HP ProBook 6545b Notebook PC,
HP ProBook 6540b Notebook PC,
HP ProBook 6445b Notebook PC, and
HP ProBook 6440b Notebook PC
Maintenance and Service Guide

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This guide is a troubleshooting reference used for maintaining and servicing the computer. It provides comprehensive information on identifying computer features, components, and spare parts; troubleshooting computer problems; and performing computer disassembly procedures.

Safety warning notice

⚠ **WARNING:** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

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Product description

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Processors	■ AMD® Turion™ II Ultra M620 2.5-GHz processor (35W, 2-MB L2 cache)	✓		✓	
	■ AMD Turion II Ultra M600 2.3-GHz processor (35W, 2-MB L2 cache)	✓		✓	
	■ AMD Turion II M540 2.4-GHz processor (35W, 1-MB L2 cache)	✓		✓	
	■ AMD Turion II M520 2.2-GHz processor (35W, 1-MB L2 cache)	✓		✓	
	■ AMD Athlon™ II M340 2.2-GHz processor (35W, 1-MB L2 cache)	✓		✓	
	■ AMD Athlon II M320 2.1-GHz processor (35W, 1-MB L2 cache)	✓		✓	
	■ AMD Sempron™ M120 2.1-GHz processor (25W, 512-KB L2 cache)	✓		✓	
	■ AMD Sempron M100 1.9-GHz processor (25W, 512-KB L2 cache)	✓		✓	
	■ Intel Core i7 720QM 1.60-GHz processor (turbo up to 2.80-GHz; 6-MB L3 cache, 8 threads, 45W)		✓		✓
	■ Intel Core i7 620M 2.66-GHz processor (turbo up to 3.33-GHz; 4-MB L3 cache, 4 threads, 35 W)		✓		✓
	■ Intel Core i5 540M 2.53-GHz processor (turbo up to 3.06-GHz; 3-MB L3 cache, 4 threads, 35W)		✓		✓
	■ Intel Core i5 520M 2.40-GHz processor (turbo up to 2.93-GHz; 3-MB L3 cache, 4 threads, 35W)		✓		✓
	■ Intel Core i5 430M 2.26-GHz processor (turbo up to 2.53-GHz; 3-MB L3 cache, 4 threads, 35W)		✓		✓
	■ Intel Core i3 350M 2.26-GHz processor (turbo up to 2.40-GHz; 3-MB L3 cache, 4 threads, 35W)		✓		✓
	■ Intel Core i3 330M 2.13-GHz processor (turbo up to 2.33-GHz; 3-MB L3 cache, 4 threads, 35W)		✓		✓
Chipset	Northbridge: AMD RS880M	✓		✓	
	Southbridge: AMD SB710	✓		✓	
	Intel Ibex Peak HM57 storage		✓		✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Graphics	ATI Mobility Radeon™ HD 4200 Universal Memory Architecture (UMA) graphics	✓		✓	
	ATI Mobility Radeon HD 4550 discrete graphics		✓		✓
	Intel Graphics Media Accelerator HD UMA graphics		✓		✓
	Supports dual-display ports through docking station	✓	✓	✓	✓
Panel	■ Supports HP Privacy Filter	✓	✓	✓	✓
	■ Supports 16×9 aspect ratio display panels	✓	✓	✓	✓
	■ 15.6-in, high-definition+ (HD+), light-emitting diode (LED), WVA (1600×900) with webcam and 2 WWAN antennas	✓	✓		
	■ 15.6-in, HD+, LED, WVA (1600×900) with 2 WWAN antennas	✓	✓		
	■ 15.6-in, HD, LED, WVA (1600×900) with webcam and 2 WWAN antennas	✓	✓		
	■ 15.6-in, HD, LED, WVA (1600×900) with 2 WWAN antennas	✓	✓		
	■ 15.6-in, HD+, LED, AntiGlare (1366×768) with webcam	✓	✓		
	■ 15.6-in, HD+, LED, AntiGlare (1366×768)	✓	✓		
	■ 15.6-in, HD, LED, AntiGlare (1366×768) with webcam	✓	✓		
	■ 15.6-in, HD, LED, AntiGlare (1366×768)	✓	✓		
	■ 14.0-in, HD, LED, AntiGlare (1366×768) with webcam and 2 WWAN antennas			✓	✓
	■ 14.0-in, HD, LED, AntiGlare (1366×768) with webcam			✓	✓
	■ 14.0-in, HD, LED, AntiGlare (1366×768) with 2 WWAN antennas			✓	✓
	■ 14.0-in, HD, LED, AntiGlare (1366×768) with webcam			✓	✓
	■ 14.0-in, HD+, LED, SVA, AntiGlare (1600×900) with webcam			✓	✓
	■ 14.0-in, HD+, LED, SVA, AntiGlare (1600×900) with webcam			✓	✓
	■ 14.0-in, HD+, LED, SVA, AntiGlare (1600×900) with webcam			✓	✓
	■ 14.0-in, HD+, LED, SVA, AntiGlare (1600×900) with webcam			✓	✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Memory	2 customer-accessible/ upgradable memory module slots (both slots are customer-accessible)	✓	✓	✓	✓
	Supports the following DDR2, PC2-6400 configurations at 800-MHz in all supported countries and regions: ■ 8192-MB total system memory (4096 × 2) ■ 4096-MB total system memory (4096 × 1) ■ 4096-MB total system memory (2048 × 2) ■ 3072-MB total system memory (2048 + 1024) ■ 2048-MB total system memory (2048 x 1) ■ 2048-MB total system memory (1024 × 2) ■ 1024-MB total system memory (1024 × 1)	✓	✓	✓	✓
Mass storage devices	Supports 9.50-mm, 6.35-cm (2.50-in) hard drives and solid-state drives	✓	✓	✓	✓
	Customer-accessible	✓	✓	✓	✓
	Supports HP 3D DriveGuard	✓	✓	✓	✓
	Supports the following hard drives: ■ 500-GB, 7200-rpm ■ 320-GB, 7200-rpm ■ 250-GB, 7200-rpm ■ 160-GB, 7200-rpm	✓	✓	✓	✓
	■ Supports 128-GB solid-state drive		✓		✓
	■ Supports 128-GB solid-state drive	✓	✓	✓	✓
Optical drives	Single screw removal	✓	✓	✓	✓
	Customer-accessible	✓	✓	✓	✓
	Supports 12.7-mm, optical drives	✓	✓	✓	✓
	Supports no drive option in optical drive bay with slot bezel	✓	✓	✓	✓
	Supports the following optical drives: ■ Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive ■ DVD±RW and CD-RW SuperMulti Double-Layer Drive ■ DVD-ROM Drive	✓	✓	✓	✓
	Supports a 500-GB, 7200-rpm hard drive with cradle	✓	✓	✓	✓
Microphone	Integrated dual-array digital microphone only on computer models equipped with a webcam	✓	✓	✓	✓
	Integrated mono digital microphone only on computer models not equipped with a webcam	✓	✓	✓	✓
Audio	IDT 92HD75B high-definition audio	✓	✓	✓	✓
	Stereo speakers (2)	✓	✓	✓	✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Webcam	Integrated 2-megapixel camera with macro focus	✓	✓	✓	✓
Modem	56k v.92 MDC data/fax modem	✓	✓	✓	✓
	Modem cable not included	✓	✓	✓	✓
Ethernet	Marvell 88E8072 10/100/1000 network interface card (NIC)	✓	✓	✓	✓
	NIC Power Down technology	✓	✓	✓	✓
	S3/S4/S5 wake on LAN (AC mode only)	✓	✓	✓	✓
	Ethernet cable not included	✓	✓	✓	✓
Wireless	Integrated wireless local-area network (WLAN) options via half MiniCard:	✓	✓	✓	✓
	■ 2 WLAN antennas built into the display assembly	✓	✓	✓	✓
	■ Broadcom 43224 802.11 a/g/n ■ Broadcom 4312G 802.11 b/g	✓	✓	✓	✓
	■ Intel Centrino Advanced-N 6200 AGN ■ Intel Wi-Fi Link 1000, 802.11b/g/n		✓		✓
	■ Supports no-WLAN option	✓	✓	✓	✓
	Integrated wireless wide-area network (WWAN) options via Mini PCI module:	✓	✓	✓	✓
	■ High-speed packet access (HSPA), evolution-data optimized (EV-DO) WWAN module	✓	✓	✓	✓
	■ WWAN security provided by subscriber identity module (SIM), user-accessible behind battery	✓	✓	✓	✓
	■ 2 WWAN antennas (worldwide, 5-band) built into the display assembly	✓	✓	✓	✓
	Integrated wireless personal-area network (WPAN) options via Bluetooth® module	✓	✓	✓	✓
External media cards	ExpressCard/54 slot	✓	✓	✓	✓
	Media Card Reader supporting the following optional digital card formats: ■ Memory Stick ■ Memory Stick Pro ■ Memory Stick Duo (adapter required) ■ Memory Stick Duo Pro (adapter required) ■ MultiMediaCard ■ MultiMediaCard Plus ■ Secure Digital (SD) Memory Card ■ Secure Digital (SD) High Capacity Memory Card ■ micro Secure Digital (SD) Memory Card (adapter required) ■ xD-Picture Card	✓	✓	✓	✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Docking	Docking supported through the HP Advanced 230W Docking Station, HP Advanced 120W Docking Station, HP 230W Docking Station, and HP 90W Docking Station	✓	✓	✓	✓
Ports	1394a	✓	✓	✓	✓
	Accessory battery connector	✓	✓	✓	✓
	DisplayPort (Dsub 15-pin) supporting 1600 × 1200 external resolution at 75 Hz	✓	✓	✓	✓
	Docking connector	✓	✓	✓	✓
	Multi-pin AC power	✓	✓	✓	✓
	RJ-11 (modem)	✓	✓	✓	✓
	RJ-45 (Ethernet, includes link and activity lights)	✓	✓	✓	✓
	Serial	✓	✓	✓	✓
	Stereo headphone	✓	✓	✓	✓
	Stereo microphone	✓	✓	✓	✓
	USB v. 2.0	✓	✓	✓	✓
Keyboard/ pointing devices	Full-sized keyboard with spill-resistant design and drains	✓	✓	✓	✓
	Supports dual-point (pointing stick and TouchPad) and TouchPad-only configurations	✓	✓	✓	✓
	Numeric keypad	✓	✓		✓
	Supports 2-way scroll with legend	✓	✓	✓	✓
	Taps enabled as default	✓	✓	✓	✓
Power requirements	90-W PFC HP Smart Adapter	✓	✓	✓	✓
	Supports multi-pin AC connector and 3-wire plug (with ground pin)	✓	✓	✓	✓
	Supports 9-cell Lithium Ion (Li Ion) battery (93 WH) and 6-cell Li Ion battery (55 WH)	✓	✓	✓	✓
	Supports 8-cell Extended Life Battery	✓	✓	✓	✓
	Supports 12-cell Ultra Capacity Battery	✓	✓	✓	✓
	Supports HP Fast Charge Technology	✓	✓	✓	✓
Security	Security cable slot	✓	✓	✓	✓
	Trusted platform module (TPM) 1.2 and TPM enhanced drive lock	✓	✓	✓	✓
	Optional HP fingerprint reader	✓	✓	✓	✓
	Optional active integrated Smart Card Reader (SCM)	✓	✓	✓	✓
	Full volume encryption	✓	✓	✓	✓
	Preboot authentication (password and smart card)	✓	✓	✓	✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Operating system	**Preinstalled without Microsoft® Office:** ■ Windows® 7 Home Premium 64 ■ Windows 7 Home Premium 32 ■ Windows 7 Pro 64 ■ Windows 7 Pro 32 ■ Windows Vista® Business 32 ■ Windows Vista Home Basic 32 ■ Windows XP Pro 32 with Windows 7 Pro downgrade ■ Free DOS	✓	✓	✓	✓
	Preinstalled with Microsoft Office: ■ Windows 7 Home Basic 32 ■ Windows 7 Home Premium 64 ■ Windows 7 Home Premium 32 ■ Windows 7 Pro 64 ■ Windows 7 Pro 32 ■ Windows Vista Home Basic 32 ■ Windows Vista Business 32 ■ Windows XP Pro 32 with Windows 7 Pro downgrade	✓	✓	✓	✓
	Restore Media (OSDVD): ■ Windows 7 Home Basic 32 ■ Windows 7 Home Premium 64 ■ Windows 7 Home Premium 32 ■ Windows 7 Pro 64 ■ Windows 7 Pro 32 ■ Windows Vista Business 32 ■ Windows Vista Home Basic 32 ■ Windows XP Pro 32 with Windows 7 Pro license	✓	✓	✓	✓
	Restore media (DRDVD): ■ Windows 7 DRDVD with Windows DVD ■ Windows 7 DRDVD without Windows DVD ■ Windows Vista DRDVD ■ Windows XP DRDVD	✓	✓	✓	✓
	Office restore media: Microsoft Office ready restore DVD	✓	✓	✓	✓
	Certified: ■ SuSE Linux ■ Microsoft Logo (Windows 7 and Windows Vista Premium)	✓	✓	✓	✓
	Web-only support: ■ Windows 7 Enterprise 64 ■ Windows 7 Enterprise 32 ■ Windows 7 Ultimate 64 ■ Windows 7 Ultimate 32 ■ Windows Vista Enterprise 32 ■ Windows Vista Enterprise 64	✓	✓	✓	✓

(Continued)

Category	Description	HP ProBook 6545b Notebook PC	HP ProBook 6540b Notebook PC	HP ProBook 6445b Notebook PC	HP ProBook 6440b Notebook PC
Serviceability	**End-user replaceable parts:**				
	AC adapter	✓	✓	✓	✓
	Battery (system)	✓	✓	✓	✓
	Bluetooth module	✓	✓	✓	✓
	Hard drive	✓	✓	✓	✓
	Memory module	✓	✓	✓	✓
	Optical drive	✓	✓	✓	✓
	SIM	✓	✓	✓	✓
	Solid-state drive	✓	✓	✓	✓
	WLAN module	✓	✓	✓	✓
	WWAN module	✓	✓	✓	✓

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External component identification

Identifying hardware

Components included with the computer may vary by region and model. The illustrations in this chapter identify the standard features on most computer models.

To see a list of hardware installed in the computer, follow these steps:

For Windows 7 and Windows Vista:

1. Select **Start > Computer > System Properties**.
2. In the left pane, click **Device Manager**.

You can also add hardware or modify device configurations using Device Manager.

✎ Windows includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing applications, running utilities, or changing Windows settings. Refer to Help and Support for more information.

For Windows XP:

1. Select **Start > My Computer**.
2. In the left pane of the System Tasks window, click **View system information**.
3. Select **Hardware tab > Device Manager**.

You can also add hardware or modify device configurations using Device Manager.

Top components

Display components

✎ Your computer may look slightly different from the illustration in this section.
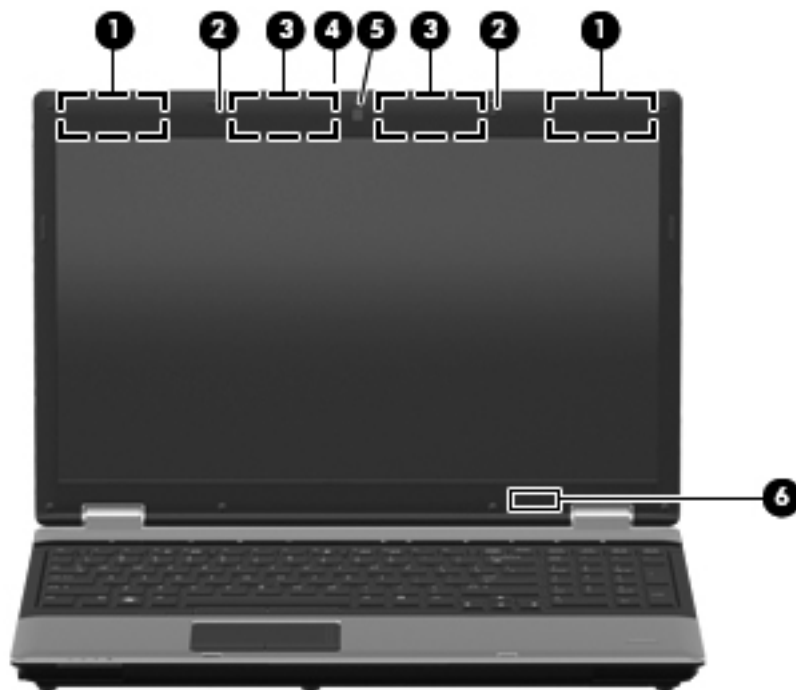
Item	Component	Description
(1)	WWAN antennas (2)*	Send and receive wireless signals to communicate with wireless wide-area networks (WWAN).
(2)	Internal microphones (1 or 2, varying by computer model)†	Record sound. ✎ If there is a microphone icon next to each microphone opening, your computer has internal microphones.
(3)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(4)	Webcam light (select models only)	On: The webcam is in use.
(5)	Webcam (select models only)	Records audio and video and captures still photographs.
(6)	Internal display switch	Turns off the display or initiates the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) if the display is closed while the power is on.

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions.

†Only computers equipped with a webcam are equipped with 2 microphones. Computers not equipped with a webcam are equipped with only one microphone.

Keys

✎ Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	**esc** key	Displays system information when pressed in combination with the **fn** key.
(2)	**fn** key	Executes frequently used system functions when pressed in combination with a function key or the **esc** key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Integrated numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6)	Function keys	Execute frequently used system functions when pressed in combination with the **fn** key.

Item	Component	Description
(1)	**esc** key	Displays system information when pressed in combination with the **fn** key.
(2)	**fn** key	Executes frequently used system functions when pressed in combination with a function key or the **esc** key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Embedded numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6)	Function keys	Execute frequently used system functions when pressed in combination with the **fn** key.

Pointing devices

Item	Component	Description
(1)	Pointing stick (select models only)*	Moves the pointer and selects or activates items on the screen.
(2)	Left pointing stick button (select models only)*	Functions like the left button on an external mouse.
(3)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(4)	Left TouchPad button*	Functions like the left button on an external mouse.
(5)	Right pointing stick button*	Functions like the right button on an external mouse.
(6)	TouchPad scroll zone	Scrolls up or down.
(7)	Right TouchPad button*	Functions like the right button on an external mouse.

*This table describes factory settings. To view or change pointing device preferences:

■ In Windows 7 and Windows Vista: Select **Start > Control Panel > Hardware and Sound > Mouse**.

■ In Windows XP: Select **Start > Control Panel > Printers and Other Hardware > Mouse**.

Buttons and fingerprint reader
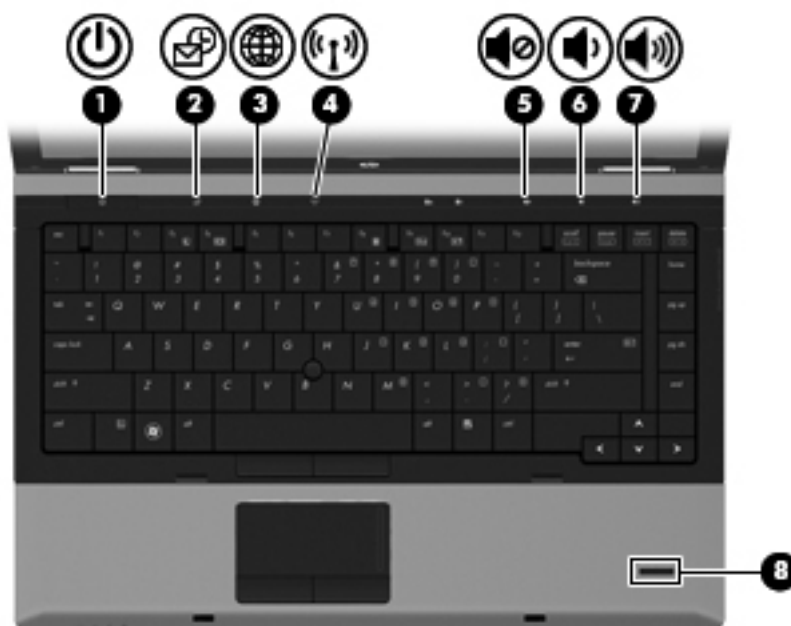
✎ Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Power button	■ When the computer is off, press the button to turn on the computer.
		■ When the computer is on, press the button to shut down the computer.
		■ When the computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP), press the button briefly to exit Sleep or Standby.
		■ When the computer is in Hibernation, press the button briefly to exit Hibernation.
		If the computer has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer.
		To learn more about your power settings, select one of the following:
		■ In Windows 7 and Windows Vista: select **Start > Control Panel > System and Maintenance > Power Options**.
		■ In Windows XP: select **Start > Control Panel > Performance and Maintenance > Power Options**.
(2)	QuickLook button	■ When the computer is off, press the button to open HP QuickLook.
		■ When the computer is on, press the button to open Software Setup.
		✎ If Software Setup is not available, the default Web browser opens.
(3)	QuickWeb button	■ When the computer is off, press the button to open HP QuickWeb.
		■ When the computer is on, press the button to open the default Web browser.
(4)	Wireless button	Turns the wireless feature on or off but does not establish a wireless connection.
(5)	Volume mute button	Mutes and restores speaker sound.

(Continued)

Item	Component	Description
Buttons and fingerprint reader *(continued)*		
(6)	Volume down button	Decreases computer volume.
(7)	Volume up button	Increases computer volume.
(8)	Calculator button (select models only)	Opens the Windows calculator feature.
(9)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.

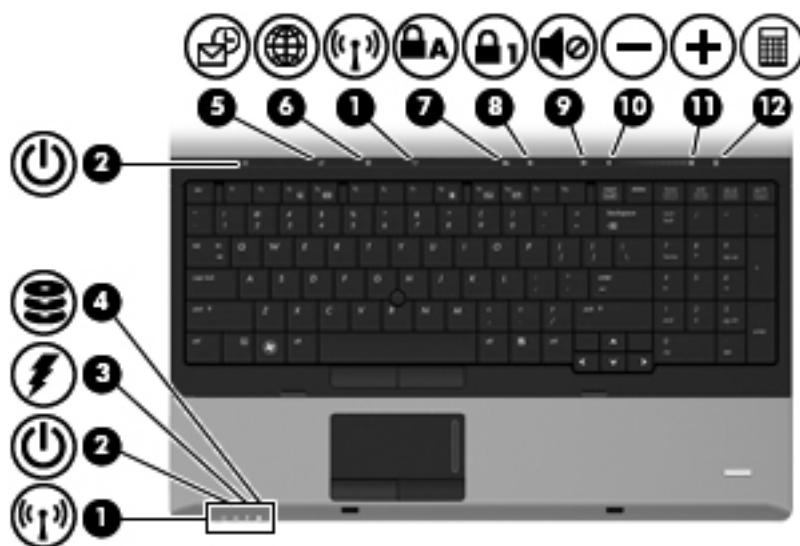| Item	Component	Description
(1)	Power button	■ When the computer is off, press the button to turn on the computer.
		■ When the computer is on, press the button to shut down the computer.
		■ When the computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP), press the button briefly to exit Sleep or Standby.
		■ When the computer is in Hibernation, press the button briefly to exit Hibernation.
		If the computer has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer.
		To learn more about your power settings, select one of the following:
		■ In Windows 7 and Windows Vista: Select **Start > Control Panel > System and Maintenance > Power Options**.
		■ In Windows XP: Select **Start > Control Panel > Performance and Maintenance > Power Options**.
(2)	QuickLook button	■ When the computer is off, press the button to open HP QuickLook.
		■ When the computer is on, press the button to open Software Setup.
		✎ If Software Setup is not available, the default Web browser opens.

(Continued)

Item	Component	Description
Buttons and fingerprint reader *(continued)*		
(3)	QuickWeb button	■ When the computer is off, press the button to open HP QuickWeb.
		■ When the computer is on, press the button to open the default Web browser.
(4)	Wireless button	Turns the wireless feature on or off but does not establish a wireless connection.
(5)	Volume mute button	Mutes and restores speaker sound.
(6)	Volume down button	Decreases computer volume.
(7)	Volume up button	Increases computer volume.
(8)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.

Lights

✎ Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Wireless lights (2)*	■ Blue: An integrated wireless device, such as a WLAN device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on.
		■ Amber: All wireless devices are off.
(2)	Power lights (2)†	■ On: The computer is on.
		■ Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP).
		■ Off: The computer is off or in Hibernation.

(Continued)

Item	Component	Description
Lights *(continued)*		
(3)	Battery light	■ Amber: A battery is charging.
		■ Turquoise: A battery is close to full charge capacity.
		■ Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly.
		■ Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	■ Blinking turquoise: The hard drive or optical drive (select models only) is being accessed.
		■ Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5)	QuickLook light	■ On: The computer is on.
		■ Off: The computer is off or in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) or Hibernation.
(6)	QuickWeb light	On: The Web browser is in use.
(7)	Caps lock light	On: Caps lock is on.
(8)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.
(9)	Volume mute light	■ Turquoise: Speaker sound is on.
		■ Amber: Speaker sound is off.
(10)	Volume down light	Blinking: The volume down button is being used to decrease the speaker volume.
(11)	Volume up light	Blinking: The volume up button is being used to increase the speaker volume.
(12)	Calculator light	On: The Windows calculator function is on.

