Gateway 400 Notebook

serviceguide

Customizing | Troubleshooting

Gateway™

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Replacing Gateway 400VTX Components

Use this service guide to help plan your maintenance tasks for the Gateway 400VTX notebook. All tasks covered in this guide can be performed by an authorized field technician without jeopardizing your notebook's warranty.

For information on your notebook's general maintenance, technical support, safety notices, and regulatory notices, see your Gateway user's guide.

If you have suggestions regarding the content of this guide, send an e-mail with the subject "Service Guide Comments" to channel.services@gateway.com.

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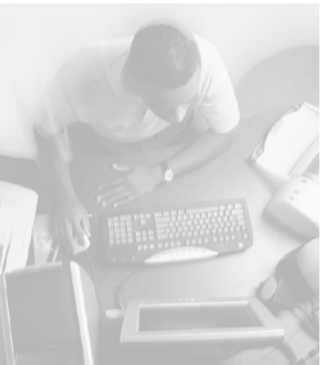

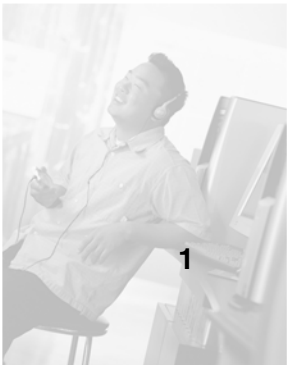

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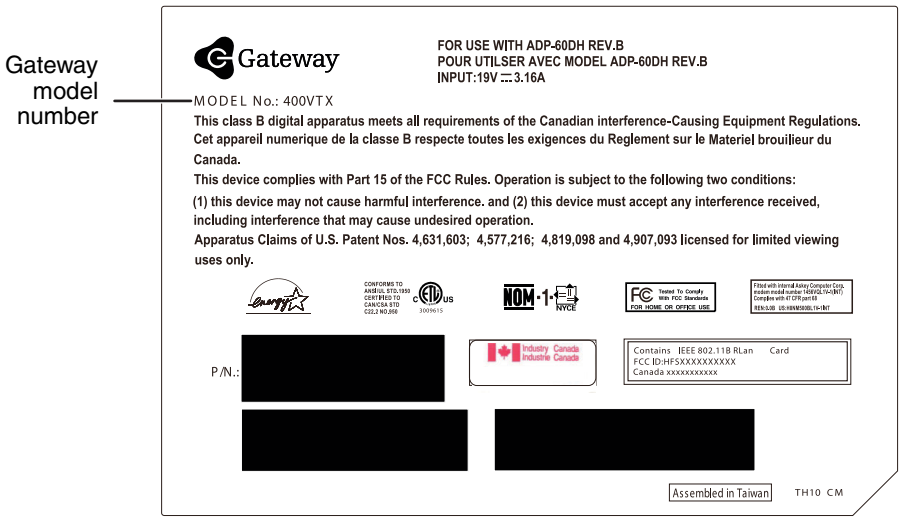
Identifying your notebook model

The label on the bottom of your notebook contains information that identifies your notebook model and its features.



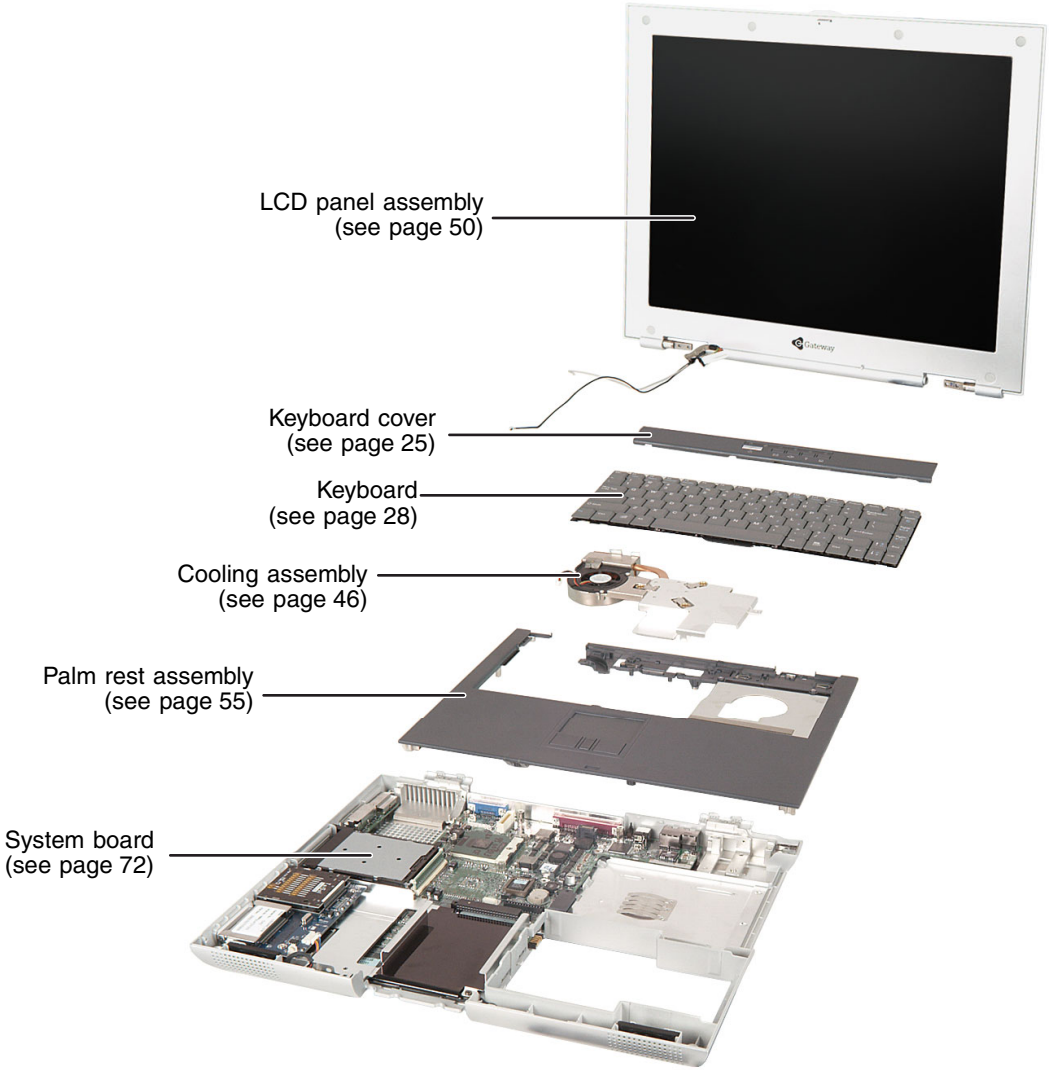
Warning

It is important that you use the correct service guide for your notebook. Failure to follow the approved tasks for your notebook model may result in damage to the notebook.

Identifying components

Where screw measurements are shown, the first number indicates screw head width, and the second number indicates screw length.

Use this chart to identify the main components of your notebook. For a complete list of replaceable parts, see the Contents.



Preparing your work space

Before performing maintenance on your notebook, make sure that your work space and your notebook are correctly prepared.

- Wear a grounding (ESD) wrist strap, and use a grounded or dissipative work mat.
- Use a stable and strong table, and make sure that the table top is large enough to hold each component as you remove it.
- Use bright lighting to make part identification easier.
- Keep your work surface free from clutter and dust that may damage components.
- Use a magnetized screwdriver for removing screws.
- When removing components that are attached to the notebook by a cable, unplug the cable before removing the screws, when possible, to avoid damaging the cable.
- As you remove components and screws, lay them toward the rear of your work surface (behind your notebook) or far enough to the side that your arms do not accidentally brush them onto the floor.
- To help keep track of screws, try the following:
  - Place each component's screws in their own section of a parts sorter.
  - Place each component's screws next to the component on your work surface.
  - Print the first page of each task, then place the page toward the rear of your work surface. As you remove screws, place the screws in their respective boxes on the page. Where screw measurements are shown, the first number indicates screw head width, and the second number indicates screw length.
  - After loosening screws that are deeply recessed in a hole (for example, on the bottom of the base assembly), you can leave the screws in the holes if you place small pieces of masking tape over the hole openings. When reassembling the component, just remove the tape and tighten the screws.
  - When you place flat-headed screws on your work surface, stand them on their heads to prevent the screws from rolling off the table.

Preventing static electricity discharge

The components inside your notebook are extremely sensitive to static electricity, also known as *electrostatic discharge* (ESD).

Warning

ESD can permanently damage electrostatic discharge-sensitive components in your notebook. Prevent ESD damage by following ESD guidelines every time you open your notebook case.

Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your notebook and unplug the power cord and modem and network cable before opening the case.

Before replacing components, follow these guidelines:

- Turn off your notebook.
- Wear a grounding wrist strap (available at most electronics stores) and attach it to a bare metal part of your workbench or other grounded connection.

Warning

To prevent risk of electric shock, do not insert any object into the vent holes of the notebook.

- Touch a bare metal surface on your workbench or other grounded object.
- Unplug the power cord and the modem and network cables.
- Remove the battery. For more information, see “Removing the battery” on page 8.
- Disconnect all peripheral devices and remove any PC Cards.

Before working with notebook components, follow these guidelines:

- Avoid static-causing surfaces such as carpeted floors, plastic, and packing foam.
- Remove components from their antistatic bags only when you are ready to use them. Do not lay components on the outside of antistatic bags because only the inside of the bags provide electrostatic protection.
- Always hold components by their edges. Avoid touching the edge connectors. Never slide components over any surface.

Preparing your notebook

Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your notebook, remove the battery, and unplug the power cord and modem and network cables before opening the case. Replace the cover before you restore power or reconnect the modem and network cables.

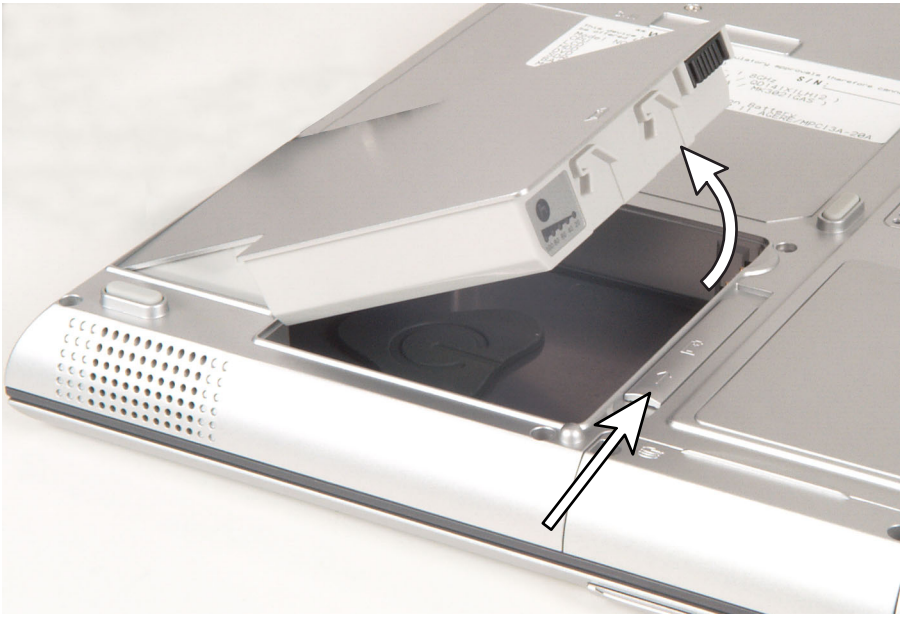
To prepare your notebook for maintenance:

- Make sure that the DVD drive and the optional diskette drive or optional card reader are empty.
- Disconnect all peripheral devices and remove any PC Cards.
- Turn off your notebook and unplug the power cord and modem and network cables (if attached).
- Turn over your notebook and remove the battery.

Removing the battery

To remove the battery:

1. Turn your notebook over so the bottom is facing up.
2. Slide the battery release latch and lift the battery out of the bay.



Adding or replacing memory modules

Tools you need to complete this task:

Phillips #0 screwdriver

Important

Use only memory modules designed for the Gateway 400VTX.

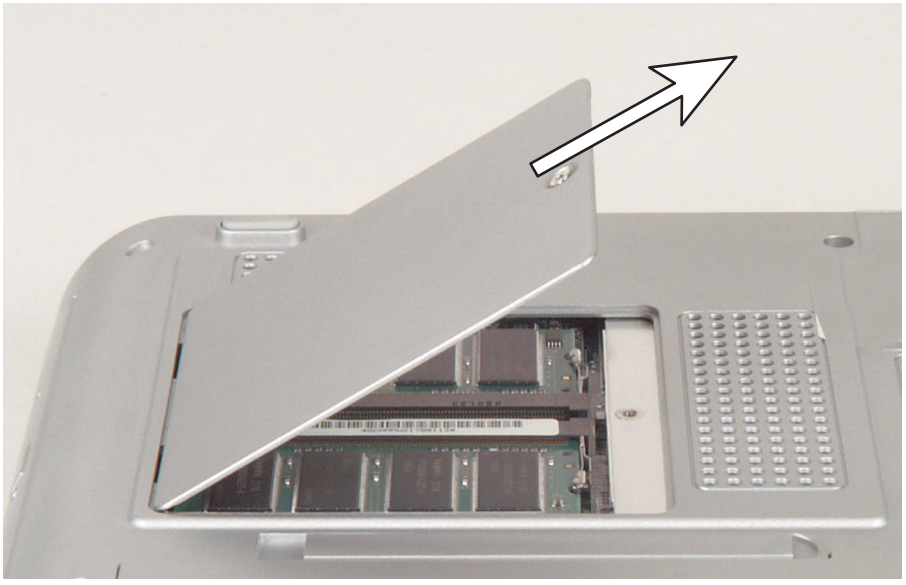
To add or replace memory modules:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in "Preparing your notebook" on page 7.
2. Turn your notebook over so the bottom is facing up.

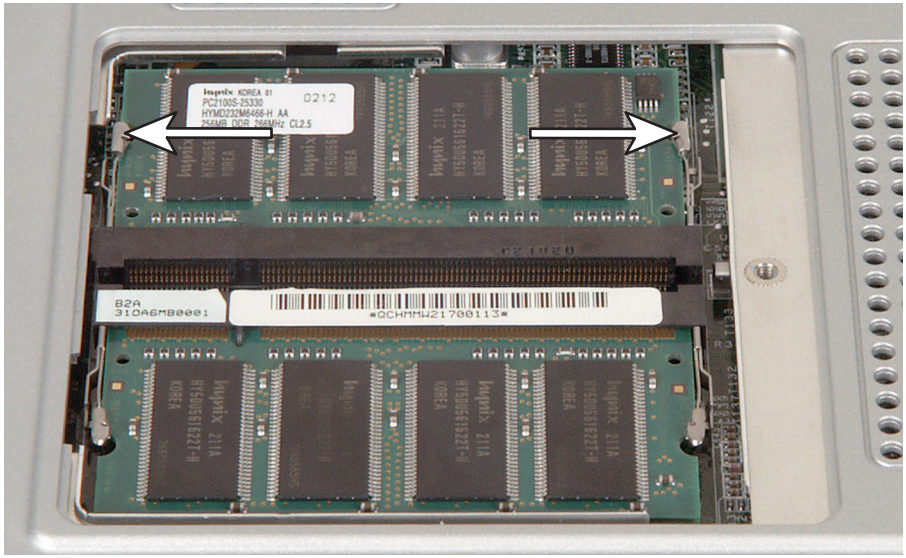
3 Remove the battery by following the instructions in “Removing the battery” on page 8.

