the original serial number label and Ethernet label from the old top case to the replacement top case. You can use a black stick to carefully peel up a corner of the label. Then peel off the label completely and apply it to the replacement top case. Make sure that the labels lie completely flat so they do not interfere with the battery compartment.



20. Install the replacement top case, and reassemble and test the computer.

    Note: When installing the replacement top case, connect the power switch cable connector (the shorter cable) first. Then connect the speaker cable connector, and slide the top case over the DC connector. Do not strain the cables.

    Warning: When reassembling the computer, be careful not to pinch any cables as you press the top case back onto the computer. Check that the top case shows no raised surfaces and is fully snapped into place before installing the remaining screws.

Display Latch

Tools

This procedure requires the following tools:

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)

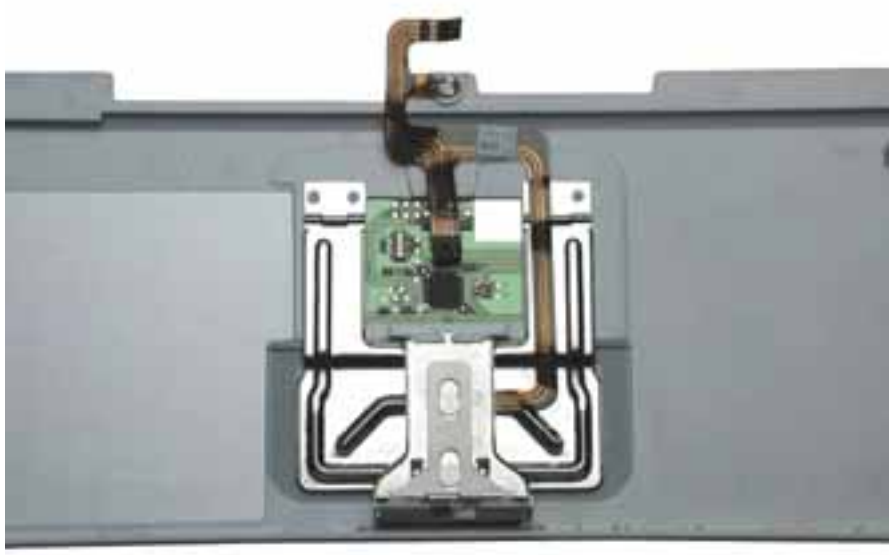
Preliminary Steps

Before you begin, remove the following:

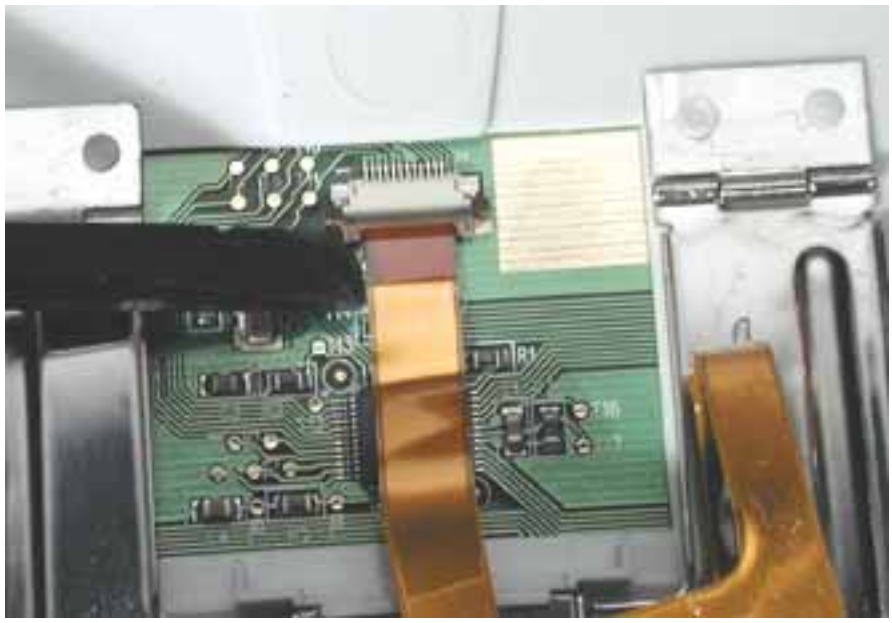
- Battery
- Keyboard and RAM shield
- AirPort Card
- Top case

Procedure

1. With the top case on a soft cloth, note the routing of the trackpad ribbon cable and placement of the display latch.
2. Carefully peel up the trackpad cable from the top case.



3. Use a black stick to lift up the ends of the connector that holds the trackpad cable to the board.



4. Holding the top case steady, press the latch in and over the lip of the top case. You might need to flex the latch opening somewhat to remove it from the top case.

5. Install the replacement display latch by tilting it onto the trackpad assembly, pressing the latch button, and feeding the latch into the latch opening in the top case. Test that the latch button works easily.
6. Reassemble and test the computer.

   Warning: When reassembling the computer, be careful not to pinch any cables as you press the top case back onto the computer. Check that the top case shows no raised surfaces and is fully snapped into place before installing the remaining screws.

Top Shield

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

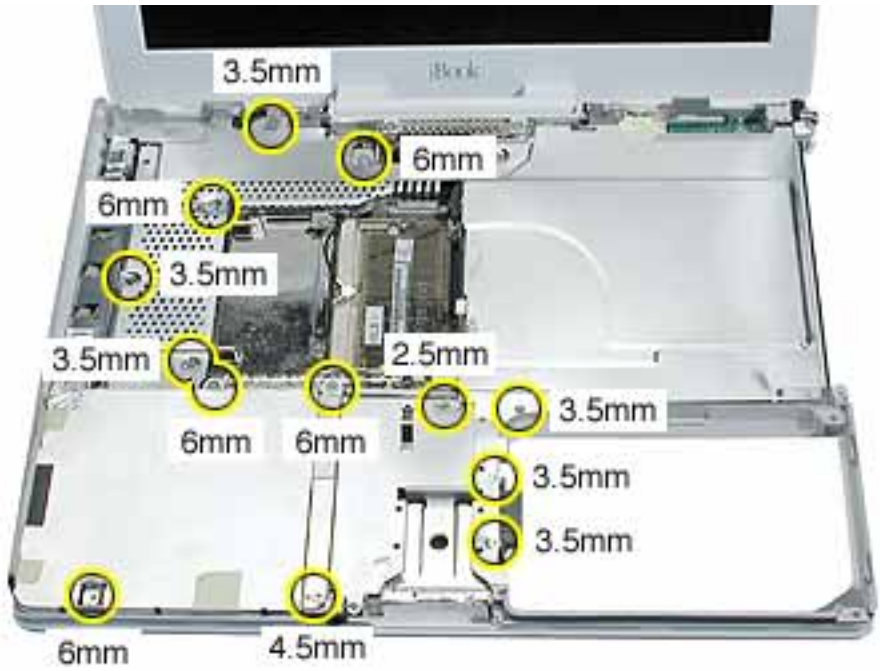
Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case

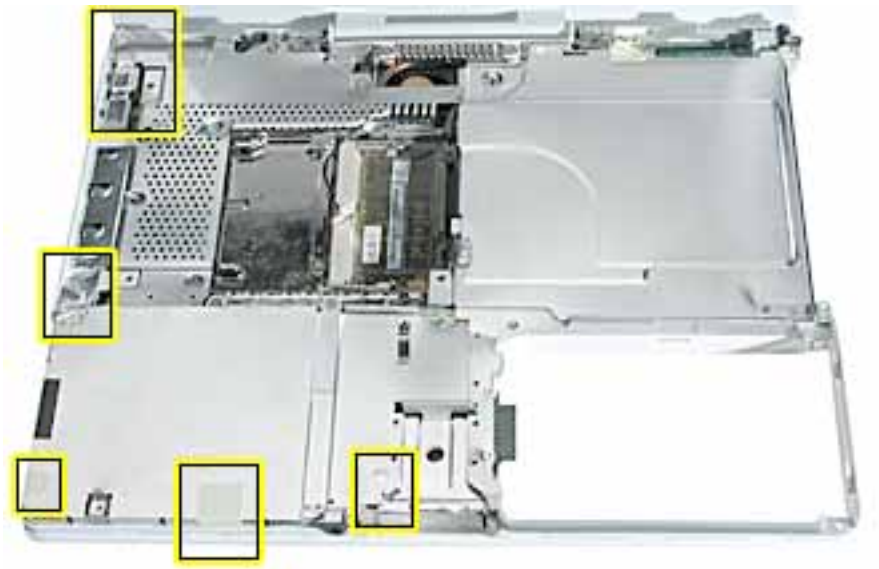
Procedure

1. With the computer on a soft cloth, remove the 13 Phillips screws:
   - six 3.5-mm long screws
   - five 6-mm long screws
   - one 4.5-mm long screw
   - one 2.5-mm long screw



2. Using a black stick, carefully peel up, but do not remove, the foil strips and pieces of tape.

   Note: When reassembling the computer, reuse the foil and tape to secure the replacement top shield.



3. **Warning: Do not bend the top shield.**

   Lift the top shield off the computer, being careful where it might catch on the computer assembly.

4. Install the replacement top shield, and reassemble and test the computer.

I/O Bezel

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

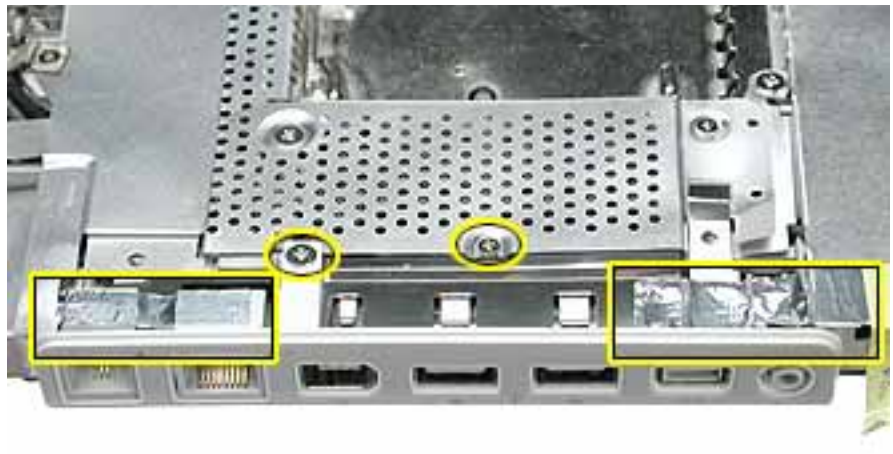
Preliminary Steps

Before you begin, remove the following:

- Battery
- Bottom case
- Bottom shield
- Keyboard and RAM shield
- Airport Card
- Top case

Procedure

1. With the computer on a soft cloth, remove the two screws from the I/O bezel and peel up the foil tape.



2. Tilt down the I/O bezel and remove it from the computer frame.

   Note: When reassembling the computer, make sure that the I/O bezel is level and fits over all ports.

3. Install the replacement I/O bezel, and reassemble and test the computer.

   Note: When installing the replacement I/O bezel, make sure the bezel shield and the mylar panel fits over the underside of the logic board, as shown below.

RJ11 Modem Cable

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Preliminary Steps

Before you begin, remove the following:

- Battery
- Bottom case
- Bottom shield
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- I/O bezel

Procedure

1. Disconnect the RJ11 modem cable.
2. With the computer on a soft cloth, use a black stick to lift the tape off of the modem port.

3. Lift up the modem sleeve and disconnect the RJ11 modem cable from the modem board.

4. Slide the modem port forward and off of the logic board.

5. Install the replacement RJ11 modem cable, and reassemble and test the computer.

Hard Drive

Tools

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)
- Torx T8 screwdriver

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

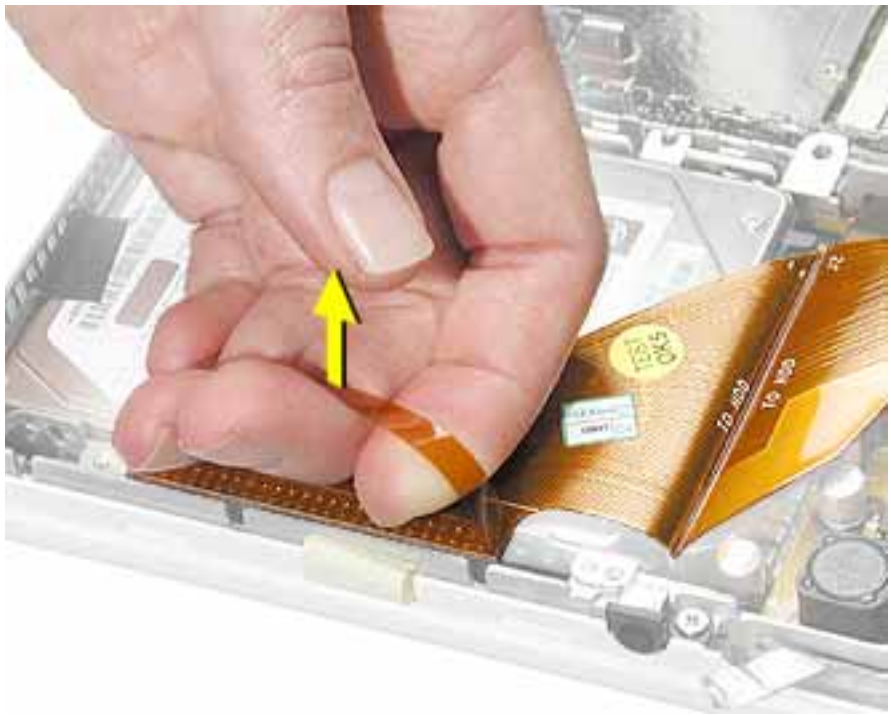
- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield

Procedure

1. With the computer on a soft cloth, note the location of the hard drive and how the ribbon cable is routed.
2. **Warning:** If the ribbon cable connector is pulled up unevenly, some connector pins could become bent and damaged.

   Using even force, pull the looped handle straight up to disconnect the ribbon cable from the connector at the side of the hard drive.

   Note: When installing the ribbon cable at the side of the replacement drive, this connector is labeled "TO MAIN BOARD" on the ribbon cable.



3. Lift up the fabric tape to release the microphone cable.

   Note: When reassembling the computer, reuse the tape to secure the microphone cable to the replacement drive.

4. From the corner bracket, tilt up the hard drive, and slide it out from under the microphone cable.

5. **Warning: Handle the hard drive at the sides only. Do not touch or press anywhere else on the drive.**

   Warning: If the ribbon cable connector is pulled out unevenly, some connector pins could become bent and damaged.

   Using even force, pull the looped handle to disconnect the ribbon cable from the connector on the end of the hard drive.

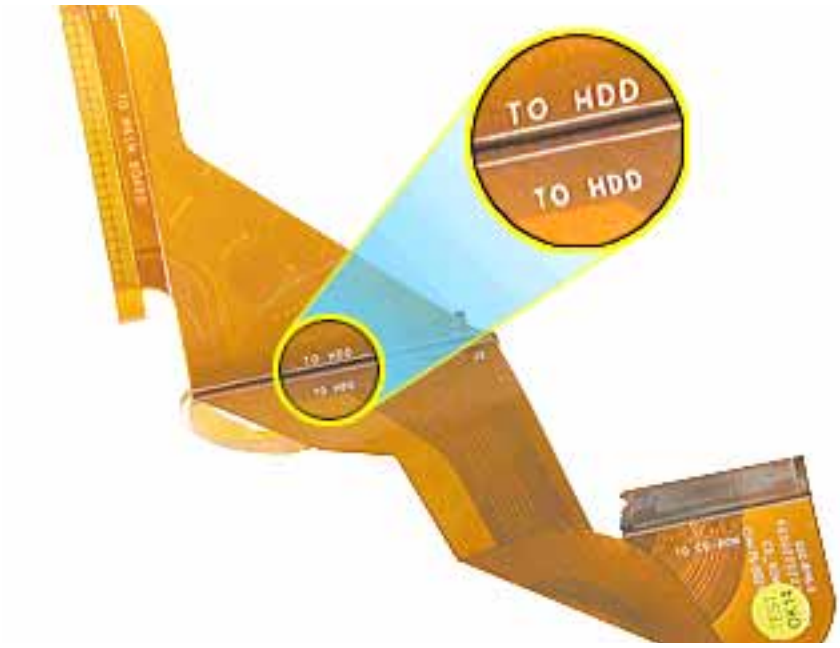
   Note: When installing the ribbon cable to the end of the replacement drive, this connector is labeled "TO HDD" on the ribbon cable.

6. Holding the drive by the corners as shown, pull off the side rails (with grommets attached).

   Note: When reassembling the computer, transfer the side brackets (including the grommets) to the replacement hard drive so the grommets fit over the screw heads.

7. Install the replacement hard drive, and reassemble and test the computer.

   Note: Each connector on the ribbon cable is labeled for reinstallation.