*The 2 wireless lights display the same information. The light on the wireless button is visible only when the computer is open. The wireless light on the front of the computer is visible whether the computer is open or closed.

†The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.

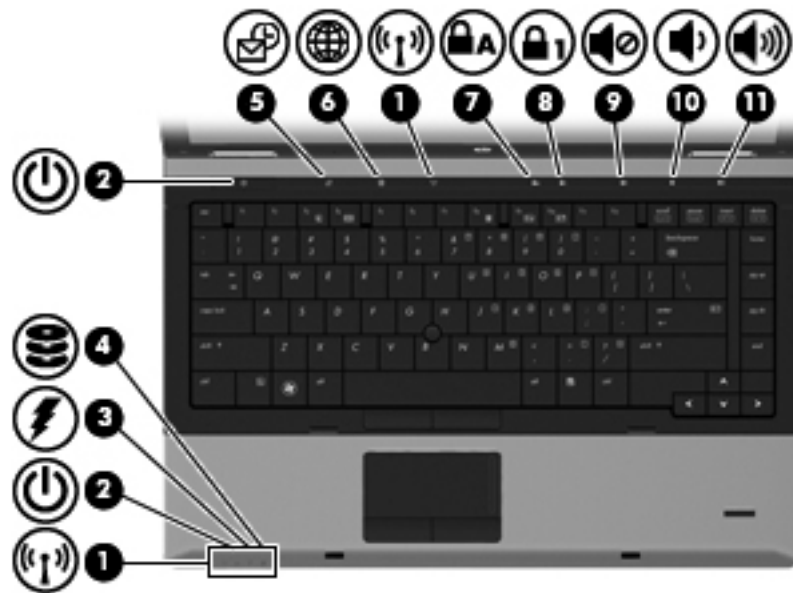| Item	Component	Description
(1)	Wireless lights (2)*	■ Blue: An integrated wireless device, such as a WLAN device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on.
		■ Amber: All wireless devices are off.
(2)	Power lights (2)†	■ On: The computer is on.
		■ Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP).
		■ Off: The computer is off or in Hibernation.

(Continued)

Item	Component	Description
Lights *(continued)*		
(3)	Battery light	■ Amber: A battery is charging.
		■ Turquoise: A battery is close to full charge capacity.
		■ Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly.
		■ Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	■ Blinking turquoise: The hard drive or optical drive (select models only) is being accessed.
		■ Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5)	QuickLook light	■ On: The computer is on.
		■ Off: The computer is off or in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) or Hibernation.
(6)	QuickWeb light	On: The Web browser is in use.
(7)	Caps lock light	On: Caps lock is on.
(8)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.
(9)	Volume mute light	■ Turquoise: Speaker sound is on.
		■ Amber: Speaker sound is off.
(10)	Volume down light	Blinking: The volume down button is being used to decrease the speaker volume.
(11)	Volume up light	Blinking: The volume up button is being used to increase the speaker volume.

*The 2 wireless lights display the same information. The light on the wireless button is visible only when the computer is open. The wireless light on the front of the computer is visible whether the computer is open or closed.

†The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.
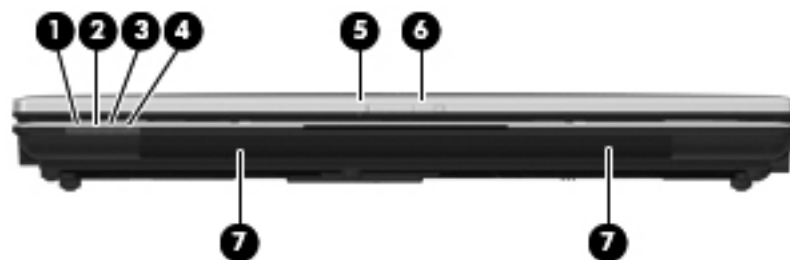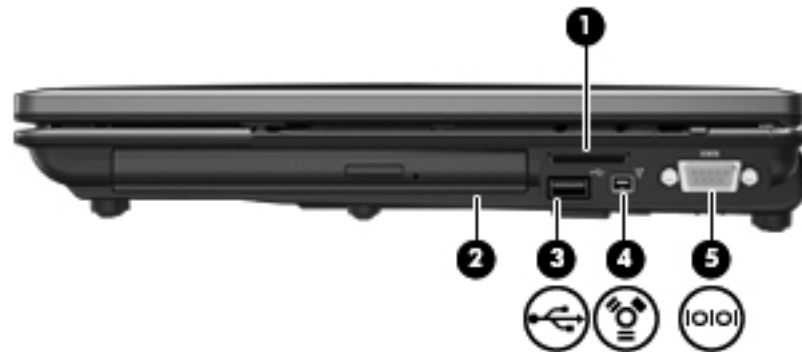
Front components

Item	Component	Description
(1)	Wireless light	■ Blue: An integrated wireless device, such as a wireless local area network (WLAN) device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on. ■ Amber: All wireless devices are off.
(2)	Power light	■ On: The computer is on. ■ Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP). ■ Off: The computer is off or in Hibernation.
(3)	Battery light	■ Amber: A battery is charging. ■ Turquoise: A battery is close to full charge capacity. ■ Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly. ■ Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	■ Blinking turquoise: The hard drive or optical drive (select models only) is being accessed. ■ Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5)	Webcam light (select models only)	On: The webcam is in use.
(6)	Display release latch	Opens the computer.
(7)	Speakers (2)	Produce sound.

Right-side components

✎ Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Media Card Reader	Supports the following optional digital card formats:
		■ Memory Stick
		■ Memory Stick Pro
		■ Memory Stick Duo (adapter required)
		■ Memory Stick Duo Pro (adapter required)
		■ MultiMediaCard
		■ MultiMediaCard Plus
		■ Secure Digital (SD) Memory Card
		■ Secure Digital (SD) High Capacity Memory Card
		■ micro Secure Digital (SD) Memory Card (adapter required)
		■ xD-Picture Card
(2)	Upgrade bay	Supports an optical drive or a hard drive.
(3)	USB port	Connects an optional USB device.
(4)	1394 port	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(5)	Serial port	Connects an optional device such as a serial modem, mouse, or printer.

Item	Component	Description
(1)	Media Card Reader	Supports the following optional digital card formats:
		■ Memory Stick
		■ Memory Stick Pro
		■ Memory Stick Duo (adapter required)
		■ Memory Stick Duo Pro (adapter required)
		■ MultiMediaCard
		■ MultiMediaCard Plus
		■ Secure Digital (SD) Memory Card
		■ Secure Digital (SD) High Capacity Memory Card
		■ micro Secure Digital (SD) Memory Card (adapter required)
		■ xD-Picture Card
(2)	Upgrade bay	Supports an optical drive or a hard drive.
(3)	USB port	Connects an optional USB device.
(4)	1394 port	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(5)	RJ-11 (modem) jack	Connects a modem cable.
(6)	Security cable slot	Attaches an optional security cable to the computer.
		✎ The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.

Left-side components

✎ Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Vent	Enables airflow to cool internal components.
		✎ The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2)	DisplayPort	Connects an optional digital display device such as a high-performance monitor or projector.
(3)	USB ports (3)	Connect optional USB devices.
(4)	ExpressCard slot	Supports optional ExpressCards.
(5)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(6)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
		✎ When a device is connected to the headphone jack, the computer speakers are disabled.

Item	Component	Description
(1)	Vent	Enables airflow to cool internal components.
		✎ The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2)	DisplayPort	Connects an optional digital display device such as a high-performance monitor or projector.
(3)	USB ports (3)	Connect optional USB devices.
(4)	Smart Card Reader (select models only)	Supports optional smart cards and Java™ Cards.
(5)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(6)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
		✎ When a device is connected to the headphone jack, the computer speakers are disabled.

Rear components

✎ Refer to the illustration that most closely matches your computer.

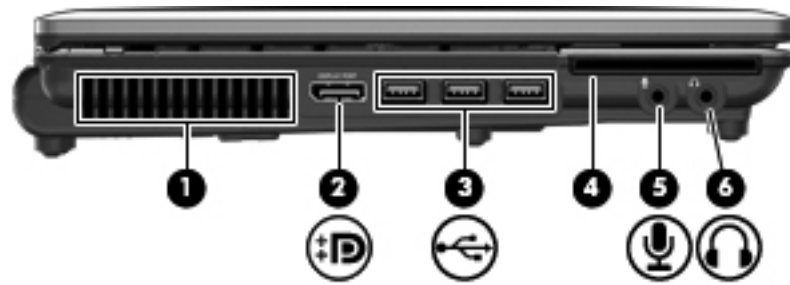| Item	Component	Description
(1)	Security cable slot	Attaches an optional security cable to the computer.
		✎ The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)	RJ-11 (modem) jack	Connects a modem cable.
(3)	RJ-45 (network) jack	Connects a network cable.
(4)	External monitor port	Connects an external VGA monitor or projector.
(5)	Power connector	Connects an AC adapter.

Item	Component	Description
(1)	RJ-45 (network) jack	Connects a network cable.
(2)	External monitor port	Connects an external VGA monitor or projector.
(3)	Power connector	Connects an AC adapter.

Bottom components

Item	Component	Description
(1)	Battery bay	Holds the battery.
(2)	SIM slot	Contains a wireless subscriber identity module (SIM) (select models only). The SIM slot is located inside the battery bay.
(3)	Battery release latch	Releases the battery from the battery bay.
(4)	Docking connector	Connects an optional docking device.
(5)	Accessory battery connector	Connects an optional accessory battery.
(6)	Vents (6)	Enable airflow to cool internal components.
		✎ The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(7)	Hard drive bay	Holds the hard drive.
(8)	Memory module compartment	Contains an expansion memory module slot.
(9)	HP Mobile Broadband Module compartment	Contains an HP Mobile Broadband Module (select models only).
		✎ To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.
(10)	Bluetooth compartment	Contains a Bluetooth device.

3

Illustrated parts catalog

Service tag

When ordering parts or requesting information, provide the computer serial number and model number provided on the service tag.

Item	Component	Description
(1)	Product name	This is the product name affixed to the front of the computer.
(2)	Serial number (s/n)	This is an alphanumeric identifier that is unique to each product.
(3)	Part number/Product number (p/n)	This number provides specific information about the product's hardware components. The part number helps a service technician determine what components and parts are needed.
(4)	Model description	This is the alphanumeric identifier used to locate documents, drivers, and support for the computer.
(5)	Warranty period	This number describes the duration of the warranty period for the computer.

Computer major components
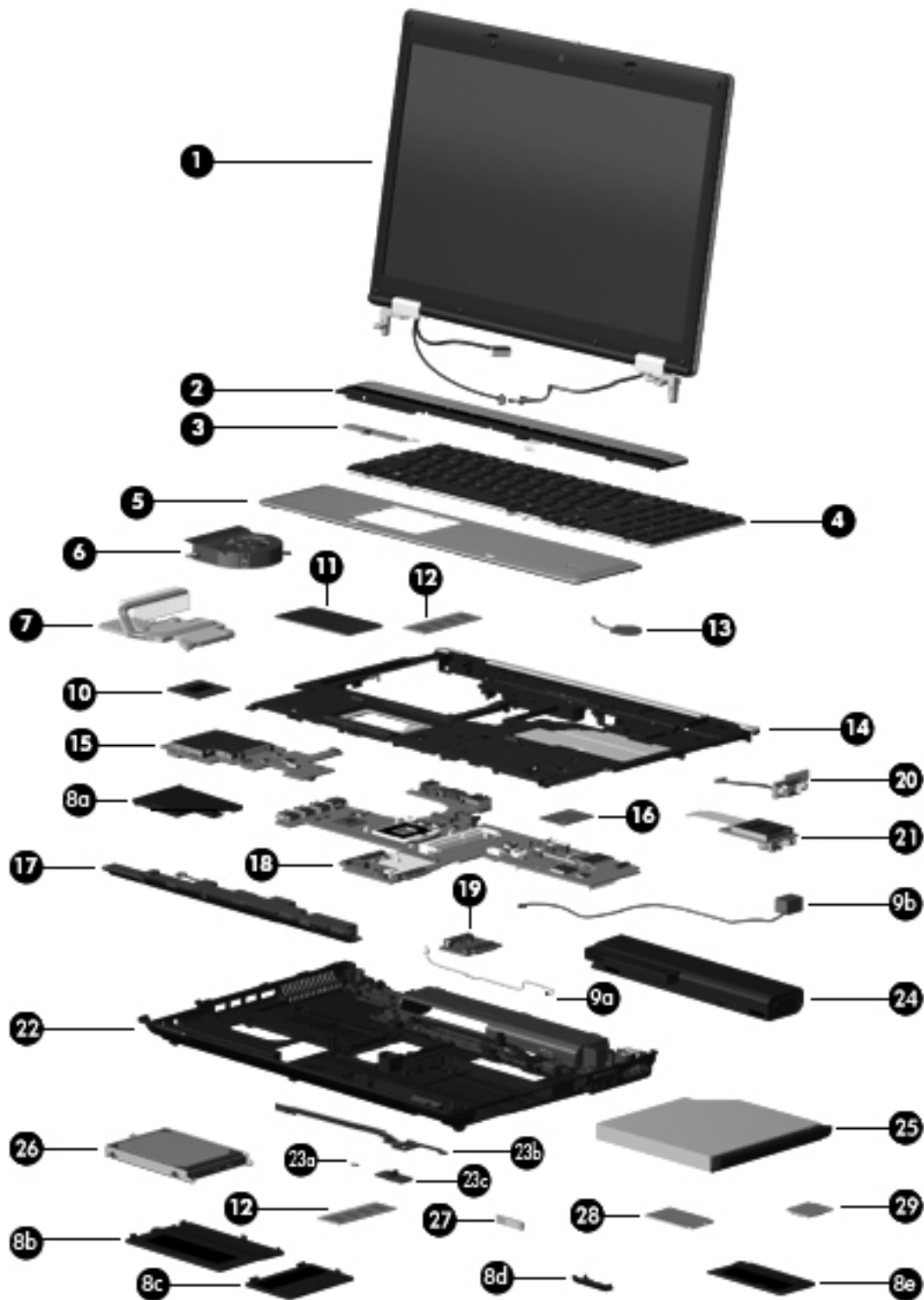
Item	Description	Spare part number
(1)	**Display assembly** (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo):	
	For use only with HP Compaq 6545b computer models:	
	■ 15.6-in, HD+, LED, WVA display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	584230-001
	■ 15.6-in, HD+, LED, WVA display assembly for use only with computer models equipped with WWAN functionality but not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584229-001
	■ 15.6-in, HD+, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583225-001
	■ 15.6-in, HD+, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583222-001
	■ 15.6-in, HD, LED, WVA display assembly for use only with computer models equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584228-001
	■ 15.6-in, HD, LED, WVA display assembly for use only with computer models not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584227-001
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583223-001
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583220-001
	For use only with HP Compaq 6540b computer models:	
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594005-001
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594004-001
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	593996-001
	■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593995-001
	■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593999-001
	■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594002-001
	■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594003-001
	■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594006-001
	■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594001-001

(Continued)

Item	Description	Spare part number
(1)	**Display assembly** *(continued):*	
	For use only with HP Compaq 6540b computer models *(continued):*	
	■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594000-001
	■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	593998-001
	■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593997-001
	■ 15.6-in, HD, LED, LVDS BrightView display assembly	623182-001
	■ 15.6-in, HD, LED, SVA, LVDS AntiGlare display assembly	623181-001
	■ 15.6-in, HD+, LED, WVA, LVDS AntiGlare display assembly	624643-001
	For use only with HP Compaq 6445b computer models:	
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584232-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584231-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583228-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583226-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam	600753-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam	600754-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models with WWAN functionality but not a webcam	617448-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality	617449-001
	For use only with HP Compaq 6440b computer models:	
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594018-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594014-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594015-001
	■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594011-001

(Continued)

Item	Description	Spare part number
(1)	**Display assembly** *(continued)*:	
	For use only with HP Compaq 6440b computer models *(continued)***:**	
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594017-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594016-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594008-001
	■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594007-001
	■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594013-001
	■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594012-001
	■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594010-001
	■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594009-001
	■ 14.0-in, HD, LED, SVA, LVDS BrightView display assembly	592144-001
	■ 14.0-in, HD, LED, SVA, LVDS AntiGlare display assembly for use only with HP Compaq 6440b computer models	623176-001
	■ 14.0-in, HD, LED, SVA, LVDS AntiGlare display assembly	624236-001
	✎ See for display assembly internal component spare part information.	
(2)	**Switch cover** (includes capacitive board and cable):	
	For use only with HP Compaq 6545b computer models	583268-001
	For use only with HP Compaq 6540b computer models	593860-001
	For use only with HP Compaq 6445b computer models	583268-001
	For use only with HP Compaq 6440b computer models	593861-001
(3)	**Power button board** (includes cable)	
	For use only with HP Compaq 6545b computer models	583268-001
	For use only with HP Compaq 6445b computer models	583267-001
	For use only with HP Compaq 6540b and 6440b computer models	593838-001
(4)	**Keyboard** (includes keyboard cable):	
	For use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick:	
	■ For use in Belgium	584234-A41
	■ For use in Brazil	584234-201
	■ For use in Bulgaria	584234-261

(Continued)

Item	Description	Spare part number
(4)	**Keyboard** *(continued)*:	
	For use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick:	
	■ For use in Denmark	584234-081
	■ For use in the Czech Republic and Slovakia	584234-A81
	■ For use in France	584234-051
	■ For use in French Canada	584234-121
	■ For use in Germany	584234-041
	■ For use in Greece	584234-DJ1
	■ For use in Hungary	584234-211
	■ For use in Iceland	584234-DD1
	■ For use in Israel	584234-BB1
	■ For use in Italy	584234-061
	■ For use in Latin America	584234-161
	■ For use in the Netherlands	584234-B31
	■ For use in Norway	584234-091
	■ For use in Portugal	584234-131
	■ For use in Russia	584234-251
	■ For use in Saudi Arabia	584234-171
	■ For use in Slovenia	584234-BA1
	■ For use in Spain	584234-071
	■ For use in Sweden and Finland	584234-B71
	■ For use in Switzerland	584234-BG1
	■ For use in Turkey	584234-141
	■ For use in the United Kingdom	584234-031
	■ For use in the United States	584234-001
	For use only with HP Compaq 6540b computer models equipped with a pointing stick:	
	■ For use in Japan	584234-291
	■ For use in Slovakia	584234-A81
	■ For use in South Korea	584234-AD1
	■ For use in Thailand	584234-AB1
	■ For use in the Czech Republic and Slovakia	584234-281
	For use only with HP Compaq 6545b computer models not equipped with a pointing stick:	
	■ For use in Belgium	583293-A41
	■ For use in Brazil	583293-201
	■ For use in Bulgaria	583293-261
	■ For use in Denmark	583293-081
	■ For use in the Czech Republic and Slovakia	583293-A81
	■ For use in France	583293-051

(Continued)

Item	Description	Spare part number
(4)	**Keyboard** *(continued)*:	
	For use only with HP Compaq 6545b computer models not equipped with a pointing stick:	
	■ For use in French Canada	583293-121
	■ For use in Germany	583293-041
	■ For use in Greece	583293-DJ1
	■ For use in Hungary	583293-211
	■ For use in Iceland	583293-DD1
	■ For use in Israel	583293-BB1
	■ For use in Italy	583293-061
	■ For use in Latin America	583293-161
	■ For use in the Netherlands	583293-B31
	■ For use in Norway	583293-091
	■ For use in Portugal	583293-131
	■ For use in Russia	583293-251
	■ For use in Saudi Arabia	583293-171
	■ For use in Slovenia	583293-BA1
	■ For use in Spain	583293-071
	■ For use in Sweden and Finland	583293-B71
	■ For use in Switzerland	583293-BG1
	■ For use in Turkey	583293-141
	■ For use in the United Kingdom	583293-031
	■ For use in the United States	583293-001
	For use only with HP Compaq 6540b computer models equipped with a pointing stick:	
	■ For use in Japan	583293-291
	■ For use in Slovakia	583293-A81
	■ For use in South Korea	583293-AD1
	■ For use in Thailand	583293-AB1
	■ For use in the Czech Republic and Slovakia	583293-281
	For use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick:	
	■ For use in Brazil	584233-201
	■ For use in French Canada	584233-121
	■ For use in Latin America	584233-161
	■ For use in the United States	584233-001
	For use only with HP Compaq 6440b computer models equipped with a pointing stick:	
	■ For use in Belgium	584233-A41
	■ For use in Bulgaria	584233-261
	■ For use in Denmark	584233-081
	■ For use in France	584233-051

(Continued)

Item	Description	Spare part number
(4)	**Keyboard** *(continued)*:	
	For use only with HP Compaq 6440b computer models equipped with a pointing stick:	
	■ For use in Germany	584233-041
	■ For use in Greece	584233-DJ1
	■ For use in Hungary	584233-211
	■ For use in Iceland	584233-DD1
	■ For use in Israel	584233-BB1
	■ For use in Italy	584233-061
	■ For use in Japan	584233-291
	■ For use in the Netherlands	584233-B31
	■ For use in Norway	584233-091
	■ For use in Portugal	584233-131
	■ For use in Russia	584233-251
	■ For use in Saudi Arabia	584233-171
	■ For use in Slovakia	584233-221
	■ For use in Slovenia	584233-BA1
	■ For use in South Korea	584233-AD1
	■ For use in Spain	584233-071
	■ For use in Sweden and Finland	584233-B71
	■ For use in Switzerland	584233-BG1
	■ For use in Taiwan	584233-AB1
	■ For use in Thailand	584233-281
	■ For use in Turkey	584233-141
	■ For use in the United Kingdom	584233-031
	For use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick:	
	■ For use in Brazil	583292-201
	■ For use in French Canada	583292-121
	■ For use in Latin America	583292-161
	■ For use in the United States	583292-001
	For use only with HP Compaq 6440b computer models not equipped with a pointing stick:	
	■ For use in Belgium	583292-A41
	■ For use in Bulgaria	583292-261
	■ For use in Denmark	583292-081
	■ For use in France	583292-051
	■ For use in Germany	583292-041
	■ For use in Greece	583292-DJ1
	■ For use in Hungary	583292-211
	■ For use in Iceland	583292-DD1

(Continued)

Item	Description	Spare part number
(4)	**Keyboard** *(continued)*:	
	For use only with HP Compaq 6440b computer models not equipped with a pointing stick:	
	■ For use in Israel	583292-BB1
	■ For use in Italy	583292-061
	■ For use in Japan	583292-291
	■ For use in the Netherlands	583292-B31
	■ For use in Norway	583292-091
	■ For use in Portugal	583292-131
	■ For use in Russia	583292-251
	■ For use in Saudi Arabia	583292-171
	■ For use in Slovakia	583292-221
	■ For use in Slovenia	583292-BA1
	■ For use in South Korea	583292-AD1
	■ For use in Spain	583292-071
	■ For use in Sweden and Finland	583292-B71
	■ For use in Switzerland	583292-BG1
	■ For use in Taiwan	583292-AB1
	■ For use in Thailand	583292-281
	■ For use in Turkey	583292-141
	■ For use in the United Kingdom	583292-031
(5)	**Palm rest:**	
	For use only with HP Compaq 6545b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	583285-001
	For use only with HP Compaq 6545b and 6540b computer models not equipped with a fingerprint reader	583286-001
	For use only with HP Compaq 6540b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	593874-001
	For use only with HP Compaq 6445b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	583287-001
	For use only with HP Compaq 6445b and 6440b computer models not equipped with a fingerprint reader	583288-001
	For use only with HP Compaq 6440b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	593876-001
(6)	**Fan**	583266-001
(7)	**Heat sink** (includes replacement thermal material):	
	For use only with HP Compaq 6545b and 6445b computer models	583265-001
	For use only with HP Compaq 6540b and 6440b computer models equipped with discrete graphics subsystem memory	593879-001
	For use only with HP Compaq 6540b and 6440b computer models equipped with UMA graphics subsystem memory	593878-001

(Continued)

