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Dell™ Inspiron™ 2100

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Hints, Notices, and Cautions



HINT: A HINT indicates important information that helps you make better use of your computer.



NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



CAUTION: A CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see the Glossary in the *Tell Me How* help file (click **Start**, point to **Programs**, point to **User's Guides**, and then click **Tell Me How**).

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A01 5 Mar 2001

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A Tour of Your Computer

Dell™ Inspiron™ 2100

[Front View](#)

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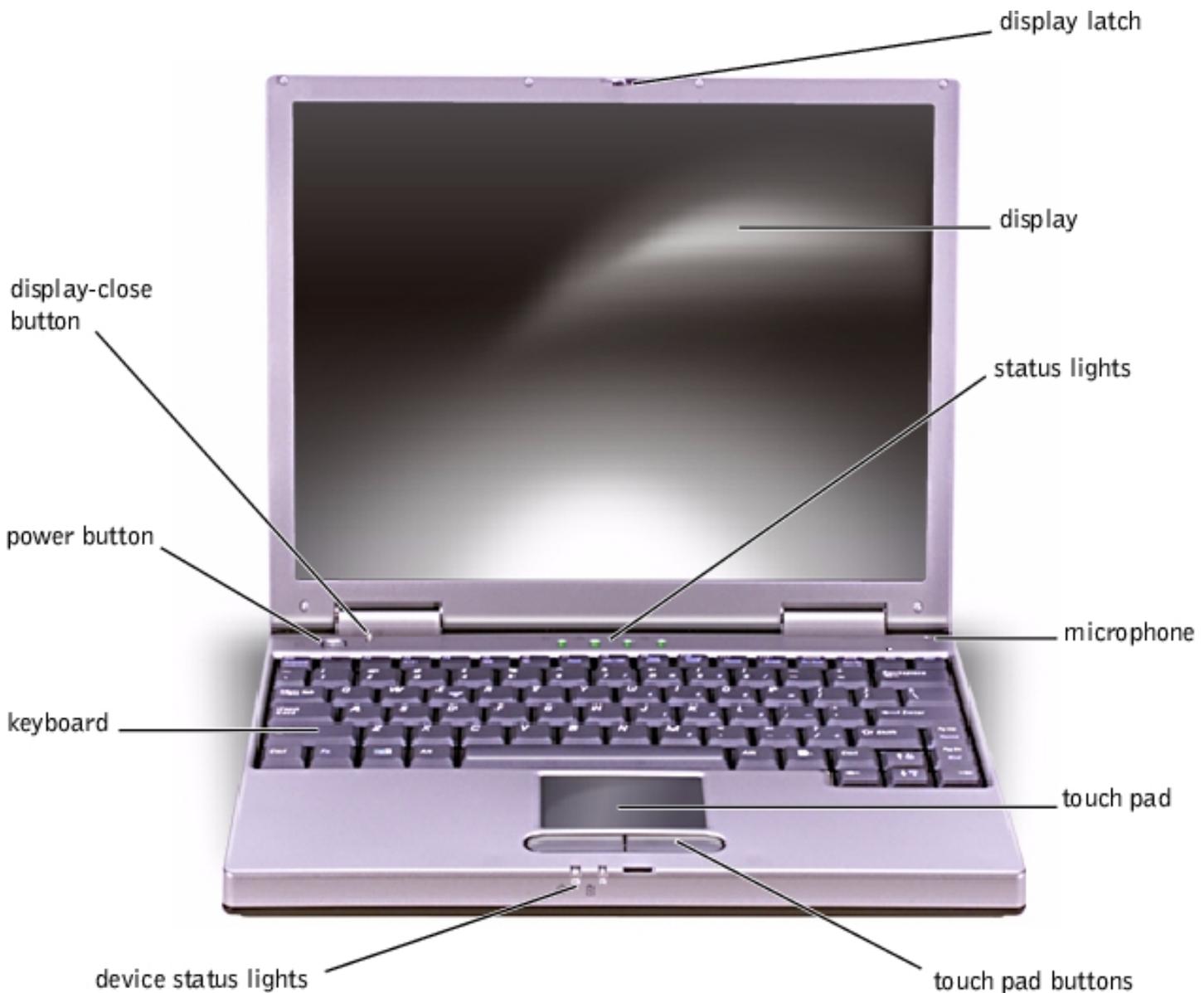
[Right Side View](#)

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[External Media Bay](#)

Front View



Display Latch

This tab keeps the display locked in place when the display is closed.

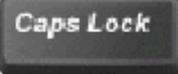
Display

The computer has a color LCD.

Device Status Lights



The green lights located above the keyboard indicate the following:

- The light labeled  turns on when the computer reads or writes data.
- The light labeled  turns on when you press   to enable the numeric keypad.
- The light labeled  turns on when you press  to enable the uppercase letter function.
- The light labeled  turns on when you press   to enable the scroll lock function.

➔ **NOTICE:** To avoid data loss, never turn off the computer while the light labeled  is flashing.

Microphone

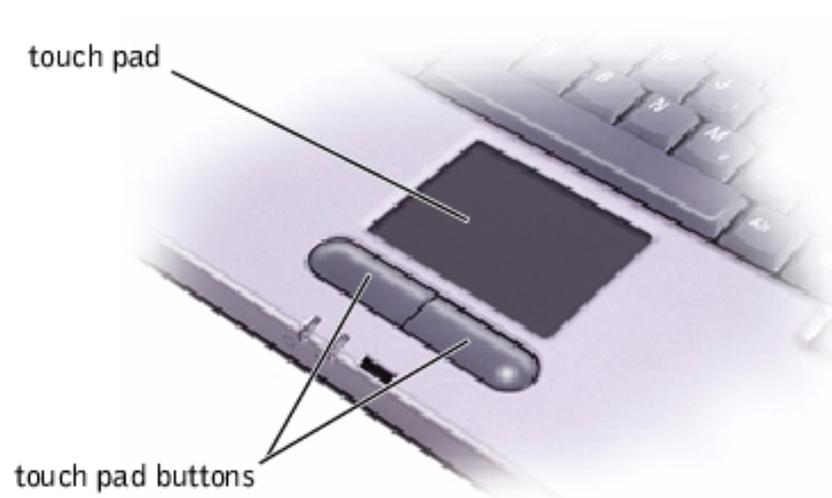
The internal microphone allows you to record voice audio.

Touch Pad

The touch pad detects the position of your finger over a touch-sensitive area and provides the computer with full mouse functionality.

Touch Pad Buttons

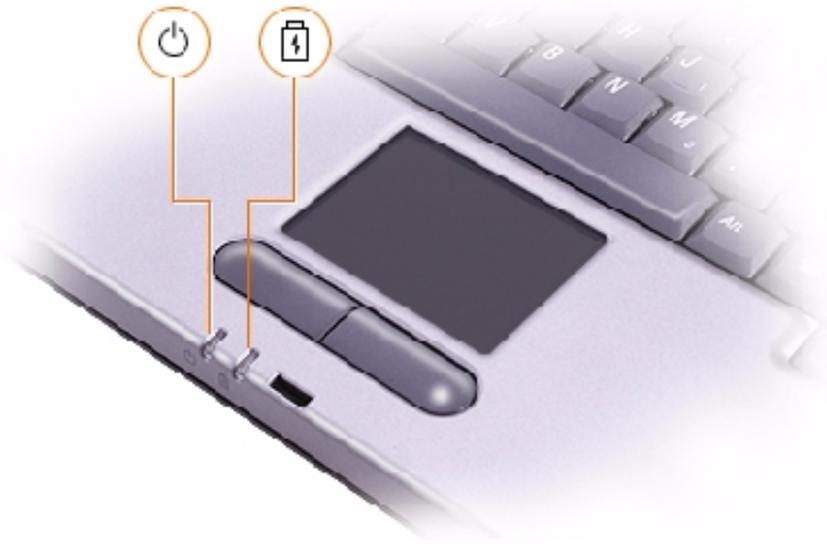
These buttons correspond to the left and right buttons on a standard mouse.



Status Lights

The lights below the display indicate the following:

- The light labeled  turns on steadily or blinks to indicate battery charge status. Indicator states include:
 - Solid green, which indicates that the battery is charging
 - Flashing green, which indicates that the battery charge cycle is complete
 - Flashing amber, which indicates that the battery charge is low
 - Solid amber, which indicates that the battery charge is critically low
- The light labeled  turns on when the computer is turned on.



Keyboard

The keyboard includes a numeric keypad as well as the Microsoft® Windows® logo key, , which supports the Windows operating systems. See the [Tell Me How](#) help file for information on your computer's supported key combinations.

Power Button

 **HINT:** To turn off your computer, perform a Windows shutdown.

Press the power button to turn on the computer or to initiate standby mode. Depending on the computer's power management settings, pressing the power button may activate hibernate or shutdown mode instead.

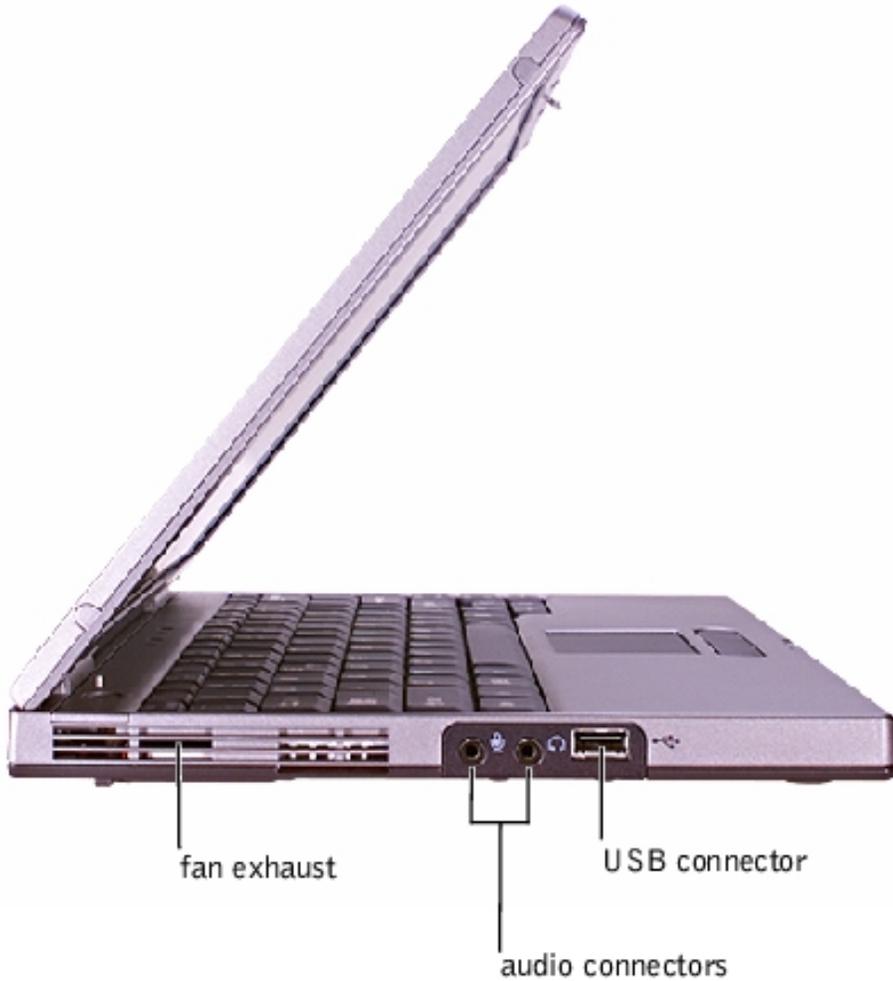
If the computer stops responding, press and hold the power button until the computer turns off completely (this may take several seconds).

Display-Close Button

When you close the display, this button activates a power conservation mode that you can select on the Microsoft Windows **Power Options Properties** window.

 **NOTICE:** Do not press the display-close button with your finger.

Left Side View



Fan Exhaust

 **HINT:** The computer turns on the fan only when the computer gets hot. It may run most of the time or very seldom, depending on your use of the computer. Because the fan spins at a high rate of speed, it may make a noise. This noise is normal and does not indicate a problem with the fan or the computer.

The fan works with the air intakes to prevent the computer from overheating. When the computer gets hot, the small internal fan turns on and draws air through the air intakes to cool the computer. Hot air is expelled through the fan exhausts.

 **CAUTION:** Do not push objects into or block the fan exhaust. Doing so can cause fire or damage the interior components. Keep the opening free from dust and other foreign particles.

Audio Connectors



- Attach a microphone to the  connector.
- Attach headphones or speakers to the  connector.

USB Connector



Use this connector to attach USB-compatible devices such as a mouse, keyboard, printer, or scanner to your computer.

Right Side View



Security Cable Slot



The slot lets you attach a commercially available antitheft device to the computer. Complete instructions for installing antitheft devices are usually included with the device.

➔ **NOTICE:** Antitheft devices are of differing designs. Before you buy one, make sure it will work with the security cable slot in the computer.

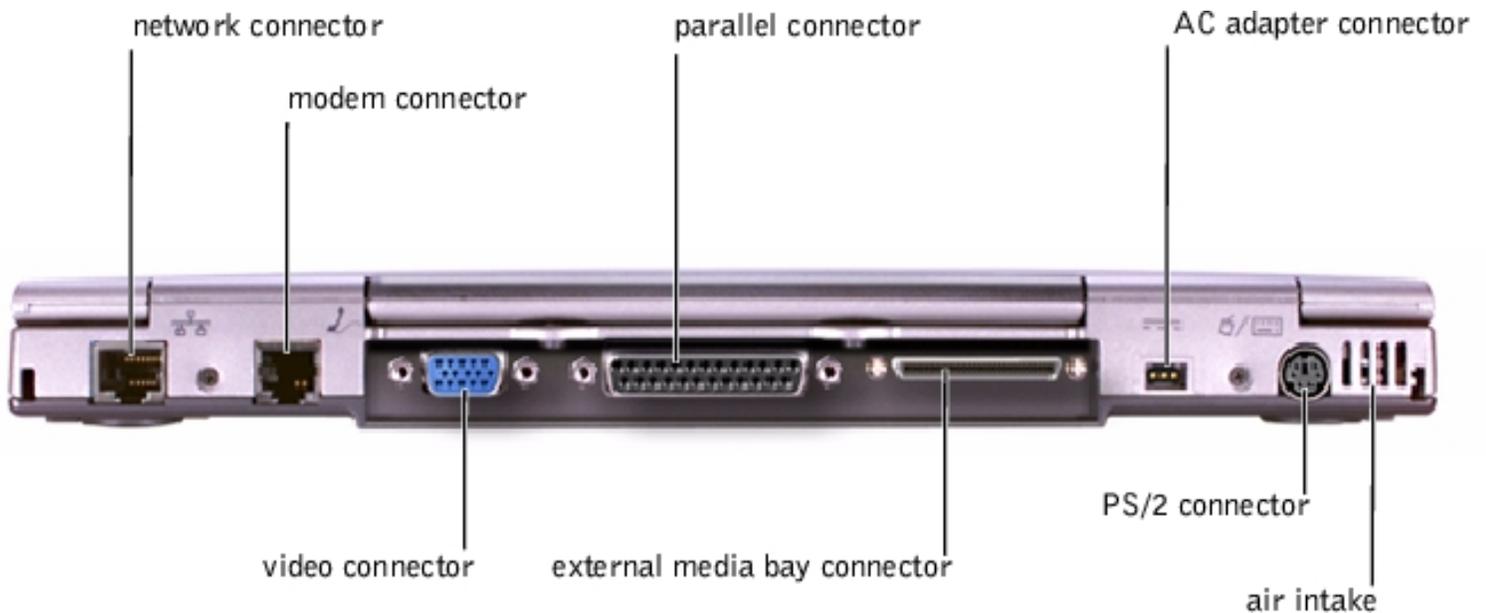
Hard Drive

The hard drive reads and writes data on a hard disk.

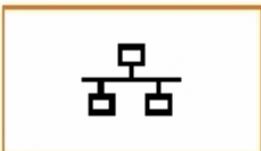
PC Card Slot

The PC Card slot has one connector that supports various types of PC Cards, including modems and network cards. See the [Tell Me How](#) help file for more information on supported PC Cards and for installation and removal instructions.

Back View



Network Connector



Use this connector to connect the computer to a network.

🔍 **HINT:** The network connector is slightly larger than the modem connector. Do not plug a telephone line into the network connector.

Modem Connector



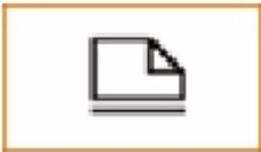
Use this connector to plug in the telephone line.

Video Connector



Use this connector to attach an external monitor to the computer.

Parallel Connector



Use this connector to attach a parallel device, such as a printer, to the computer.

External Media Bay Connector



Use this connector to connect the external media bay.



NOTICE: When you remove the media bay cable from the computer or a device, press in on the cable securing clips while pulling the cable connector straight out. Do not insert or pull out the connector at an angle.

AC Adapter Connector

Use this connector to attach an AC adapter to the computer.

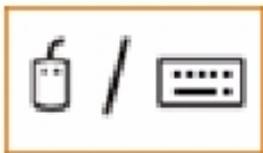


 **HINT:** Although the AC adapter works worldwide, power connectors vary among countries. Before using the AC adapter in a foreign country, you may need to obtain a new power cable designed for use with the electrical outlets in that country.

The AC adapter converts AC power to the DC power required by the computer. You can connect the AC adapter with your computer either turned on or off.

 **NOTICE:** When you disconnect the AC adapter from the computer, grasp the adapter cable connector, not the cable itself, and pull firmly but gently to avoid damaging the cable.

PS/2 Connector



Use this connector to attach PS/2-compatible devices such as a mouse, keyboard, or external numeric keypad to your computer.

Air Intake

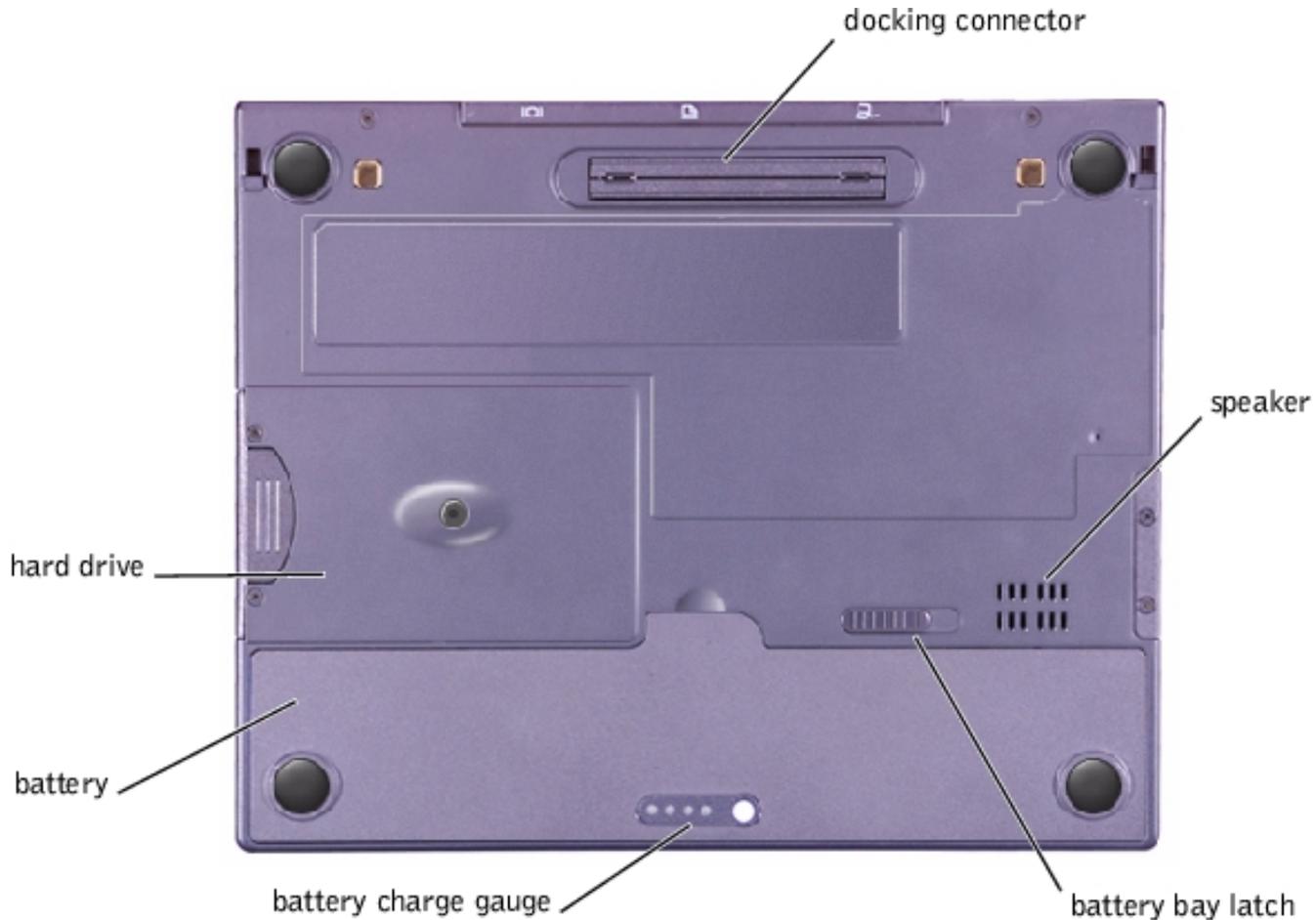
 **HINT:** The computer turns on the fan only when the computer gets hot. It may run most of the time or very seldom, depending on your use of the computer. Because the fan spins at a high rate of speed, it may make a noise. This noise is normal and does not indicate a problem with the fan or the computer.

The fan works with the air intake to prevent the computer from overheating. When the computer gets hot, the small internal fan turns on and draws air through the air intake to cool the computer. Hot air is expelled through the fan exhaust.



CAUTION: Do not push objects into or block the air intake. Doing so can cause fire or damage interior components. Keep the opening free from dust and other foreign particles.

Bottom View



Docking Connector

Use this connector to attach your computer to the optional port replicator. A port replicator allows you to easily use an external keyboard, mouse, and monitor with your computer. An advanced port replicator also includes a network adapter for connecting your computer to a network.



HINT: The port replicator may not be available in certain countries. Refer to the documentation that came with your port replicator for instructions on attaching external devices to the port replicator and connecting your computer to it.

Speaker

Your computer has an integrated speaker. Press the volume control buttons to adjust the speaker volume.

Battery Bay Latch

Slide the battery bay latch to the unlock position, causing the battery to pop up slightly on one side. While keeping the latch in the unlock position, pivot the battery up and out of the bay. Release the latch.

Battery Charge Gauge

To check the charge level, press the battery test button. The appropriate number of indicators lights up for a few seconds to indicate the amount of charge remaining in the battery.

Battery

The computer is shipped with a partially charged battery in the battery bay. Dell recommends that you connect an AC adapter to the computer and fully charge the battery as soon as possible after you unpack the computer.

External Media Bay



Your computer comes with a floppy drive installed in the external media bay. You can also install a CD drive, a DVD drive, or a CD-RW drive in the external media bay.

- ➡ **NOTICE:** To avoid overheating the computer, do not place the external media bay close to the air intake or fan exhaust.
- ➡ **NOTICE:** When a device is not inside the external media bay, the device is fragile and must be handled carefully to avoid damage. Do not press down on the device or place a heavy object on top of it. Place extra devices in a travel case to keep them free of dust and protected from liquids. Store devices in a safe place.