Modem

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield

Procedure

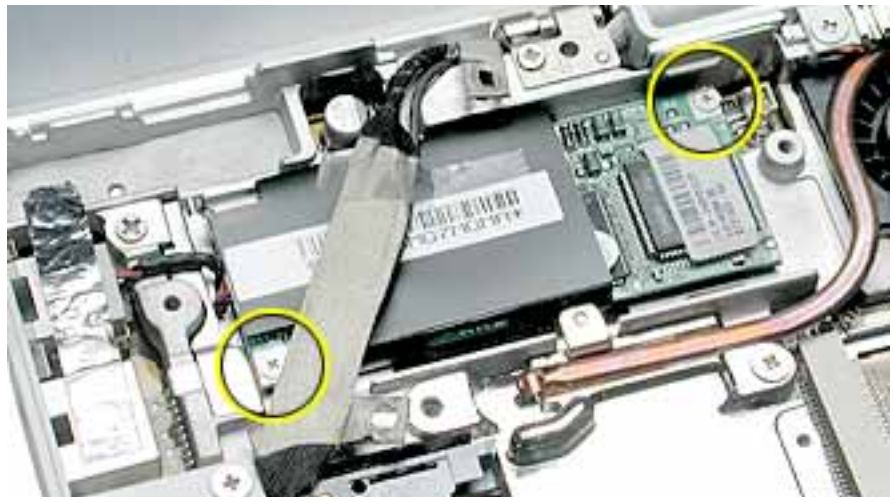
1. **Warning: When removing the modem, be careful not to strain the cables.**

   With the computer on a soft cloth, note the routing of the LVDS (low voltage data signal) cable that is taped to the plastic modem sleeve.

   Without straining the LVDS cable, peel off the clear tape and remove the single screw that holds the cable to the rib frame.

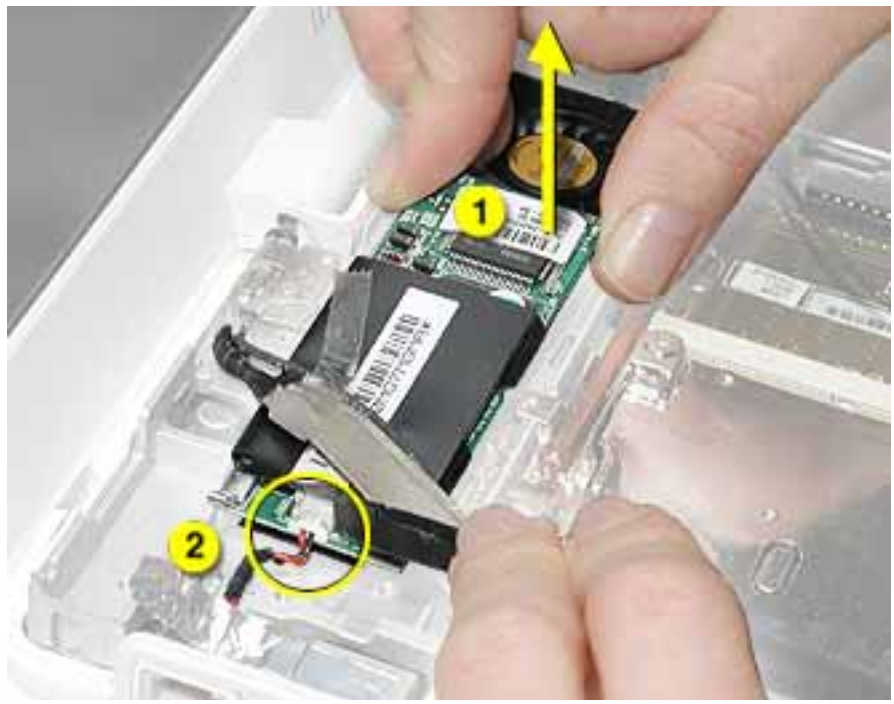
2. **Important:** Do not strain or remove the LVDS cable.

   Gently move the LVDS cable aside, and remove the two screws from the modem.



3. Tilt up the end of the modem to disconnect it from the logic board.
4. Grasp the 2-pin cable connector from under the plastic sleeve, and disconnect the connector from the modem. Slide the modem out from under the LVDS cable.

   Note: When reassembling the computer, reuse the tape that secures the flat LVDS cable to the modem sleeve.



5. Install the replacement modem, and reassemble and test the computer.

Display Module

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

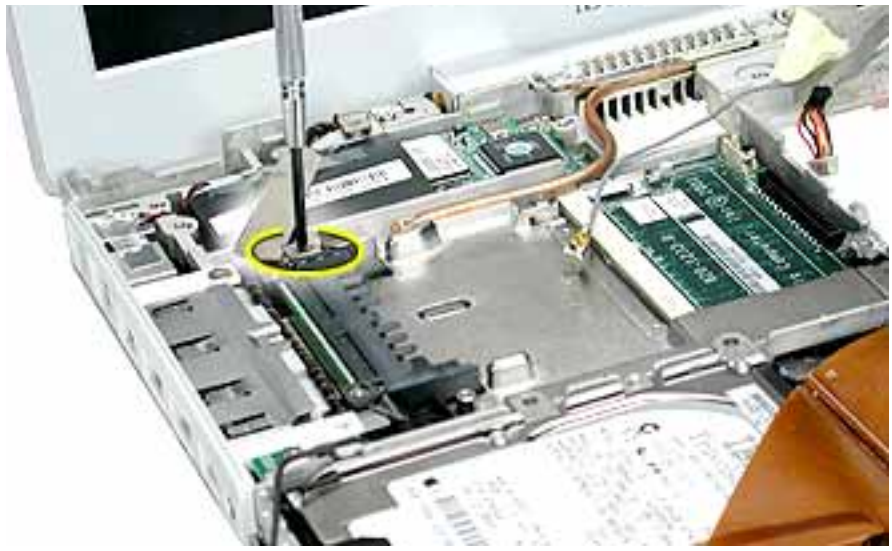
- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield

Procedure

1. With the computer on a soft cloth, note the routing of the black microphone cable. Disconnect the microphone cable from the logic board and release the cable from the black fabric tape on the hard drive.

2. Pull up the flexible tab to disconnect the LVDS (low voltage data signal) cable from the logic board.

3. Remove the screw securing the flat section of the LVDS cable.



4. Peel the tape off of the optical drive, and disconnect the flat backlight cable from the logic board.

2. Tilt up the DC board, and use a black stick to disconnect the cable connector from the DC board.

3. Remove the DC board from the computer assembly.
4. Install the replacement DC board, and reassemble and test the computer.

Logic Board

Tools

- Soft cloth
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the computer, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

- Battery
- Bottom case
- Bottom shield
- Keyboard and RAM shield
- Airport Card
- Fan
- Top case
- Top shield
- I/O bezel
- Display module
- Modem

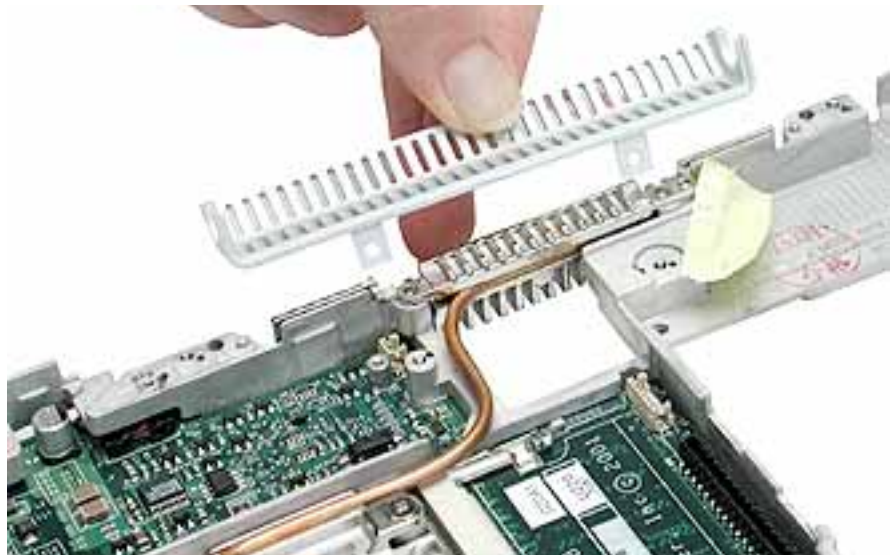
Procedure

1. With the computer on a soft cloth, note the location of the sleep light board connected to the logic board and outer frame.

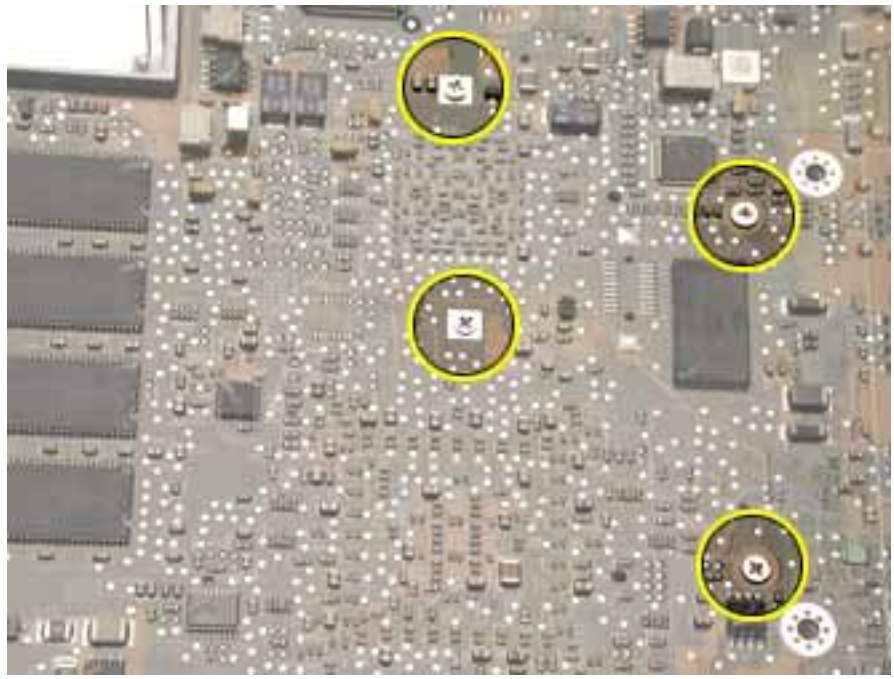
   Note: When reassembling the computer, make sure the sleep light board is positioned as shown and does not get caught between the top and bottom case.

2. Using a black stick, disconnect the sleep light board connector from the logic board.

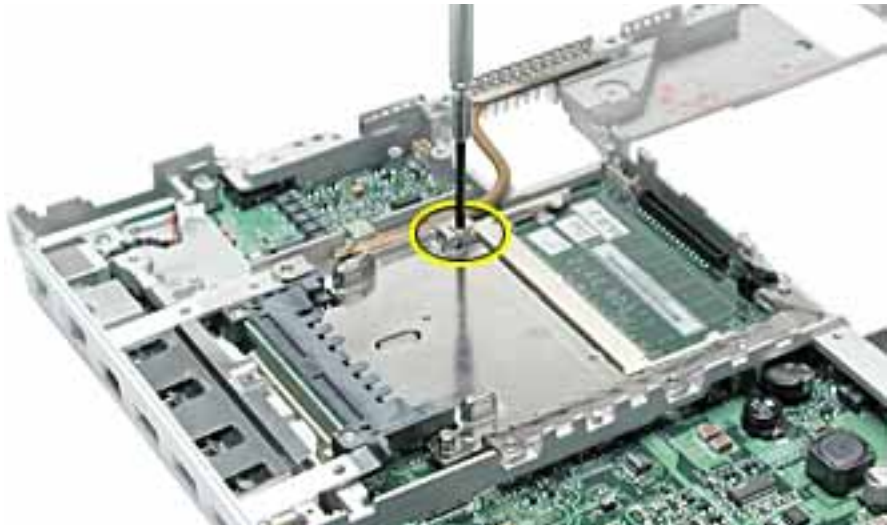
3. Remove the two screws holding the vent cover to the heat spreader.



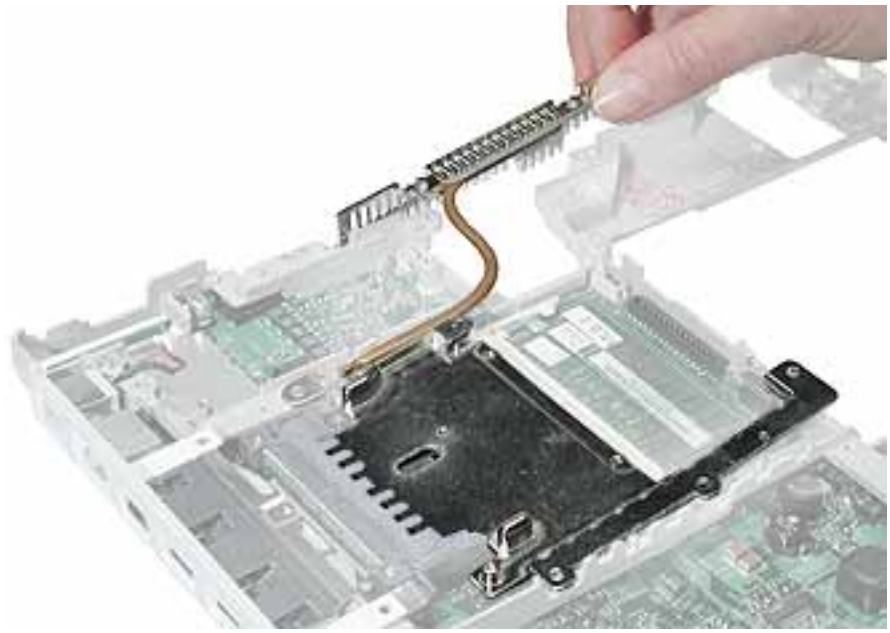
4. Turn over the computer frame and remove the Phillips screws that secure the logic board to the heat spreader plate:
   - 5-mm long screw (near center of board)
   - 11-mm long screw (near edge of board)
   - two 11.5 mm long screws near the I/O ports



5. Turn over the computer frame, and remove the remaining screw at the heat spreader plate.



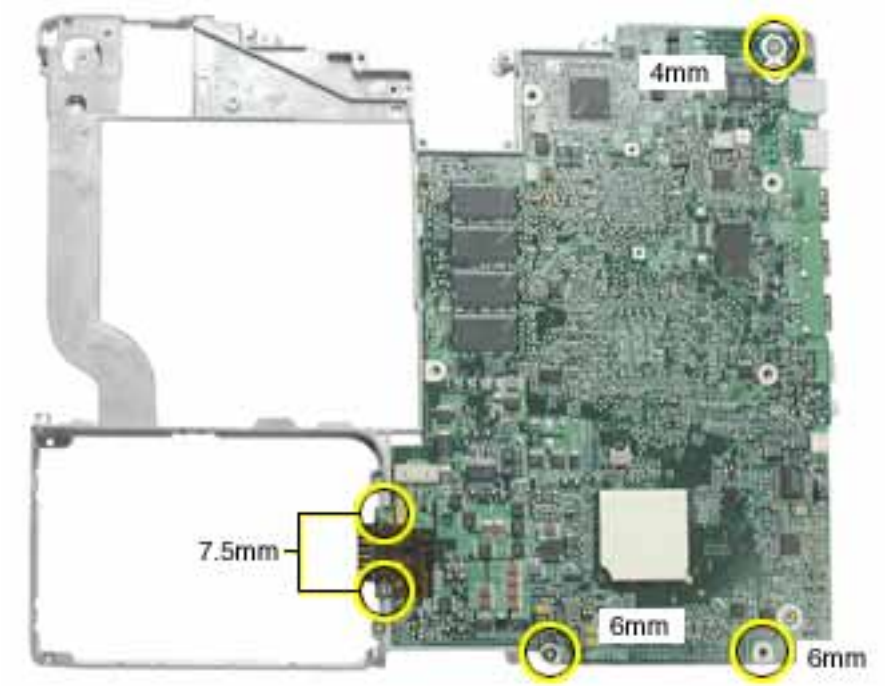
6. Tilt up the heat spreader and lift it off the logic board and out of the frame.



7. Turn over the frame, and remove the following:
   - Three logic board screws
   - Two battery connector screws

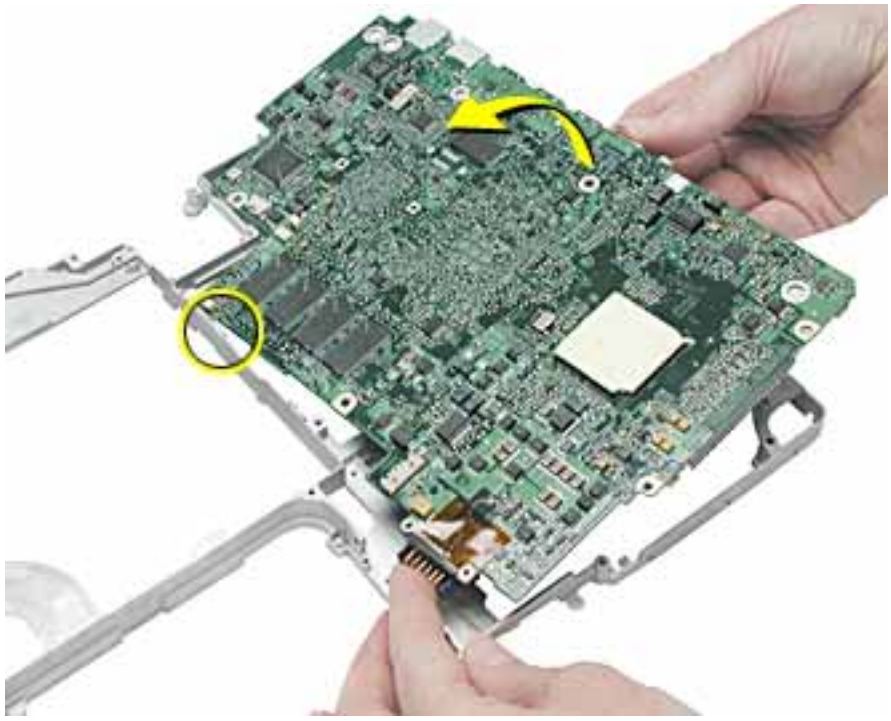
   Note: When reassembling the computer, make sure that the underside of the replacement logic board includes:
   - Kapton tape at battery connector
   - Thermal transfer pad covering the large chip

   Note: When reassembling the computer, make sure that you transfer the following items from the original logic board to the top of the replacement logic board:
   - Memory card(s)
   - Strip of foil tape extending from the top of the Ethernet port, over the top of the modem port, and folding down the side of the modem port



8. Lifting the logic board at the back ports, tilt up the logic board to remove it from the frame.

   Note: When installing the replacement logic board into the frame, make sure that it fits underneath the highlighted tab on the frame.



