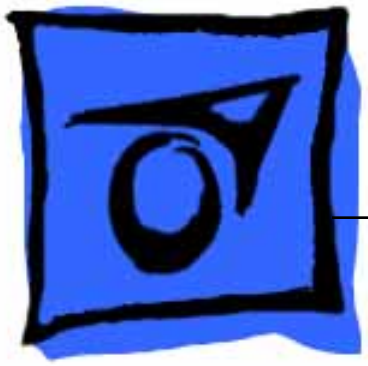
Service Source



iBook (Late 2001)

Updated February 17, 2003

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Keyboard
Replacement Instructions

Follow the instructions in this sheet carefully. Failure to follow these instructions could damage your equipment and void its warranty.

Note: Written and video instructions covering customer-installable parts are available at http://www.info.apple.com/installparts/.

Warning: During this procedure, keep small parts away from children.

Tools Required

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

Opening the Computer

Warning: Always shut down your 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 your 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.

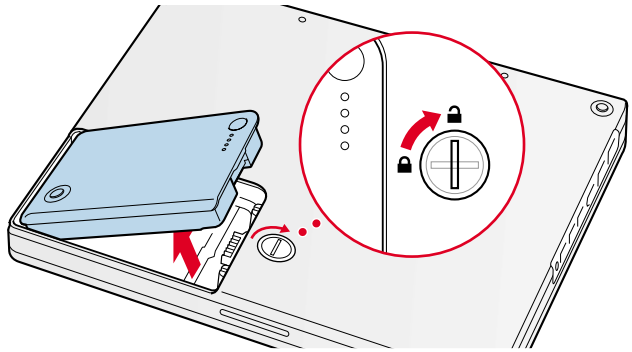
4. Close the computer, turn it over, and locate the battery latch. **(Figure 1)**

   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.

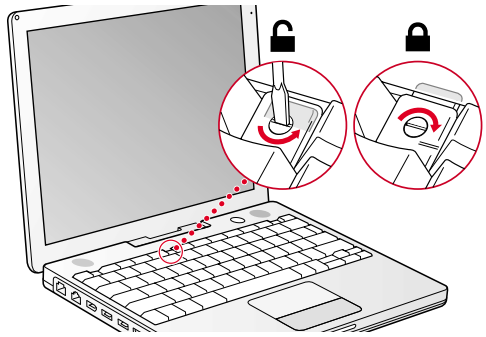
Figure 1



5. Turn over the computer.
6. Raise the display so you can access the keyboard.
7. Make sure the keyboard locking screw, located in the small plastic tab to the left of the Num Lock key **(Figure 2)**, is not in the locked position. Your iBook comes with the keyboard unlocked, so unless you or someone else locked the keyboard, you can skip this step.

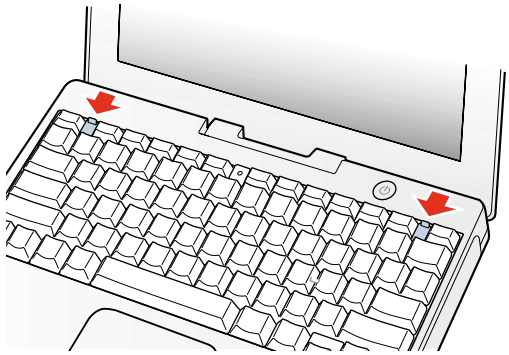
   To unlock the keyboard, turn the screw 1/2 turn.

Figure 2



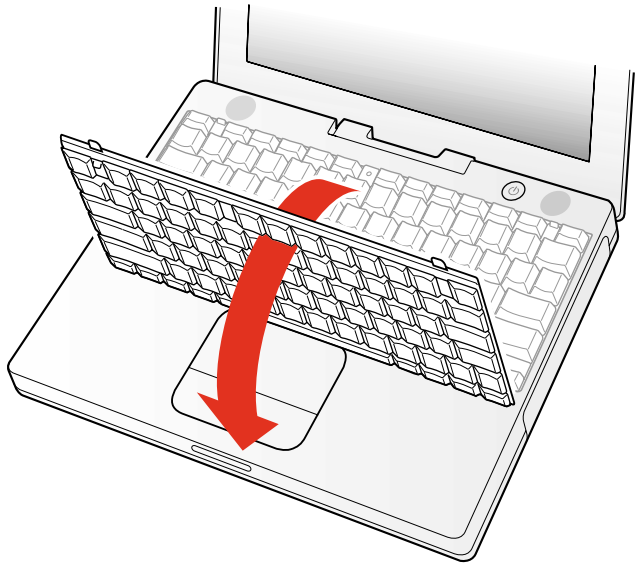
8. Release the keyboard by pulling down on the keyboard release tabs (located to the left of the F1 and F12 keys) **(Figure 3)**, then lift the top portion of the keyboard up slightly, and toward the display.

Figure 3



9. Flip the keyboard over and lay it on the palm rests and trackpad. **(Figure 4)**

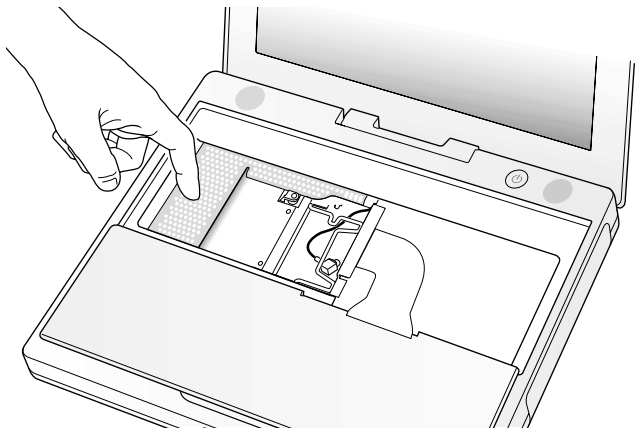
Figure 4



10. Touch a metal surface on the inside of the computer to discharge any static electricity, as shown. **(Figure 5)**

    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.

Figure 5

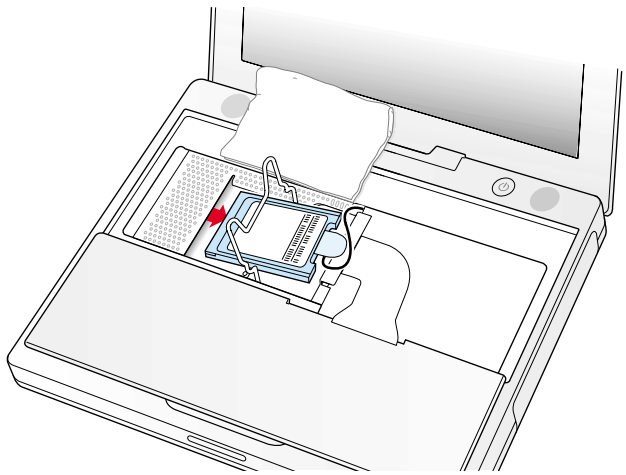


Removing the Installed Keyboard

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

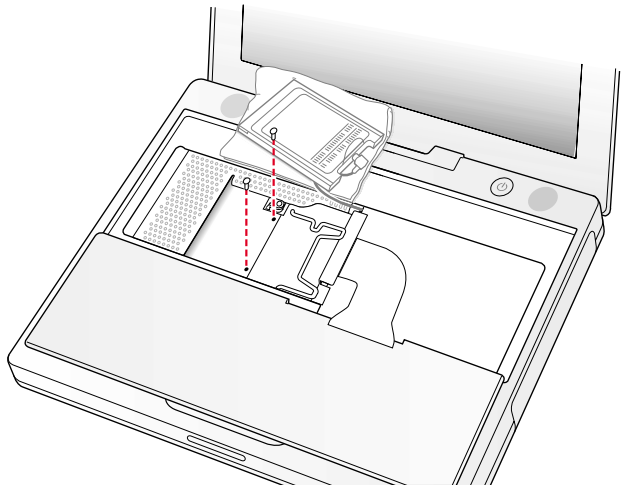
    Note: To avoid scratching the computer's case, place a soft cloth between the AirPort Card and the surface of your iBook.

Figure 6



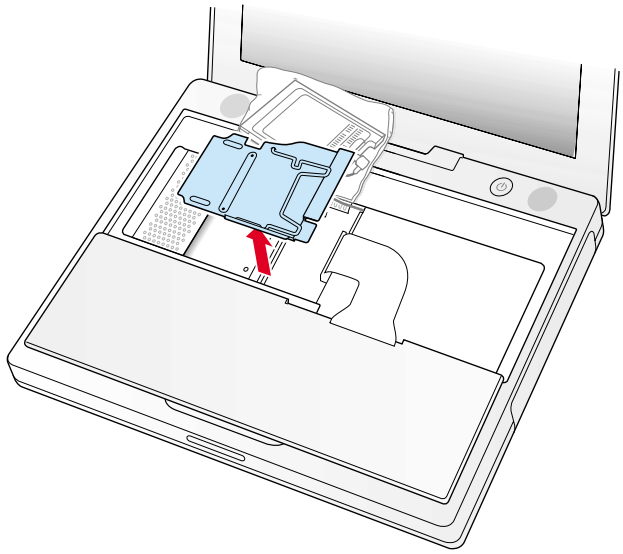
3. If an AirPort Card is not installed, unlatch the flexible wire holder to release the AirPort Card antenna cable.
4. Remove the screws that secure the RAM shield. **(Figure 7)**

Figure 7



5. Lift the RAM shield out of the computer. Carefully pulling up on the wire holder may help to remove the shield. **(Figure 8)**

Figure 8

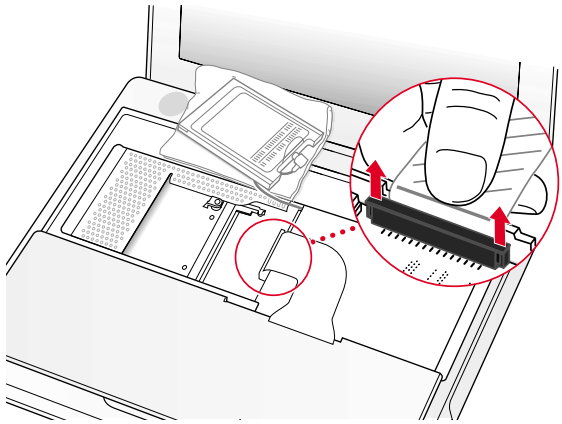


6. Locate the keyboard cable connector. **(Figure 9)**
7. Firmly grasp the cable as shown in the illustration.
8. Carefully pull straight up on the cable until the connector releases.

   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.

Figure 9



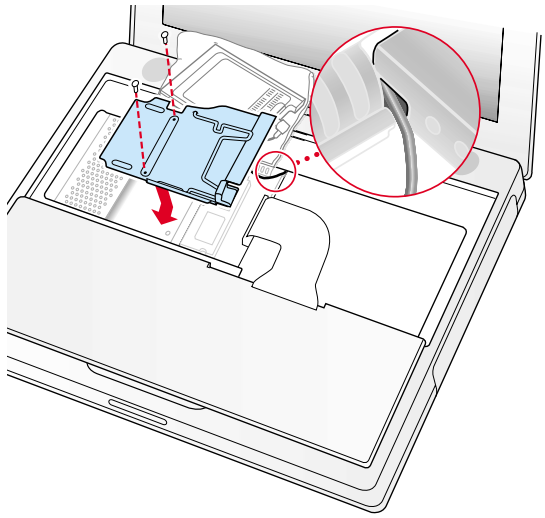
9. Set the keyboard aside.

Installing the Replacement Keyboard

1. Lay the replacement keyboard in the correct orientation over the keyboard opening, then flip it toward you and lay it face down on the palm rests and trackpad to expose its connector cable.
2. Firmly insert the keyboard cable connector into its connector on the computer.

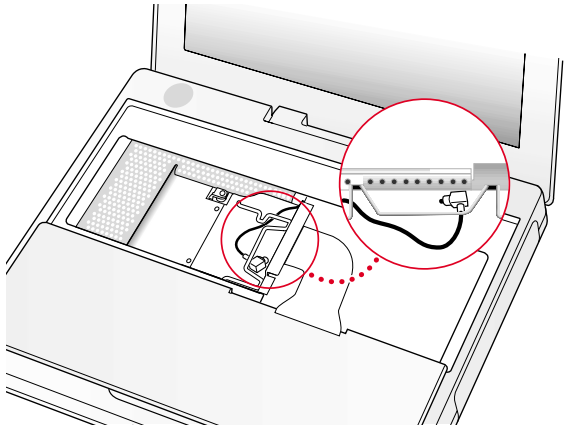
3. Insert the RAM shield. **(Figure 10)**
4. Verify that the end of the wire of the wire holder (where it is attached to the RAM shield, on the keyboard side) does not catch on the side of the compartment. The screw holes on the shield and computer should align and the shield should lay uniformly flat.
5. Verify that the AirPort antenna cable routes through the notch in the RAM shield without pinching.
6. Replace the RAM shield screws.

Figure 10



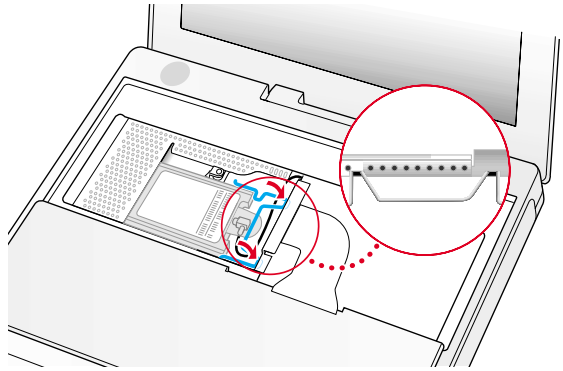
7. If you do not have an AirPort Card, flip down the wire holder over the AirPort Card antenna cable and secure it by inserting the prongs of the holder into the slots in the RAM shield. **(Figure 11)**

Figure 11



8. If you have an AirPort Card, gently slide it (with the AirPort ID number and bar code facing up) under the wire bracket and securely into the AirPort Card slot.
9. Use the wire holder to secure the AirPort Card in place by inserting its prongs into the slots in the RAM shield. **(Figure 12)**

Figure 12

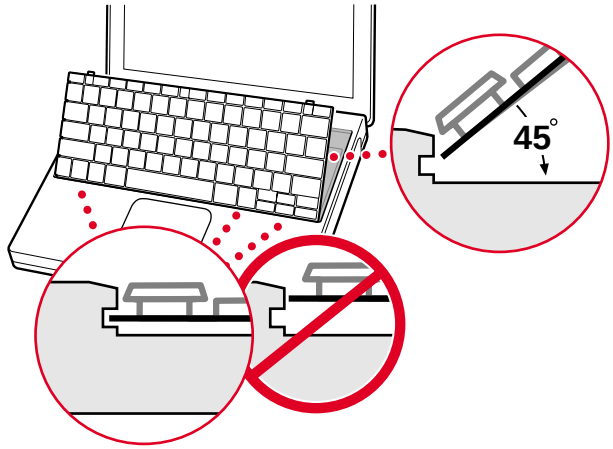


Closing the Computer

1. Flip the keyboard back toward the keyboard opening in the case.
2. 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. **(Figure 13)**

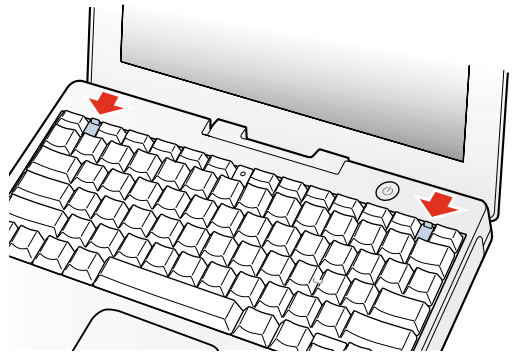
   Important: Make sure that all the tabs are seated and that the keyboard rests flush against the edge of the opening.
3. Lay the keyboard flat into the keyboard opening.

Figure 13



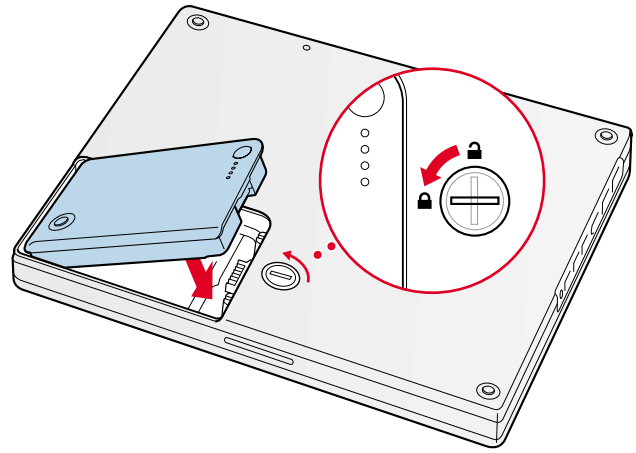
4. Pull down on the keyboard release tabs and then press down on the top portion of the keyboard. **(Figure 14)**

Figure 14



5. Let go of the keyboard release tabs to secure the keyboard in place.
6. Close the display and turn the iBook over.
7. Replace the battery into the battery compartment. Hold the battery flush and use a coin to turn the latch counterclockwise 1/4 turn to lock the battery into place. **(Figure 15)**

Figure 15



8. Turn your iBook over and open the display.
9. Reconnect the power cord and any other cables that were connected and restart your computer.

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

   Warning: Never turn on your 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 your computer or cause injury.

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AirPort Card
Replacement Instructions

Follow the instructions in this sheet carefully. Failure to follow these instructions could damage your equipment and void its warranty.

Note: Written and video instructions covering customer-installable parts are available at http://www.info.apple.com/installparts/.

Warning: During this procedure, keep small parts away from children.

Tools Required

- Coin
- Jeweler's flat-blade screwdriver (if keyboard is locked)

Opening the Computer

Warning: Always shut down your 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.

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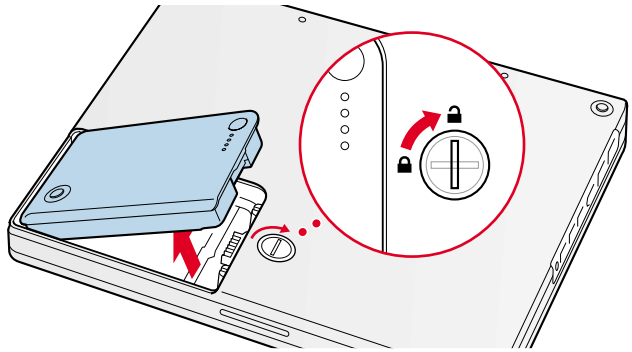
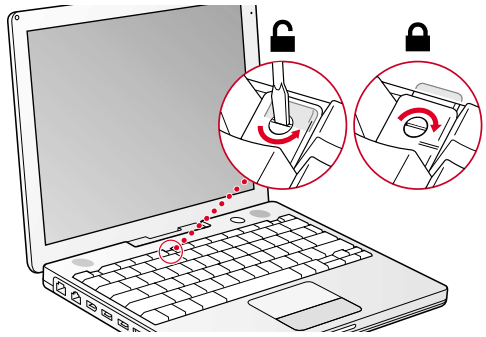


5. Turn over the computer.
6. Raise the display so you can access the keyboard.
7. Make sure the keyboard locking screw, located in the small plastic tab to the left of the Num Lock key **(Figure 2)**, is not in the locked position. Your iBook comes with the keyboard unlocked, so unless you or someone else locked the keyboard, you can skip this step.

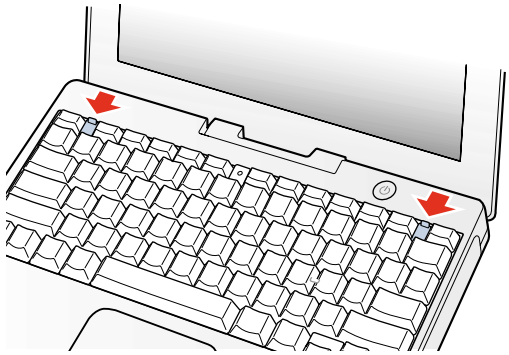
   To unlock the keyboard, turn the screw 1/2 turn.

Figure 2



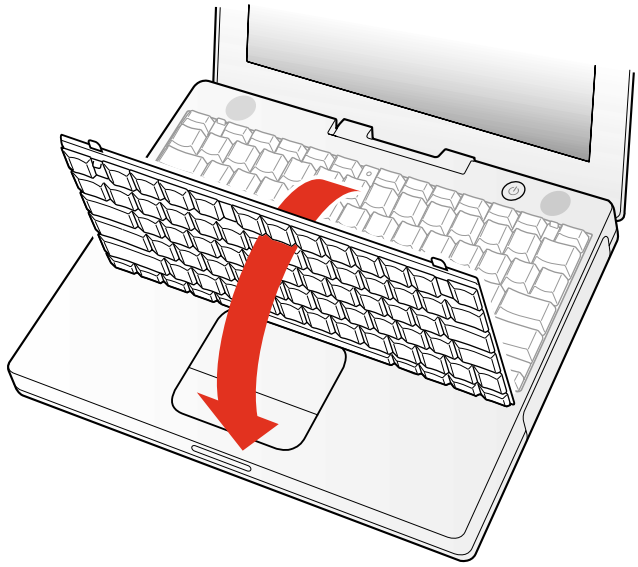
8. Release the keyboard by pulling down on the keyboard release tabs (located to the left of the F1 and F12 keys) **(Figure 3)**, then lift the top portion of the keyboard up slightly, and toward the display.

Figure 3



9. Flip the keyboard over and lay it on the palm rests and trackpad. **(Figure 4)**

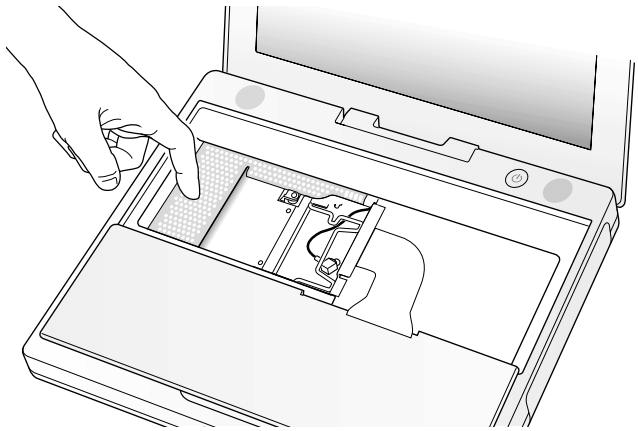
Figure 4



10. Touch a metal surface on the inside of the computer to discharge any static electricity, as shown. **(Figure 5)**

    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.