Item	Description	Spare part number
	Plastics Kit:	
	For use only with HP Compaq 6545b computer models	583279-001
	For use only with HP Compaq 6540b computer models	593851-001
	For use only with HP Compaq 6445b computer models	583954-001
	For use only with HP Compaq 6440b computer models	593852-001
	Includes:	
(8a)	ExpressCard slot bezel	
(8b)	Mass storage device cover	
(8c)	Memory module compartment cover	
(8d)	Bluetooth module compartment cover	
(8e)	Wireless module compartment cover	
	Optical drive slot bezel (not illustrated)	
	✎ See "Plastics Kit" on page 3-23 for more Plastics Kit spare part information.	
	Cable Kit:	
	For use only with HP Compaq 6545b computer models	583282-001
	For use only with HP Compaq 6540b computer models	593853-001
	For use only with HP Compaq 6445b computer models	583957-001
	For use only with HP Compaq 6440b computer models	593854-001
	Includes:	
(9a)	Bluetooth module cable	
(9b)	Modem module cable (includes RJ-11 connector)	
	TouchPad board cable (not illustrated)	
	✎ See "Cable Kit" on page 3-18 for more Cable Kit spare part information.	
(10)	**Processor** (includes replacement thermal material):	
	For use only with HP Compaq 6545b and 6445b computer models:	
	■ AMD Turion II Ultra M620 2.5-GHz processor (35W, 2-MB L2 cache)	576255-001
	■ AMD Turion II Ultra M600 2.3-GHz processor (35W, 2-MB L2 cache)	576254-001
	■ AMD Turion II M540 2.4-GHz processor (35W, 1-MB L2 cache)	587257-001
	■ AMD Turion II M520 2.2-GHz processor (35W, 1-MB L2 cache)	576253-001
	■ AMD Athlon II M340 2.2-GHz processor (35W, 1-MB L2 cache)	587255-001
	■ AMD Athlon II M320 2.1-GHz processor (35W, 1-MB L2 cache)	576252-001
	■ AMD Sempron M120 2.1-GHz processor (25W, 512-KB L2 cache)	587256-001
	■ AMD Sempron M100 1.9-GHz processor (25W, 512-KB L2 cache)	576251-001

(Continued)

Item	Description	Spare part number
(10)	**Processor** *(continued):*	
	For use only with HP Compaq 6540b and 6440b computer models:	
	■ Intel Core i7 720QM 1.60-GHz processor (turbo up to 2.80-GHz; 6-MB L3 cache, 8 threads, 45W)	603011-001
	■ Intel Core i7 620M 2.66-GHz processor (turbo up to 3.33-GHz; 4-MB L3 cache, 4 threads, 35 W)	603010-001
	■ Intel Core i5 540M 2.53-GHz processor (turbo up to 3.06-GHz; 3-MB L3 cache, 4 threads, 35W)	594646-001
	■ Intel Core i5 520M 2.40-GHz processor (turbo up to 2.93-GHz; 3-MB L3 cache, 4 threads, 35W)	594645-001
	■ Intel Core i5 430M 2.26-GHz processor (turbo up to 2.53-GHz; 3-MB L3 cache, 4 threads, 35W)	595585-001
	■ Intel Core i3 350M 2.26-GHz processor (turbo up to 2.40-GHz; 3-MB L3 cache, 4 threads, 35W)	595586-001
	■ Intel Core i3 330M 2.13-GHz processor (turbo up to 2.33-GHz; 3-MB L3 cache, 4 threads, 35W)	595587-001
(11)	**TouchPad** (includes TouchPad board cable and TouchPad button board cable):	
	For use only with HP Compaq 6545b computer models	583275-001
	For use only with HP Compaq 6540b computer models	593866-001
	For use only with HP Compaq 6445b computer models	583276-001
	For use only with HP Compaq 6440b computer models	593867-001
(12)	**Memory modules**:	
	For use only with HP Compaq 6545b and 6445b computer models:	
	■ 4096-MB (800-MHz, DDR2)	598855-001
	■ 2048-MB (800-MHz, DDR2)	598858-001
	■ 1024-MB (800-MHz, DDR2)	598861-001
	For use only with HP Compaq 6540b and 6440b computer models:	
	■ 4096-MB (1333-MHz, DDR3)	599092-002
	■ 2048-MB (1333-MHz, DDR3)	598856-002
	■ 1024-MB (1333-MHz, DDR3)	598859-002
(13)	**RTC battery** (includes cable and double-sided tape):	
	For use only with HP Compaq 6545b and 6445b computer models	583289-001
	For use only with HP Compaq 6540b and 6440b computer models	481089-001

(Continued)

Item	Description	Spare part number
(14)	**Top cover:**	
	For use only with HP Compaq 6545b computer models equipped with a pointing stick	583271-001
	For use only with HP Compaq 6545b computer models not equipped with a pointing stick	583272-001
	For use only with HP Compaq 6540b computer models equipped with a pointing stick	593862-001
	For use only with HP Compaq 6540b computer models not equipped with a pointing stick	593863-001
	For use only with HP Compaq 6445b computer models equipped with a pointing stick	583273-001
	For use only with HP Compaq 6545b computer models not equipped with a pointing stick	583274-001
	For use only with HP Compaq 6440b computer models equipped with a pointing stick	593864-001
	For use only with HP Compaq 6540b computer models not equipped with a pointing stick	593865-001
(15)	**ExpressCard assembly:**	
	For use only with HP Compaq 6545b computer models	583290-001
	For use only with HP Compaq 6540b computer models	593868-001
	For use only with HP Compaq 6445b computer models	583291-001
	For use only with HP Compaq 6440b computer models	593869-001
	Smart Card Reader (not illustrated, factory-installed on select models only):	591698-001
(16)	**Modem module:**	
	For use in all countries and regions except Australia and New Zealand	510100-001
	For use only in Australia and New Zealand	510100-011

✎ The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, using the following spare part numbers:

❏ 583282-001—for use only with HP Compaq 6545b computer models
❏ 593853-001—for use only with HP Compaq 6540b computer models
❏ 583957-001—for use only with HP Compaq 6445b computer models
❏ 593854-001—for use only with HP Compaq 6440b computer models

✎ See "Cable Kit" on page 3-18 for more Cable Kit spare part information.

Item	Description	Spare part number
(17)	**Speaker assembly** (includes cable):	
	For use only with HP Compaq 6545b and 6540b computer models	583283-001
	For use only with HP Compaq 6445b and 6440b computer models	583284-001

(Continued)

Item	Description	Spare part number
(18)	**System board** (includes replacement thermal material):	
	For use only with HP Compaq 6545b computer models	583257-001
	For use only with HP Compaq 6445b computer models	583261-001
	For use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593839-001
	For use only with HP Compaq 6545b and 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)	603189-001
	For use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603190-001
	For use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593840-001
	For use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603192-001
	For use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593841-001
	For use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603191-001
	For use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593842-001
	For use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603193-001
(19)	**Optical drive connector board**:	
	For use only with HP Compaq 6545b computer models	583252-001
	For use only with HP Compaq 6540b computer models	593873-001
(20)	**Serial connector** (includes cable)	
	For use only with HP Compaq 6545b and 6445b computer models	583277-001
	For use only with HP Compaq 6540b and 6440b computer models	593872-001
(21)	**Card reader/USB board** (includes cable):	
	For use only with HP Compaq 6545b computer models	583960-001
	For use only with HP Compaq 6540b computer models	593870-001
	For use only with HP Compaq 6445b computer models	583961-001
	For use only with HP Compaq 6440b computer models	593871-001

(Continued)

Item	Description	Spare part number
(22)	**Base enclosure** (includes 7 rubber feet):	
	For use only with HP Compaq 6540b and 6545b computer models	598205-001
	For use only with HP Compaq 6440b and 6445b computer models	598206-001
	Battery Latch Kit, includes:	583239-001
(23a)	Battery eject arm spring	
(23b)	Battery eject arm	
(23c)	Battery eject latch	
	Rubber Kit (not illustrated, includes 7 rubber feet, 2 base enclosure screw covers, and 8 display bezel screw covers)	583280-001
(24)	**Battery:**	
	9-cell, 93-WH battery for use with all computer models	586031-001
	6-cell, 55-WH battery for use only with HP Compaq 6545b and 6445b computer models	482962-001
	For use only with HP Compaq 6540b and 6440b computer models:	
	■ 6-cell, 55-WH battery	486296-001
	■ 6-cell, 47-WH battery	486295-001
(25)	**Optical drive** (includes bezel and bracket):	
	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	583248-001
	DVD±RW and CD-RW SuperMulti Double-Layer Drive	583250-001
	DVD-ROM Drive	583249-001
	MultiBay hard drive carrier (not illustrated)	583251-001
	MultiBay hard drive carrier - halogen free (not illustrated)	614947-001
(26)	**Mass storage device:**	
	Hard drive (includes bracket):	
	■ 500-GB, 7200-rpm	583246-001
	■ 500-GB, 7200-rpm for use only with HP Compaq 6545b and 6445b models	614952-001
	■ 500-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	614953-001
	■ 320-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	615595-001
	■ 250-GB, 7200-rpm	583244-001
	■ 160-GB, 7200-rpm	583243-001
	Solid-state drive (includes bracket):	
	■ 160-GB, 2.5-in solid-state drive—for use only with HP Compaq 6540b and 6440b computer models	598089-001
	■ 128-GB, 2.5-in solid-state drive—for use with all computer models	583247-001

(Continued)

Item	Description	Spare part number
(27)	**Bluetooth module**	537921-001

✎ The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, using the following spare part numbers:

❐ 583282-001—for use only with HP Compaq 6545b computer models

❐ 593853-001—for use only with HP Compaq 6540b computer models

❐ 583957-001—for use only with HP Compaq 6445b computer models

❐ 593854-001—for use only with HP Compaq 6440b computer models

✎ See "Cable Kit" on page 3-18 for more Cable Kit spare part information.

Item	Description	Spare part number
(28)	**HSPA EV-DO WWAN module**	531993-001
(29)	**WLAN module:**	

802.11 a/g/n WLAN module:

■	Broadcom 43224 802.11 a/g/n WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States	518434-001
■	Broadcom 43224 802.11 a/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	518434-002

(Continued)

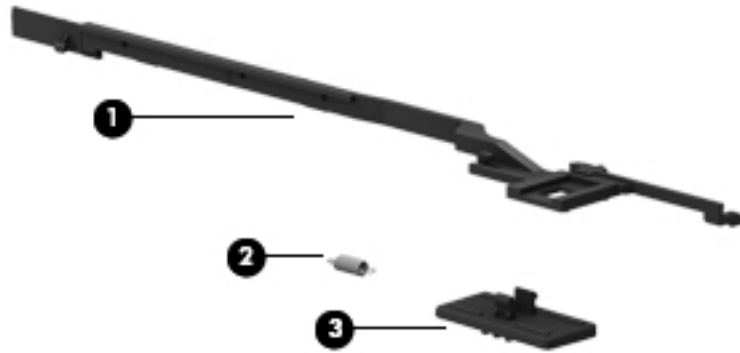| Item	Description	Spare part number
(29)	**WLAN module** *(continued)*:	
	802.11 b/g WLAN module:	
	■ Broadcom 4312G 802.11 b/g WLAN module for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the U.S. Virgin Islands	504593-003
	■ Broadcom 4312G 802.11 b/g WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	504593-004
	■ Intel Wi-Fi Link 1000, 802.11b/g WLAN module for use only with Russia and Ukraine for use in HP Compaq 6440b and 6540b computer models	585984-001
	802.11 a/g/n WLAN modules for use only in HP Compaq 6440b and 6540b models:	
	■ Intel Centrino Advanced-N 6200 AGN WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Barbados, Belgium, Bermuda, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, the People's Republic of China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Georgia, Germany, Ghana, Greece, Guadeloupe, Guam, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Martinique, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, the United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam	572509-001
	■ Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Canada, Guam, Guinea, Haiti, Jamaica, the Nether Antilles, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, the US Virgin Islands, and the United States	582564-001

(Continued)

Item	Description	Spare part number
(29)	**WLAN module** *(continued):*	
	802.11 a/g/n WLAN modules for use only in HP Compaq 6440b and 6540b models:	
	■ Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Albania, Algeria, Andorra, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Cayman Islands, Central African Republic, Chad, Chile, People's Republic of China, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Italy, Ivory Coast, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia Maldives, Mali, Malta, Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	582564-002
	802.11 a/b/g WLAN module for use only in HP Compaq 6440b and 6540b models:	
	■ Intel Centrino Advanced-N 6200 ABG WLAN module for use in Pakistan, Russia, and Ukraine	572510-001
	802.11 b/g/n WLAN module for use only in HP Compaq 6440b and 6540b models:	
	■ Intel Wi-Fi Link 1000, 802.11b/g/n WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Barbados, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, the Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Guadeloupe, Guam, Georgia, Germany, Ghana, Greece, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Martinique, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Oman, Pakistan, Panama, Paraguay, Peru, the Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Turkey, United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam	572520-001

Cable Kit

Item	Description	Spare part number
	Cable Kit:	
	For use only with HP Compaq 6545b computer models	583282-001
	For use only with HP Compaq 65405b computer models	593853-001
	For use only with HP Compaq 6445b computer models	583957-001
	For use only with HP Compaq 6440b computer models	593854-001
	Includes:	
(1)	TouchPad board cable	
(2)	Bluetooth module cable	
(3)	Modem module cable (includes RJ-11 connector)	

Display assembly subcomponents
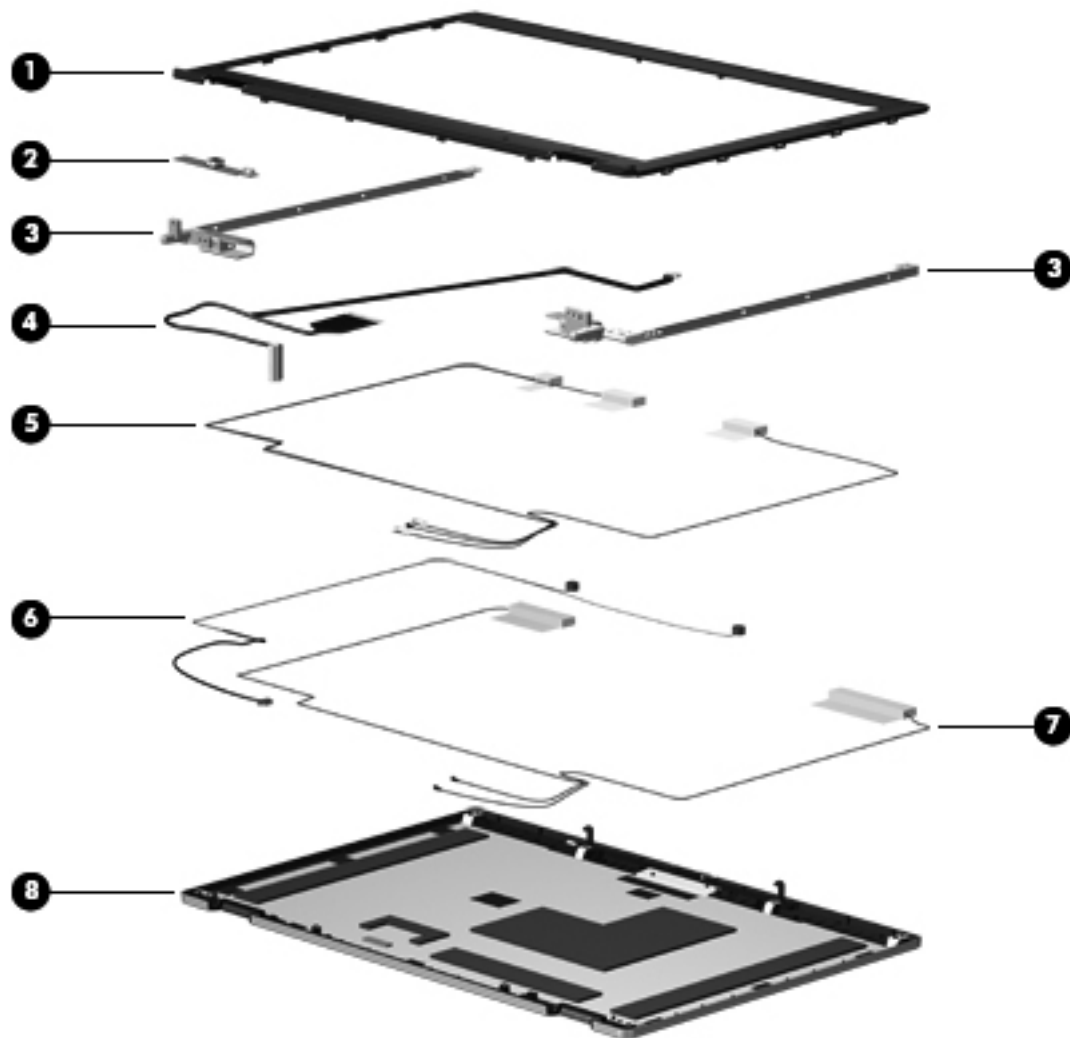
Item	Description	Spare part number
(1)	**Display bezel:**	
	For use only with HP Compaq 6545b computer models equipped with a webcam	583235-001
	For use only with HP Compaq 6545b computer models not equipped with a webcam	583236-001
	For use only with HP Compaq 6540b computer models equipped with a webcam	593847-001
	For use only with HP Compaq 6540b computer models not equipped with a webcam	593848-001
	For use only with HP Compaq 6445b computer models equipped with a webcam	583237-001
	For use only with HP Compaq 6445b computer models not equipped with a webcam	583238-001
	For use only with HP Compaq 6440b computer models equipped with a webcam	593849-001
	For use only with HP Compaq 6440b computer models not equipped with a webcam	593850-001
(2)	**Webcam module**	583219-001
(3)	**Display Hinge Kit** (includes left and right hinges)	
	For use only with HP Compaq 6545b and 6540b computer models	583232-001
	For use only with HP Compaq 6445b and 6440b computer models	583959-001
	Display Cable Kit:	
	For use only with HP Compaq 6545b and 6540b computer models equipped with an HD+ display assembly	583956-001
	For use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly	583230-001
	For use only with HP Compaq 6445b and 6440b computer models equipped with an HD+ display assembly	593990-001
	For use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly	583231-001
	Includes:	
(4)	Display panel cable and webcam cable	
(5)	WLAN antenna transceivers and cables	
(6)	Microphones and cables	
(7)	WWAN antenna transceivers and cables	
(8)	**Display enclosure** (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)	
	For use only with HP Compaq 6545b computer models equipped with two microphones	583278-001
	For use only with HP Compaq 6545b computer models equipped with one microphone	583233-001
	For use only with HP Compaq 6540b computer models equipped with two microphones	593843-001
	For use only with HP Compaq 6540b computer models equipped with one microphone	593844-001
	For use only with HP Compaq 6445b computer models equipped with two microphones	583955-001
	For use only with HP Compaq 6445b computer models equipped with one microphone	583234-001
	For use only with HP Compaq 6440b computer models equipped with two microphones	593845-001
	For use only with HP Compaq 6440b computer models equipped with one microphone	593846-001

Battery Latch Kit

Item	Description	Spare part number
	Battery Latch Kit, includes:	583239-001
(1)	Battery eject arm	
(2)	Battery eject arm spring	
(3)	Battery eject latch	

Mass storage devices
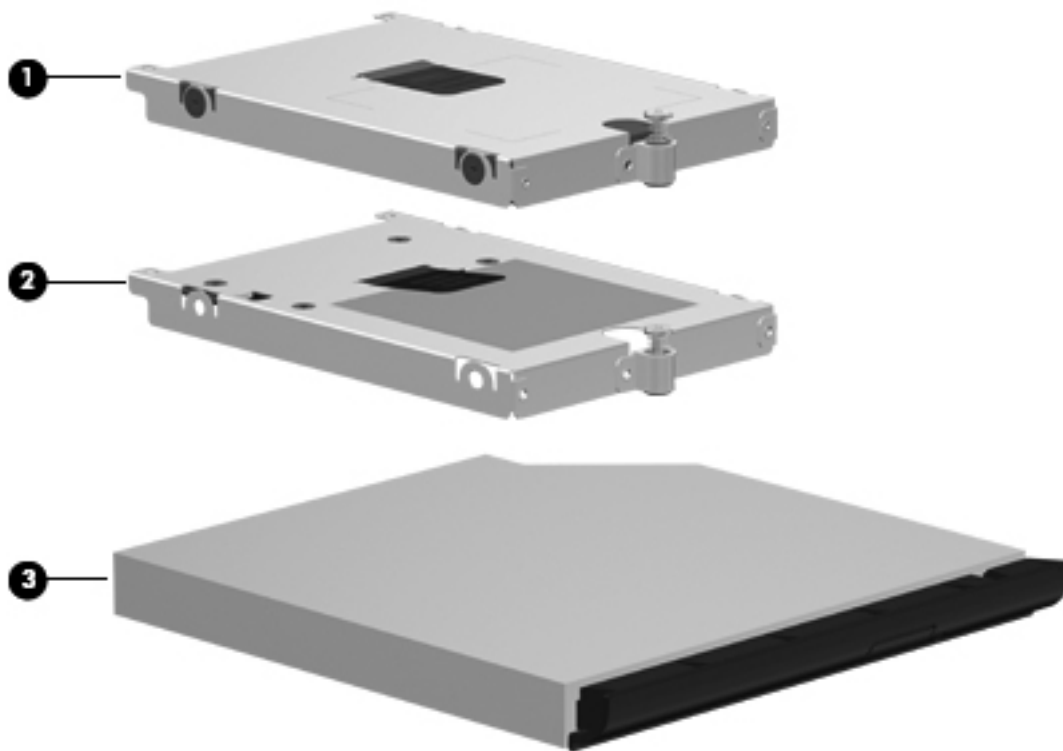
Item	Description	Spare part number
(1)	**Hard drive** (includes bracket):	
	500-GB, 7200-rpm	583246-001
	500-GB, 7200-rpm for use only with HP Compaq 6545b and 6445b models	614952-001
	500-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	614953-001
	320-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	615595-001
	250-GB, 7200-rpm	583244-001
	160-GB, 7200-rpm	583243-001
(2)	**Solid-state drive** (includes bracket):	
	160-GB, 2.5-in solid-state drive—for use only with HP Compaq 6540b and 6440b computer models	598089-001
	128-GB, 2.5-in solid-state drive—for use with all computer models	583247-001
(3)	**Optical drive** (includes bezel and bracket):	
	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	583248-001
	DVD±RW and CD-RW SuperMulti Double-Layer Drive	583250-001
	DVD-ROM Drive	583249-001
	MultiBay hard drive carrier (not illustrated)	583251-001
	MultiBay hard drive carrier - halogen free (not illustrated)	614947-001

Plastics Kit
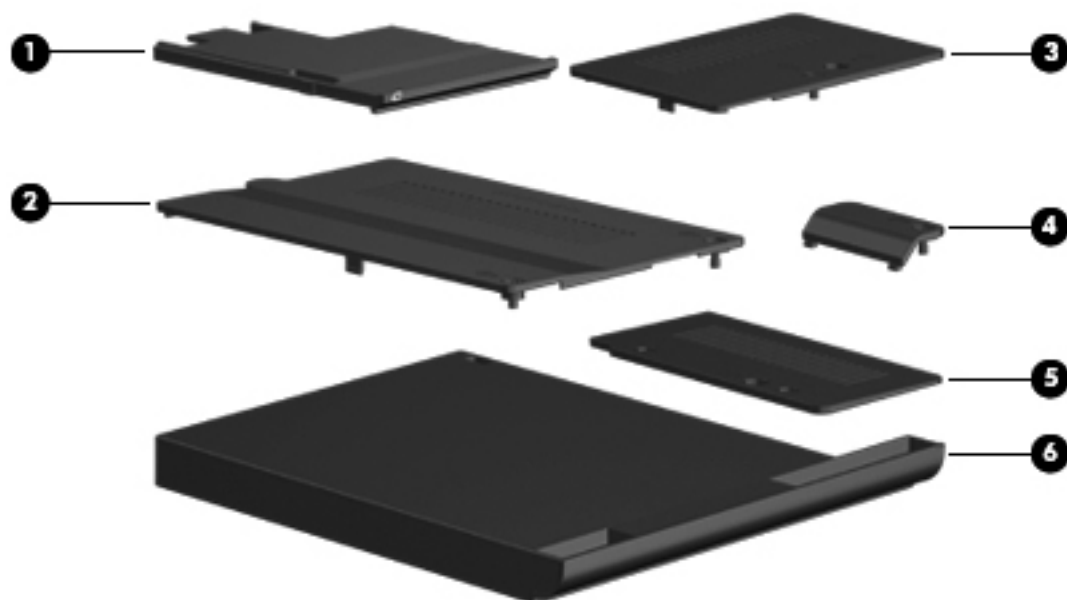
Item	Description	Spare part number
	Plastics Kit:	
	For use only with HP Compaq 6545b computer models	583279-001
	For use only with HP Compaq 6540b computer models	593851-001
	For use only with HP Compaq 6445b computer models	583954-001
	For use only with HP Compaq 6440b computer models	593852-001
(1)	ExpressCard slot bezel	
(2)	Mass storage device cover (includes 2 captive screws)	
(3)	Memory module compartment cover (includes 1 captive screw)	
(4)	Bluetooth module compartment cover (includes 1 captive screw)	
(5)	Wireless module compartment cover (includes 2 captive screws)	
(6)	Optical drive slot bezel	