Before you remove a device from the external media bay, turn off the computer. After you install a device in the external media bay, reboot the computer so that the device is recognized by the operating system. See the Dell

Solutions Guide that came with the computer for information on swapping devices without shutting down the computer.

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Power Conservation

Dell™ Inspiron™ 2100

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Conservation Tips

- You automatically conserve **battery** power each time you attach your computer to an electrical outlet. When the **AC** adapter is attached, the battery is charged while the computer uses AC power. Your battery's life expectancy is largely determined by the number of times it is charged, so use an AC power source to run the computer if one is available.
 - When the computer is using battery power, remove PC Cards that you are not using.
 - When possible, attach your computer to an electrical outlet when you play CDs and DVDs. Playing a CD or DVD uses a lot of battery power.
 - Place the computer in **standby mode** or **hibernate mode** when you leave the computer unattended for long periods of time. See "[Power Conservation Modes](#)" for more information.
 - If you are going to connect your computer to a port replicator, click **None** when you program the display-close option on the **Advanced** tab in the **Power Options Properties** window.
 - To resume computer operation from a conservation mode, press the power button.
-

Power Conservation Modes

You can use both **standby mode** and **hibernate mode** on your computer.

Standby Mode

Standby mode conserves power by turning off the display and the hard drive after a predetermined period of inactivity (a time-out). When your computer exits standby mode, the desktop is restored to the same state that it was in before the computer entered standby mode.

To activate standby mode:

- Click the **Start** button, click **Shutdown**, click **Standby**, and then click **OK**.

or

- Press the power button or the power conservation key combination, <Fn><Suspend>, that you programmed (via the **Advanced** tab).



HINT: You can use the **Advanced** tab to program the display-close option, the power button, and the power conservation key combination to activate standby mode.

For more information on activating standby mode, see the instructions for your operating system in "Turning Your Computer On and Off" in Chapter 1 of the Dell *Solutions Guide*. To exit standby mode, press the power button.



NOTICE: If your computer loses AC and battery power while in standby mode, you may lose data.

Hibernate Mode

Hibernate mode conserves power by copying system data to a reserved area on the hard drive and then completely turning off the computer. When the computer exits hibernate mode, the programs and files that were open before you activated hibernate mode are still open.

Your computer enters hibernate mode if the battery charge level becomes critically low, or if either the power button, the power conservation key combination, <Fn><Suspend>, or the display-close option are programmed to activate hibernate mode in the **Advanced** tab of the **Power Options Properties** window.



HINT: Some PC Cards may not operate correctly after resuming operation from hibernate mode. If you encounter problems with a PC Card, see the [Tell Me How](#) help file for instructions on removing and replacing the card, or simply restart (reboot) your computer.

To exit hibernate mode, press the power button. The computer may take a short time to return to its normal operating state.



HINT: Pressing a key or touching the touch pad will not bring the computer out of hibernate mode.

Power Options Properties

To access the Microsoft® Windows® **Power Options Properties** window:

1. Click the **Start** button, point to **Settings**, and click **Control Panel**.
2. Double-click the **Power Options** icon.

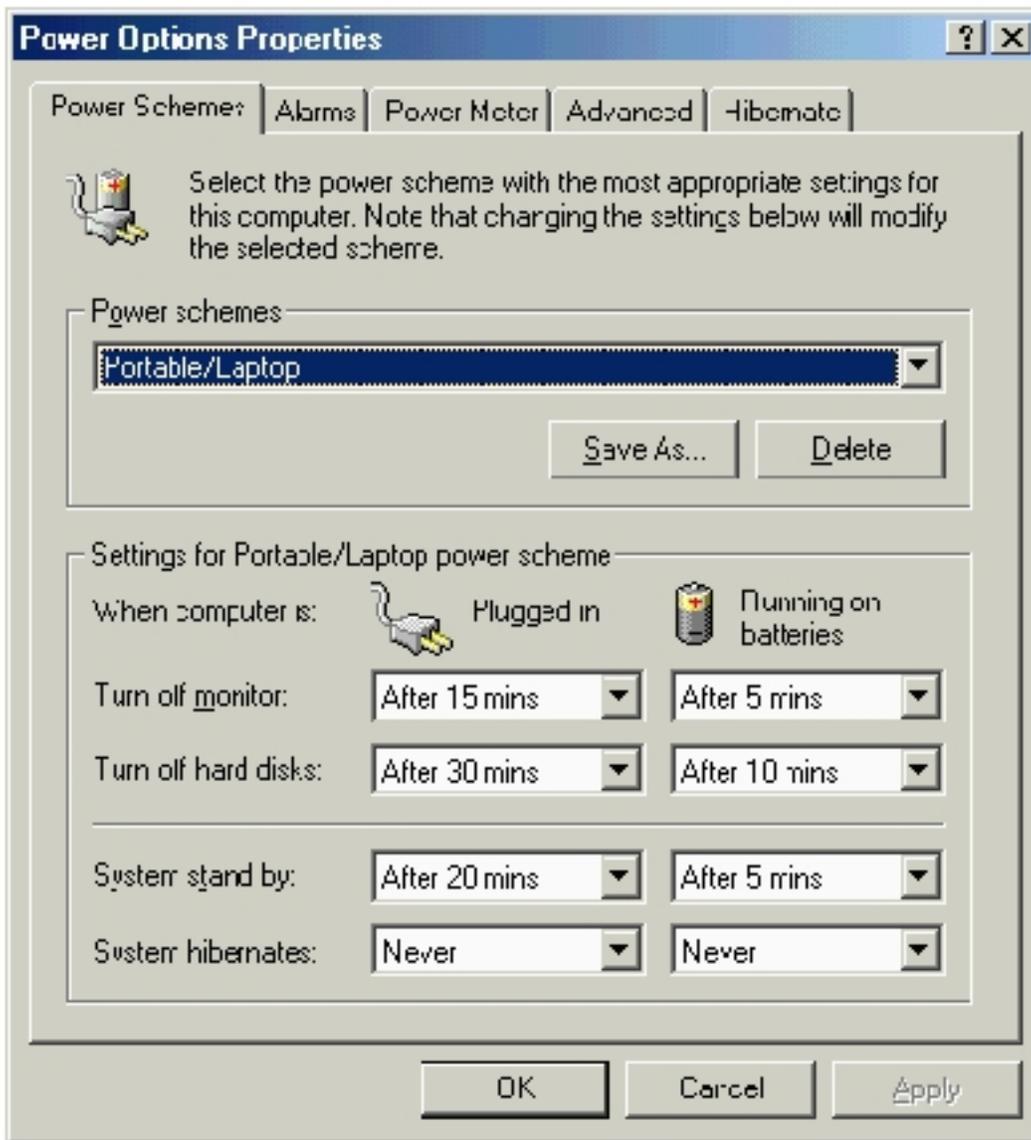
The **Power schemes** pull-down menu displays the selected preset power scheme:

- **Portable/Laptop** (default)
- **Home/Office**
- **Always On**
- **Presentation** (Windows 2000 only)
- **Minimal Power Management** (Windows 2000 only)
- **Max Battery** (Windows 2000 only)



HINT: Dell recommends that you continue to use the **Portable/Laptop** power scheme to maximize battery power conservation.

Each preset power scheme has different time-out settings for putting the computer into standby mode, turning off the display, and turning off the hard drive.

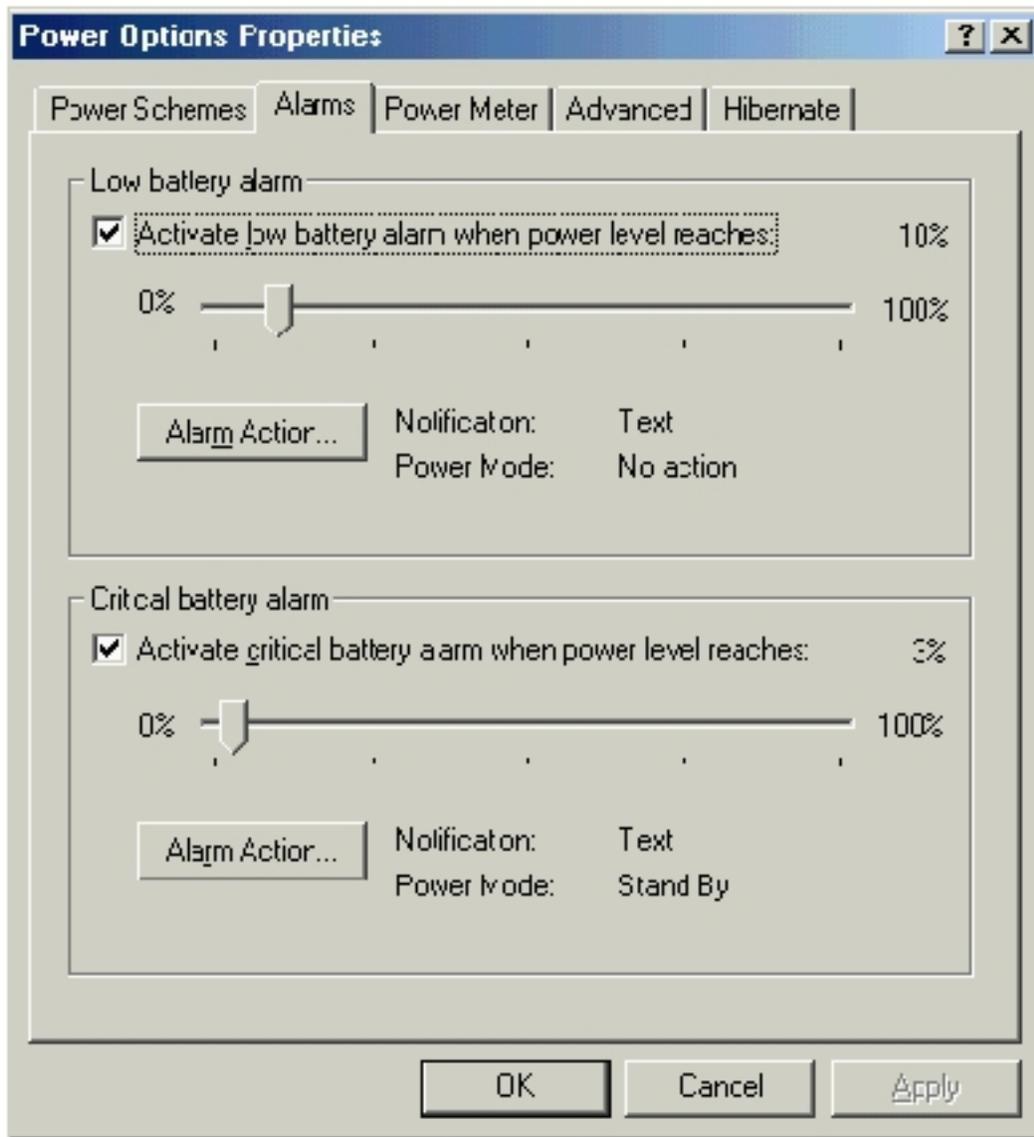


Alarms Tab



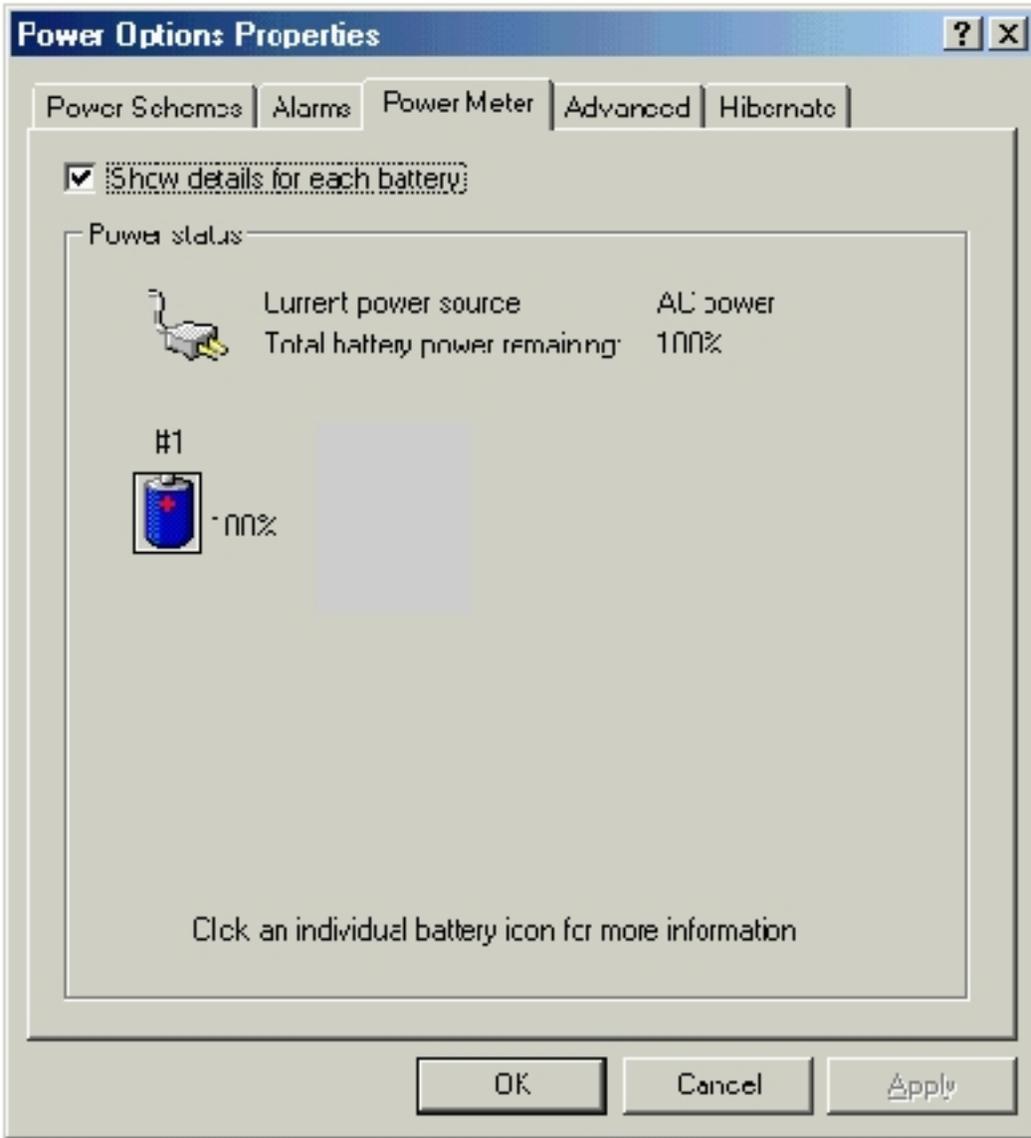
HINT: To enable audible alarms, click each **Alarm Action** button and select **Sound alarm**.

The **Low battery alarm** and **Critical battery alarm** settings alert you with a message when the battery charge falls below a certain percentage. When you receive your computer, the **Low battery alarm** and **Critical battery alarm** check boxes are selected. Dell recommends that you continue to use these defaults.



Power Meter Tab

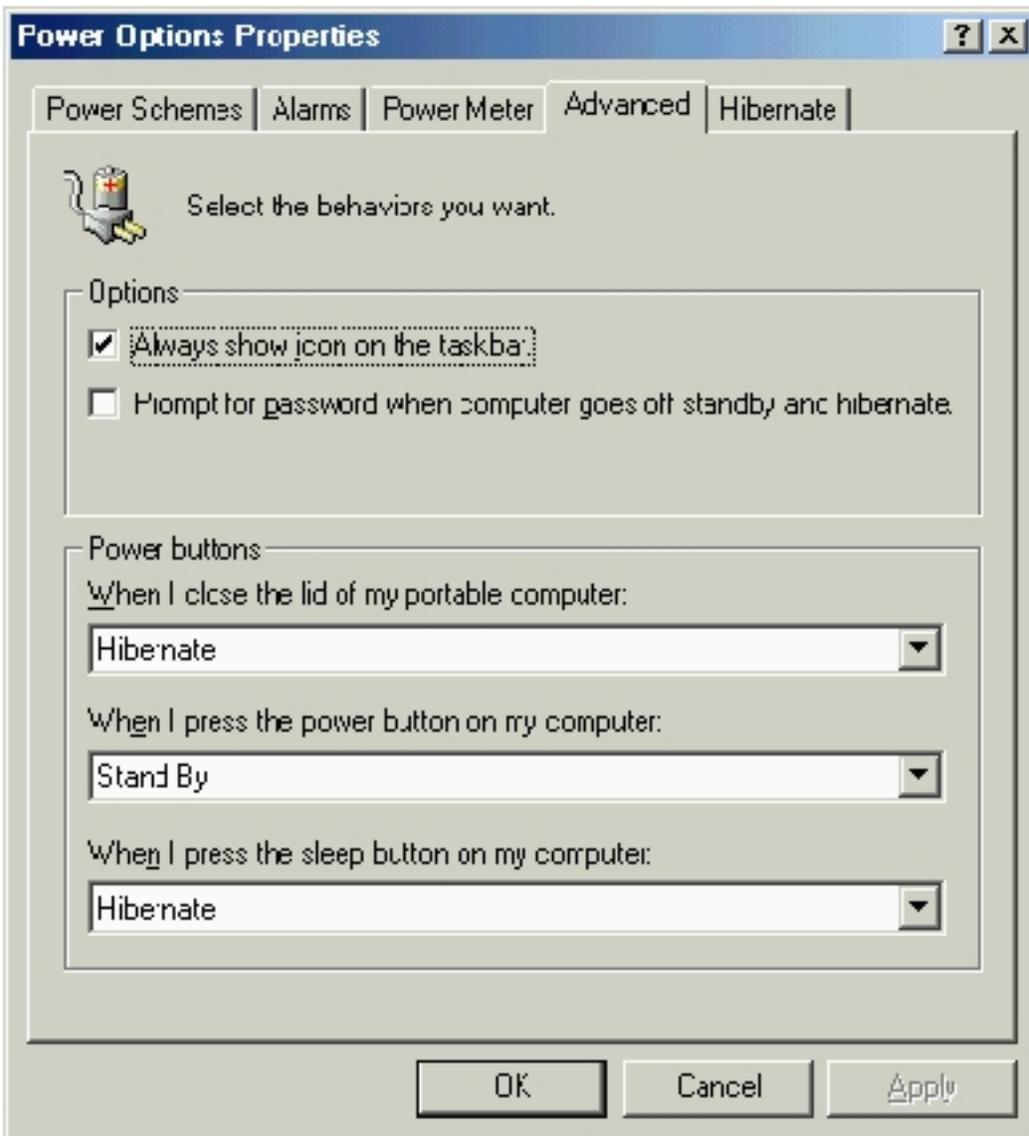
The **Power Meter** tab displays the current power source and amount of battery charge remaining.



Advanced Tab

The **Advanced** tab allows you to:

- Set icon and standby password options.
- Program the following functions:
 - Activate standby mode (the default when you close the display).
 - Activate hibernate mode (the default for the power button).
 - Shut down Windows and turn off the computer.
 - No action (None).

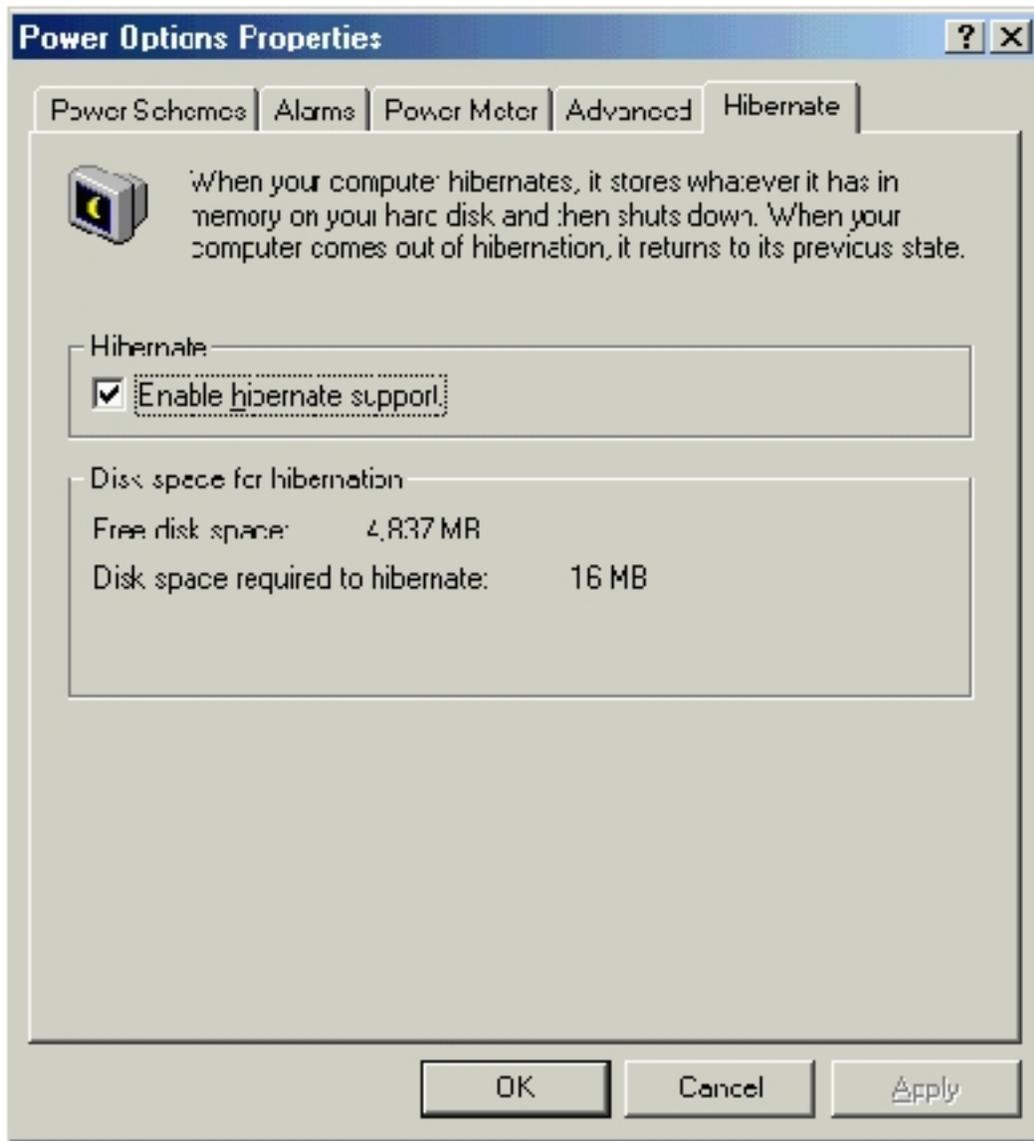


 **HINT:** If you are going to connect your computer to a port replicator, click **None** when you program the display-close option. This setting ensures that your computer does not enter standby mode or hibernate mode when you close (lower) the display.

To program these functions, click an option from the corresponding pull-down menu, and then click **OK**.

Hibernate Tab

The **Hibernate** tab lets you enable hibernate mode by clicking the **Enable hibernate support** check box.



Intel® SpeedStep™ Tab

If your computer has a Mobile Intel Pentium® III processor, the **Power Options Properties** window includes the **Intel® SpeedStep™** tab.

To change the Intel SpeedStep options, click the **Advanced** button and then click one of the following options:

- **Disable Intel SpeedStep technology control**



HINT: If you disable Intel SpeedStep, the processor always operates at its maximum speed.

- **Remove flag icon**
- **Disable audio notification when performance changes**

Click **Apply** to accept any changes, and then click **OK** to close the **Intel SpeedStep technology** window.

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Solving Problems

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HINT: If you have a problem with an external device, see the device documentation or contact the manufacturer.