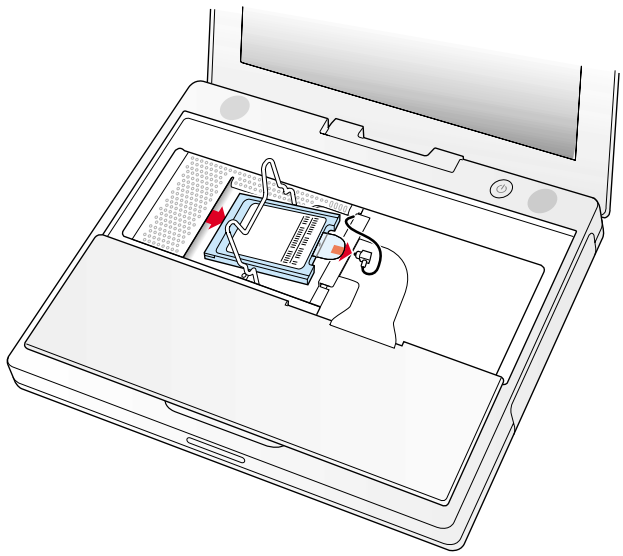
Figure 5



Removing the Installed AirPort Card

1. Unlatch the flexible wire holder that secures the card. **(Figure 6)**

Figure 6

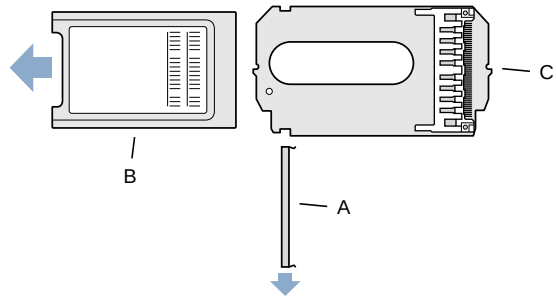


2. Use the pull-tab on the card to remove it from the slot.
3. Disconnect the antenna cable from the AirPort Card by pulling straight back on its connector.

Installing the Replacement AirPort Card

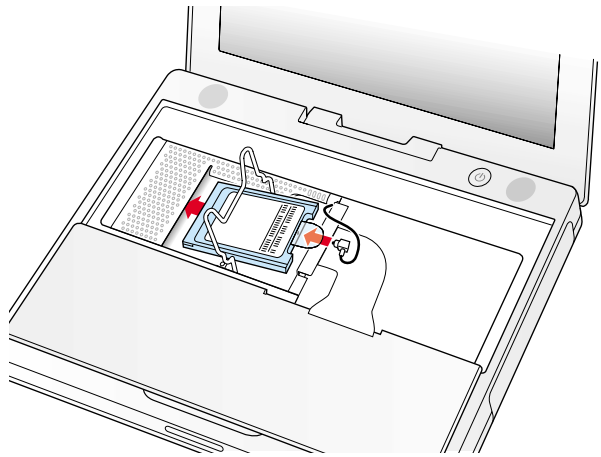
1. If the AirPort Card came with the AirPort adapter **(Figure 7)**, remove the metal clip (A) and pull the AirPort Card (B) from the adapter (C). The adapter and metal clip are not used with your iBook.

Figure 7



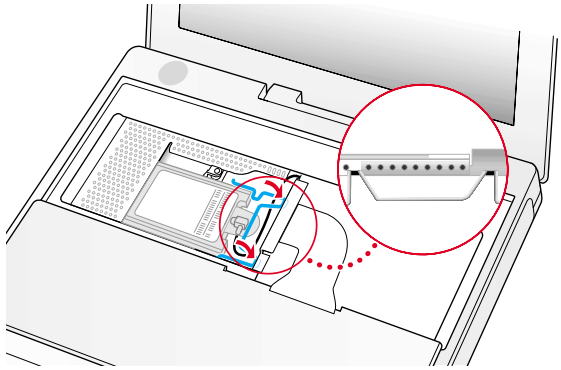
2. Locate the AirPort antenna cable connector and plug it into the port (located just below the pull-tab) on the end of the AirPort Card. Make sure the connector is straight before inserting it into the card. **(Figure 8)**
3. To install the AirPort Card, gently slide it (with the AirPort ID number and bar code facing up) under the wire bracket and securely into the AirPort Card slot.

Figure 8



4. Use the wire holder to secure the AirPort Card in place by inserting its prongs into the slots in the RAM shield. **(Figure 9)**

Figure 9



Closing the Computer

1. Flip the keyboard back toward the keyboard opening in the case.
2. 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. **(Figure 10)**

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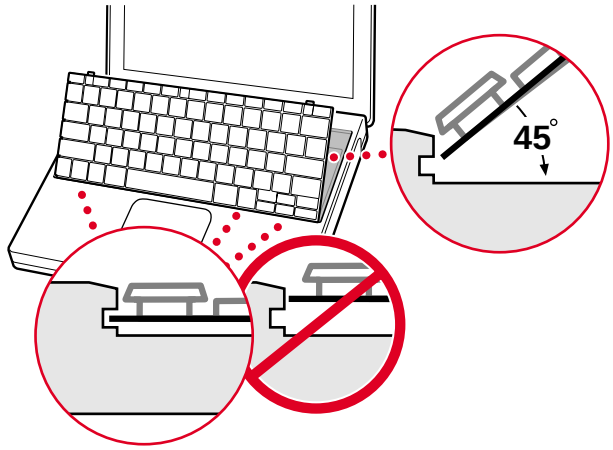
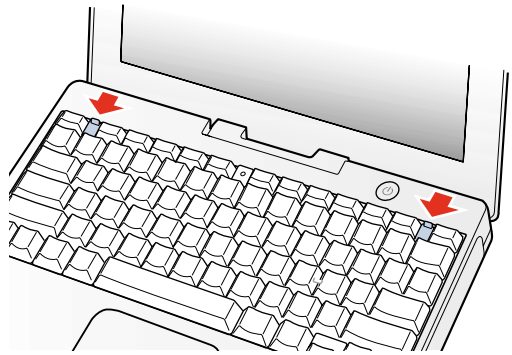


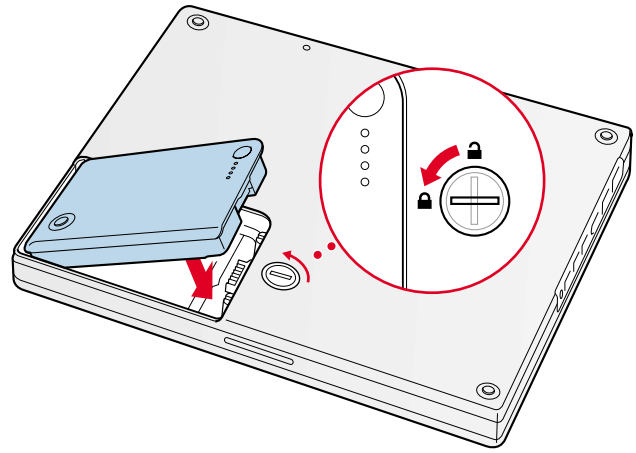
4. Pull down on the keyboard release tabs and then press down on the top portion of the keyboard. **(Figure 11)**

Figure 11



5. Let go of the keyboard release tabs to secure the keyboard in place.
6. Close the display and turn the iBook over.
7. Replace the battery into the battery compartment. Hold the battery flush and use a coin to turn the latch counterclockwise 1/4 turn to lock the battery into place. **(Figure 12)**

Figure 12



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Memory Card
Replacement Instructions

Follow the instructions in this sheet carefully. Failure to follow these instructions could damage your equipment and void its warranty.

Note: Written and video instructions covering customer-installable parts are available at http://www.info.apple.com/installparts/.

Warning: During this procedure, keep small parts away from children.

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

Tools Required

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

Opening the Computer

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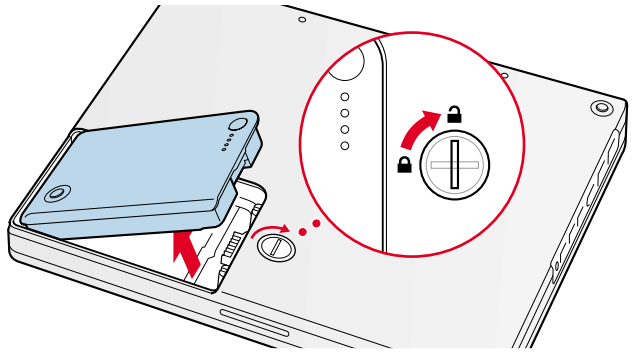

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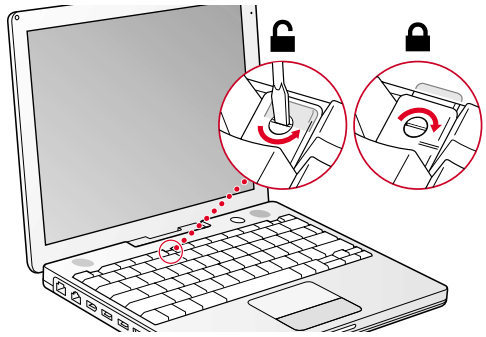

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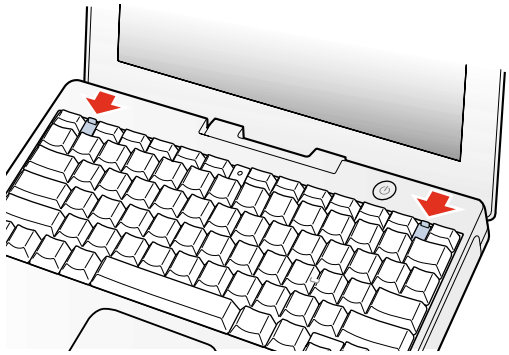

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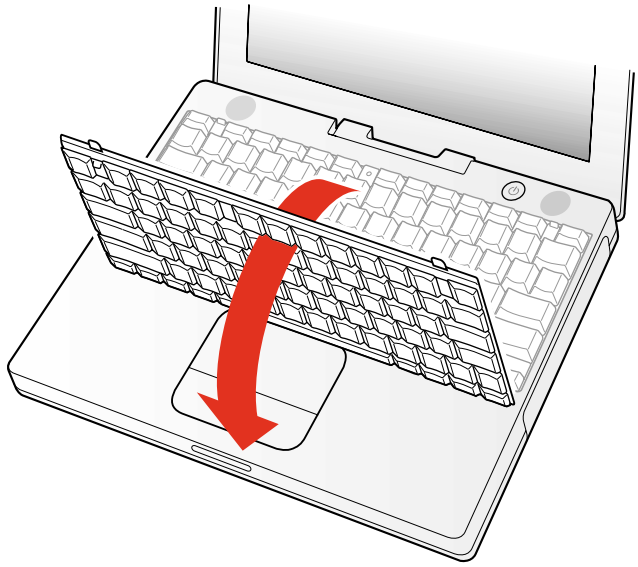

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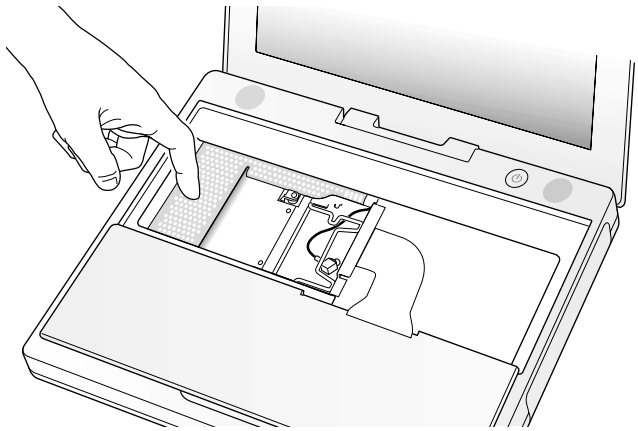
    Important: To avoid electrostatic discharge damage, always ground yourself by touching the computer's framework before you touch any parts or install any components inside the computer. To avoid static electricity building back up in your body, do not walk around the room until you have completed the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

Figure 5

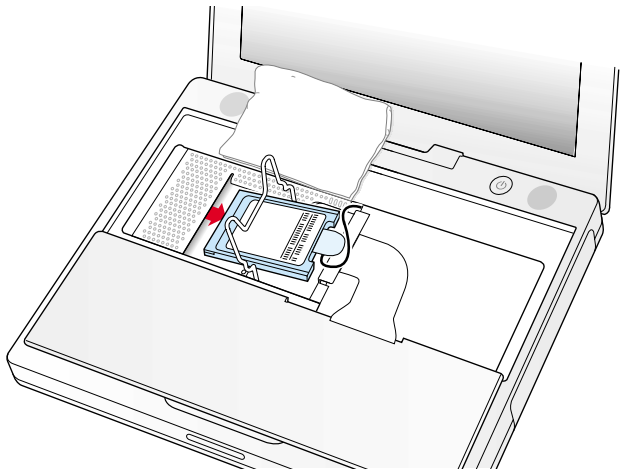


Removing the Installed Memory Card

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

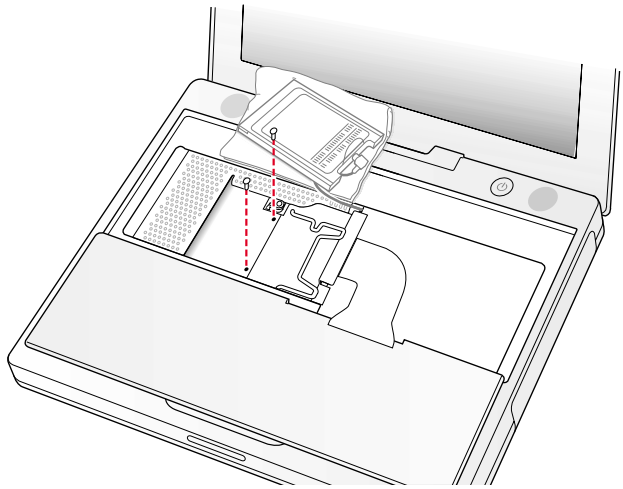
    Note: To avoid scratching the computer's case, place a soft cloth between the AirPort Card and the surface of your iBook.

Figure 6



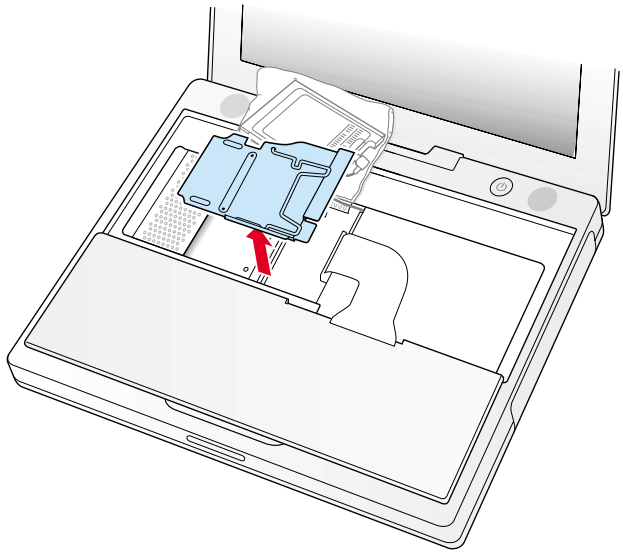
3. If an AirPort Card is not installed, unlatch the flexible wire holder to release the AirPort Card antenna cable.
4. Remove the screws that secure the RAM shield. **(Figure 7)**

Figure 7



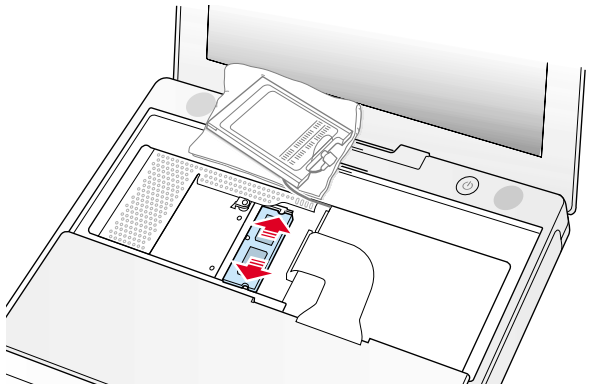
5. Lift the RAM shield out of the computer. Carefully pulling up on the wire holder may help to remove the shield. **(Figure 8)**

Figure 8



6. Locate the installed memory card and brackets that secure the card on both sides. **(Figure 9)**
7. Carefully spread the brackets apart until the card releases on each side. Pull the card up and out of the memory slot.

Figure 9

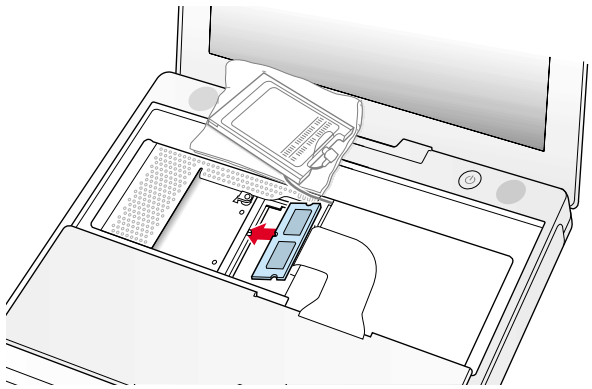


Installing the Replacement Memory Card

1. 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. **(Figure 10)**

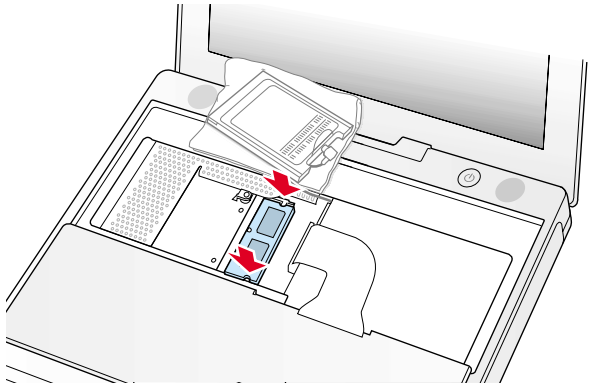
   Note: If you feel resistance when inserting the card, try pushing one side at a time.

Figure 10



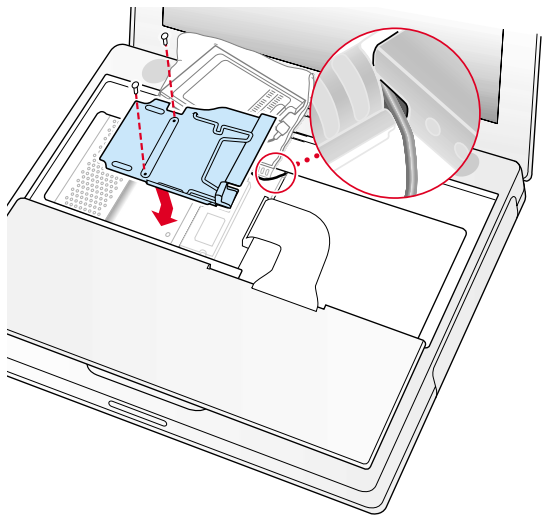
2. Gently push the top of the card down until the brackets snap onto both sides of the memory card to lock it into place. **(Figure 11)**

Figure 11



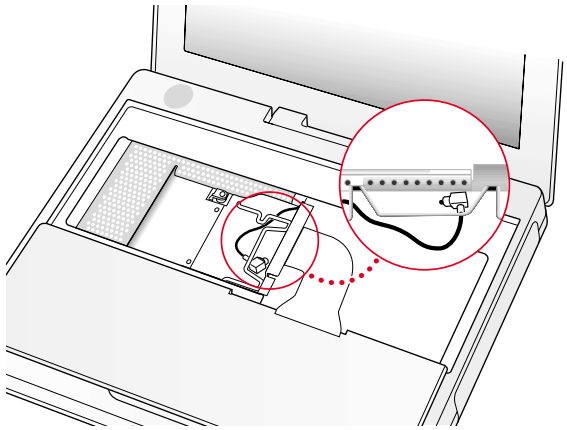
3. Insert the RAM shield. **(Figure 12)**
4. Verify that the end of the wire of the wire holder (where it is attached to the RAM shield, on the keyboard side) does not catch on the side of the compartment. The screw holes on the shield and computer should align and the shield should lay uniformly flat.
5. Verify that the AirPort antenna cable routes through the notch in the RAM shield without pinching.
6. Replace the RAM shield screws.

Figure 12



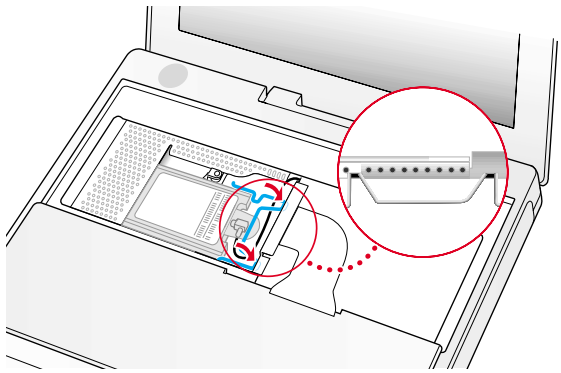
7. If you do not have an AirPort Card, flip down the wire holder over the AirPort Card antenna cable and secure it by inserting the prongs of the holder into the slots in the RAM shield. **(Figure 13)**

Figure 13



8. If you have an AirPort Card, gently slide it (with the AirPort ID number and bar code facing up) under the wire bracket and securely into the AirPort Card slot.
9. Use the wire holder to secure the AirPort Card in place by inserting its prongs into the slots in the RAM shield. **(Figure 14)**

Figure 14

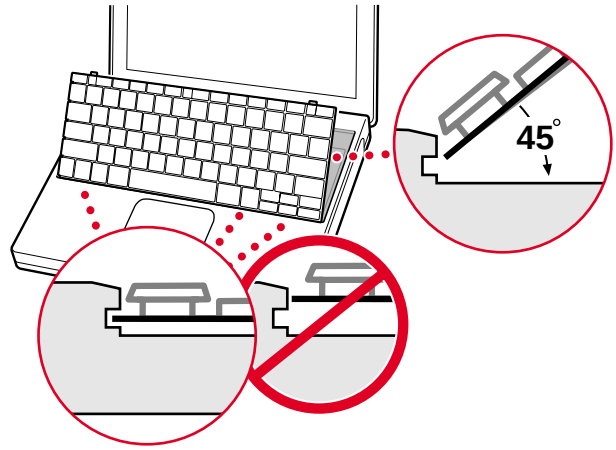


Closing the Computer

1. Flip the keyboard back toward the keyboard opening in the case.
2. 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.