4 Loosen the captive screw that secures the memory cover. (The screw cannot be removed.)

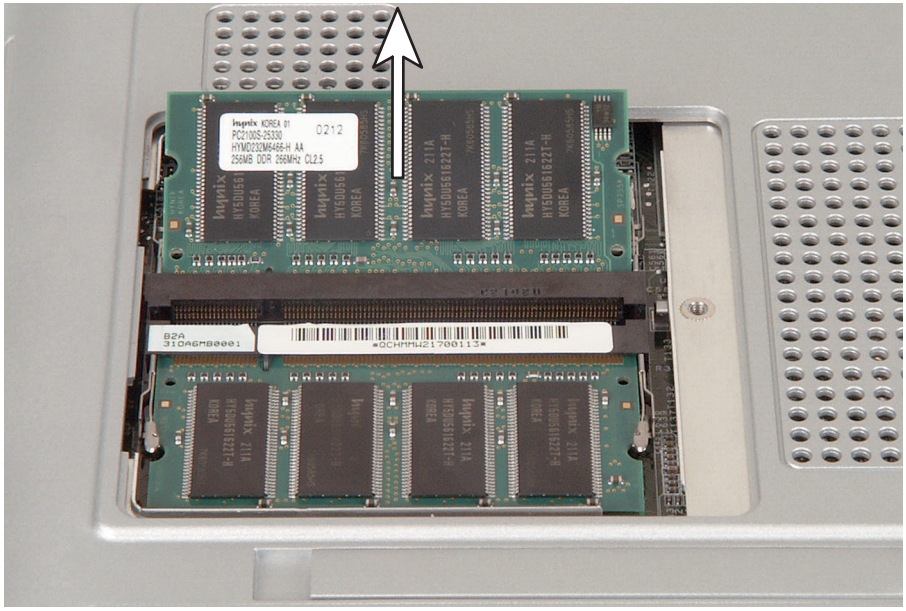
5 Lift the screw side of the cover upward, then slide the cover out.



6 If you are removing a module, gently press outward on the clip at each end of the memory module until the module tilts upward.



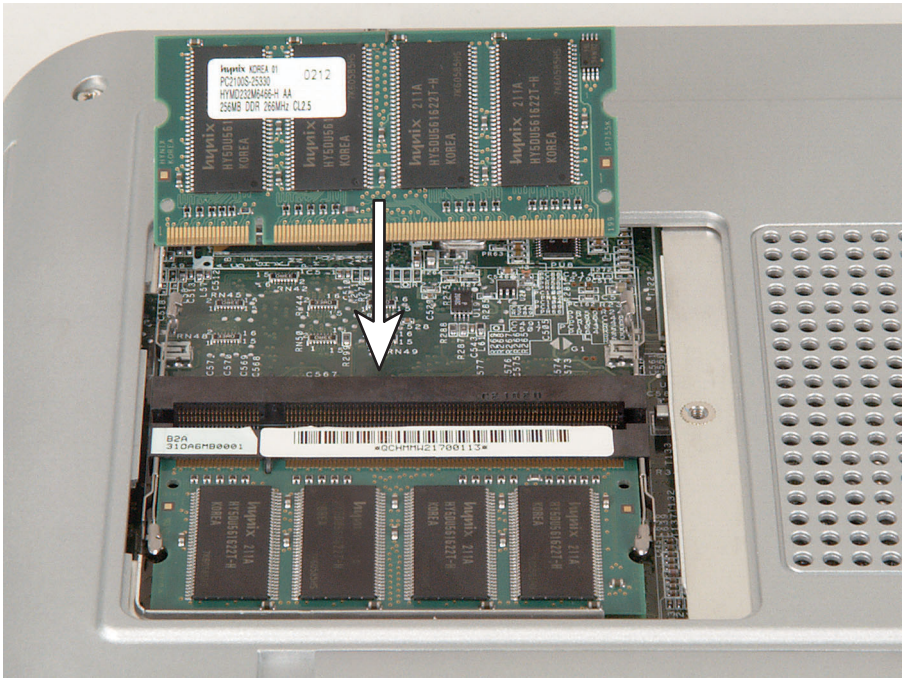
7 Pull the memory module out of the slot.



8 Hold the new or replacement module at a 30-degree angle and press it into the empty memory slot. This module is keyed so it can only be inserted in one direction. If the module does not fit, make sure that the notch in the module lines up with the tab in the memory slot.

Important

Use only memory modules designed for the Gateway 400VTX.



9 Gently push the module down until it clicks in place.

10 Replace the memory bay cover and tighten the cover screw.

Replacing the 802.11 mini PCI card

Caution

By law, only approved wireless modules provided by Gateway, or a Gateway authorized representative, explicitly for your Gateway 400VTX may be installed in this notebook.

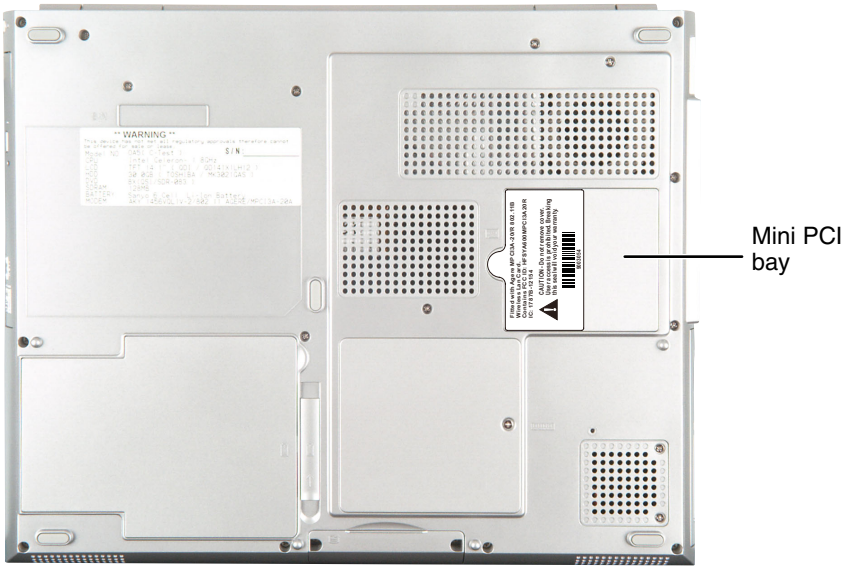
Tools you need to complete this task:

Phillips #0 screwdriver

To replace the 802.11 mini PCI card:

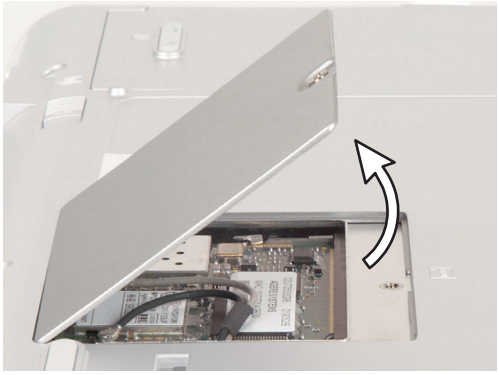
1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in "Preparing your notebook" on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in "Removing the battery" on page 8.

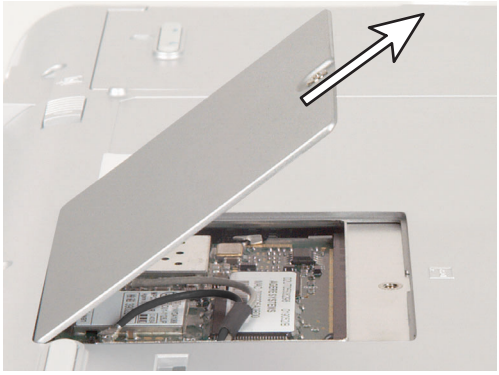
4 Remove the wireless Ethernet label from the mini PCI cover.



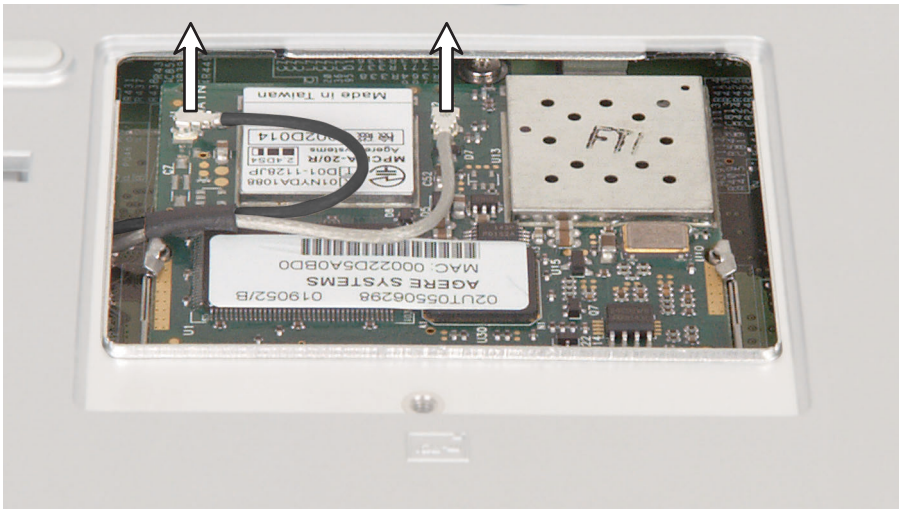
5 Loosen the captive screw that secures the mini PCI cover. (The screw cannot be removed.)

6 Lift the screw side of the cover upward, then slide the cover out.

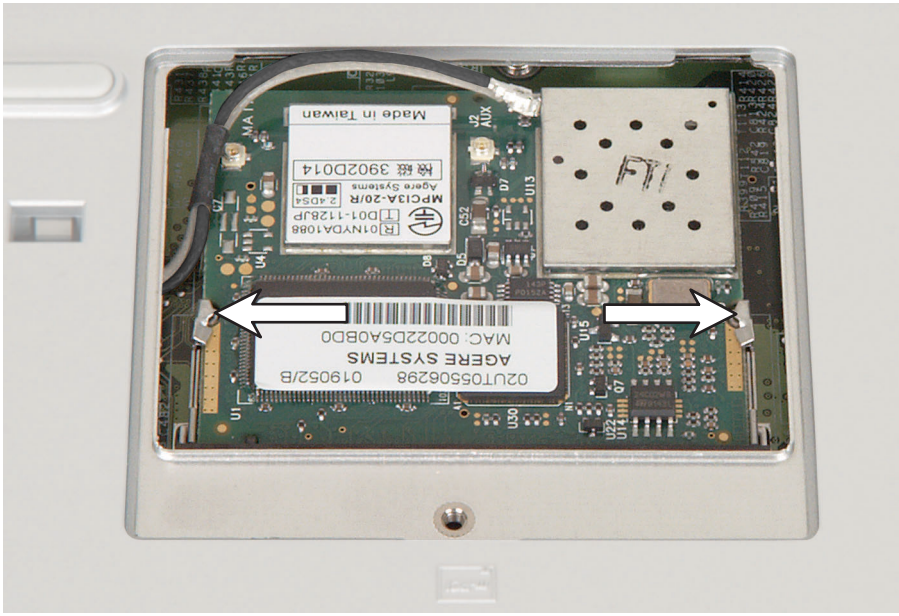




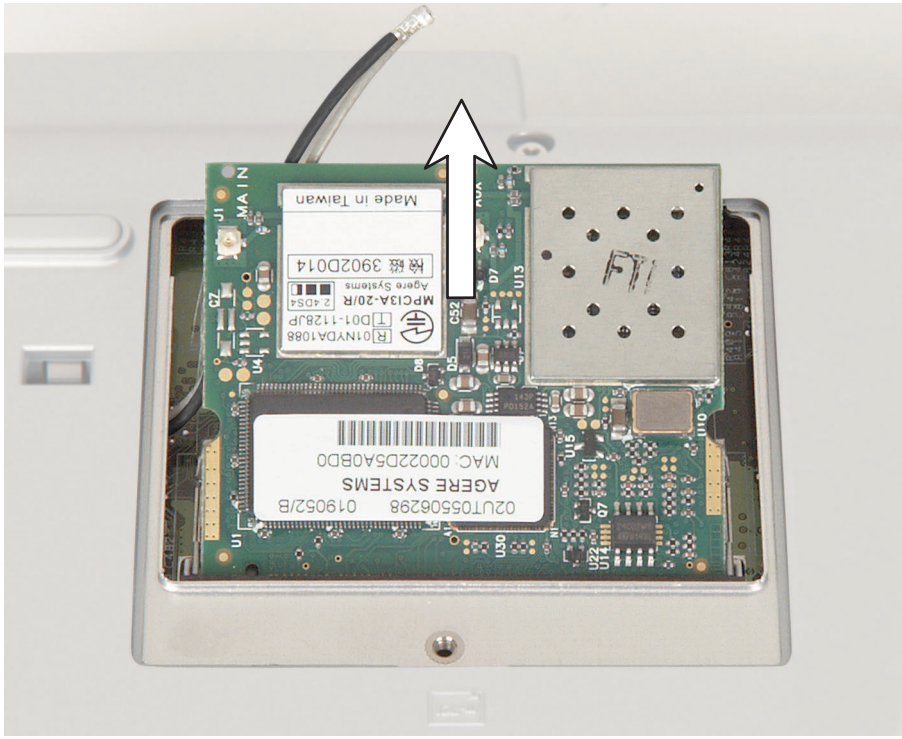
7 Unplug the two antenna cables.



8 Move the antenna wires out of the way, then press outward on the clips at both sides of the module until the module tilts upward.



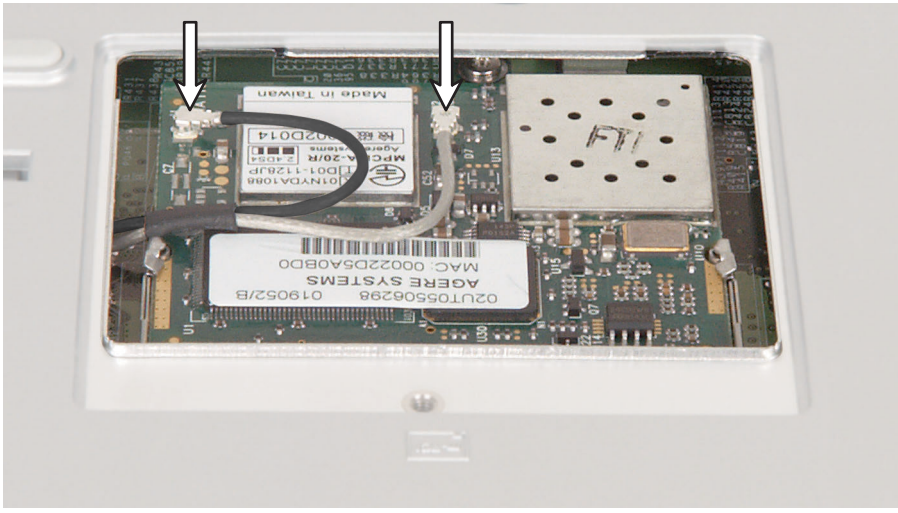
9 Pull the module out of the slot.



10 Hold the new module at a 30-degree angle and press it into the empty slot. This module is keyed so it can only be inserted in one direction. If the module does not fit, make sure that the notch in the module lines up with the tab in the module slot.

11 Move the antenna wires out of the way, then press the module down until it clicks into place.

12 Reattach the black antenna cable to the connector labelled MAIN or M, then reattach the light gray antenna cable to the connector labelled AUX or A.



13 Replace the mini PCI cover, then tighten the captive screw.

14 Place a new wireless Ethernet label on the mini PCI cover so it covers the screw.

Caution

By law, a wireless Ethernet FCC ID and security label must cover the mini PCI cover screw. End users are strictly not permitted to have access to the wireless card.