9. Install the replacement logic board, and reassemble and test the computer.

LCD Panel

Tools

- Soft cloth
- Torx T6 screwdriver or 5/32 hex driver
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the LCD panel assembly, use a tray with divided compartments (such as a plastic ice cube tray).

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module

Procedure

1. With the display module lying face up on a soft cloth, use either a 5/32 hex driver or a Torx T6 screwdriver to remove the four 8-mm long screws (two on each side) from the display housing.

2. Using a black stick, pry up the bezel from the display housing. Carefully work the black stick around the outer perimeter and corners of the bezel.

3. **Warning: When lifting the assembly, be careful not to strain the cables.**

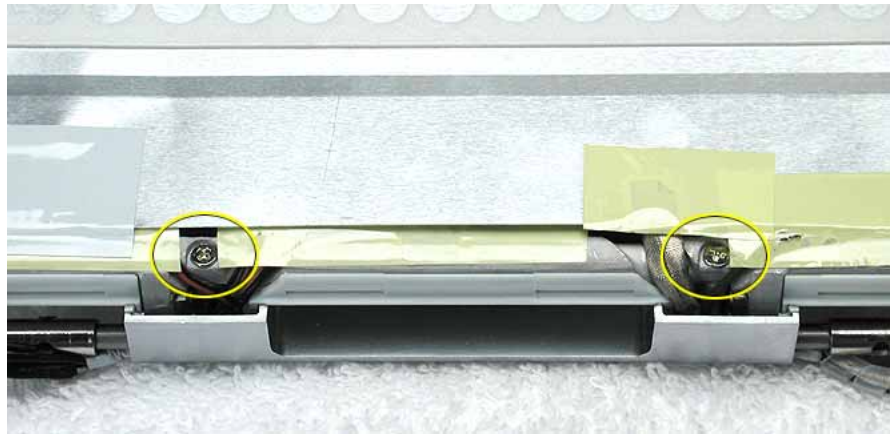
   With the bezel assembly loosened, grasp the display clutch and raise the assembly off of the display housing.

4. Place the display assembly face down on a soft cloth.

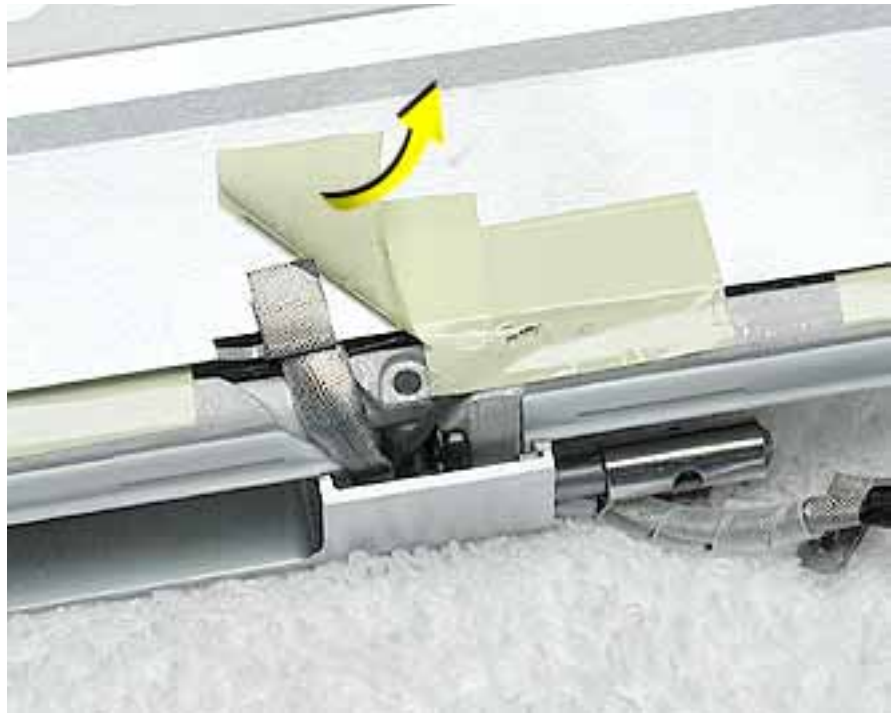
5. Notice the U-shaped notches on the sides of the bezel.
6. Remove the four 3-mm long Phillips screws (two on each side) from the display shield. (Carefully move aside any cables or tape that partially block access to the screws.)

7. Peel up the foil tape that holds the LCD cable to the LCD shield.

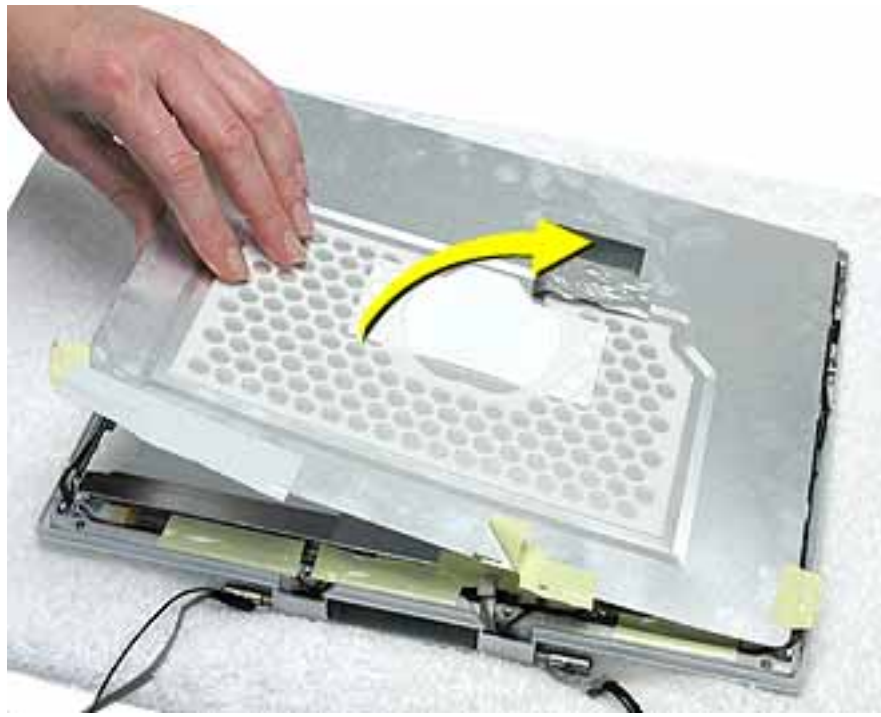
8. Peel up the tape if it covers the two screws at the clutch. Remove the two 11-mm long Phillips screw s.



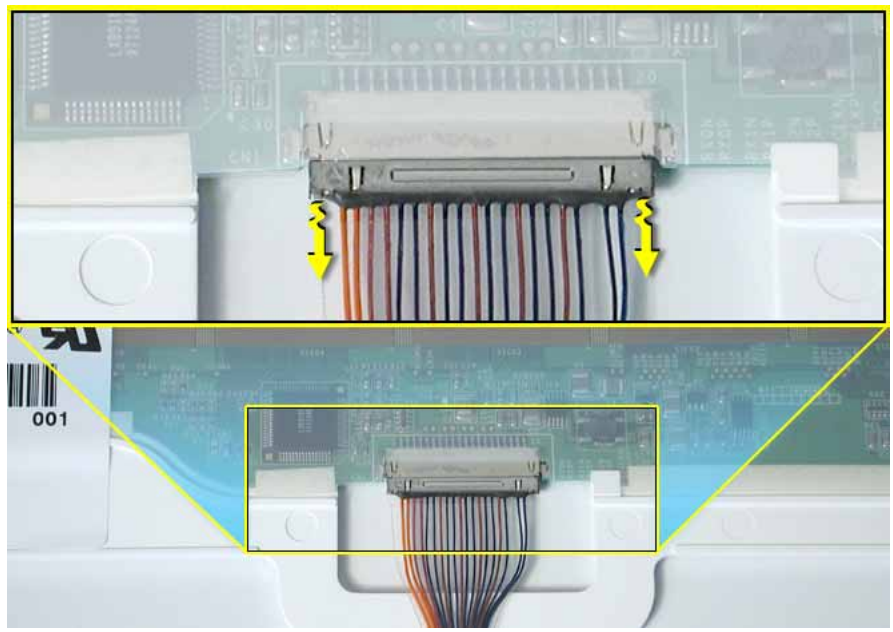
9. Peel up the tape that anchors the folded mesh strip of the LCD cable to the shield.



10. Loosen the remaining tape that secures the shield to the assembly. Remove the shield.



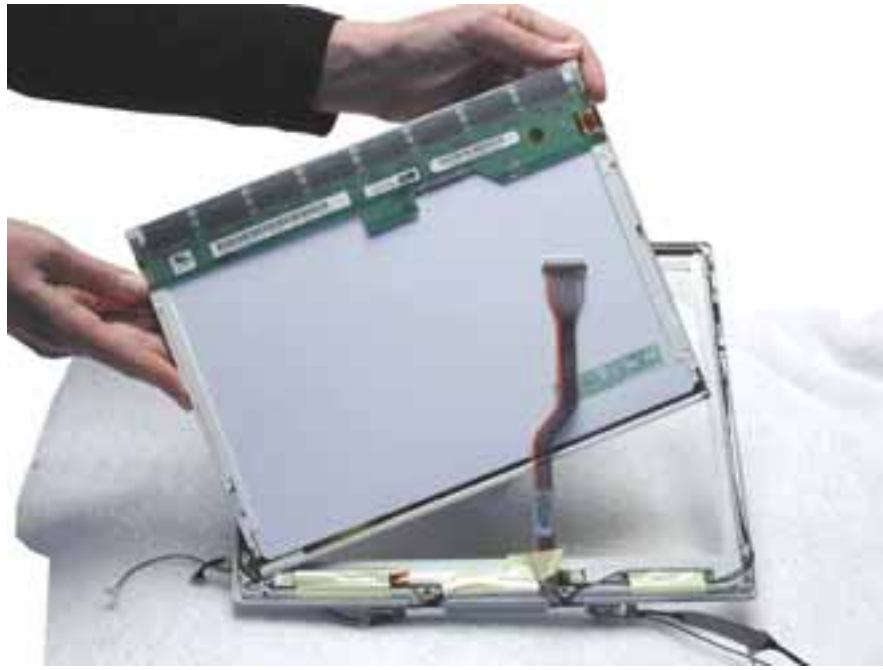
11. On the back of the LCD panel, grasp both sides of the LCD connector, and gently rock and pull the connector to disconnect the LCD cable from the LCD panel.



12. At the other end of the LCD cable, remove the tape from the bottom edge of the LCD panel.

13. **Warning: When lifting the LCD panel, be careful not to strain the inverter cable.**

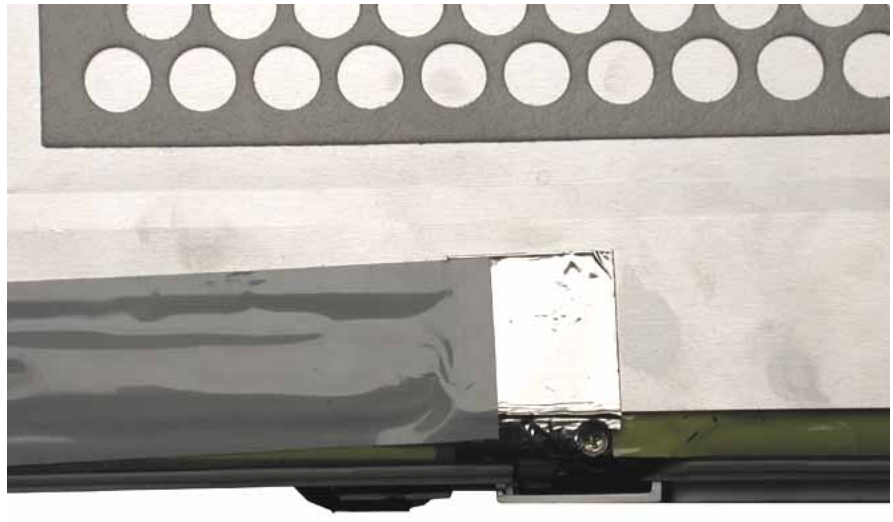
    Carefully lift up the LCD panel, pivoting it where it is still connected to the inverter by the 2-pin inverter connector.



14. Disconnect the inverter cable from the inverter board at CN2 and remove the LCD panel.

15. Install the replacement LCD panel, and reassemble and test the computer.

    With the shield installed over the replacement LCD panel, apply a rectangular piece of foil tape to overlap the shield and cables at the left side of the clutch, as shown below.



Display Clutch Cover

Tools

- Soft cloth
- Torx T6 screwdriver or 5/32 hex driver
- #0 Phillips screwdriver
- Black stick (or other nonconductive nylon or plastic tool)

Note: To organize the screws you remove from the display assembly, use a tray with divided compartments (such as a plastic ice cube tray).

Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module

Procedure

1. With the display module lying face up on a soft cloth, use either a 5/32 hex driver or a Torx T6 screwdriver to remove the four 8-mm long screws (two on each side) from the display housing.

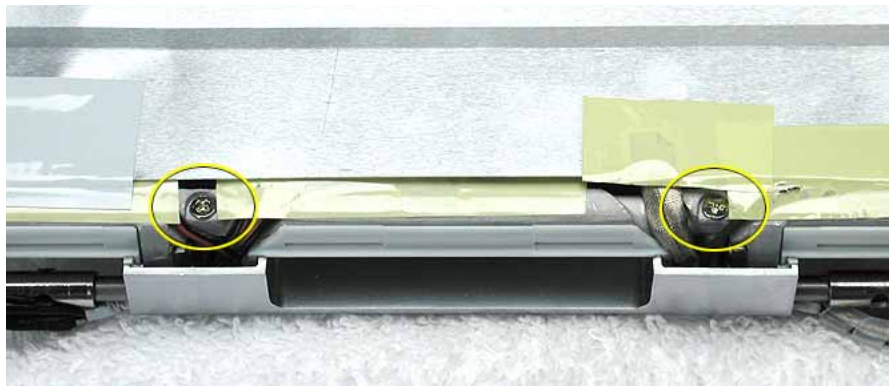
2. Using a black stick, pry up the bezel from the display housing. Carefully work the black stick around the outer perimeter and corners of the bezel.

3. **Warning: When lifting the assembly, be careful not to strain the cables.**

   With the bezel assembly loosened, grasp the display clutch cover and raise the assembly off of the display housing.

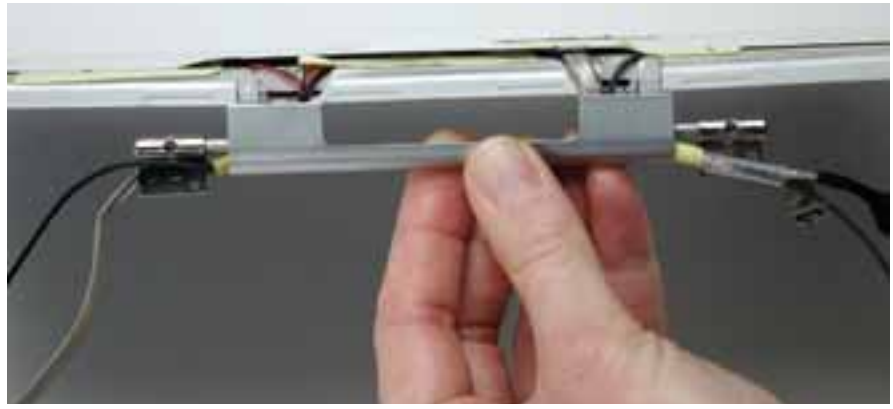
4. Place the display assembly face down on a soft cloth.

5. Peel up the tape if it covers the two screws at the clutch. Remove the two 11-mm long Phillips screw s.



6. Tilt up the display assembly and pull straight down on the display clutch cover.

   Note: There are two small, thin, plastic clutch caps that slide into the ends of the clutch cover. The clutch caps might fall off as you remove the clutch cover. Be careful not to lose the clutch caps.