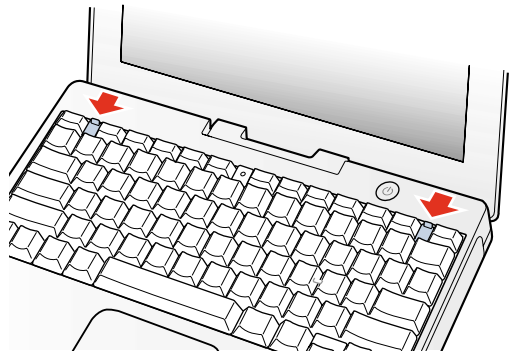
   Important: Make sure that all the tabs are seated and that the keyboard rests flush against the edge of the opening. **(Figure 15)**
3. Lay the keyboard flat into the keyboard opening.

Figure 15



4. Pull down on the keyboard release tabs and then press down on the top portion of the keyboard. **(Figure 16)**

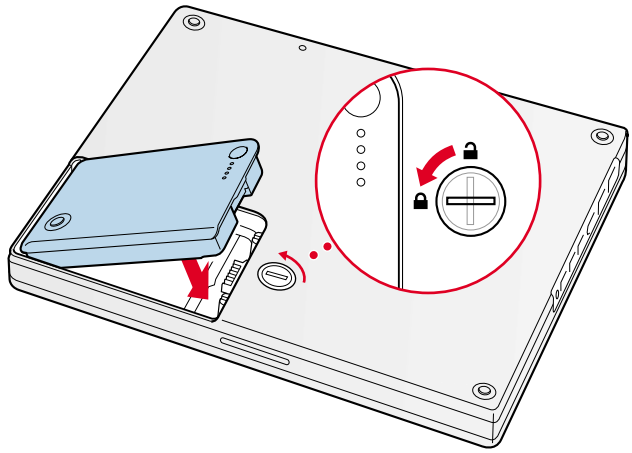
Figure 16



5. Let go of the keyboard release tabs to secure the keyboard in place.
6. Close the display and turn the iBook over.

7. Replace the battery into the battery compartment. Hold the battery flush and use a coin to turn the latch counterclockwise 1/4 turn to lock the battery into place. **(Figure 17)**

Figure 17



8. Turn your iBook over and open the display.
9. Reconnect the power cord and any other cables that were connected and restart your computer.

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

   Warning: Never turn on your 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 your computer or cause injury.

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Bottom Case
Replacement Instructions

The following instructions explain how to replace the bottom case on the iBook (Late 2001) computer.

Tools

This procedure requires the following tools:

- Soft cloth
- Torx T8 screwdriver
- 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.

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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.

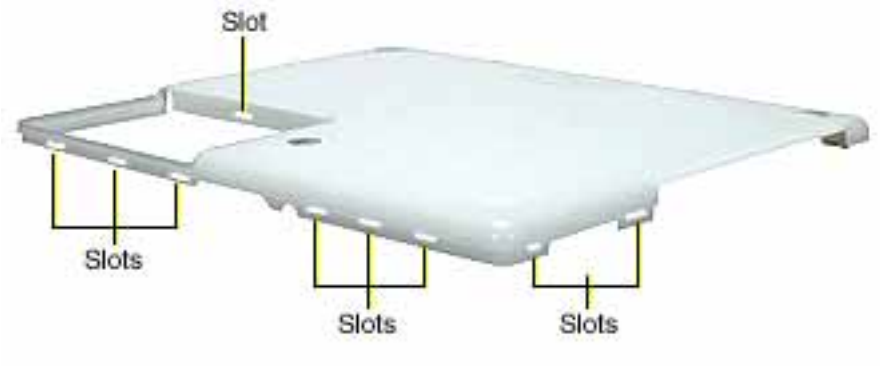
   Note: When reassembling the computer, do not reuse the feet. Install three new rubber feet.

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.

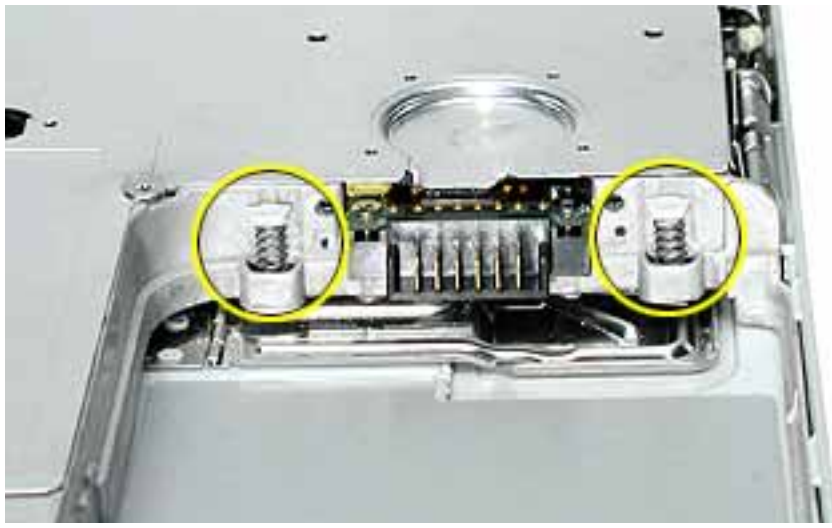
10. **Warning: To avoid damaging the sleep light and other delicate components, do not insert the black stick too far into the computer as you free the bottom case from the computer. Use just the tip of the black stick to pry up the bottom case.**

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
Replacement Instructions

The following instructions explain how to replace the bottom shield in the iBook (Late 2001) computer.

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

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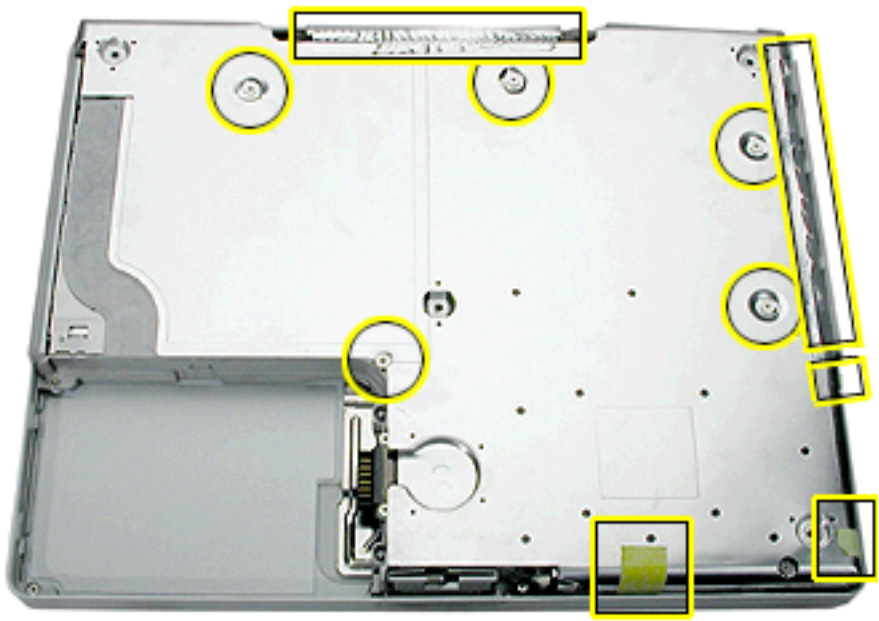
Procedure

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.

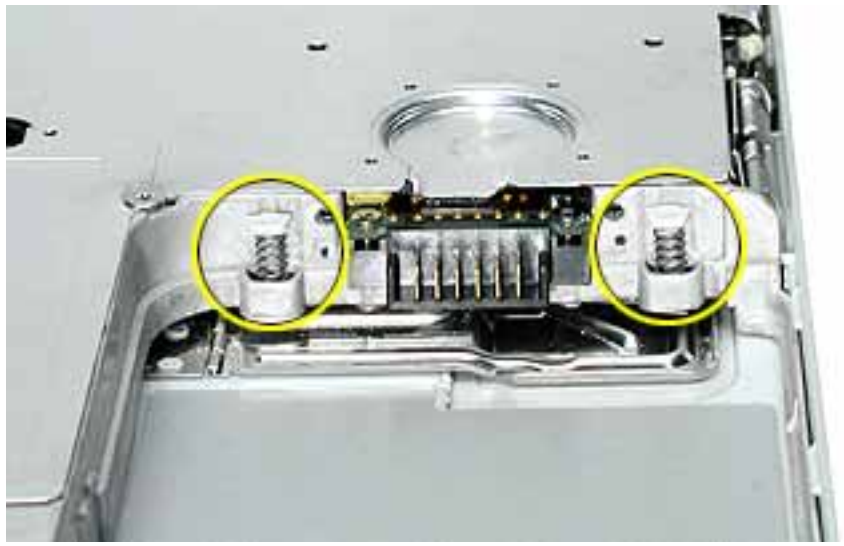
   Note: When reassembling the computer, install the replacement bottom shield so that the corner of the shield closest to the longest strip of foil tape is secured first. (With the computer oriented as shown, this corner is the uppermost right corner.)



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

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

5. **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.



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

Fan
Replacement Instructions

The following instructions explain how to replace the fan in the iBook (Late 2001) computer.

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 single screw from the fan bracket.

   Note: Reserve the screw for the replacement fan.

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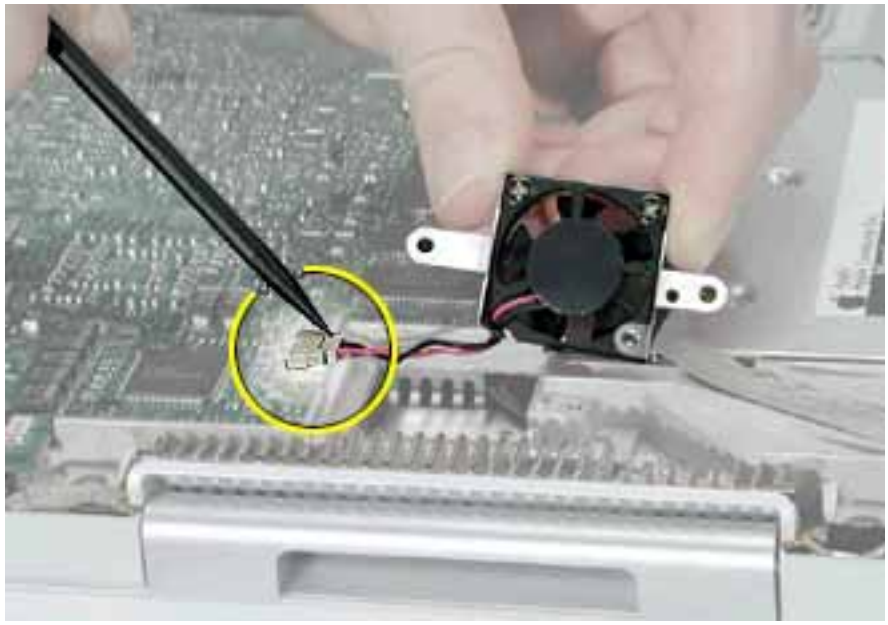
2. Lift the fan and bracket from the computer, and use a black stick to disconnect the connector from the logic board.

   Note: When reassembling the computer, tuck in the cable underneath the replacement fan bracket.



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

Top Case
Replacement Instructions

The following instructions explain how to replace the top case on the iBook (Late 2001) computer.

Tools

This procedure requires the following tools:

- Soft cloth
- Black stick (or other nonconductive nylon or plastic tool)
- #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
- AirPort Card
- Bottom case

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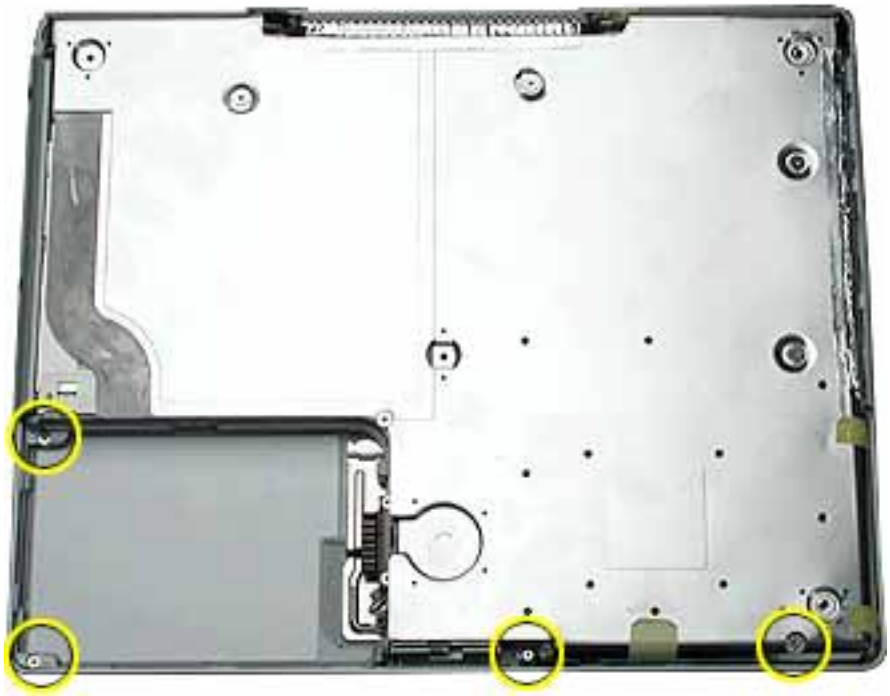
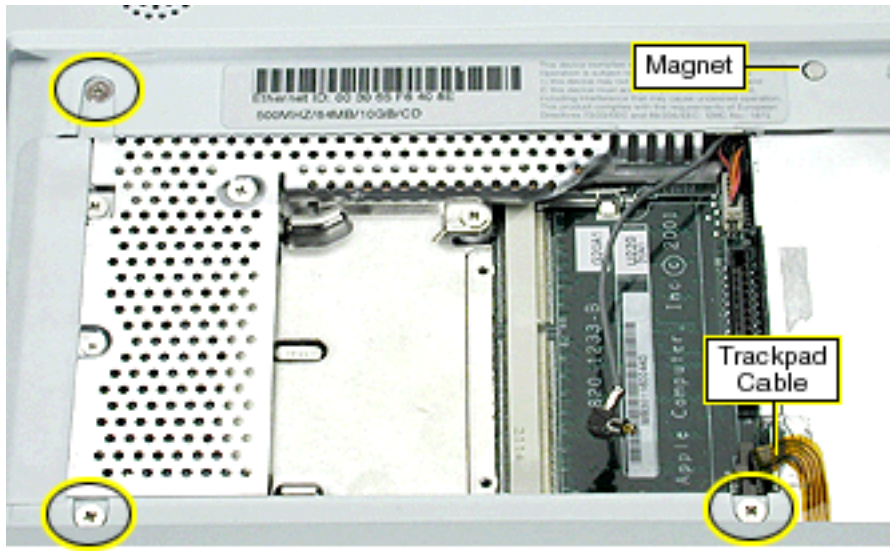
Procedure

1. With the computer on a soft cloth and the bottom shield facing up, remove four screws, 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 black stick, 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.

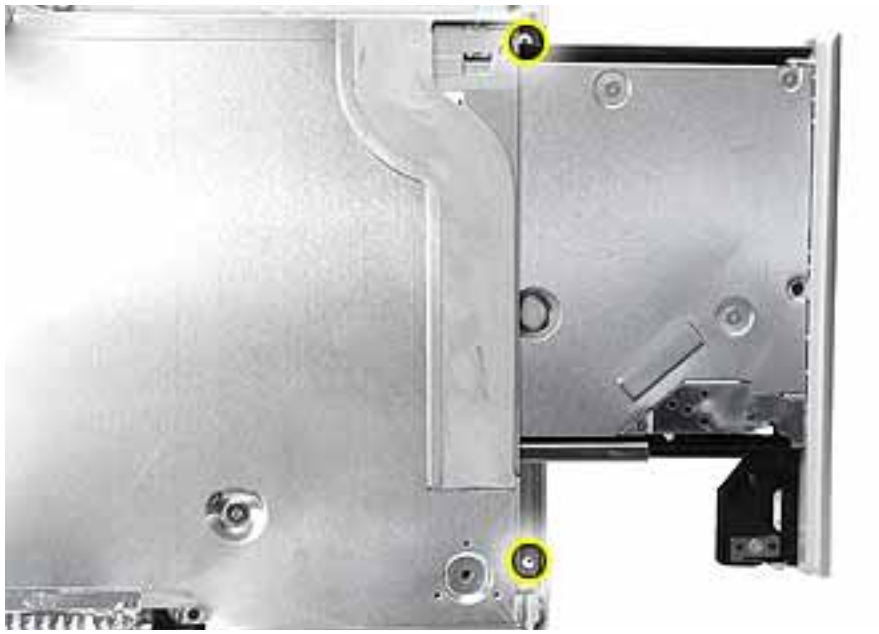


5. Peel up the speaker wire tape, but make sure that the speaker wire beneath it remains in place. Set aside the speaker wire tape.

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

6. Using a straightened paper clip, open the optical drive.

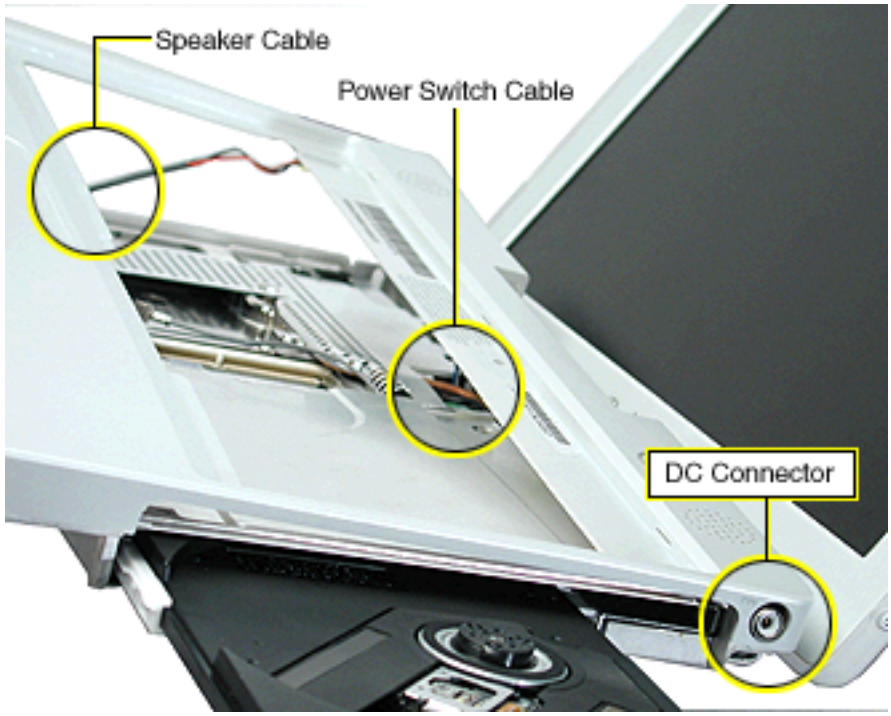
7. Turn over the computer, and remove the small screw near the DC connector.
8. Completely slide out the optical drive tray, and then slide in the side rail until you can access the small screw above the drive. Remove the screw.



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

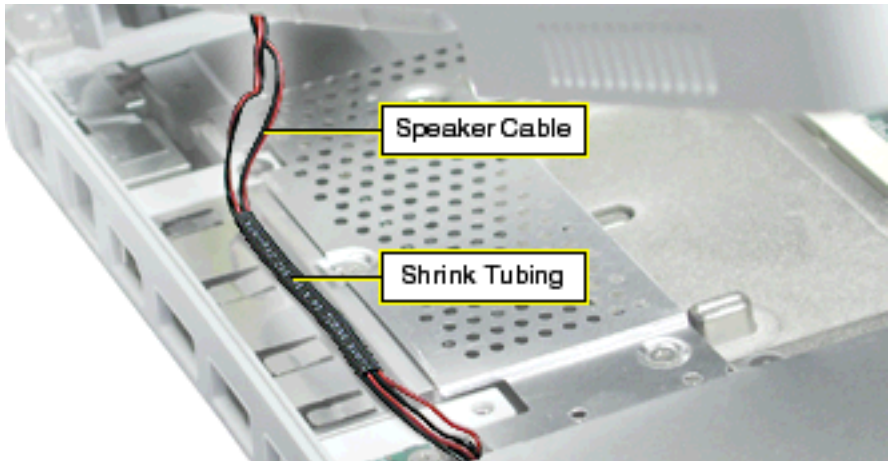
   Turn over the computer. Starting near the left speaker end of the top case, lift up the top case near the front. Tilt the top case so that it clears the DC connector.

   Tilt the top case up away from the computer latch.