Accessing Help Files

To access the *Tell Me How* help file

1. Click the **Start** button, point to **Programs—>User's Guides**, and then click **Tell Me How**.

To access Microsoft® *Windows® 2000 Help*

1. Click the **Start** button and then click **Help**.
2. Click the **Search** tab.
3. Type a word or phrase that describes your problem and then click **List Topics**.
4. Click the topic that describes your problem and then click **Display**.
5. Follow the instructions shown on the screen.

To access *Windows Me Help*

1. Click the **Start** button and then click **Help**.
2. Type a word or phrase that describes your problem in the **Search** box and then click **Go**.
3. Click the topic that describes your problem and then click **Display**.
4. Follow the instructions shown on the screen.

Power Problems



HINT: See the [Tell Me How](#) help file for information on standby mode.

Check the power light— When the power light is on, the computer has power. If the power light is off, press the power button.

Check the battery— If you are using a battery to power your computer, the battery charge may be depleted. Connect the computer to an electrical outlet using the AC adapter, and turn on the computer.

Test the electrical outlet— Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Check the AC adapter— Be sure that the power cable is firmly inserted into the electrical outlet and the green light on the AC adapter is on.

Connect the computer directly to an electrical outlet— Bypass power protection devices, power strips, and the extension cable to verify that the computer turns on.

Check for interference— Electrical appliances on the same circuit or operating near the computer can cause interference. Other causes of interference: power extension cables, too many devices on a power strip, or multiple power strips connected to the same electrical outlet.

Adjust the power properties— See the [Tell Me How](#) help file or search for the keyword *standby* in [Windows Help](#).

Start-Up Error Messages

Operating system not found— Contact Dell for technical assistance. See "Contacting Dell" in the *Dell Solutions Guide* for the correct contact information.

Insert bootable media— The operating system is trying to boot to a nonbootable floppy disk or CD. Insert a bootable floppy disk or CD.

Non-system disk error— A floppy disk is in the floppy drive. Remove the floppy disk and restart the computer.

Video and Display Problems

If the display is blank

Check the power light— When the power light is on, the computer has power. If the power light is off, press the power button.

Check the battery— If you are using a battery to power your computer, the battery charge may be depleted. Connect the computer to an electrical outlet using the AC adapter, and turn on the computer.

Test the electrical outlet— Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Check the AC adapter— Be sure that the power cable is firmly inserted into the electrical outlet and the green light on the AC adapter is on.

Adjust the power properties— Search for the keyword `standby` in [Windows Help](#).

If the display is difficult to read

Adjust the brightness— See the [Tell Me How](#) help file for instructions on adjusting the brightness.

Move the subwoofer away from the computer or monitor— If your external speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the computer or external monitor.

Eliminate possible interference— Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

Rotate the computer to face a different direction— Eliminate sunlight glare, which can cause poor picture quality.

Restore the recommended settings— Restore the original resolution and refresh rate settings. See the [Tell Me How](#) help file for instructions.

Adjust the Windows display settings

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**. (In Windows 2000, double-click **Control Panel**.)
2. Double-click the **Display** icon and then click the **Settings** tab.
3. Try different settings for **Colors** and **Screen area**.

Sound and Speaker Problems

Integrated Speakers

Adjust the Windows volume control— Double-click the yellow speaker icon in the lower-right corner of your screen. Be sure that the volume is turned up and that the sound is not muted.

Check the volume control buttons— Press <Fn><F5> to increase the volume, or press <Fn><F6> to decrease the volume.

Reinstall the sound (audio) driver— See "[Installing Drivers and Utilities](#)."

External Speakers



HINT: The volume control in some MP3 players overrides the Windows volume setting. If you have been listening to MP3 songs, make sure that you did not turn the player volume down or off.

Verify the speaker cable connections— Ensure that the speakers are connected as shown on the setup diagram supplied with the speakers.

Test the electrical outlet— Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Ensure that the speakers are turned on— See the setup diagram supplied with the speakers.

Adjust the speaker controls— Adjust the volume, bass, or treble controls to eliminate distortion.

Adjust the Windows volume control— Double-click the yellow speaker icon in the lower-right corner of your screen. Be sure that the volume is turned up and that the sound is not muted.

Test the speakers— Plug the speaker audio cable into the headphone connector on the side of the computer. Ensure that the headphone volume control is turned up. Play a music CD.

Run the speaker self-test— Some speaker systems have a self-test button on the subwoofer. See the speaker documentation for self-test instructions.

Move the subwoofer away from the computer or monitor— If your external speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the computer or external monitor.

Eliminate possible interference— Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

Reinstall the sound (audio) driver— See "[Installing Drivers and Utilities](#)."

Printer Problems

If you cannot print to a parallel port printer

Verify the printer cable connections— Ensure that the printer cable is connected (see "Connecting a Printer" in Chapter 1 of the Dell *Solutions Guide* that came with your computer).

Test the electrical outlet— Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Ensure that the printer is turned on— See the documentation supplied with the printer.

Verify that the printer is recognized by Windows

1. Click the **Start** button, point to **Settings**, and then click **Printers**.

If the printer is listed, right-click the printer icon, click **Properties**, and then select the **Details** tab.

2. Ensure that the **Print to the following port:** setting is **LPT1 (Printer Port)**.

Reinstall the printer driver— See "Installing the Printer Driver" in Chapter 1 of the Dell *Solutions Guide*.

If you cannot print to a USB printer

Verify the printer cable connections— Ensure that the printer cable is connected (see "Connecting a Printer" in Chapter 1 of the Dell *Solutions Guide* that came with your computer).

Test the electrical outlet— Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Ensure that the printer is turned on— See the documentation supplied with the printer.

Verify that the printer is recognized by Windows

1. Click the **Start** button, point to **Settings**, and then click **Printers**.

If the printer is listed, right-click the printer icon, click **Properties**, and then select the **Details** tab.

2. Ensure that the **Print to the following port:** setting is **USB**.

Reinstall the printer driver— See "Installing the Printer Driver" in Chapter 1 of the Dell Solutions Guide.

Modem Problems



NOTICE: Connect the modem to an analog telephone wall jack only. Connecting the modem to a digital telephone network damages the modem.

Check the telephone jack— Disconnect the telephone line from the modem and connect it to a telephone. Listen for a dial tone.

Connect the modem directly to the telephone wall jack— If you have other telephone devices sharing the line, such as an answering machine, fax machine, surge protector, or line splitter, then bypass them and connect the modem directly to the telephone wall jack with the telephone line.

Check the connection— Verify that the telephone line is connected to the modem.

Check the telephone line— Try using a different telephone line. If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

Run the modem diagnostics— Click the **Start** button, point to **Programs—> Accessories—> Communications**, and then click **Dell Internal Modem Diagnostic Tool**.

Scanner Problems

Check the power cable connection— Ensure that the scanner power cable is firmly connected to a working electrical power source and that the scanner is turned on.

Check the scanner cable connection— Ensure that the scanner cable is firmly connected to the computer and to the scanner.

Unlock the scanner— Ensure that your scanner is unlocked if it has a locking tab or button.

Reinstall the scanner driver— See the scanner documentation for instructions.

Touch Pad Problems

Check the touch pad settings— Click the **Start** button, point to **Settings**, click **Control Panel** (double-click **Control Panel** in Windows 2000), and then double-click the **Mouse** icon. Try adjusting the settings.

External Keyboard Problems

Disconnect the keyboard cable— Shut down the computer. Disconnect the keyboard cable and check the cable connector for bent or broken pins.

Unexpected Characters

Disable the numeric keypad— Press the <Num Lk> key to disable the numeric keypad. Verify that the numbers lock light is not lit.

Drive Problems

If you cannot save a file to a floppy disk



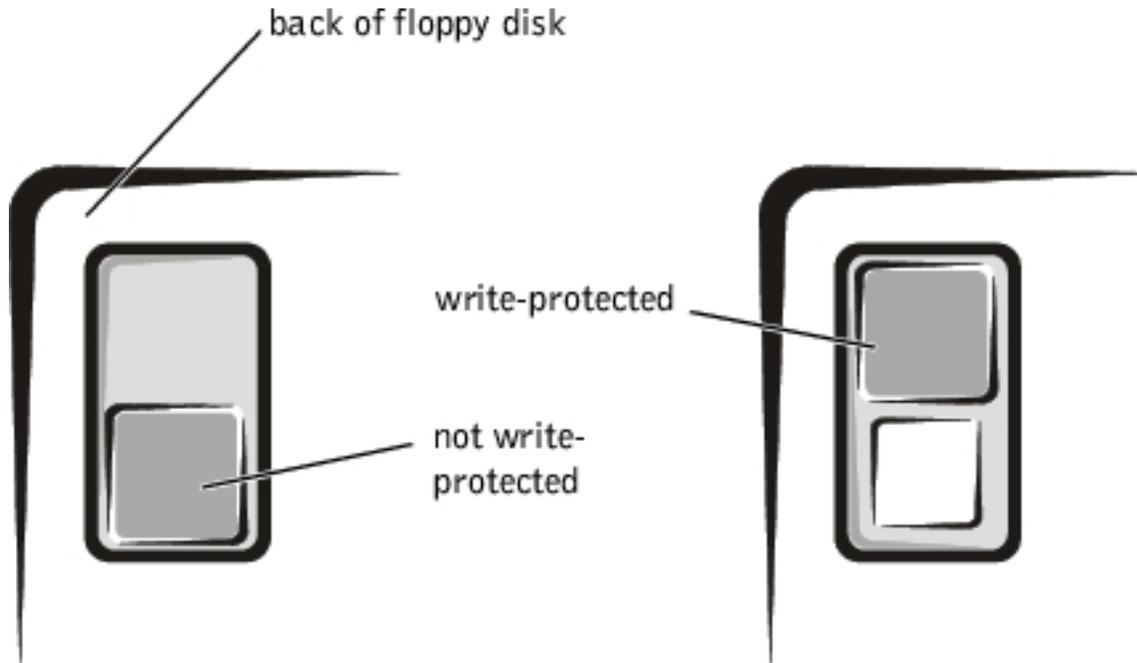
HINT: For information on saving files to a floppy disk, see the [Tell Me How](#) help file.

Ensure that the external media bay is connected— Check the [external media bay](#) cable and make sure that it is connected to the floppy drive and to the connector on the back of the computer.

Ensure that Windows recognizes the drive— Double-click the **My Computer** icon. If the floppy drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

Cannot save files to a floppy disk— Ensure that the floppy disk is not full or write-protected (locked). See the following illustration.

Test the drive with another floppy disk— Insert another floppy disk to eliminate the possibility that the original floppy disk is defective.



If you cannot play a music CD or install a program from a CD



HINT: High-speed CD drive vibration is normal and may cause noise. This noise does not indicate a defect in the drive or the CD.

Ensure that the external media bay is connected— Check the [external media bay](#) cable and make sure that it is connected to the CD drive and to the connector on the back of the computer.

Ensure that Windows recognizes the drive— Double-click the **My Computer** icon. If the CD drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

Test the drive with another CD— Insert another CD to eliminate the possibility that the original CD is defective.

Clean the disc— See the [Tell Me How](#) help file for instructions.

Adjust the Windows volume control— Double-click the yellow speaker icon in the lower-right corner of your screen. Be sure that the volume is turned up and that the sound is not muted.

If you cannot play a DVD movie



HINT: Because of different worldwide file types, not all DVD titles work in all DVD drives.

Ensure that the external media bay is connected— Check the [external media bay](#) cable and make sure that it is connected to the DVD drive and to the connector on the back of the computer.

Ensure that Windows recognizes the drive— Double-click the **My Computer** icon. If the DVD drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

Test the drive with another DVD— Insert another DVD to eliminate the possibility that the original DVD is defective.

Clean the disc— See the [Tell Me How](#) help file for instructions.

If the CD-RW drive stops writing



HINT: If you must disable standby mode to write to a CD-RW drive, remember to enable standby mode again when you finish writing the CD.

Disable standby mode in Windows before writing to a CD-RW disk— Search for the keyword standby in [Windows Help](#).

Change the write speed to a slower rate— The CD-RW drive must receive a steady stream of data when writing. If the stream is interrupted, an error occurs. Closing all programs before writing to the CD-RW may also alleviate the problem.

If you have a hard drive problem

Check the hard drive for errors

Windows Millennium Edition (Me):

Click the **Start** button, point to **Programs**—> **Accessories**—> **System Tools**, and then click **ScanDisk**.

Windows 2000:

1. Double-click the **My Computer** icon.
2. Right-click the **Local Disk** icon and then click **Properties**.
3. Click the **Tools** tab.
4. Click **Check Now**.

Network Problems

Check the network cable connector— Ensure that the network cable connector is firmly connected to the connector on the computer and the network wall jack.

Restart the computer— Try to log on to the network again.

Contact your network administrator— Verify that your network settings are correct and that the network is functioning.

Windows Error Messages

x:\ is not accessible. The device is not ready— Insert a disk into the drive and try again.

A filename cannot contain any of the following characters: \ / : * ? " < > |— Do not use these characters in filenames.

Not enough memory or resources. Close some programs and try again— You have too many programs open. Close all windows and open the program that you want to use.

The file being copied is too large for the destination drive— The file that you are trying to copy is too large to fit on the disk, or the disk is too full. Try copying the file to a different disk or use a larger capacity disk.

A required .DLL file was not found— The program that you are trying to open is missing an essential file. To remove and then reinstall the program:

Windows Me:

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Select the program that you want to remove.
4. Click **Add/Remove** and follow the prompts on the screen.
5. See the program documentation for installation instructions.

Windows 2000:

1. Click the **Start** button, point to **Settings**, and then double-click **Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Select the program that you want to remove.
4. Click **Change/Remove** and follow the prompts on the screen.
5. See the program documentation for installation instructions.

General Program Problems

A program crashes

See the software documentation— Many software manufacturers maintain websites with information that may help you to solve the problem.

A program stops responding

Press <Ctrl><Alt>— In the **Close Program** window, select the program that is no longer responding. Then click **End Task**.

A solid blue screen appears

Turn the computer off— If the computer does not respond to a keystroke or a proper shutdown, press the power button until the computer turns off. Press the power button again to restart the computer. The solid blue screen appears because you were not able to perform a proper Windows shutdown. ScanDisk will automatically run during the start-up process. Follow the instructions on the screen.

Internet Connection Problems

Review "Modem Problems"— See "[Modem Problems](#)."

Turn off call waiting (catch-phone)— See your telephone directory for instructions on deactivating this feature. Then adjust the dial-up networking connection properties:

1. Click the **Start** button, point to **Settings**, and then click **Control Panel**. (In Windows 2000, double-click **Control Panel**.)
2. Double-click the **Modems** icon.
3. In the **Modems Properties** window, click **Dialing Properties**.
4. Ensure that **To disable call waiting, dial:** is checked, and then select the proper code according to the information in your telephone directory.
5. Click **Apply** and then click **OK**.
6. Close the **Modems Properties** window.
7. Close the **Control Panel** window.

E-Mail Problems

Ensure that you are connected to the Internet— With the Outlook Express e-mail program open, click **File**. If **Work Offline** has a check next to it, click the check to remove it and connect to the Internet.

If Your Computer Gets Wet



CAUTION: Perform this procedure only after you are certain that it is safe to do so. If the computer is connected to an electrical outlet, Dell recommends that you turn off AC power at the circuit breaker before attempting to remove the power cables from the electrical outlet. Use the utmost caution when removing wet cables from a live power source.

1. Turn off the computer, disconnect the AC adapter from the computer, and disconnect the AC adapter from the electrical outlet.
2. Turn off any attached external devices, and disconnect them from their power sources and then from the computer.

3. Disconnect the external media bay.
4. Ground yourself by touching one of the metal connectors on the back of the computer.
5. Remove the PC Card, and put it in a safe place to dry.
6. Remove the battery.
7. Wipe off the battery and put it in a safe place to dry.
8. Remove the [hard drive](#).
9. Open the display, and place the computer right-side up across two books or similar props to let air circulate all around it. Let the computer dry for at least 24 hours in a dry area at room temperature.



NOTICE: Do not use artificial means, such as a hair dryer or a fan, to speed up the drying process.



CAUTION: To help prevent electrical shock, verify that the computer is thoroughly dry before continuing with the remainder of this procedure.

10. Ground yourself by touching one of the metal connectors on the back of the computer.
11. Replace the [hard drive](#) and screw.
12. Replace the PC Card.
13. Replace the battery.
14. Turn on the computer and verify that it is working properly.

If the computer does not turn on, or if you cannot identify the damaged components, contact Dell for technical assistance. See "Contacting Dell" in the Dell *Solutions Guide* for information on contacting Dell.

If You Drop or Damage Your Computer

1. Save and close any open files, exit any open application programs, and shut down the computer.
2. Disconnect the AC adapter from the computer, and disconnect the AC adapter from the electrical outlet.
3. Turn off any attached external devices, and disconnect them from their power sources and then from the computer.
4. Remove and reinstall the battery.

5. Turn on the computer.

If the computer does not turn on, or if you cannot identify the damaged components, call Dell for technical assistance. See "Contacting Dell" in the Dell *Solutions Guide* for information on contacting Dell

Resolving Other Technical Problems

Go to the Dell support website— Go to <http://support.dell.com> for help with general usage, installation, and troubleshooting questions.

E-mail Dell— Go to <http://support.dell.com> and then click **E-Mail Dell** in the **Communicate** list. Send an e-mail message to Dell about your problem; you can expect to receive an e-mail message from Dell within hours.

Contact Dell— If you cannot solve your problem using the Dell support website or e-mail service, contact Dell for technical assistance. See "Contacting Dell" in the Dell *Solutions Guide* for information on contacting Dell.

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System Specifications

Dell™ Inspiron™ 2100[Specifications](#)

Specifications

Microprocessor	
Microprocessor types	Intel® mobile microprocessor
Internal cache	256 KB
External bus frequency	100 MHz
Math coprocessor	internal to the microprocessor

System Information	
System chip set	Intel Mobile 440BX PCI
Data bus width	64 bits
DRAM bus width	64 bits
Microprocessor address bus width	32 bits

PC Card	
CardBus controller	Texas Instruments TI1410 CardBus controller
PC Card connectors	one (supports one Type I or Type II card, including ZV cards)
Cards supported	3.3 V and 5 V
PC Card connector size	68 pins
Data width (maximum)	PCMCIA 16 bits CardBus 32 bits

Memory

Architecture	SDRAM
Memory module socket	144-pin industrial standard SODIMM socket
Memory module capacities and type	64, 128, and 256 MB
Memory type	3.3-V SODIMM
Standard memory	one 64-MB memory module
Maximum memory	256 MB
Memory access time: clock speed	100 MHz

Ports and Connectors

Parallel	25-hole connector; unidirectional, bidirectional, or ECP
IDE	IDE connector for the external media bay
Video	VGA connector
PS/2 keyboard/mouse	6-pin mini-DIN connector
Audio	microphone connector, headphone/speakers connector
USB	one 4-pin USB-compliant connector
Docking	connector for the Dell™ advanced port replicator (APR)
Modem	RJ-11 connector
Network	RJ-45 connector

Video

Data bus	AGP
Video controller	ATI Mobility M
Video memory	4 MB

Audio

Audio type	Sound Blaster (software emulation capable)
------------	--

Audio controller	Crystal CS4281 + CS4297A (AC97 CODEC)
Stereo conversion	20-bit analog-to-digital 18-bit digital-to-analog
Interfaces:	
Internal	PCI bus/AC97
External	microphone connector, headphone/speakers connector
Speakers	4-ohm speakers
Internal speaker amplifier	1.75-W
Volume controls	key combinations, volume buttons, program menus

Display

Type	XGA, active-matrix color (TFT)
Dimensions:	
Height	184.3 mm (7.25 inches)
Width	245.76 mm (9.67 inches)
Diagonal	307.3 mm (12.1 inches)
Maximum resolution	1024 x 768
Response time (typical)	10-ms rise (maximum), 30-ms fall (maximum)
Operating angle	0° (closed) to 180°
Viewing angle:	
Horizontal	± 45°
Vertical	+ 15°, - 30°
Dot pitch	0.24 mm
Power consumption:	
Panel (typical)	891 mW
Backlight	3.3 W
Controls	brightness can be controlled through key combinations

Keyboard

Number of keys	84 (U.S. and Canada); 87 (Japan)
----------------	----------------------------------

Key travel	2.5 ± 0.2 mm (0.098 inch ± 0.08 inch)
Key spacing	118 mm (0.70 inch)

Touch Pad	
Interface	PS/2 compatible
X/Y position resolution (graphics table mode)	minimum 20 points/mm (500 points/inch)
Size:	
Thickness	0.69 ± 0.15 mm (0.027 inch ± 0.006 inch) printed-circuit board (PCB) thickness
Width	64.88 mm (2.55-inch) sensor-active area
Height	48.88-mm (1.92-inch) rectangle
Weight	6.0 ± 0.5 g (0.21 ounce)
Power:	
Supply voltage	5 V ± 0.5 VDC
Supply current	4.0 mA (nominal operation)
ESD	15 kV applied to front surface

Battery	
Type	lithium ion
Dimensions:	
Depth	57.25 mm (2.25 inches)
Height	12.7 mm (0.5 inch)
Width	262.49 mm (10.33 inches)
Weight	220 g (4 cell) 293 g (6 cell)
Voltage	14.8 VDC (4 cell) 11.10 VDC (6 cell)
Capacity	23 WH (4 cell) 34 WH (6 cell)
Charge time (approximate):	

Computer on	about 1.75 hours (4 cell) about 2.0 hours (6 cell)
Computer off	about 1.5 hours (4 cell) about 1.75 hours (6 cell)
Life span (approximate)	300 discharge/charge cycles before the battery will be operating at about 80% of the original capacity
Temperature range:	
Charge	0° to 45°C (32° to 113°F)
Discharge	0° to 60°C (32° to 140°F)
Storage	-20° to 35°C (-4° to 95°F) for up to a year -20° to 50°C (-4° to 122°F) for less than one month

AC Adapter

Input voltage	100 to 240 VAC
Input current (maximum)	1.5 A
Input frequency	50 to 60 Hz
Output current	2.64 A (maximum)
Rated output voltage	19.0 VDC
Dimensions:	
Height	29 mm (1.14 inches)
Width	46.3 mm (1.82 inches)
Depth	108 mm (4.25 inches)
Weight (with cables)	355 g (0.78 lb)
Temperature range:	
Operating	0° to 40°C (32° to 104°F)
Storage	-20° to 60°C (-4° to 140°F)

Environmental (Computer)

Temperature range:	
Operating	5° to 35°C (41° to 95°F)
Storage	-20° to 60°C (-4° to 140°F)

Relative humidity (maximum):	
Operating	20% to 80% (noncondensing)
Storage	8% to 90% (noncondensing)
Maximum vibration:	
Operating	0.9 GRMS using a random-vibration spectrum that simulates user environment
Storage	1.3 GRMS using a random-vibration spectrum that simulates air/truck shipment
Maximum shock:	
Operating	152.4 cm/sec (60 inches/sec) (equal to a half-sine pulse width of 2 ms)
Storage	203.2 cm/sec (80 inches/sec) (equal to a half-sine pulse width of 2 ms)
Altitude:	
Operating	-18 to 3048 m (-59 to 10,000 ft)
Storage	-18 to 10,600 m (-59 to 35,000 ft)

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Drivers and Utilities

Dell™ Inspiron™ 2100

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 - [Installing Drivers and Utilities](#)
-

Overview

All of your computer's utilities and all drivers for Dell-installed devices are operative when you receive the computer—no further installation or configuration is needed. However, if you ever need to reinstall any of the drivers or utilities, use the Dell *Drivers and Utilities* CD that you received with your computer. Your *Drivers and Utilities* CD also contains the Dell Diagnostics and online documentation for your computer.