Miscellaneous parts

Description	Spare part number
AC adapter:	
90-W HP Smart Adapter for use only with HP Compaq 6545b and 6445b computer models with discrete graphics	463955-001
90-W PFC HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models with discrete graphics	535593-001
90-W Slimline PFC AC adapter (RC/V) for use in computers with discrete graphics	613153-001
65-W PFC HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models with discrete graphics	577170-001
65-W HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models	463958-001
65-W AC adapter (RC/V) for use in only HP Compaq 6440b and 6540b models with UMA graphics	613152-001
65-W AC adapter (RC/V EM) for use in only HP Compaq 6440b and 6540b models with UMA graphics	613160-001
65-W AC adapter (RC/V) for use in only HP Compaq 6440b and 6540b models with UMA graphics in the Asia/Pacific region	613161-001
Power cord:	
For use in Argentina	490371-D01
For use in Brazil	490371-201
For use in Denmark	490371-081
For use in Europe, the Middle East, and Africa	490371-021
For use in Israel	490371-BB1
For use in Italy	490371-061
For use in South Africa	490371-AR1
For use in Switzerland	490371-111
For use in the United Kingdom and Singapore	490371-031
For use in Canada, Mexico, and the United States	490371-001
Screw Kit:	583281-001
Hex HM5.0×10.0 screw lock	
Phillips PM3.0×3.0 screw	
Phillips PM2.5×13.0 captive screw	
Phillips PM2.5×11.0 captive screw	
Phillips PM2.5×9.0 captive screw	
Phillips PM2.5×6.0 screw	
Phillips PM2.0×6.0 captive screw	
Phillips PM2.0×5.0 screw	
Phillips PM2.0×3.0 screw	
Slotted Torx T8M2.5×11.0 screw	
Slotted Torx T8M2.5×7.0 screw	

Sequential part number listing

Spare part number	Description
463955-001	90-W PFC HP Smart Adapter
463958-001	65-W HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models
481089-001	RTC battery for use only with HP Compaq 6540b and 6440b computer models (includes cable and double-sided tape)
482962-001	6-cell, 55-WH battery for use only with HP Compaq 6445b and 6545b computer models
486295-001	6-cell, 47-WH battery for use only with HP Compaq 6540b and 6440b computer models
486296-001	6-cell, 55-WH battery for use only with HP Compaq 6540b and 6440b computer models
490371-001	Power cord for use in Canada, Mexico, and the United States
490371-021	Power cord for use in Europe, the Middle East, and Africa
490371-031	Power cord for use in the United Kingdom and Singapore
490371-061	Power cord for use in Italy
490371-081	Power cord for use in Denmark
490371-111	Power cord for use in Switzerland
490371-201	Power cord for use in Brazil
490371-AR1	Power cord for use in South Africa
490371-BB1	Power cord for use in Israel
490371-D01	Power cord for use in Argentina
504593-003	Broadcom 4312G 802.11 b/g WLAN module for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the U.S. Virgin Islands
504593-004	Broadcom 4312G 802.11 b/g WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe

(Continued)

Spare part number	Description
510100-001	Modem module for use in all countries and regions except Australia and New Zealand
	✎ The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, using the following spare part numbers:
	❒ 583282-001—For use only with HP Compaq 6545b computer models
	❒ 593853-001—For use only with HP Compaq 6540b computer models
	❒ 583957-001—For use only with HP Compaq 6445b computer models
	❒ 593854-001—For use only with HP Compaq 6440b computer models
510100-011	Modem module for use only in Australia and New Zealand
	✎ The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, using the following spare part numbers:
	❒ 583282-001—For use only with HP Compaq 6545b computer models
	❒ 593853-001—For use only with HP Compaq 6540b computer models
	❒ 583957-001—For use only with HP Compaq 6445b computer models
	❒ 593854-001—For use only with HP Compaq 6440b computer models
518434-001	Broadcom 43224 802.11 a/g/n WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States
518434-002	Broadcom 43224 802.11 a/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe
531993-001	HSPA EV-DO WWAN module
535593-001	90-W PFC HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models
537921-001	Bluetooth module
	✎ The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, using the following spare part numbers:
	❒ 583282-001—For use only with HP Compaq 6545b computer models
	❒ 593853-001—For use only with HP Compaq 6540b computer models
	❒ 583957-001—For use only with HP Compaq 6445b computer models
	❒ 593854-001—For use only with HP Compaq 6440b computer models

(Continued)

Spare part number	Description
572509-001	Intel Centrino Advanced-N 6200 AGN WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Barbados, Belgium, Bermuda, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, the People's Republic of China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Georgia, Germany, Ghana, Greece, Guadeloupe, Guam, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Martinique, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, the United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam for use in 6440b and 6540b models
572510-001	Intel Centrino Advanced-N 6200 ABG WLAN module for use in Pakistan, Russia, and Ukraine for use in 6440b and 6540b models
572520-001	Intel Wi-Fi Link 1000, 802.11b/g/n WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Barbados, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, the Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Guadeloupe, Guam, Georgia, Germany, Ghana, Greece, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Martinique, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Oman, Pakistan, Panama, Paraguay, Peru, the Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Turkey, United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam for use in 6440b and 6540b models
576251-001	AMD Sempron M100 1.9-GHz processor for use only with HP Compaq 6545b and 6445b computer models (25W, 512-KB L2 cache, includes replacement thermal material)
576252-001	AMD Athlon II M320 2.1-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 1-MB L2 cache, includes replacement thermal material)
576253-001	AMD Turion II M520 2.2-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 1-MB L2 cache, includes replacement thermal material)
576254-001	AMD Turion II Ultra M600 2.3-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 2-MB L2 cache, includes replacement thermal material)
576255-001	AMD Turion II Ultra M620 2.5-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 2-MB L2 cache, includes replacement thermal material)
577170-001	65-W PFC HP Smart Adapter for use only with HP Compaq 6540b and 6440b computer models
582564-001	Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Canada, Guam, Guinea, Haiti, Jamaica, the Nether Antilles, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, the US Virgin Islands, and the United States for use in 6445b and 6545b models

(Continued)

Spare part number	Description
582564-002	Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Albania, Algeria, Andorra, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Cayman Islands, Central African Republic, Chad, Chile, People's Republic of China, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Italy, Ivory Coast, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia Maldives, Mali, Malta, Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe for use in 6445b and 6545b models
583219-001	Webcam module
583220-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6545b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583222-001	15.6-in, HD+, LED, AntiGlare display assembly for use only with HP Compaq 6545b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583223-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6545b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583225-001	15.6-in, HD+, LED, AntiGlare display assembly for use only with HP Compaq 6545b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583226-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6445b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583228-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6445b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
583230-001	Display Cable Kit for use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly (includes display panel cable and webcam cable, WLAN antenna transceivers and cables, microphones and cables, and WWAN antenna transceivers and cables)
583231-001	Display Cable Kit for use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly (includes display panel cable and webcam cable, WLAN antenna transceivers and cables, microphones and cables, and WWAN antenna transceivers and cables)
583232-001	Display Hinge Kit for use only with HP Compaq 6545b and 6540b computer models (includes left and right hinges)
583233-001	Display enclosure for use only with HP Compaq 6545b computer models equipped with one microphone (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)

(Continued)

Spare part number	Description
583234-001	Display enclosure for use only with HP Compaq 6445b computer models equipped with one microphone (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
583235-001	Display bezel for use only with HP Compaq 6545b computer models equipped with a webcam
583236-001	Display bezel for use only with HP Compaq 6545b computer models not equipped with a webcam
583237-001	Display bezel for use only with HP Compaq 6445b computer models equipped with a webcam
583238-001	Display bezel for use only with HP Compaq 6445b computer models not equipped with a webcam
583239-001	Battery Latch Kit (includes battery eject arm, battery eject latch, and battery eject spring)
583243-001	160-GB, 7200-rpm hard drive (includes bracket)
583244-001	250-GB, 7200-rpm hard drive (includes bracket)
583246-001	500-GB, 7200-rpm hard drive (includes bracket)
583247-001	128-GB, 2.5-in solid-state drive (includes bracket)
583248-001	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive (includes bezel and bracket)
583249-001	DVD-ROM Drive (includes bezel and bracket)
583250-001	DVD±RW and CD-RW SuperMulti Double-Layer Drive (includes bezel and bracket)
583251-001	MultiBay hard drive carrier
583252-001	Optical drive connector board for use only with HP Compaq 6545b computer models
583253-001	Power button board for use only with HP Compaq 6545b and 6445b computer models (includes cable)
583257-001	System board for use only with HP Compaq 6545b computer models (includes replacement thermal material)
583261-001	System board for use only with HP Compaq 6445b computer models (includes replacement thermal material)
583265-001	Heat sink for use only with HP Compaq 6545b and 6445b computer models (includes replacement thermal material)
583266-001	Fan
583267-001	Switch cover for use only with HP Compaq 6445b computer models (includes capacitive board and cable)
583268-001	Switch cover for use only with HP Compaq 6545b computer models (includes capacitive board and cable)
583271-001	Top cover for use only with HP Compaq 6545b computer models equipped with a pointing stick
583272-001	Top cover for use only with HP Compaq 6545b computer models not equipped a pointing stick
583273-001	Top cover for use only with HP Compaq 6445b computer models equipped with a pointing stick
583274-001	Top cover for use only with HP Compaq 6445b computer models not equipped with a pointing stick
583275-001	TouchPad for use only with HP Compaq 6545b computer models (includes TouchPad board cable and TouchPad button board cable)
583276-001	TouchPad for use only with HP Compaq 6445b computer models (includes TouchPad board cable and TouchPad button board cable)
583277-001	Serial connector for use only with HP Compaq 6545b and 6445b computer models (includes cable)
583278-001	Display enclosure for use only with HP Compaq 6545b computer models equipped with two microphones (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)

(Continued)

Spare part number	Description
583279-001	Plastics Kit for use only with HP Compaq 6545b computer models ✎ See "Plastics Kit" on page 3-23 for more Plastics Kit spare part information.
583280-001	Rubber Kit (includes 7 rubber feet, 2 base enclosure screw covers, and 8 display bezel screw covers)
583281-001	Screw Kit
583282-001	Cable Kit for use only with HP Compaq 6545b computer models ✎ See "Cable Kit" on page 3-18 for more Cable Kit spare part information.
583283-001	Speaker assembly for use only with HP Compaq 6545b and 6540b computer models (includes cable)
583284-001	Speaker assembly for use only with HP Compaq 6445b and 6440b computer models (includes cable)
583285-001	Palm rest for use only with HP Compaq 6545b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)
583286-001	Palm rest for use only with HP Compaq 6545b and 6540b computer models not equipped with a fingerprint reader
583287-001	Palm rest for use only with HP Compaq 6445b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)
583288-001	Palm rest for use only with HP Compaq 6440b computer models not equipped with a fingerprint reader
583289-001	RTC battery for use only with HP Compaq 6545b and 6445b computer models (includes cable and double-sided tape)
583290-001	ExpressCard assembly for use only with HP Compaq 6545b computer models
583291-001	ExpressCard assembly for use only with HP Compaq 6445b computer models
583292-001	Keyboard for use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick in the United States (includes keyboard cable)
583292-031	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in the United Kingdom (includes keyboard cable)
583292-041	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Germany (includes keyboard cable)
583292-051	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in France (includes keyboard cable)
583292-061	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Italy (includes keyboard cable)
583292-071	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Spain (includes keyboard cable)
583292-081	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Denmark (includes keyboard cable)
583292-091	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Norway (includes keyboard cable)
583292-121	Keyboard for use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick in French Canada (includes keyboard cable)
583292-131	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Portugal (includes keyboard cable)
583292-141	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Turkey (includes keyboard cable)
583292-161	Keyboard for use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick in Latin America (includes keyboard cable)

(Continued)

Spare part number	Description
583292-171	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Saudi Arabia (includes keyboard cable)
583292-201	Keyboard for use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick in Brazil (includes keyboard cable)
583292-211	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Hungary (includes keyboard cable)
583292-221	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Slovakia (includes keyboard cable)
583292-251	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Russia (includes keyboard cable)
583292-261	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Bulgaria (includes keyboard cable)
583292-281	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Thailand (includes keyboard cable)
583292-291	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Japan (includes keyboard cable)
583292-A41	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Belgium (includes keyboard cable)
583292-AB1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Taiwan (includes keyboard cable)
583292-AD1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in South Korea (includes keyboard cable)
583292-B31	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in the Netherlands (includes keyboard cable)
583292-B71	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Sweden and Finland (includes keyboard cable)
583292-BA1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Slovenia (includes keyboard cable)
583292-BB1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Israel (includes keyboard cable)
583292-BG1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Switzerland (includes keyboard cable)
583292-DD1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Iceland (includes keyboard cable)
583292-DJ1	Keyboard for use only with HP Compaq 6440b computer models not equipped with a pointing stick in Greece (includes keyboard cable)
583293-001	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in the United States (includes keyboard cable)
583293-031	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in the United Kingdom (includes keyboard cable)
583293-041	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Germany (includes keyboard cable)
583293-051	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in France (includes keyboard cable)
583293-061	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Italy (includes keyboard cable)

(Continued)

Spare part number	Description
583293-071	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Spain (includes keyboard cable)
583293-081	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Denmark (includes keyboard cable)
583293-091	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Norway (includes keyboard cable)
583293-121	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in French Canada (includes keyboard cable)
583293-131	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Portugal (includes keyboard cable)
583293-141	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Turkey (includes keyboard cable)
583293-161	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Latin America (includes keyboard cable)
583293-171	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Saudi Arabia (includes keyboard cable)
583293-201	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Brazil (includes keyboard cable)
583293-211	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Hungary (includes keyboard cable)
583293-251	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Russia (includes keyboard cable)
583293-261	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Bulgaria (includes keyboard cable)
583293-281	Keyboard for use only with HP Compaq 6540b computer models not equipped with a pointing stick in Thailand (includes keyboard cable)
583293-291	Keyboard for use only with HP Compaq 6540b computer models not equipped with a pointing stick in Japan (includes keyboard cable)
583293-A41	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Belgium (includes keyboard cable)
583293-A81	Keyboard for use only with HP Compaq 6540b computer models not equipped with a pointing stick in Slovenia (includes keyboard cable)
583293-AB1	Keyboard for use only with HP Compaq 6540b computer models not equipped with a pointing stick in Taiwan (includes keyboard cable)
583293-AD1	Keyboard for use only with HP Compaq 6540b computer models not equipped with a pointing stick in South Korea (includes keyboard cable)
583293-B31	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in the Netherlands (includes keyboard cable)
583293-B71	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Sweden and Finland (includes keyboard cable)
583293-BA1	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Slovenia (includes keyboard cable)
583293-BB1	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Israel (includes keyboard cable)
583293-BG1	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Switzerland (includes keyboard cable)

(Continued)

Spare part number	Description
583293-DD1	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Iceland (includes keyboard cable)
583293-DJ1	Keyboard for use only with HP Compaq 6545b and 6540b computer models not equipped with a pointing stick in Greece (includes keyboard cable)
583954-001	Plastics Kit for use only with HP Compaq 6445b computer models ✎ See "Plastics Kit" on page 3-23 for more Plastics Kit spare part information.
583955-001	Display enclosure for use only with HP Compaq 6445b computer models equipped with two microphones (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
583956-001	Display Cable Kit for use only with computer models equipped with a 15.6-in HD+ display assembly (includes display panel cable and webcam cable, WLAN antenna transceivers and cables, microphones and cables, and WWAN antenna transceivers and cables)
583957-001	Cable Kit for use only with HP Compaq 6445b computer models ✎ See "Cable Kit" on page 3-18 for more Cable Kit spare part information.
583959-001	Display Hinge Kit for use only with HP Compaq 6445b and 6440b computer models (includes left and right hinges)
583960-001	Card reader/USB board for use only with HP Compaq 6545b computer models (includes cable)
583961-001	Card reader/USB board for use only with HP Compaq 6445b computer models (includes cable)
584227-001	15.6-in, HD, LED, WVA display assembly for use only with HP Compaq 6545b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584228-001	15.6-in, HD, LED, WVA display assembly for use only with HP Compaq 6545b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584229-001	15.6-in, HD+, LED, WVA display assembly for use only with HP Compaq 6545b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584230-001	15.6-in, HD+, LED, WVA display assembly for use only with HP Compaq 6545b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584231-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6445b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584232-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6445b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
584233-001	Keyboard for use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick in the United States (includes keyboard cable)
584233-031	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in the United Kingdom (includes keyboard cable)
584233-041	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Germany (includes keyboard cable)
584233-051	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in France (includes keyboard cable)
584233-061	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Italy (includes keyboard cable)

(Continued)

Spare part number	Description
584233-071	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Spain (includes keyboard cable)
584233-081	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Denmark (includes keyboard cable)
584233-091	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Norway (includes keyboard cable)
584233-121	Keyboard for use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick in French Canada (includes keyboard cable)
584233-131	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Portugal (includes keyboard cable)
584233-141	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Turkey (includes keyboard cable)
584233-161	Keyboard for use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick in Latin America (includes keyboard cable)
584233-171	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Saudi Arabia (includes keyboard cable)
584233-201	Keyboard for use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick in Brazil (includes keyboard cable)
584233-211	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Hungary (includes keyboard cable)
584233-221	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Slovakia (includes keyboard cable)
584233-251	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Russia (includes keyboard cable)
584233-261	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Bulgaria (includes keyboard cable)
584233-281	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Thailand (includes keyboard cable)
584233-291	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Japan (includes keyboard cable)
584233-A41	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Belgium (includes keyboard cable)
584233-AB1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Taiwan (includes keyboard cable)
584233-AD1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in South Korea (includes keyboard cable)
584233-B31	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in the Netherlands (includes keyboard cable)
584233-B71	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Sweden and Finland (includes keyboard cable)
584233-BA1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Slovenia (includes keyboard cable)
584233-BB1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Israel (includes keyboard cable)
584233-BG1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Switzerland (includes keyboard cable)

(Continued)

Spare part number	Description
584233-DD1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Iceland (includes keyboard cable)
584233-DJ1	Keyboard for use only with HP Compaq 6440b computer models equipped with a pointing stick in Greece (includes keyboard cable)
584234-001	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in the United States (includes keyboard cable)
584234-031	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in the United Kingdom (includes keyboard cable)
584234-041	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Germany (includes keyboard cable)
584234-051	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in France (includes keyboard cable)
584234-061	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Italy (includes keyboard cable)
584234-071	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Spain (includes keyboard cable)
584234-081	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Denmark (includes keyboard cable)
584234-091	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Norway (includes keyboard cable)
584234-121	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in French Canada (includes keyboard cable)
584234-131	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Portugal (includes keyboard cable)
584234-141	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Turkey (includes keyboard cable)
584234-161	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Latin America (includes keyboard cable)
584234-171	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Saudi Arabia (includes keyboard cable)
584234-201	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Brazil (includes keyboard cable)
584234-211	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Hungary (includes keyboard cable)
584234-251	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Russia (includes keyboard cable)
584234-261	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Bulgaria (includes keyboard cable)
584234-281	Keyboard for use only with HP Compaq 6540b computer models equipped with a pointing stick in Thailand (includes keyboard cable)
584234-291	Keyboard for use only with HP Compaq 6540b computer models equipped with a pointing stick in Japan (includes keyboard cable)
584234-A41	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Belgium (includes keyboard cable)
584234-A81	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Slovakia (includes keyboard cable)

(Continued)

Spare part number	Description
584234-AB1	Keyboard for use only with HP Compaq 6540b computer models equipped with a pointing stick in Taiwan (includes keyboard cable)
584234-AD1	Keyboard for use only with HP Compaq 6540b computer models equipped with a pointing stick in South Korea (includes keyboard cable)
584234-B31	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in the Netherlands (includes keyboard cable)
584234-B71	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Sweden and Finland (includes keyboard cable)
584234-BA1	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Slovenia (includes keyboard cable)
584234-BB1	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Israel (includes keyboard cable)
584234-BG1	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Switzerland (includes keyboard cable)
584234-DD1	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Iceland (includes keyboard cable)
584234-DJ1	Keyboard for use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick in Greece (includes keyboard cable)
585984-001	Intel Wi-Fi Link 1000, 802.11b/g WLAN module for use only with Russia and Ukraine for use in HP Compaq 6440b and 6540b computer models
586031-001	9-cell, 93-WH battery
587255-001	AMD Athlon II M340 2.2-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 1-MB L2 cache, includes replacement thermal material)
587256-001	AMD Sempron M120 2.1-GHz processor for use only with HP Compaq 6545b and 6445b computer models (25W, 512-KB L2 cache, includes replacement thermal material)
587257-001	AMD Turion II M540 2.4-GHz processor for use only with HP Compaq 6545b and 6445b computer models (35W, 1-MB L2 cache, includes replacement thermal material)
591698-001	Smart Card Reader for use only with HP Compaq 6545b and 6445b computer models (factory-installed on select models only)
592144-001	14.0-in, HD, LED, SVA, LVDS BrightView display assembly for use only with HP Compaq 6440b computer models
593838-001	Power button board for use only with HP Compaq 6540b and 6440b computer models (includes cable)
593839-001	System board for use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory and replacement thermal material)
593840-001	System board for use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory and replacement thermal material)
593841-001	System board for use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory and replacement thermal material)
593842-001	System board for use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory and replacement thermal material)
593843-001	Display enclosure for use only with HP Compaq 6540b computer models equipped with two microphones (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)

(Continued)

Spare part number	Description
593844-001	Display enclosure for use only with HP Compaq 6540b computer models equipped with one microphone (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
593845-001	Display enclosure for use only with HP Compaq 6440b computer models equipped with two microphones (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
593846-001	Display enclosure for use only with HP Compaq 6440b computer models equipped with one microphone (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
593847-001	Display bezel for use only with HP Compaq 6540b computer models equipped with a webcam
593848-001	Display bezel for use only with HP Compaq 6540b computer models not equipped with a webcam
593849-001	Display bezel for use only with HP Compaq 6440b computer models equipped with a webcam
593850-001	Display bezel for use only with HP Compaq 6440b computer models not equipped with a webcam
593851-001	Plastics Kit for use only with HP Compaq 6540b computer models
593852-001	Plastics Kit for use only with HP Compaq 6440b computer models
593853-001	Cable Kit for use only with HP Compaq 6540b computer models
593854-001	Cable Kit for use only with HP Compaq 6440b computer models
593860-001	Switch cover for use only with HP Compaq 6540b computer models (includes capacitive board and cable)
593861-001	Switch cover for use only with HP Compaq 6440b computer models (includes capacitive board and cable)
593862-001	Top cover for use only with HP Compaq 6540b computer models equipped with a pointing stick
593863-001	Top cover for use only with HP Compaq 6540b computer models not equipped with a pointing stick
593864-001	Top cover for use only with HP Compaq 6440b computer models equipped with a pointing stick
593865-001	Top cover for use only with HP Compaq 6540b computer models not equipped with a pointing stick
593866-001	TouchPad for use only with HP Compaq 6540b computer models (includes TouchPad board cable and TouchPad button board cable)
593867-001	TouchPad for use only with HP Compaq 6440b computer models (includes TouchPad board cable and TouchPad button board cable)
593868-001	ExpressCard assembly for use only with HP Compaq 6540b computer models
593869-001	ExpressCard assembly for use only with HP Compaq 6440b computer models
593870-001	Card reader/USB board for use only with HP Compaq 6540b computer models (includes cable)
593871-001	Card reader/USB board for use only with HP Compaq 6440b computer models (includes cable)
593872-001	Serial connector for use only with HP Compaq 6540b and 6440b computer models (includes cable)
593873-001	Optical drive connector board for use only with HP Compaq 6540b computer models
593874-001	Palm rest for use only with HP Compaq 6540b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)
593876-001	Palm rest for use only with HP Compaq 6440b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)
593878-001	Heat sink for use only with HP Compaq 6540b and 6440b computer models equipped with UMA graphics subsystem memory (includes replacement thermal material)
593879-001	Heat sink for use only with HP Compaq 6540b and 6440b computer models equipped with discrete graphics subsystem memory (includes replacement thermal material)

(Continued)