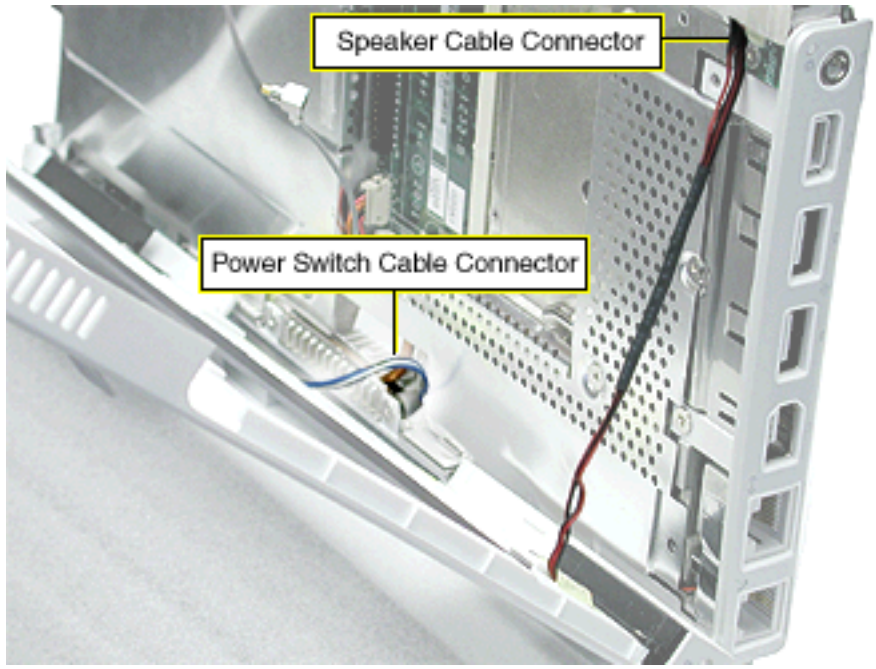


10. With the top case loosened, note how the speaker cable is routed.

    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.



11. Disconnect the power switch cable connector from the logic board.
12. Disconnect the speaker cable connector from the logic board.



13. Remove the top case from the computer.

    Note: When installing the replacement top case, make sure you attach the case over the DC connector first. Then connect the power switch cable connector followed by the speaker cable connector. Do not strain the cables.

14. 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
15. **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.

16. Install the replacement top case, and 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
Replacement Instructions

The following instructions explain how to replace the top shield in the iBook (Late 2001) computer.

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
- Keyboard
- Airport Card
- Top case

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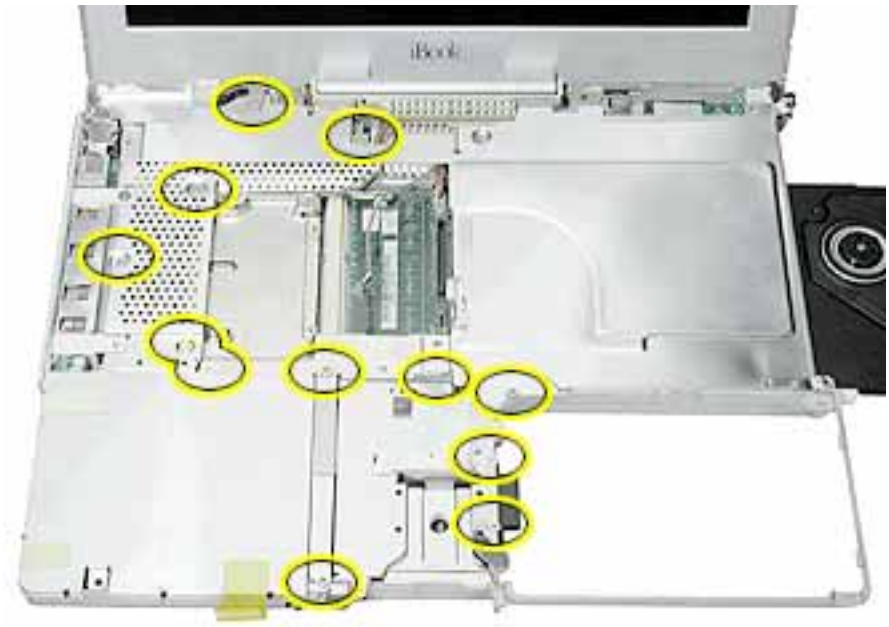
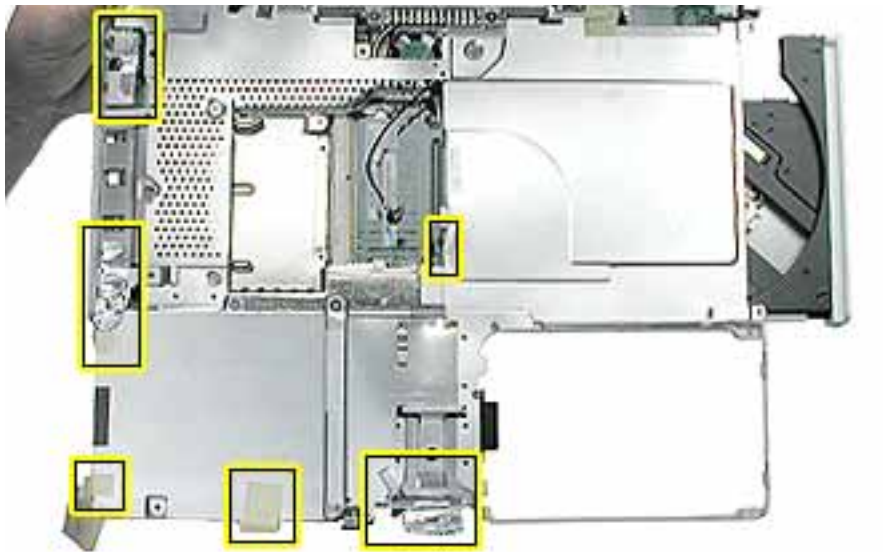
Procedure

1. With the computer on a soft cloth, remove the 12 Phillips screws:
   - five large identical screws
   - one medium-sized screw
   - five small identical screws
   - one tiny screw



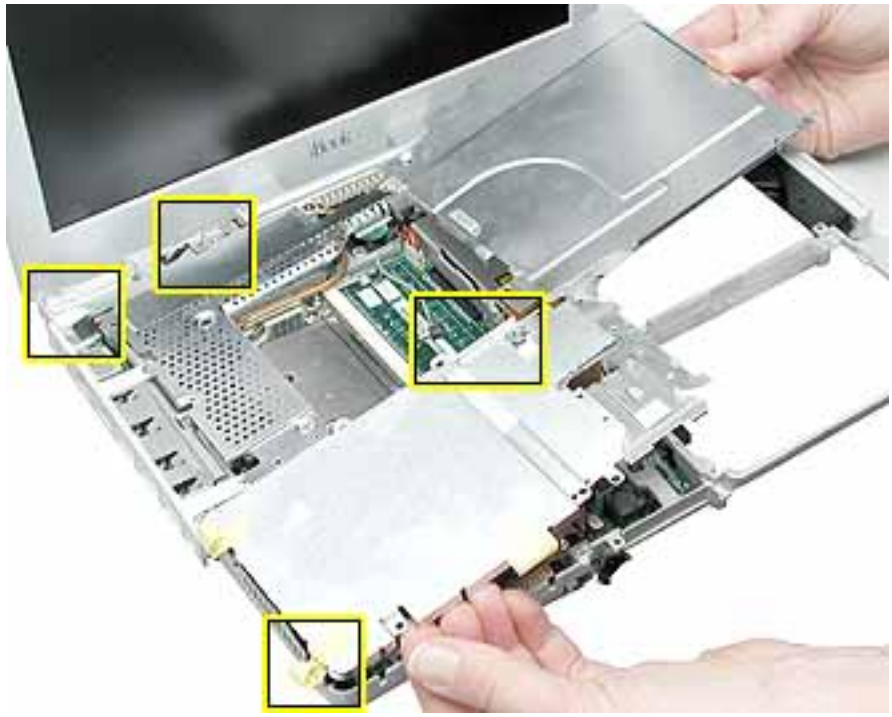
2. Using a black stick, carefully peel up, but do not remove, the foil strips and pieces of tape.

   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 highlighted areas shown.



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

I/O Bezel
Replacement Instructions

The following instructions explain how to replace the I/O bezel in the iBook (Late 2001) computer.

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
- Airport Card
- Top case

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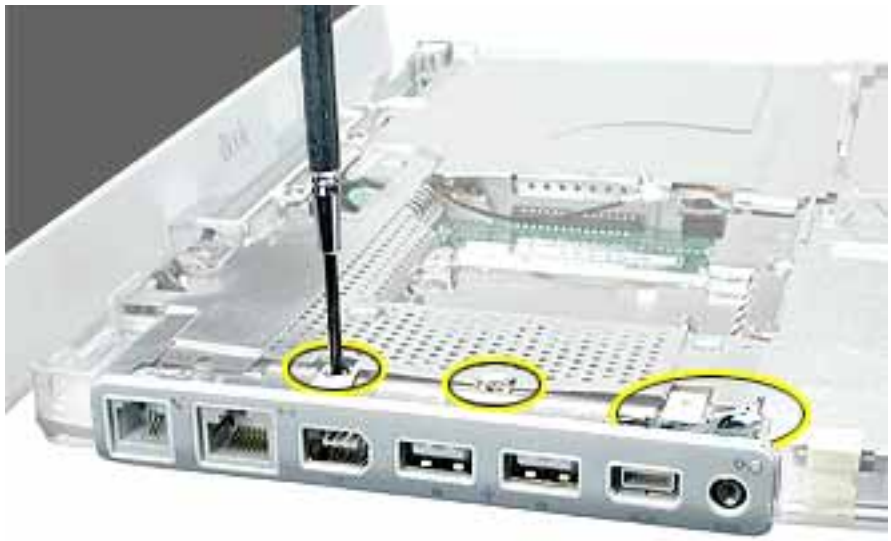
Procedure

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.

Hard Drive
Replacement Instructions

The following instructions explain how to replace the hard drive in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield

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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
Replacement Instructions

The following instructions explain how to replace the modem in the iBook (Late 2001) computer.

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
- Keyboard
- Airport Card
- Top case
- Top shield

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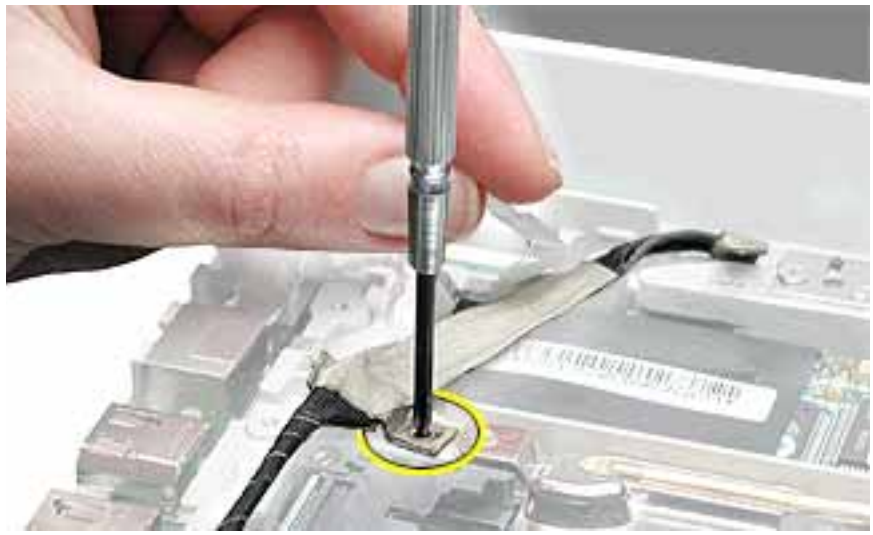
Procedure

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

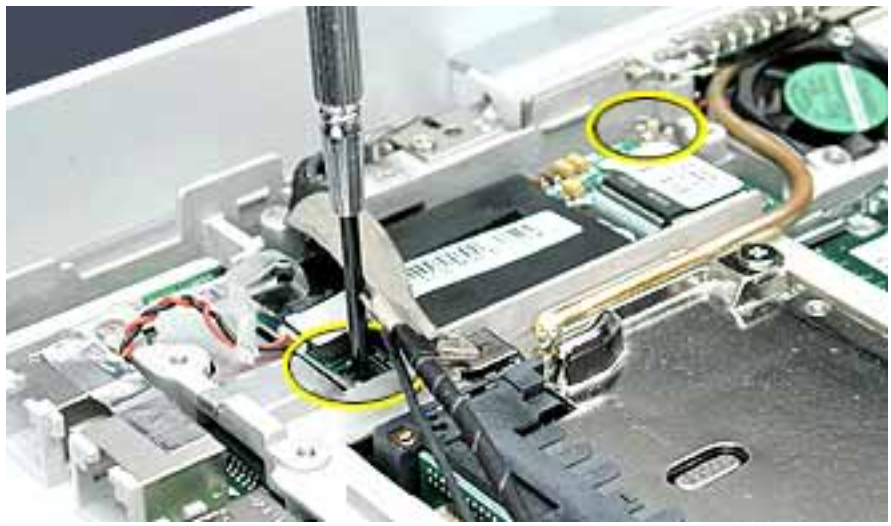
   With the computer on a soft cloth, note the routing of the LVDS (low voltage data signal) cable that is taped to the plastic modem sleeve.

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



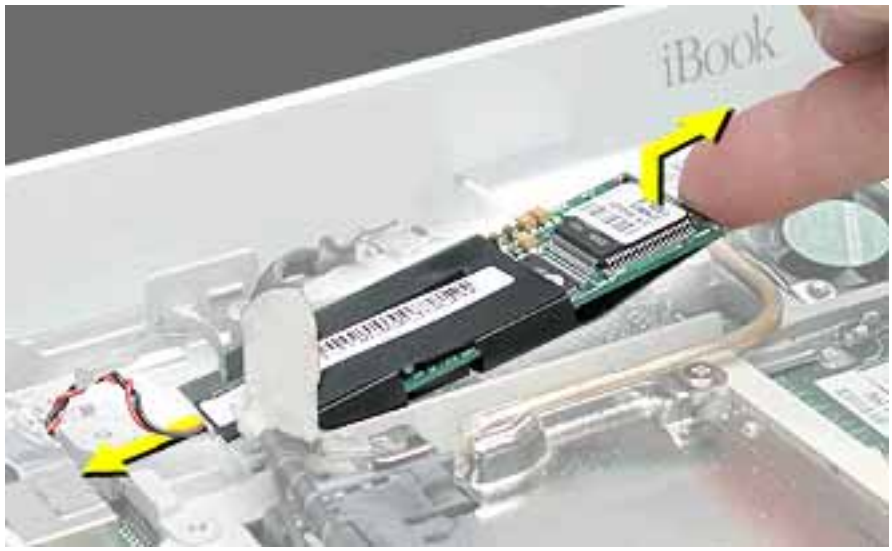
2. **Important:** Do not strain or remove the LVDS cable.

   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
Replacement Instructions

The following instructions explain how to replace the display module in the iBook (Late 2001) computer.

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
- Keyboard
- Airport Card
- Top case
- Top shield

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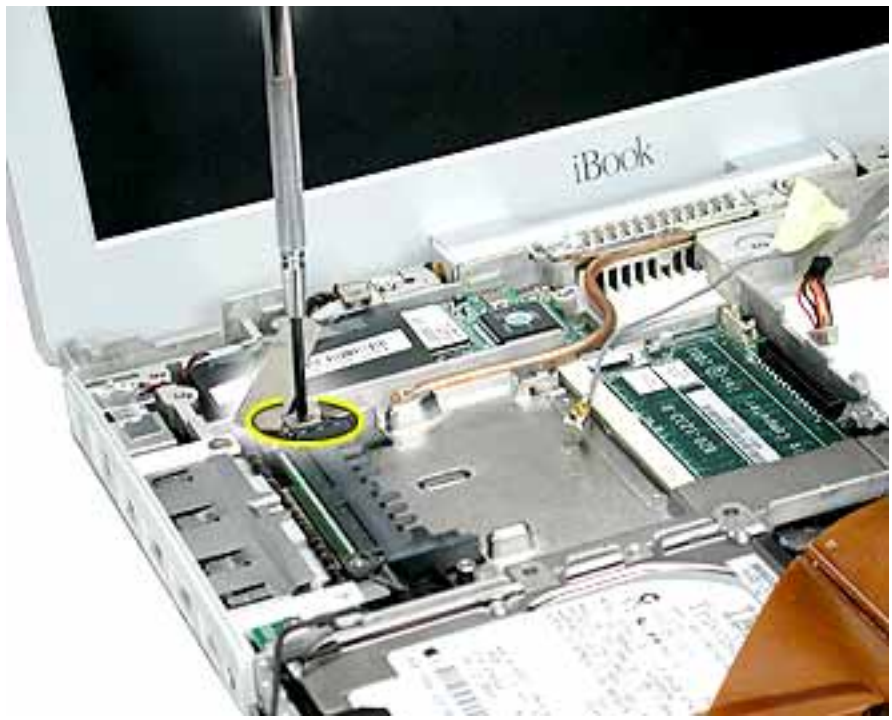
Procedure

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

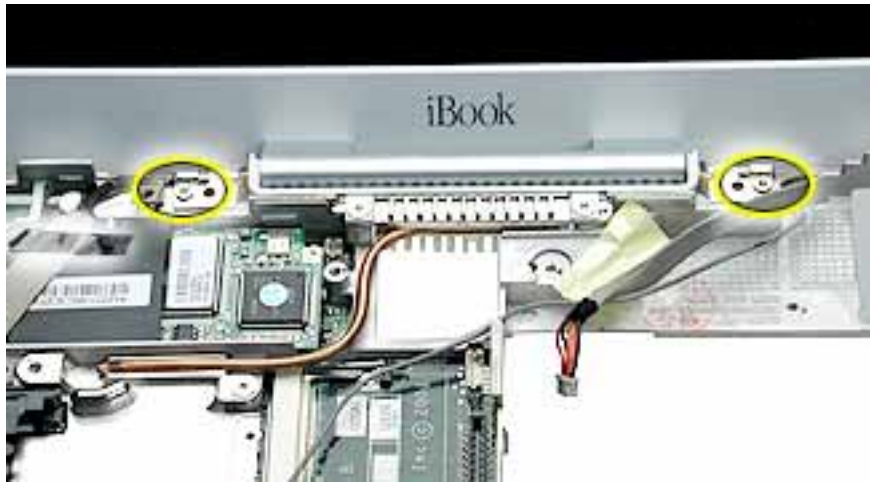
4. Remove the screw securing the flat section of the LVDS cable.



5. **Warning: To prevent damage, support the back of the display while performing this step.**

   Remove the tape that secures the LVDS cable to the modem sleeve.

   Remove the screw at each display hinge.

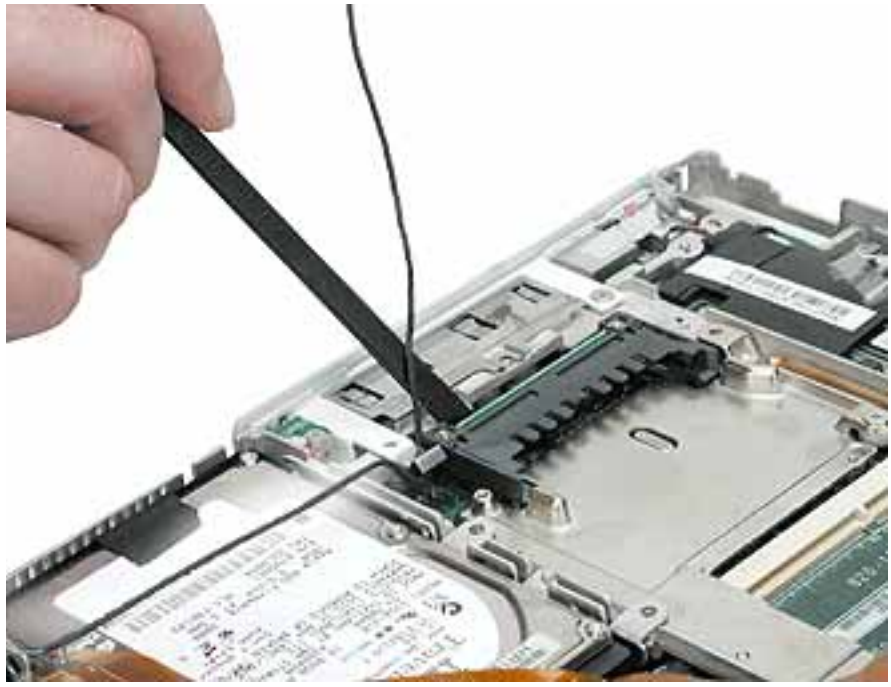


6. **Warning: When lifting the display, be careful not to strain the cables.**

   Tilt the display up slightly from the computer.

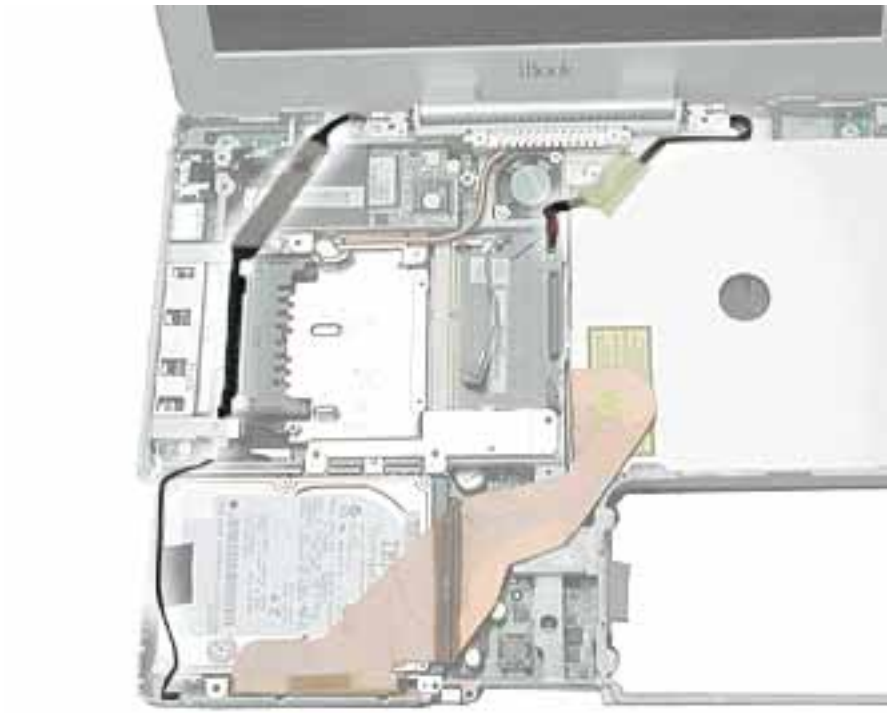
7. **Warning: While supporting the display, do not tug on the remaining cables. Make sure the cable insulation is not torn or damaged.**

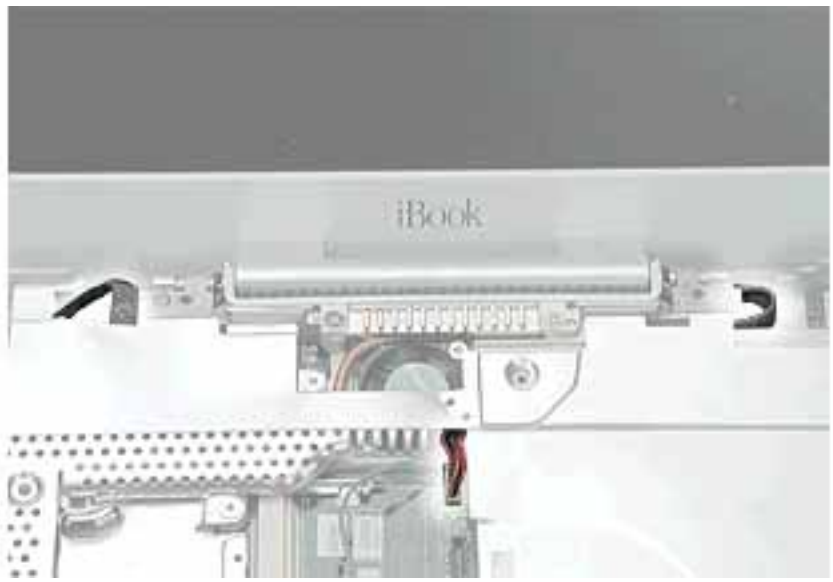
   Using a black stick, carefully release the remaining length of the LVDS cable and the microphone cable from the computer.