You can also access system tools and documentation from Dell's support website at <http://support.dell.com>. Select your country by clicking on the map that appears. At the **Welcome to support.dell.com** page, enter your computer information to access the help tools and information available for your computer.

Installing Drivers and Utilities

1. Save your work in all open programs.
2. Insert the *Drivers and Utilities* CD into the CD or DVD drive.

In most cases, the CD should start running automatically. If it does not, start Windows® Explorer, click your CD drive directory to display the CD contents, and then click the **Start.htm** file.

3. Click a language button to select your preferred user interface language.

The **System Software** screen appears, displaying a list of operating systems (**Software by Operating System**) and an **All Software** category.

4. Under **Software by Operating System**, click your operating system to display a list of drivers, a **Utilities** subdirectory, and a **Documentation** subdirectory.

5. Click the type of driver (for example, **Audio**) or the utility you want to install.

A link appears for the specific driver or utility used by your system.

6. Click the link to display the **Languages** screen.
7. Click your preferred language for the driver or utility (if available) or click **Multiple**.
8. At the driver information screen, do one of the following:
 - Click the **Install** button (if present) to start the automatic installation. At the dialog box, select **Run this program from its current location** and then follow the screen prompts to complete the installation.
 - If no **Install** button is present, automatic installation is not an option. For installation instructions, either click the **Readme** link or go to the appropriate procedure below.



NOTICE: If instructed to navigate to the driver files, click the CD directory on the driver information screen to display the files associated with that driver.

Installing the NIC Driver for Microsoft® Windows® 2000

1. Save your work and insert your *Drivers and Utilities* CD. You may close the CD interface (if desired) before continuing with the procedure.
2. Click the **Start** button, point to **Settings**, and double-click **Control Panel**.
3. In the **Control Panel**, double-click the **System** icon.
4. In the **System Properties** window, click the **Hardware** tab.
5. Click **Device Manager**.
6. Double-click **Network Adapters**, and then right-click **3Com 3C920 Integrated Fast Ethernet Controller (3C905C-TX Compatible)**.
7. Click **Properties**.
8. Click the **Driver** tab.
9. Click **Update Driver**.

The **Update Device Driver Wizard** window appears.

10. Click **Next**.
11. Select **Display a list of all the drivers in a specific location, so you can select the driver you want**, and click **Next**.
12. Select **Network Adapters** and click **Next**.

13. Click **Have Disk**.
14. Type your CD drive designator (for example, d:\) and then click **Browse**.
15. Navigate to the **Network** subdirectory, double-click the **Network** subdirectory, double-click the **R21083** folder, and click **Open**.
16. At the **Install From Disk** dialog box, which verifies the directory you selected, click **OK**.
17. Verify that **3Com 3C920 Integrated Fast Ethernet Controller (3C905C-TX Compatible)** is selected, and then click **Next**.
18. When the **Update Device Driver Wizard** verifies the location of the driver, click **Next**.
19. When you receive the message that the software installation is complete, click **Finish**.
20. At the **3Com** screen, click **Close**.
21. Remove the CD and restart the computer.

Installing the NIC Driver for Windows Millennium Edition (Me)

1. Save your work and insert your *Drivers and Utilities* CD. You may close the CD interface (if desired) before continuing with the procedure.
2. Click the **Start** button, point to **Settings**, and click **Control Panel**.
3. In the **Control Panel**, double-click the **System** icon.



NOTICE: To see the **System** icon, you may need to click **View all control panel options** at the left side of the screen.

4. In the **System Properties** window, click the **Device Manager** tab.
5. Double-click **Network Adapters**, and then right-click **3Com 3C920 Integrated Fast Ethernet Controller (3C905C-TX Compatible)**.
6. Click **Properties**.
7. Click the **Driver** tab.
8. Click **Update Driver**.

The **Update Device Driver Wizard** window appears.

9. Select **Specify the location of the driver (Advanced)**.
10. Click **Next**.
11. Click to uncheck **Removable Media**, and click to check **Specify a location**.

12. Type your CD drive designator (for example, d:\) and then click **Browse**.
 13. Navigate to the **Network** subdirectory, double-click the **Network** subdirectory, double-click the **R21083** folder, and click **OK**.
 14. At the **Update Device Driver** dialog box, click **Next**.
 15. Verify that **3Com 3C920 Integrated Fast Ethernet Controller (3C905C-TX Compatible)** is selected, and then click **Next**.
 16. When the **Update Device Driver Wizard** verifies the location of the driver, click **Next**.
 17. To verify and accept the name of the driver, click **Next**.
 18. When you receive the message that the software installation is complete, click **Finish**.
 19. When prompted to restart your computer, remove the operating system CD and click **Yes**.
-

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System Setup Program

Dell™ Inspiron™ 2100

- [Standard Settings](#)
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Standard Settings

The system setup program contains the standard settings for your computer.

-  **NOTICE:** Unless you are an expert computer user, don't change the settings for this program. Certain changes might make your computer work incorrectly.
-

System Setup Pages

-  **HINT:** To see information about a specific item, highlight the item and refer to the **Help** area on the screen.

The system setup program pages display the current setup information and settings for your computer. You can change settings that appear as white type on the screen.

- Page 1 displays system information.
 - Page 2 displays basic device configuration settings.
 - Page 3 displays system security and hard drive password settings.
 - Page 4 displays power management settings.
 - Page 5 displays the boot configuration.
 - Page 6 displays setting and exit options.
-

Viewing the System Setup Program Pages

1. Turn on (or restart) your computer.
2. Press <F2> immediately.

If you wait too long and the Windows® logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

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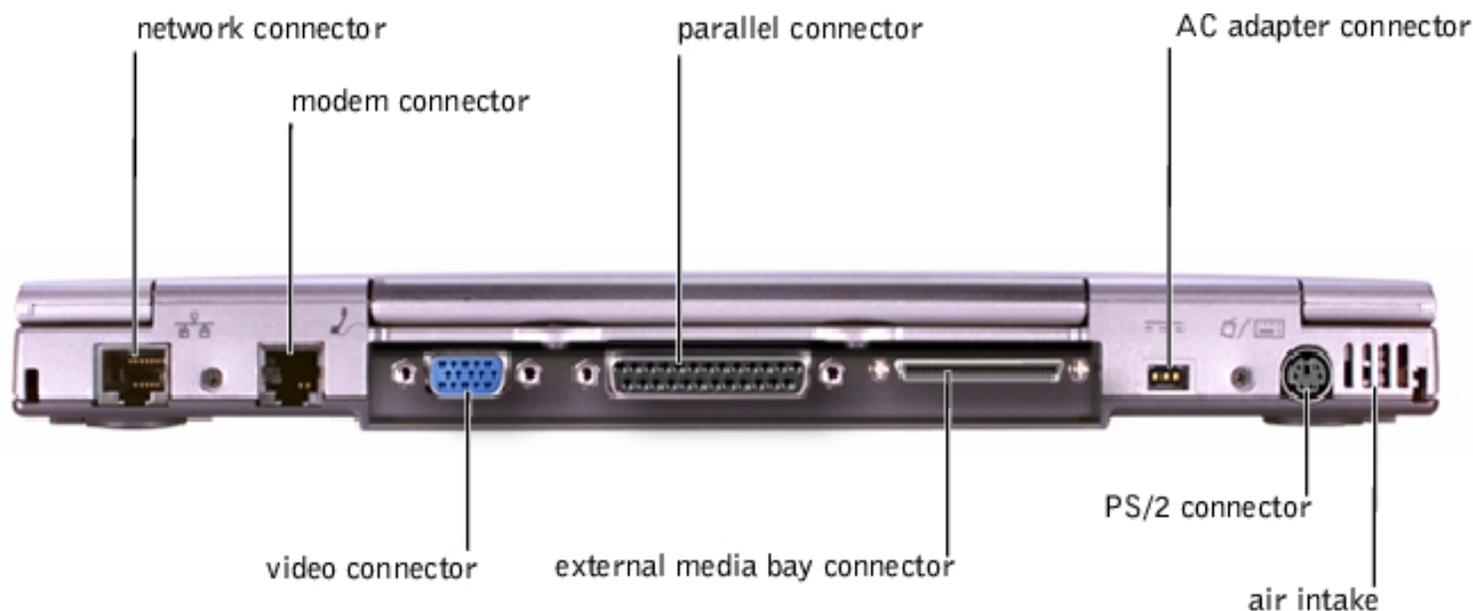
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Ports and Connector Pin-Outs

Dell™ Inspiron™ 2100

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- [Parallel Connector](#)
- [Docking Connector](#)
- [PS/2 Connector](#)
- [USB Connector](#)
- [Video Connector](#)
- [External Media Bay Connector](#)

Connector Locations



Parallel Connector

Use the 25-hole parallel connector to attach a parallel device to the computer. The parallel connector is used primarily for printers. The parallel connector transmits data in parallel format, where 8 data bits (one byte) are sent simultaneously over eight separate lines.

The parallel connector can also be configured for compatibility with the PS/2 standard. Support for the EPP feature improves network adapter performance (adapters connect to the computer's parallel connector and require the appropriate software drivers from the adapter's manufacturer).

If you reconfigure your hardware, you may need pin number and signal information for the parallel connector.

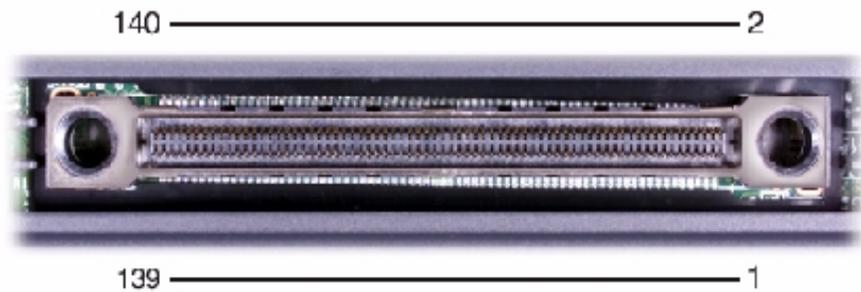


13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14

Pin	Signal	I/O	Definition
1	STB#	I/O	Strobe
2	D0	I/O	Printer data bit 0
3	PD1	I/O	Printer data bit 1
4	PD2	I/O	Printer data bit 2
5	PD3	I/O	Printer data bit 3
6	PD4	I/O	Printer data bit 4
7	PD5	I/O	Printer data bit 5
8	PD6	I/O	Printer data bit 6
9	PD7	I/O	Printer data bit 7
10	ACK#	I	Acknowledge
11	BUSY	I	Busy
12	PE	I	Paper end
13	SLCT	I	Select
14	AFD#	O	Automatic feed
15	ERR#	I	Error
16	INIT#	O	Initialize printer
17	SLIN#	O	Select in
18-25	N/A	N/A	Ground signal
Shell	N/A	N/A	Frame ground

Docking Connector

Use this connector to attach your computer to the optional port replicator.

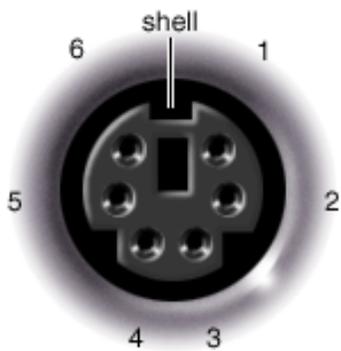


Pin	Signal	Pin	Signal	Pin	Signal
1	5VSUS	51	-IDETN	101	PE
2	5VSUS	52	-TRK0	102	PD3
3	GND	53	OHRCN	103	SLCT
4	GND	54	GND	104	PD4
5	-SDIOW	55	OVP	105	-AFD
6	SDDREQ	56	TXP	106	PD5
7	SIORDY	57	GND	107	-ERROR
8	-SDIOR	58	TXN	108	PD6
9	IRQ15	59	+5V	109	-INIT
10	-SDDACK	60	3VSUS	110	PD7
11	SDA1	61	+5V	111	-SLIN
12	SDA2	62	3VSUS	112	COMRING
13	SDA0	63	+5V	113	-PNF
14	-SDCS3	64	-DK_DEVINS	114	-RS232PD
15	CDRST	65	+5V	115	GND
16	-SDCS1	66	-DMUTE	116	DSR1
17	SDD0	67	+5V	117	DTR1
18	SDD8	68	-PREP	118	RTS1
19	SDD1	69	+5V	119	-TXD1
20	SDD9	70	-OC1	120	CTS1
21	SDD2	71	+5V	121	-RXD1
22	SDD10	72	USBP1-	122	-RI1
23	SDD3	73	GND	123	DCD1
24	SDD11	74	USBP1+	124	GND
25	SDD4	75	-D_RESET	125	GND

26	SDD12	76	PCSPK	126	HSYNC_B
27	SDD5	77	IAC_SDATAO	127	VGA-R
28	SDD13	78	GND	128	VSYNC_B
29	SDD6	79	IAC_BITCLK	129	VGA-G
30	SDD14	80	LED100M	130	DDCCLK_B
31	SDD7	81	DOC_SDATAI	131	VGA-B
32	SDD15	82	LED10M	132	DDCDATA_B
33	GND	83	IAC_SYNC	133	GND
34	GND	84	GND	134	GND
35	-HEAD	85	XMT+	135	VA
36	-FDD/CD	86	RCV+	136	VA
37	-RDATA	87	XMT-	137	VA
38	-CDLED	88	RCV-	138	VA
39	-WP	89	MSCLK1	139	VA
40	-3MODE	90	GND	140	VA
41	-WDATA	91	MSDATA1		
42	-WGATE	92	KPCLK		
43	-INDEX	93	-STRB/+5V		
44	MTR0	94	KPDATA		
45	-DSKCHG	95	-STRB/+5V		
46	-STEP	96	PDO		
47	GND	97	-ACK		
48	-DRVO	98	PD1		
49	-I_LIMIT	99	BUSY		
50	-DIR	100	PD2		

PS/2 Connector

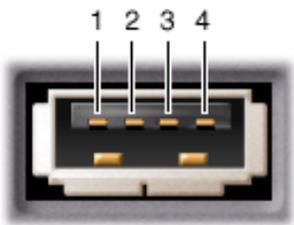
Use the 6-hole, miniature DIN PS/2 connector to attach PS/2-compatible devices such as a mouse, keyboard, or external numeric keypad. If you reconfigure your hardware, you may need pin number and signal information for the PS/2 connector.



Pin	Signal	I/O	Definition
1	EXK_MSDATA	I/O	External keyboard/keypad/mouse data
2	KBD_DATA	I	Keyboard data
3	GND	N/A	Signal ground
4	EXK_MSPWR	N/A	External keyboard/keypad/mouse supply voltage
5	EXK_MSCLK	I/O	External keyboard/keypad/mouse clock
6	KBD_CLK	I	Keyboard clock
Shell	N/A	N/A	Chassis ground

USB Connector

Use the USB connector to attach one or more USB devices, such as a mouse, to the computer. USB is a peripheral standard that enables automatic detection of USB-compliant peripheral devices.



Pin	Signal	Definition
1	VCC	Cable power
2	- Data	N/A
3	+Data	N/A
4	Ground	Cable ground

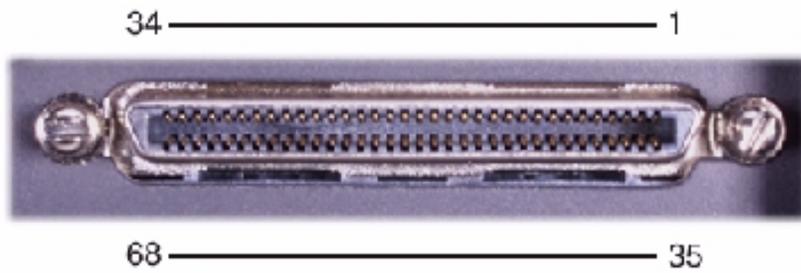
Video Connector

Use the 15-pin video connector to attach an external monitor to the computer. If the image does not appear on the monitor immediately, press <Fn><F8>.



Pin	Signal	I/O	Definition
1	RED	O	Red video
2	GREEN	O	Green video
3	BLUE	O	Blue video
4	DDC2_MONID2	I	Monitor detect ID2
5	GND	N/A	Signal ground
6	GND	N/A	Signal ground
7	GND	N/A	Signal ground
8	GND	N/A	Signal ground
9	CRTVCC	O	5-V power source for CRT
10	GND	N/A	Signal ground
11	M-SEN#	I	Digital monitor sense/monitor detect ID1
12	DDC_DATA	I	Monitor detect serial data
13	HSYNC	O	Horizontal synchronization
14	VSYNC	O	Vertical synchronization
15	DDC_CLK	1	Monitor detect serial clock
Shell	N/A	N/A	Frame ground

External Media Bay Connector



Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	+5V	18	BSDD0	35	-WGATE	52	GND
2	-HEAD	19	5VCD	36	GND	53	BSDD13
3	-RDATA	20	BSDD3	37	-MTR0	54	BSDD10
4	-WP	21	5VCD	38	-STEP	55	-CDRESET
5	-WDATA	22	BSDD6	39	-DRV0	56	GND
6	-INDEX	23	5VCD	40	GND	57	-CDLED
7	-DSKCHG	24	BSDA2	41	-DIR	58	BSDA1
8	-3MODE	25	5VCD	42	-TRK0	59	BSDA0
9	-BSDIOW	26	-BSDDACK	43	-FDD/CD	60	GND
10	BSDD15	27	5VCD	44	GND	61	CSEL
11	BSDD12	28	-BSDIOR	45	BSDD1	62	BSDD2
12	BSDD9	29	5VCD	46	BSDD4	63	BSDD5
13	-BSDCS3	30	BSDD14	47	BSDD7	64	GND
14	-BSDCS1	31	5VCD	48	GND	65	BSDD8
15	5VCD	32	BSDD11	49	BSIORDY	66	CDL
16	IRQ15	33	5VCD	50	GND	67	CD_GND
17	5VCD	34	CDR	51	BSDDREQ	68	+5V

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Removing and Replacing Parts

Dell™ Inspiron™ 2100

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- [Keyboard Assembly](#)
- [Memory Module](#)
- [Palm Rest Assembly](#)
- [Touch Pad Assembly](#)
- [Bottom Case Assembly](#)

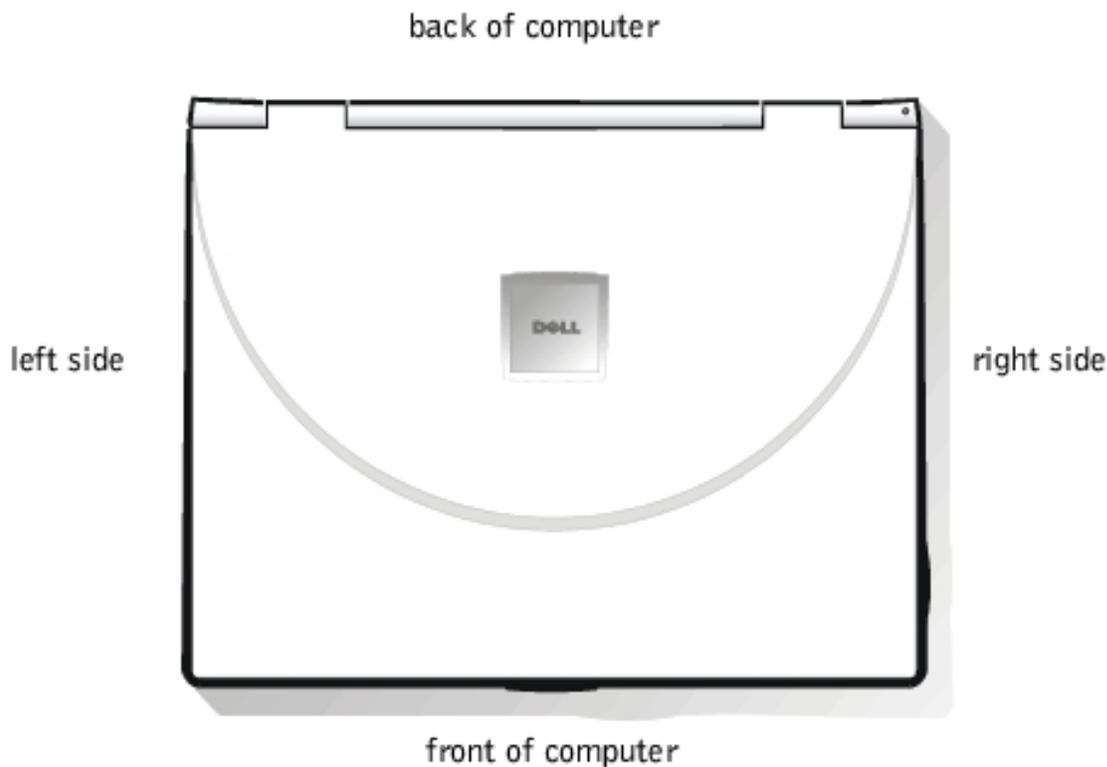
Overview

 **NOTICE:** Only a certified service technician should perform the procedures for removing and replacing parts. The warranty on the computer becomes void if anyone other than a certified technician performs these procedures.

This section provides instructions for removing and replacing field- replaceable components, assemblies, and subassemblies in your Dell computer. Unless otherwise noted, each procedure in this document assumes the following conditions:

1. The computer and any attached peripherals are turned off, and the peripherals are disconnected from the I/O panel *on the back and right side of the computer*.
2. A part can be replaced by performing the removal procedure in reverse order unless otherwise noted.

When the display assembly is open nearly 180 degrees, use a book or something similar to support it. The angle of the display assembly with respect to the bottom case should never exceed 180 degrees. When performing the procedures in this manual, the directions relative to the computer are as shown in the following figure, unless otherwise specified.



Recommended Tools

Most of the procedures in this document require the use of one or more of the following tools:

- #0 and #1 magnetized Phillips-head screwdrivers
- Small flat-blade screwdriver
- 5-mm socket wrench
- Small plastic scribe
- Needle-nose pliers

Preparing to Work Inside Your Computer

➡ **NOTICE:** Only a certified service technician should perform repairs on your computer. Damage or inoperability due to servicing not authorized by Dell is not covered by your warranty.

➡ **NOTICE:** Unless otherwise noted, each procedure in this manual assumes that a part can be replaced by performing the removal procedure in reverse order.

➡ **NOTICE:** To avoid damaging the computer, perform the following steps before you begin working inside the computer.