Replacing the hard drive kit

Tools you need to complete this task:

Phillips #0 screwdriver

Screws removed during this task:

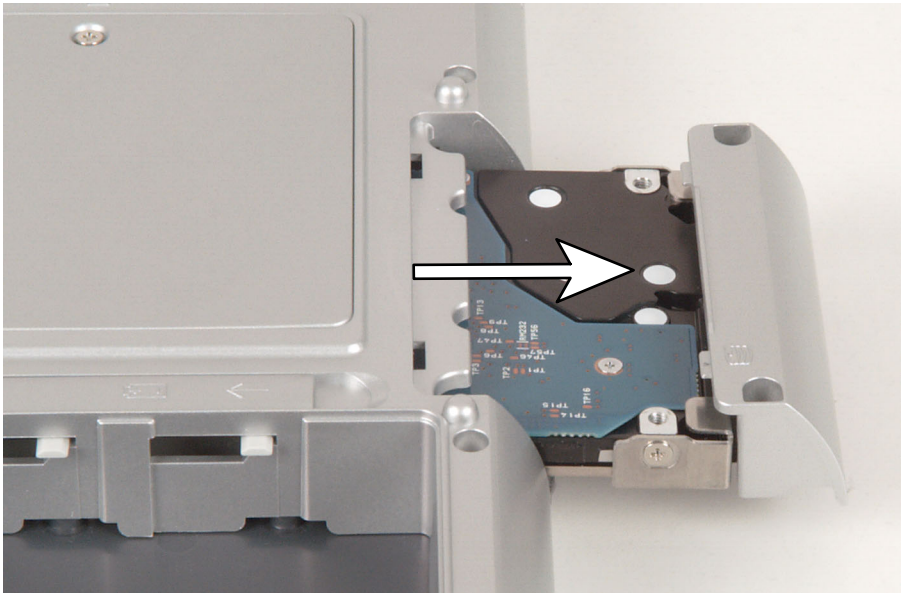
2 chrome 2.5 × 4.7 mm
(hard drive kit)

To replace the hard drive kit:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.

4 Remove the hard drive kit screws.

5 Slide the old hard drive kit out of your notebook.



6 Slide the new hard drive kit into your notebook.

7 Replace the screws that secure the hard drive kit to your notebook.

Replacing the hard drive in the hard drive kit

Tools you need to complete this task:

Phillips #0 screwdriver

Screws removed during this task:

2 chrome 2.5 × 4.7 mm
(hard drive kit)

2 chrome 3.0 × 3.5 mm
(hard drive kit bracket)

To replace the hard drive in the hard drive kit:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Remove the hard drive kit by following the instructions in “Replacing the hard drive kit” on page 18.

5 Remove the two screws that secure the hard drive to the hard drive kit bracket.

6 Remove the bracket from the old drive.

7 Insert the new drive into the bracket so the screw holes line up and the plastic strip on the top of the bracket is positioned as shown.

8 Replace the two screws that secure the bracket to the drive.

9 Slide the hard drive kit into your notebook.

10 Replace the screws that secure the hard drive kit to your notebook.

Replacing the keyboard cover

Tools you need to complete this task:

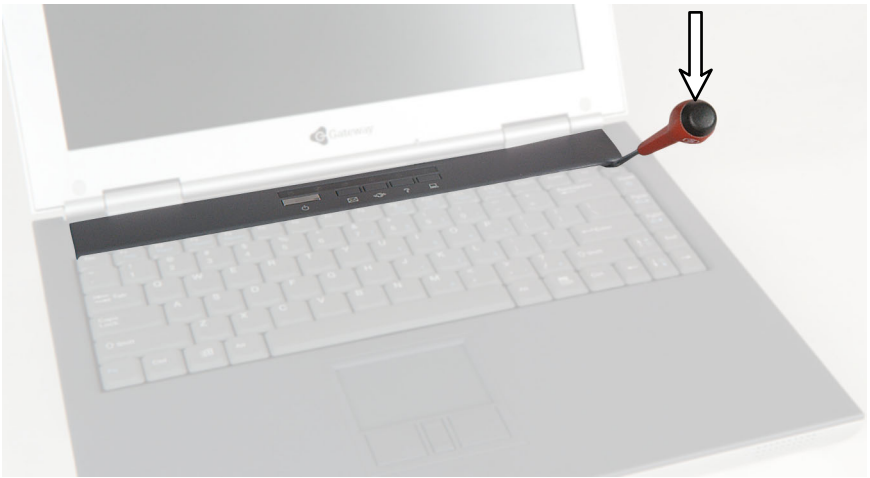
To replace the keyboard cover:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Open the LCD panel to the normal viewing position.

6 Insert the small flat-blade screwdriver or non-marring tool under the bottom right corner of the keyboard cover and gently pry it up.

Important

Inserting a piece of cloth between the screwdriver and keyboard and notebook case will help prevent damage to your notebook.



7 Pull the cover off your notebook. You will hear small snapping sounds as the cover comes away from your notebook. Be careful not to break off the tabs found on the left end of the cover.

8 Slide the two tabs on the left end of the new cover under your notebook frame.

9 Press down on the cover in several places until it clicks in place.

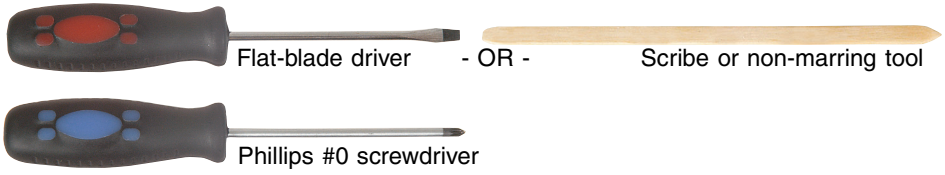
The cover is correctly mounted when you can run you finger along the cover and find no loose spots. The cover should be flat all the way across.

Warning

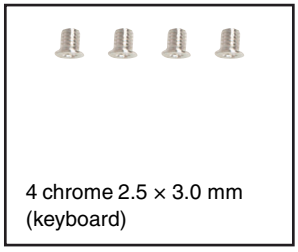
If the cover is not correctly replaced, your notebook could be damaged when you try to close the LCD panel.

Replacing the keyboard

Tools you need to complete this task:



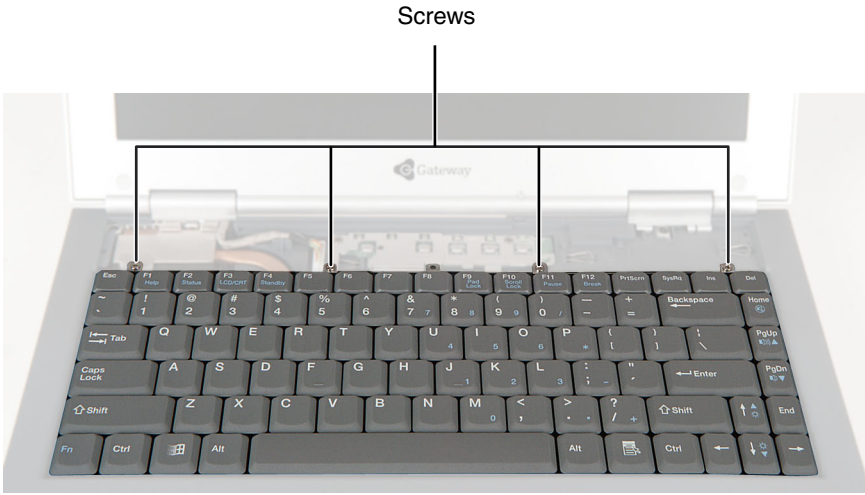
Screws removed during this task:



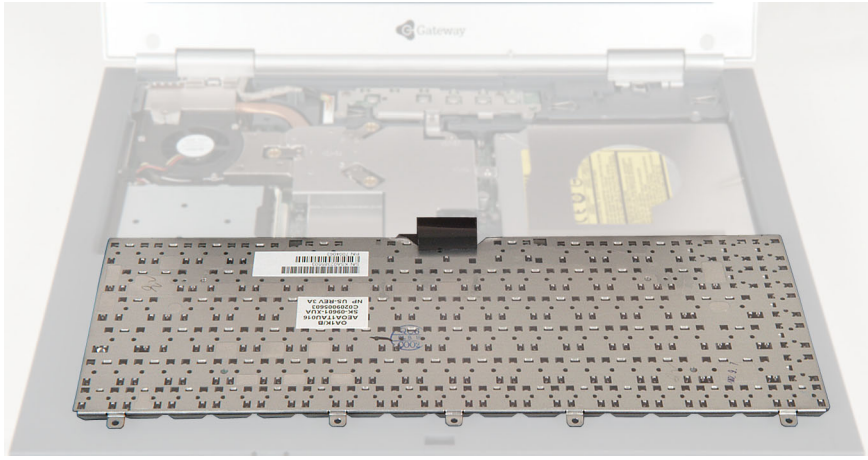
To replace the keyboard:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.

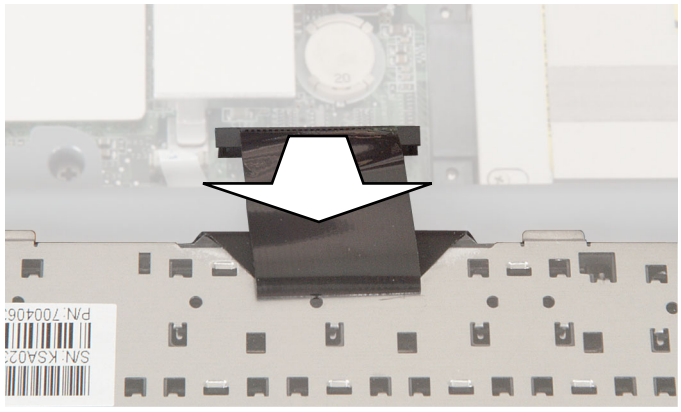
6 Remove the four keyboard screws that secure the keyboard to your notebook.



7 Lift the back edge of the keyboard, then slowly rotate it toward you so it lies **keys-down** on top of your notebook. Be careful not to damage the LCD panel.



8 Use your fingers to unplug the keyboard panel connector from your notebook. Be careful not to touch or damage any other components.

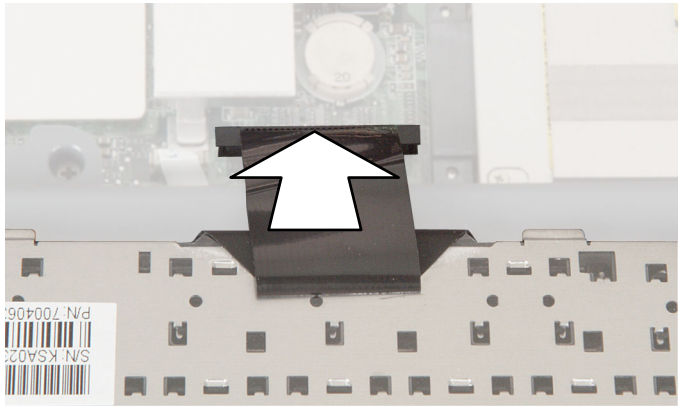


9 Place the new keyboard **keys-down** on your notebook with the space bar away from you.

10 Insert the keyboard plug, on the end of the keyboard cable, onto the keyboard connector.

Important

The outside of the keyboard plug goes around the keyboard connector. The plug is correctly oriented if the cable is not twisted.

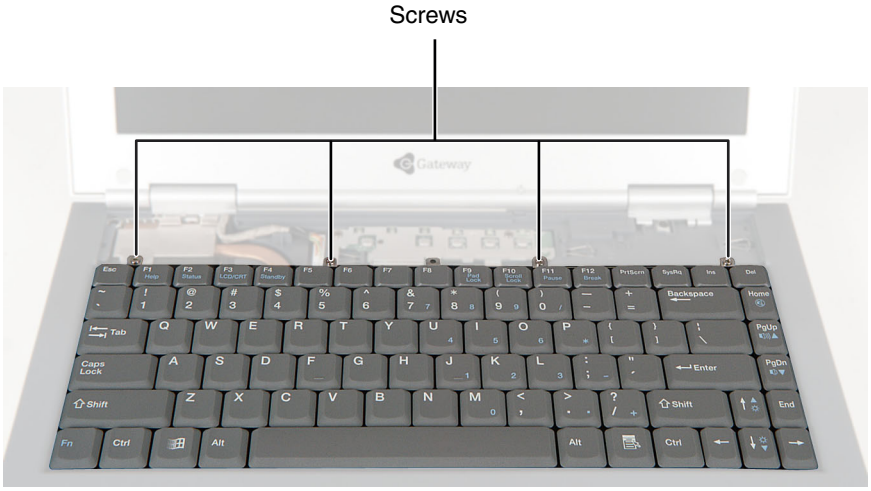


11 Rotate the keyboard toward the LCD panel until the keyboard is almost face-up.

12 Insert the tabs on the front of the keyboard under the palm rest.

13 Gently press the keyboard down until it is flat all the way across. The keyboard should easily fall into place. Be careful not to damage the LCD panel.

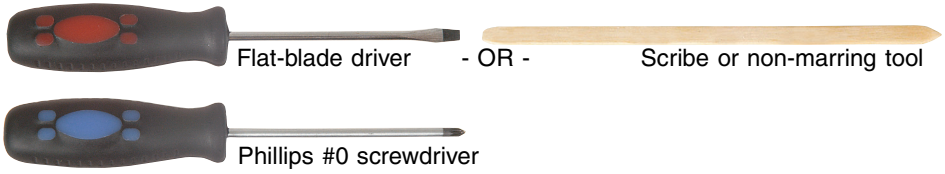
14 Replace the four keyboard screws.



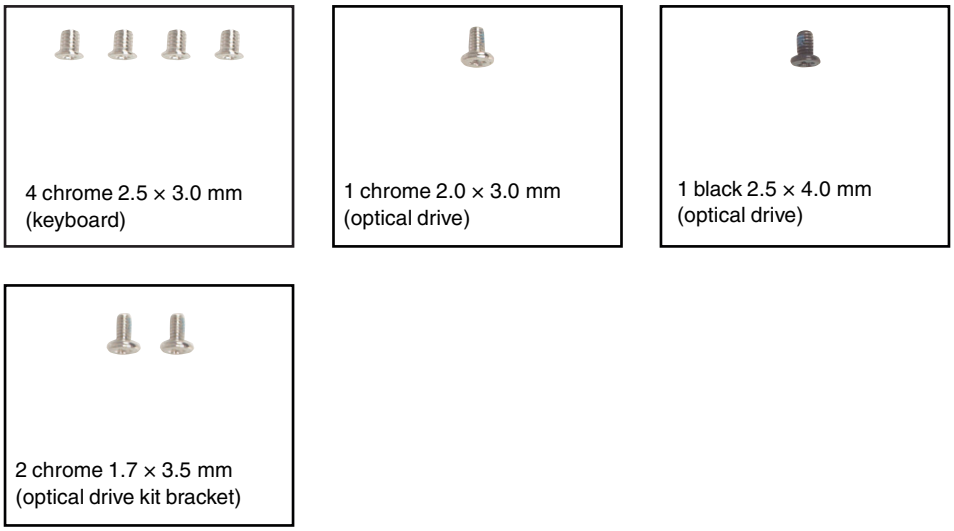
15 Reassemble your notebook.