Spare part number	Description
593990-001	Display Cable Kit for use only with HP Compaq 6440b and 6445b computer models equipped with an HD+ display assembly
593995-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6540b computer models not equipped with a webcam or with WWAN functionality
593996-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with a webcam but not equipped with WWAN functionality
593997-001	15.6-in, HD, LED, BrightView display assembly for use only with HP Compaq 6540b computer models not equipped with a webcam or with WWAN functionality
593998-001	15.6-in, HD, LED, BrightView display assembly for use only with HP Compaq 6540b computer models equipped with a webcam but not equipped with WWAN functionality
593999-001	15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6540b computer models not equipped with a webcam or with WWAN functionality
594000-001	15.6-in, HD, LED, BrightView display assembly for use only with HP Compaq 6540b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594001-001	15.6-in, HD, LED, BrightView display assembly for use only with HP Compaq 6540b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)
594002-001	15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594003-001	15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with a webcam but not equipped with WWAN functionality
594004-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594005-001	15.6-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)
594006-001	15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6540b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)
594007-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6440b computer models not equipped with a webcam or with WWAN functionality
594008-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with a webcam but not equipped with WWAN functionality
594009-001	14.0-in, HD, LED, BrightView display assembly for use only with HP Compaq 6440b computer models not equipped with a webcam or with WWAN functionality
594010-001	14.0-in, HD, LED, BrightView display assembly for use only with HP Compaq 6440b computer models equipped with a webcam but not equipped with WWAN functionality
594011-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6440b computer models not equipped with a webcam or with WWAN functionality
594012-001	14.0-in, HD, LED, BrightView display assembly for use only with HP Compaq 6440b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594013-001	14.0-in, HD, LED, BrightView display assembly for use only with HP Compaq 6440b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)

(Continued)

Spare part number	Description
594014-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594015-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with a webcam but not equipped with WWAN functionality
594016-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)
594017-001	14.0-in, HD, LED, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)
594018-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6440b computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)
594645-001	Intel Core i5 520M 2.40-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 2.93-GHz; 3-MB L3 cache, 4 threads, 35W)
594646-001	Intel Core i5 540M 2.53-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 3.06-GHz; 3-MB L3 cache, 4 threads, 35W)
595585-001	Intel Core i5 430M 2.26-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 2.53-GHz; 3-MB L3 cache, 4 threads, 35W)
595586-001	Intel Core i3 350M 2.26-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 2.40-GHz; 3-MB L3 cache, 4 threads, 35W)
595587-001	Intel Core i3 330M 2.13-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 2.33-GHz; 3-MB L3 cache, 4 threads, 35W)
598089-001	160-GB, 2.5-in solid-state drive for use only with HP Compaq 6540b and 6440b computer models (includes solid-state drive bracket)
598205-001	Base enclosure for use only with HP Compaq 6540b and 6545b computer models (includes 7 rubber feet)
598206-001	Base enclosure for use only with HP Compaq 6440b and 6445b computer models (includes 7 rubber feet)
598855-001	4096-MB memory module for use only with HP Compaq 6545b and 6445b computer models (1333-MHz, DDR3)
598858-001	2048-MB memory module for use only with HP Compaq 6545b and 6445b computer models (1333-MHz, DDR3)
598859-002	2048-MB memory module for use only with HP Compaq 6540b and 6440b computer models (1333-MHz, DDR3)
598859-002	1024-MB memory module for use only with HP Compaq 6540b and 6440b computer models (1333-MHz, DDR3)
598861-001	1024-MB memory module for use only with HP Compaq 6545b and 6445b computer models (1333-MHz, DDR3)
599092-002	4096-MB memory module for use only with HP Compaq 6540b and 6440b computer models (1333-MHz, DDR3)
600753-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6445b computer models not equipped with a webcam
600754-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6445b computer models equipped with a webcam

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Spare part number	Description
603010-001	Intel Core i7 620M 2.66-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 3.33-GHz; 4-MB L3 cache, 4 threads, 35 W; includes thermal replacement material)
603011-001	Intel Core i7 720QM 1.60-GHz processor for use only with HP Compaq 6540b and 6440b computer models (turbo up to 2.80-GHz; 6-MB L3 cache, 8 threads, 45W; includes thermal replacement material)
603189-001	System board for use only with HP Compaq 6545b and 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)
603190-001	System board for use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)
603191-001	System board for use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)
603192-001	System board for use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)
603193-001	System board for use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)
613152-001	65-W AC adapter (RC/V) for use in only HP Compaq 6440b and 6540b models with UMA graphics
613153-001	90-W Slimline PFC AC adapter (RC/V) for use in computers with discrete graphics
613160-001	65-W AC adapter (RC/V EM) for use in only HP Compaq 6440b and 6540b models with UMA graphics
613161-001	65-W AC adapter (RC/V) for use in only HP Compaq 6440b and 6540b models with UMA graphics in the Asia/Pacific region
614947-001	MultiBay hard drive carrier - halogen free
614952-001	500-GB, 7200-rpm hard drive for use only in HP Compaq 6445b and 6545b models (includes bracket)
614953-001	500-GB, 7200-rpm hard drive for use only in HP Compaq 6440b and 6540b models (includes bracket)
615595-001	320-GB, 7200-rpm hard drive for use only in HP Compaq 6440b and 6540b models (includes bracket)
617448-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6445b computer models with WWAN functionality but not a webcam
617449-001	14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with HP Compaq 6445b computer models equipped with a webcam and WWAN functionality
623176-001	14.0-in, HD, LED, SVA, LVDS AntiGlare display assembly for use only with HP Compaq 6440b computer models
623181-001	15.6-in, HD, LED, SVA, LVDS AntiGlare display assembly for use only with HP Compaq 6540b computer models
623182-001	15.6-in, HD, LED, LVDS BrightView display assembly for use only with HP Compaq 6540b computer models
624236-001	14.0-in, HD+, LED, LVDS AntiGlare display assembly for use only with HP Compaq 6440b computer models
624643-001	15.6-in, HD+, LED, WVA, LVDS AntiGlare display assembly for use only with HP Compaq 6540b computer models

4

Removal and replacement procedures

Preliminary replacement requirements

Tools required

You will need the following tools to complete the removal and replacement procedures:

- Flat-bladed screwdriver
- Phillips P0 screwdriver
- Phillips P1 screwdriver
- Torx T8 screwdriver

Service considerations

The following sections include some of the considerations that you must keep in mind during disassembly and assembly procedures.

✎ As you remove each subassembly from the computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

⚠ **CAUTION:** Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

Cables and connectors

⚠ **CAUTION:** When servicing the computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

Cables must be handled with extreme care to avoid damage. Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Be sure that cables are routed in such a way that they cannot be caught or snagged by parts being removed or replaced. Handle flex cables with extreme care; these cables tear easily.

Drive handling

⚠ **CAUTION:** Drives are fragile components that must be handled with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

- Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
- Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.
- Handle drives on surfaces covered with at least one inch of shock-proof foam.
- Avoid dropping drives from any height onto any surface.
- After removing a hard drive, an optical drive, or a diskette drive, place it in a static-proof bag.
- Avoid exposing a hard drive to products that have magnetic fields, such as monitors or speakers.
- Avoid exposing a drive to temperature extremes or liquids.
- If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package "FRAGILE."

Grounding guidelines

Electrostatic discharge damage

Electronic components are sensitive to electrostatic discharge (ESD). Circuitry design and structure determine the degree of sensitivity. Networks built into many integrated circuits provide some protection, but in many cases, ESD contains enough power to alter device parameters or melt silicon junctions.

A discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Even if the spark is neither felt nor heard, damage may have occurred.

An electronic device exposed to ESD may not be affected at all and can work perfectly throughout a normal cycle. Or, the device may function normally for a while, and then degrade in the internal layers, reducing its life expectancy.

⚠ **CAUTION:** To prevent damage to the computer when you are removing or installing internal components, observe these precautions:

- Keep components in their electrostatic-safe containers until you are ready to install them.
- Use nonmagnetic tools.
- Before touching an electronic component, discharge static electricity by using the guidelines described in this section.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- If you remove a component, place it in an electrostatic-safe container.

The following table shows how humidity affects the electrostatic voltage levels generated by different activities.

⚠ **CAUTION:** A product can be degraded by as little as 700 V.

Typical electrostatic voltage levels

	Relative humidity		
Event	**10%**	**40%**	**55%**
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tube	2,000 V	700 V	400 V
Removing DIPS from vinyl tray	11,500 V	4,000 V	2,000 V
Removing DIPS from Styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCB	26,500 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

■ To avoid hand contact, transport products in static-safe tubes, bags, or boxes.

■ Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.

■ Keep ESD-sensitive parts in their containers until they arrive at static-free workstations.

■ Place items on a grounded surface before them from their containers.

■ Always be properly grounded when touching a component or assembly.

■ Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.

■ Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground, and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Workstation guidelines

Follow these workstation grounding guidelines:

■ Cover the workstation with approved static-shielding material.

■ Use a wrist strap connected to a properly grounded work surface, and use properly grounded tools and equipment.

■ Use conductive field service tools, such as cutters, screwdrivers, and vacuums.

■ When fixtures must directly contact dissipative surfaces, use fixtures made only of static-safe materials.

■ Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and Styrofoam.

■ Handle ESD-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.

■ Avoid contact with pins, leads, or circuitry.

■ Turn off power and input signals before inserting or removing connectors or test equipment.

Equipment guidelines

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

■ When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.

■ When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

■ Antistatic tape

■ Antistatic smocks, aprons, and sleeve protectors

■ Conductive bins and other assembly or soldering aids

■ Nonconductive foam

■ Conductive tabletop workstations with ground cords of one megohm resistance

■ Static-dissipative tables or floor mats with hard ties to the ground

■ Field service kits

■ Static awareness labels

■ Material-handling packages

■ Nonconductive plastic bags, tubes, or boxes

■ Metal tote boxes

■ Electrostatic voltage levels and protective materials

The following table lists the shielding protection provided by antistatic bags and floor mats.

Material	Use	Voltage protection level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 92 screws and screw locks, in 11 different sizes, that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

Service tag

When ordering parts or requesting information, provide the computer serial number and model number provided on the service tag.

Item	Component	Description
(1)	Product name	This is the product name affixed to the front of the computer.
(2)	Serial number (s/n)	This is an alphanumeric identifier that is unique to each product.
(3)	Part number/Product number (p/n)	This number provides specific information about the product's hardware components. The part number helps a service technician determine what components and parts are needed.
(4)	Model description	This is the alphanumeric identifier used to locate documents, drivers, and support for the computer.
(5)	Warranty period	This number describes the duration of the warranty period for the computer.

Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Rubber Kit, spare part number 583280-001. There are 7 rubber feet that attach to the base enclosure in the locations shown in the following illustration.
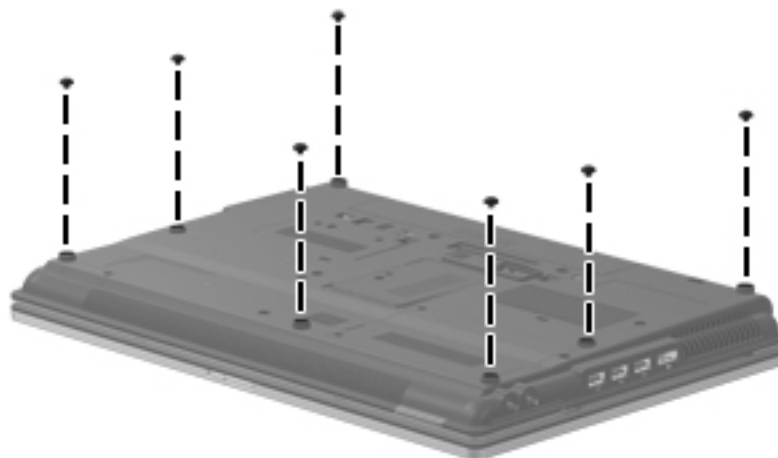
Battery

Description	Spare part number
9-cell, 93-WH battery for use with all computer models	586031-001
6-cell, 55-WH battery for use only with HP Compaq 6545b and 6445b computer models	482962-001
For use only with HP Compaq 6540b and 6440b computer models:	
■ 6-cell, 55-WH battery	486296-001
■ 6-cell, 47-WH battery	486295-001

Before removing the battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

Remove the battery:

1. Turn the computer upside down on a flat surface, with the front toward you.

2. Slide the battery release latch ❶ to release the battery.

3. Remove the battery ❷.
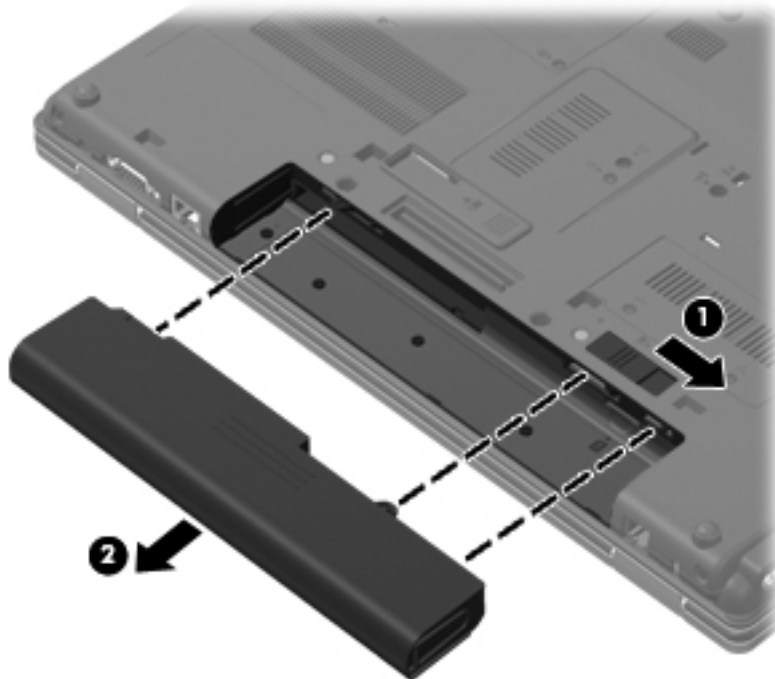
Insert the battery into the battery bay until it is seated. The battery release latch automatically locks the battery into place.

SIM

✎ The SIM is provided by the end user as a security measure for the WWAN module. The SIM should be removed, placed into a static-dissipative container, and then replaced when the computer is reassembled.

Before removing the SIM, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the SIM:

1. Press in on the SIM ❶ to release it from the SIM slot.

2. Remove the SIM ❷ from the SIM slot.
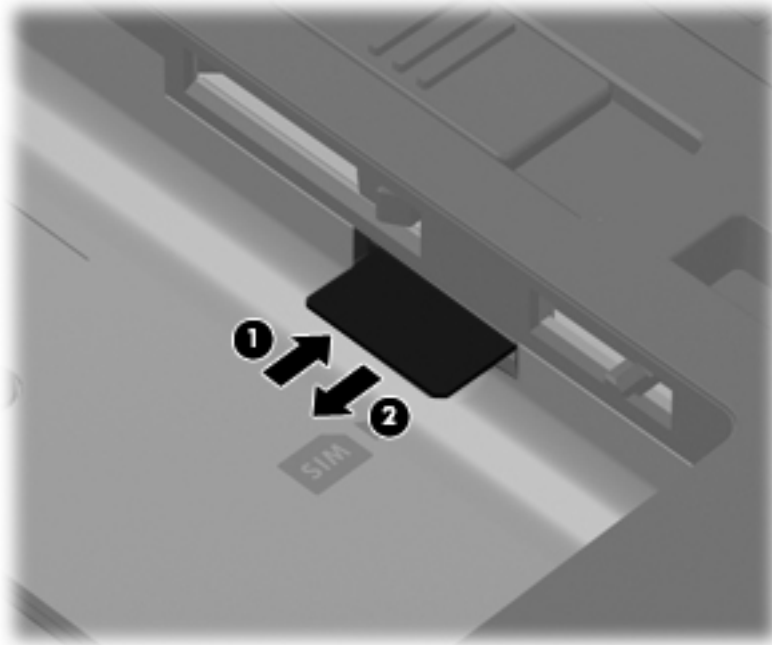
Insert the SIM into the SIM slot, and gently push the SIM into the slot until it is firmly seated.

Bluetooth module

✎ The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, using the following spare part numbers:

- 583282-001—for use only with HP Compaq 6545b computer models
- 593853-001—for use only with HP Compaq 6540b computer models
- 583957-001—for use only with HP Compaq 6445b computer models
- 593854-001—for use only with HP Compaq 6440b computer models

Description	Spare part number
Bluetooth module	537921-001

Before removing the Bluetooth module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the accessory cover (see "Mass storage device" on page 4-11).

Remove the Bluetooth module:

1. Loosen the Phillips PM2.0×6.0 captive screw ❶ that secures the Bluetooth module compartment cover to the computer.

2. Lift the Bluetooth module compartment cover ❷ straight up to remove it. The Bluetooth module compartment cover is included in the Plastics Kit, spare part numbers 583279-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583954-001 (for use only with HP Compaq 6445b and 6440b computer models).

3. Release the Bluetooth module ❶ by lifting the right side of the module out of the Bluetooth module compartment.

4. Disconnect the Bluetooth module cable ❷ from the Bluetooth module.

5. Remove the Bluetooth module ❸.
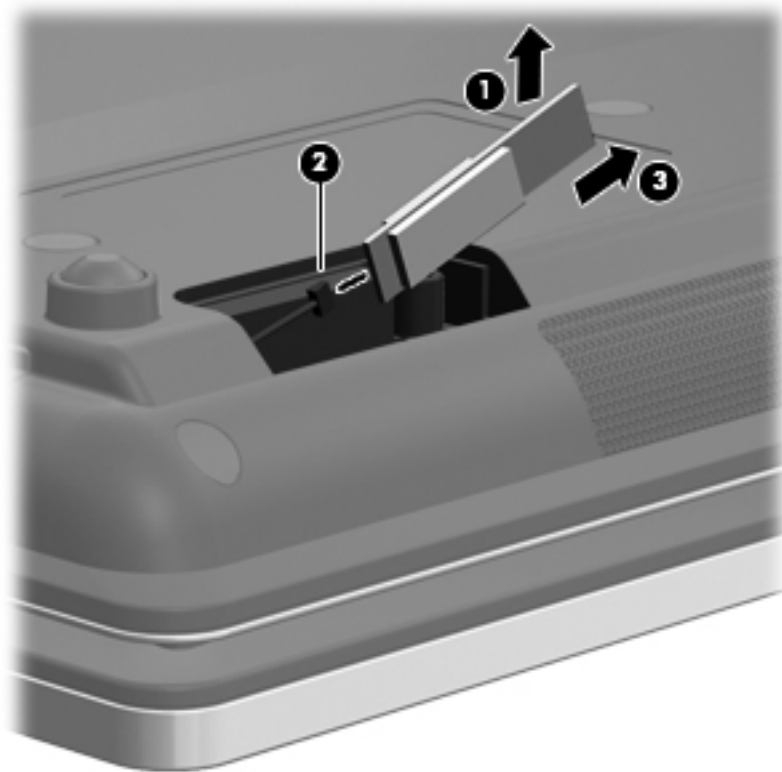
Reverse this procedure to install the Bluetooth module.

Mass storage device

✎ The mass storage device spare part kit includes a bracket.

Description	Spare part number
Hard drive:	
■ 500-GB, 7200-rpm	583246-001
■ 500-GB, 7200-rpm for use only with HP Compaq 6545b and 6445b models	614952-001
■ 500-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	614953-001
■ 320-GB, 7200-rpm for use only with HP Compaq 6540b and 6440b models	615595-001
■ 250-GB, 7200-rpm	583244-001
■ 160-GB, 7200-rpm	583243-001
Solid-state drive (includes bracket):	
■ 160-GB, 2.5-in solid-state drive—for use only with HP Compaq 6540b and 6440b models	598089-001
■ 128-GB, 2.5-in solid-state drive—for use with all models	583247-001

Before removing the mass storage device, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the mass storage device:

1. Position the computer with the front toward you.

2. Loosen the two Phillips PM2.0×6.0 captive screws ❶ that secure the mass storage device cover to the computer.

3. Lift the left side of the cover ❷ to detach it from the computer.

4. Remove the mass storage device cover ❸. The mass storage device cover is included in the Plastics Kit, spare part numbers 583279-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583954-001 (for use only with HP Compaq 6445b and 6440b computer models).
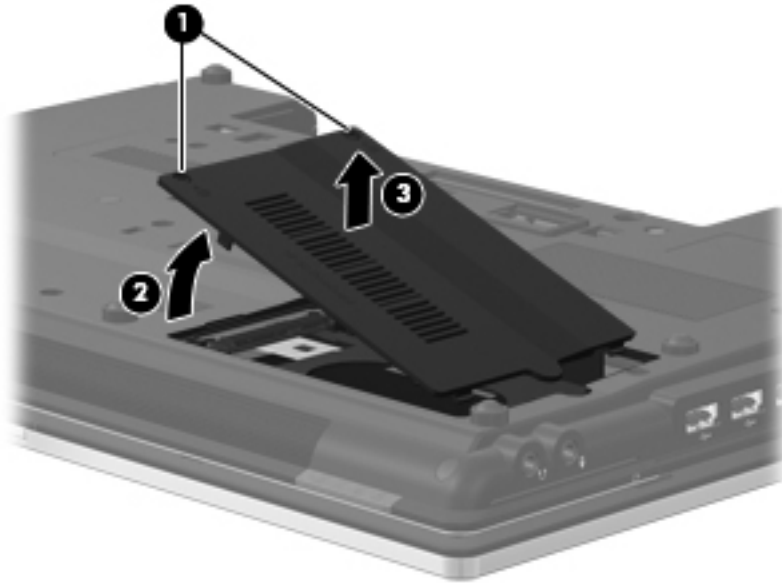
5. Loosen the Phillips PM2.5×13.0 captive screw ❶ that secures the mass storage device in the mass storage device bay.

6. Grasp the Mylar tab ❷ on the mass storage device bracket, and slide the mass storage device ❸ to the right to disconnect it from the system board.

7. Remove the mass storage device ❹ from the mass storage device bay.
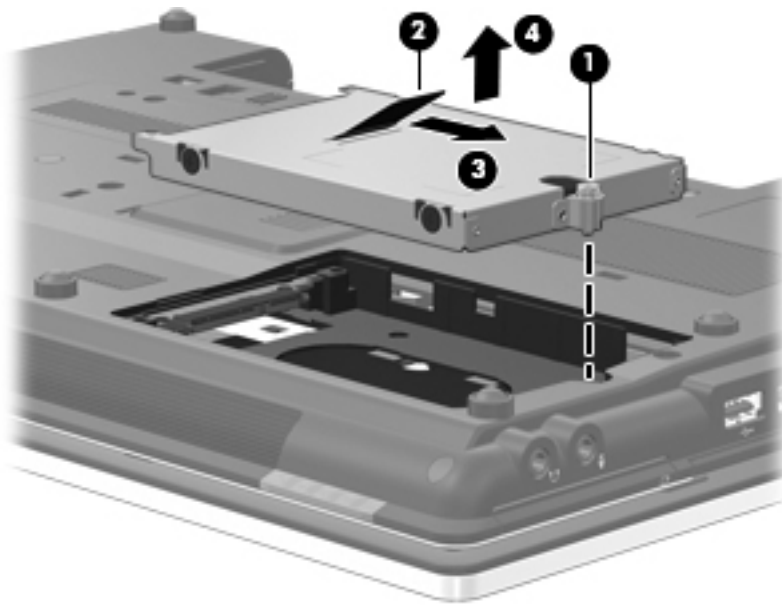
8. If it is necessary to replace the mass storage device bracket, follow these steps:

   a. Remove the four Phillips PM3.0×3.0 screws ❶ that secure the mass storage device bracket to the mass storage device.

   b. Lift the bracket ❷ straight up to remove it from the mass storage device.
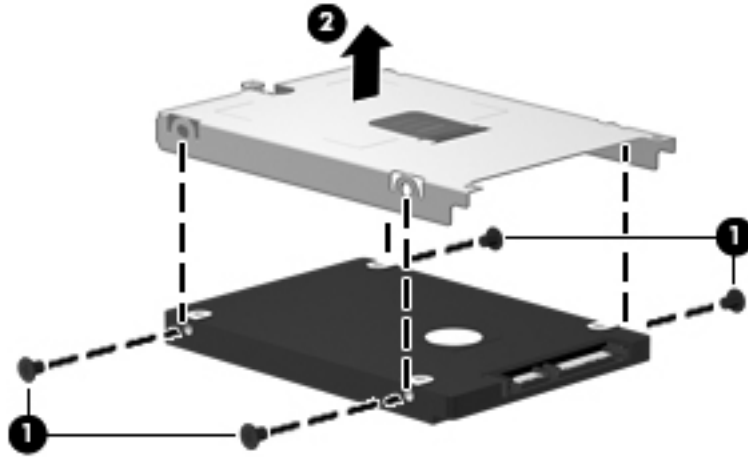
Reverse this procedure to reassemble and install the mass storage device.