8. Install the replacement display module, and reassemble and test the computer.

   Note: When guiding the display cables into place, make sure that they are routed as shown below.





Optical Drive
Replacement Instructions

The following instructions explain how to replace the optical drive in the iBook (Late 2001) computer.

Note: Depending on the configuration of a customer's computer, the optical drive can be a CD-ROM drive, a CD-RW drive, a DVD-ROM drive, or a combination CD-RW/DVD-ROM drive. The replacement instructions are the same no matter which optical drive is installed.

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
- Airport Card
- Top case
- Top shield

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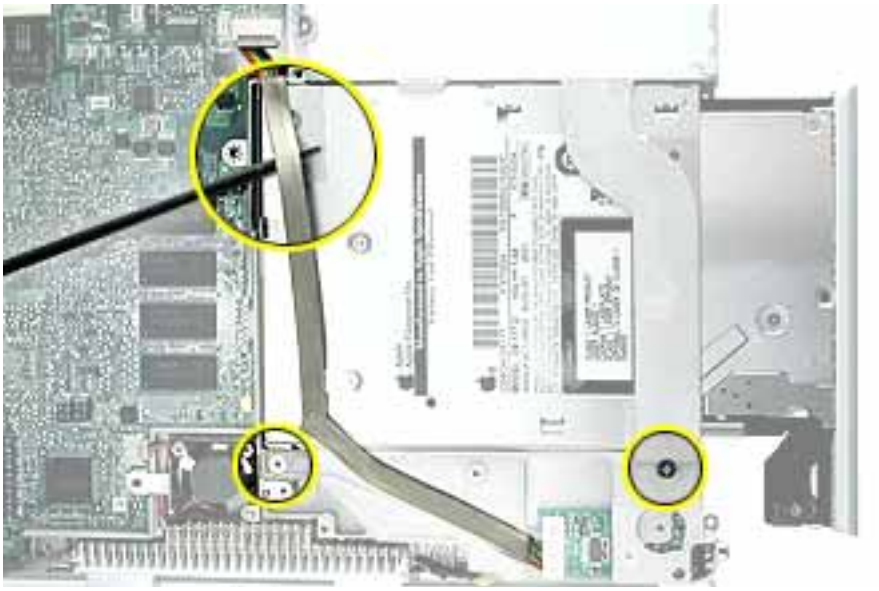
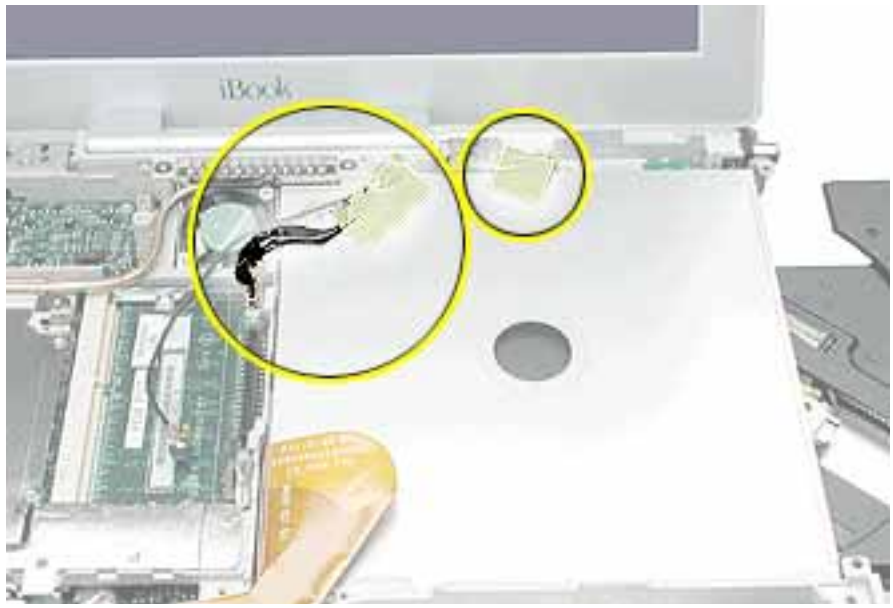
Procedure

1. With the computer on a soft cloth, note the location of the optical drive and the routing of the ribbon cable.

2. Tilt up the computer, and remove the two screws beneath the optical drive.
3. Note the routing of the flat power cable across the underside of the optical drive.Lift up the flat power cable from the double-sided tape adhesive.



4. Tilt back the computer, and on the other side of the optical drive, loosen the tape holding the backlight cable to the optical drive. Reserve the tape for installation of the replacement drive. Do not disconnect the backlight cable.



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

   Without straining the ribbon cable, slide out the optical drive part way and tilt it up and away from the computer.

6. Remove the two screws holding the cable bracket to the optical drive.
7. Remove the cable bracket.

   Note: When reassembling the computer, transfer the cable bracket to the replacement drive.

8. Disconnect the ribbon cable.

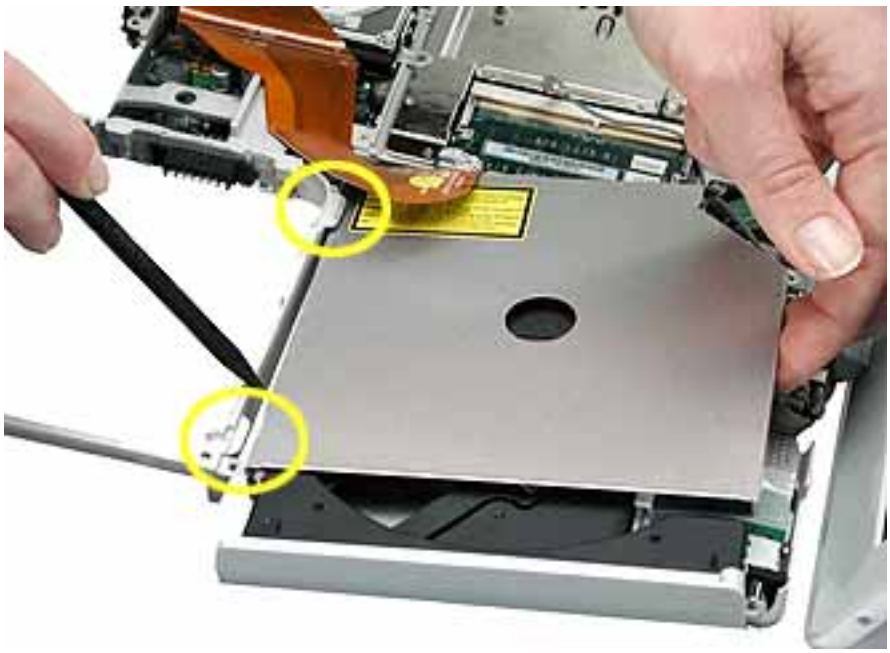
   Note: When reassembling the computer, transfer the ribbon cable to the replacement drive. The connector is labeled "TO CD-ROM" on the ribbon cable.

9. Remove the two screws that hold the mounting bracket to the optical drive.

   Important: When reassembling the computer, transfer the mounting bracket to the replacement drive.

10. Remove the drive door and install it on the replacement optical drive, as described in the next section.
11. Install the replacement optical drive, and reassemble and test the computer.

    Note: When installing the replacement optical drive, slide it in under the two side tabs, as shown below.

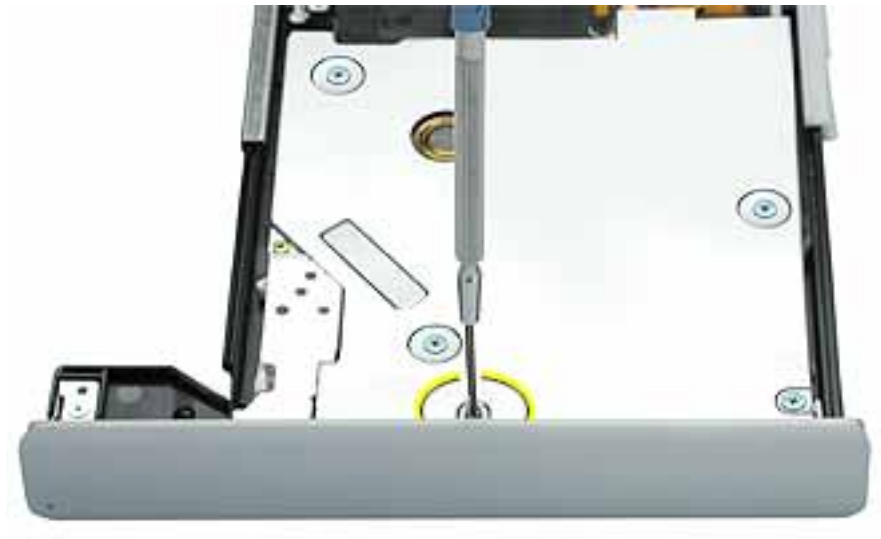


Transferring the Drive Door

This section shows how to remove the drive door from the optical drive so you can attach it to the replacement optical drive. The drive door is attached differently on each type of optical drive. Refer to the optical drive description that matches the configuration of the customer's computer.

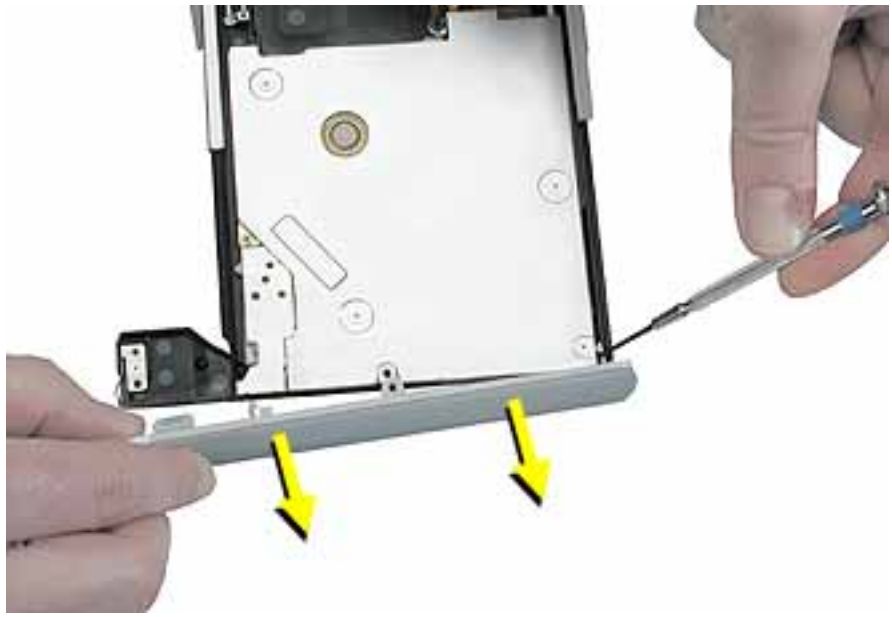
CD-ROM Drive Door

1. On the underside of the drive, remove the single black #0 Phillips screw from the CD drive door.



2. Press on the wide tab, and pull that end of the door away from the drive.

3. Release the tab at the other end of the door, and pull the door straight up to free it from the drive.

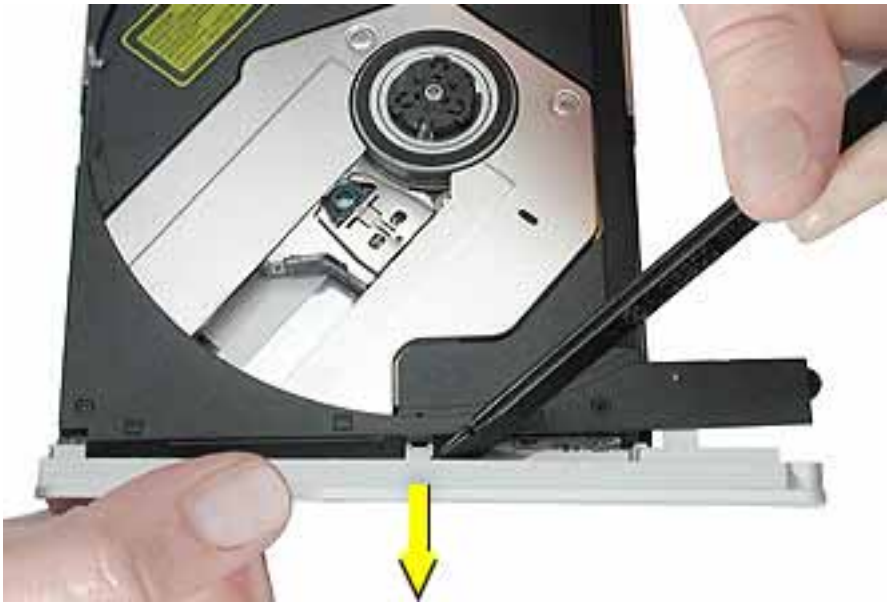


CD-RW Drive Door

1. Using the pointed tip of a black stick, lift up the tab to loosen one end of the door.

2. At the other end of the door, use the flat end of the black stick to pry off the other end of the door.

3. Use the flat end of the black stick to detach the middle tab and remove the door.



DVD-ROM Drive Door

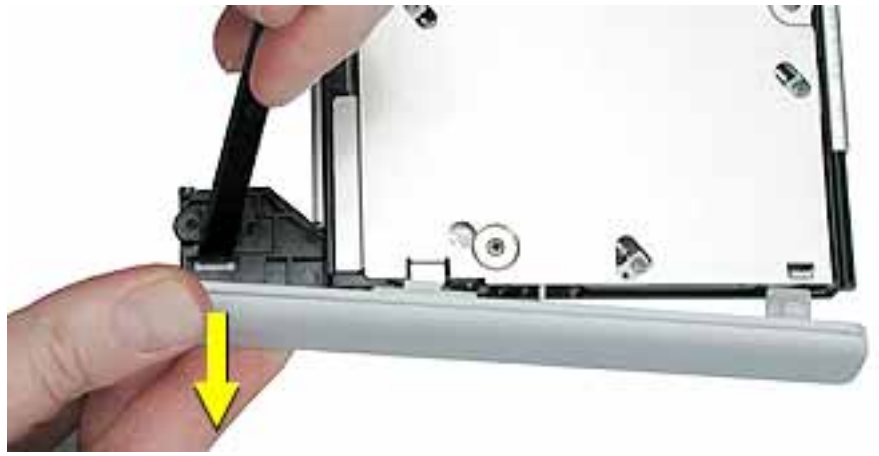
1. Remove the two black #0 Phillips screws from the DVD drive door.

2. Gently tilt the door away from the screw holes to release the hooks underneath that hold the door in place.

Combination CD-RW/DVD-ROM Drive Door

1. On the underside of the drive, notice the tabs near each end of the drive door.
2. Using the pointed end of a black stick, press the recessed middle of the smaller tab, and loosen that end of the door.

3. Press the wider tab, and pull the door off of the drive.



DC Board
Replacement Instructions

The following instructions explain how to replace the DC board in the iBook (Late 2001) computer.

Tools

- Soft cloth
- #0 Phillips screwdriver

Preliminary Steps

Before you begin, remove the following:

- Battery
- Bottom case
- Bottom shield
- Keyboard
- Airport Card
- Top case
- Top shield
- Optical drive

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Procedure

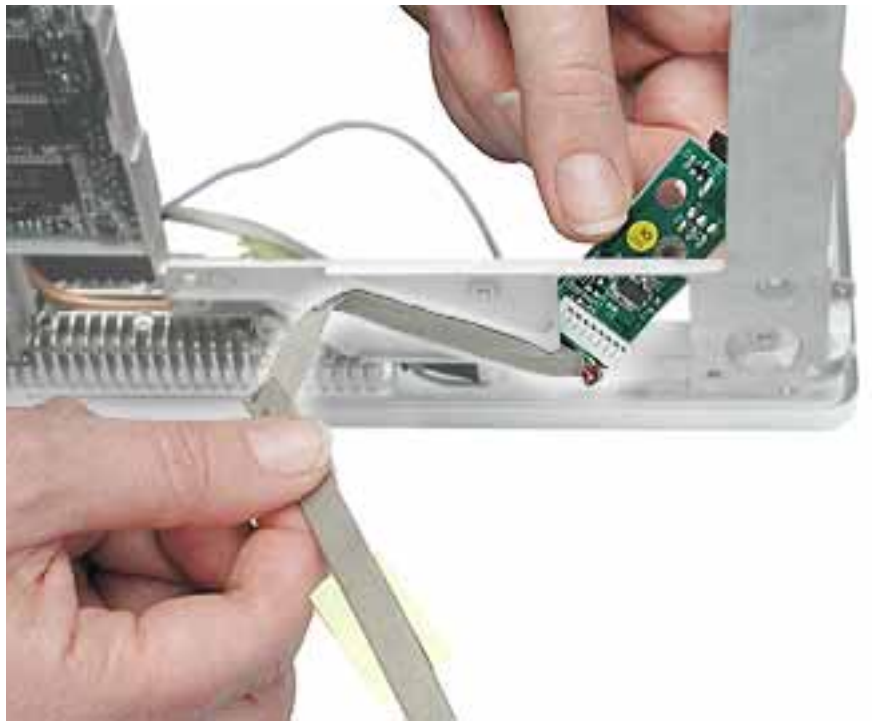
1. With the computer on a soft cloth, disconnect the flat power cable from the underside of the logic board.

   Note: When reassembling the computer, make sure the flat power cable sticks to the double-sided adhesive on the underside of the optical drive.

2. Remove the single screw from the DC board.

3. Tilt up the computer and note the routing of the flat power cable across the underside of the inner frame.

   Note: When reassembling the computer, make sure that the power cable adheres to the channel under the frame and that the cable lies flat.



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

Logic Board
Replacement Instructions

The following instructions explain how to replace the logic board in the iBook (Late 2001) computer.

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
- Airport Card
- Fan
- Top case
- Top shield
- I/O bezel
- Display module
- Modem

Note: The list above shows the parts that must be removed to access the logic board. For clarity of an image, sometimes the pictures indicate that additional parts have been removed; however, it is only necessary to remove the parts shown in this list.

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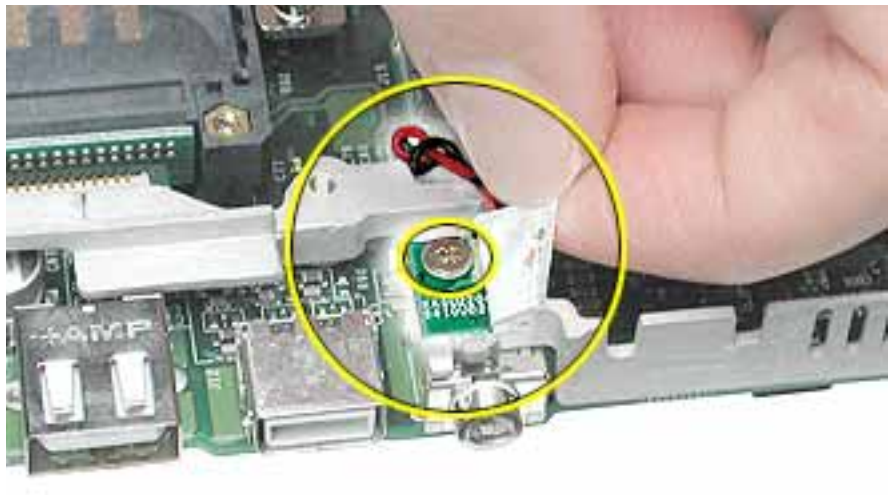
Procedure

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

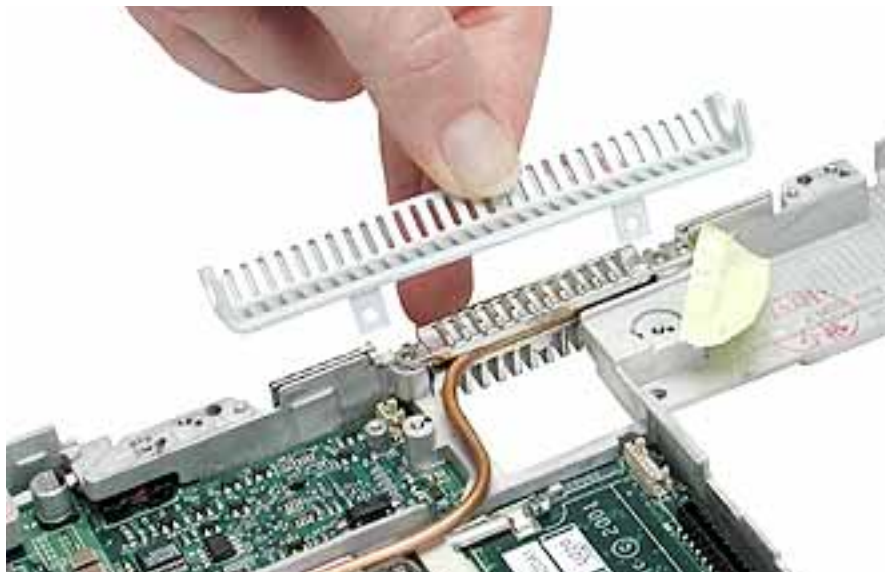
   Note: When reassembling the computer, make sure the sleep light board is positioned as shown and does not get caught between the top and bottom case.