Replacing the optical drive kit

Tools you need to complete this task:



Screws removed during this task:



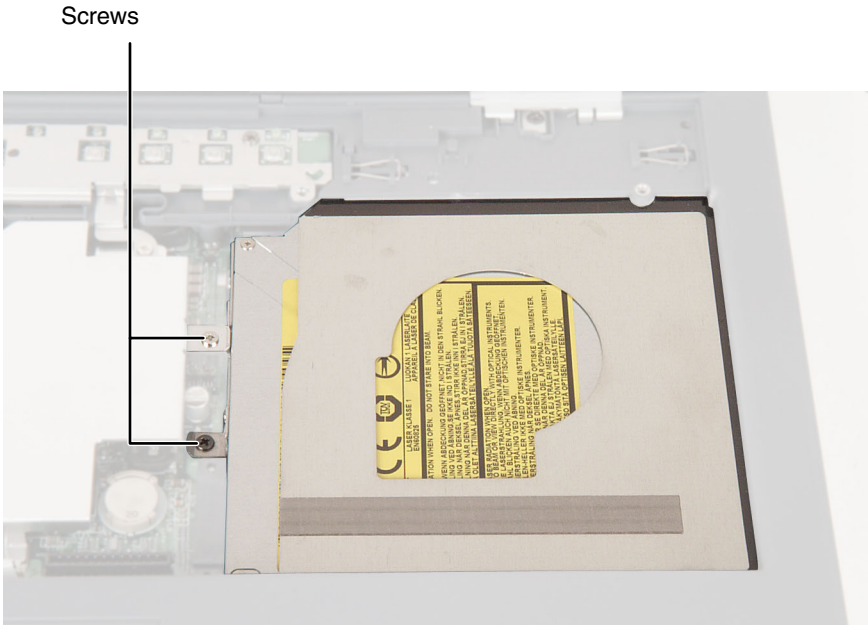
To replace the optical drive kit:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.

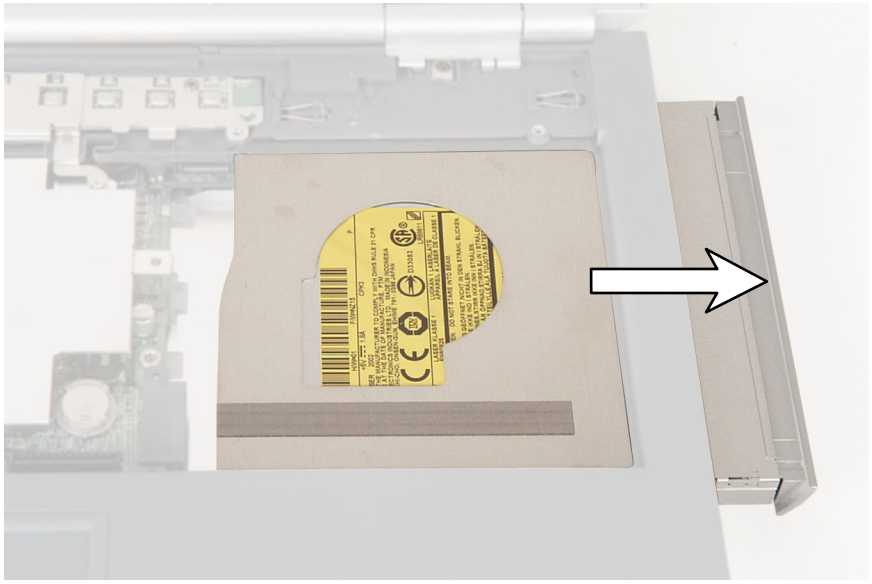
5 Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.

6 Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

7 Remove the chrome screw that secures the drive kit to the cooling assembly and the black screw that secures the drive kit to the system board.



8 Slide the drive kit out of your notebook.

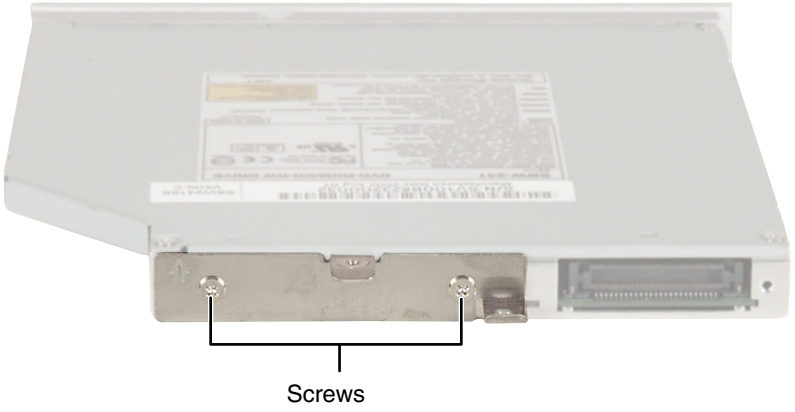


9 If your replacement optical drive came in a kit, go to Step 13.

-OR-

If you need to replace the optical drive in the optical drive kit, go to Step 10.

10 Remove the two chrome screws that secure the drive to the bracket.



11 Remove the bracket from the old drive.

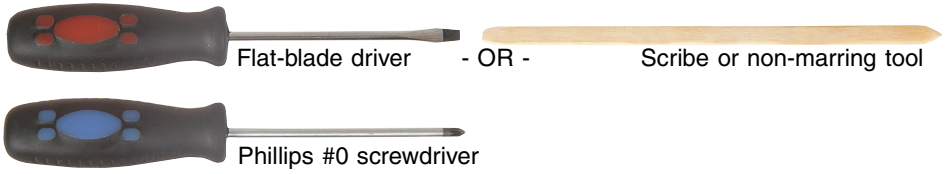
12 Place the bracket onto the new drive so the screw holes line up and replace the two chrome screws that secure the bracket to the drive.

13 Insert the new drive kit into your notebook, then replace the two screws.

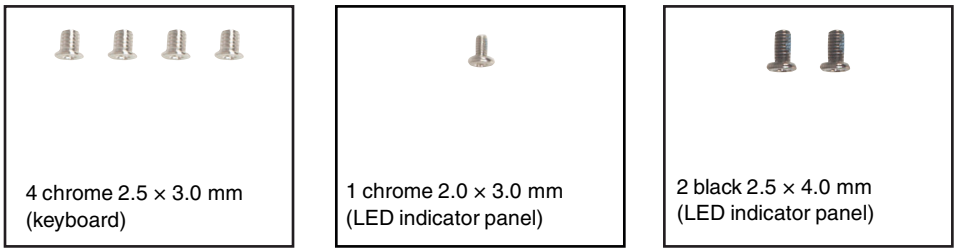
14 Reassemble your notebook.

Replacing the LED indicator panel

Tools you need to complete this task:



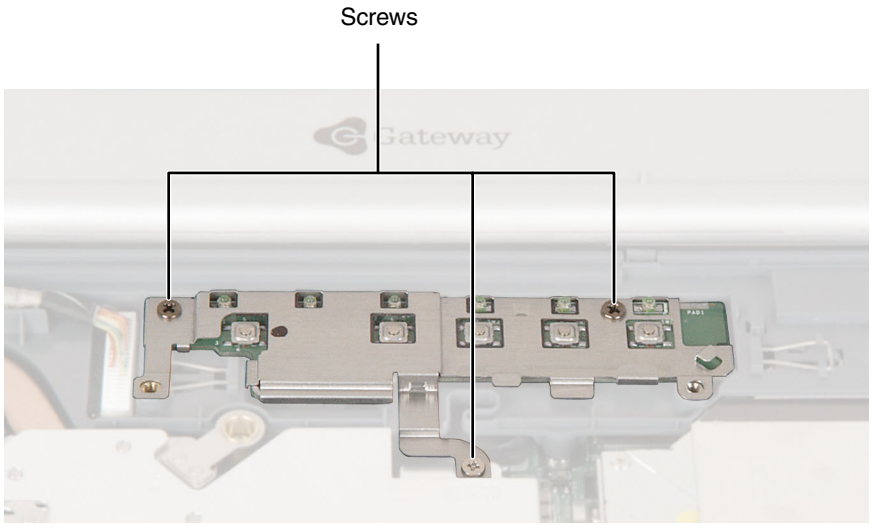
Screws removed during this task:



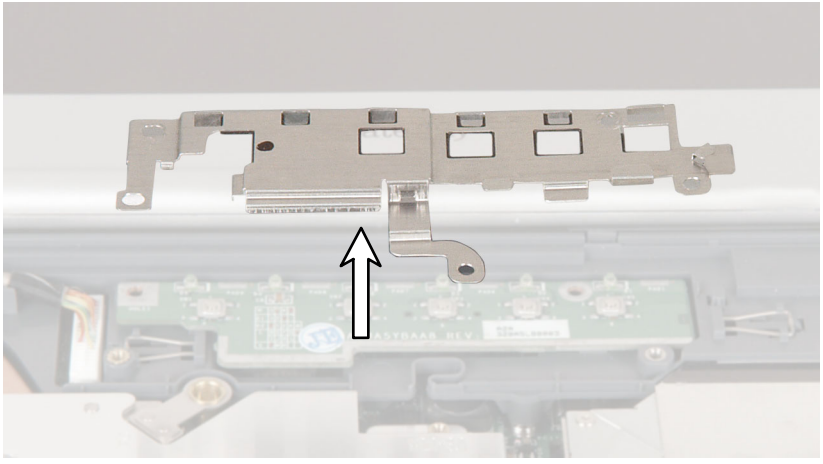
To replace the LED indicator panel:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.
6. Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

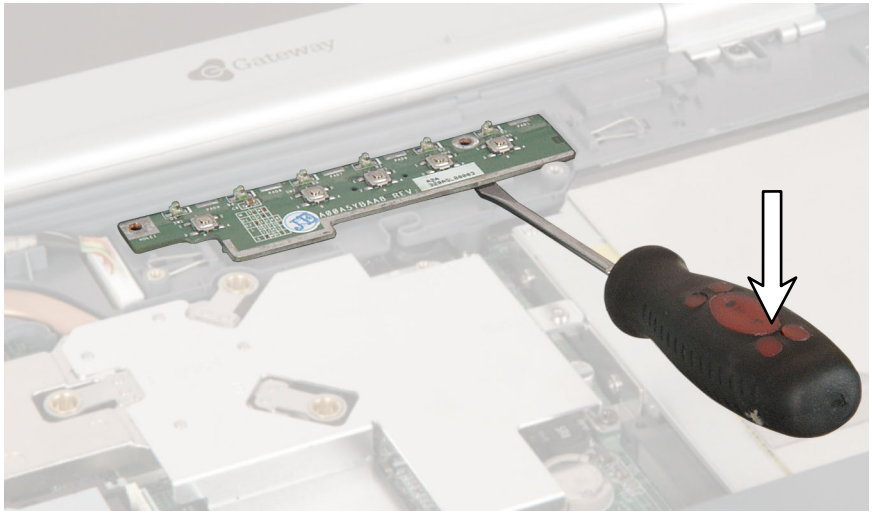
7 Remove the three screws that secure the LED indicator panel shield to your notebook.



8 Lift the shielding away from the indicator panel.



9 Insert the small flat-blade screwdriver or non-marring tool under the indicator panel and gently pry it up.



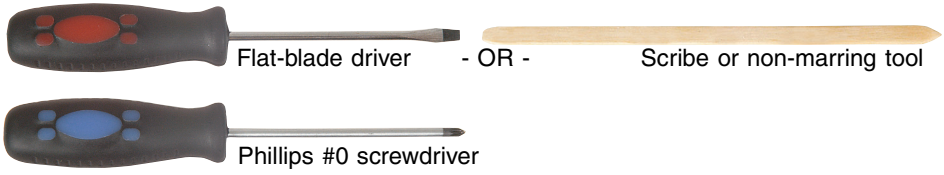
10 Align the new indicator panel's screw holes with the holes on your notebook, then press the panel into place.

11 Replace the indicator panel's shielding, then replace the screws.

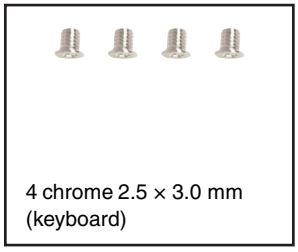
12 Reassemble your notebook.

Replacing the CMOS battery

Tools you need to complete this task:



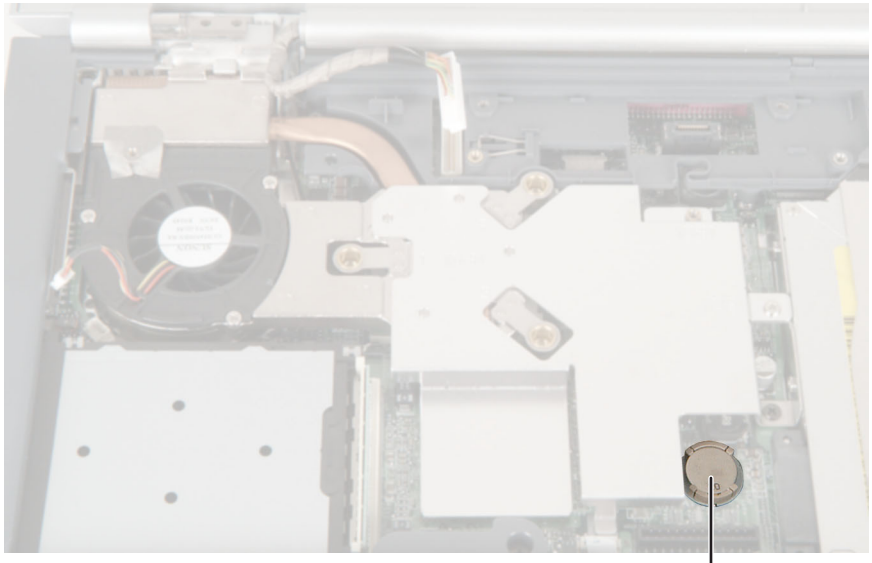
Screws removed during this task:



To replace the CMOS battery:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.
6. Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

7 Locate the old battery on the system board.



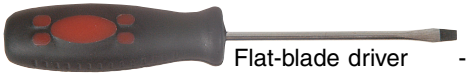
8 Insert the small flat-blade screwdriver or non-marring tool under the old battery and gently pry it up until it pops out of the socket.

9 Make sure that the positive (+) side of the new battery is facing up, then press the battery into the socket until it snaps into place.

10 Reassemble your notebook.

Replacing the hinge covers

Tools you need to complete this task:


Flat-blade driver

- OR -

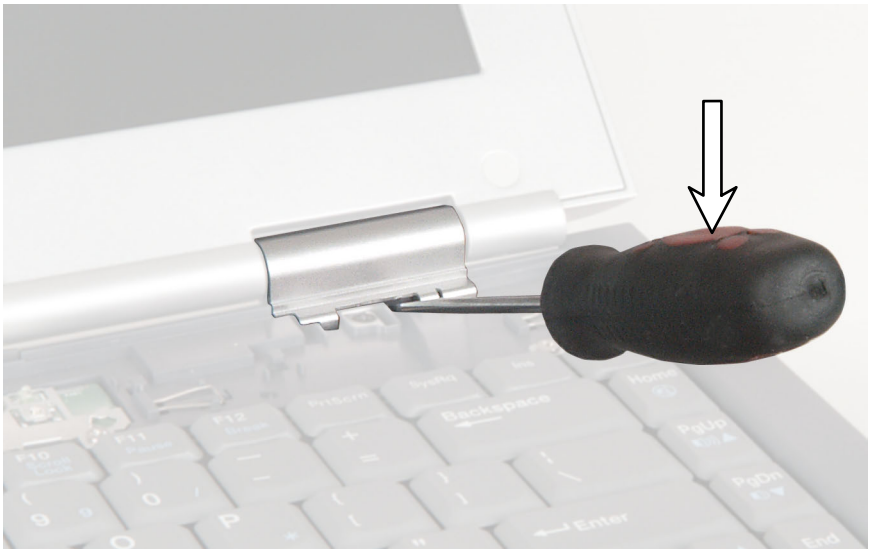
Scribe or non-marring tool

To replace the hinge covers:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.
6. Open the LCD panel all the way, so it lies flat on the table.

7 Insert the small flat-blade screwdriver or non-marring tool under the bottom left corner of the left hinge cover and gently pry it up.

8 Insert the small flat-blade screwdriver or non-marring tool under the center of the right hinge cover and gently pry it up.