Expansion memory module

Description	Spare part number
For use only with HP Compaq 6545b and 6445b computer models:	
■ 4096-MB (800-MHz, DDR2)	598855-001
■ 2048-MB (800-MHz, DDR2)	598858-001
■ 1024-MB (800-MHz, DDR2)	598861-001
For use only with HP Compaq 6540b and 6440b computer models:	
■ 4096-MB (1333-MHz, DDR3)	599092-002
■ 2048-MB (1333-MHz, DDR3)	598856-002
■ 1024-MB (1333-MHz, DDR3)	598859-002

Before removing the expansion memory module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the expansion memory module:

1. Position the computer with the front toward you.

2. Loosen the Phillips PM2.0×6.0 captive screw ❶ that secures the memory module compartment cover to the computer.

3. Lift the left side of the cover ❷ to detach it from the computer.

4. Remove the memory module compartment cover ❸. The memory module compartment cover is included in the Plastics Kit, spare part numbers 583279-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583954-001 (for use only with HP Compaq 6445b and 6400 computer models).
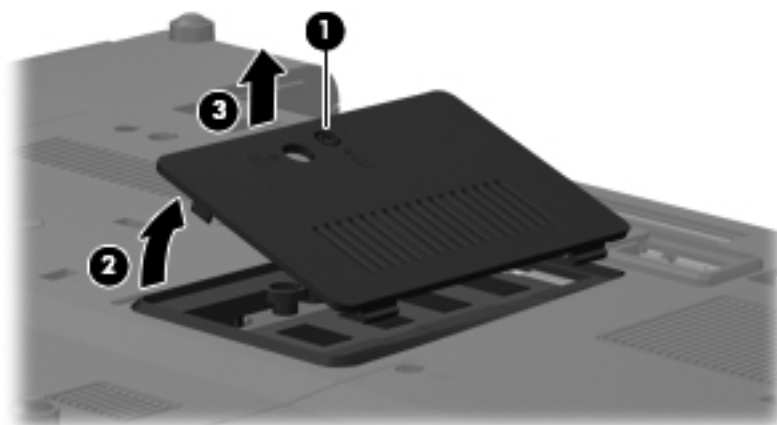
5. Pull away the retention clips ❶ on each side of the memory module to release the memory module. (The memory module tilts up.)

⚠ **CAUTION:** To prevent damage to the memory module, hold it by the edges only. Do not touch the components on the memory module.

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6. Grasp the edge of the memory module ❷, and then pull it out of the memory module slot.

✎ Memory modules are designed with a notch ❸ to prevent incorrect insertion into the memory module slot.
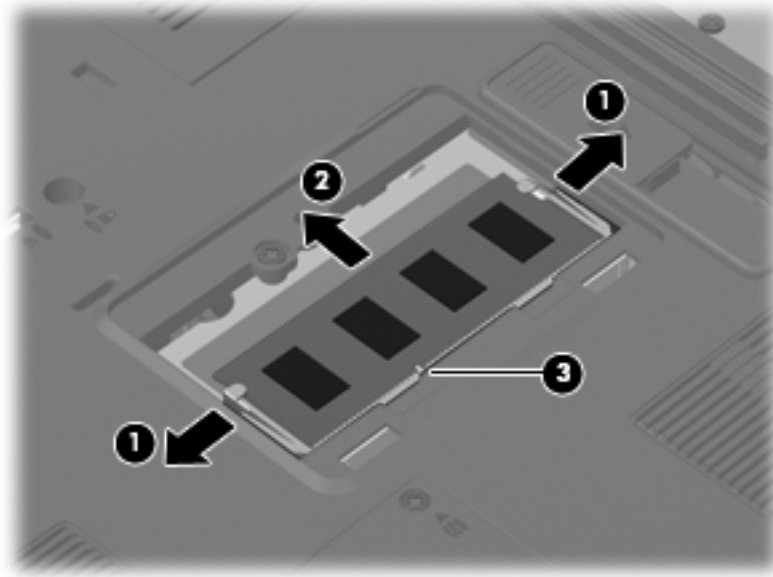
Reverse this procedure to install the expansion memory module.

WLAN module

Description	Spare part number
802.11 a/g/n WLAN module:	
■ Broadcom 43224 802.11 a/g/n WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States	518434-001
■ Broadcom 43224 802.11 a/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	518434-002
802.11 b/g WLAN module:	
■ Broadcom 4312G 802.11 b/g WLAN module for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the U.S. Virgin Islands	504593-003
■ Broadcom 4312G 802.11 b/g WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	504593-004

(Continued)

Description	Spare part number
WLAN module *(continued):*	
■ Intel Wi-Fi Link 1000, 802.11b/g WLAN module for use in Russia and Ukraine for use only in HP Compaq 6440b and 6540b computer models	585984-001
802.11 a/g/n WLAN modules for use only in HP Compaq 6440b and 6540b models:	
■ Intel Centrino Advanced-N 6200 AGN WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Barbados, Belgium, Bermuda, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, the People's Republic of China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Georgia, Germany, Ghana, Greece, Guadeloupe, Guam, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Martinique, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Tunisia, Turkey, the United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam	572509-001
■ Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Canada, Guam, Guinea, Haiti, Jamaica, the Nether Antilles, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, the US Virgin Islands, and the United States	582564-001
■ Broadcom 43224AGN 802.11a/b/g/draft-n WiFi Adapter for use in Albania, Algeria, Andorra, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, the Cayman Islands, Central African Republic, Chad, Chile, People's Republic of China, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Italy, Ivory Coast, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia Maldives, Mali, Malta, Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Moldova, Romania, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	582564-002
802.11 a/b/g WLAN module for use only in HP Compaq 6440b and 6540b models:	
■ Intel Centrino Advanced-N 6200 ABG WLAN module for use in Pakistan, Russia, and Ukraine	572510-001

(Continued)

Description	Spare part number
WLAN module *(continued):*	
802.11 b/g/n WLAN module for use only in HP Compaq 6440b and 6540b models:	
■ Intel Wi-Fi Link 1000, 802.11b/g/n WLAN module for use in Andorra, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Barbados, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Brunei, Bulgaria, Canada, Cayman Islands, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, the Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Finland, France, French Guiana, Guadeloupe, Guam, Georgia, Germany, Ghana, Greece, Guatemala, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Martinique, Mauritius, Mexico, Monaco, Montenegro, Morocco, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Nigeria, Oman, Pakistan, Panama, Paraguay, Peru, the Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Senegal, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Turkey, United Arab Emirates, the United Kingdom, the United States, Uruguay, the U.S. Virgin Islands, Venezuela, and Vietnam	572520-001

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the WLAN module:

⚠ **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.

1. Position the computer with the front toward you.

2. Loosen the two Phillips PM2.0×6.0 captive screws ❶ that secure the wireless module compartment cover to the computer.

3. Lift the rear edge of the cover ❷ to detach it from the computer.

4. Remove the wireless module compartment cover ❸. The wireless module compartment cover is included in the Plastics Kit, spare part numbers 583279-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583954-001 (for use only with HP Compaq 6445b and 6440b computer models).
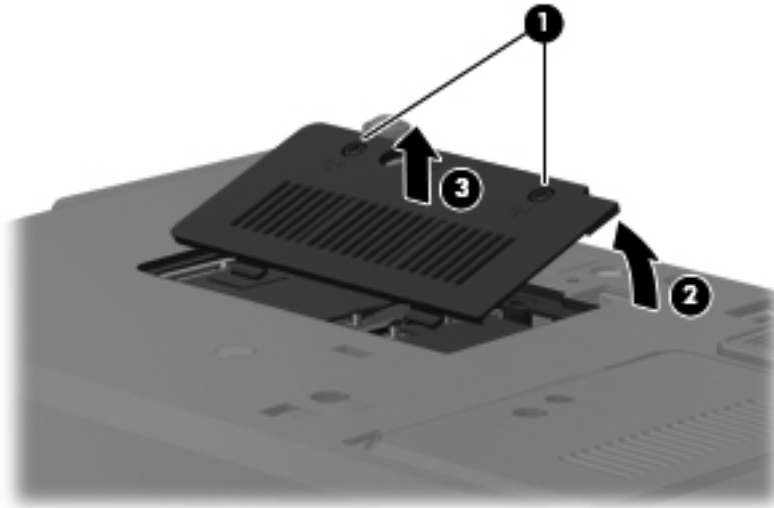
5. Disconnect the WLAN antenna cables ❶ from the terminals on the WLAN module.

✎ The black WLAN antenna cable is connected to the WLAN module "Main" terminal. The white WLAN antenna cable is connected to the WLAN module "Aux" terminal. If the computer is equipped with an 802.11a/g/n WLAN module, the yellow WLAN antenna cable ❷ is connected to the middle terminal on the WLAN module.

6. Remove the two Phillips PM2.5×6.0 screws ❸ that secure the WLAN module to the system board. (The WLAN module tilts up.)

7. Remove the WLAN module ❹ by pulling it away from the slot at an angle.

✎ WLAN modules are designed with a notch ❺ to prevent incorrect insertion of the WLAN module into the WLAN module slot.
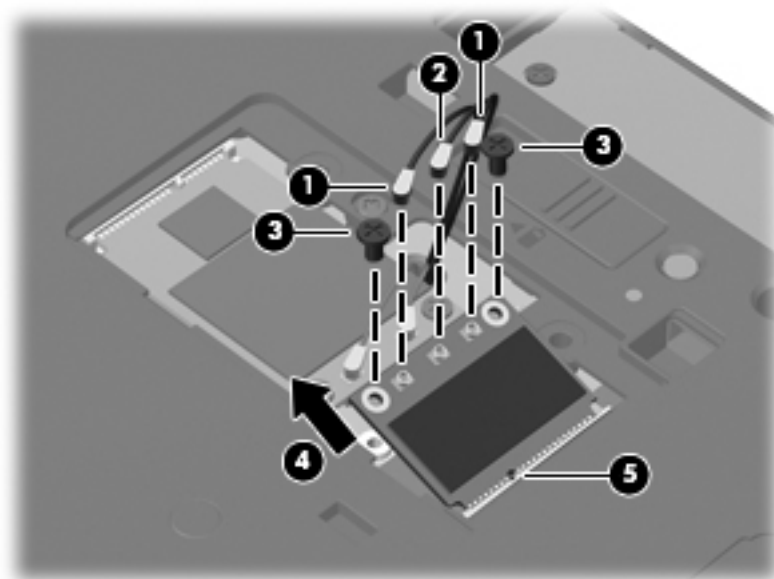
✎ If the WLAN antennas are not connected to the terminals on the WLAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.
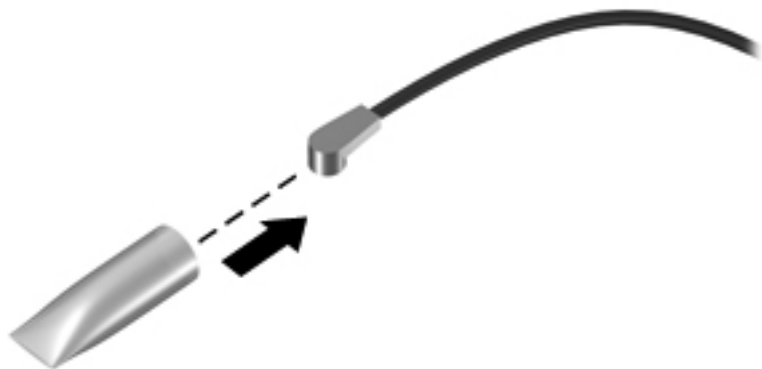
Reverse this procedure to install the WLAN module.

WWAN module

Description	Spare part number
HSPA EV-DO WWAN module	531993-001

Before removing the WWAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the wireless module compartment cover (see "WLAN module" on page 4-16).

Remove the WWAN module:

△ **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.

1. Position the computer with the front toward you.

2. Disconnect the WWAN antenna cables ❶ from the terminals on the WWAN module.

   ✎ The red WWAN antenna cable is connected to the WWAN module "Main" terminal. The blue WWAN antenna cable is connected to the WWAN module "Aux" terminal.

3. Remove the two Phillips PM2.5×6.0 screws ❷ that secure the WWAN module to the system board. (The WWAN module tilts up.)

4. Remove the WWAN module ❸ by pulling it away from the slot at an angle.

   ✎ WWAN modules are designed with a notch ❹ to prevent incorrect insertion of the WWAN module into the WWAN module slot.
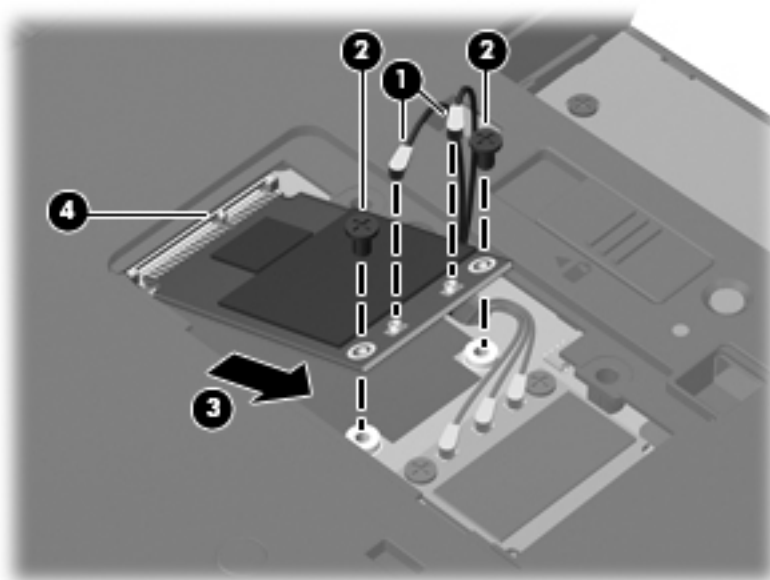
✎ If the WWAN antennas are not connected to the terminals on the WWAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.
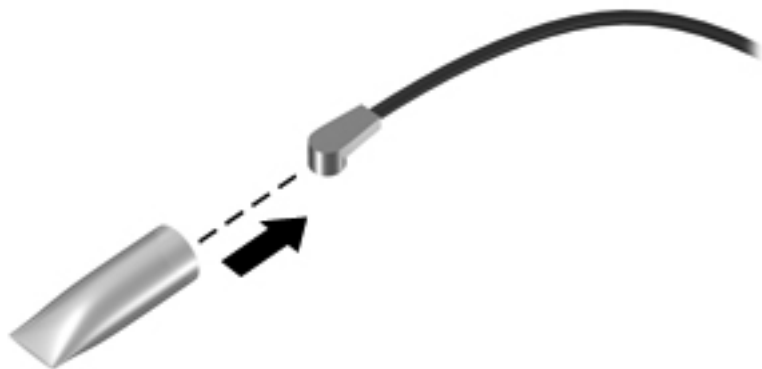
Reverse this procedure to install the WWAN module.

Optical drive

✎ The optical drive spare part kit includes an optical drive bezel and bracket.

Description	Spare part number
Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	583248-001
DVD±RW and CD-RW SuperMulti Double-Layer Drive	583250-001
DVD-ROM Drive	583249-001
MultiBay hard drive carrier - halogen free	614947-001
MultiBay hard drive carrier	583251-001

Before removing the optical drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the optical drive:

1. Position the computer with the front toward you.

2. Loosen the Phillips PM2.5×11.0 captive screw ❶ that secures the optical drive to the computer.

3. Insert a flat-bladed screwdriver or similar tool into the optical drive tab access ❷ and press the tab to the left to release the optical drive from the computer.

4. Remove the optical drive ❸ from the optical drive bay.
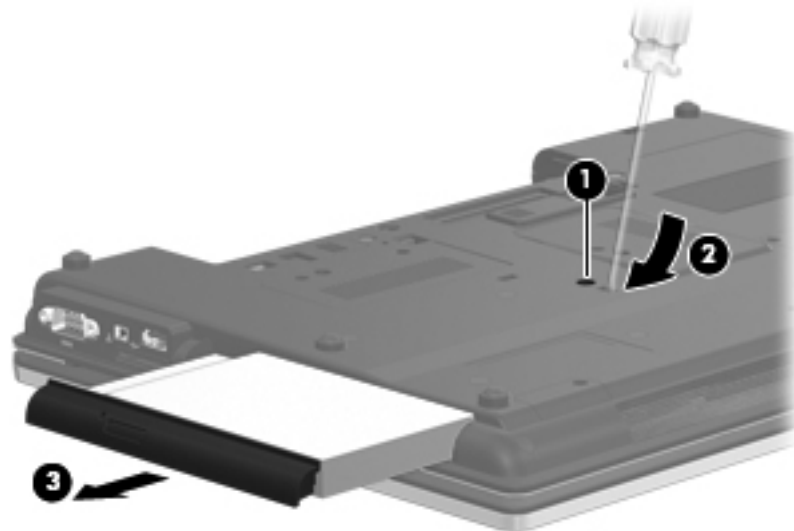
5. If it is necessary to replace the optical drive bracket, follow these steps:

   a. Position the optical drive with the rear toward you.

   b. Remove the three Phillips PM2.0×3.0 screws ❶ that secure the optical drive bracket to the optical drive.

   c. Remove the optical drive bracket ❷.
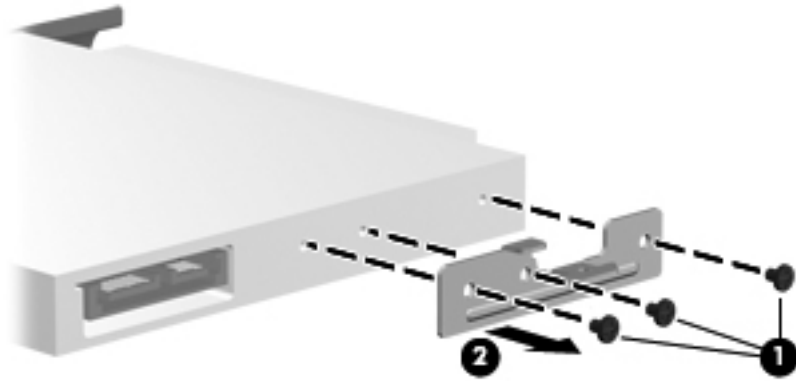
Reverse this procedure to reassemble and install the optical drive.

Keyboard

✎ The keyboard spare part kit includes a keyboard cable.

Keyboard for use in country or region	Spare part number	Keyboard for use in country or region	Spare part number
For use only with HP Compaq 6545b and 6540b computer models equipped with a pointing stick:			
■ For use in Belgium	584234-A41	■ For use in Latin America	584234-161
■ For use in Brazil	584234-201	■ For use in the Netherlands	584234-B31
■ For use in Bulgaria	584234-261	■ For use in Norway	584234-091
■ For use in Denmark	584234-081	■ For use in Portugal	584234-131
■ For use in the Czech Republic and Slovakia	584234-A81	■ For use in Russia	584234-251
■ For use in France	584234-051	■ For use in Saudi Arabia	584234-171
■ For use in French Canada	584234-121	■ For use in Slovenia	584234-BA1
■ For use in Germany	584234-041	■ For use in Spain	584234-071
■ For use in Greece	584234-DJ1	■ For use in Sweden and Finland	584234-B71
■ For use in Hungary	584234-211	■ For use in Switzerland	584234-BG1
■ For use in Iceland	584234-DD1	■ For use in Turkey	584234-141
■ For use in Israel	584234-BB1	■ For use in the United Kingdom	584234-031
■ For use in Italy	584234-061	■ For use in the United States	584234-001
For use only with HP Compaq 6540b computer models equipped with a pointing stick:			
■ For use in Japan	584234-291	■ For use in Thailand	584234-AB1
■ For use in Slovakia	584234-A81	■ For use in the Czech Republic and Slovakia	584234-281
■ For use in South Korea	584234-AD1		
For use only with HP Compaq 6545b computer models not equipped with a pointing stick:			
■ For use in Belgium	583293-A41	■ For use in Latin America	583293-161
■ For use in Brazil	583293-201	■ For use in the Netherlands	583293-B31
■ For use in Bulgaria	583293-261	■ For use in Norway	583293-091
■ For use in Denmark	583293-081	■ For use in Portugal	583293-131
■ For use in the Czech Republic and Slovakia	583293-A81	■ For use in Russia	583293-251
■ For use in France	583293-051	■ For use in Saudi Arabia	583293-171
■ For use in French Canada	583293-121	■ For use in Slovenia	583293-BA1
■ For use in Germany	583293-041	■ For use in Spain	583293-071
■ For use in Greece	583293-DJ1	■ For use in Sweden and Finland	583293-B71
■ For use in Hungary	583293-211	■ For use in Switzerland	583293-BG1
■ For use in Iceland	583293-DD1	■ For use in Turkey	583293-141
■ For use in Israel	583293-BB1	■ For use in the United Kingdom	583293-031
■ For use in Italy	583293-061	■ For use in the United States	583293-001

(Continued)

Keyboard for use in country or region	Spare part number	Keyboard for use in country or region	Spare part number
For use only with HP Compaq 6540b computer models equipped with a pointing stick:			
■ For use in Japan	583293-291	■ For use in Thailand	583293-AB1
■ For use in Slovakia	583293-A81	■ For use in the Czech Republic and Slovakia	583293-281
■ For use in South Korea	583293-AD1		
For use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick:			
■ For use in Brazil	584233-201	■ For use in Latin America	584233-161
■ For use in French Canada	584233-121	■ For use in the United States	584233-001
For use only with HP Compaq 6440b computer models equipped with a pointing stick:			
■ For use in Belgium	584233-A41	■ For use in Portugal	584233-131
■ For use in Bulgaria	584233-261	■ For use in Russia	584233-251
■ For use in Denmark	584233-081	■ For use in Saudi Arabia	584233-171
■ For use in France	584233-051	■ For use in Slovakia	584233-221
■ For use in Germany	584233-041	■ For use in Slovenia	584233-BA1
■ For use in Greece	584233-DJ1	■ For use in South Korea	584233-AD1
■ For use in Hungary	584233-211	■ For use in Spain	584233-071
■ For use in Iceland	584233-DD1	■ For use in Sweden and Finland	584233-B71
■ For use in Israel	584233-BB1	■ For use in Switzerland	584233-BG1
■ For use in Italy	584233-061	■ For use in Taiwan	584233-AB1
■ For use in Japan	584233-291	■ For use in Thailand	584233-281
■ For use in the Netherlands	584233-B31	■ For use in Turkey	584233-141
■ For use in Norway	584233-091	■ For use in the United Kingdom	584233-031
For use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick:			
■ For use in Brazil	583292-201	■ For use in Latin America	583292-161
■ For use in French Canada	583292-121	■ For use in the United States	583292-001

(Continued)

Keyboard for use in country or region	Spare part number	Keyboard for use in country or region	Spare part number
For use only with HP Compaq 6540b computer models equipped with a pointing stick:			
■ For use in Japan	583293-291	■ For use in Thailand	583293-AB1
■ For use in Slovakia	583293-A81	■ For use in the Czech Republic and Slovakia	583293-281
■ For use in South Korea	583293-AD1		
For use only with HP Compaq 6445b and 6440b computer models equipped with a pointing stick:			
■ For use in Brazil	584233-201	■ For use in Latin America	584233-161
■ For use in French Canada	584233-121	■ For use in the United States	584233-001
For use only with HP Compaq 6440b computer models equipped with a pointing stick:			
■ For use in Belgium	584233-A41	■ For use in Portugal	584233-131
■ For use in Bulgaria	584233-261	■ For use in Russia	584233-251
■ For use in Denmark	584233-081	■ For use in Saudi Arabia	584233-171
■ For use in France	584233-051	■ For use in Slovakia	584233-221
■ For use in Germany	584233-041	■ For use in Slovenia	584233-BA1
■ For use in Greece	584233-DJ1	■ For use in South Korea	584233-AD1
■ For use in Hungary	584233-211	■ For use in Spain	584233-071
■ For use in Iceland	584233-DD1	■ For use in Sweden and Finland	584233-B71
■ For use in Israel	584233-BB1	■ For use in Switzerland	584233-BG1
■ For use in Italy	584233-061	■ For use in Taiwan	584233-AB1
■ For use in Japan	584233-291	■ For use in Thailand	584233-281
■ For use in the Netherlands	584233-B31	■ For use in Turkey	584233-141
■ For use in Norway	584233-091	■ For use in the United Kingdom	584233-031
For use only with HP Compaq 6445b and 6440b computer models not equipped with a pointing stick:			
■ For use in Brazil	583292-201	■ For use in Latin America	583292-161
■ For use in French Canada	583292-121	■ For use in the United States	583292-001

(Continued)

| Keyboard for use in country or region	Spare part number	Keyboard for use in country or region	Spare part number
For use only with HP Compaq 6440b computer models not equipped with a pointing stick:			
■ For use in Belgium	583292-A41	■ For use in Portugal	583292-131
■ For use in Bulgaria	583292-261	■ For use in Russia	583292-251
■ For use in Denmark	583292-081	■ For use in Saudi Arabia	583292-171
■ For use in France	583292-051	■ For use in Slovakia	583292-221
■ For use in Germany	583292-041	■ For use in Slovenia	583292-BA1
■ For use in Greece	583292-DJ1	■ For use in South Korea	583292-AD1
■ For use in Hungary	583292-211	■ For use in Spain	583292-071
■ For use in Iceland	583292-DD1	■ For use in Sweden and Finland	583292-B71
■ For use in Israel	583292-BB1	■ For use in Switzerland	583292-BG1
■ For use in Italy	583292-061	■ For use in Taiwan	583292-AB1
■ For use in Japan	583292-291	■ For use in Thailand	583292-21
■ For use in the Netherlands	583292-B31	■ For use in Turkey	583292-141
■ For use in Norway	583292-091	■ For use in the United Kingdom	583292-031
■ For use in French Canada	583292-121	■ For use in the United States	583292-001

Before removing the keyboard, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

Remove the keyboard:

1. Position the computer with the front toward you.

2. Loosen the three Phillips PM2.5×11.0 captive screws that secure the keyboard to the computer.
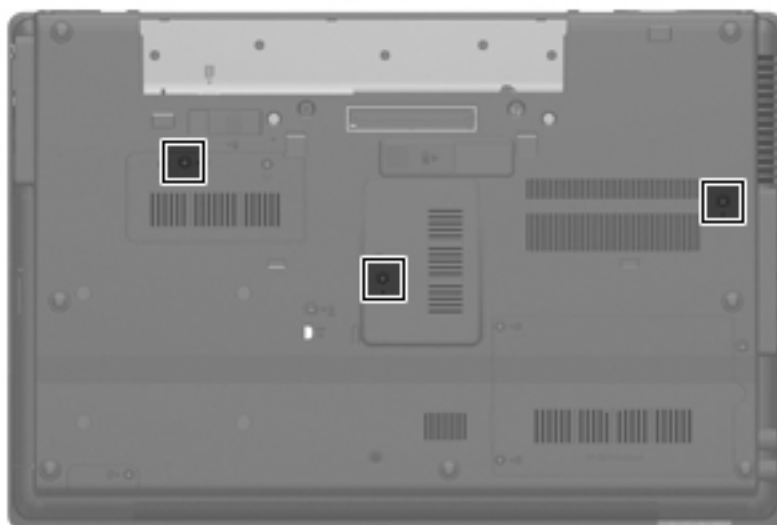
3. Turn the computer display-side up, with the front toward you.