1. Save any work in progress and close all open programs.
2. Turn off the computer and any attached peripherals.

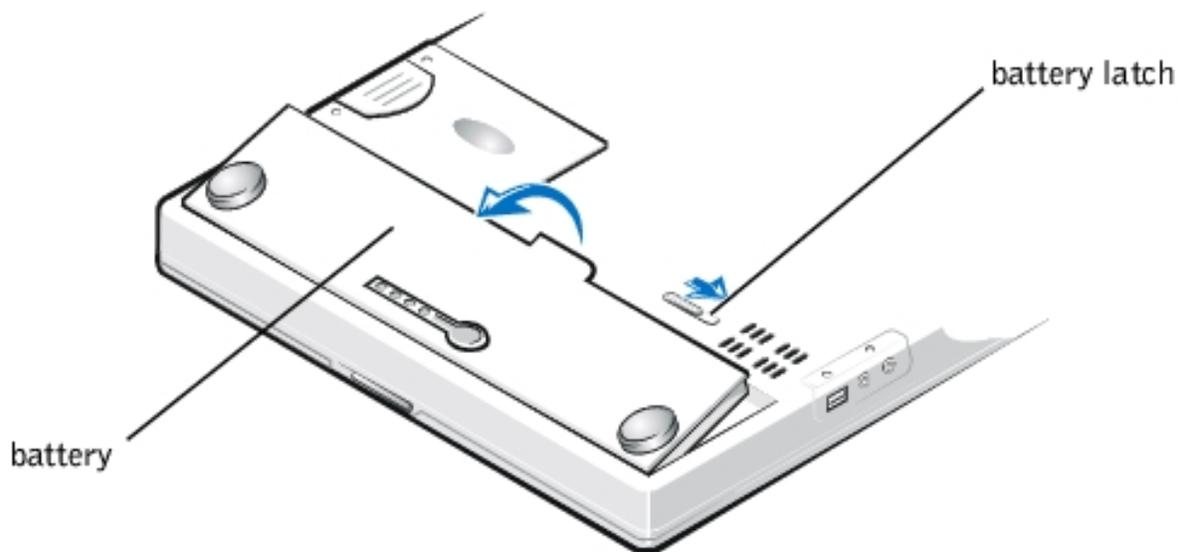
➡ **NOTICE:** Make sure that the computer is turned off and not in hibernate mode. If you cannot shut down the computer using its operating system, press the power button for 4 seconds.

3. Disconnect the computer and any attached peripherals from their electrical outlets to reduce the potential for personal injury or shock. Also disconnect any telephone or telecommunications lines from the computer.
4. Remove the power cable.
5. Disconnect all other external cables from the computer.
6. Remove any installed PC Cards.

➡ **NOTICE:** Make sure that the work surface is clean to prevent scratching the computer cover.

➡ **NOTICE:** To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Turn the computer over and remove the main battery assembly from the battery bay. Slide the battery bay latch toward the right side of the computer to push the back side of the battery up and out of the battery bay.



8. Ground yourself by touching the unpainted metal surface of an I/O connector on the back of the computer.



NOTICE: While you work, periodically touch the I/O panel to dissipate any static electricity that might harm components.

Screw Identification



NOTICE: When reinstalling a screw, you must use a screw of the correct length. Otherwise, you could damage the hardware. Make sure that the screw is properly aligned with its corresponding hole, and avoid overtightening.

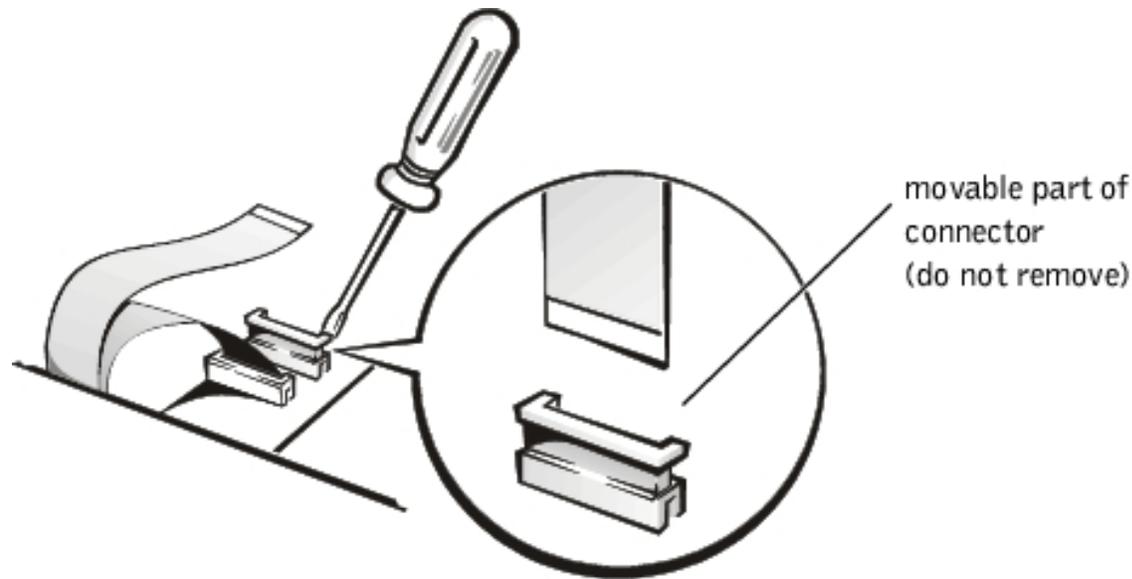
When you remove and replace components, use the screw placemat as a tool to lay out and keep track of the component screws.

Screw Placemat

<p>Hard Drive Assembly:</p> <p>M3 x 3 mm (2 each)</p>	<p>Display Assembly Hinge to Base:</p> <p>M2 x 4 mm (2 each)</p> <p>M2 x 5 mm (2 each)</p>	<p>Display Assembly Bezel:</p> <p>M2 x 3.5 mm (6 each)</p> <p>Rubber Screw Covers (4 each)</p>
<p>LCD Panel and Inverter:</p> <p>M2 x 3.5 mm (5 each)</p>	<p>Display Assembly Hinges:</p> <p>M2.6 x 4 mm (4 each)</p>	<p>Keyboard Assembly:</p> <p>M2 x 4 mm (4 each)</p>
<p>Palm Rest Assembly:</p> <p>M2.6 x 1.6 mm (6 each [battery bay])</p> <p>M2 x 4 mm (4 each [black])</p> <p>M2 x 6 mm (3 each [silver])</p>	<p>Touch Pad:</p> <p>M2 x 3.5 mm (3 each)</p>	<p>Modem Retainer Bracket:</p> <p>M2 x 9.5 mm (2 each)</p>
<p>VGA and Parallel Connector:</p> <p>5 mm socket (4 each)</p>	<p>Media Bay (IDE) Connector:</p> <p>Media bay connector screws (2 each)</p>	<p>Fan:</p> <p>M2 x 8 mm (2 each, with two rubber washers apiece)</p>
<p>Speaker:</p> <p>M2 x 5 mm (2 each)</p>	<p>Audio I/O Cover:</p> <p>M2 x 4 mm (2 each)</p>	<p>System Board Assembly:</p> <p>M2 x 3.5 mm (6 each)</p>

ZIF Connectors

Some of the computer's interface connectors are ZIF connectors. These connectors are not removable, but they must be released to disconnect a cable from them.



➔ **NOTICE:** The ZIF connectors are fragile. To avoid damage, do not apply too much pressure to the movable part of the connector.

To disconnect an interface cable from a ZIF connector:

1. Insert a small flat-blade screwdriver under the movable part of the connector.
2. Pull gently upward on the movable part of the connector until it releases the interface cable.
3. Grasp the interface cable and pull it out of the connector.

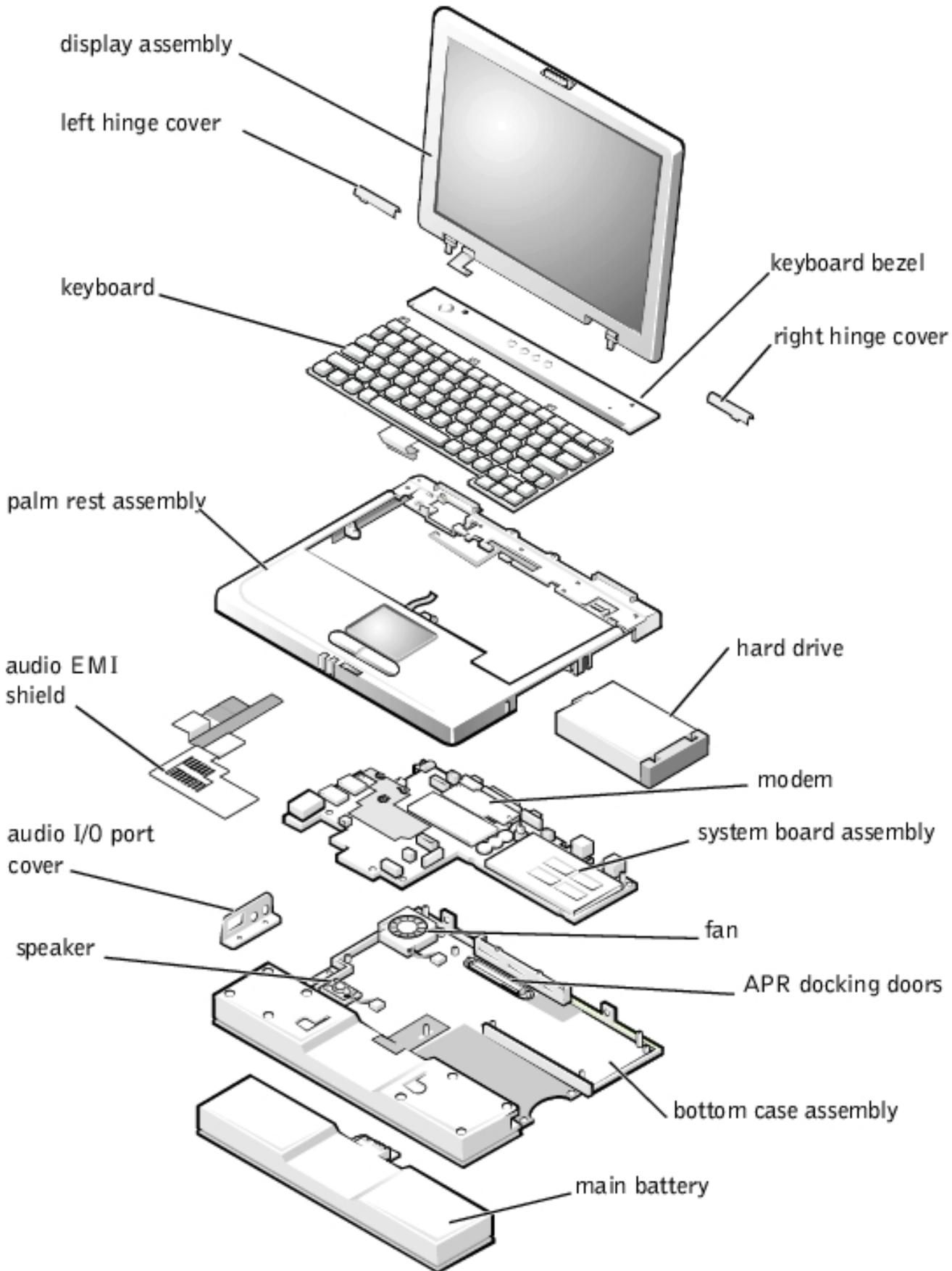
To reconnect an interface cable to a ZIF connector:

1. Use a small flat-blade screwdriver to open the movable part of the ZIF connector.
2. Orient the end of the interface cable with the ZIF connector, and insert the end of the cable into the connector.
3. While holding the cable in place, close the ZIF connector.

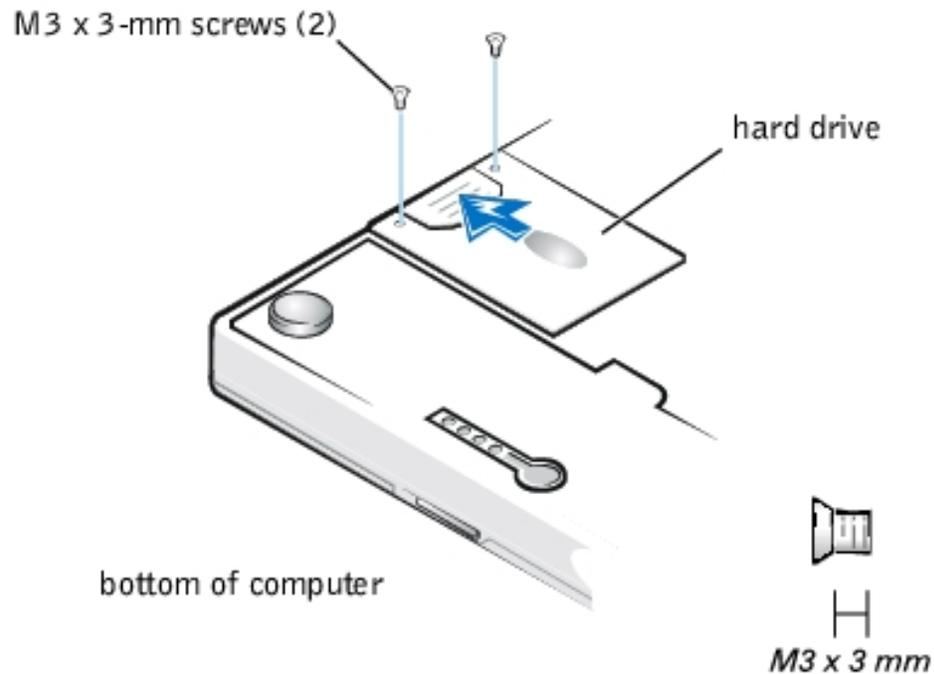
To ensure a firm connection, make sure the ZIF connector is completely closed.

System Components

Field-replaceable parts and assemblies are illustrated below.



Hard Drive



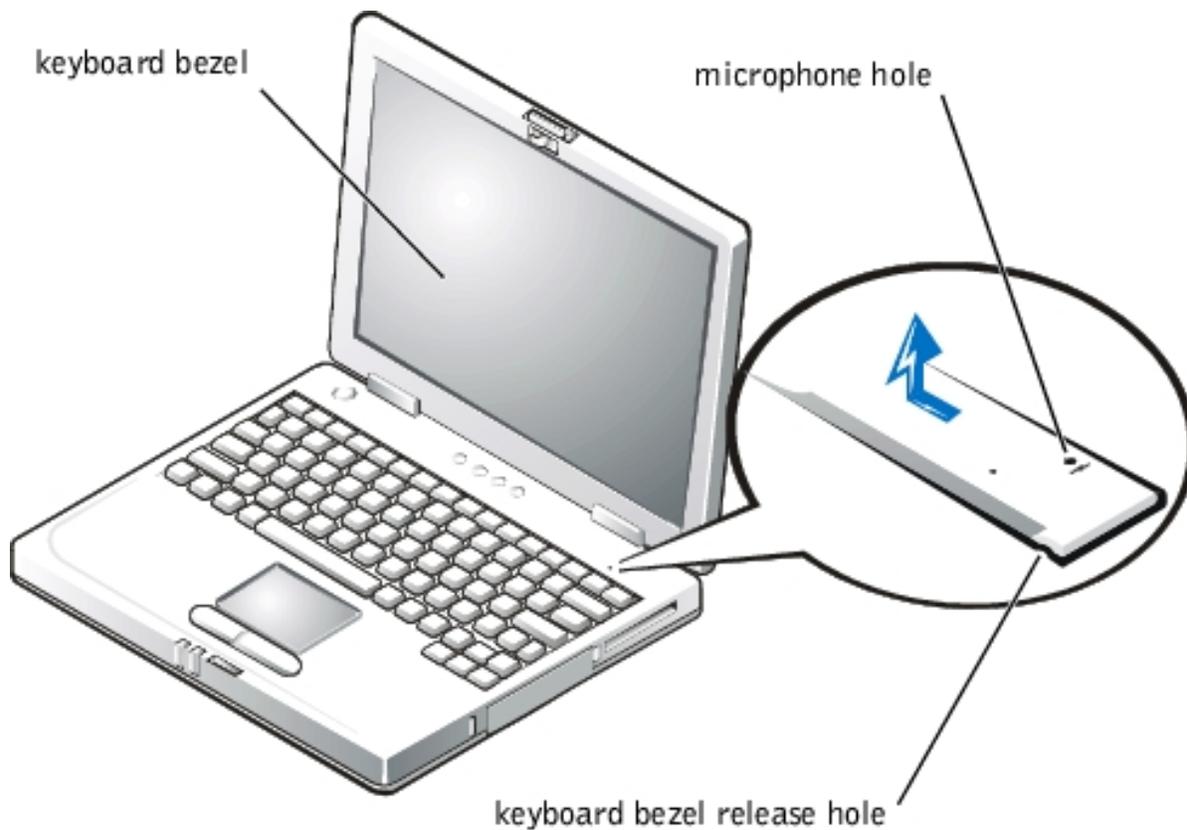
- ➡ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➡ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➡ **NOTICE:** The hard drive is very sensitive to shock. Handle the assembly by its edges (do not squeeze the top of the hard drive case), and avoid dropping it.
- ➡ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

1. Turn the computer over, and remove the two M3 x 3-mm screws from the bottom of the hard drive door.

The hard drive is located on the right side of the computer.

2. Pull the drive out of the computer.

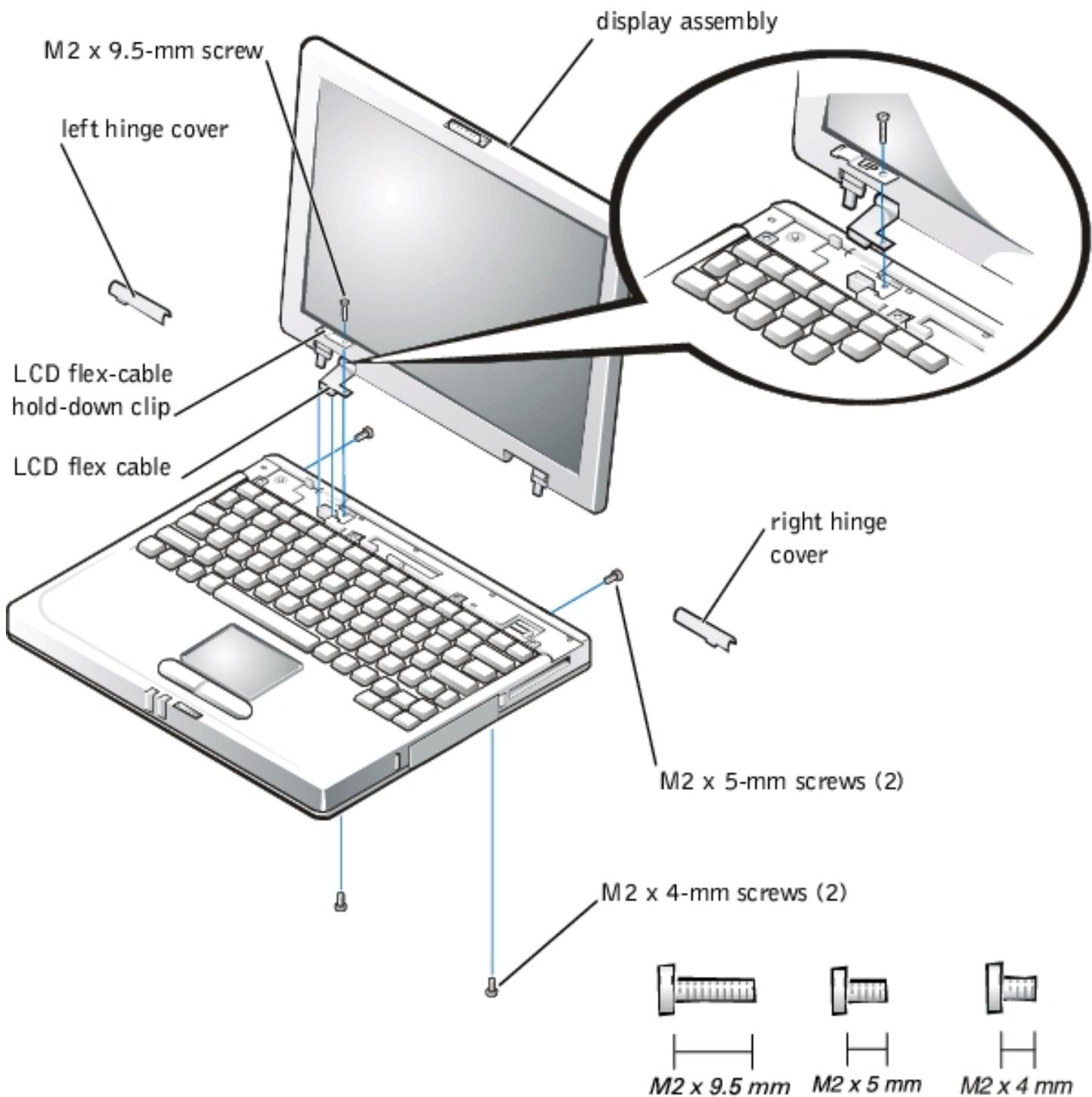
Keyboard Bezel



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.
- ➔ **NOTICE:** To avoid damaging the microphone, do not put any objects into the microphone hole.

1. Place the point of a paper clip, a very small flat-blade screwdriver, or a tool of similar size in the keyboard bezel release hole and carefully push down.
2. While pushing down, slide the keyboard bezel to the left until it releases.
3. Lift the keyboard bezel.

Display Assembly



NOTICE: Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.



NOTICE: To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.



NOTICE: Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Display Assembly

1. Remove the [keyboard bezel](#).
2. Close the display.
3. Remove the two M2 x 5-mm screws at the back of the computer that secure the display assembly to the bottom case.
4. Turn the computer upside down on a flat work surface.
5. Remove the two M2 x 4-mm screws at the bottom of the computer that secure the display assembly to the bottom case.
6. Turn the computer right-side up.
7. Open the display.
8. Remove the left and right hinge covers.



NOTICE: When replacing the display assembly, the left hinge cover must go over the left hinge and the right hinge cover must go over the right hinge. They are not interchangeable. An L is stamped on the bottom of the left hinge cover and an R is stamped on the bottom of the right hinge cover.

9. Remove the M2 x 9.5-mm screw that secures the LCD flex-cable hold-down clip and the LCD flex-cable connector to the system board assembly.

The M2 x 9.5-mm screw also secures the left side of the modem retainer bracket to the system board assembly.

10. Carefully disconnect the LCD flex-cable connector from the system board.
11. Lift the display assembly from the bottom case assembly.

Replacing the Display Assembly

1. Place the display assembly on the bottom case assembly.

Insert the left and right hinge posts into the holes at the top of the palm rest.

2. Carefully connect the LCD flex cable to the connector on the system board.
3. Place the LCD flex-cable hold-down clip over the LCD flex-cable connector.

The word *up* is stamped on the top of the clip.

The tab at the left of the clip should go under the palm rest, and the screw hole on the right side of the clip should line up with the holes in the connector ground strip and the threaded hole in the system board.

4. Reinstall the M2 x 9.5-mm screw that secures the LCD flex-cable hold-down clip to the system board.
5. Close the display.

You may have to press down on the back end of the display (above the hinges) while closing the display to get the display to close completely.