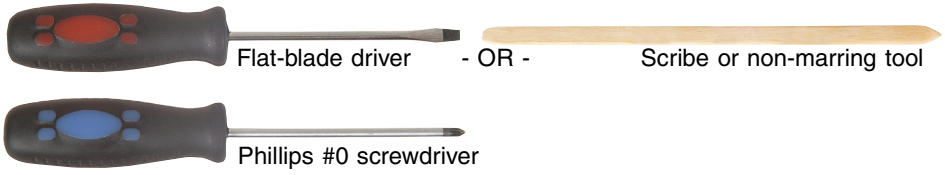


9 Snap the new covers into place over the hinges.

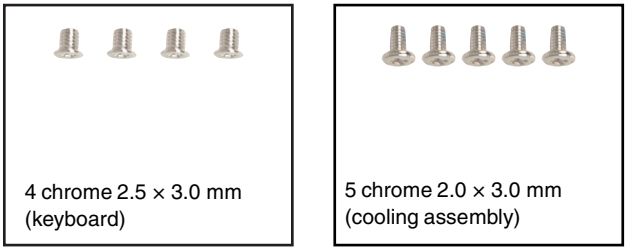
10 Reassemble your notebook.

Replacing the cooling assembly

Tools you need to complete this task:



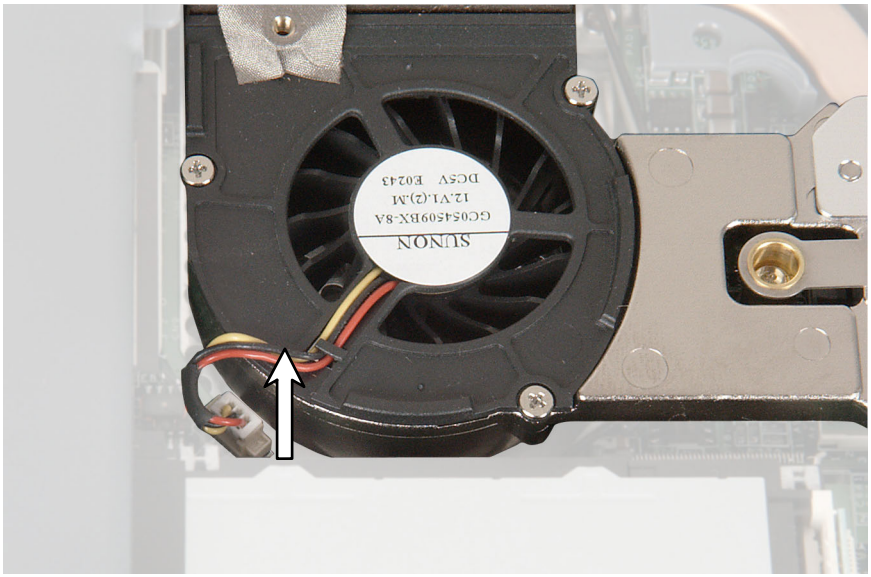
Screws removed during this task:



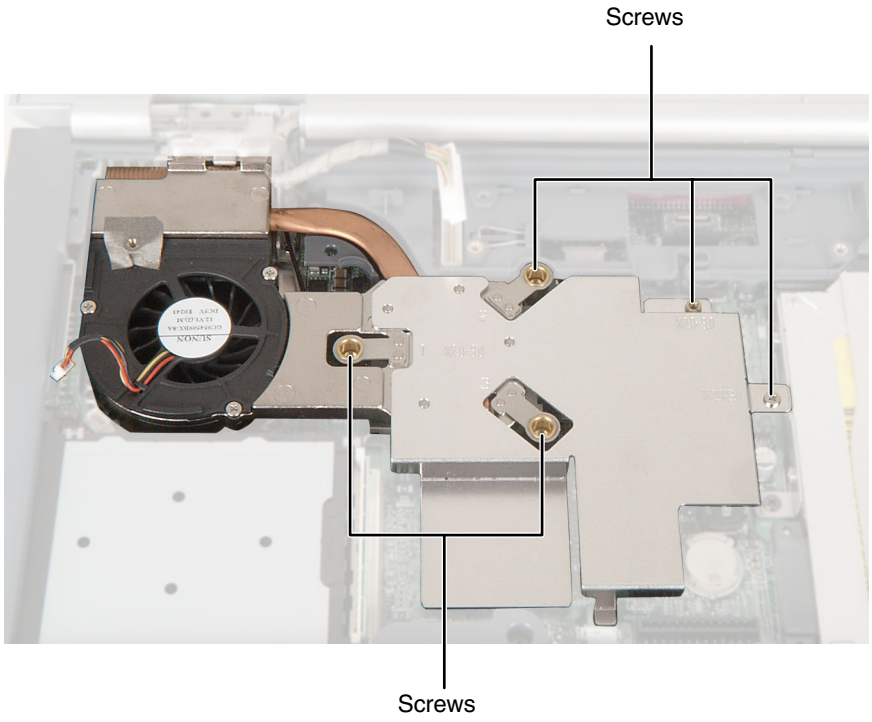
To replace the cooling assembly:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Turn your notebook over so the top is facing up.
5. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.
6. Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

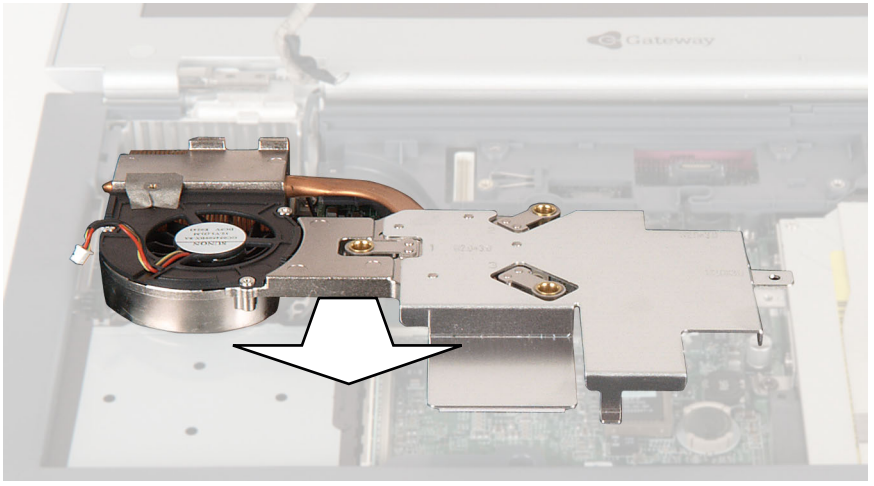
7 Unplug the cooling fan.



8 Remove the five screws that secure the cooling assembly to your notebook.



9 At the same time as you lift, move the cooling assembly to the front of the notebook and remove it.



10 Insert the new cooling assembly into your notebook. The screw tabs should go above the optical drive tab and below the LED indicator panel shielding tab.

11 Tighten the three screws that are stamped with the numbers 1 through 3 next to them. Make sure that you tighten the screws in numerical order.

Warning

When tightening the cooling assembly's screws into the numbered holes, tighten them **in numerical order**.

12 Replace the screw that holds the cooling assembly to the optical drive.

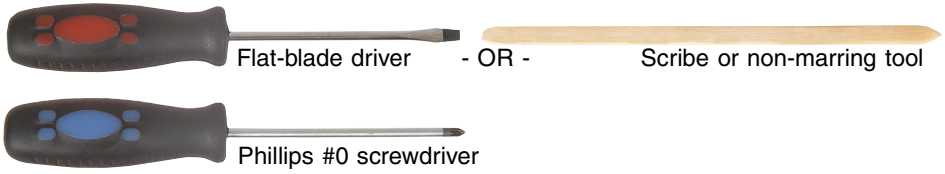
13 Replace the screw that holds the cooling assembly to the LED indicator panel shielding.

14 Plug in the cooling fan.

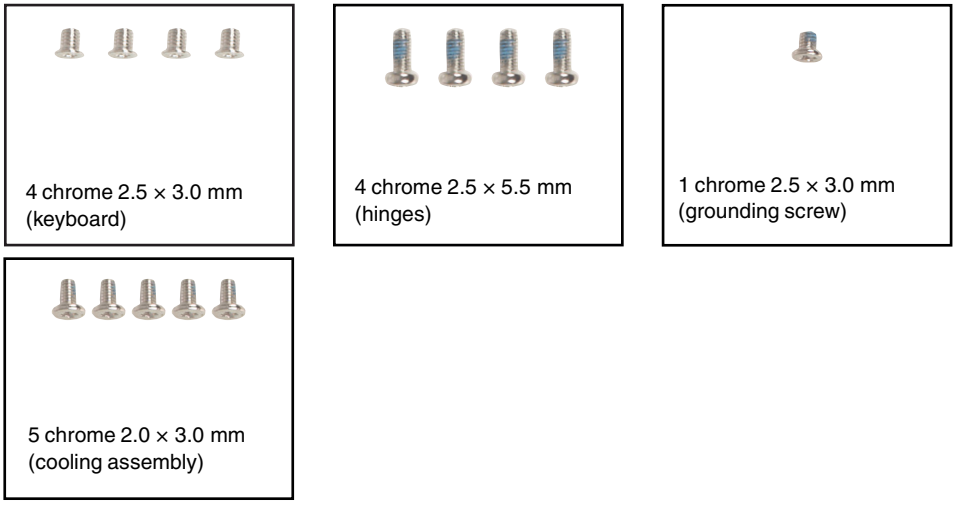
15 Reassemble your notebook.

Replacing the LCD panel assembly

Tools you need to complete this task:



Screws removed during this task:



To replace the LCD panel assembly:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.

4 If your notebook has 802.11 wireless networking built in, remove the 802.11 mini PCI module by following the instructions in “Replacing the 802.11 mini PCI card” on page 13.

5 Turn your notebook over so the top is facing up.

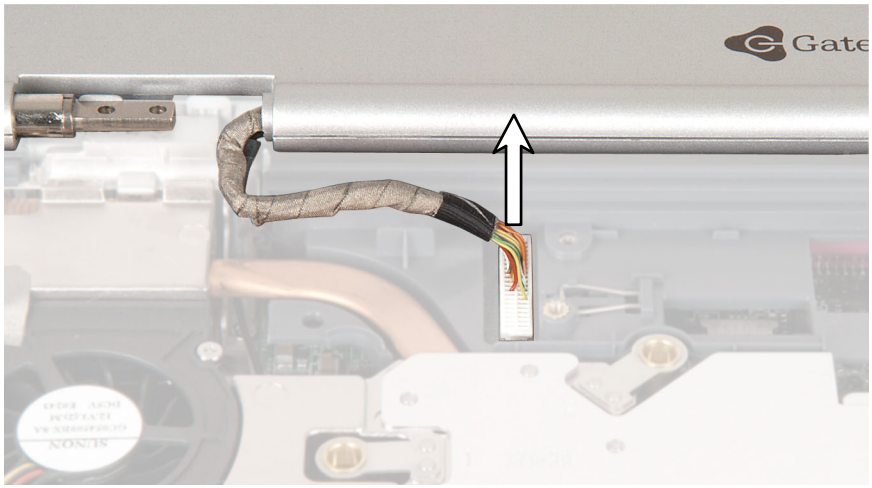
6 Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.

7 Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

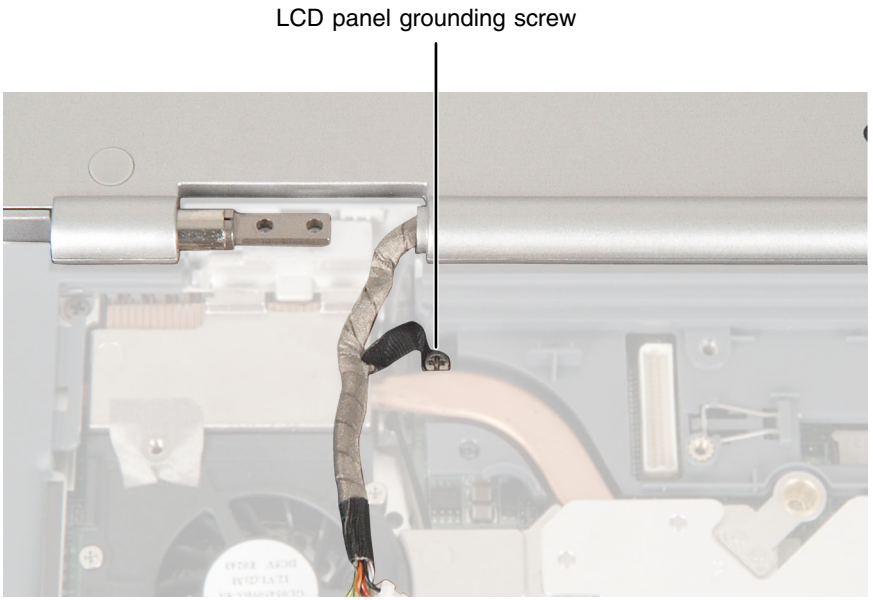
8 Remove the hinge covers by following the instructions in “Replacing the hinge covers” on page 43.

9 Remove the four hinge screws that secure the LCD panel to your notebook.

10 Use your fingers to unplug the LCD panel connector from your notebook. Grasp the large cluster of cables, then pull the connector straight up.

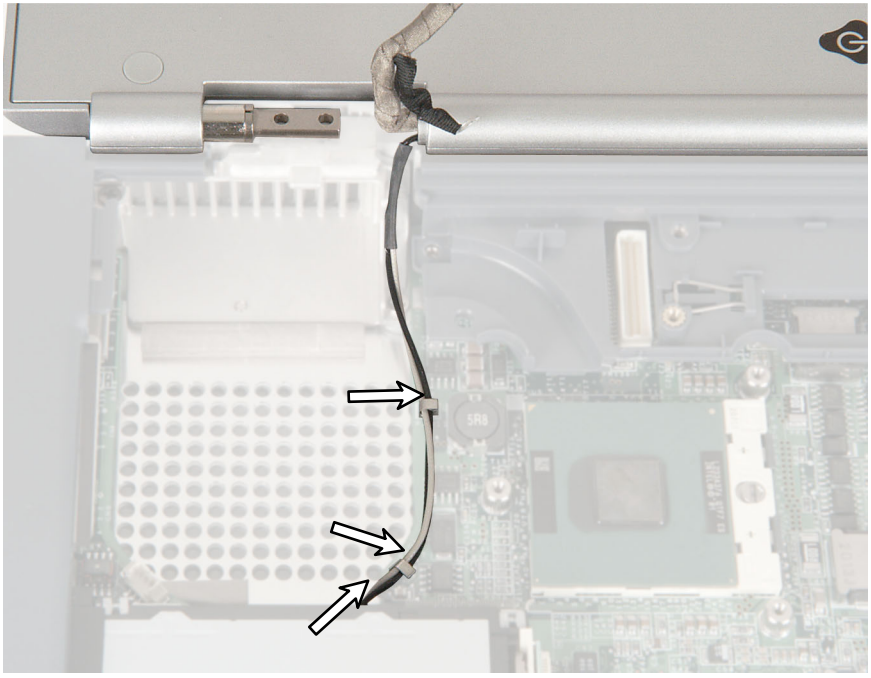


11 Loosen the screw holding the grounding wire, then lift the LCD panel grounding wire to remove the screw.



12 Remove the cooling assembly by following the instructions in “Replacing the cooling assembly” on page 46.

13 Remove the 802.11 antenna wires from under the two retaining clips and pull the antenna out from under the system board.



14 Lift the LCD panel away from the notebook.

15 Place the new LCD panel assembly onto your notebook, then replace the four hinge screws.

16 Reattach the grounding cable.

17 Thread the antenna cables through the retaining clips and then under the system board and into the mini PCI card area.