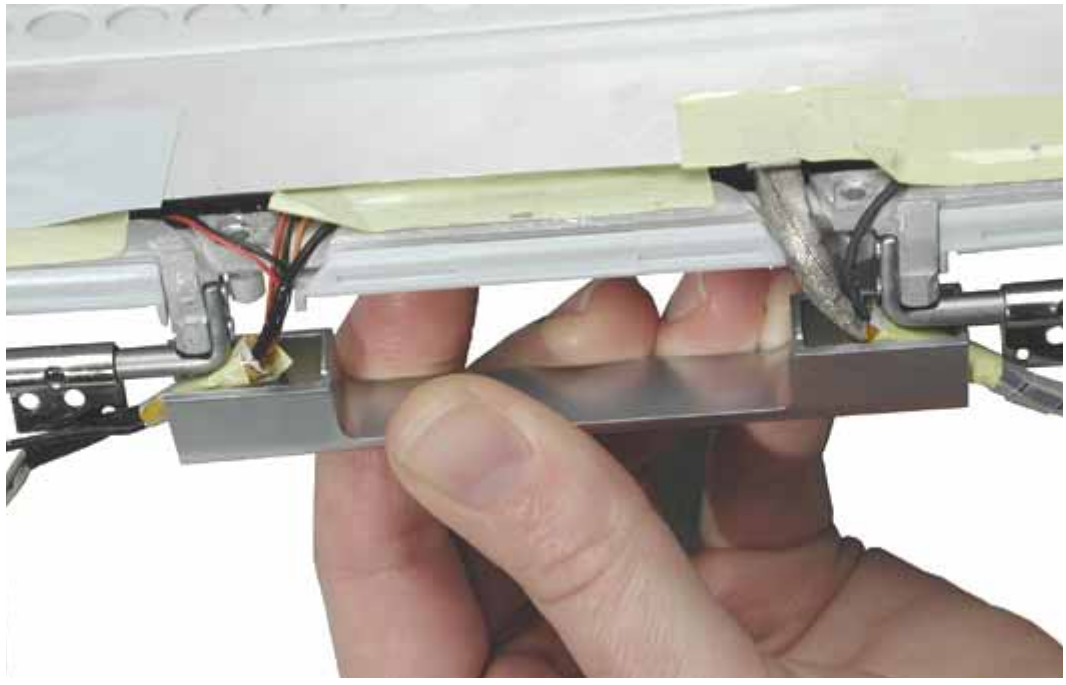


Note: The clutch caps are mirror images of each other. There is a right clutch cap and a left clutch cap. Note the positioning of the clutch caps on the display clutch cover. The image below shows the left clutch cap installed.

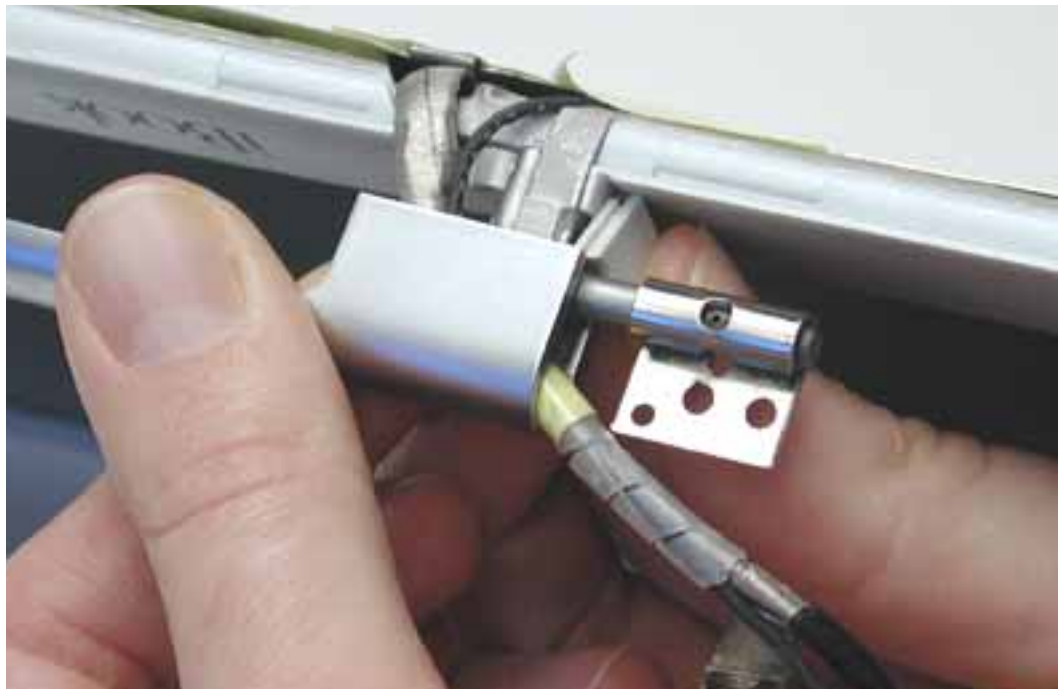
7. Install the replacement display clutch cover, and reassemble and test the computer.

   Warning: When installing the replacement clutch cover, be careful not to strain or pinch the cables. Make sure they fit easily into the recessed area on both ends of the clutch cover.

   Note: The bundled cables on your display might look somewhat different than shown.



Replacement Note: When installing the replacement clutch cover, hold the cables and clutch cap in place as you slide the clutch cover over them.



Make sure the clutch cap on each side of the clutch cover is firmly seated before installing the two screws.

Inverter Board

Tools

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

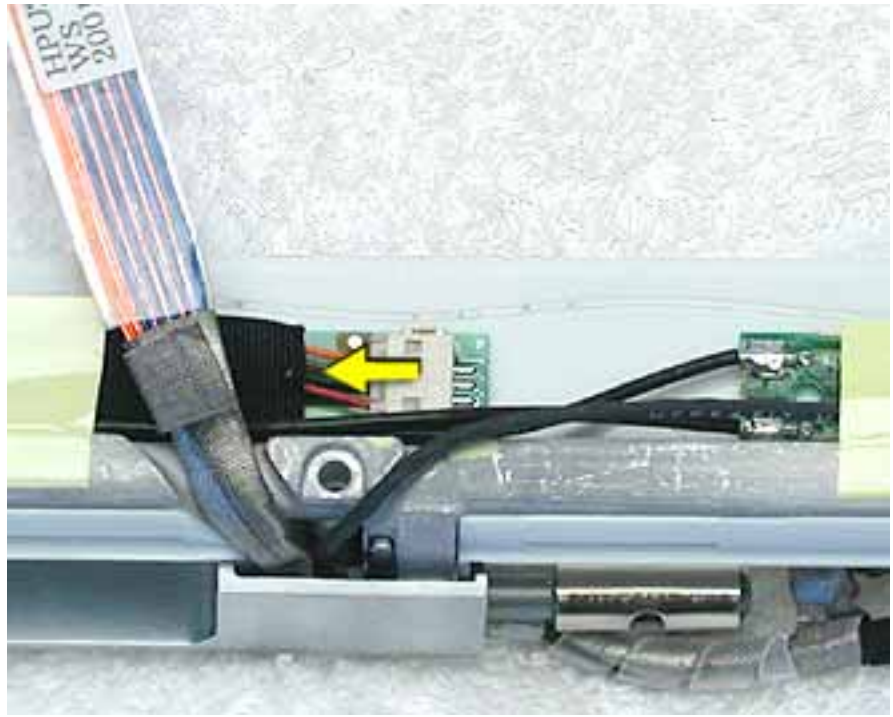
Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

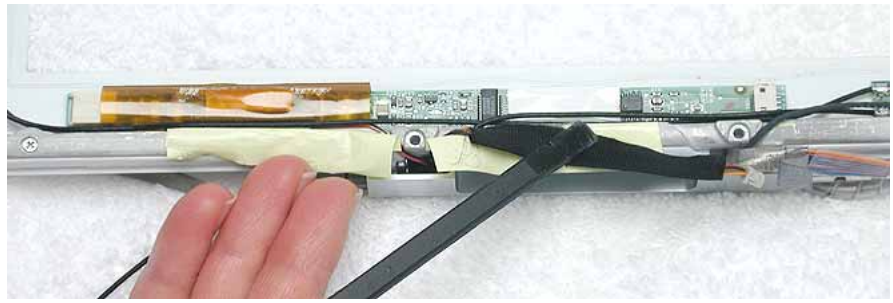
Procedure

1. With the bezel assembly lying on a soft cloth, disconnect the data cable from the right end of the inverter board at CN1.



2. Using a black stick, peel up the pieces of tape.

   Replacement Note: Note the position of the inverter board and cables for the installation of the replacement inverter board.

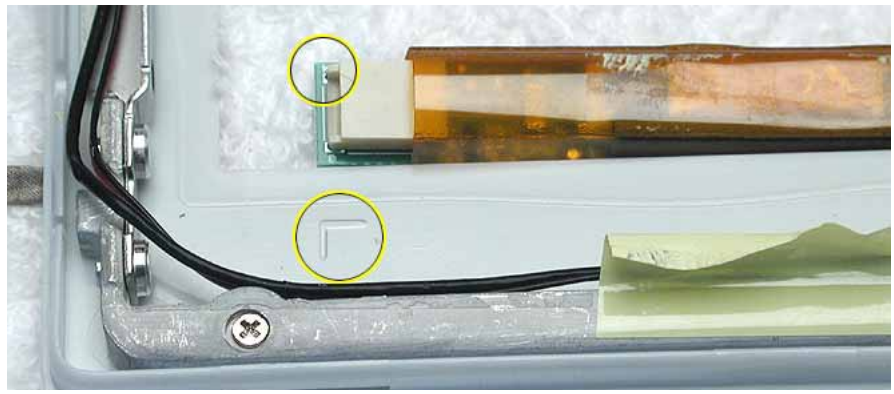


3. **Warning: When lifting the inverter board, be careful not to pinch the cables that are routed above the board.**
   - Use a black stick to pry up the inverter board.

Replacement Note: The inverter board is held to the bezel assembly with double-sided tape on each end of the board. Use new double-sided tape when installing the replacement inverter board.

4. Install the replacement inverter board, and reassemble and test the computer.

   Replacement Note: Make sure the left corner of the replacement inverter board aligns with the raised L-shaped guide in the bezel assembly. Make sure the replacement inverter board does not cover or pinch any cables.



Antenna Board

Tools

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)
- #0 Phillips screwdriver

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

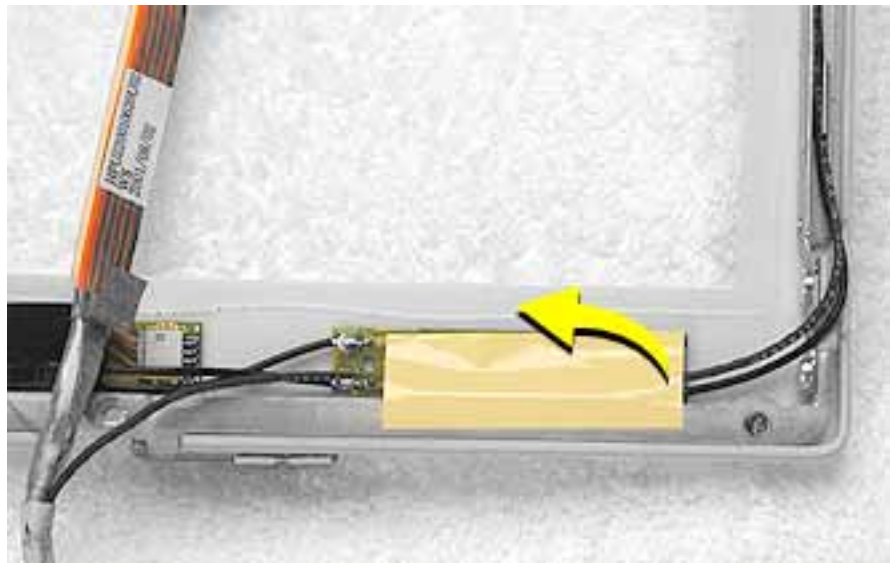
Preliminary Steps

Before you begin, remove the following:

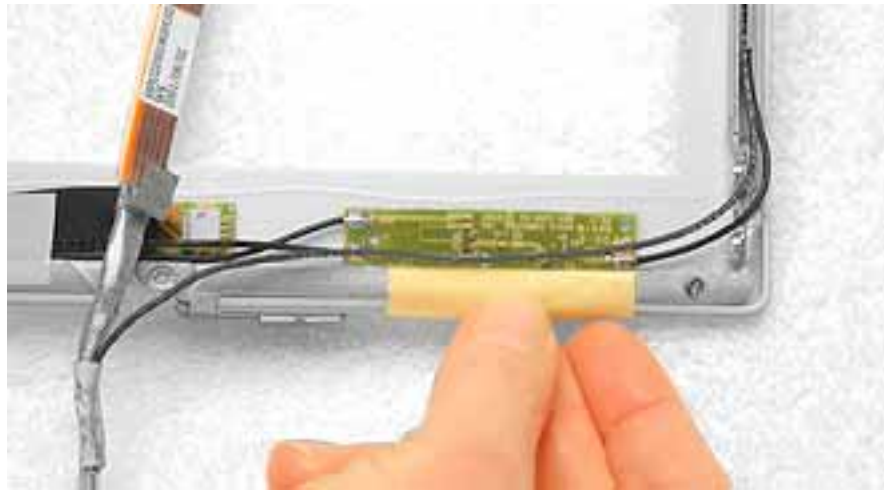
- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

Procedure

1. With the bezel assembly lying on a soft cloth, peel up the tape from the antenna board.



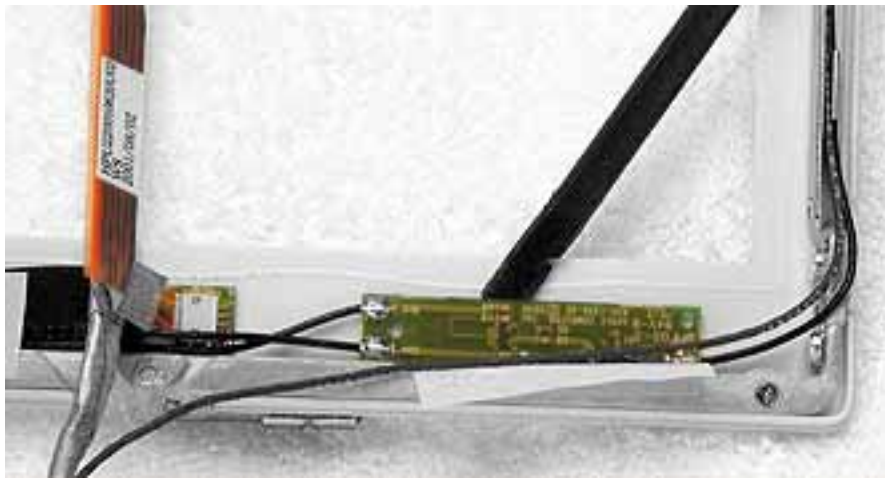
2. Note the placement of the antenna board and the routing of the cables that are soldered to and run along the bottom of the antenna board.



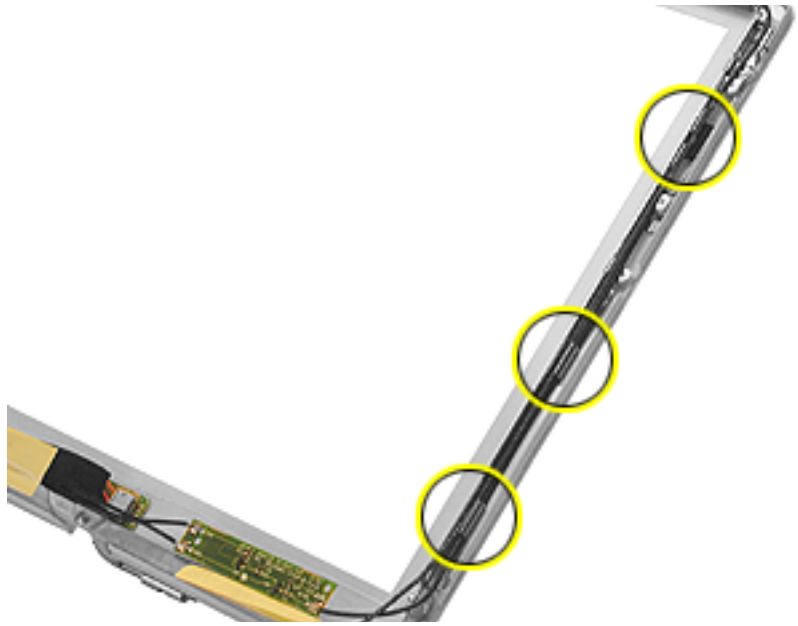
3. **Warning: When lifting the antenna board, be careful not to strain or pinch the cables.**

   Replacement Note: The antenna board is held to the bezel assembly with double-sided tape on each end of the board. Use new double-sided tape when installing the replacement antenna board.

   Use a black stick to pry up the antenna board, but do not remove it yet.



4. With the antenna board loosened, note the cable routing on each side of the bezel. On the right, the antenna receptor cable is routed underneath the microphone cable through two channels before terminating at the receptor bracket.



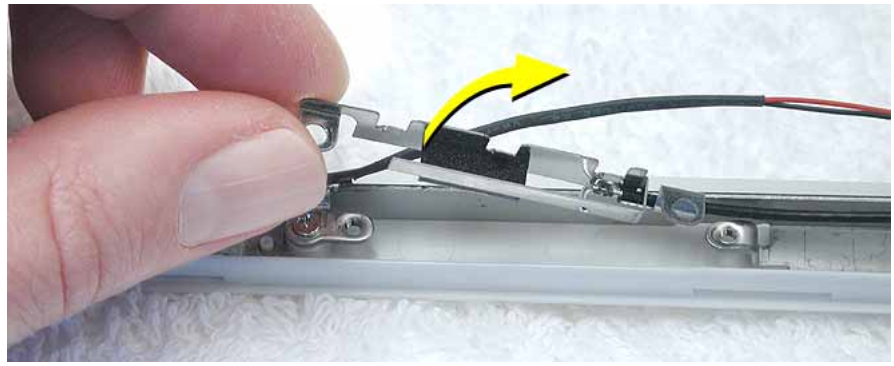
5. Remove the two 3-mm long Phillips screws from the antenna receptor on the right side of the bezel assembly.