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

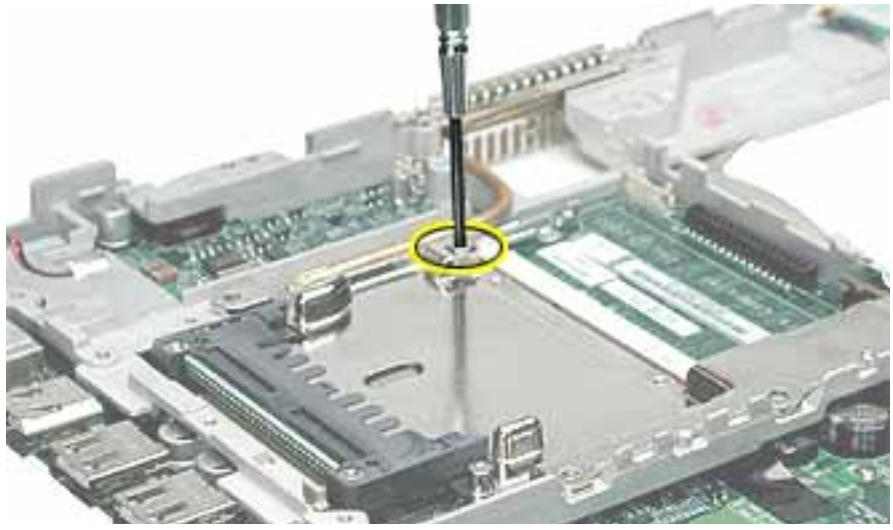
3. Remove the screw from the reset button board, and disconnect the connector from the logic board. (If tape covers the screw, remove and reserve the tape for the replacement logic board.)



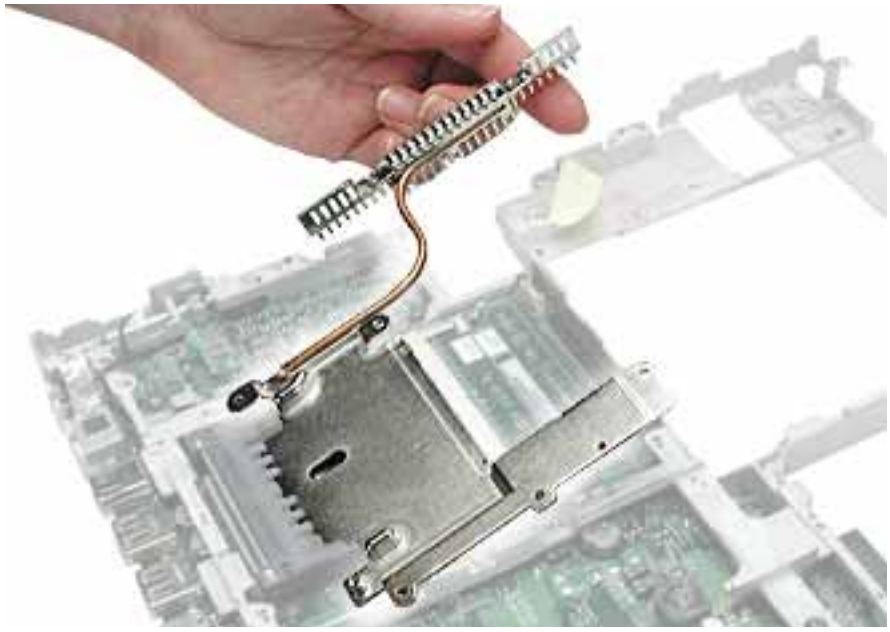
4. Remove the two screws holding the vent cover to the heat spreader.



5. Remove the remaining screw at the heat spreader plate.



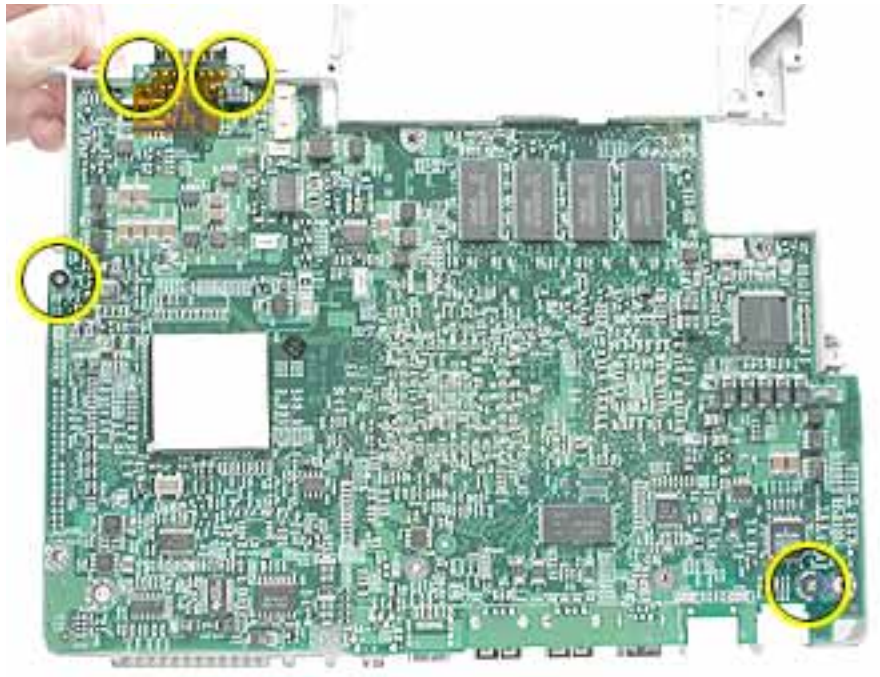
6. Tilt up the heat spreader and lift it off the logic board and out of the frame.



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

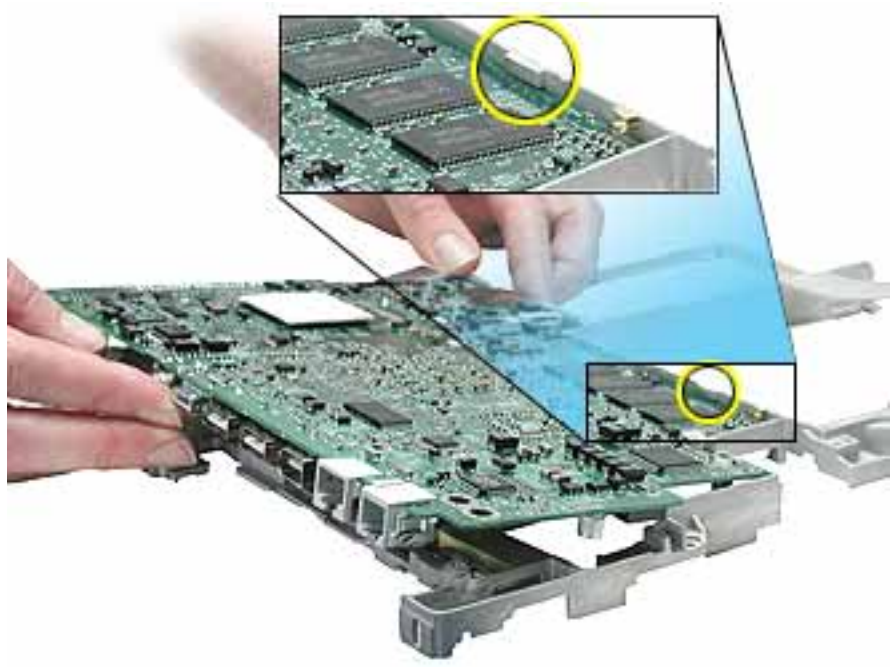
   Note: When reassembling the computer, make sure that the underside of the replacement logic board includes:
   - Kapton tape at battery connector
   - Thermal transfer pad covering the large chip

   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
Replacement Instructions

The following instructions explain how to replace the LCD (liquid crystal display) panel in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield
- Display module

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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.**

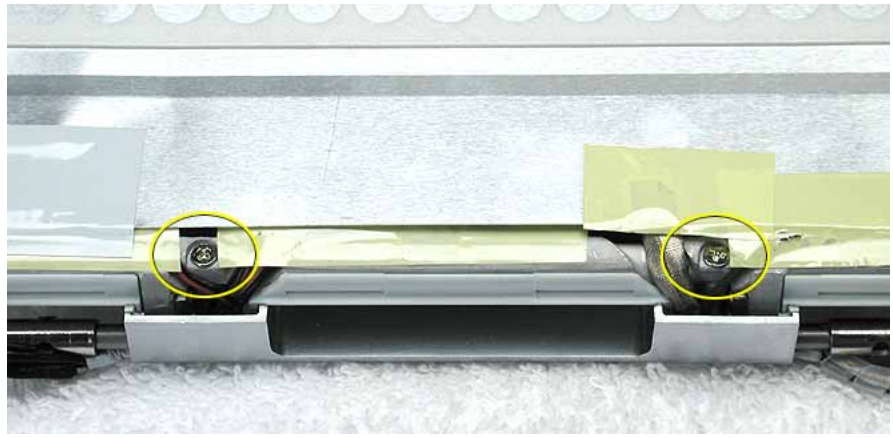
   With the bezel assembly loosened, grasp the display clutch and raise the assembly off of the display housing.

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

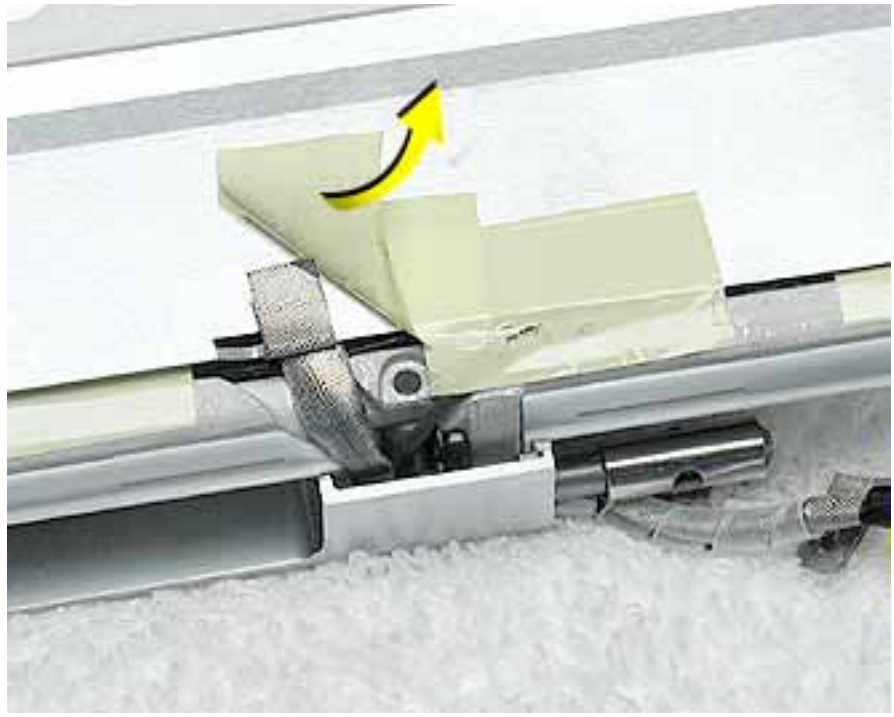
5. Notice the U-shaped notches on the sides of the bezel.
6. Remove the four 3-mm long Phillips screws (two on each side) from the display shield. (Carefully move aside any cables or tape that partially block access to the screws.)

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

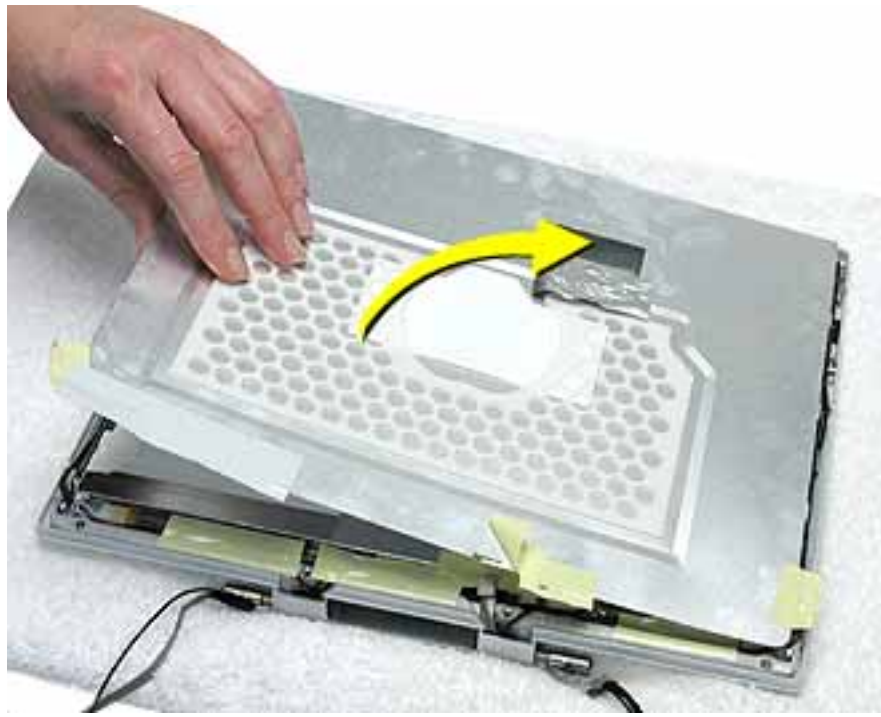
8. Peel up the tape if it covers the two screws at the clutch. Remove the two 11-mm long Phillips screw s.



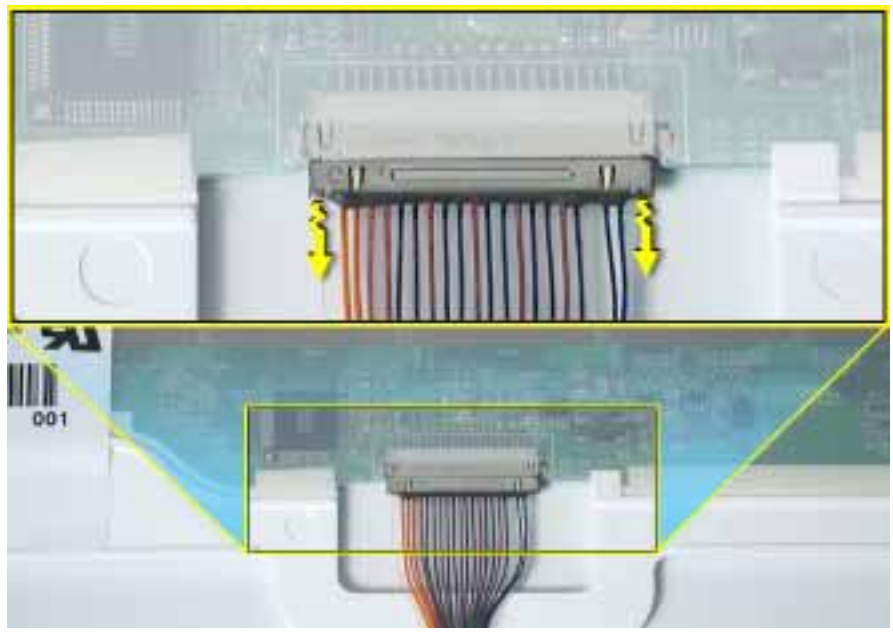
9. Peel up the tape that anchors the folded mesh strip of the LCD cable to the shield.



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 over the replacement LCD panel, apply a rectangular piece of foil tape (Apple part number 922-5216) to overlap the shield and cables at the left side of the clutch, as shown below.

Display Clutch Cover
Replacement Instructions

The following instructions explain how to replace the display clutch cover in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield
- Display module

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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.

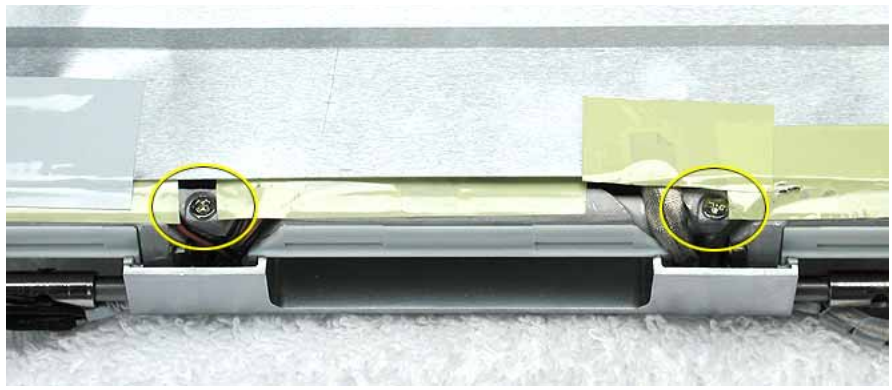
2. Using a black stick, pry up the bezel from the display housing. Carefully work the black stick around the outer perimeter and corners of the bezel.

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.

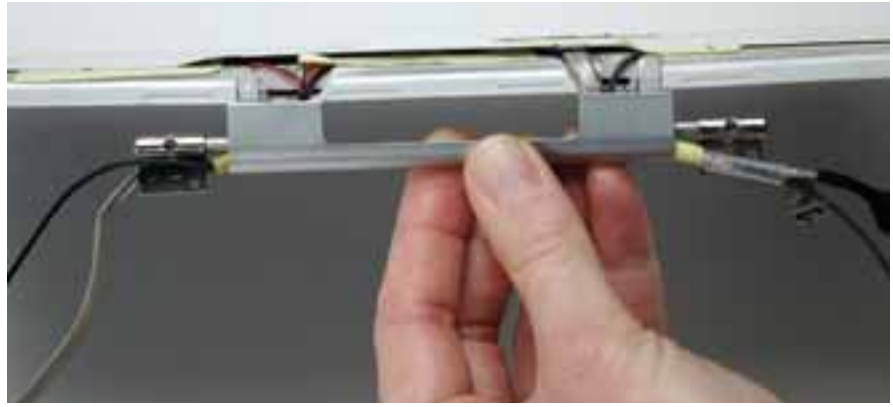
4. Place the display assembly face down on a soft cloth.

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.

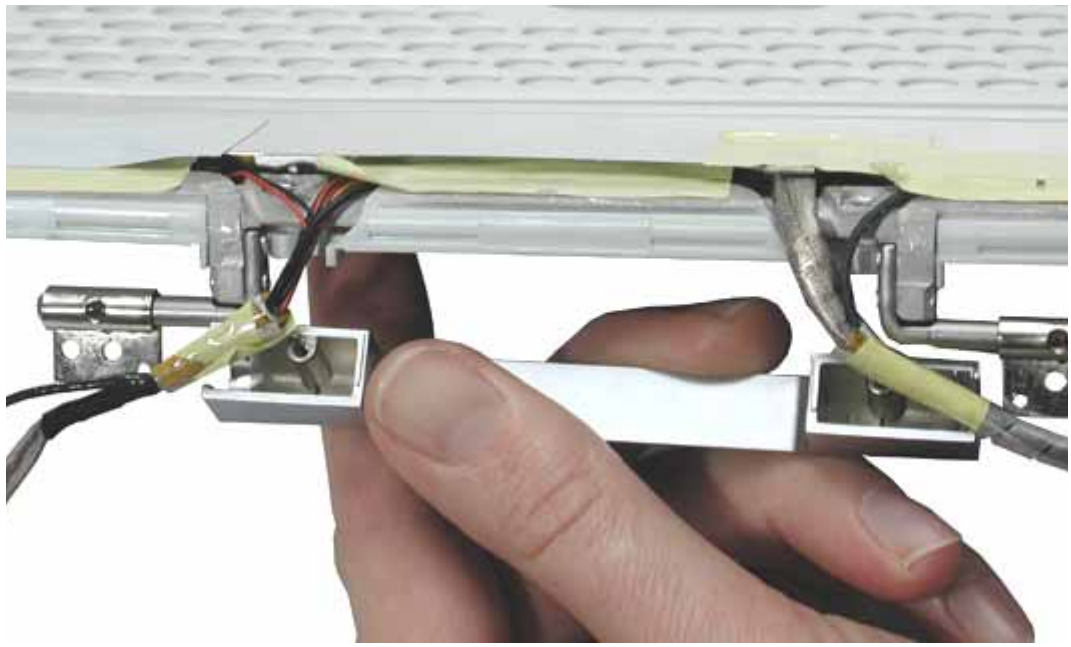
Note: There are two small, thin, plastic clutch caps that slide into the ends of the clutch cover. The clutch caps might fall off as you remove the clutch cover. Be careful not to lose the clutch caps.

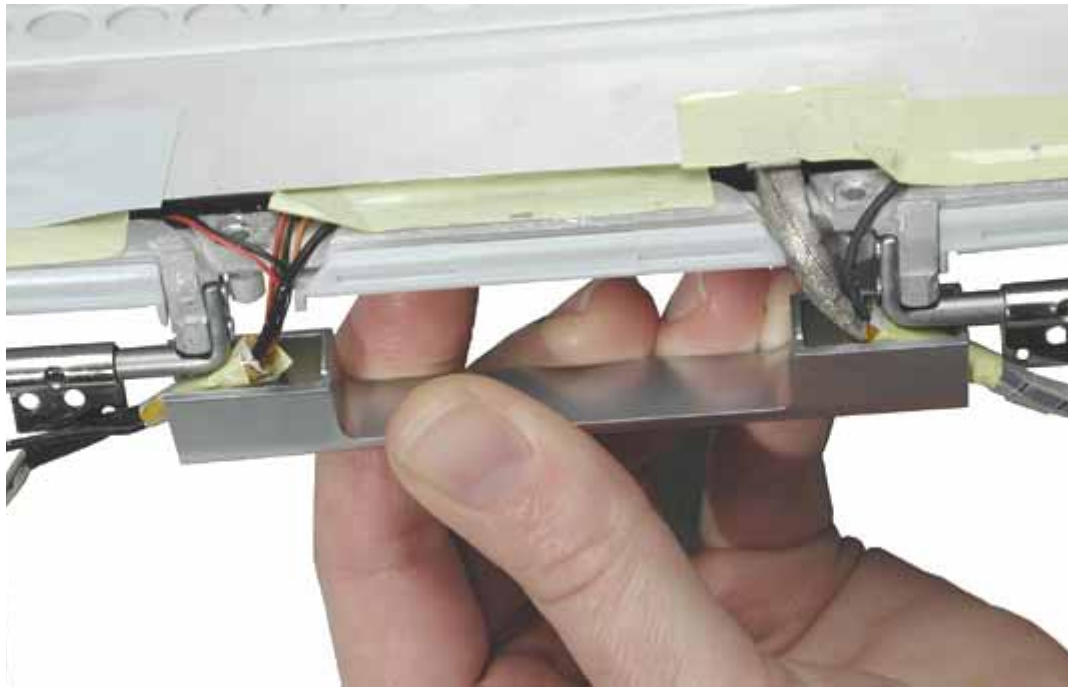


Note: The clutch caps are mirror images of each other. There is a right clutch cap and a left clutch cap. Note the positioning of the clutch caps on the display clutch cover. The image below shows the left clutch cap installed.