6. Reinstall the two M2 x 4-mm screws that secure the display assembly to the bottom case.

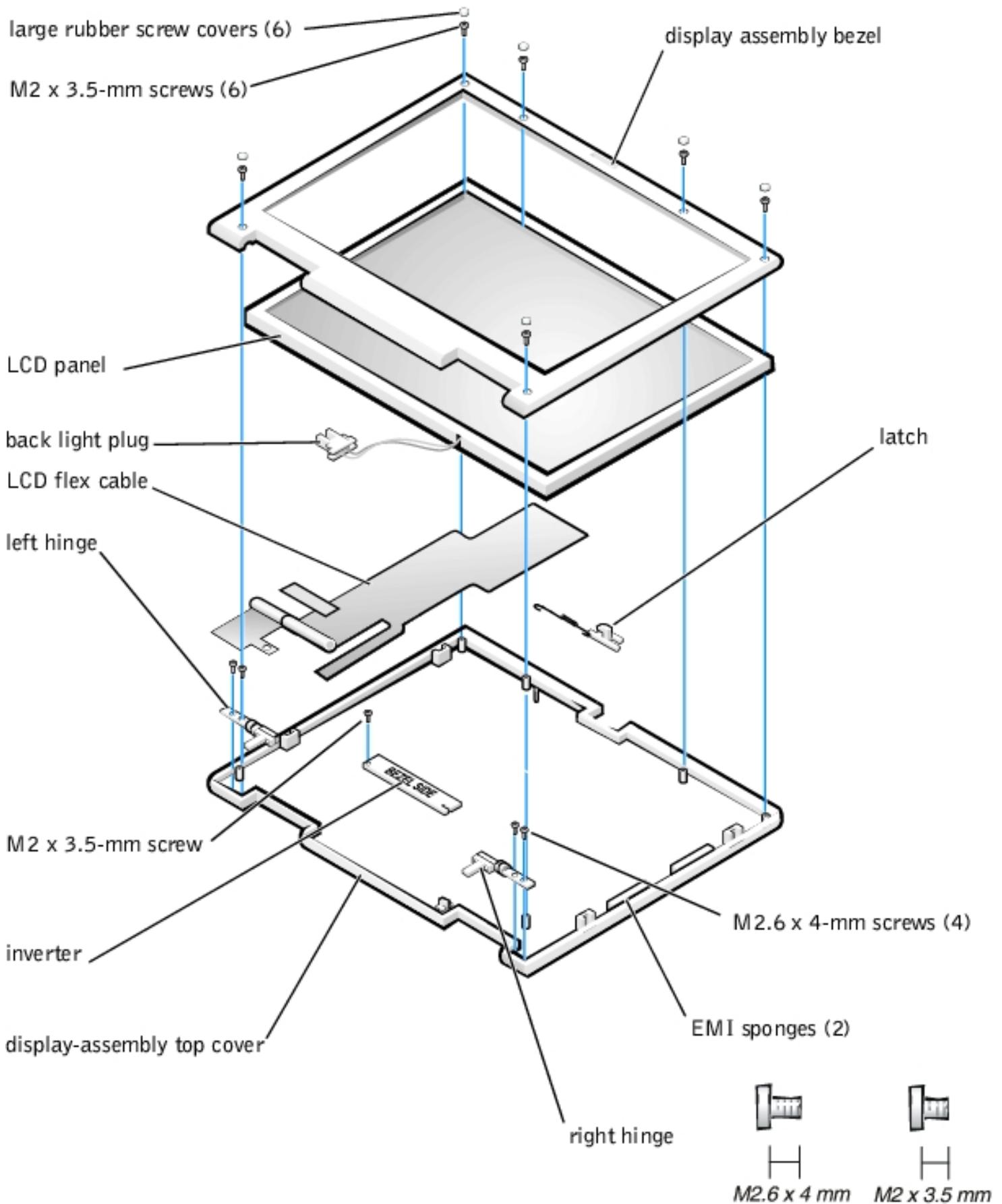
You may have to squeeze the display assembly and the bottom case assembly together, so the screw holes align in the base assembly and the hinge posts.

Do not completely tighten the screws.

7. Reinstall the two M2 x 5-mm screws in the back of the computer that secure the display assembly to the back of the bottom case.
8. Tighten the two screws that you installed in step 6.
9. Open the display and reinstall the left and right hinge covers.

An *L* is stamped on the bottom of the left hinge cover and an *R* is stamped on the bottom of the right hinge cover.

Display Assembly Bezel

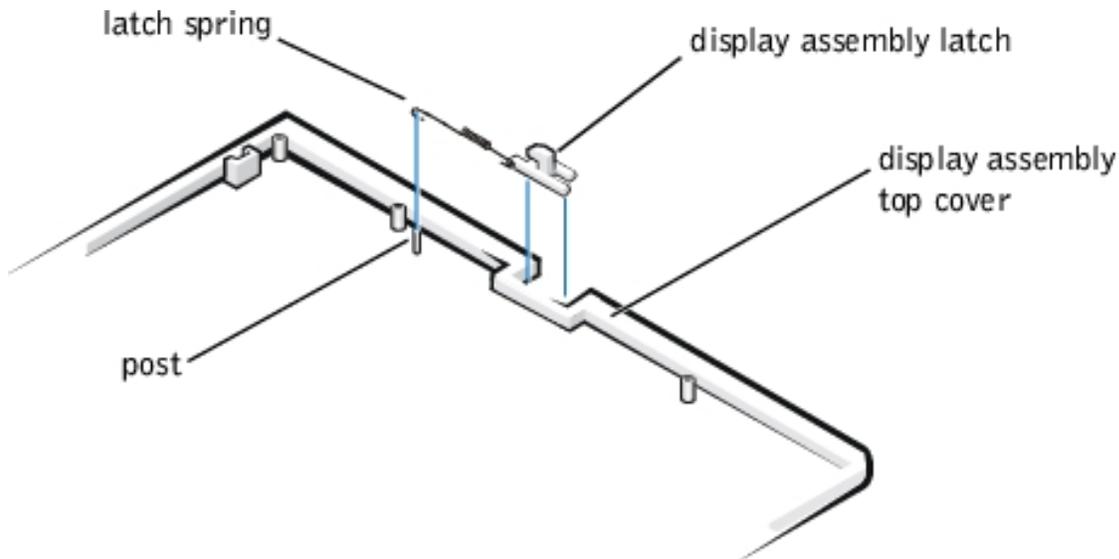


- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

1. Use a scribe to carefully pry the six rubber screw covers out of the six screw holes located along the top and bottom of the bezel on the front of the display assembly.
2. Remove the six M2 x 3.5-mm screws located at the top and bottom of the bezel on the front of the display assembly.
3. Separate the bezel from the display-assembly top cover.

The bezel is secured by slot openings that snap into the display-assembly top cover. Carefully lift the inside edge of the bezel, working your way around the inside perimeter, to unsnap and remove the bezel from the display assembly.

Display Assembly Latch



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.



NOTICE: Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Display Assembly Latch

1. Remove the [display assembly bezel](#). display assembly
2. Lift the display assembly latch off of the display-assembly top cover.
3. Slide the latch spring off of the post on the display-assembly top cover.

You may need to use a small flat-blade screwdriver to separate the latch spring from the post.

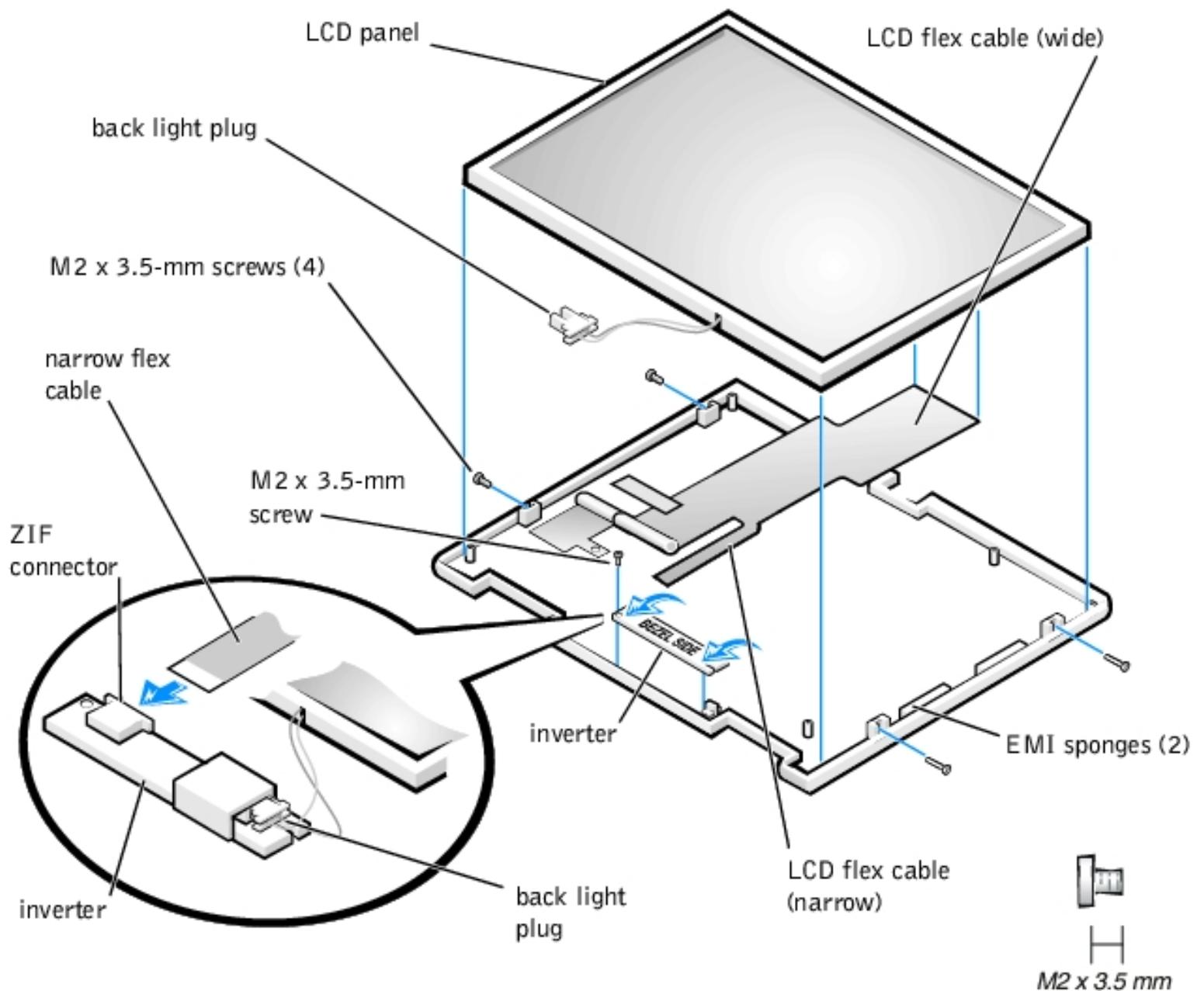
Replacing the Display Assembly Latch

1. Carefully place the latch spring over the post on the display-assembly top cover.

You may need to use a small flat-blade screwdriver to place the spring over the post. Hold the spring on the post with the screwdriver while performing the next step.

2. Holding the latch, stretch the spring slightly and set the display- assembly latch in place in the display assembly top cover.
3. Reinstall the bezel.

LCD Panel



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the LCD Panel

1. Ground yourself by touching the unpainted metal surface of the I/O panel on the back of the computer.

2. Remove the [keyboard bezel](#).
3. Remove the [display assembly](#).
4. Remove the [display assembly bezel](#).
5. Remove the four M2 x 3.5-mm screws on the left and right sides of the display assembly that secure the LCD panel to the top cover.
6. Remove the M2 x 3.5-mm screw that secures the inverter to the top cover.
7. Lift and roll the inverter over (toward you), so that you can view the component (non-Mylar) side of the inverter.
8. Disconnect the narrow flex cable from the ZIF connector on the left side of the inverter.
9. Disconnect the two-wire back-light plug from the connector on the right side of the inverter.
10. Remove the inverter.
11. Lift the LCD panel from the bottom edge, giving enough room to fit your hand between the LCD panel and the top cover.
12. Carefully peel the LCD flex cable away from the top cover.
13. Lift the LCD panel out of the top cover.
14. Lift up on the tape that is covering the wide flex-cable connector on the back of the LCD panel.

 **NOTICE:** Keep the tape for when you replace the LCD panel.

15. Disconnect the wide flex cable from the connector on the back of the LCD panel.

Replacing the LCD Panel

1. Connect the LCD flex cable to the connector on the back of the LCD panel.
2. Reinstall the tape that covers the LCD flex-cable connector on the back of the LCD panel.
3. If you are installing a new LCD flex cable, peel off the backing tapes that are on the LCD flex-cable EMI sponges.
4. Reinstall the LCD panel in the top cover:
 - a. Holding the LCD flex cable against the back of the LCD panel, insert the right edge of the LCD panel into the right end of the top cover.

The right edge of the LCD panel should press against the EMI sponge on the right side of the top cover. The LCD panel should not rest on top of the EMI sponge.

- b. Lower the bottom end of the LCD panel into the top cover, making sure the LCD flex cable lines up with the opening that is to the right of the left hinge.
- c. Make sure the inverter flex cable is visible at the bottom edge of the LCD panel.
- d. Press the LCD panel into the top cover.

5. Connect the inverter flex cable to the ZIF connector on the inverter.
6. With the component side of the inverter facing up, connect the two-wire back-light plug to the connector on the right side of the inverter.

When the plug is all the way in the connector, the key slot in the center of the plug should *not* be visible. If you can see the key slot, the plug is not in the connector correctly. Pull the plug out, turn the plug over, and reinsert it into the connector.

7. Roll the inverter over (away from you), so that you can view the back side of the inverter.
8. Place the inverter into the top cover, aligning the posts in the top cover with the alignment holes in the inverter.
9. Holding the inverter in place, reinstall the M2 x 3.5-mm screw that secures the inverter to the top cover.
10. Reinstall the four M2 x 3.5-mm screws, in the left and right ends of the top cover, that secure the LCD panel to the top cover.
11. Reinstall the display assembly latch.
12. Reinstall the display assembly bezel.

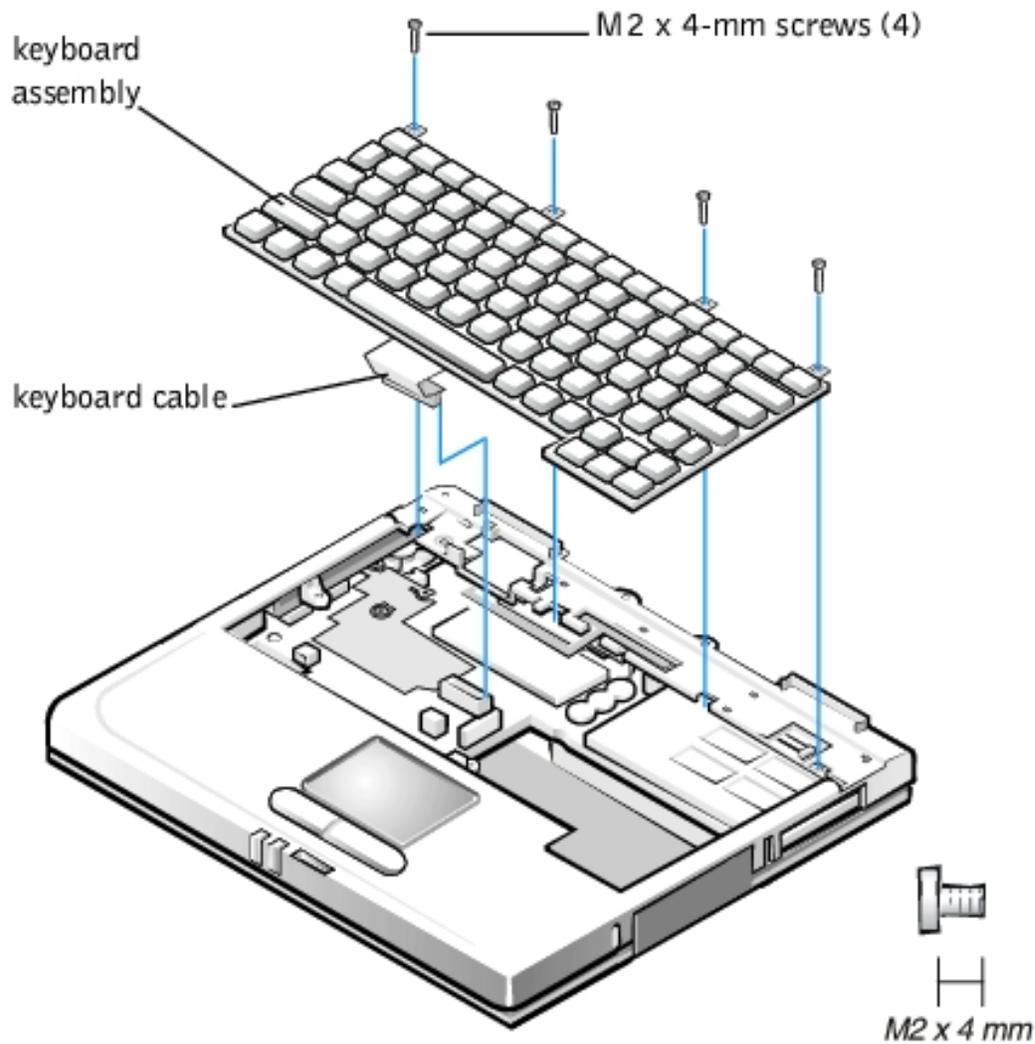
Display Assembly Hinges

- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [display assembly bezel](#).
4. Remove the two M2.6 x 4-mm screws that secure the left hinge to the top cover.
5. Remove the two M2.6 x 4-mm screws that secure the right hinge to the top cover.

When replacing the left and right hinges, make sure they are installed correctly. An *L* is stamped on the left hinge and an *R* is stamped on the right hinge.

Keyboard Assembly



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Keyboard Assembly

1. Remove the [keyboard bezel](#).
2. Remove the four M2 x 4-mm screws located across the top of the keyboard assembly.

- ➔ **NOTICE:** Five metal tabs retain the bottom of the keyboard in the palm rest assembly.

3. Release the keyboard assembly from the palm rest assembly by lifting the top edge of the keyboard assembly up and sliding it toward the back of the computer.
4. Rotate the keyboard up so it is perpendicular to the computer.
5. Carefully disconnect the keyboard cable from the connector on the system board.

 **NOTICE:** The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.

6. Remove the keyboard assembly.

Replacing the Keyboard Assembly

 **NOTICE:** Position the keyboard cable so it is not twisted when it is connected to the system board.

1. Connect the keyboard cable to the connector on the system board.

 **NOTICE:** Five metal tabs retain the bottom of the keyboard in the palm rest assembly.

2. Fit the keyboard into place by sliding the five tabs on the bottom of the keyboard into the palm rest assembly.

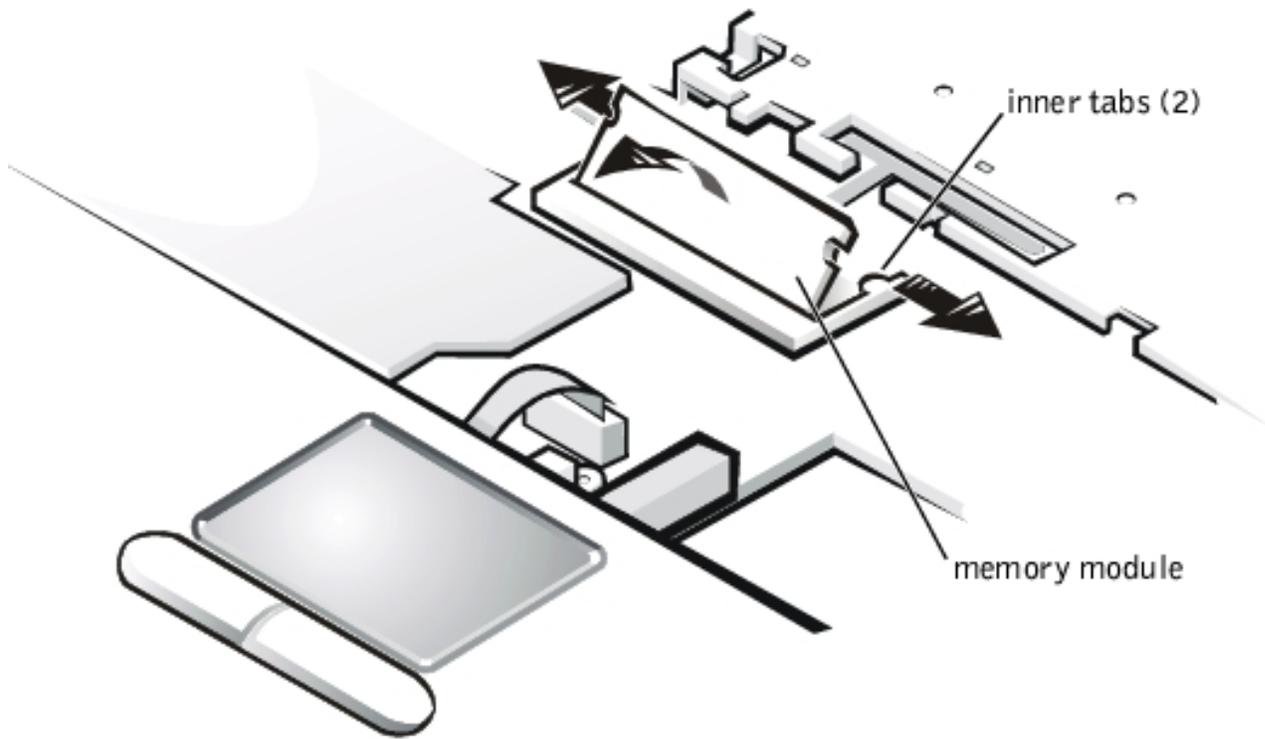
It is important that the two tabs on the bottom right edge of the keyboard assembly fit correctly into the slotted holes in the palm rest assembly. To help align the tabs with the slotted holes, you can temporarily insert the hard drive into the hard drive bay before you place the keyboard assembly in the palm rest assembly. By resting the keyboard assembly on the hard drive, the tabs are at the correct height to enter the slotted holes. When the keyboard assembly is seated in the palm rest assembly, remove the hard drive and look through the hard drive bay to make sure the tabs are seated in the slot holes.

3. Ensure that the top screw-hole tabs rest correctly in the screw slots on the palm rest assembly.
4. Verify that the keyboard is correctly installed.

The keys should be flush with the left and right surfaces of the palm rest.

5. Reinstall the four M2 x 4-mm screws that secure the top of the keyboard assembly to the bottom case assembly.
6. Reinstall the keyboard bezel.

Memory Module



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing Memory Modules

1. Remove the [keyboard bezel](#).
2. Remove the [keyboard assembly](#).
3. Ground yourself by touching the unpainted metal surface of an I/O connector on the computer's back panel.
4. To release the memory module from its connector, carefully spread apart the inner tabs of the memory module connector just far enough for the memory module to disengage from the connector (it should pop up slightly).
5. Lift the memory module out of its connector.