6. Tilt up the antenna receptor to remove it from the bezel assembly.

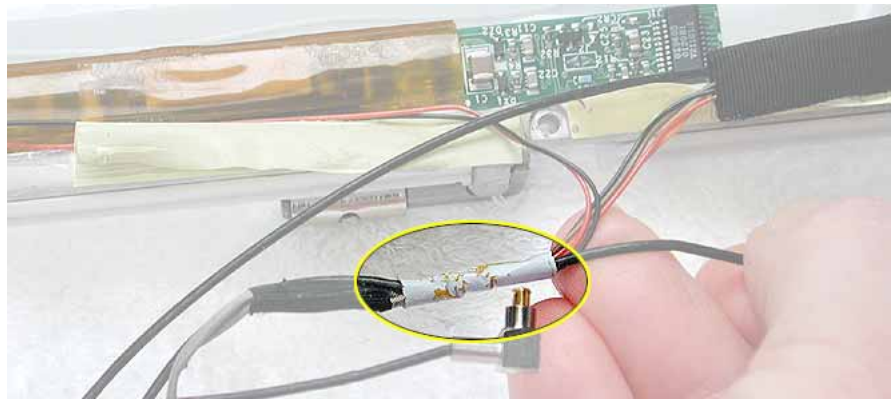
7. At the bottom of the bezel, remove the tape from the inverter board and note the routing of the two soldered cables on the left side of the antenna board.

8. On the left side of the bezel, remove the two 3-mm long Phillips screws at the antenna receptor.

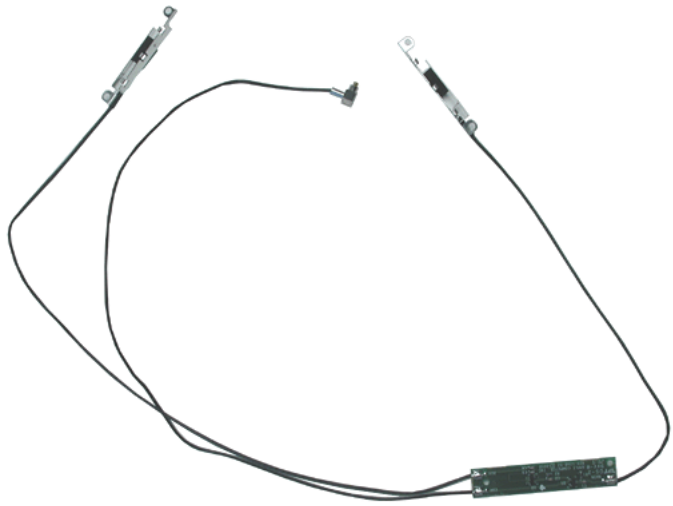
9. Tilt up the antenna receptor to remove it from the left side of the bezel assembly.



10. Unwrap the tape that secures the AirPort Card antenna to the cable bundle.



11. Use a black stick to lift out the cables from the channels.
12. Remove the antenna board with attached cables and antenna receptors.

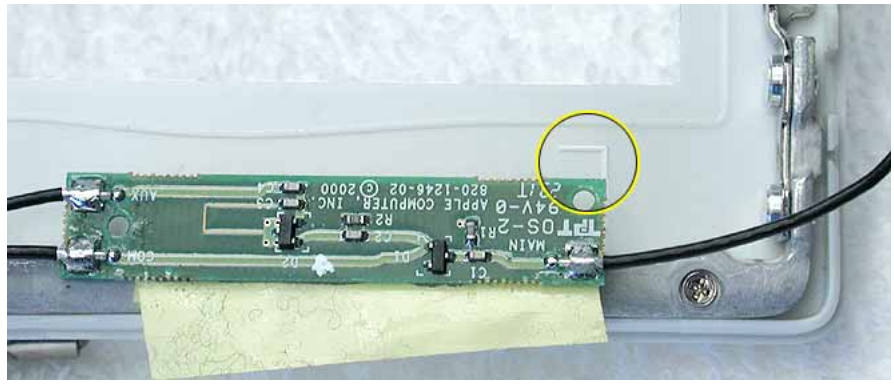


13. Install the replacement antenna board, and reassemble and test the computer.

    Replacement Note: Make sure the right corner of the replacement antenna board aligns with the raised L-shaped guide in the bezel assembly, as shown.

    Replacement Note: Make sure the replacement antenna board does not cover or pinch any cables.

    Warning: Handle the replacement antenna board, receptors, and cables with care. Do not strain or pinch cables. Do not apply pressure to or bend the antenna receptors.



Reed Switch Board

Tools

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)
- #0 Phillips screwdriver

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

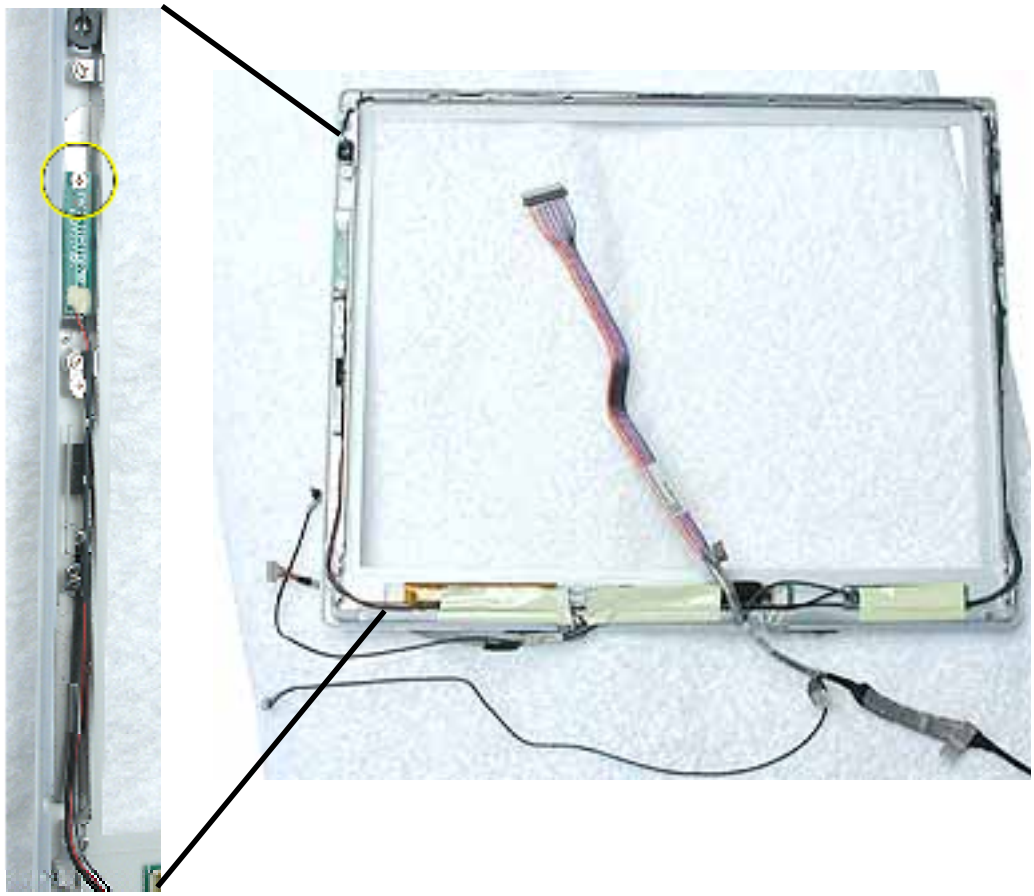
Preliminary Steps

Before you begin, remove the following:

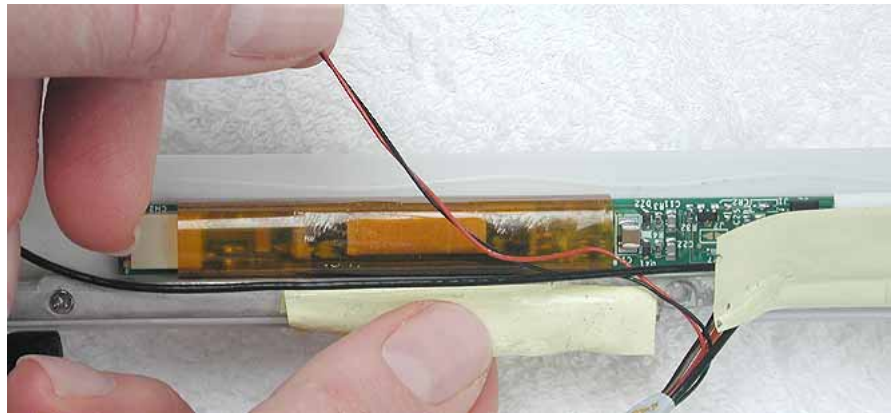
- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

Procedure

1. With the bezel assembly lying on a soft cloth, remove the one 3- mm long Phillips screw at the reed switch board.
2. Pull up the reed switch cables from the channels on the left side of the bezel.



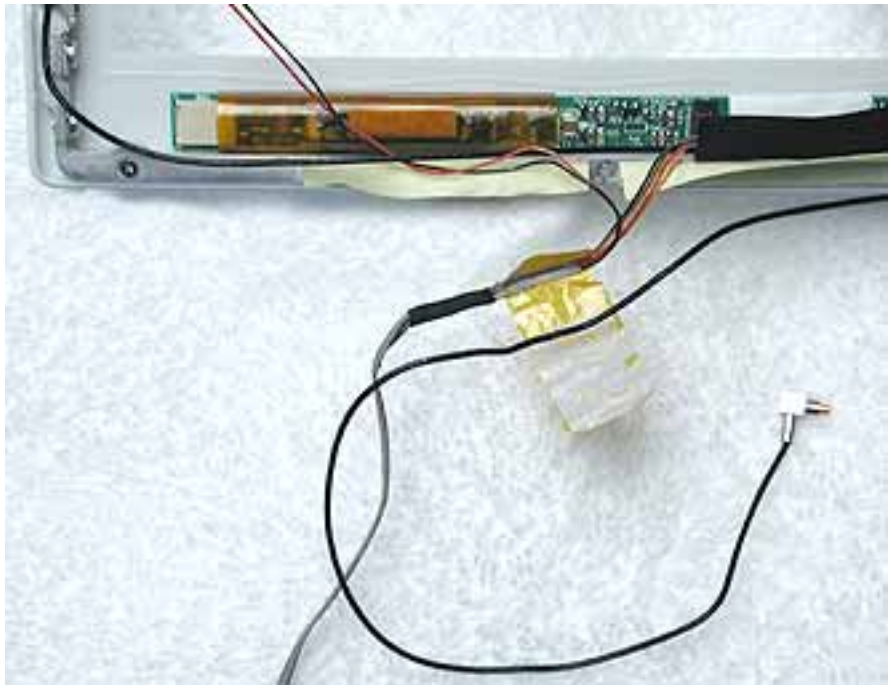
3. Lift up the cables and peel up the tape that covers the cables running along the bottom of the inverter board.



4. **Warning: When removing the tape that bundles the reed switch cable assembly to the AirPort Card antenna cable, be careful not to strain or pinch the cables.**

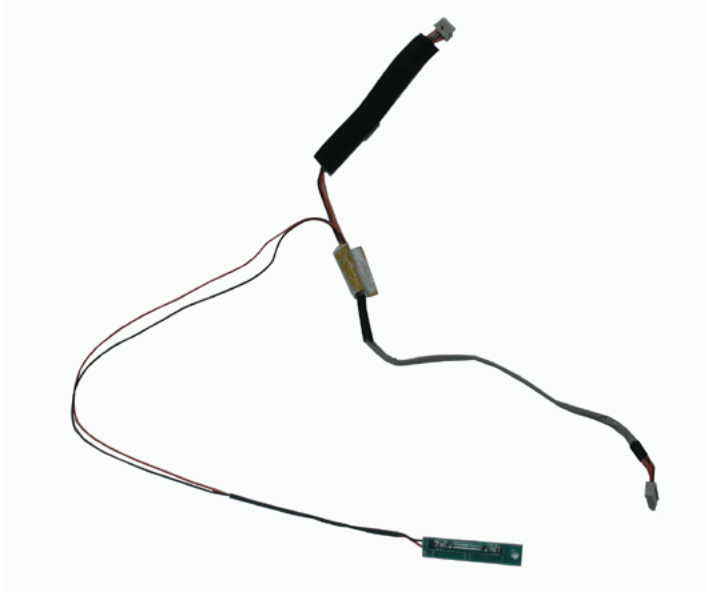
   Replacement Note: When installing the replacement reed switch board and cables, use new tape to bundle the cables together.

   Remove the tape to free the AirPort Card antenna cable from the reed switch cable assembly



5. Disconnect the data cable from the inverter board at CN1.

6. Remove the reed switch cable assembly.



7. Install the replacement reed switch board and cable assembly, and reassemble and test the computer.

Microphone Cable

Tools

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

Procedure

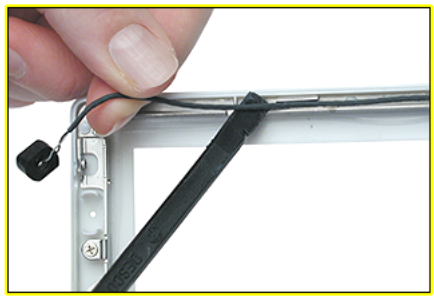
Warning: Be careful not to strain or pinch the delicate microphone cable or surrounding cables when performing this procedure.

1. With the bezel assembly lying on a soft cloth, use a black stick to loosen the slack on the cable near the microphone gasket.
2. Pry up the microphone gasket from the upper left corner of the bezel.

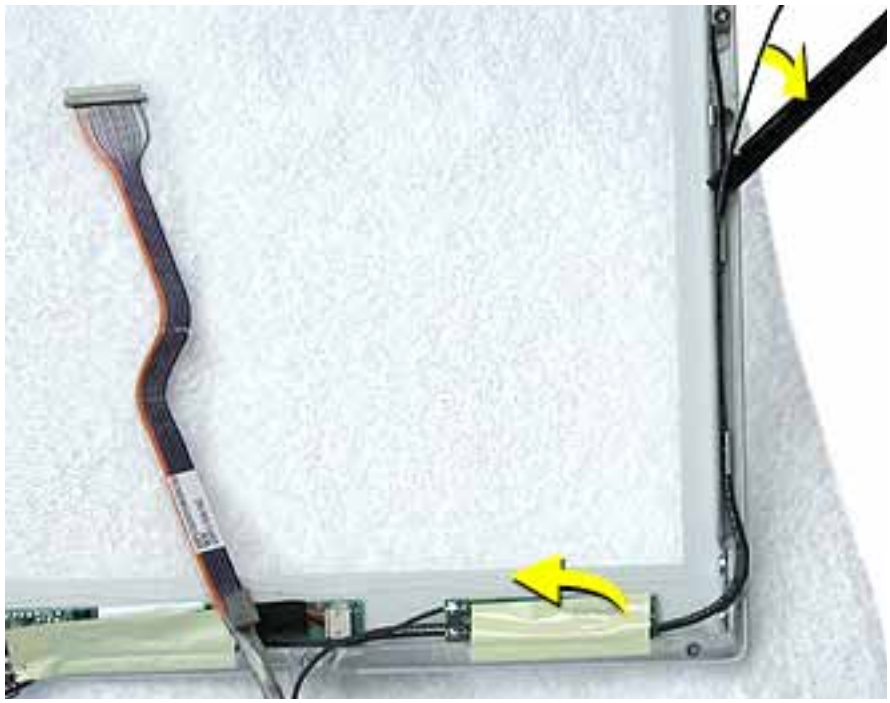
   Warning: Do not pull on the delicate wires attached to the microphone.

   Note: If the gasket is covered with tape, be sure to replace it when installing the replacement microphone cable.

3. Working around the perimeter of the bezel, pull up the microphone cable from the cable channel, being careful not to strain any other cables.



4. Free the microphone cable from the right corner of the bezel and from underneath the tape at the antenna board.

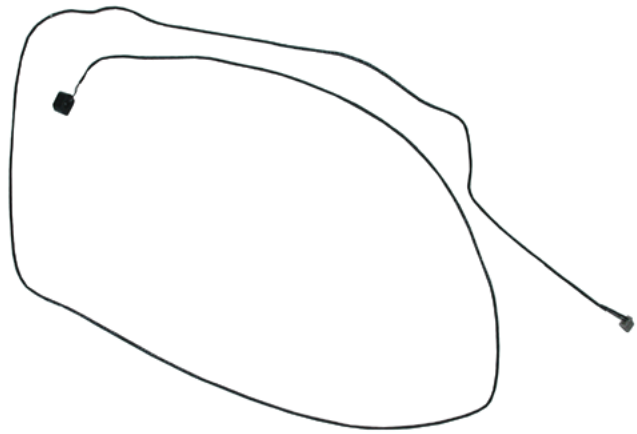


5. **Warning: When removing the tape and spiral tube that bundles the microphone cable to the LCD cable, be careful not to strain or pinch the cables.**

   Replacement Note: When installing the replacement microphone cable, reuse the spiral tube to bundle the microphone cable to the LCD cable. However, use new tape when bundling the cables together.