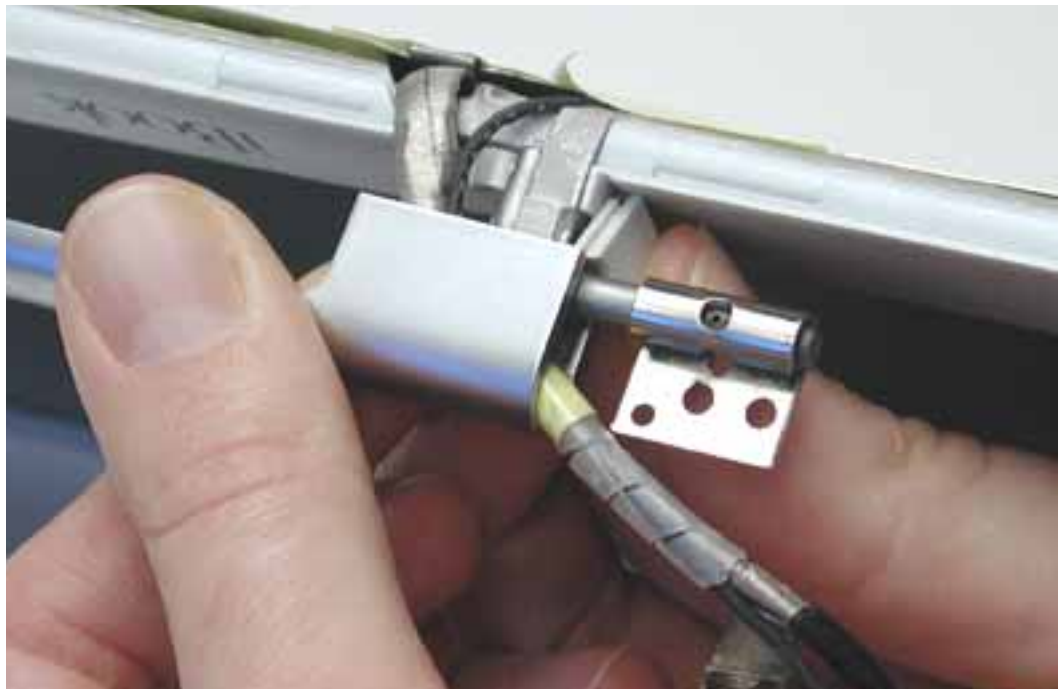
7. Install the replacement display clutch cover, and reassemble and test the computer.

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.





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
Replacement Instructions

The following instructions explain how to replace the inverter board in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

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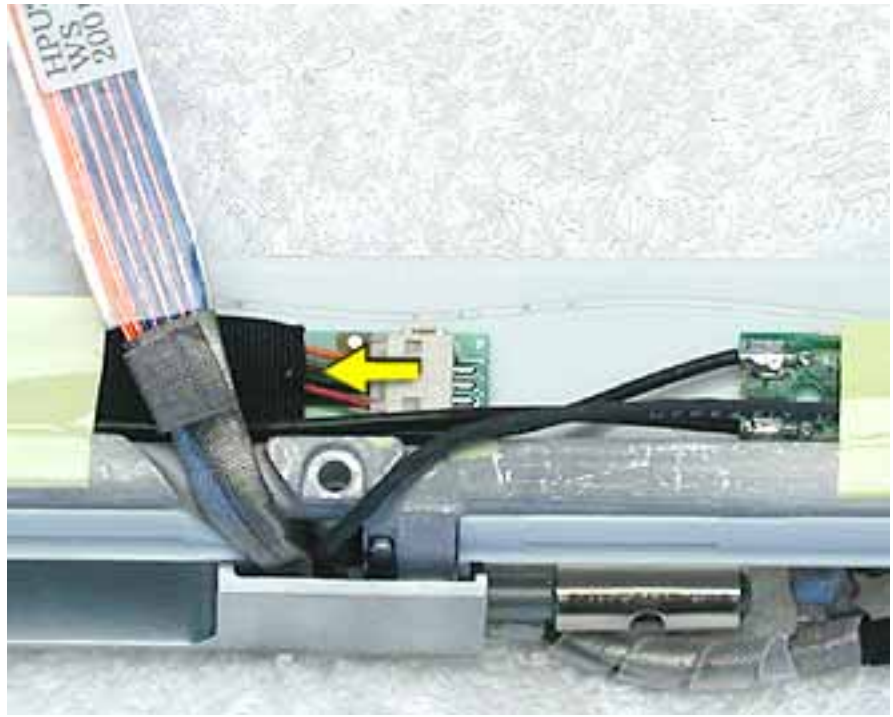
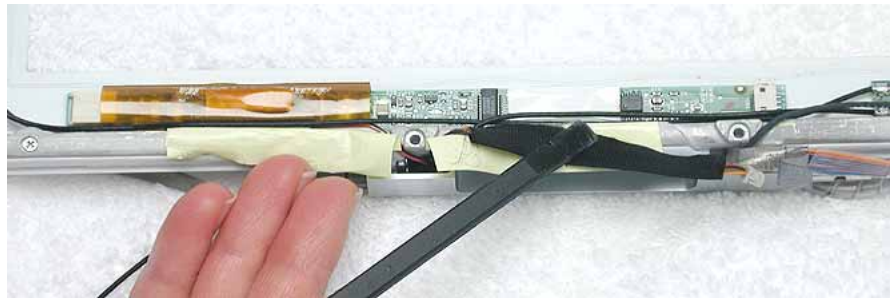
Procedure

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
Replacement Instructions

The following instructions explain how to replace the antenna board in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

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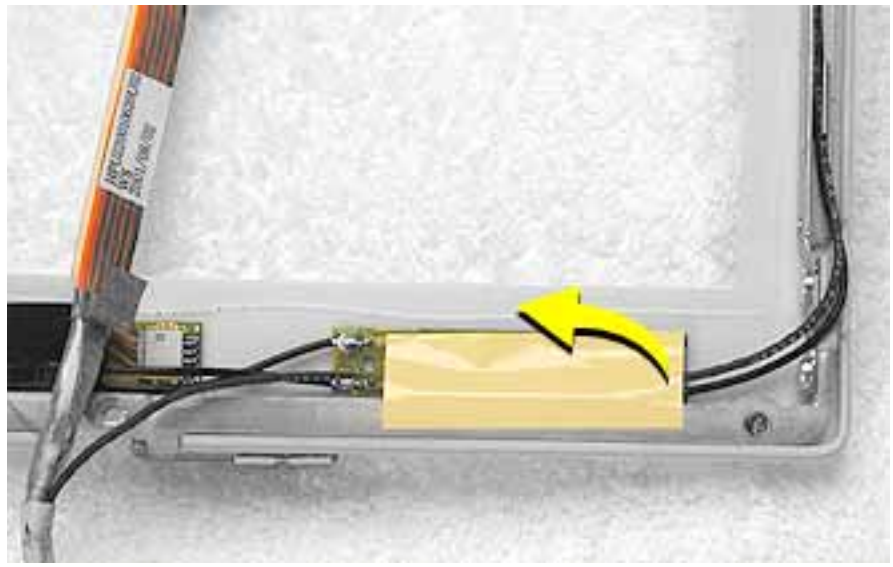
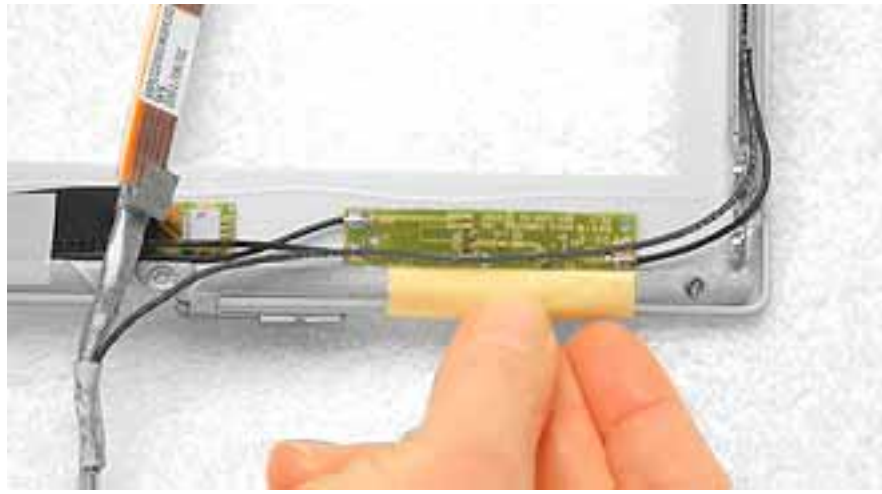
Procedure

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



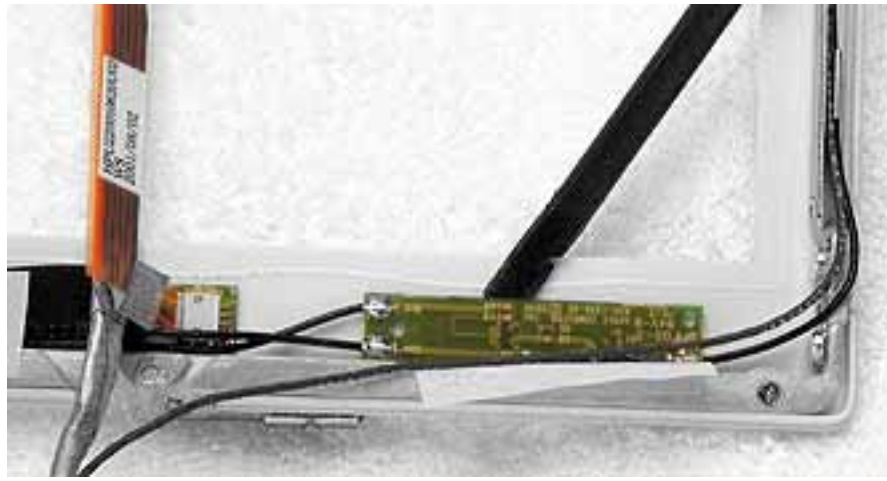
2. Note the placement of the antenna board and the routing of the cables that are soldered to and run along the bottom of the antenna board.



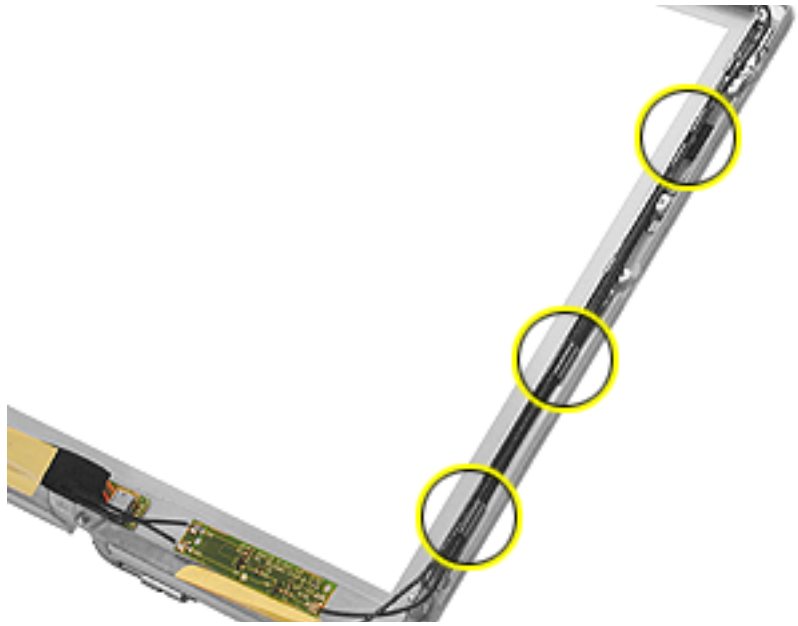
3. **Warning: When lifting the antenna board, be careful not to strain or pinch the cables.**

   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.



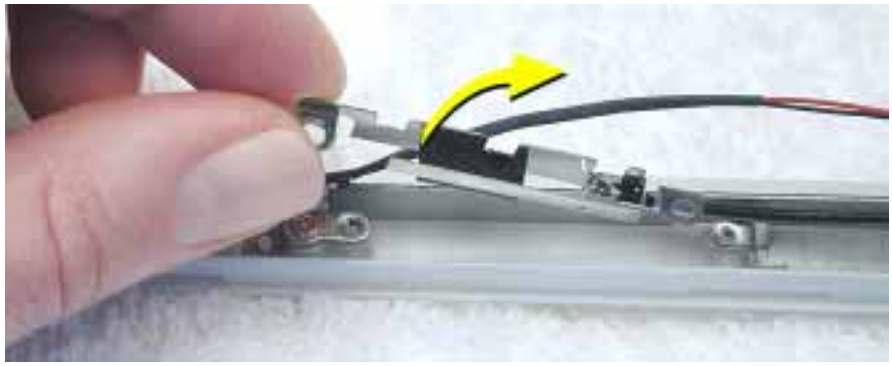
5. Remove the two 3-mm long Phillips screws from the antenna receptor on the right side of the bezel assembly.

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

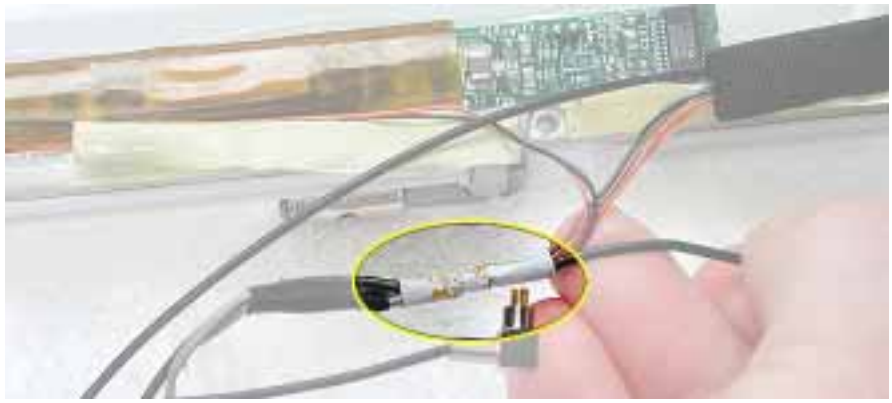
7. At the bottom of the bezel, remove the tape from the inverter board and note the routing of the two soldered cables on the left side of the antenna board.

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

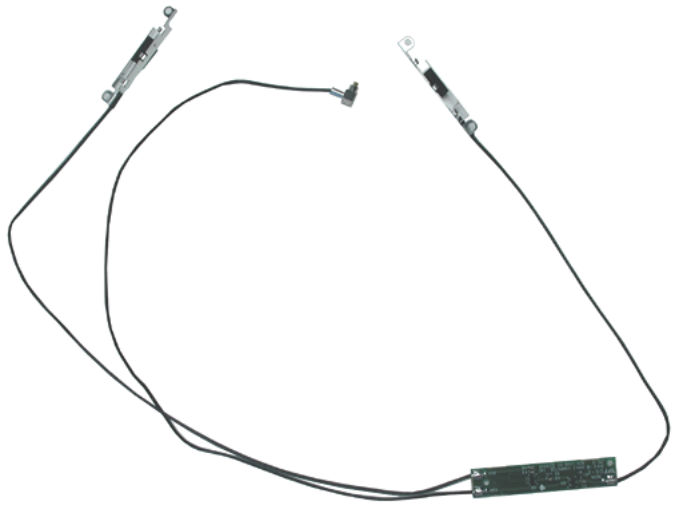
9. Tilt up the antenna receptor to remove it from the left side of the bezel assembly.



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
Replacement Instructions

The following instructions explain how to replace the reed switch board in the iBook (Late 2001) computer.

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
- Bottom case
- Keyboard
- Airport Card
- Top case
- Top shield
- Display module
- LCD panel

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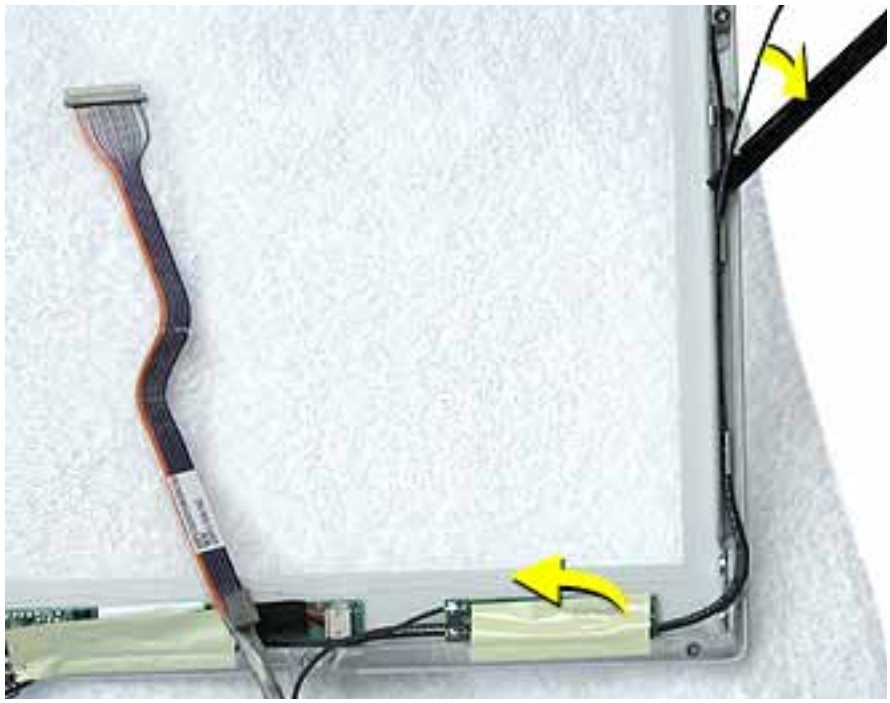
Procedure

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.

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

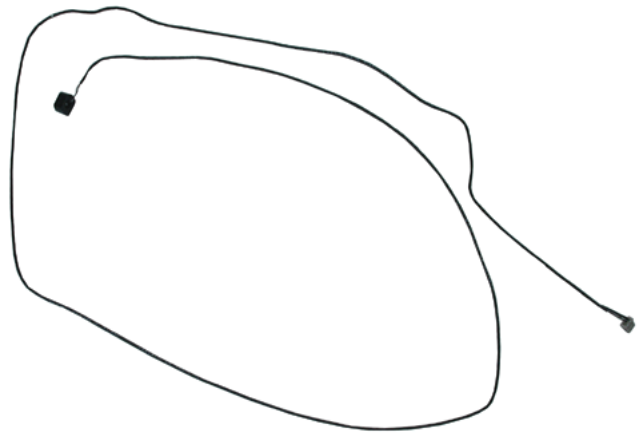


5. **Warning: When removing the tape and spiral tube that bundles the microphone cable to the LCD cable, be careful not to strain or pinch the cables.**

   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
Replacement Instructions

The following instructions explain how to replace the bezel brace with clutch assembly in the iBook (Late 2001) computer.

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

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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.