4. Open the computer as far as possible.

5. Slide the four keyboard tabs ❶ forward.

6. Lift the rear edge of the keyboard ❷, and then swing it up and forward until it rests upside down on the palm rest.
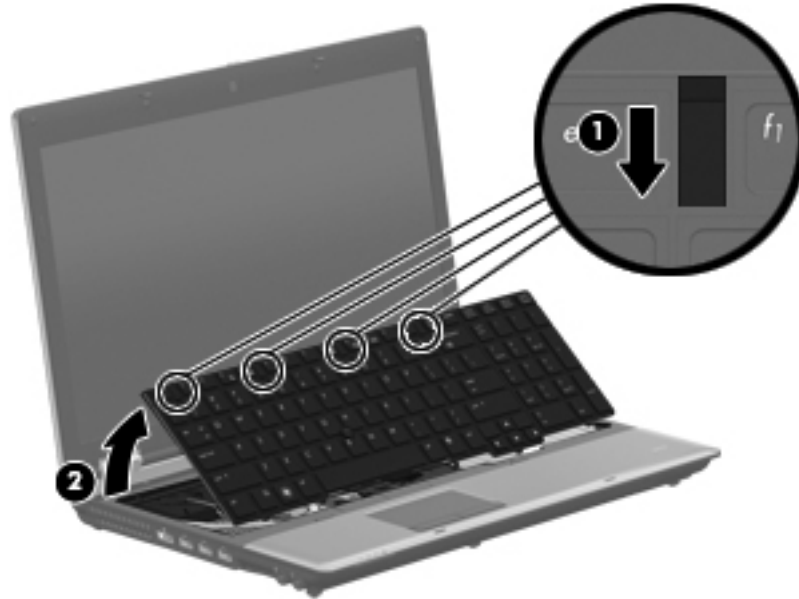
7. Release the zero insertion force (ZIF) connector to which the pointing stick cable ❶ is attached, and then disconnect the pointing stick cable from the system board.

8. Release the ZIF connector to which the keyboard cable ❷ is attached, and then disconnect the keyboard cable from the system board.
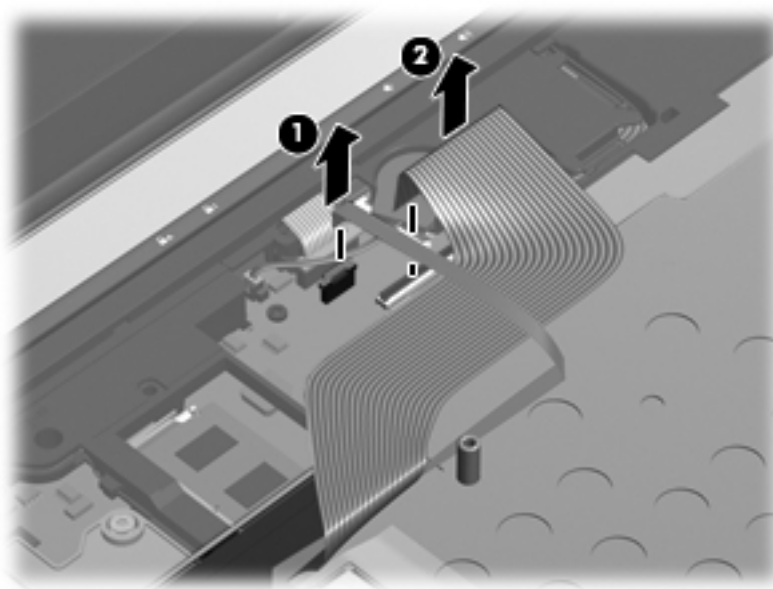
9. Remove the keyboard.

Reverse this procedure to install the keyboard.

Primary memory module

Description	Spare part number
For use only with HP Compaq 6545b and 6445b computer models:	
■ 4096-MB (800-MHz, DDR2)	598855-001
■ 2048-MB (800-MHz, DDR2)	598858-001
■ 1024-MB (800-MHz, DDR2)	598861-001
For use only with HP Compaq 6540b and 6440b computer models:	
■ 4096-MB (1333-MHz, DDR3)	599092-002
■ 2048-MB (1333-MHz, DDR3)	598856-002
■ 1024-MB (1333-MHz, DDR3)	598859-002

Before removing the primary memory module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the keyboard (see "Keyboard" on page 4-25).

Remove the primary memory module:

1. Position the computer with the front toward you.

2. Pull away the retention clips ❶ on each side of the memory module to release the memory module. (The memory module tilts up.)

⚠ **CAUTION:** To prevent damage to the memory module, hold it by the edges only. Do not touch the components on the memory module.

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3. Grasp the edge of the memory module ❷, and then pull it out of the memory module slot.

✎ Memory modules are designed with a notch ❸ to prevent incorrect insertion into the memory module slot.
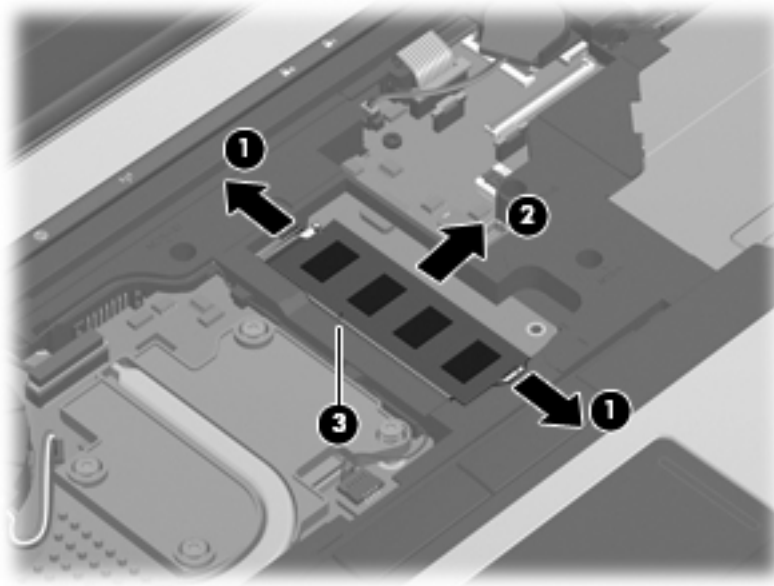
Reverse this procedure to install a memory module.

RTC battery

Description	Spare part number
For use only with HP Compaq 6545b computer models	583268-001
For use only with HP Compaq 6540b computer models	593860-001
For use only with HP Compaq 6445b computer models	583268-001
For use only with HP Compaq 6440b computer models	593861-001

Before removing the RTC battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the keyboard (see "Keyboard" on page 4-25).

Remove the RTC battery:

1. Disconnect the RTC battery cable ❶ from the system board.

2. Detach the RTC battery ❷ from the clip built into the top cover. (The RTC battery is attached to the top cover with double-sided tape.)
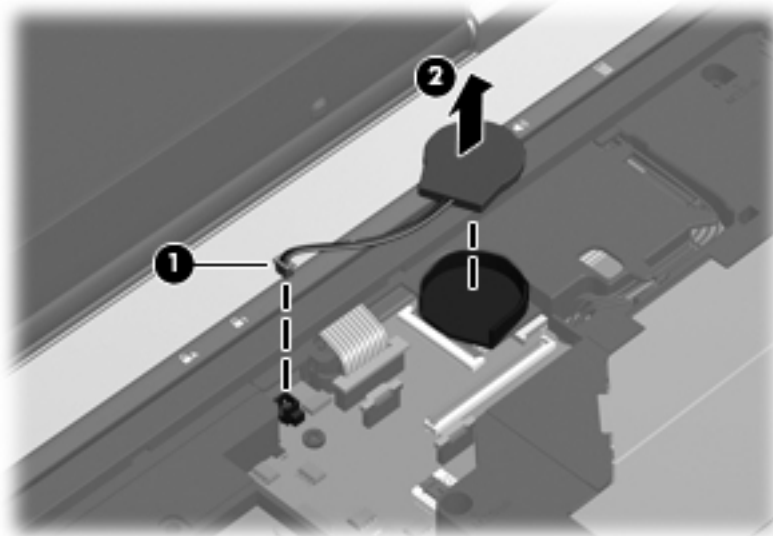
Reverse this procedure to install the RTC battery.

Switch cover

✎ The switch cover spare part kit includes the capacitive board and cable.

Description	Spare part number
For use only with HP Compaq 6545b computer models	583268-001
For use only with HP Compaq 6540b computer models	593860-001
For use only with HP Compaq 6445b computer models	583268-001
For use only with HP Compaq 6440b computer models	593861-001

Before removing the switch cover, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the keyboard (see "Keyboard" on page 4-25).

Remove the switch cover:

1. Turn the computer upside down, with the front toward you.

2. Remove the three Phillips PM2.0×3.0 screws that secure the switch cover to the computer.
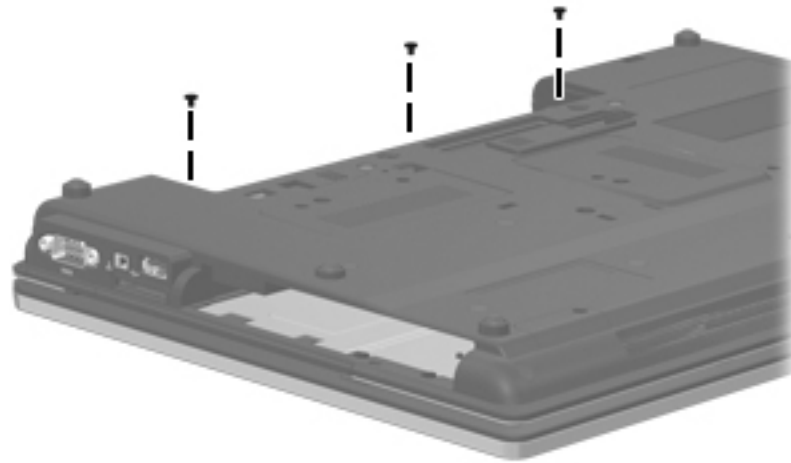
3. Turn the computer display-side up, with the front toward you.

4. Open the computer as far as possible.

5. Release the ZIF connector to which the LED board cable ❶ is attached, and then disconnect the LED board cable from the system board.

6. Lift the left and right sides of the switch cover ❷ until it detaches from the computer.
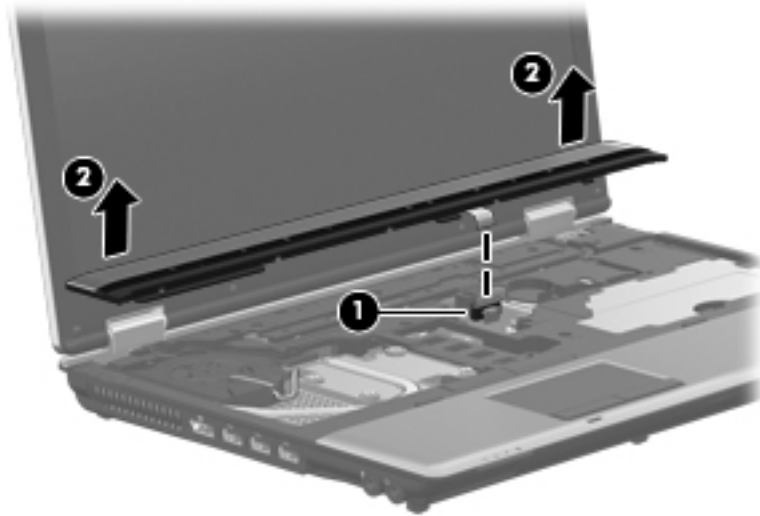
7. Remove the switch cover.

Reverse this procedure to install the switch cover.

Power button board

Description	Spare part number
For use only with HP Compaq 6545b computer models	583268-001
For use only with HP Compaq 6445b computer models	583267-001
For use only with HP Compaq 6540b and 6440b computer models	593838-001

Before removing the power button board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the switch cover (see "Switch cover" on page 4-33).

Remove the power button board:

1. Turn the switch cover upside down, with the rear toward you.
2. Release the ZIF connector to which the power button board cable is attached, and then disconnect the power button board cable ❶ from the capacitive board.
3. Remove the two Phillips PM2.0×3.0 screws ❷ that secure the power button board to the switch cover.
4. Remove the power button board ❸ and cable.
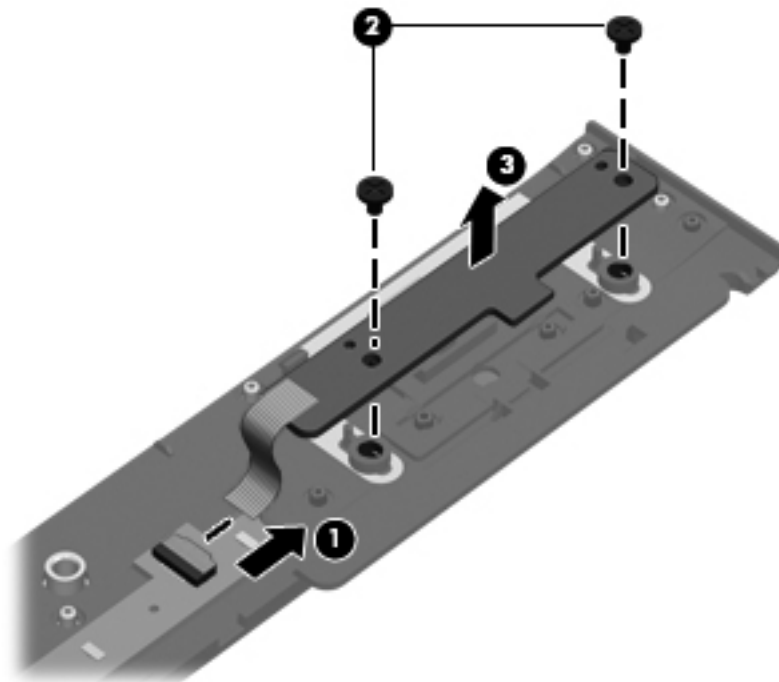
Reverse this procedure to install the power button board.

Palm rest

Description	Spare part number
For use only with HP Compaq 6545b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	583285-001
For use only with HP Compaq 6545b and 6540b computer models not equipped with a fingerprint reader	583286-001
For use only with HP Compaq 6540b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	593874-001
For use only with HP Compaq 6445b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	583287-001
For use only with HP Compaq 6445b and 6440b computer models not equipped with a fingerprint reader	583288-001
For use only with HP Compaq 6440b computer models equipped with a fingerprint reader (includes fingerprint reader board and cable)	593876-001

Before removing the palm rest, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the mass storage device (see "Mass storage device" on page 4-11).

Remove the palm rest:

1. Turn the computer upside down, with the front toward you.

2. Remove the two rubber screw covers ❶. The rubber screw covers are included in the Rubber Kit, spare part number 583280-001.

3. Remove the four slotted Torx T8M2.5×7.0 screws ❷ that secure the palm rest to the computer.
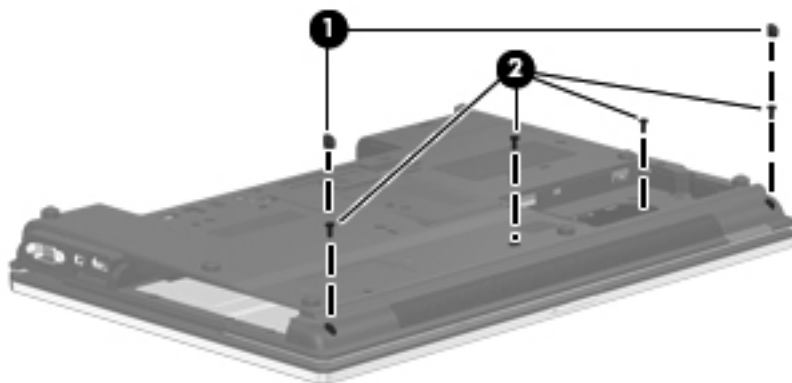
4. Turn the computer display-side up, with the front toward you.

5. Open the computer as far as possible.

6. If the computer is equipped with a fingerprint reader, release the ZIF connector to which the fingerprint reader board cable ❶ is attached, and then disconnect the fingerprint reader board cable ❷ from the system board.

7. Lift the front edge of the palm rest ❸ until it rests at an angle, and then slide the palm rest forward ❹ until it detaches from the computer.

8. If the computer is equipped with a fingerprint reader, remove the fingerprint reader board cable from the opening ❺ in the top cover.
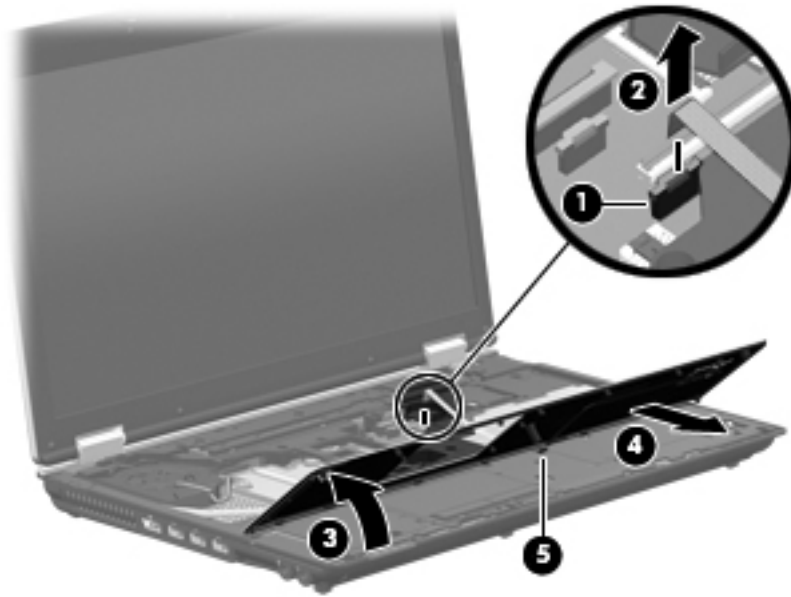
9. Remove the palm rest.

Reverse this procedure to install the palm rest.

TouchPad

✎ The TouchPad spare part kit includes a TouchPad board cable and TouchPad button board cable.

Description	Spare part number
For use only with HP Compaq 6545b computer models	583275-001
For use only with HP Compaq 6540b computer models	593866-001
For use only with HP Compaq 6445b computer models	583276-001
For use only with HP Compaq 6440b computer models	593867-001

Before removing the TouchPad, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the mass storage device cover (see "Mass storage device" on page 4-11).

6. Remove the palm rest (see "Palm rest" on page 4-36).

Remove the TouchPad:

1. Lift the rear edge of the TouchPad ❶, and swing it up and forward until it rests upside down on the computer.

2. Release the ZIF connector to which the TouchPad button board cable is attached, and then disconnect the TouchPad button board cable ❷ from the TouchPad board.

3. Release the ZIF connector to which the TouchPad cable is attached, and then disconnect the TouchPad cable ❸ from the system board.
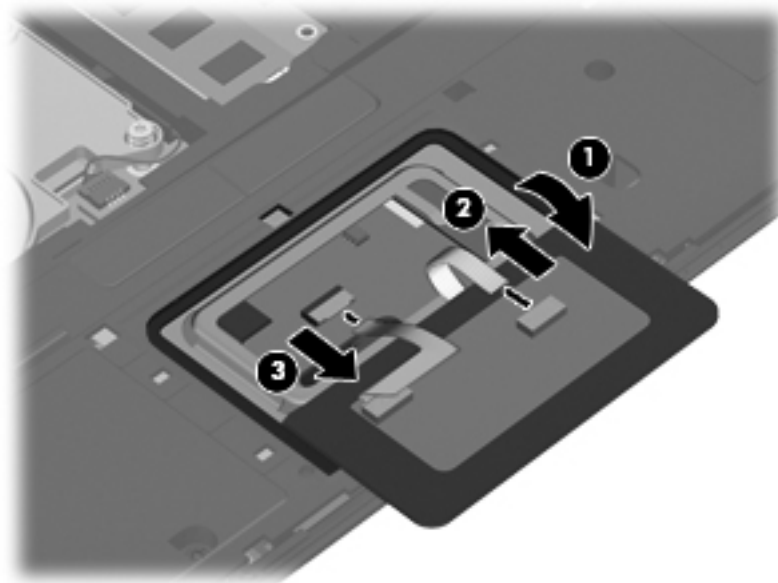
Reverse this procedure to install the TouchPad.

Fan

Description	Spare part number
Fan	583266-001

✎ To properly ventilate the computer, allow at least 7.6 cm (3 in) of clearance on the left side of the computer. The computer uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software requirements. Exhaust air is displaced through the ventilation grill located on the left side of the computer.

Before removing the fan, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the keyboard (see "Keyboard" on page 4-25).

6. Remove the switch cover (see "Switch cover" on page 4-33).

Remove the fan:

1. Disconnect the fan cable ❶ from the system board.

2. Remove the two slotted Torx T8M2.5×7.0 screws ❷ that secure the fan to the system board.

3. Remove the fan ❸.
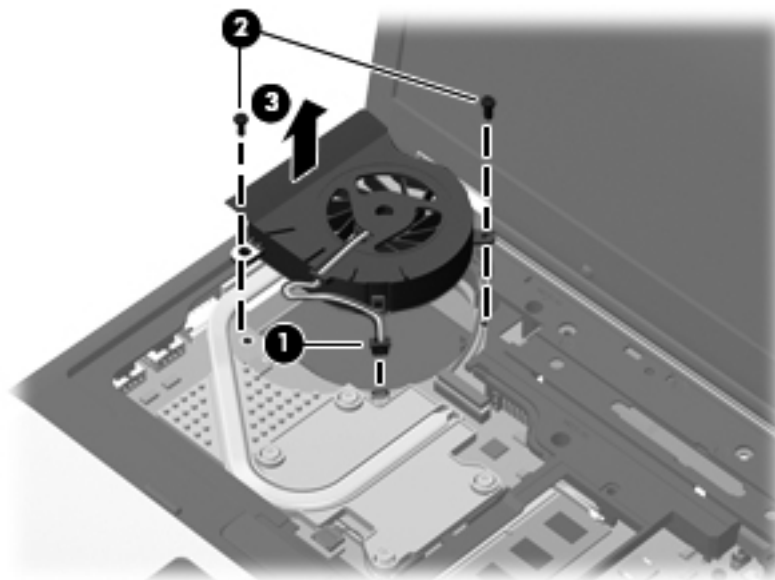
Reverse this procedure to install the fan.

Heat sink

✎ The heat sink spare part kit includes replacement thermal material.

Description	Spare part number
For use only with HP Compaq 6545b and 6445b computer models	583265-001
For use only with HP Compaq 6540b and 6440b computer models equipped with discrete graphics subsystem memory	593879-001
For use only with HP Compaq 6540b and 6440b computer models equipped with UMA graphics subsystem memory	593878-001

Before removing the heat sink, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Keyboard (see "Keyboard" on page 4-25)

   b. Switch cover (see "Switch cover" on page 4-33)

   c. Fan (see "Fan" on page 4-39)

Remove the heat sink:

1. Following the 1, 2, 3, 4 sequence stamped into the heat sink, loosen the four Phillips PM2.5×9.0 captive screws ❶ that secure the heat sink to the system board.