   Separate the microphone cable from the LCD cable by removing the tape, and uncurling the spiral tube.

6. Remove the microphone cable from the assembly.



7. Install the replacement microphone cable, and reassemble and test the computer.

Bezel Brace with Clutch Assembly

Tools

- Soft cloth
- #0 Phillips screwdriver

Replacement Note: If the tape you remove from this assembly is worn and cannot be reused, use new Kapton tape (Apple part number 922-5025).

Preliminary Steps

Before you begin, remove the following:

- Battery
- Keyboard and RAM shield
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel
- Display clutch cover
- Inverter board
- Antenna board
- Reed switch board
- Microphone cable

Procedure

1. With the bezel assembly lying on a soft cloth, remove the three pieces of tape.
2. Remove the two 5- mm long Phillips screws at the left bezel brace.
3. At the right bezel brace, remove the two Phillips screws:
   - one 5-mm long screw near the top of the right brace
   - one 3-mm long screw near the middle of the right brace

   Replacement Note: When installing the replacement bezel brace with clutch assembly, make sure the shorter 3-mm long screw is installed in the middle of the right bezel brace, as shown.
4. Remove the two 5- mm long Phillips screws at the bottom bezel brace.

5. Lift the 3-sided bezel brace with clutch assembly off of the bezel.

6. Install the replacement bezel brace with clutch assembly, and reassemble and test the computer.

Service Source

Troubleshooting

iBook (Opaque 16 VRAM), iBook (32 VRAM),
iBook (800 MHz 32 VRAM), iBook (900 MHz 32 VRAM)

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Symptom Charts

How to Use the Symptom Charts

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to the product. Because cures are listed on the charts in the order of most likely solution, try the cures in the order presented. Verify whether or not the product continues to exhibit the symptom. If the symptom persists, try the next cure.

Note: If you have replaced a module, reinstall the original module before you proceed to the next cure.

AirPort Card

AirPort Card not recognized

1. Use Software Update in Mac OS X system preferences (or the Software Update control panel in Mac OS 9) or see the Apple Software Updates web page to make sure the latest version of AirPort software is installed.
2. If using Mac OS 9, select "Mac OS All" in the Extensions Manager control panel and restart.
3. Reseat AirPort Card and make sure AirPort antenna cable is fully connected.
4. Remove and reinstall the AirPort software.
5. Replace with known-good AirPort Card.
6. Replace logic board.

Battery

The battery won't charge

1. Remove any connected peripherals.
2. Try known-good power outlet.
3. Try known-good power adapter and power cord.
4. Try known-good battery.

5. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).

6. Replace logic board.

Error Beeps

The computer automatically performs a power-on self test when it is turned on after being fully shut down (not a restart). This section describes what to do if beeps are heard during the startup.

Note: The computer has a memory expansion slot that accepts a 1.25-inch (or shorter) PC-100 compliant, SO-DIMM memory card. Refer to Customer-Installable-Parts Memory Replacement instructions for removal and installation.

Computer beeps once at startup

1. One beep means that no RAM is detected.
2. If a RAM card is installed in the expansion slot, remove it and put in known-good and compatible RAM and restart.
   - If symptom does NOT repeat, replace RAM card.
   - If symptom repeats, replace logic board.
3. If no RAM card is installed, replace logic board.

Computer beeps twice at startup

1. Two beeps means that EDO memory is installed in the expansion slot. The iBook does not accept EDO memory.
2. Replace RAM card with known-good and compatible RAM and restart.
   - If symptom repeats, replace logic board.

Computer beeps three times at startup

1. Three beeps means that no RAM banks passed memory testing.
2. If a RAM card is installed in the expansion slot, remove it and put in known-good and compatible RAM and restart.
   - If symptom does NOT repeat, replace RAM card.
   - If symptom repeats, replace logic board.
3. If no RAM card is installed, replace logic board.

Computer beeps four times at startup

1. Four beeps indicates a bad checksum for the remainder of the boot ROM. The ROM (which is located on the logic board) is bad.
2. If a RAM card is installed in the expansion slot, remove it and put in known-good and compatible RAM and restart.
   - If symptom does NOT repeat, replace RAM card.
   - If symptom repeats, replace logic board.
3. If no RAM card is installed, replace logic board.

Related articles:

58442: Power On Self-Test Beep Definition - Part 2

95136: iBook (Dual USB): Installing or Replacing Memory

Hard Drive

Hard drive will not initialize

1. Boot from iBook Software Install CD and see if the hard drive mounts on the desktop.
2. If in Mac OS X, boot from the Mac OS X software install CD. Under the File menu, select Disk Utilities and initialize the disk or run Disk First Aid.
3. If in Mac OS 9, launch Drive Setup and update hard drive driver.
4. If no hard drive is found in Drive Setup, verify the hard drive cable connections.
5. Replace hard drive cable.
6. Replace hard drive.

   Important: If the computer is under warranty and data recovery is required, refer to Article 31077: Hard Drive Data Recovery & Warranty Implications, for important information.

The internal hard drive does not spin

1. Disconnect any connected peripherals.
2. Try known-good power outlet.
3. Try known-good power adapter and power cord.
4. Boot from a Mac OS system CD.
5. Verify Drive Setup does not recognize the hard drive.
6. Verify cable connections.
7. Replace hard drive cable.
8. Replace hard drive.

Keyboard

No response from any key on keyboard

1. Remove any connected peripherals.
2. Boot from a Mac OS system CD to verify that it is not a software problem.
3. Turn off the computer. Disconnect the keyboard connector and inspect connectors.
4. Replace keyboard.
5. Replace logic board.

The keyboard lock is damaged or won't lock

1. Verify that keyboard is installed properly so the lock lines up with the notch in the top case.
2. Replace keyboard.

Modem

No modem dial tone

1. Check that the correct modem is selected. In Mac OS X, check Network Setup. In Mac OS 9, check the Modem control panel.
2. Verify known-good analog (not digital) telephone line.
3. Verify known-good RJ11 telephone cable.
4. Verify RJ11 cable is not plugged into Ethernet port.
5. Inspect RJ11 connector and modem port for pin damage.
6. Verify RJ11 telephone cable is firmly installed in the modem port.
7. If using Apple Remote Access, select Ignore Dial Tone in the Modem control panel. If the modem connects with this settings selected, try another phone line. If using a terminal or communications program, enter atx1 to disable tone detection. To reset the modem back to the factory settings, enter atz.
8. Verify modem 2-pin connector is plugged into modem correctly.
9. Replace the modem 2-pin connector cable.
10. Replace modem.

Optical Drive

The CD or DVD (optical) disc drive does not accept disc (mechanical failure)

1. Verify disc is not warped.
2. Verify disc is properly seated in the carrier.
3. Replace optical disc drive.

The CD or DVD (optical) disc icon does not show up on the desktop, or a dialog box appears to initialize disc

1. Verify the correct type of disc is being used for the type of drive (a CD-ROM or CD-RW drive reads CD discs only; a DVD-ROM or Combo drive reads CD or DVD discs).
2. Try cleaning the disc. If it is dirty or scratched, it may not mount.
3. Try a different disc.
4. If using Mac OS 9, select “Mac OS All” in the Extensions Manager control panel and restart.
5. Reseat optical drive cable.
6. Replace optical drive cable. (This is the same cable that attaches to the hard drive.)
7. Replace optical drive.

Ports

The FireWire or USB port is not recognizing devices

1. Completely shut down, then press the power button to start the computer.
2. Use Software Update in Mac OS X system preferences (or the Software Update control panel in Mac OS 9) to verify that the latest software is installed.
3. Use Apple System Profiler to verify that the computer is recognizing the bus.
4. For USB, test ports with an Apple keyboard or mouse.
5. For FireWire, test by connecting another computer in FireWire Tare Target Disk Mode. Refer to article 58583: How to Use FireWire Target Disk Mode.
6. Verify that drivers are installed properly for third party, if needed.
7. If in Mac OS 9, boot with Mac OS All extension set.
8. Try other port if available, or try a different cable.
9. If self powered make sure that the power supply is connected and device's LED indicates that it is getting power.
10. Replace logic board.

A USB device not recognized by computer

Note: If you are trying to use a serial device with a USB/Serial adapter, check with the manufacturer of the adapter for compatibility.

1. Completely shut down, then press the power button to start the computer.
2. Try known-good Apple USB keyboard or mouse to verify the port is working properly.
3. Verify current driver for the device is installed.
4. If a camera, turn on camera after initiating download with camera application.
5. Try the other USB port.
6. Try different USB device on same port.
7. Eliminate chain by plugging in only one peripheral.
8. If in Mac OS 9, select “Mac OS All” in the Extensions Manager control panel and restart.
9. If in Mac OS 9, troubleshoot extensions and perform a clean installation of system software.
10. Replace logic board.

Sound

Distorted sound from speakers

1. Verify sound is correct with external speakers/headphones. If sound is correct, replace top case.
2. In Mac OS X check balance.
3. Compare same sound with two different units to make sure that sound is actually distorted.
4. Replace top case.

No sound from speaker(s)

1. Use the Software Update control panel to verify that the latest audio update has been installed.
2. Press the F3 key (with the fn key pressed and not pressed) to verify that mute mode is not enabled.
3. Press the F4 or F5 key (with the fn key pressed and not pressed) to check the volume setting.
4. Verify no external speakers or headphones are plugged in.

5. In Mac OS 9, check the speakers tab on the Sound control panel to confirm that the software is correctly seeing that there are no external speakers or headphones connected.
6. Shutdown computer and restart.
7. Reset PRAM (Press the power button, then hold down the Option-Command-P-R keys until you hear the startup chime at least one additional time after the initial startup chime).
8. Verify that the speaker cable is connected properly to logic board.
9. Replace top case.
10. Replace logic board

Related articles:

75146: iBook Audio Update: Document and Software

58463: iBook: Sound Capabilities

Startup

The computer will not power on

1. Remove any connected peripherals.
2. Try known-good power outlet.
3. Try known-good power adapter and power cord.
4. Remove battery.
5. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).
6. Disconnect internal keyboard completely. Inspect connectors. Restart with keyboard disconnected.
7. Remove any additional RAM and AirPort Card.
8. Try known-good DC board.
9. Verify power button is connected properly to logic board, if power button is not functioning correctly or damaged, replace the top case.
10. Replace logic board.

At startup, a dialog box comes up stating: “kernel panic” in Mac OS X or “Built-in memory test has detected an error” in Mac OS 9

1. If a RAM card is installed in the expansion slot, remove it and restart.
   - If symptom repeats, replace logic board.
   - If symptom does not repeat, replace RAM card with known-good RAM card and restart.
2. If no RAM card is installed, replace logic board.

Related article:

95136: iBook (Dual USB): Installing or Replacing Memory

Display

No display, or dim display, but computer appears to operate correctly

1. Remove any connected peripherals.
2. Try known-good power outlet, power adapter and power cord.
3. Press F2 (with the fn key pressed and not pressed) to increase the screen brightness setting.
4. Reboot the computer—hold down the Control and Command keys and press the Power button, or press and hold the Power button for 5 to 10 seconds to shut down the computer, then press the Power button to restart.
5. Verify backlight cable and LVDS cable connections are seated properly and that the cables are not damaged (refer to display assembly replacement instructions).
6. Replace display assembly.
7. Replace logic board.

When displaying a single color over the screen area, the LCD panel shows one or more pixels that are not properly lit

Active-matrix LCD technology uses rows and columns of addressable locations (pixels) that render text and images on screen. Each pixel location has three separate subpixels (red, green, and blue) that allow the image to be rendered in full color. Each subpixel has a corresponding transistor responsible for turning the subpixel on or off.

There are typically millions of these subpixels on an LCD display. For example, the LCD panel used in the Apple Cinema HD display is made up of 2.3 million pixels and 6.9 million red, green, and blue subpixels. Occasionally, a transistor does not work perfectly, which may result in the affected subpixel being turned on (bright) or turned off (dark). With the millions of subpixels on a display, it is quite possible to have a low number of faulty transistors on an LCD. Therefore, a certain number of subpixel anomalies is considered acceptable. Rejecting all but perfect LCD panels would significantly increase the retail

price for products using LCD displays. These factors apply to all manufacturers using LCD technology—not just Apple products.

To determine whether or not the display has an acceptable number of pixel anomalies, follow the steps below:

1. Set the display image to one of the following colors: all-white display, all-red display, all-green display, or all-blue display.
2. Using a jeweler's loupe, pocket microscope, or other magnifying device, identify and count each subpixel anomaly:
   - Bright subpixel anomaly = subpixel that is always on
   - Dark subpixel anomaly = subpixel that is always off
3. **Important:** Check the number of subpixel anomalies with the following chart:

LCD Size (inches)	Acceptable Number of Subpixel Anomalies			Replace the Display		
	Bright	Dark	Combination	Bright	Dark	Combination
12.1 to 15.2	up to 3	up to 5	up to 7	4 or more	6 or more	8 or more

4. If the number of subpixel anomalies exceeds the acceptable number listed in the chart, replace the LCD panel.
5. If the number of subpixel anomalies is acceptable, explain to the customer that the pixel anomalies are within specifications, and no repair is necessary.

   Important: Do not release the specifications to customers. Instead, inform them that a certain number of subpixel anomalies is considered acceptable, and these factors apply to all manufacturers using LCD technology—not just Apple products.

Video (S-Video and Composite adapter)

No video on an external device

1. Make sure you are using the S-Video and Composite adapter cable.
2. Verify TV or VCR is set up properly with correct source.
3. Try different TV or VCR. Check owner's manual for TV or VCR.
4. Replace adapter cable.
5. Replace logic board.

The display is rolling (PAL instead of NTSC)

1. Make sure you are not using Apple's A/V Video Cable.
2. Make sure you are using the S-Video and Composite adapter cable.
3. If in Mac OS 9, go to Monitors control panel and change the resolution from a PAL setting to an NTSC setting.
4. In Mac OS X, go to the Displays system preference to change the setting.
5. Try a different TV or VCR.
6. Try a different adapter cable
7. Replace logic board.

Display shows ghosting (signal reflection)

1. Verify that cables are correctly installed and firmly seated.
2. Replace video adapter.

Video (RGB adapter)

No video on an external device

1. If in Mac OS 9, in Resolution Control Strip, verify that monitor is being recognized. If so, select resolution.
2. If running Mac OS X, verify that this issue is also in Mac OS 9.
3. Verify monitor that is used in testing is known-good and is supported by this computer.
4. Try known-good RGB adapter.
5. Replace logic board.
6. Replace RGB adapter cable.
7. Replace logic board.

Display shows ghosting (signal reflection)

1. Verify that cables are correctly installed and firmly seated.
2. Replace video adapter.

Misc. Symptoms

The computer runs with battery, but not with the power adapter plugged into wall outlet

1. Try known-good power outlet.
2. Try known-good power adapter and power cord.
3. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).
4. Replace the DC board.
5. Replace the logic board.

Related article:

88133: iBook (Dual USB): Using PowerBook G4 Adapter

The computer runs when plugged into a wall outlet but not on battery power

1. Reseat battery to verify battery is seated correctly with battery lock engaged.
2. Try known-good charged battery.
3. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).
4. Replace logic board.

The cursor does not move when you are using trackpad

1. Verify that no USB device is connected.
2. Boot from a Mac OS system CD to verify that it is not a software problem.
3. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).
4. Check trackpad cable and connection to the logic board (see separate Top Case replacement instructions for location under RAM shield).
5. Replace top case.
6. Replace logic board.

The cursor intermittently does not move or moves erratically

Note: User must touch with only one finger at a time and point directly down on the trackpad surface.

1. Clean trackpad surface (with computer off, using a non-static-inducing material).
2. Reset the power manager by pressing the key combination Control-Option-Shift-power.

   Warning: Make sure you do not hold down the "fn" key when resetting the power manager.

   Warning: Resetting the power manager will permanently remove a RAM disk, if present, and all of its contents. You will also need to reset the date and time (using the Date & Time control panel).
3. Try unit on battery power. If problem goes away, replace power adapter.
4. Place a Mac OS system CD in the optical disc drive, press the start button and hold down the “C” key. Check the cursor movement, to see if the problem is software.
5. Check trackpad cable and connection to the logic board (see separate Top Case replacement instructions for location under RAM shield).
6. Replace top case.
7. Replace logic board.

The microphone is not working

1. If in Mac OS 9, check the Sound control panel and verify that the selection for input is the built-in microphone.
2. Check the signal level and level meter and adjust the gain.
3. If in Mac OS 9, remove Sound Preferences from the Preferences folder and restart.
4. Reset PRAM (Press the power button, then hold down the Option-Command-P-R keys until you hear the startup chime at least one additional time after the initial startup chime).
5. Verify microphone cable connection to logic board.
6. Replace display assembly (which includes the microphone).
7. Replace logic board.

The latching mechanism that holds the display closed is not working

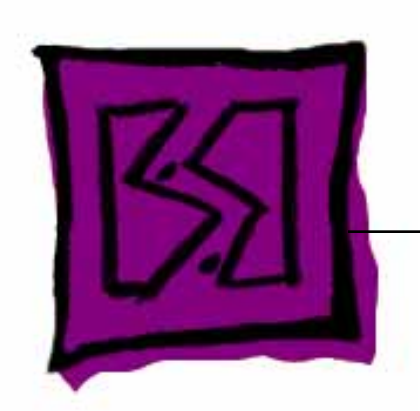
Note: As the display closes against the top case, a hook in the top of the display housing should be magnetically pulled down into a slot in the top case, and secured. When the latch button is pushed, the hook should release and retract into the display housing, allowing the display to open.