18 Plug the LCD panel connector into your notebook.

19 Reassemble your notebook.

20 Place a new wireless Ethernet label on the mini PCI cover so it covers the screw.

Caution

By law, a wireless Ethernet FCC ID and security label must cover the mini PCI cover screw. End users are strictly not permitted to have access to the wireless card.

Replacing the palm rest assembly

Tools you need to complete this task:

Flat-blade driver

- OR -

Scribe or non-marring tool

Phillips #0 screwdriver

Screws removed during this task:

2 chrome 2.5 × 4.7 mm
(hard drive kit)

4 chrome 2.5 × 3.0 mm
(keyboard)

1 chrome 2.0 × 3.0 mm
(LED indicator panel)

2 black 2.5 × 4.0 mm
(LED indicator panel)

4 chrome 2.0 × 3.0 mm
(cooling assembly)

1 chrome 2.5 × 3.0 mm
(grounding screw)

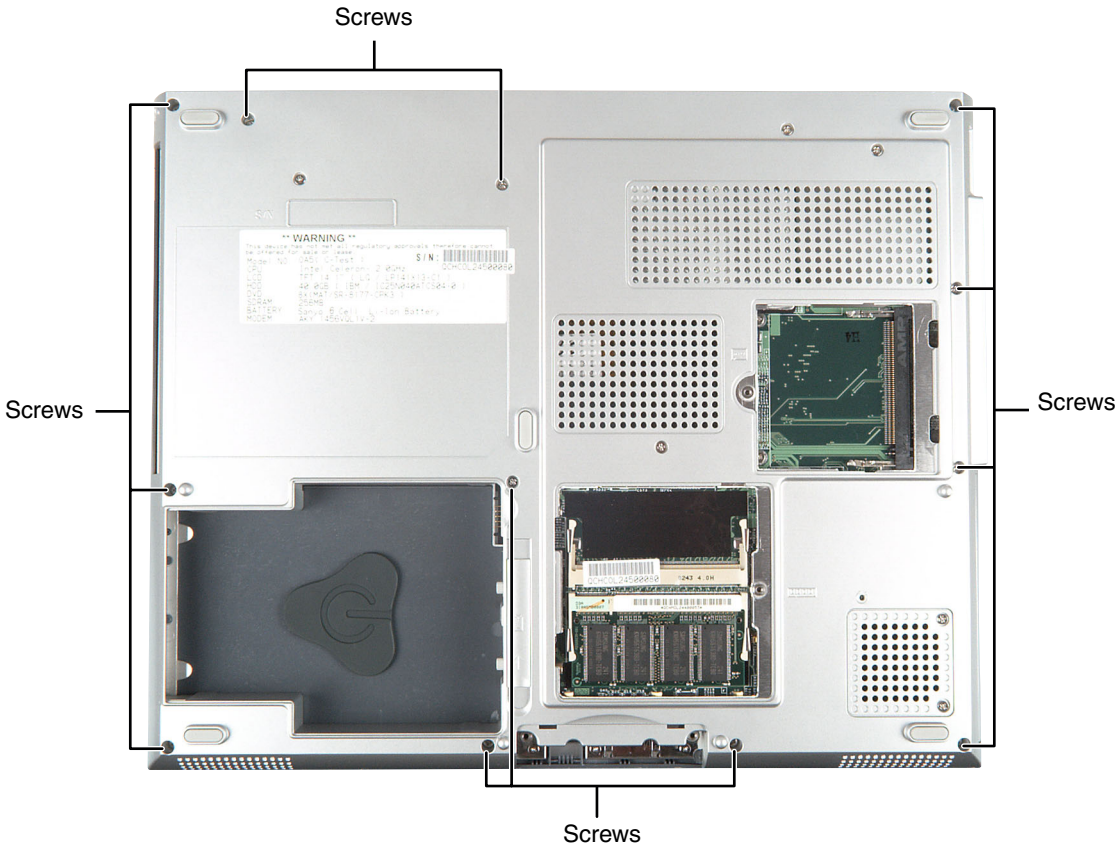
12 chrome 2.5 × 5.0 mm
(palm rest bottom)

3 black 2.5 × 4.0 mm
(palm rest top)

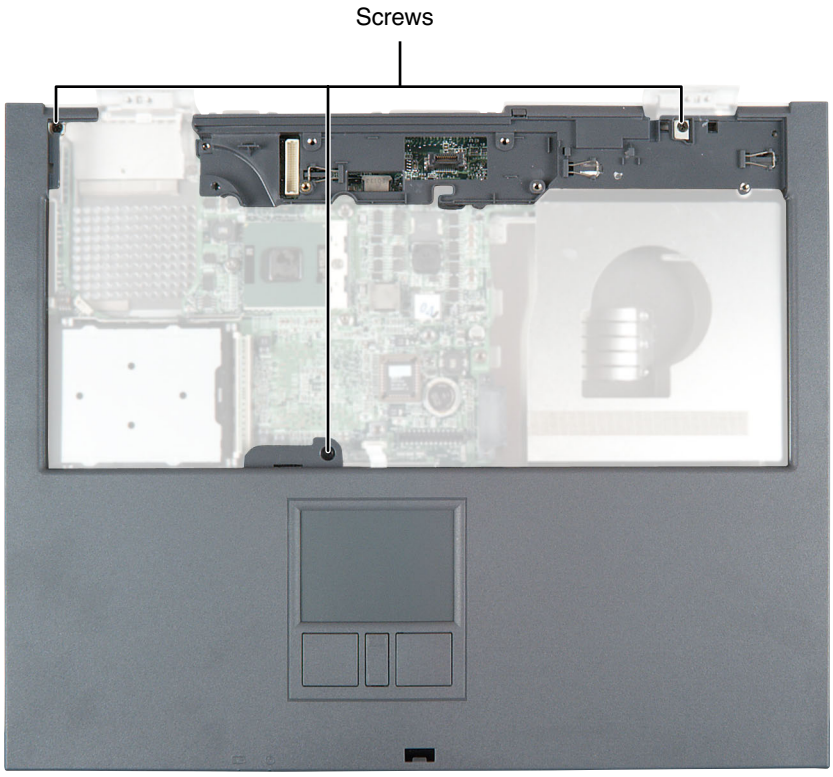
To replace the palm rest assembly:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in “Preparing your notebook” on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in “Removing the battery” on page 8.
4. Remove the hard drive kit by following the instructions in “Replacing the hard drive kit” on page 18.
5. Turn your notebook over so the top is facing up.
6. Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.
7. Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.
8. Remove the LED indicator panel by following the instructions in “Replacing the LED indicator panel” on page 38.
9. Remove the hinge covers by following the instructions in “Replacing the hinge covers” on page 43.
10. Remove the cooling assembly by following the instructions in “Replacing the cooling assembly” on page 46.
11. Use your fingers to unplug the LCD panel connector from your notebook by following the instructions in “Replacing the LCD panel assembly” on page 50. Grasp the large cluster of cables, then pull the connector straight up.
12. Remove the screw holding the LCD grounding wire by following the instructions in “Replacing the LCD panel assembly” on page 50.

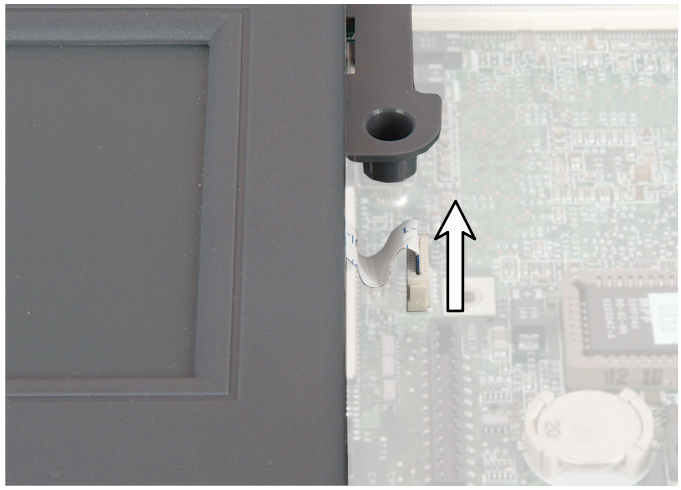
13 Remove the twelve chrome screws on the bottom of your notebook.



14 Remove the three black screws on the top of your notebook.



15 Pull up on the touchpad connector cable to remove it from the connector.



16 Remove the palm rest assembly.

17 Place the new palm rest assembly onto your notebook, and snap the assembly into place.

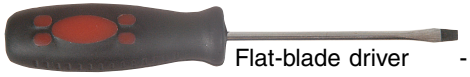
18 Replace all of the palm rest screws.

19 Slide the end of the touchpad cable into the touchpad connector.

20 Reassemble your notebook.

Replacing the diskette drive kit

Tools you need to complete this task:



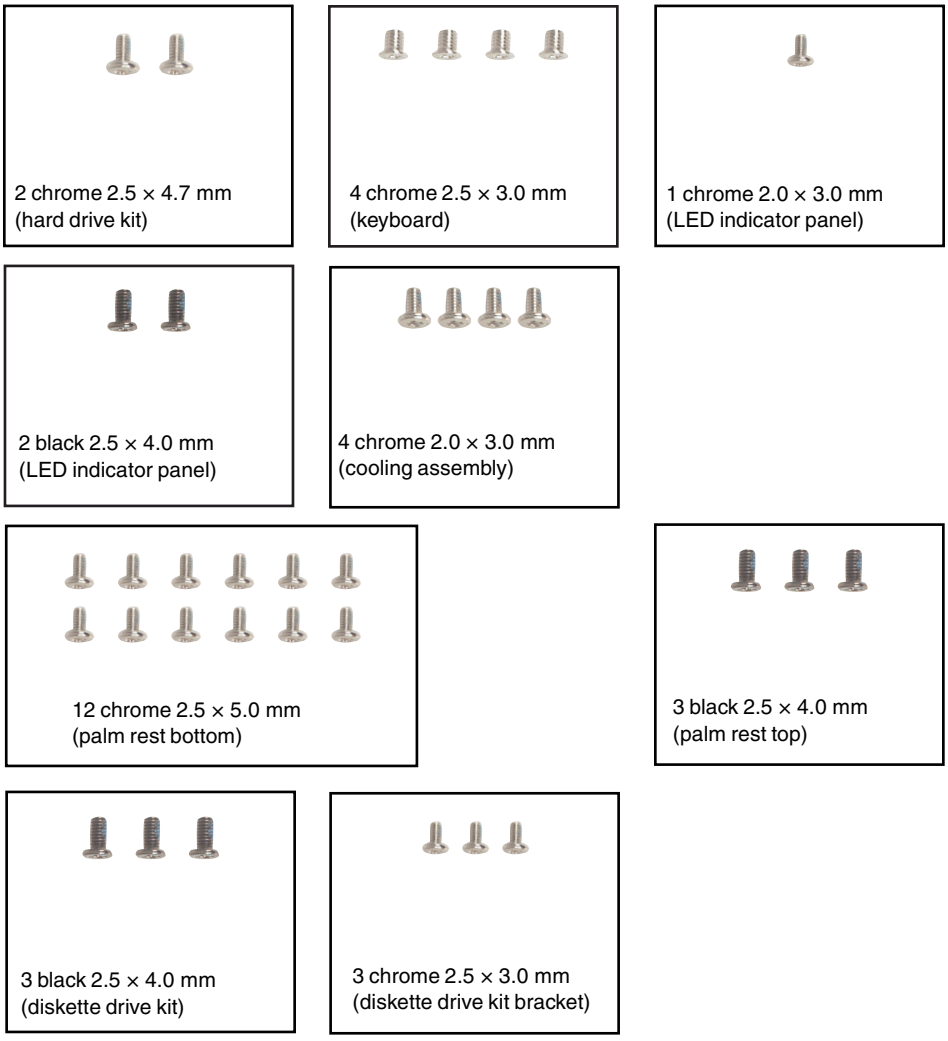
Flat-blade driver

- OR -

Scribe or non-marring tool

Phillips #0 screwdriver

Screws removed during this task:



To replace the diskette drive kit:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in "Preparing your notebook" on page 7.
2. Turn your notebook over so the bottom is facing up.

3 Remove the battery by following the instructions in “Removing the battery” on page 8.

4 Remove the hard drive kit by following the instructions in “Replacing the hard drive kit” on page 18.

5 Turn your notebook over so the top is facing up.

6 Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.

7 Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

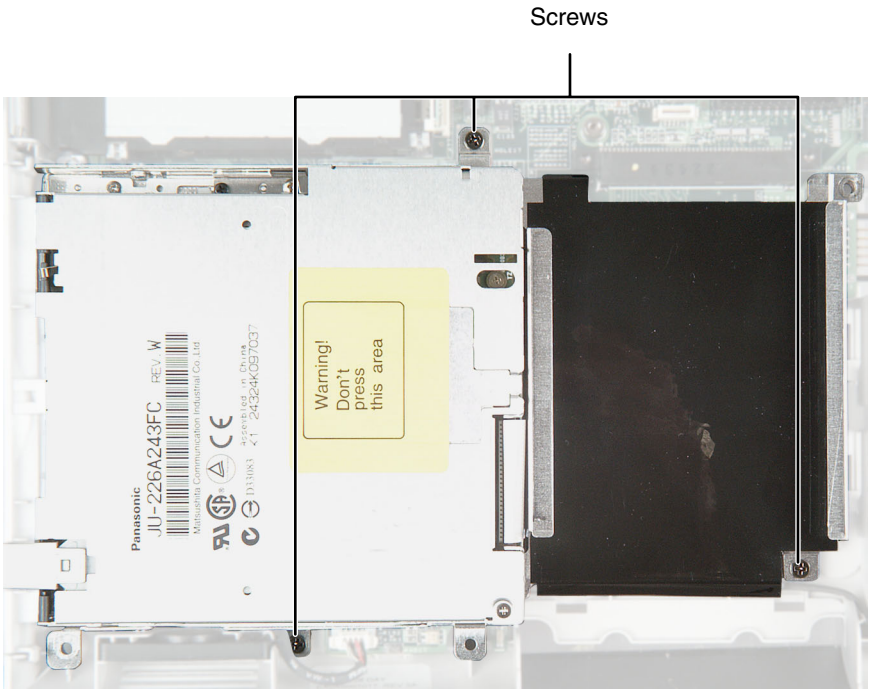
8 Remove the LED indicator panel by following the instructions in “Replacing the LED indicator panel” on page 38.

9 Remove the hinge covers by following the instructions in “Replacing the hinge covers” on page 43.

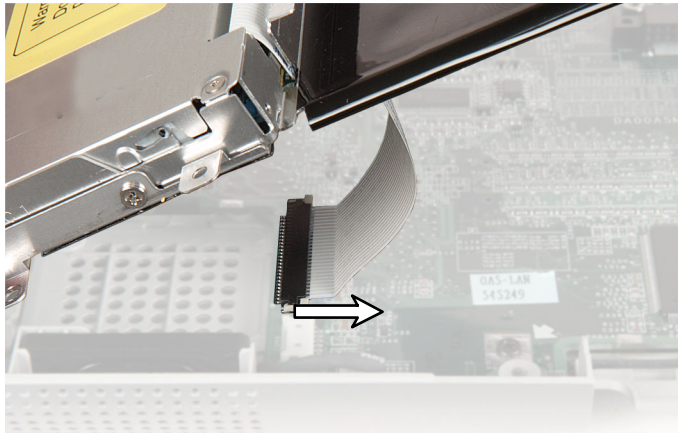
10 Remove the cooling assembly by following the instructions in “Replacing the cooling assembly” on page 46.