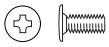
6. Install the replacement bezel brace with clutch assembly, and reassemble and test the computer.

iBook (Late 2001) Screw Locator - 1 of 5

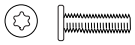
Keyboard and Memory Replacement

Two identical #0 Phillips,
3mm long

Bottom Case Replacement



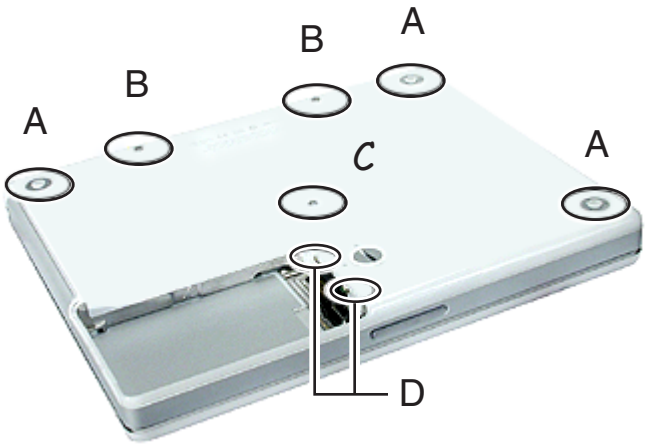
(A) - Three identical # Phillips,
6 mm long



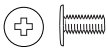
(C) - One Torx T8,
10 mm long

(B) - Two identical Torx T8,
20 mm long

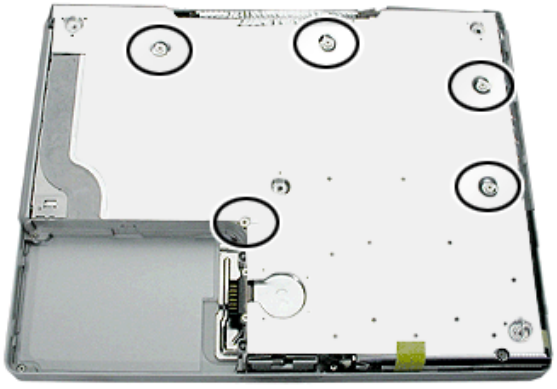
(D) - Two identical #0 Phillips,
4.5 mm long



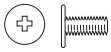
Bottom Shield Replacement



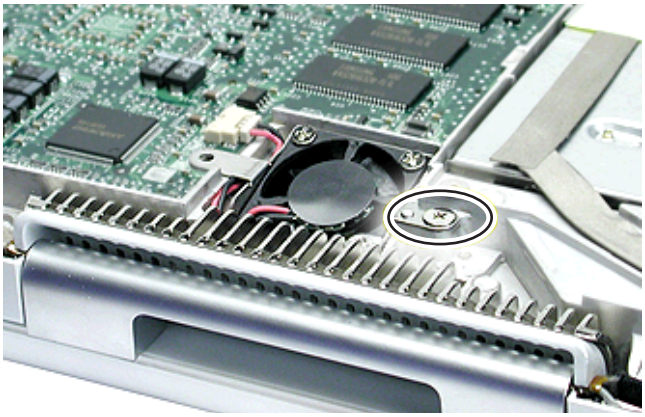
Five identical #0 Phillips,
6 mm long



Fan Replacement



One #0 Phillips,
6 mm long



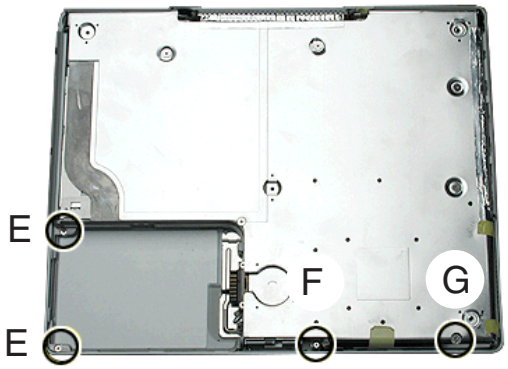
iBook (Late 2001) Screw Locator - 2 of 5

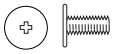
Top Case Replacement

(E) - Two identical #0 Phillips,
3 mm long

(G) - One #0 Phillips,
14.5 mm long

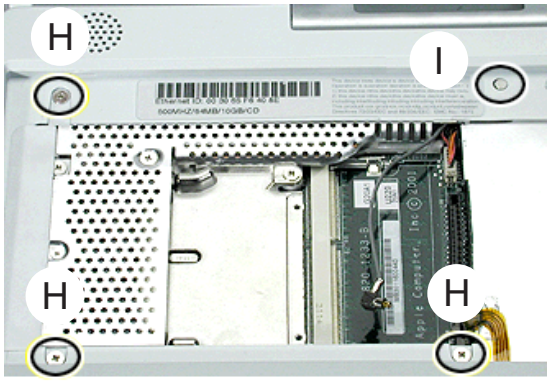
(F) - One #0 Phillips,
4.5 mm long



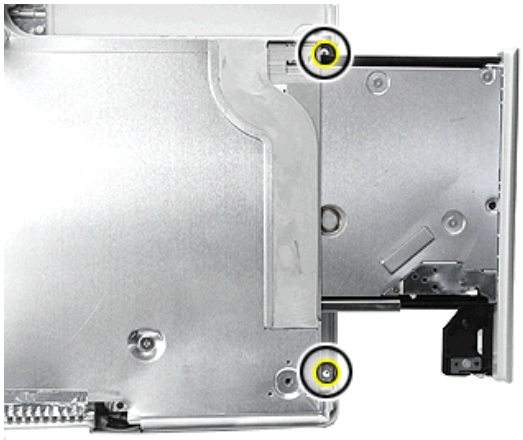


(H) - Three identical #0 Phillips,
6 mm long

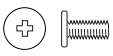
(I) - One under magnet #0 Phillips,
4.5 mm long



Two identical #0 Phillips,
3 mm long

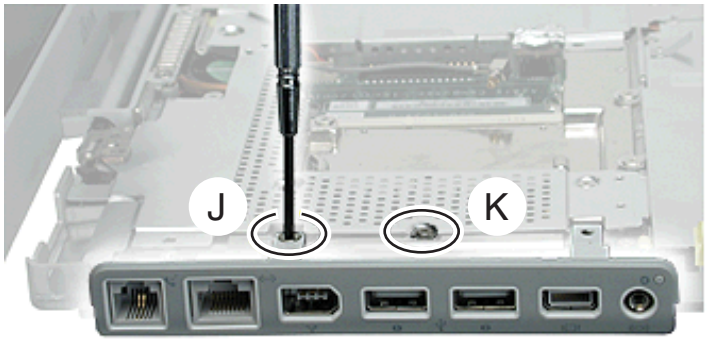


I/O Bezel Replacement



(J) - One #0 Phillips,
6 mm long

(K) - One #0 Phillips,
3 mm long



iBook (Late 2001) Screw Locator - 3 of 5

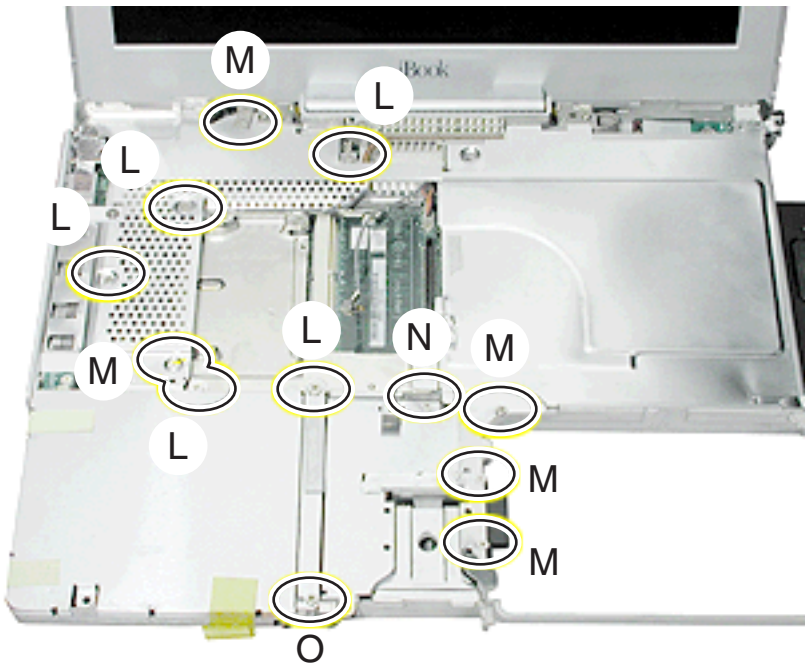
Top Shield Replacement

(L) - Five identical #0 Phillips, 6 mm long

(N) - One #0 Phillips, 2.5 mm long

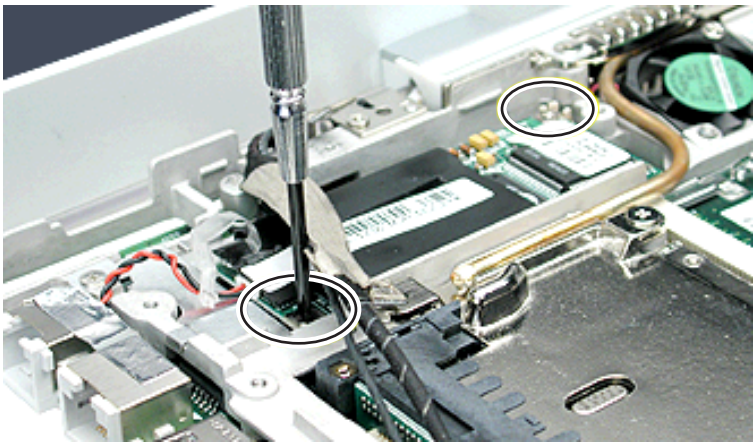
(M) - Five identical #0 Phillips, 3.5 mm long

(O) - One #0 Phillips, 4.5 mm long



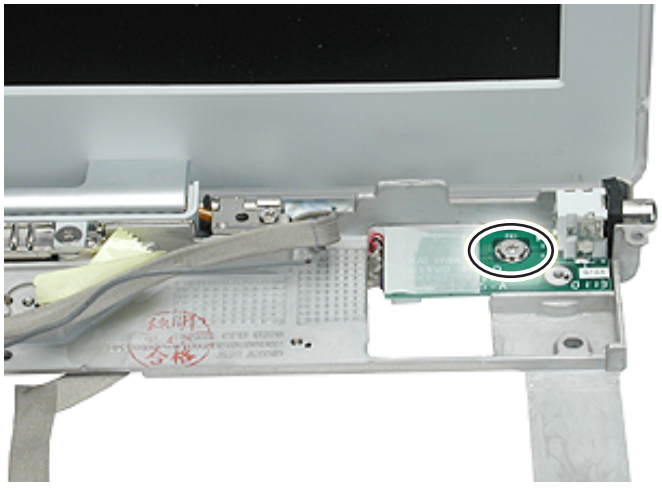
Modem Replacement

Two identical #0 Phillips, 3.5 mm long



DC Board Replacement

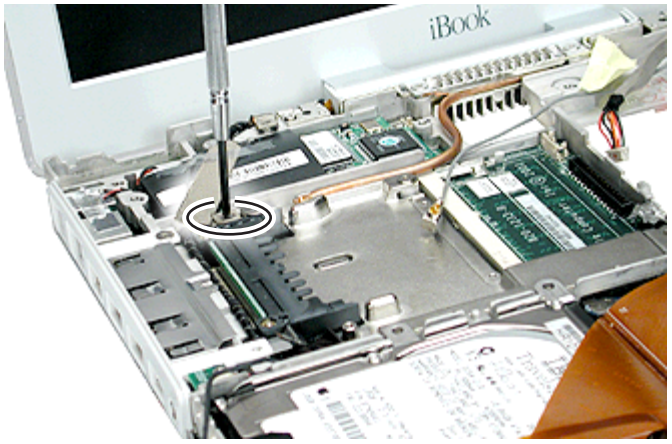
One #0 Phillips, 6 mm long



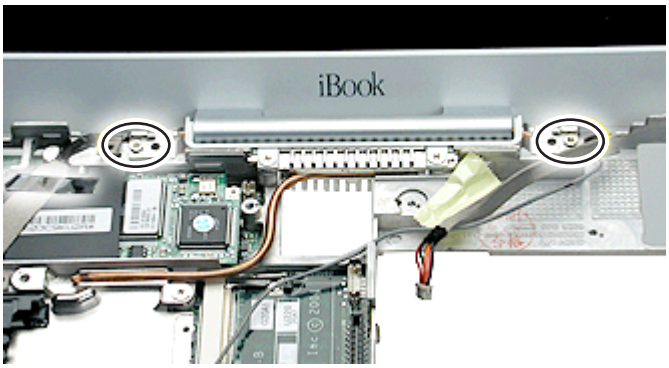
iBook (Dual USB) Screw Locator - 4 of 5

Display Module Replacement

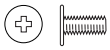
One #0 Phillips,
3.5 mm long



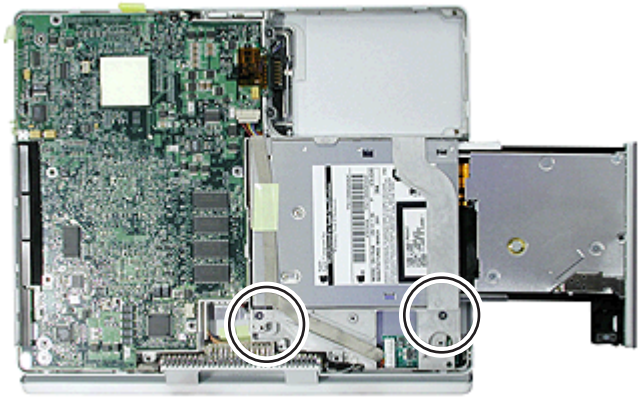
Two identical #0 Phillips,
5 mm long



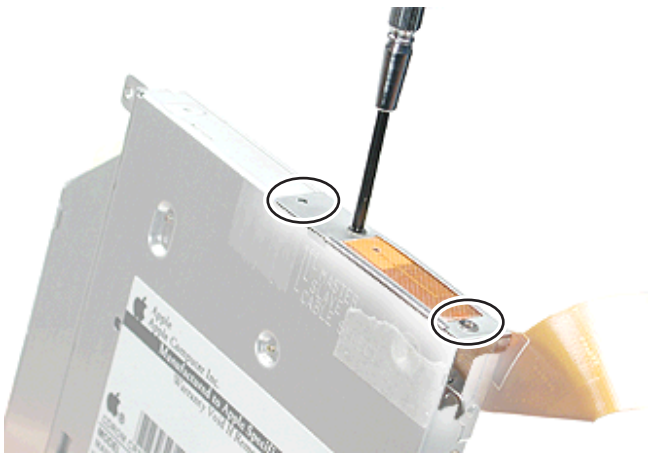
Optical Drive Replacement



Two identical #0 Phillips,
6 mm long



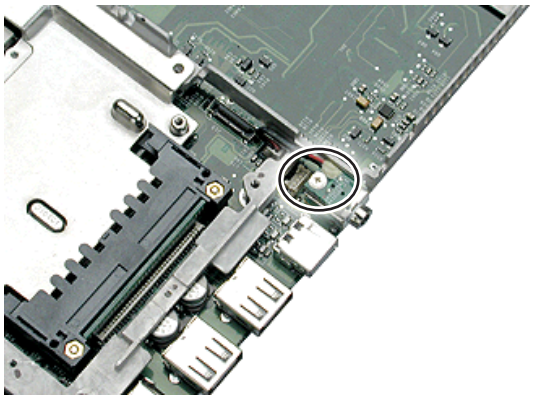
Two identical #0 Phillips,
3 mm long

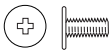


iBook (Late 2001) Screw Locator - 5 of 5

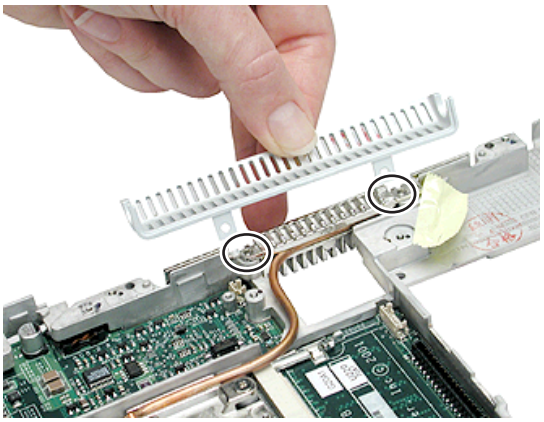
Logic Board Replacement

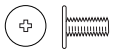
One #0 Phillips,
3.5 mm long



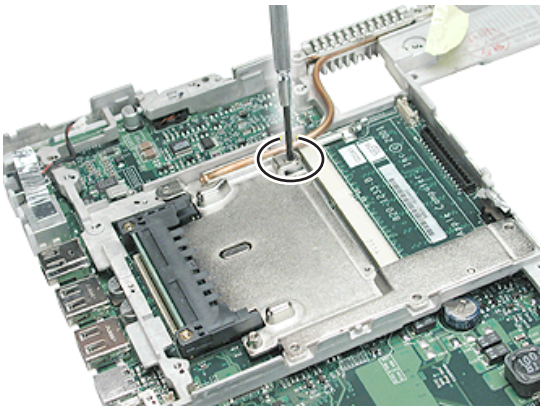


Two identical #0 Phillips,
6 mm long

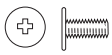




One #0 Phillips,
6 mm long

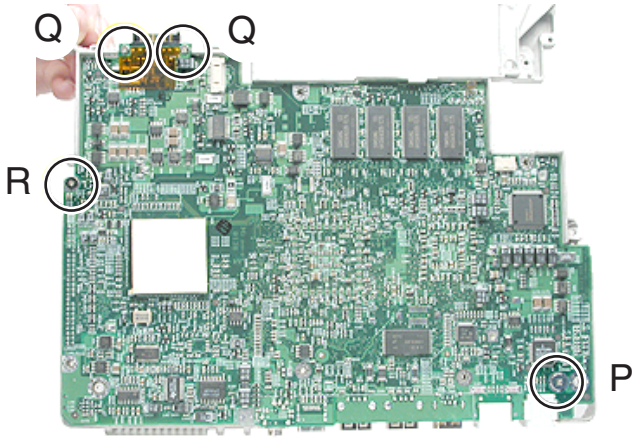


(P) - One #0 Phillips,
4 mm long



(R) - One #0 Phillips,
6 mm long

(Q) - Two #0 Phillips,
7.5 mm long



iBook (Late 2001) Screw Reference Sheet

This sheet shows the types of screws used in the iBook (Late 2001) computer. To see where the screws are located in the computer, refer to "iBook (Late 2001) Locator."

A Bottom Case 3 @ 6 mm

B Bottom Case 2@ 20 mm

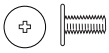
C Bottom Case 1 @ 10 mm

D Bottom Case: Battery 2 @ 4.5 mm

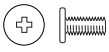
E Top Case: Battery 2 @ 3 mm

F Top Case 1 @ 4.5 mm

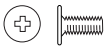
G Top Case 1@ 14.5 mm

H  Top Case: Keyboard 3 @ 6 mm

I Top Case: Keyboard 1 @ 4.5 mm

J  I/O Bezel 1 @ 6 mm

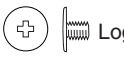
K I/O Bezel 1 @ 3 mm

L  Top Shield 5 @ 6 mm

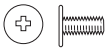
M Top Shield 5 @ 3.5 mm

N Top Shield 1 @ 2.5 mm

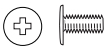
O Top Shield 1@ 4.5 mm

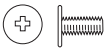
P  Logic Board 1 @ 4 mm

Q Logic Board 2 @ 7.5 mm

R  Logic Board 1@ 6 mm

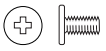
RAM Shield 2 @ 3 mm

 Bott Shield 5@ 6 mm

 Fan 1@ 6 mm

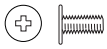
Top Case: Optical Drive 2@ 3 mm

Modem 2@ 3.5 mm

 DC Board 1 @ 6 mm

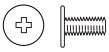
Display 1 @ 3.5 mm

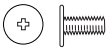
Display: Hinge 2 @ 5 mm

 Optical Drive 2 @ 6 mm

Optical Drive: Cable 2 @ 3 mm

Logic Board 1 @ 3.5 mm

 Logic Board 2 @ 6 mm

 Logic Board 1@ 6 mm

Troubleshooting

iBook (Late 2001)

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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.

The steps to solve a symptom are listed sequentially. You might not need to perform every step before the symptom is solved. Start with the first step, and then test for the symptom. If the symptom persists, replace any modules you removed, go to the next step, and test again. Continue down the list until the symptom is solved.

AirPort Card

AirPort Card not recognized	1 Use Software Update control panel or see the Apple Software Updates web page to make sure the latest version of AirPort software is installed. 2 Boot using Mac OS All extensions setting. 3 Reseat AirPort Card. 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 Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer. **Note:** Make sure the reset button is not caught under the button opening. **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 iBook (Dual USB) and iBook (Late 2001) have one 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. Launch Drive Setup and update hard drive driver.
3. If no hard drive is found in Drive Setup, verify the hard drive cable connections.
4. Replace hard drive cable.
5. 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.

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. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

   Note: Make sure the reset button is not caught under the button opening.

   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. Turn off the computer. Disconnect the keyboard connector and inspect connectors.
5. Replace keyboard.
6. 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 Verify known-good analog (not digital) telephone line. 2 Verify known-good RJ11 telephone cable. 3 Verify RJ11 cable is not plugged into Ethernet port. 4 Inspect RJ11 connector and modem port for pin damage. 5 Verify RJ11 telephone cable is firmly installed in the modem port. 6 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. 7 Verify modem 2-pin connector is plugged into modem correctly. 8 Replace the modem 2-pin connector cable. 9 Replace modem.

Optical Drive

The CD or DVD (optical) disc drive does not accept disc (mechanical failure)	1 Verify disc is properly seated in the carrier. 2 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 Select “Mac OS All” in the Extensions Manager control panel and restart. 5 Replace optical drive cable. 6 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 the Software Update control panel 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 Boot with Mac OS All extension set.
8 Try other port if available.
9 Try a different cable.
10 If self powered make sure that the power supply is connected and device's LED indicates that it is getting power.
11 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 Try known-good Apple USB keyboard or mouse to verify the port is working properly.
2 Verify current driver for the device is installed.
3 If a camera, turn on camera after initiating download with camera application.
4 Try the other USB port.
5 Try different USB device on same port.
6 Eliminate chain by plugging in only one peripheral.
7 Select “Mac OS All” in the Extensions Manager control panel and restart.
8 Troubleshoot extensions and perform a clean installation of system software.
9 Replace logic board.

Sound

Distorted sound from speakers

1 Verify Audio Update is installed using the Software Update control panel.
2 Verify sound is correct with external speakers/headphones.
3 In Mac OS X check balance.
4 Compare same sound with two different units to make sure that sound is actually distorted.
5 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 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 Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

Note: Make sure the reset button is not caught under the button opening.

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: "Built-in memory test has detected an error"	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

Video

No video on an external device with RGB cable adapter	1 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.
No video on an external device with Apple A/V cable	1 Make sure you are using an Apple A/V cable. 2 If viewing a DVD, make sure to connect directly to the TV and not through a VCR. 3 Verify TV is setup properly with correct source. 4 Try different TV. 5 Make sure to connect directly to the TV and not through a VCR. 6 Replace Apple A/V cable. 7 Replace logic board.
The display is rolling (PAL instead of NTSC)	1 Verify that you are using Apple's A/V Video Cable (the pin out is different than off-the-shelf cables that look similar). Refer to Article 88040: Composite Video Cable Not Interchangeable With Similar Cables, for important information. 2 Go to Monitors control panel and change the resolution from a PAL setting to an NTSC setting. 3 Try a different TV. 4 Try a different A/V Cable. 5 Replace the logic board.
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 the 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 or display module.
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.

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 Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

Note: Make sure the reset button is not caught under the button opening.

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 Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

Note: Make sure the reset button is not caught under the button opening.

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. Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

   Note: Make sure the reset button is not caught under the button opening.

   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 the surface of 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. Turn off the computer. Reset the power manager by pressing the reset button (located above and right of the Audio/Video port). Wait five seconds before continuing. Press the power button to start the computer.

   Note: Make sure the reset button is not caught under the button opening.

   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 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 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 Boot using Mac OS All extensions setting. 3 Reseat AirPort Card. 4 Remove and reinstall the AirPort software. 5 Replace with known-good AirPort Card. 6 Replace logic board.