1. Verify hook operation by exercising the latch mechanism.
2. If the hook does not operate properly, replace the display assembly.
3. If the latch or latch button does not operate properly, replace the top case assembly.

AirPort Card installed and received a -3278 error

1. Check to make sure using the latest version of AirPort software.
2. If in Mac OS 9, select “Mac OS All” in the Extensions Manager control panel and restart.
3. Reseat AirPort Card.
4. Remove and reinstall the AirPort software.
5. Replace with known-good AirPort Card.
6. Replace logic board.

Service Source



Views

**iBook (Opaque 16 VRAM), iBook (32 VRAM),
iBook (800 MHz 32 VRAM), iBook (900 MHz 32 VRAM)**

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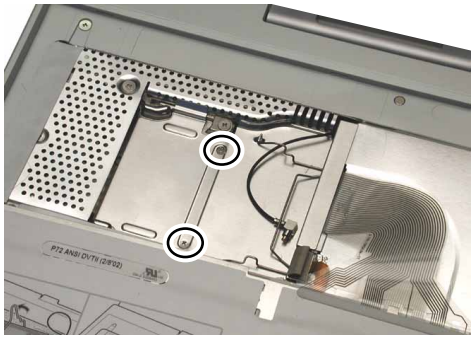
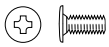
iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 1 of 6

Keyboard and Memory Replacement

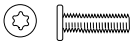
Two identical #0 Phillips,
3mm long



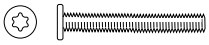
Bottom Case Replacement



Three identical # 0 Phillips,
6 mm long

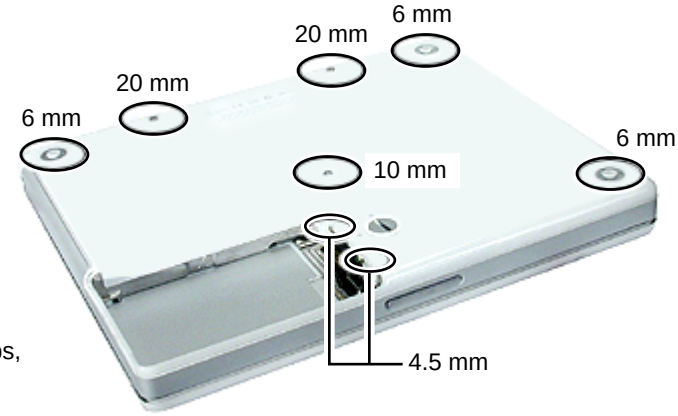


One Torx T8,
10 mm long

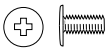


Two identical Torx T8 or 5/64 Hex,
20 mm long

Two identical #0 Phillips,
4.5 mm long

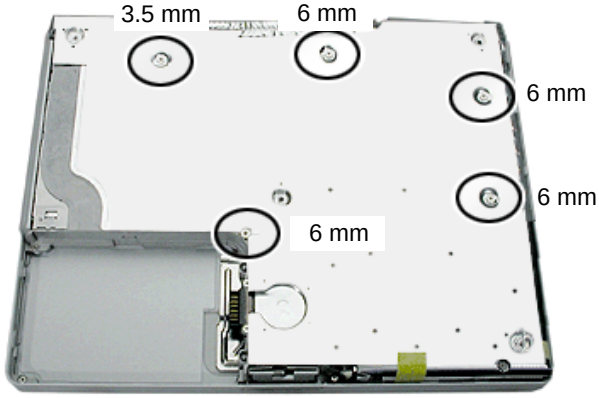


Bottom Shield Replacement



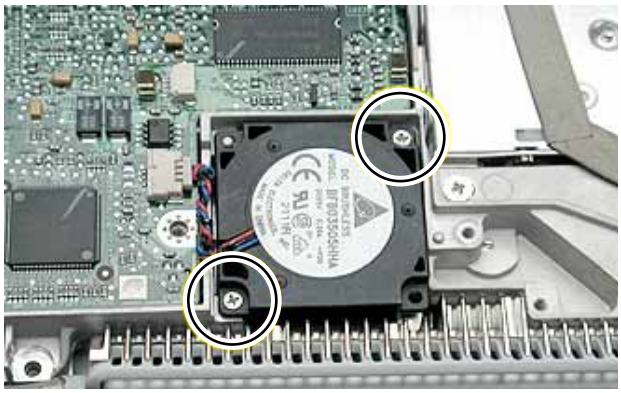
Four identical #0 Phillips,
6 mm long

One #0 Phillips,
3.5 mm long



Fan Replacement

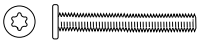
Two identical #0 Phillips,
5 mm long



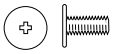
iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 2 of 6

Top Case Replacement

Two identical #0 Phillips,
3 mm long



Two Identical Torx T8,
2 @ 20 mm



Three identical #0 Phillips,
6 mm long

One under magnet #0 Phillips,
4.5 mm long

6 mm

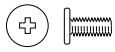
6 mm

6 mm

Two identical #0 Phillips,
3 mm long

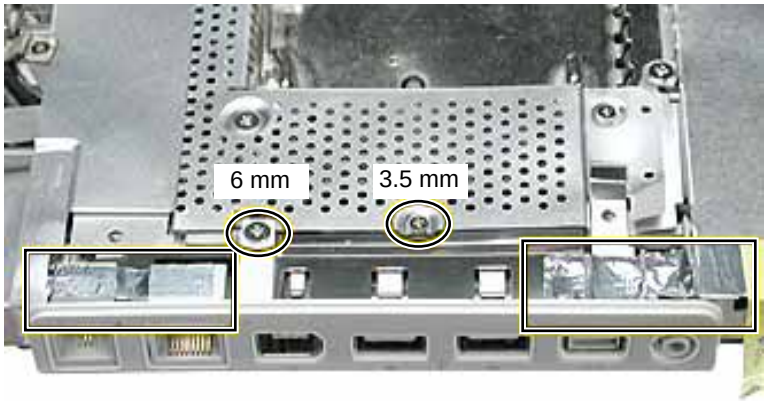
iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 3 of 6