11 Remove the palm rest assembly by following the instructions in “Replacing the palm rest assembly” on page 55.

12 Remove the three black screws that secure the diskette drive kit to the notebook.



13 Lift the drive kit and disconnect the diskette drive's ribbon cable.



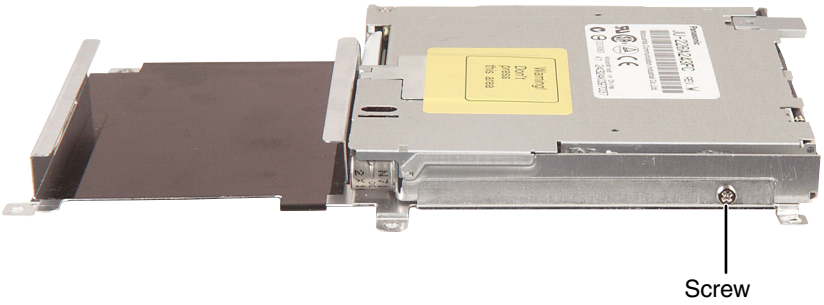
14 Remove the drive kit from your notebook.

15 If your replacement diskette drive came in a kit, go to Step 19.

-OR-

If you need to replace the diskette drive in the diskette drive kit, go to Step 16.

16 Remove the three chrome screws (one on the left side, two on the right side) that secure the diskette drive to the diskette drive kit bracket.



17 Remove the bracket from the old drive.

18 Insert the new drive into the bracket so the screw holes line up and replace the three chrome screws that secure the bracket to the drive.

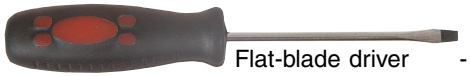
19 Insert the new diskette drive kit into your notebook and plug in the diskette drive's ribbon cable.

20 Replace the three black screws that secure the diskette drive kit to your notebook.

21 Reassemble your notebook.

Replacing the memory card reader kit

Tools you need to complete this task:



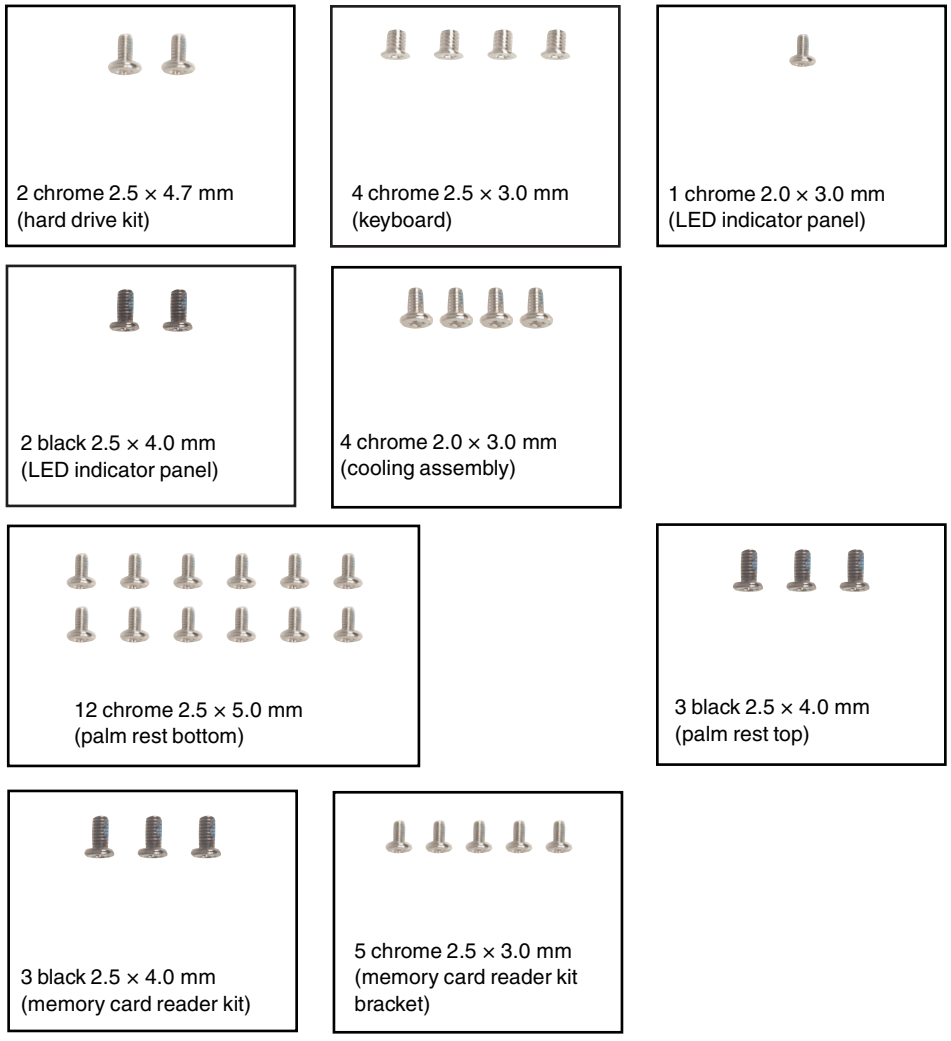
Flat-blade driver

Phillips #0 screwdriver

- OR -

Scribe or non-marring tool

Screws removed during this task:



To replace the memory card reader kit:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in "Preparing your notebook" on page 7.
2. Turn your notebook over so the bottom is facing up.

3 Remove the battery by following the instructions in “Removing the battery” on page 8.

4 Remove the hard drive kit by following the instructions in “Replacing the hard drive kit” on page 18.

5 Turn your notebook over so the top is facing up.

6 Remove the keyboard cover by following the instructions in “Replacing the keyboard cover” on page 25.

7 Remove the keyboard by following the instructions in “Replacing the keyboard” on page 28.

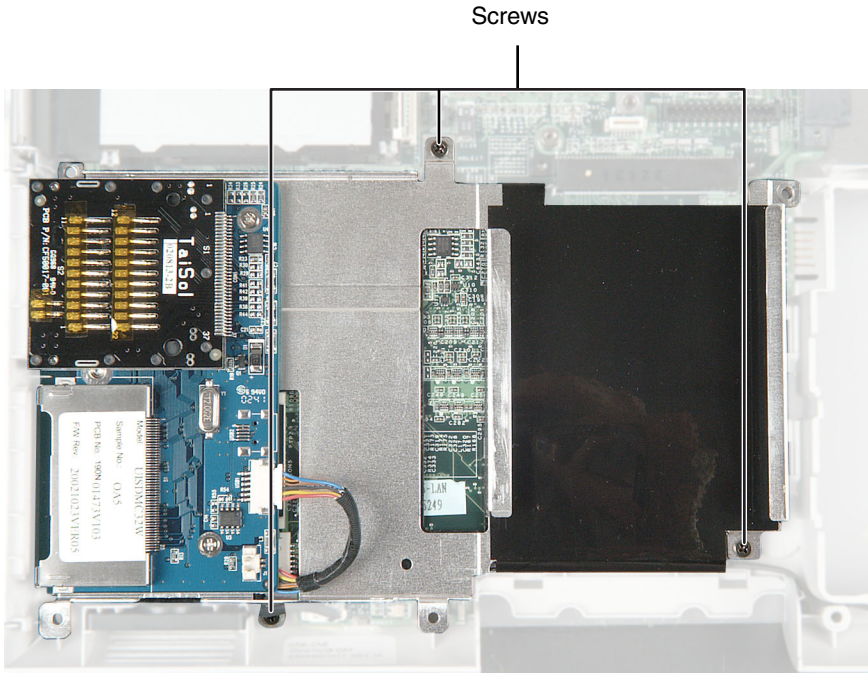
8 Remove the LED indicator panel by following the instructions in “Replacing the LED indicator panel” on page 38.

9 Remove the hinge covers by following the instructions in “Replacing the hinge covers” on page 43.

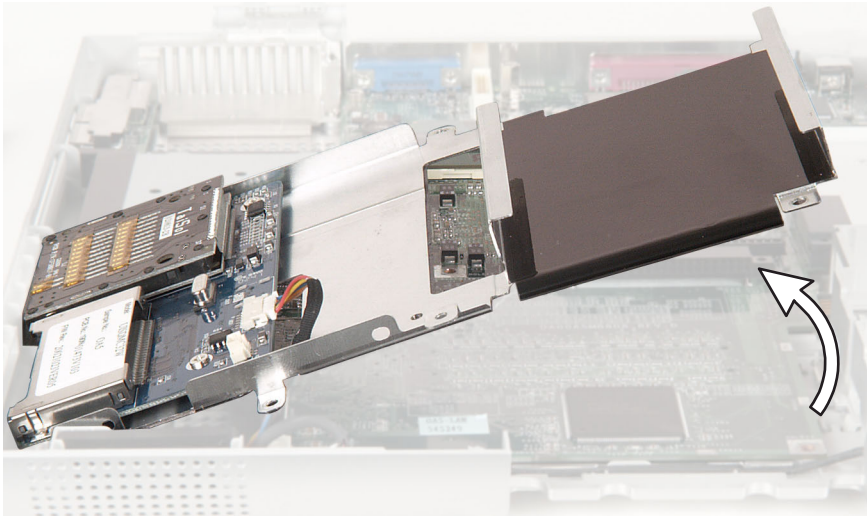
10 Remove the cooling assembly by following the instructions in “Replacing the cooling assembly” on page 46.

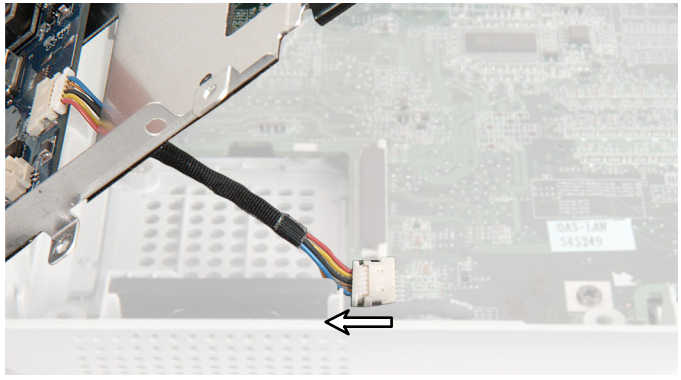
11 Remove the palm rest assembly by following the instructions in “Replacing the palm rest assembly” on page 55.

12 Remove the three black screws that secure the memory card reader kit to the notebook.



13 Lift the card reader kit and disconnect the card reader's cable.





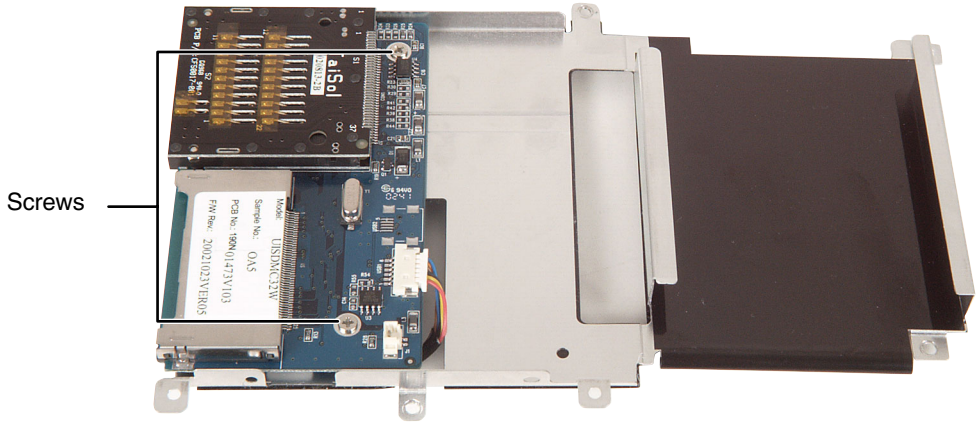
14 Remove the card reader kit from your notebook.

15 If your replacement card reader came in a kit, go to Step 19.

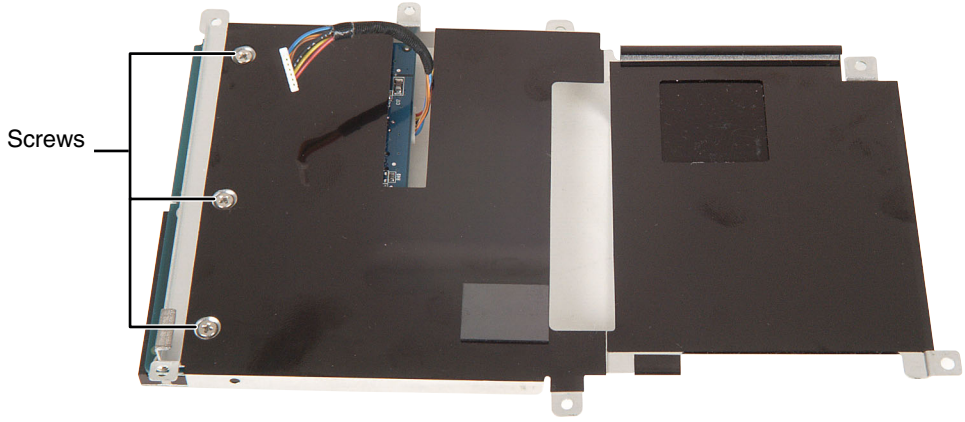
-OR-

If you need to replace the card reader in the card reader kit, go to Step 16.

16 Remove the two chrome screws from the top of the memory card reader that secure the card reader to the card reader kit bracket.



17 Remove the three chrome screws from the bottom of the memory card reader that secure the card reader to the card reader kit bracket.



18 Remove the bracket from the old card reader.

19 Insert the new card reader into the bracket so the screw holes line up and replace the five chrome screws that secure the bracket to the card reader.

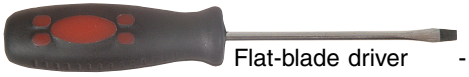
20 Insert the new card reader kit into your notebook and plug in the memory card reader's cable.

21 Replace the three black screws that secure the card reader kit to your notebook.

22 Reassemble your notebook.

Replacing the system board

Tools you need to complete this task:



Flat-blade driver

- OR -

Scribe or non-marring tool

Phillips #0 screwdriver

5.0 mm hex nutdriver

Screws removed during this task:

2 chrome 2.5 × 4.7 mm
(hard drive kit)

4 chrome 2.5 × 3.0 mm
(keyboard)

1 chrome 2.0 × 3.0 mm and
1 black 2.5 × 4.0 mm
(optical drive)

1 chrome 2.0 × 3.0 mm
(LED indicator panel)

2 black 2.5 × 4.0 mm
(LED indicator panel)

3 chrome 2.0 × 3.0 mm
(cooling assembly)

12 chrome 2.5 × 5.0 mm
(palm rest bottom)

3 black 2.5 × 4.0 mm
(palm rest top)

3 black 2.5 × 4.0 mm
(diskette drive kit or memory
card reader kit)

2 chrome 2.5 × 5.0 mm
(system board bottom)

4 hex nuts
(port connectors, system
board)

4 black 2.5 × 4.0 mm
(system board top)

2 hex nuts
(system board)

2 chrome 2.0 × 4.0 mm
(modem)

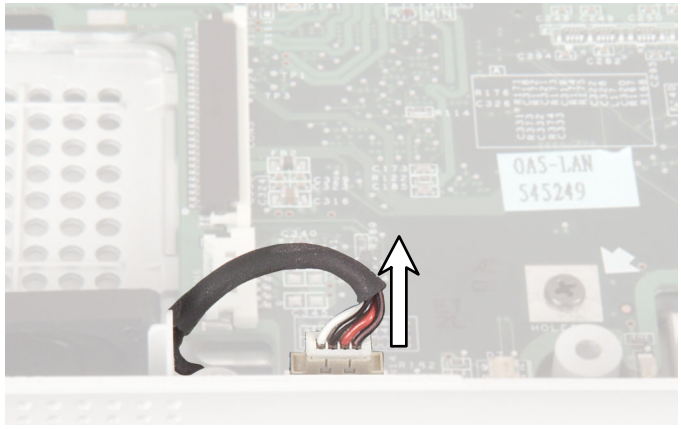
To replace the system board:

1. Disconnect the AC adapter and modem and network cables and prepare your notebook by following the instructions in "Preparing your notebook" on page 7.
2. Turn your notebook over so the bottom is facing up.
3. Remove the battery by following the instructions in "Removing the battery" on page 8.
4. If your notebook has 802.11 wireless networking built in, remove the 802.11 mini PCI module by following the instructions in "Replacing the 802.11 mini PCI card" on page 13.
5. Remove the hard drive kit by following the instructions in "Replacing the hard drive kit" on page 18.
6. Turn your notebook over so the top is facing up.
7. Remove the keyboard cover by following the instructions in "Replacing the keyboard cover" on page 25.
8. Remove the keyboard by following the instructions in "Replacing the keyboard" on page 28.
9. Remove the optical drive by following the instructions in "Replacing the optical drive kit" on page 34
10. Remove the LED indicator panel by following the instructions in "Replacing the LED indicator panel" on page 38.
11. Remove the hinge covers by following the instructions in "Replacing the hinge covers" on page 43.
12. Remove the cooling assembly by following the instructions in "Replacing the cooling assembly" on page 46.
13. Remove the palm rest assembly by following the instructions in "Replacing the palm rest assembly" on page 55.
14. Remove the diskette drive kit by following the instructions in "Replacing the diskette drive kit" on page 60.