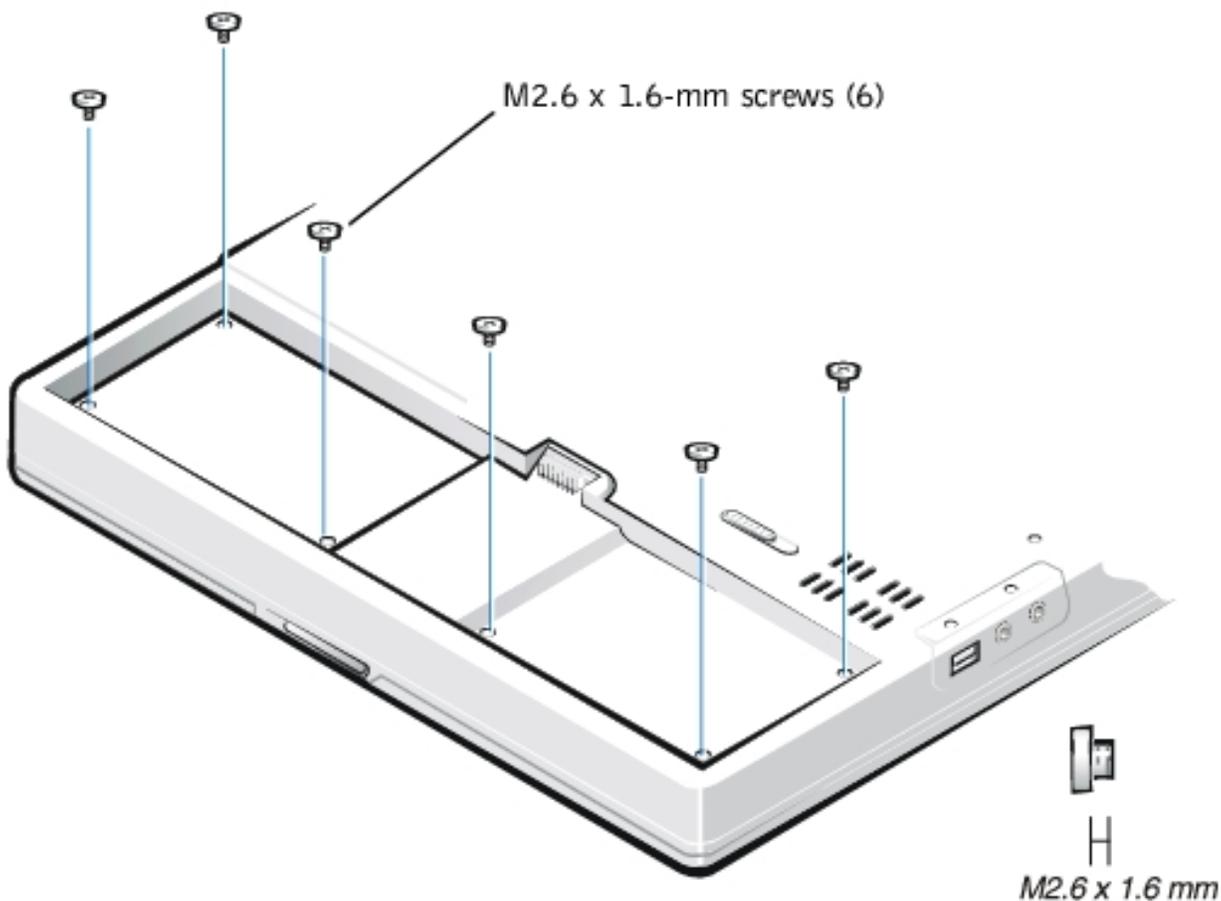
Replacing Memory Modules

1. Align the memory module's edge connector with the slot in the center of the memory module connector. The memory module is keyed, or designed to fit into the connector in only one direction. The slot on the system board is notched so that the memory module can be firmly seated only one way.

2. With the module at a 45-degree angle, press the memory module's edge connector firmly into the memory module connector.
3. Pivot the memory module down until it clicks into place.

If you do not hear a click as each end of the memory module snaps into the tabs, remove the memory module and reinstall it.

Palm Rest Assembly



The palm rest assembly consists of the palm rest, status lights, and touch pad assembly.

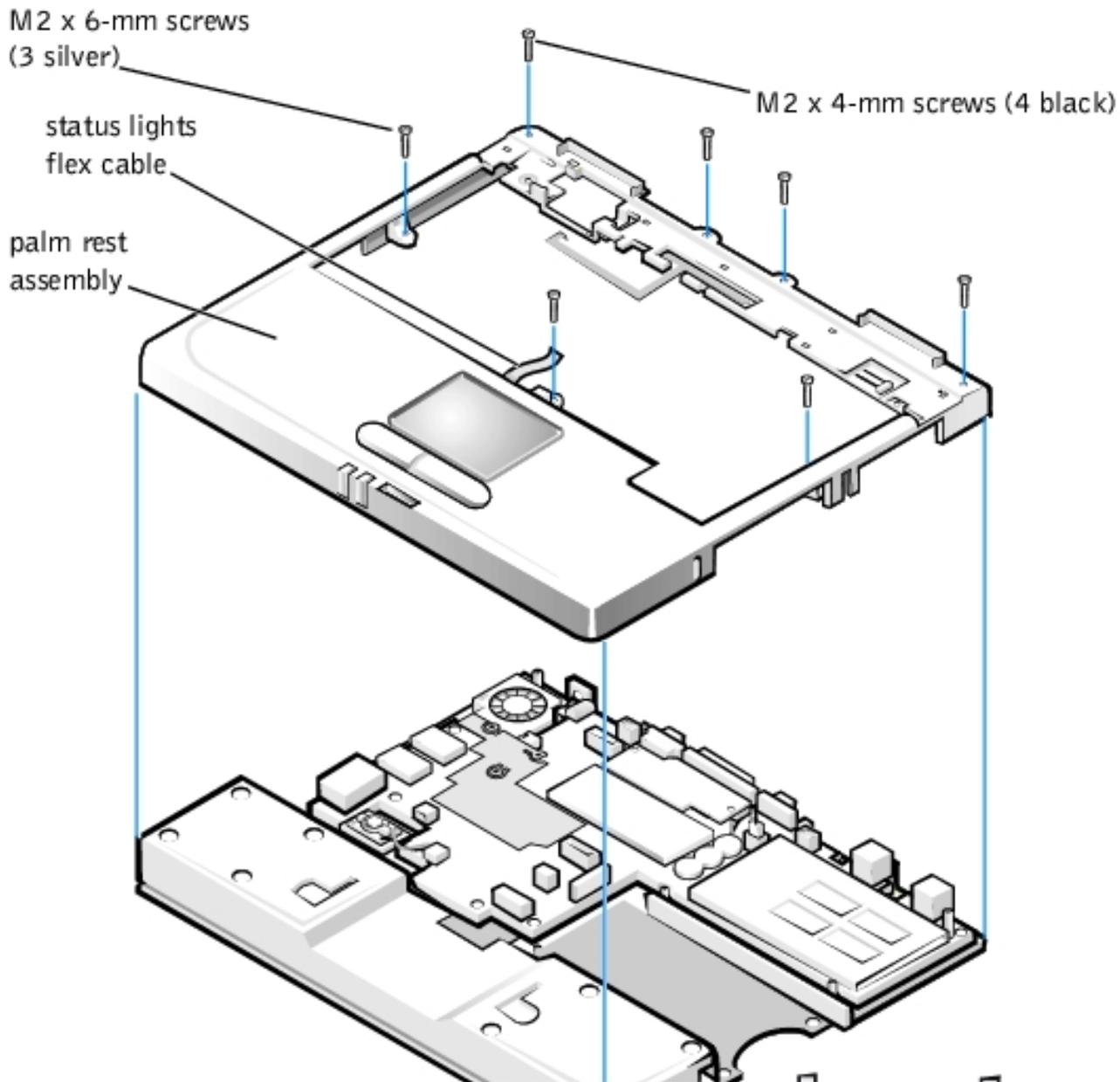
- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

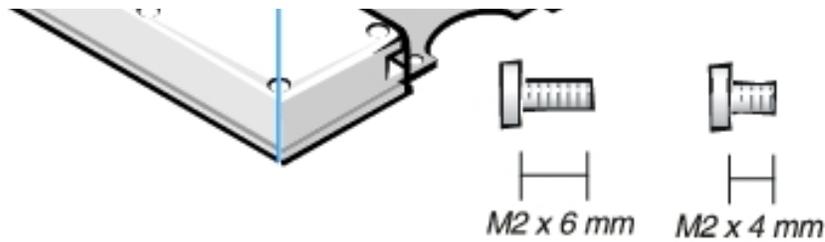
Removing the Palm Rest Assembly

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Turn the computer upside down on a flat work surface.
5. Remove the six M2.6 x 1.6-mm screws located in the battery bay.

➔ **NOTICE:** Make sure that the work surface is clean to prevent scratching the computer cover.

6. Turn the computer right-side up.
7. Remove the four black M2 x 4-mm screws across the top of the computer.



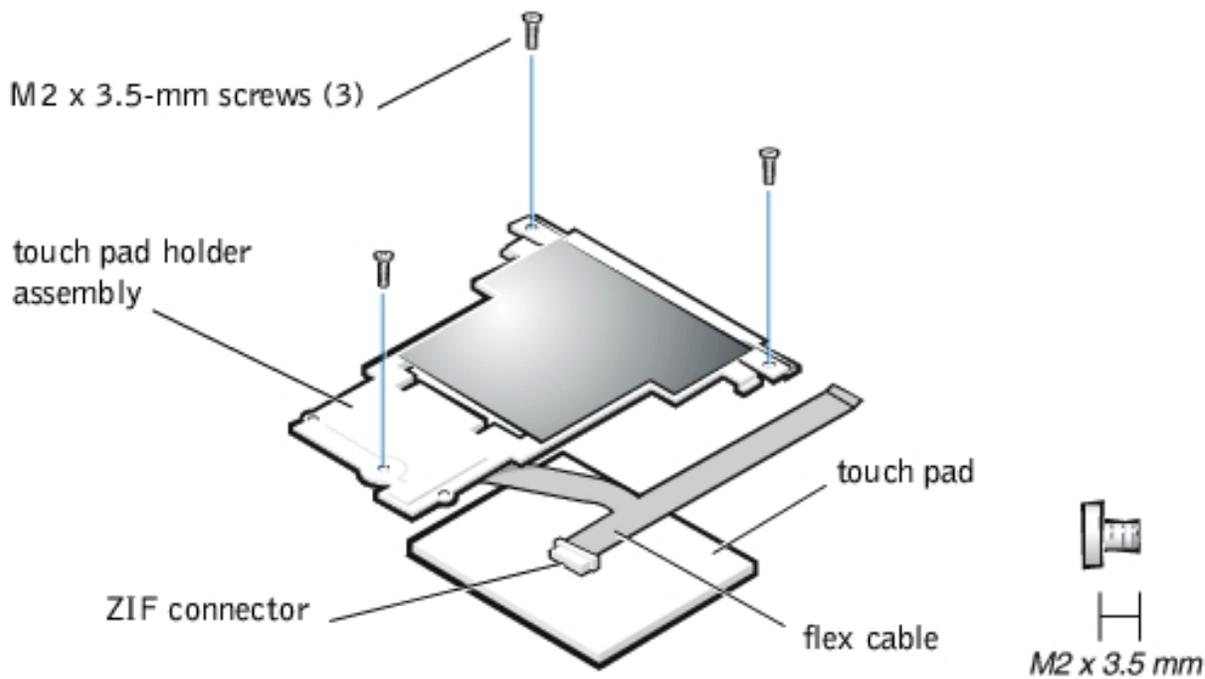


8. Remove the three silver M2 x 6-mm screws in the keyboard-assembly area that secure the middle of the palm rest assembly to the bottom case.
9. Disconnect the status lights flex cable from the ZIF connector on the system board.
10. Disconnect the touch pad flex cable from the ZIF connector on the system board.
11. Carefully remove the palm rest assembly from the bottom case assembly.

Replacing the Palm Rest Assembly

1. Place the palm rest assembly on the bottom case assembly.
2. Reinstall the three silver M2 x 6-mm screws in the keyboard-assembly area that secure the middle of the palm rest assembly to the bottom- case assembly.
3. Reinstall the four black M2 x 4-mm screws that secure the top of the palm rest assembly to the bottom-case assembly.
4. Connect the touch pad flex cable to the ZIF connector on the system board.
5. Connect the status lights flex cable to the ZIF connector on the system board.
6. Turn the computer upside down.
7. Reinstall the six M2.6 x 1.6-mm screws in the battery bay that secure the bottom of the palm rest assembly to the bottom-case assembly.
8. Turn the computer right-side up.
9. Reinstall the keyboard assembly.
10. Reinstall the display assembly.
11. Reinstall the keyboard bezel.

Touch Pad Assembly



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

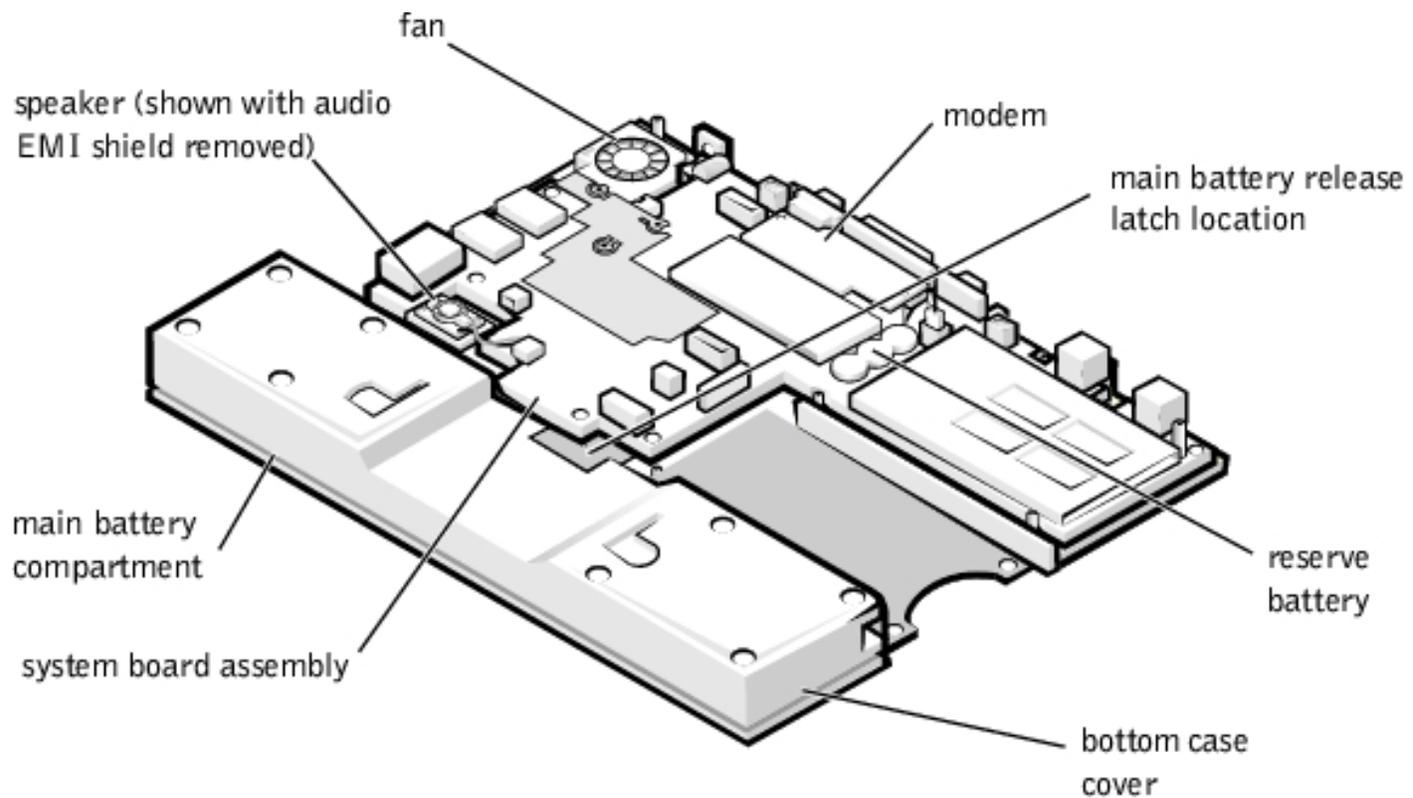
1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).
5. Remove the three M2 x 3.5-mm screws that secure the touch pad assembly to the palm rest assembly.
6. Slide the touch pad assembly out from under the two hold-down tabs.
7. Remove the touch pad assembly from the palm rest assembly.
8. Disconnect the flex cable from the ZIF connector on the back of the touch pad.

The flex cable remains attached to the touch pad holder assembly.

Bottom Case Assembly

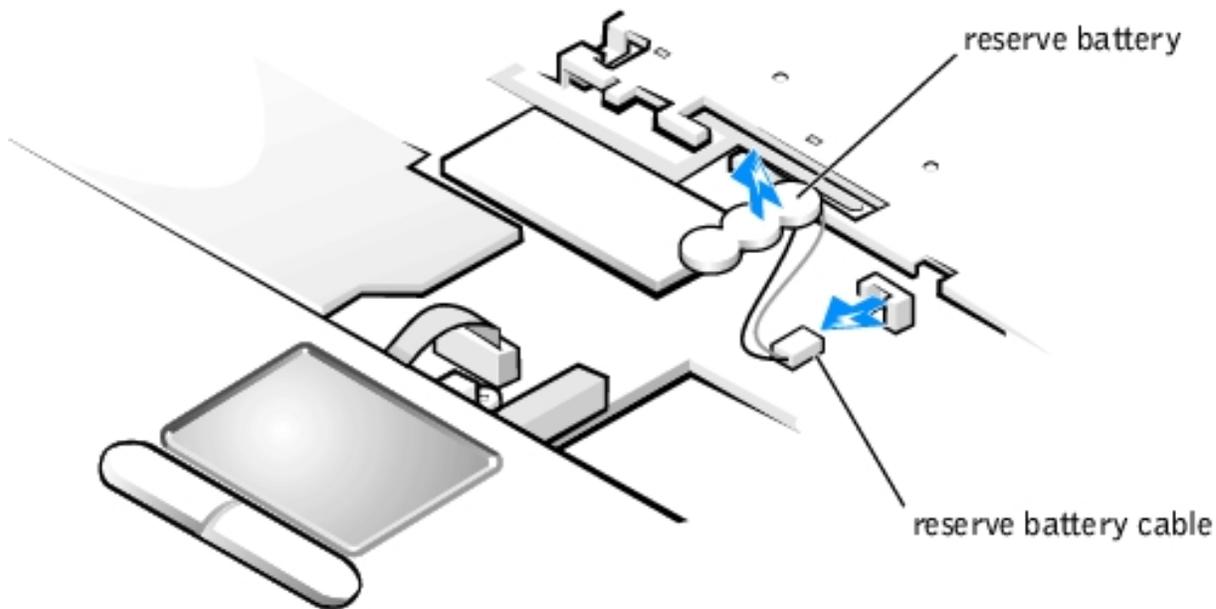
The bottom case assembly consists of the following field-replaceable components:

- Reserve battery
- RTC battery
- Main battery
- Modem
- Fan
- Speaker
- System board assembly
- Main battery release latch



NOTICE: The reserve battery provides power to the computer's nonvolatile random-access memory (NVRAM) when the computer is turned off. Removing the battery causes the computer to lose the parameters set by the user in NVRAM. If possible, make a copy of this information before you remove the reserve battery.

Reserve Battery



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

1. Remove the [keyboard bezel](#).
2. Remove the [keyboard assembly](#).
3. Peel the reserve battery away from the foam pad on the system board.

The reserve battery is located between the memory module and the PC Card bay, and it is attached to the system board with an adhesive foam pad.

4. Disconnect the reserve battery cable from the connector on the system board.
5. Remove the remnants of the foam pad from the system board.

RTC Battery

- ➔ **NOTICE:** Removing the RTC battery causes the computer to lose its date and time settings, which are used to identify when files are created or modified. You must enter the date and time settings after you replace the RTC battery.
- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.

➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.

➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

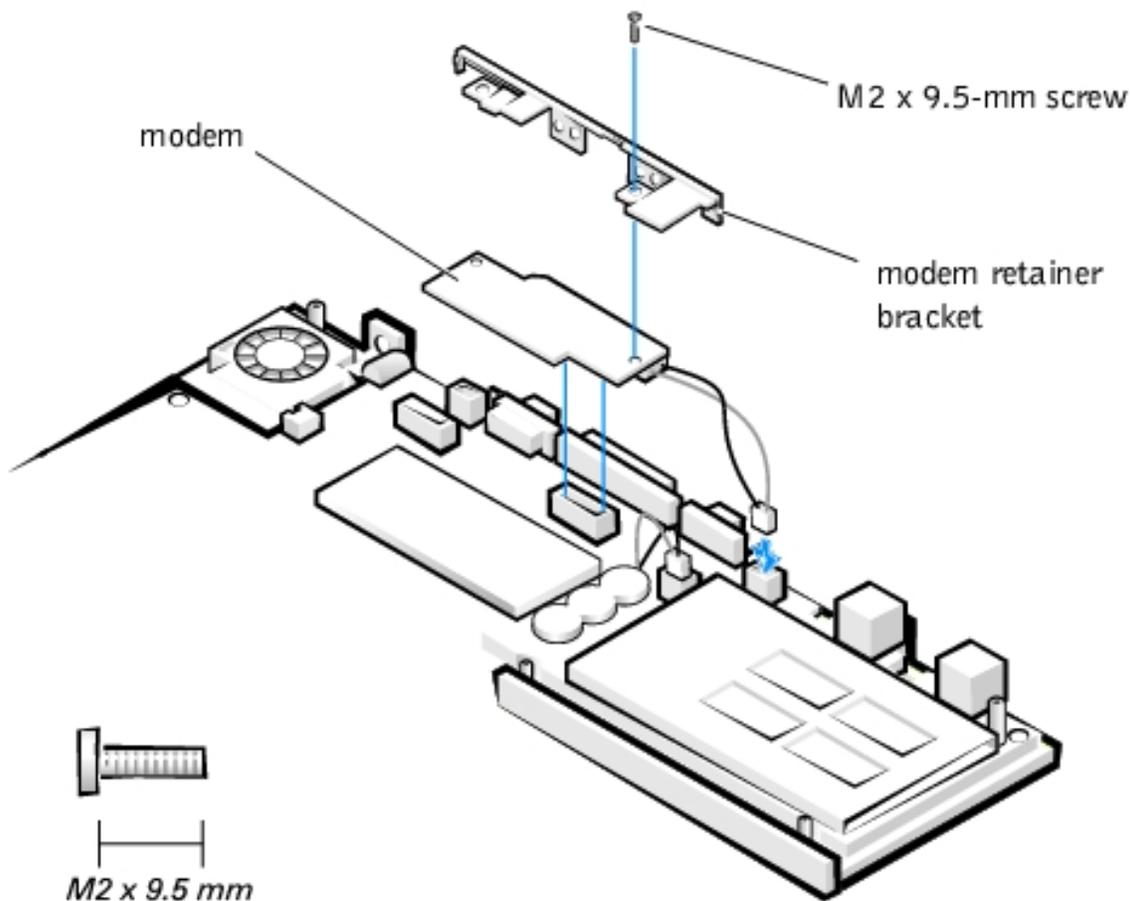
1. Remove the [keyboard bezel](#).
2. Remove the [keyboard assembly](#).
3. Grasp the RTC battery and pull it out of the holder.

You may need to use a small flat-blade screwdriver to carefully pry the battery out of the holder.

Main Battery

See "[Preparing to Work Inside Your Computer](#)" for detailed instructions for removing the battery.

Modem



-  **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
-  **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
-  **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Modem

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).
5. Use a 5-mm socket wrench to remove the four 5-mm socket screws for the video and parallel connectors located on the back of the bottom case assembly.
6. Use a small flat-blade screwdriver to remove the two media bay connector screws at both ends of the media bay connector located on the back of the bottom case assembly.
7. Remove the M2 x 9.5-mm screw that secures the modem retainer bracket and modem to the system board.

The screw is located by the video connector.