I/O Bezel Replacement



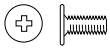
One #0 Phillips,
6 mm long

One #0 Phillips,
3.5 mm long



Top Shield Replacement

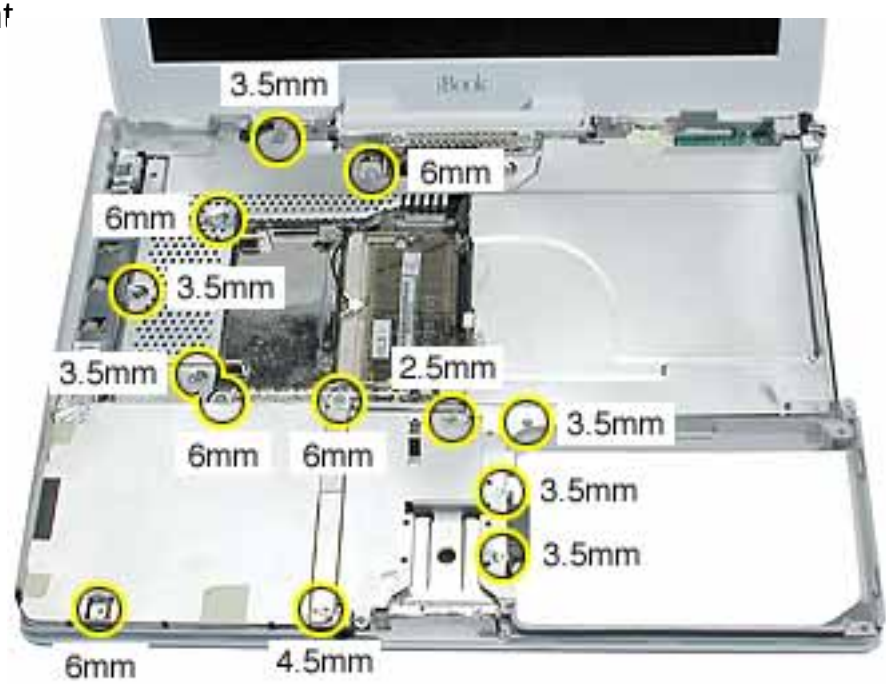
Six identical #0 Phillips,
3.5 mm long



Five identical #0 Phillips,
6 mm long

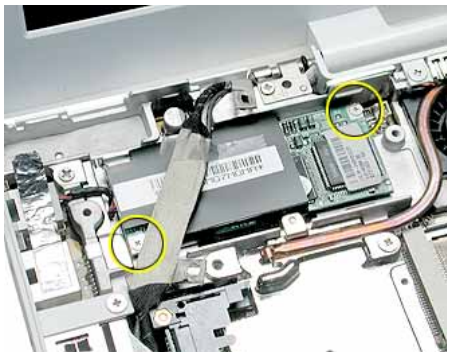
One #0 Phillips,
2.5 mm long

One #0 Phillips,
4.5 mm long



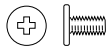
Modem Replacement

Three identical #0 Phillips,
3.5 mm long

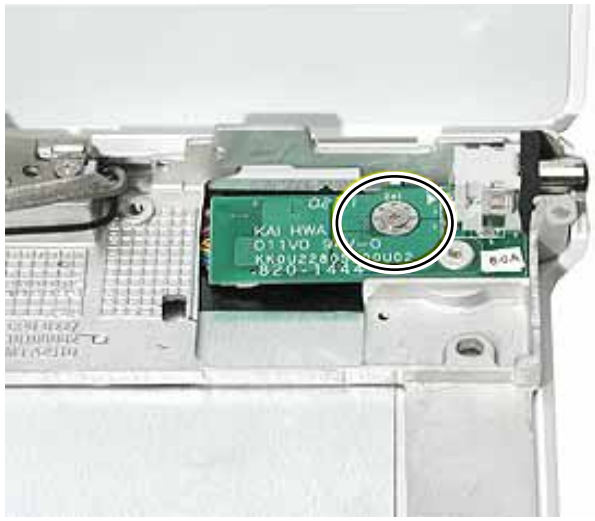


iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 4 of 6

DC Board Replacement

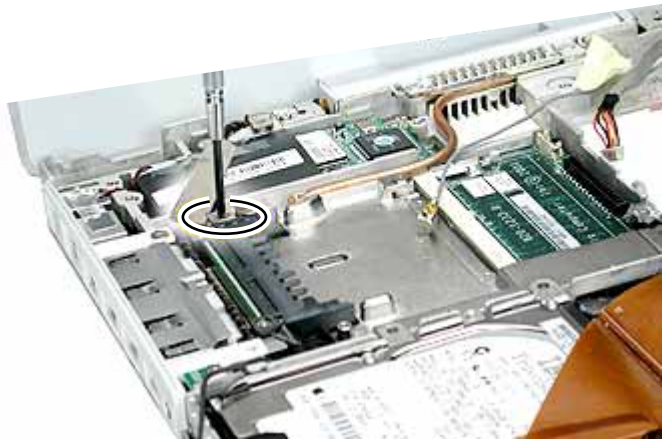


One #0 Phillips,
6 mm long

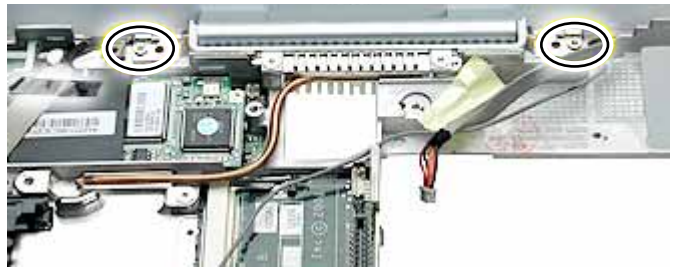


Display Module Replacement

One #0 Phillips,
3.5 mm long

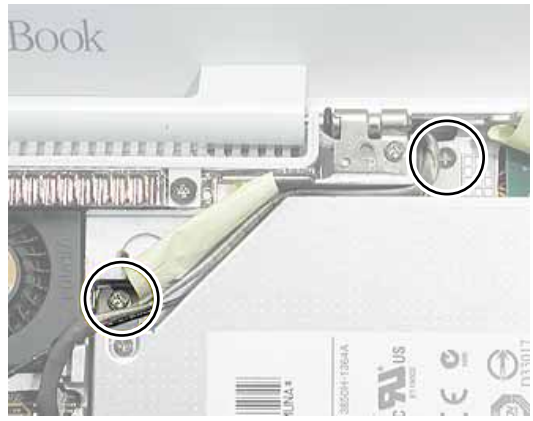


Two identical #0 Phillips,
5 mm long

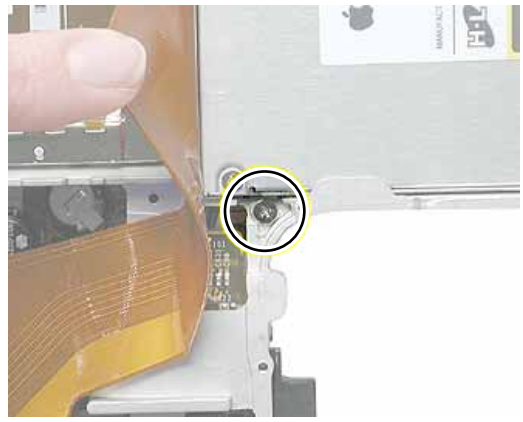


iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 5 of 6

Optical Drive Replacement



Two Identical #0 Phillips,
3.5 mm long



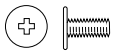
One #0 Phillips,
3.5 mm long

Two identical #0 Phillips,
3 mm long

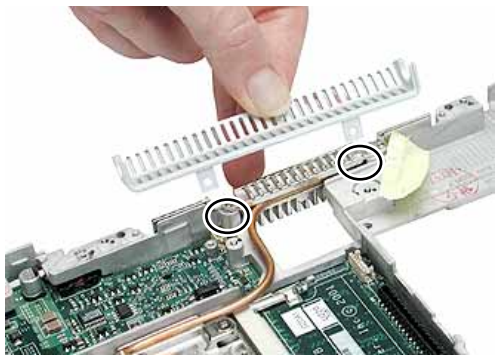
Two identical #0 Phillips,
3 mm long

iBook (Opaque 16 VRAM and 32 VRAM) Screw Locator - 6 of 6

Logic Board Replacement

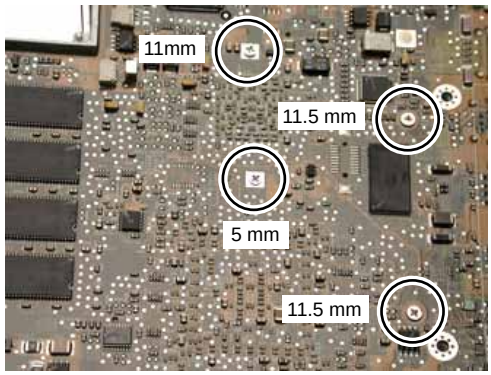


Two identical #0 Phillips,
6 mm long

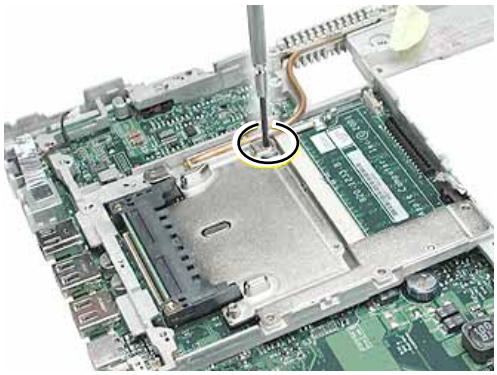


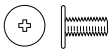
One #0 Phillips,
11 mm long

Two #0 Phillips,
11.5 mm long

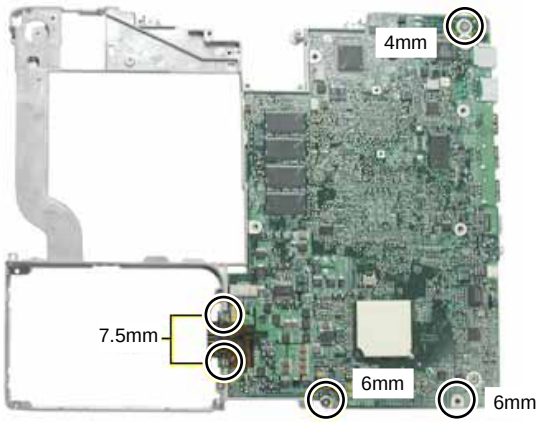


One #0 Phillips,
5 mm long

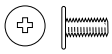




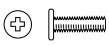
One #0 Phillips,
6 mm long



One #0 Phillips,
4 mm long



Two #0 Phillips,
6 mm long

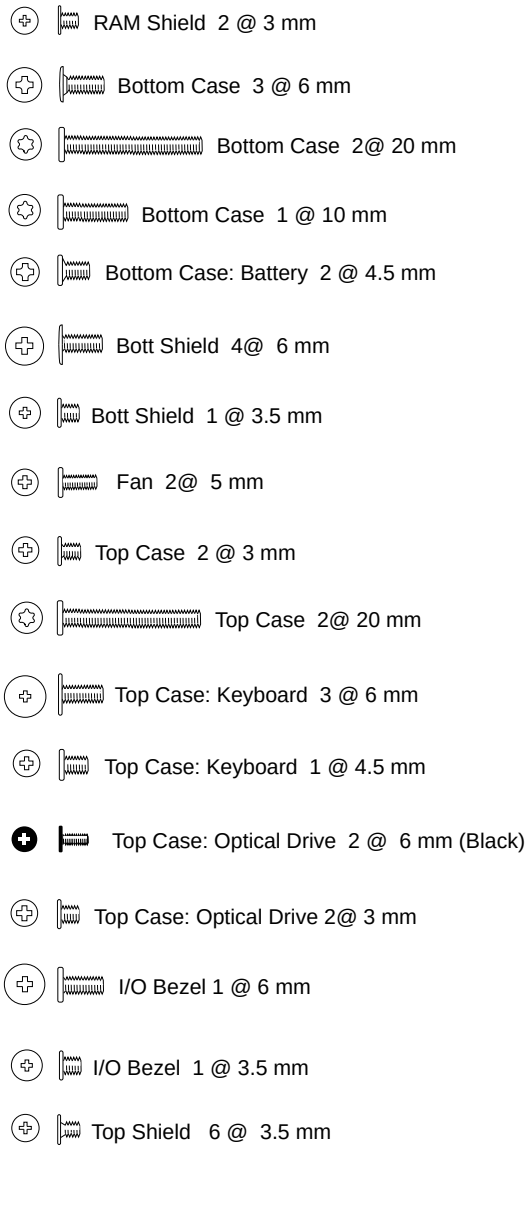


Two #0 Phillips,
7.5 mm long

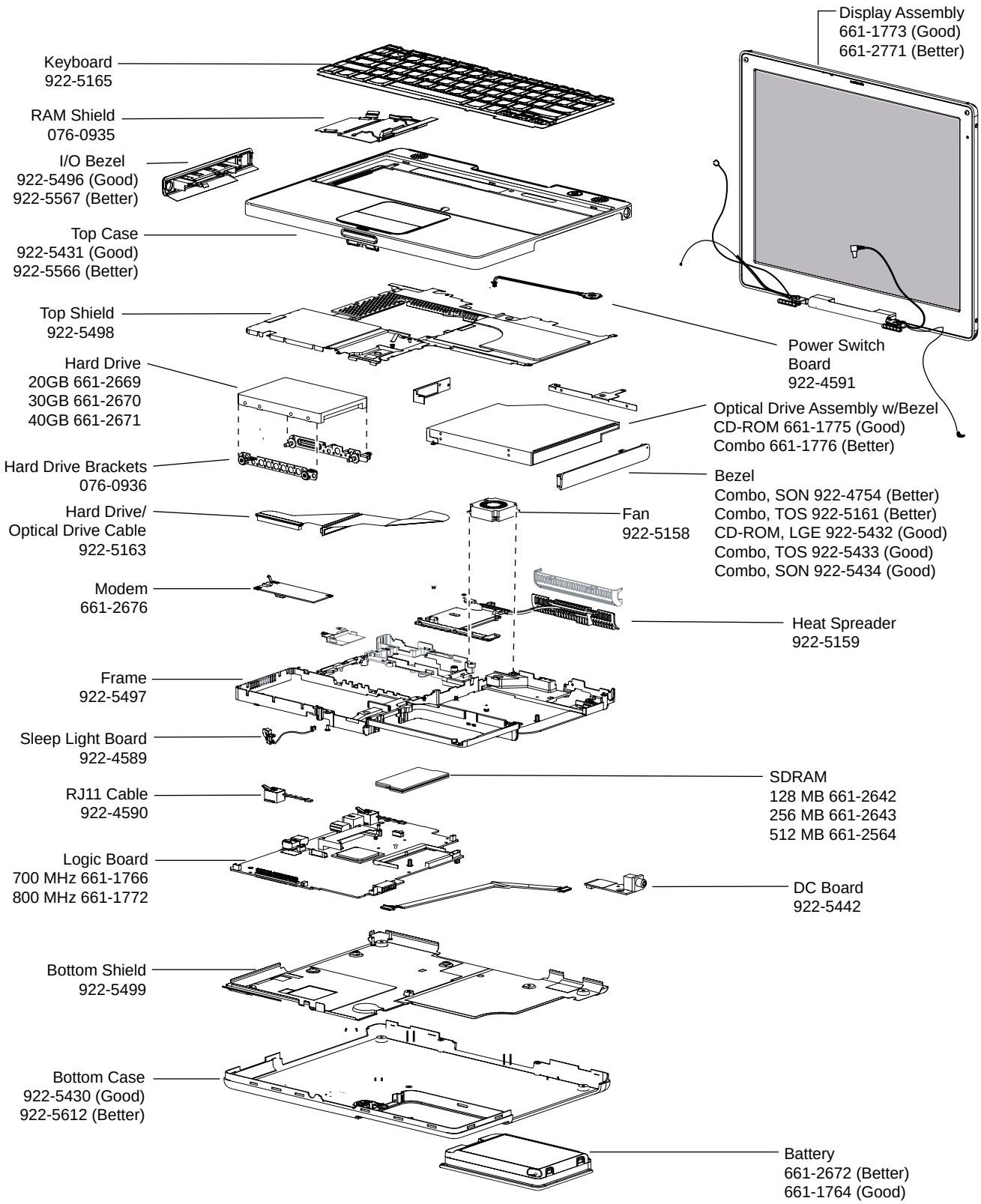
Two #0 Phillips,
11.5 mm long

iBook Screw Reference Sheet

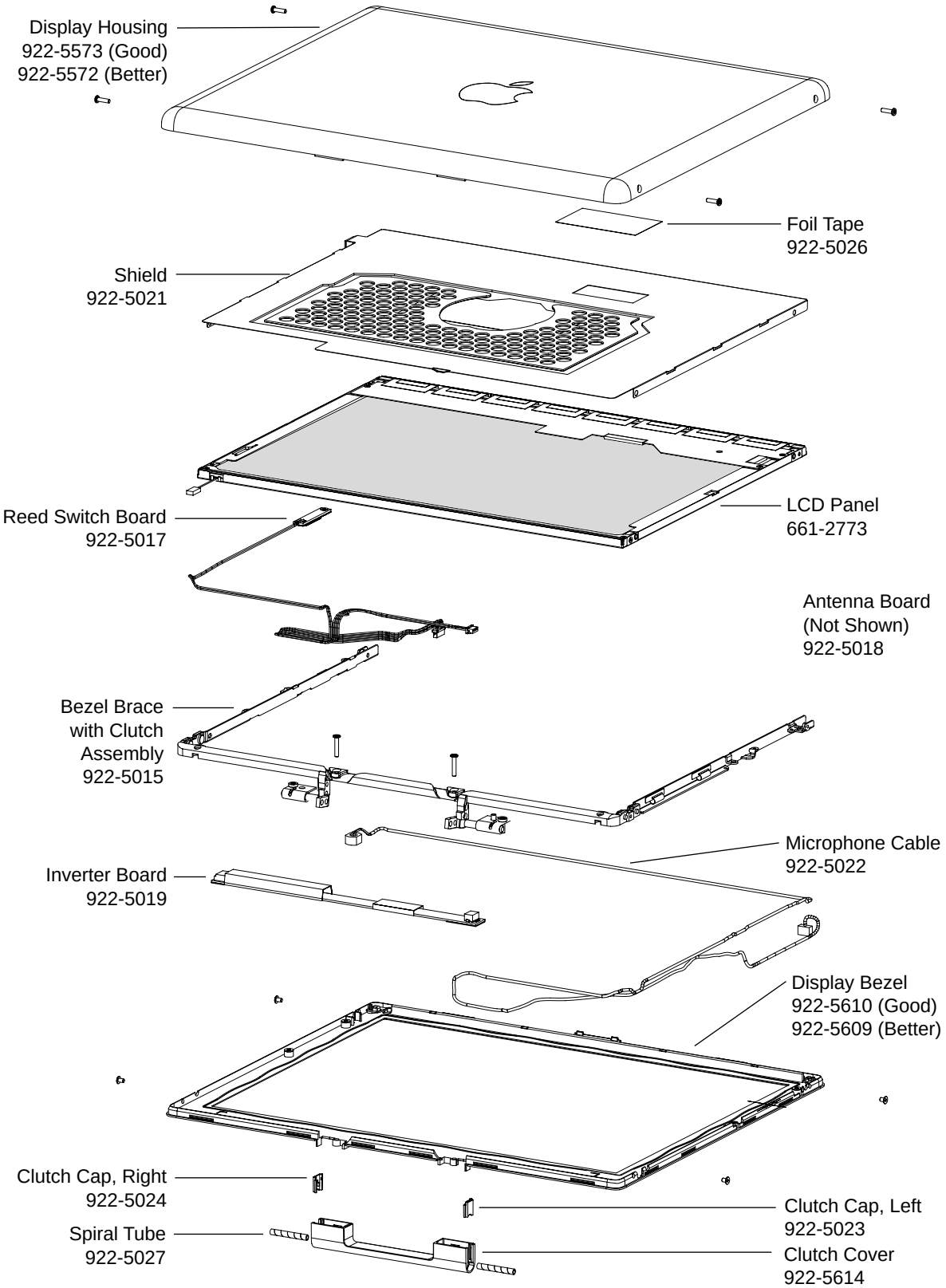
This sheet shows the types of screws in the iBook (Opaque 16 VRAM), iBook (32VRAM), iBook (800 MHz 32VRAM) and iBook (900 MHz 32VRAM) computers. To see where the screws are located in the computer, refer to the Screw Locator in this chapter.



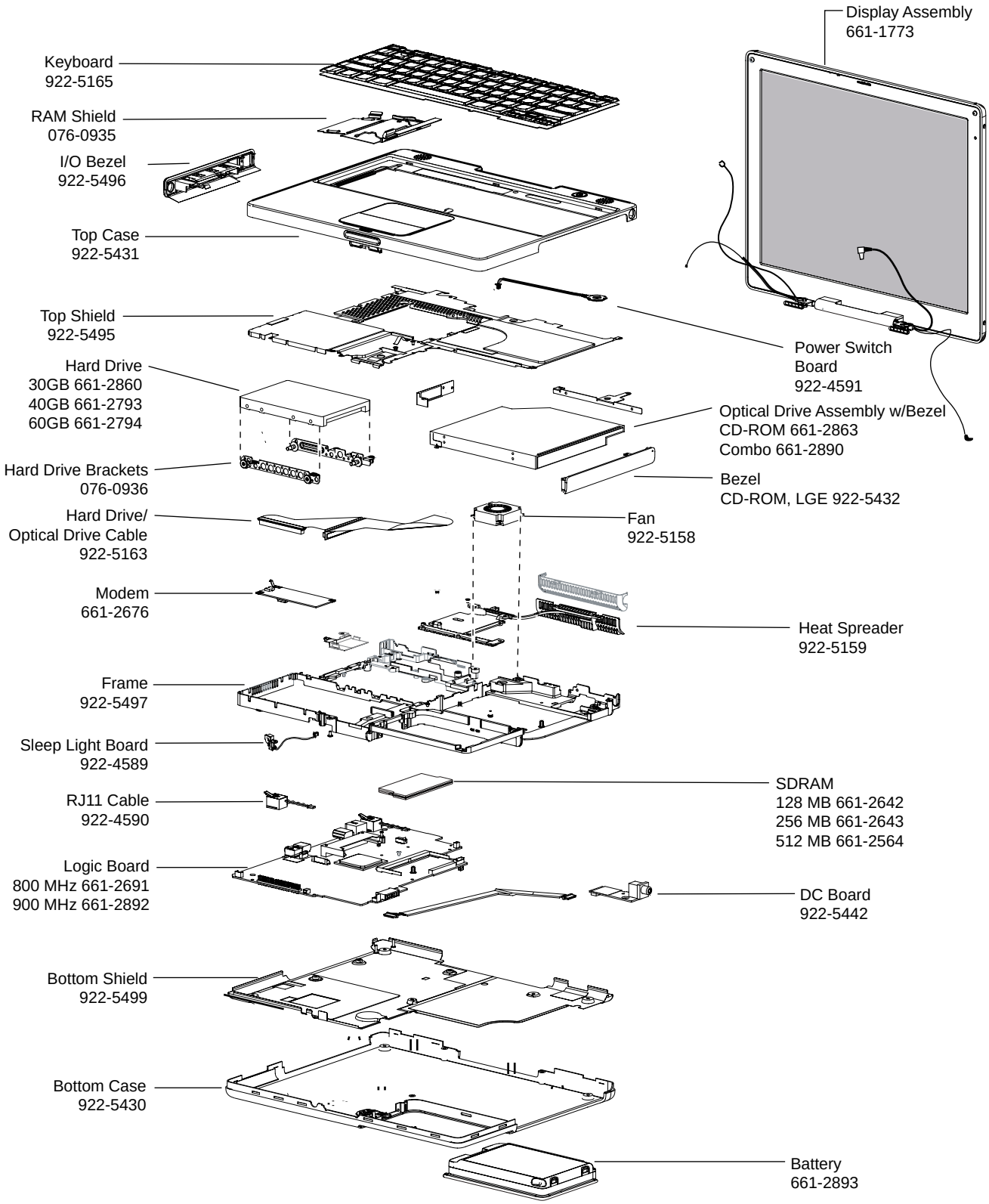
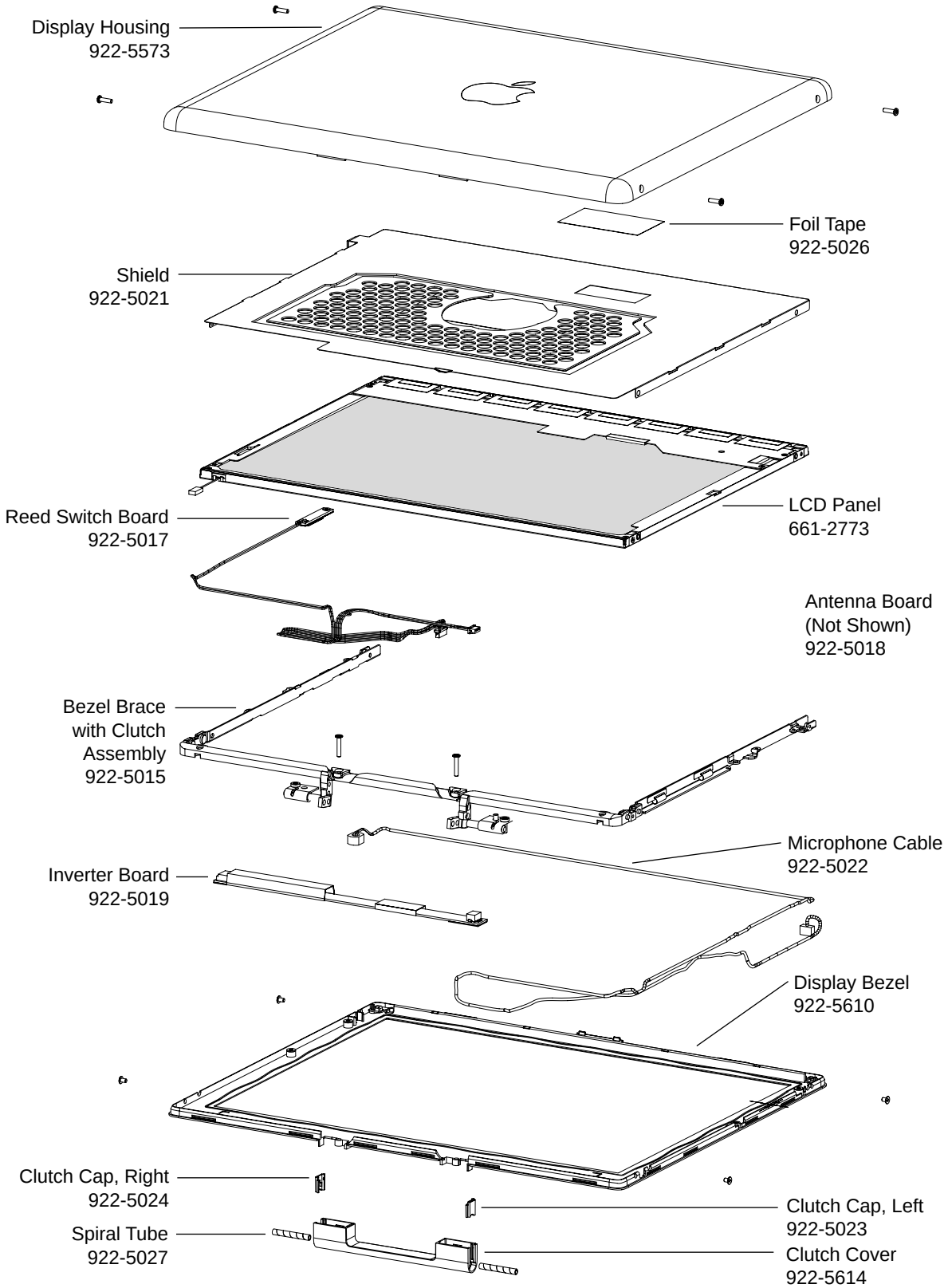
iBook (Opaque 16 VRAM and 32 VRAM) Main Exploded View



iBook (Opaque 16 VRAM and 32 VRAM) Display Exploded View



iBook (800 MHz and 900 MHz 32 VRAM) Main Exploded View



iBook (800 MHz and 900 MHz 32 VRAM) Display Exploded View