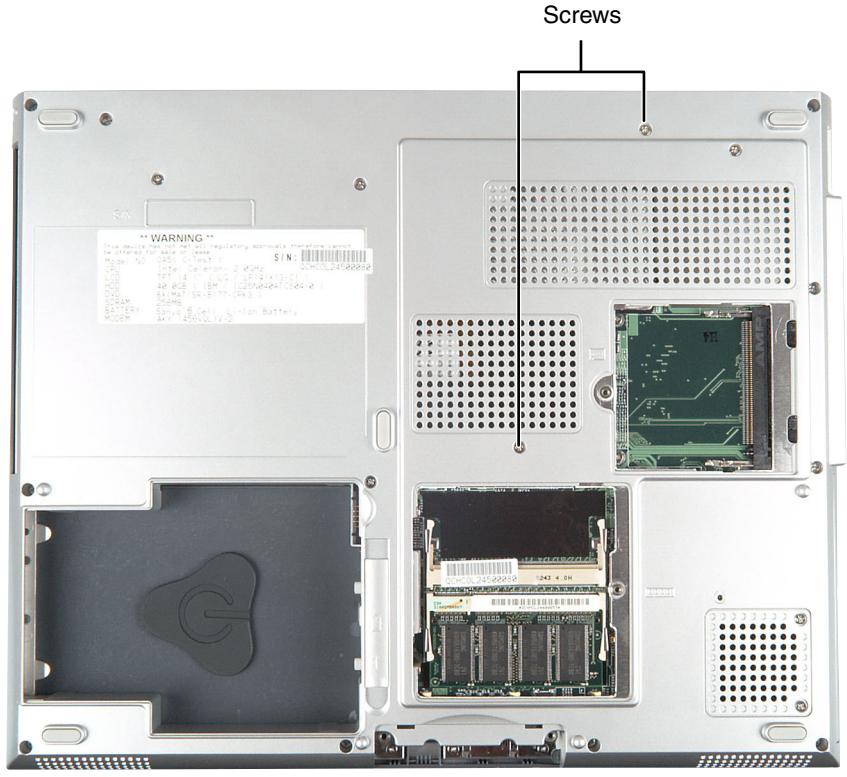
    -OR-

    Remove the memory card reader kit by following the instructions in "Replacing the memory card reader kit" on page 65.

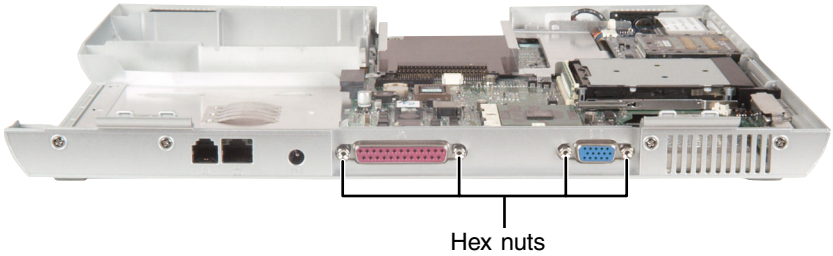
15 Unplug the speakers.



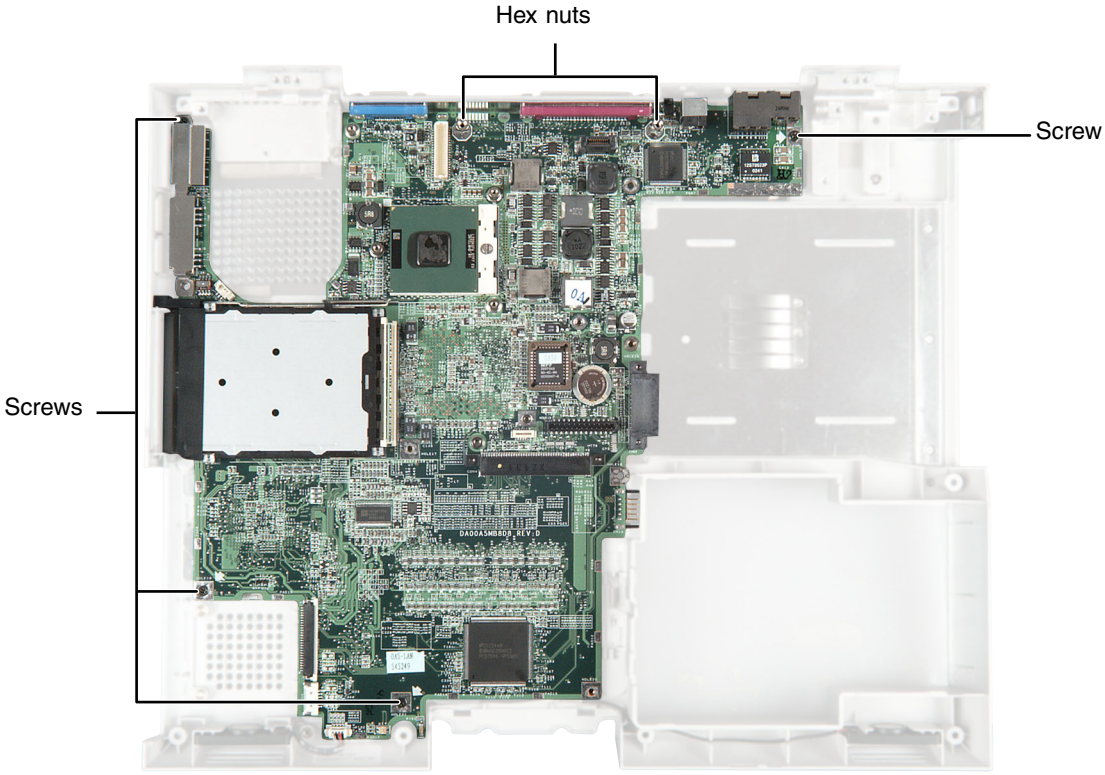
16 Turn the notebook over and remove the two chrome screws from the bottom.



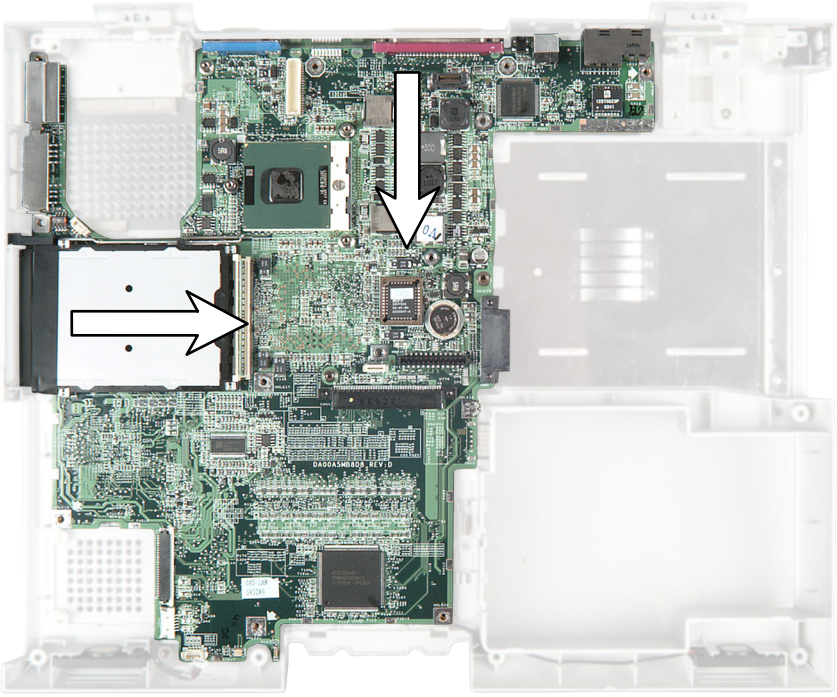
17 Turn the notebook over and remove the four hex nuts on the rear I/O panel.



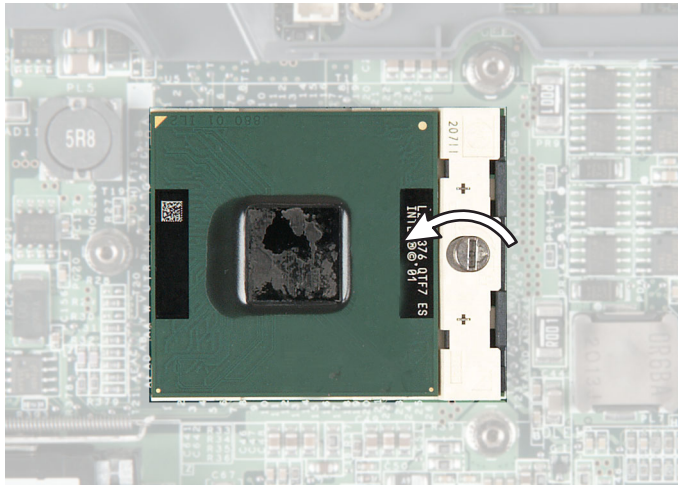
18 Remove the four black system board screws from the holes marked 2, 7, 19, and 21, and the hex nuts from the holes marked 5 and 6.



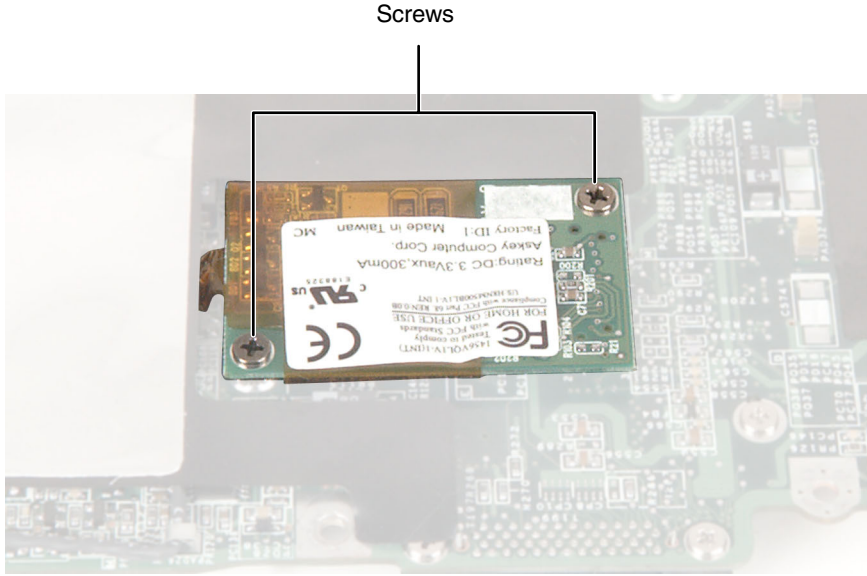
19 While pushing in on the PC Card eject button, remove the system board. Make sure the rear I/O panel and PC Card eject button clear the chassis bottom.



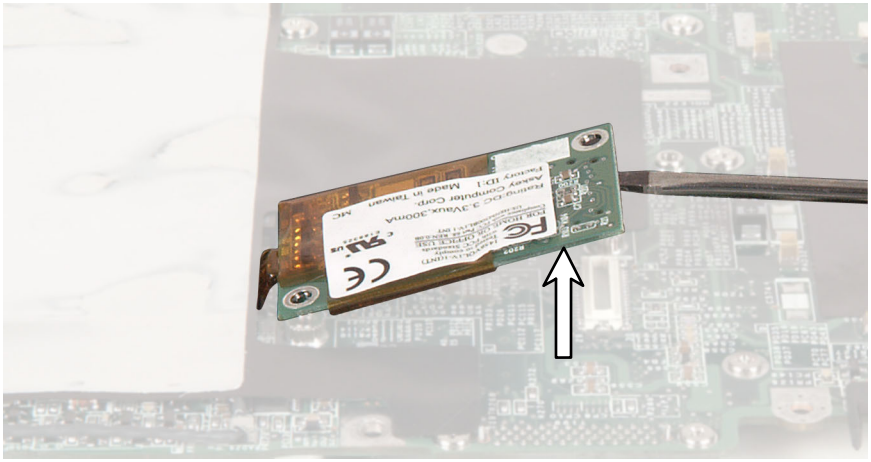
20 Use a flat-blade screwdriver to turn the processor lock screw 1/4-turn counter-clockwise, then remove the processor from the old system board.



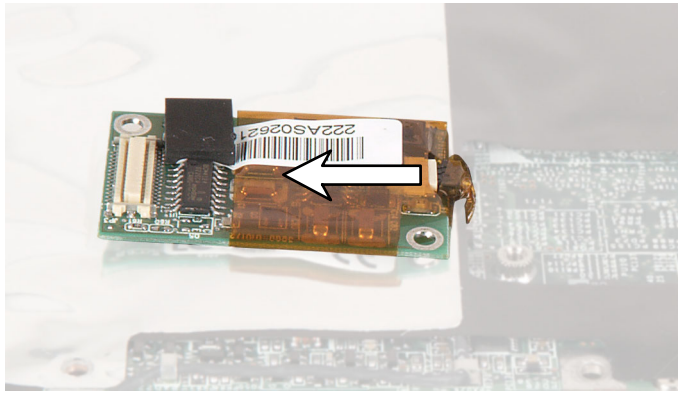
21 Turn the old system board over and remove the screws that secure the modem to the system board.



22 Use a flat-blade screwdriver to unplug the modem from the old system board.



23 Unplug the modem cable from the modem.



24 Install the modem onto the new system board and turn the board over.

25 Install the processor onto the new system board making sure that Pin 1 on the processor (indicated by the silk-screened arrow on the corner of the processor) aligns with Pin 1 on the processor socket (indicated by the absence of a pin hole in the processor socket), then use a flat-blade screwdriver to turn the processor lock screw 1/4-turn clockwise.

26 Place the new system board into your notebook.

27 Replace the four black system board screws into the holes marked 2, 7, 19, and 21, and the hex nuts into the holes marked 5 and 6.

28 Replace the four hex nuts on the rear I/O panel.

29 Turn the notebook over and replace the two chrome screws on the bottom.

30 Turn the notebook over and connect the speakers.

31 Reassemble your notebook.

32 Place a new wireless Ethernet label on the mini PCI cover so it covers the screw.

Caution

By law, a wireless Ethernet FCC ID and security label must cover the mini PCI cover screw. End users are strictly not permitted to have access to the wireless card.

Replacing the modem

To replace the modem in your notebook, complete the instructions for “Replacing the system board” on page 72.

MAN SYS 400 VTX SERVICE GDE R0 1/03

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