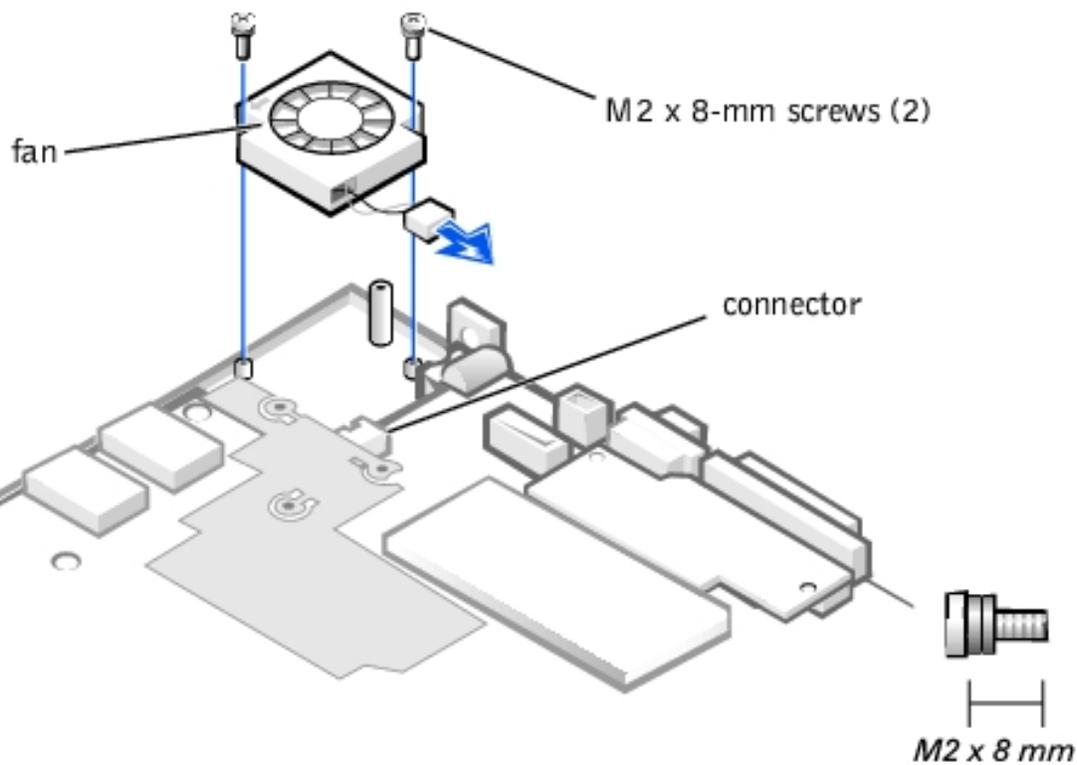
8. Remove the modem retainer bracket from the system board.
9. Pull the modem straight up to disconnect it from the system board.
10. Disconnect the modem cable from the connector on the system board.

Replacing the Modem

1. Connect the modem cable to the connector on the system board.
2. Align the connector on the bottom of the modem with the connector on the system board, and carefully press the modem onto the system board.
3. Put the modem retainer bracket in place.
4. Reinstall the M2 x 9.5-mm screw to secure the modem retainer bracket and modem to the system board.
5. Reinstall the two media bay connector screws at both ends of the media bay (IDE) connector located on the back of the bottom case assembly.
6. Reinstall the four 5-mm socket screws for the video and parallel connectors located on the back of the bottom case assembly.
7. Reinstall the palm rest assembly.
8. Reinstall the keyboard assembly.

9. Reinstall the display assembly.
10. Reinstall the keyboard bezel.

Fan



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Fan

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).
5. Carefully disconnect the fan wire connector from the system board.

The male connector on the fan wire is keyed to fit into the female connector one way only.

6. Remove the two M2 x 8-mm screws, with two rubber washers each, that secure the fan to the bottom case assembly.
7. Remove the fan from the bottom case assembly.

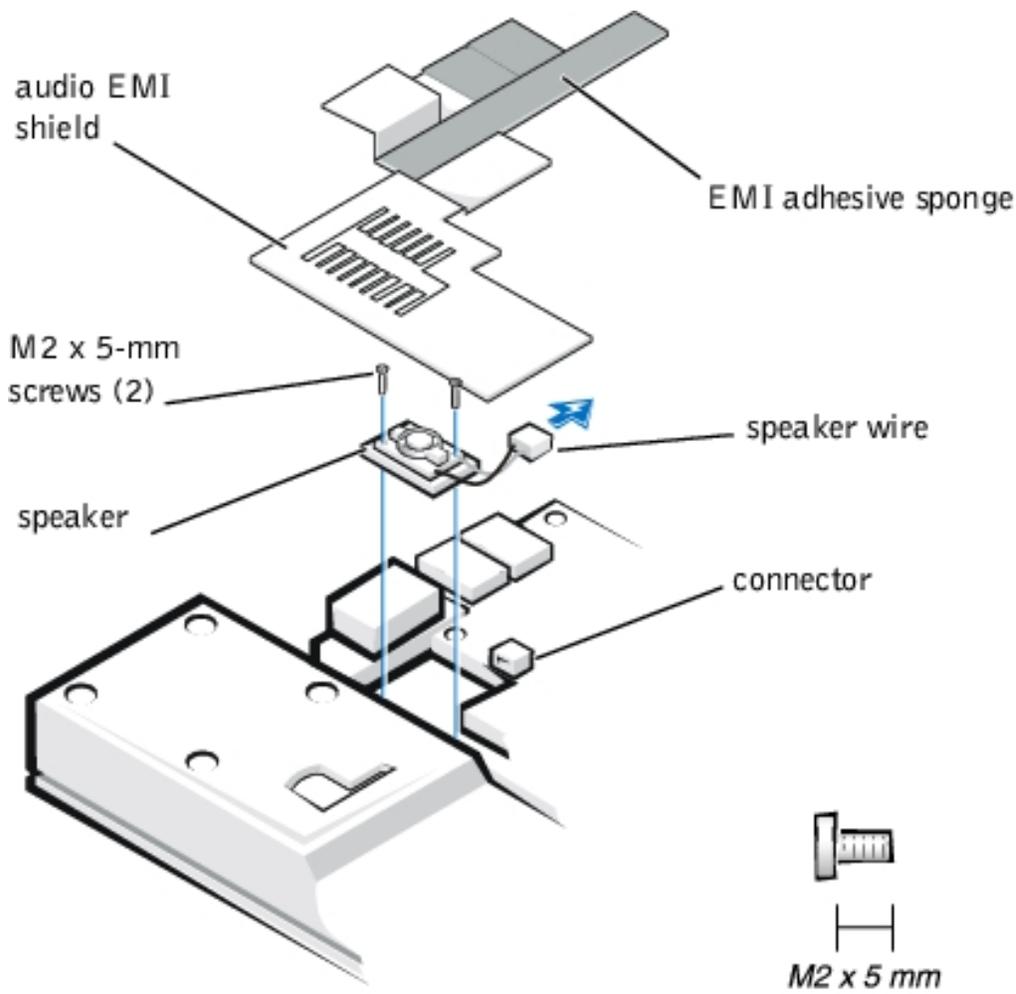
Replacing the Fan

1. Place the fan in the bottom case.

Make sure that the arrow that is stamped on top of the fan is pointing towards the thermal cooling solution.

2. Reinstall the M2 x 8-mm screws with rubber washers to secure the fan to the bottom case assembly.
3. Reconnect the fan wire to the connector on the system board assembly.
4. Reinstall the palm rest assembly.
5. Reinstall the keyboard assembly.
6. Reinstall the display assembly.
7. Reinstall the keyboard bezel.

Speaker



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the Speaker

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).

- ➔ **NOTICE:** To ensure maximum cooling for the microprocessor, do not touch the glue side of the thermal conductive tape. The oils in your skin reduce the heat transfer capability on the glue side of the tape.

5. Peel up the EMI adhesive sponge that connects the audio EMI shield to the thermal cooling solution.

You only need to peel up the part of the sponge that lays on the thermal cooling solution. The end of the sponge that lays on the audio EMI shield can remain.



NOTICE: The audio EMI shield is attached to the USB connector housing with two-sided tape. To avoid bending the audio EMI shield, care must be taken when separating the audio EMI shield from the USB connector housing.

6. Using a small flat-blade screwdriver, carefully separate the audio EMI shield away from the USB connector housing.

Place the edge of the screwdriver between the audio EMI shield and the USB connector housing, and slowly pry the two apart.

7. Carefully disconnect the speaker wire connector from the system board.

The male connector on the speaker wire is keyed to fit into the female connector one way only.

8. Remove the two M2 x 5-mm screws that secure the speaker to the bottom case assembly.
9. Remove the speaker from the bottom case assembly.
10. Remove the rubber speaker gasket from the bottom case assembly.

Replacing the Speaker

1. Reinstall the rubber speaker gasket in the bottom case.

The gasket is keyed, so it will fit in the bottom case one way only.

2. Place the speaker in the bottom case.
3. The wire end of the speaker should face towards the center of the bottom case assembly.
4. Reinstall the two M2 x 5-mm screws to secure the speaker to the bottom case assembly.
5. Carefully connect the speaker wire to the connector in the system board assembly.

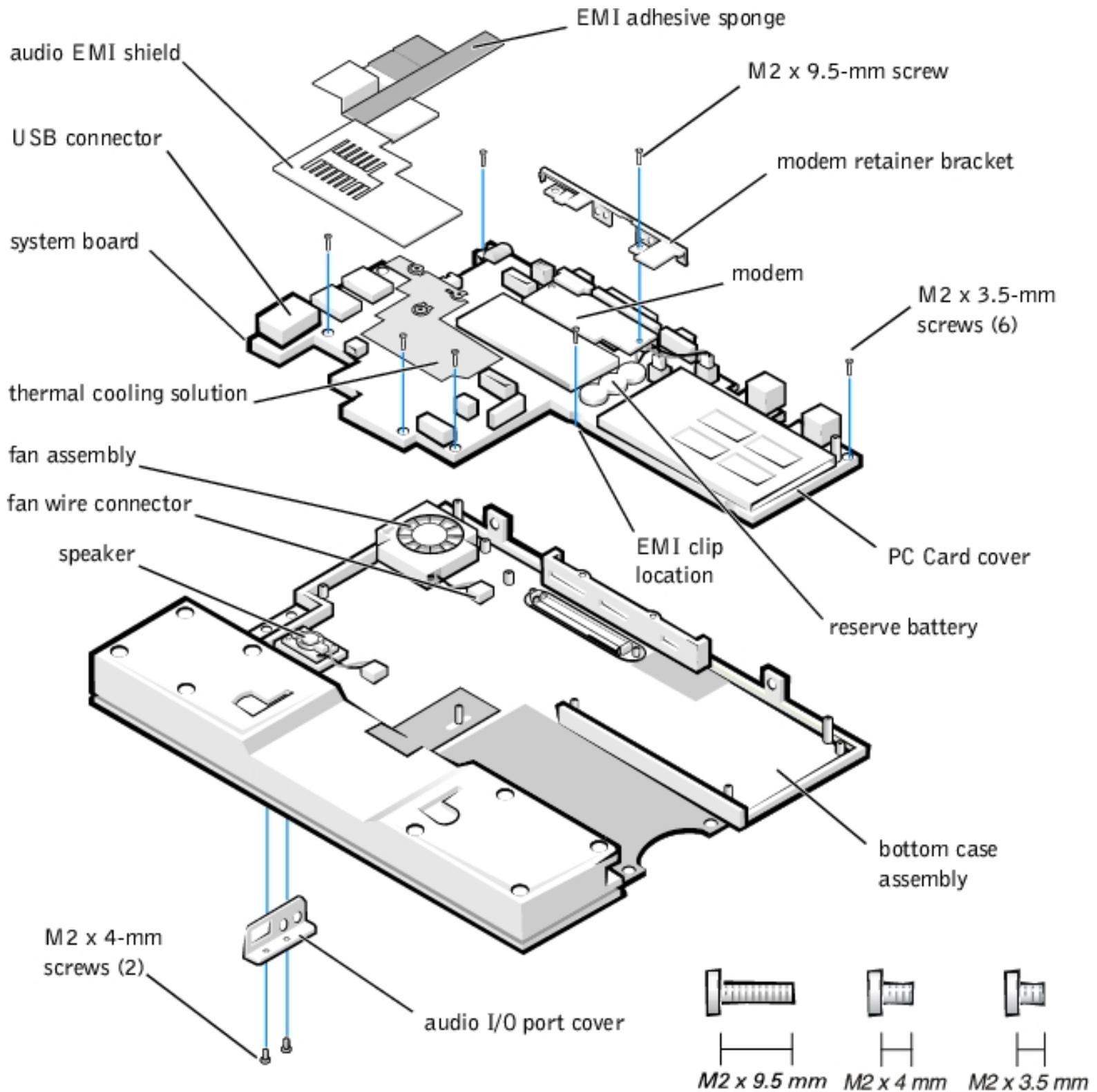
The male connector on the speaker wire is keyed to fit into the female connector one way only.

6. Reinstall the audio EMI shield:
 - a. Carefully position the audio EMI shield so that the section with the two-sided tape is over the USB connector housing.
 - b. Press the audio EMI shield down so it attaches to the USB connector housing.
 - c. Reattach the EMI adhesive sponge across the thermal cooling solution.
7. Reinstall the palm rest assembly.
8. Reinstall the keyboard assembly.

9. Reinstall the display assembly.

10. Reinstall the keyboard bezel.

System Board Assembly



-  **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
-  **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
-  **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.
-  **NOTICE:** The processor is not replaceable. Do not attempt to remove the thermal cooling solution.

Removing the System Board Assembly

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).
5. Use a 5-mm socket wrench to remove the four 5-mm socket screws for the video and parallel connectors located on the back of the bottom case assembly.
6. Use a small flat-blade screwdriver to remove the two media bay connector screws at both ends of the media bay connector located on the back of the bottom case assembly.

-  **NOTICE:** To ensure maximum cooling for the microprocessor, do not touch the glue side of the thermal conductive tape. The oils in your skin reduce the heat transfer capability on the glue side of the tape.

7. Peel up the thermal conductive tape that connects the audio EMI shield to the thermal cooling solution.

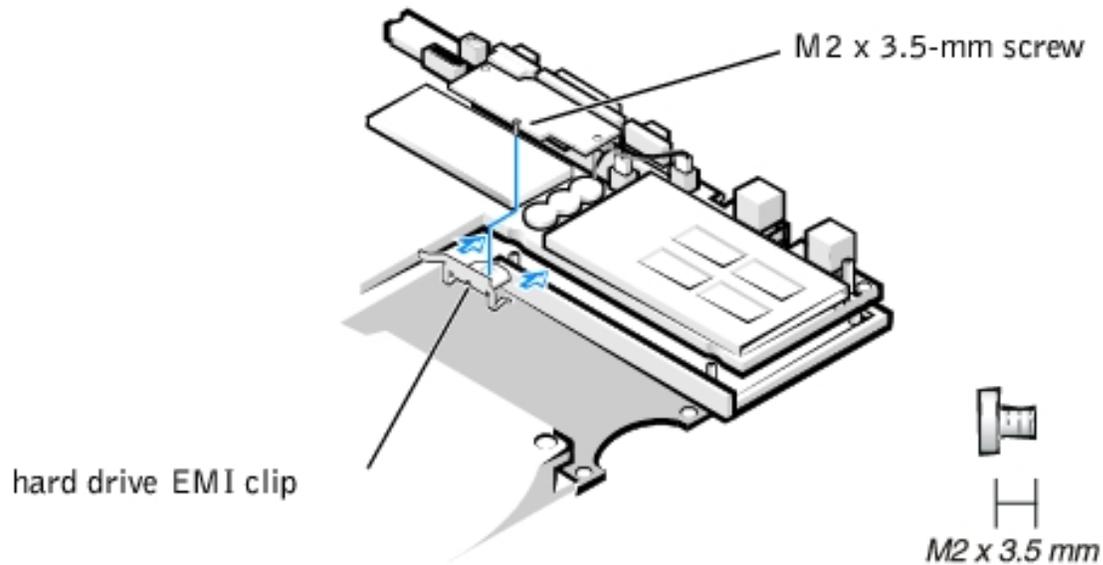
You only need to peel up the part of the tape that lays on the thermal cooling solution. The end of the tape that lays on the audio EMI shield can remain.

-  **NOTICE:** The audio EMI shield is attached to the USB connector housing with two-sided tape. To avoid bending the audio EMI shield, care must be taken when separating the audio EMI shield from the USB connector housing.
8. Using a small flat-blade screwdriver, carefully separate the audio EMI shield away from the USB connector housing. Place the edge of the screwdriver between the audio EMI shield and the USB connector housing, and slowly pry the two apart.
 9. Remove the two M2 x 4-mm screws that secure the audio I/O cover to the bottom case assembly.
 10. Remove the audio I/O cover.
 11. Remove the six M2 x 3.5-mm screws that secure the system board to the bottom case assembly. White arrows on the system board assembly point to the M2 x 3.5-mm screws.
 12. Remove the M2 x 9.5-mm screw that secures the modem retainer bracket.
 13. Remove the modem retainer bracket from the bottom case assembly.

14. Disconnect the speaker wire from the connector on the system board assembly.
15. Disconnect the fan wire from the connector on the system board assembly.
16. Lift the system board assembly out of the bottom case assembly.

Replacing the System Board Assembly

1. Transfer the memory module(s) to the replacement system board assembly.
2. Place the new hard drive EMI clip on the system board assembly.



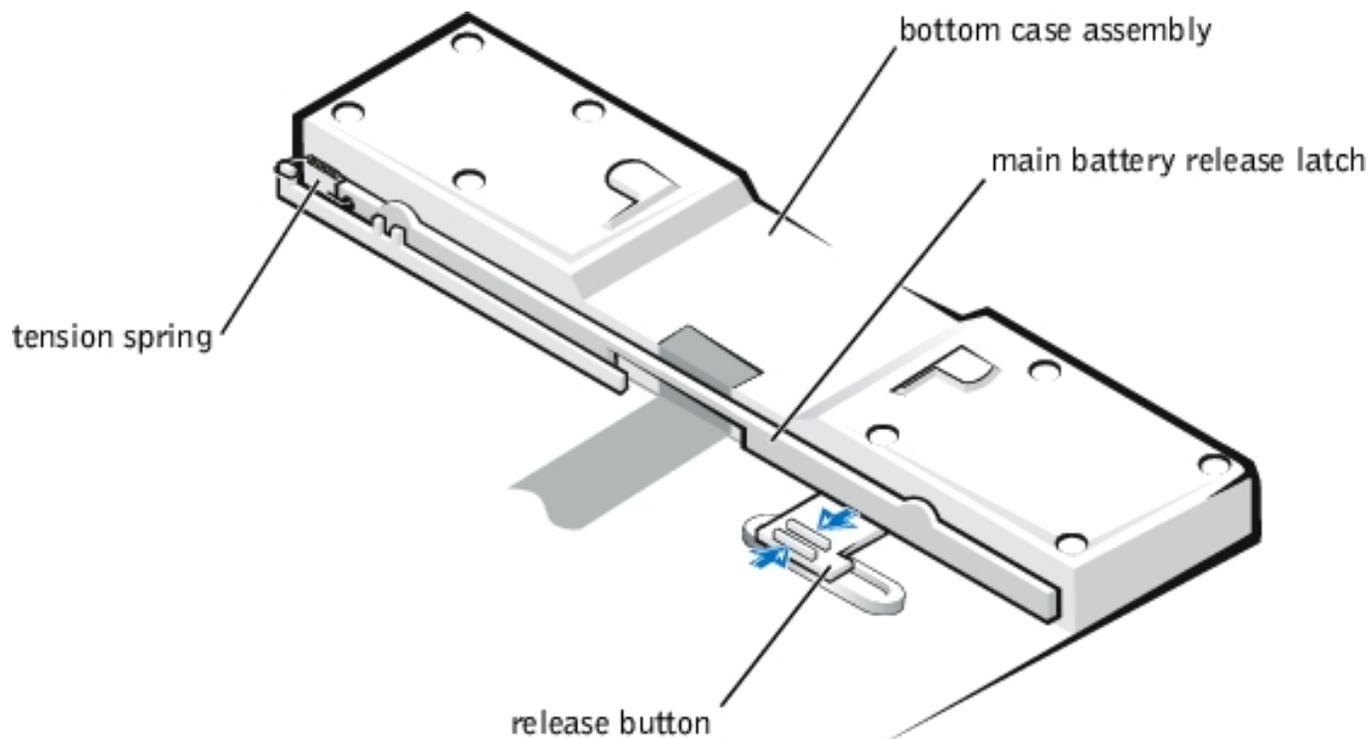
3. Place the system board assembly in the bottom case assembly.

The I/O ports should protrude comfortably through the openings at the back of the bottom case assembly

4. Reconnect the fan wire to the connector on the system board assembly.
5. Reconnect the speaker wire to the connector on the system board assembly.
6. Replace the modem retainer bracket around the I/O ports and on top of the modem.
7. Reinstall the M2 x 9.5-mm screw on the right side of the modem to secure the modem retainer bracket to the system board assembly. The hole for the M2 x 9.5-mm screw is located by the video connector.
8. Reinstall the six M2 x 3.5-mm screws that secure the system board assembly to the bottom case assembly. White arrows on the system board assembly point to the screw holes. One of the M2 x 3.5-mm screws passes through the hard drive EMI clip.
9. Reinstall the audio EMI shield:
 - a. Carefully position the audio EMI shield so the section with the two-sided tape is over the USB connector housing.
 - b. Press the audio EMI shield down so it attaches to the USB connector housing.

- c. Reattach the thermal conductive tape across the thermal cooling solution.
10. Reinstall the two media bay connector screws at both ends of the media bay connector located on the back of the bottom case assembly.
11. Reinstall the four 5-mm socket screws for the video and parallel connectors located on the back of the bottom case assembly
12. Replace the audio I/O cover.
13. Replace the two M2 x 4-mm screws to secure the audio I/O cover to the bottom case assembly.
14. Reinstall the palm rest assembly.
15. Reinstall the keyboard assembly.
16. Reinstall the display assembly.
17. Reinstall the keyboard bezel.

Main Battery Release Latch



- ➔ **NOTICE:** Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.
- ➔ **NOTICE:** To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.
- ➔ **NOTICE:** Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

1. Remove the [keyboard bezel](#).
2. Remove the [display assembly](#).
3. Remove the [keyboard assembly](#).
4. Remove the [palm rest assembly](#).
5. Remove the [system board assembly](#).



NOTICE: The tabs on the release button are plastic. Care should be taken when squeezing the tabs to avoid breaking them.

6. Using needle-nose pliers, gently squeeze the two tabs on the back of the release button together and grasp the top of the battery release latch and gently pull up to free it from the release button assembly.
7. To remove the battery release latch, unhook the small tension spring located on the metal post next to the hard drive.

APR Docking Doors



NOTICE: Disconnect the computer and any attached devices from electrical outlets, and remove any installed batteries.



NOTICE: To avoid ESD, ground yourself by using a wrist grounding strap or by touching an unpainted metal surface on the computer.



NOTICE: Read "[Preparing to Work Inside Your Computer](#)" before performing the following procedure.

Removing the APR Docking Doors

1. Turn the computer upside down.

The APR docking doors should be at the top.

2. Carefully insert a small flat-blade screwdriver in the opening between the door edges and the edge of the door opening on the right side.

There is a small slot at the right edge of the door opening to show where the screwdriver is placed.

3. Gently push the screwdriver against the right edge of the back door to cause the door to bow up at the center.
4. Grasp the back door as it bows up while still pressing the door edge with the screwdriver.
5. Carefully slip the right-edge hinge of the back door off its right hinge pin.



NOTICE: The doors are attached to each other by a tension spring at the left end of the doors. Do not try to separate the doors from each other. They must be removed together.

6. Gently push the screwdriver against the right edge of the front door to cause the door to bow up at the center.
7. Grasp the front door as it bows up while still pressing the door edge with the screwdriver.
8. Carefully slip the right-edge hinge of the front door off its right hinge pin.
9. Grasping both doors together, carefully slip the left side of each door off their left hinge pins.

Replacing the APR Docking Doors



NOTICE: On the under side of the doors, a small *F* is printed on the front door and a small *B* is printed on the back door. As you hold the doors for installation, the front door is near you, the back door is away from you, and the tension spring is to the left.

1. Turn the computer upside down.

The docking connector door opening should be at the top.

2. Holding the two doors together at their right edges, insert the left hinges of the doors (at the end with the tension spring) onto the left, front, and back hinge pins.
3. Carefully bow the doors in the center.
4. Slip the right hinge of the back door on to the right, back hinge pin.
5. Slip the right hinge of the front door on to the right, front hinge pin.
6. Release the doors so that they set into place.

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