   ✎ Due to the adhesive quality of the thermal material located between the heat sink and system board components, it may be necessary to move the heat sink from side to side to detach it.

2. Lift the right side of the heat sink ❷ until it rests at an angle.

3. Release the heat sink ❸ by sliding it up and to the right at an angle.
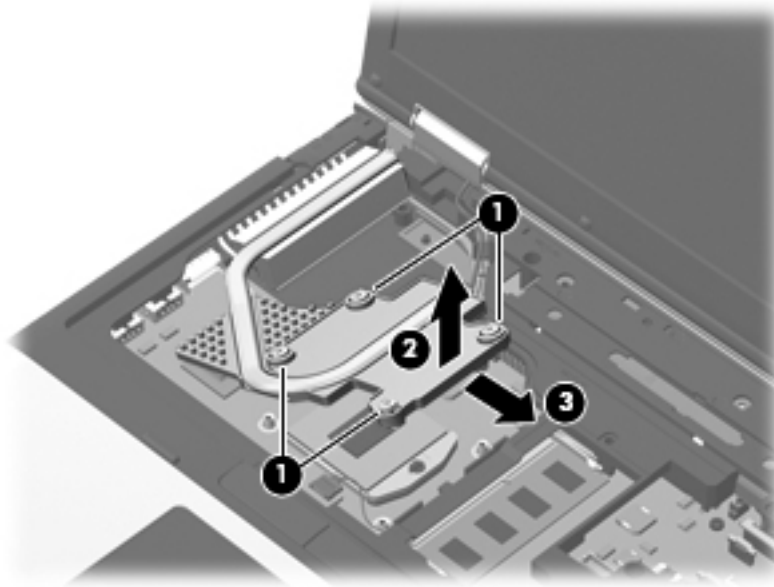
4. Remove the heat sink.

✎ The thermal material must be thoroughly cleaned from the surfaces of the heat sink and the system board each time the heat sink is removed:

❏ Thermal paste is used on the processor ❶ and the heat sink section ❷ that services it.

❏ Thermal pads are used on the Northbridge chip ❸ and the heat sink section ❹ that services it.

❏ Thermal pads are used on the Southbridge chip ❺ and the heat sink section ❻ that services it.

Replacement thermal material is included with all system board and heat sink spare part kits.
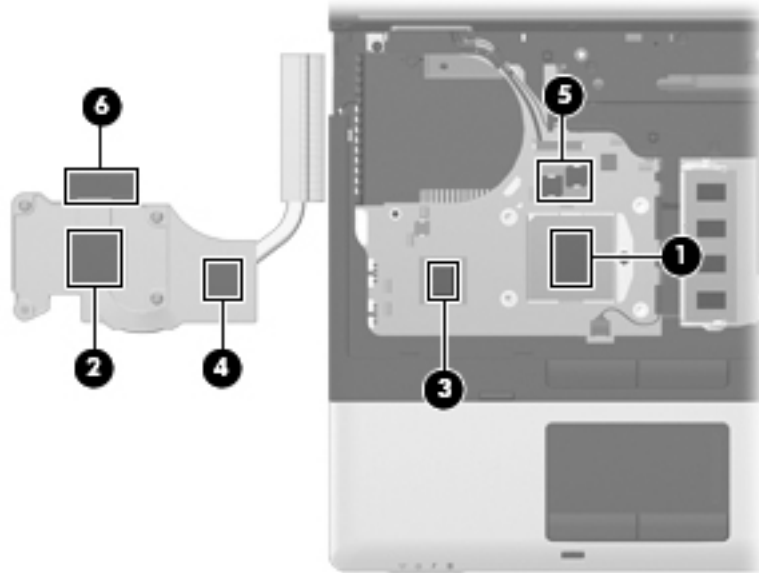
Reverse this procedure to install the heat sink.

Processor

✎ The processor spare part kit includes replacement thermal material.

Description	Spare part number
For use only with HP Compaq 6545b and 6445b computer models:	
■ AMD Turion II Ultra M620 2.5-GHz processor (35W, 2-MB L2 cache)	576255-001
■ AMD Turion II Ultra M600 2.3-GHz processor (35W, 2-MB L2 cache)	576254-001
■ AMD Turion II M540 2.4-GHz processor (35W, 1-MB L2 cache)	587257-001
■ AMD Turion II M520 2.2-GHz processor (35W, 1-MB L2 cache)	576253-001
■ AMD Athlon II M340 2.2-GHz processor (35W, 1-MB L2 cache)	587255-001
■ AMD Athlon II M320 2.1-GHz processor (35W, 1-MB L2 cache)	576252-001
■ AMD Sempron M120 2.1-GHz processor (25W, 512-KB L2 cache)	587256-001
■ AMD Sempron M100 1.9-GHz processor (25W, 512-KB L2 cache)	576251-001
For use only with HP Compaq 6540b and 6440b computer models:	
■ Intel Core i7 720QM 1.60-GHz processor (turbo up to 2.80-GHz; 45W, 6-MB L3 cache, 8 threads)	603011-001
■ Intel Core i7 620M 2.66-GHz processor (turbo up to 3.33-GHz; 35W, 4-MB L3 cache, 4 threads)	603010-001
■ Intel Core i5 540M 2.53-GHz processor (turbo up to 3.06-GHz; 35W, 3-MB L3 cache, 4 threads)	594646-001
■ Intel Core i5 520M 2.40-GHz processor (turbo up to 2.93-GHz; 35W, 3-MB L3 cache, 4 threads)	594645-001
■ Intel Core i5 430M 2.26-GHz processor (turbo up to 2.53-GHz; 35W, 3-MB L3 cache, 4 threads)	595585-001
■ Intel Core i3 350M 2.26-GHz processor (turbo up to 2.40-GHz; 35W, 3-MB L3 cache, 4 threads)	595586-001
■ Intel Core i3 330M 2.13-GHz processor (turbo up to 2.33-GHz; 35W, 3-MB L3 cache, 4 threads)	595587-001

Before removing the processor, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Keyboard (see "Keyboard" on page 4-25)

   b. Switch cover (see "Switch cover" on page 4-33)

   c. Fan (see "Fan" on page 4-39)

   d. Heat sink (see "Heat sink" on page 4-40)

Remove the processor:

1. Use a flat-bladed screwdriver to turn the processor locking screw ❶ one-half turn counterclockwise, until you hear a click.

2. Lift the processor ❷ straight up and remove it.

   ✎ When you install the processor, the gold triangle ❸ on the processor must be aligned with the triangle ❹ embossed on the processor socket.
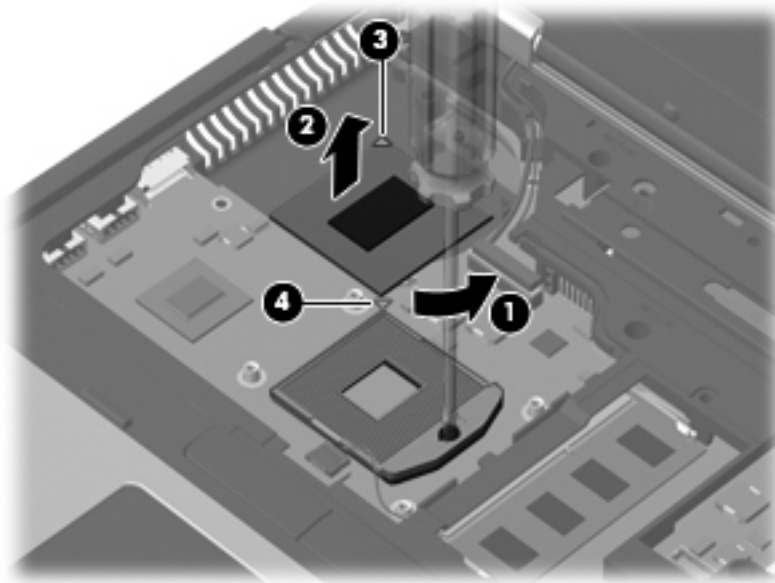
Reverse this procedure to install the processor.

Display assembly

✎ The display assembly spare part kit includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo.

Description	Spare part number
For use only with HP Compaq 6545b computer models:	
■ 15.6-in, HD+, LED, WVA display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	584230-001
■ 15.6-in, HD+, LED, WVA display assembly for use only with computer models equipped with WWAN functionality but not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584229-001
■ 15.6-in, HD+, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583225-001
■ 15.6-in, HD+, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583222-001
■ 15.6-in, HD, LED, WVA display assembly for use only with computer models equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584228-001
■ 15.6-in, HD, LED, WVA display assembly for use only with computer models not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584227-001
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583223-001
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583220-001
For use only with HP Compaq 6540b computer models:	
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594005-001
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594004-001
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	593996-001
■ 15.6-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593995-001
■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593999-001
■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594002-001
■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594003-001
■ 15.6-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594006-001
■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594001-001
■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594000-001

(Continued)

Description	Spare part number
■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	593998-001
■ 15.6-in, HD, LED, BrightView display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	593997-001
■ 15.6-in, HD, LED, LVDS BrightView display assembly	623182-001
■ 15.6-in, HD, LED, SVA, LVDS AntiGlare display assembly	623181-001
■ 15.6-in, HD+, LED, WVA, LVDS AntiGlare display assembly	624643-001
For use only with HP Compaq 6445b computer models:	
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584232-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam (includes 2 WWAN antenna transceivers and cables)	584231-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam	583228-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam	583226-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam	600753-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam	600754-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models with WWAN functionality but not a webcam	617448-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality	617449-001
For use only with HP Compaq 6440b computer models:	
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594018-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594014-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594015-001
■ 14.0-in, HD+, LED, WVA, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594011-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594017-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594016-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594008-001
■ 14.0-in, HD, LED, AntiGlare display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594007-001
■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam and WWAN functionality (includes 2 WWAN antenna transceivers and cables)	594013-001

(Continued)

Description	Spare part number
■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with WWAN functionality but not a webcam (includes 2 WWAN antenna transceivers and cables)	594012-001
■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models equipped with a webcam but not equipped with WWAN functionality	594010-001
■ 14.0-in, HD, LED, BrightView display assembly for use only with computer models not equipped with a webcam or with WWAN functionality	594009-001
■ 14.0-in, HD, LED, SVA, LVDS BrightView display assembly	592144-001
■ 14.0-in, HD, LED, SVA, LVDS AntiGlare display assembly for use only with HP Compaq 6440b computer models	623176-001
■ 14.0-in, HD, LED, SVA, LVDS AntiGlare display assembly	624236-001

Before removing the display assembly, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Disconnect the antenna cables from the WLAN (see "WLAN module" on page 4-16) and WWAN modules (see "WWAN module" on page 4-21).

6. Remove the keyboard (see "Keyboard" on page 4-25).

7. Remove the switch cover (see "Switch cover" on page 4-33).

Remove the display assembly:

1. Close the computer.

2. Position the computer with the rear panel toward you.

3. Remove the four slotted Torx T8M2.5×11.0 screws that secure the display assembly to the computer.
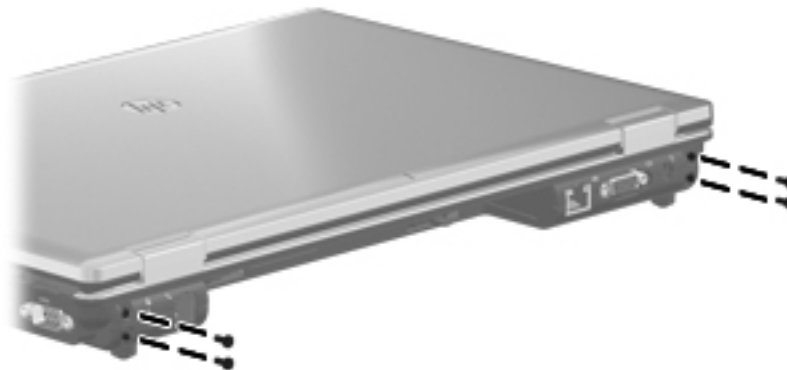
4. Turn the computer display-side up, with the front toward you.

5. Open the computer as far as possible.

6. Disconnect the microphone cable ❶ from the system board.

7. Remove the microphone cable from the clips and routing channel ❷ built into the top cover.

8. Disconnect the display panel cable ❸ from the system board.
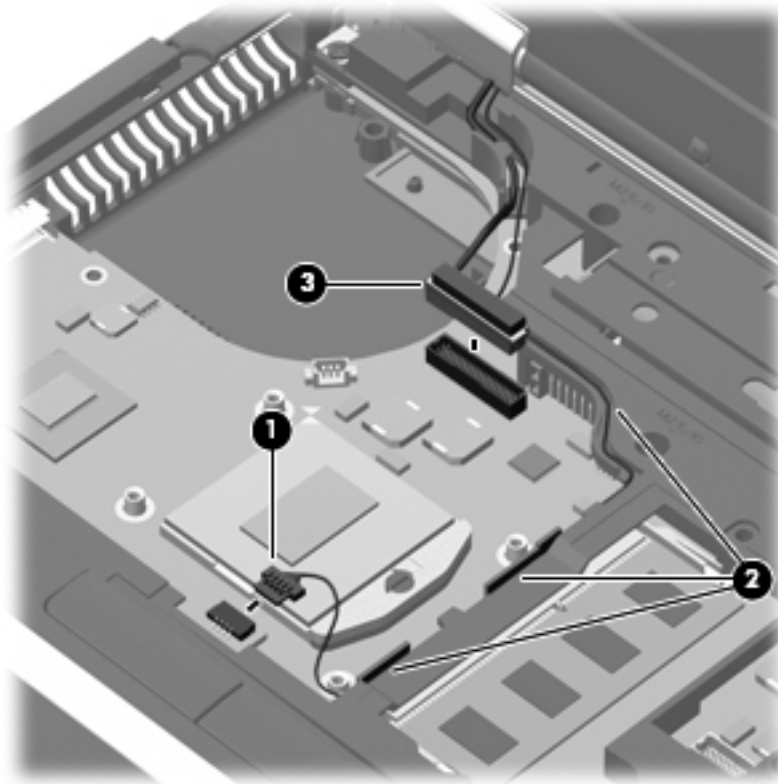
9. Release the wireless antenna cables from the opening in the top cover ❶.

10. Remove the wireless antenna cables from the clips ❷ and routing channel built into the top cover.
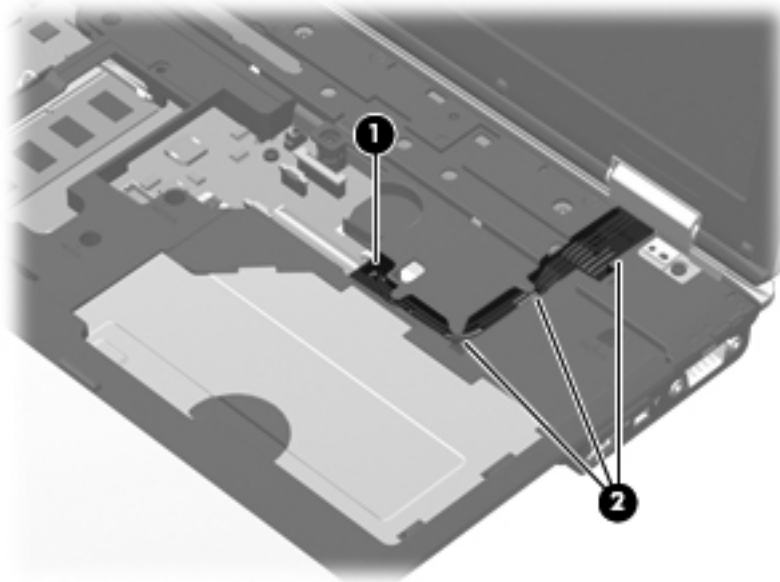
⚠ **CAUTION:** Support the display assembly when removing the following screws. Failure to support the display assembly can result in damage to the display assembly and other computer components.

11. Remove the two slotted Torx T8M2.5×11.0 screws ❶ that secure the display assembly to the base enclosure.

12. Lift the display assembly ❷ straight up and remove it.
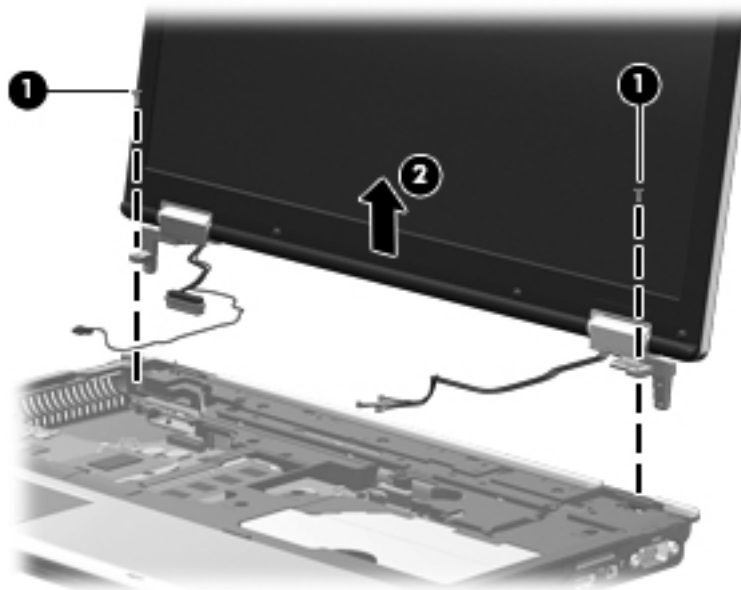
13. If it is necessary to replace the display bezel or any of the display assembly internal components:

    a. Remove the eight rubber screw covers ❶. The rubber screw covers are included in the Rubber Kit, spare part number 583280-001.

    b. Remove the eight Phillips PM2.5×6.0 screws ❷ that secure the display bezel to the display assembly.
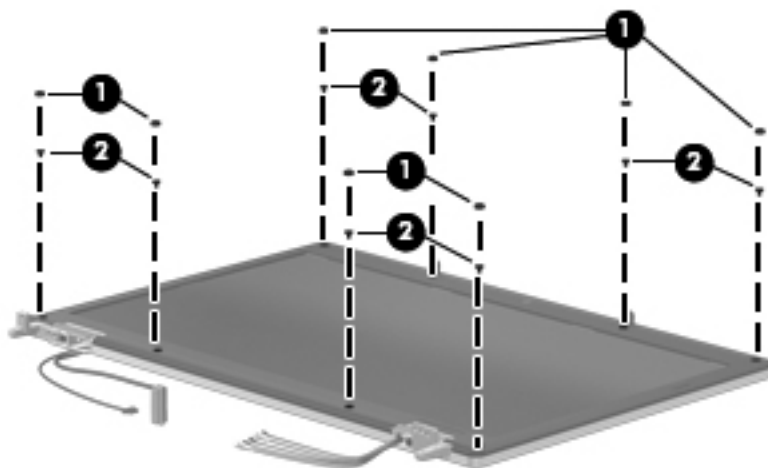
    c. Slide and hold the display release latch ❶ to the right.

    d. Flex the inside edges of the top edge ❷, the left and right sides ❸, and the bottom edge ❹ of the display bezel until the bezel disengages from the display enclosure.

    e. Remove the display bezel ❺. The display bezel is available using the following spare part numbers:

        ◆ 583235-001—for use only with HP Compaq 6545b computer models equipped with a webcam

        ◆ 583236-001—for use only with HP Compaq 6545b computer models not equipped with a webcam

        ◆ 593847-001—for use only with HP Compaq 6540b computer models equipped with a webcam

        ◆ 593848-001—for use only with HP Compaq 6540b computer models not equipped with a webcam

        ◆ 583237-001—for use only with HP Compaq 6445b computer models equipped with a webcam

        ◆ 583238-001—for use only with HP Compaq 6445b computer models not equipped with a webcam

        ◆ 593849-001—for use only with HP Compaq 6440b computer models equipped with a webcam

        ◆ 593850-001—for use only with HP Compaq 6440b computer models not equipped with a webcam
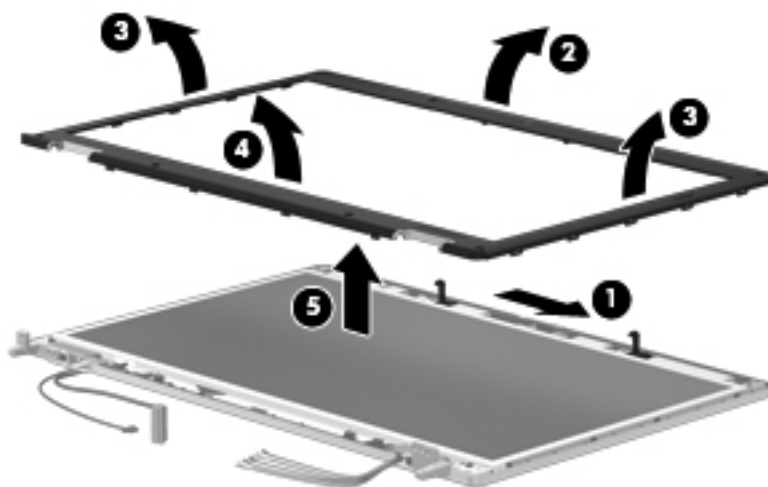
✎ When installing the display bezel, it may be necessary to replace the double-sided tape that secures the bezel to the display enclosure. The tape should be installed in the locations shown in the following illustration.
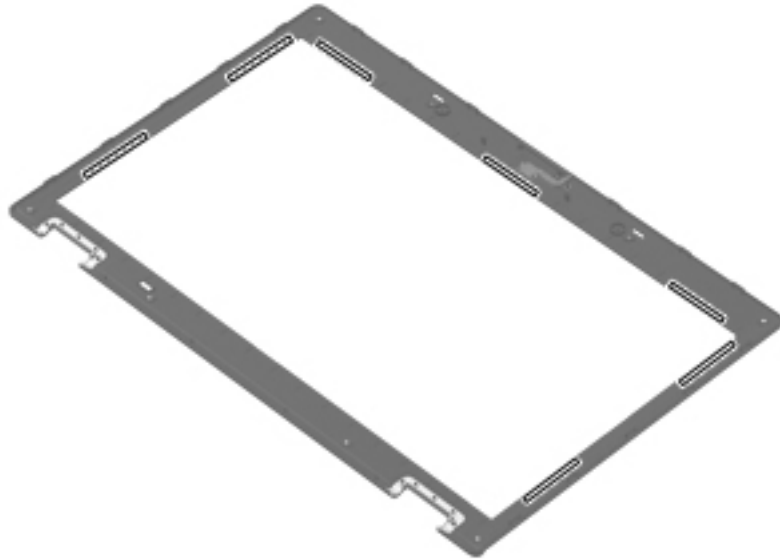
14. If it is necessary to replace the webcam module:

   a. Release the webcam module ❶ as far from the display enclosure as the webcam module cable allows. (The webcam module is attached to the display enclosure with double-sided tape.)

   b. Disconnect the webcam module cable ❷ from the webcam module.

   c. Remove the webcam module ❸. The webcam module is available using spare part number 583219-001.
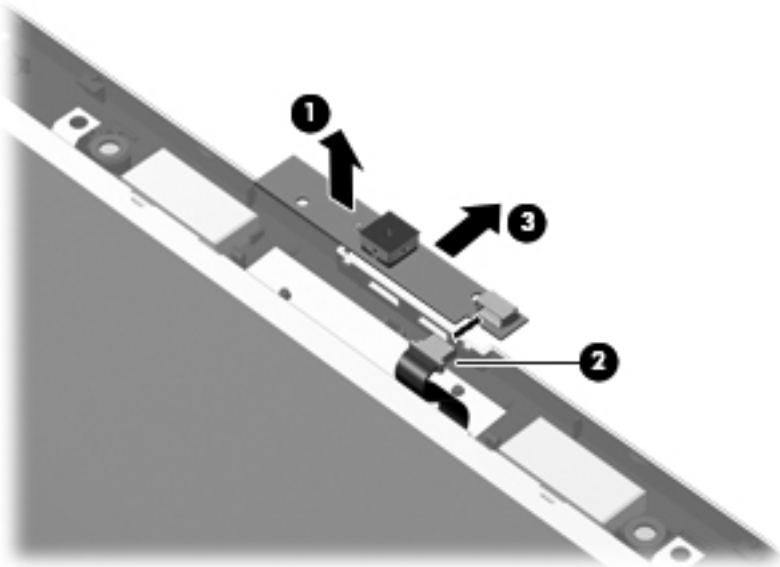
15. If it is necessary to replace the display panel cable or display hinges:

   a. Remove the two Phillips PM2.5×6.0 screws that secure the display panel to the display enclosure.

   b. Lift the top edge of the display panel ❶, and then swing it up and forward until it rests upside down in front of the display enclosure.

   c. Release the support strip ❷ and locking bar ❸ that secure the display panel cable to the display panel.

   d. Disconnect the display panel cable ❹ from the display panel.
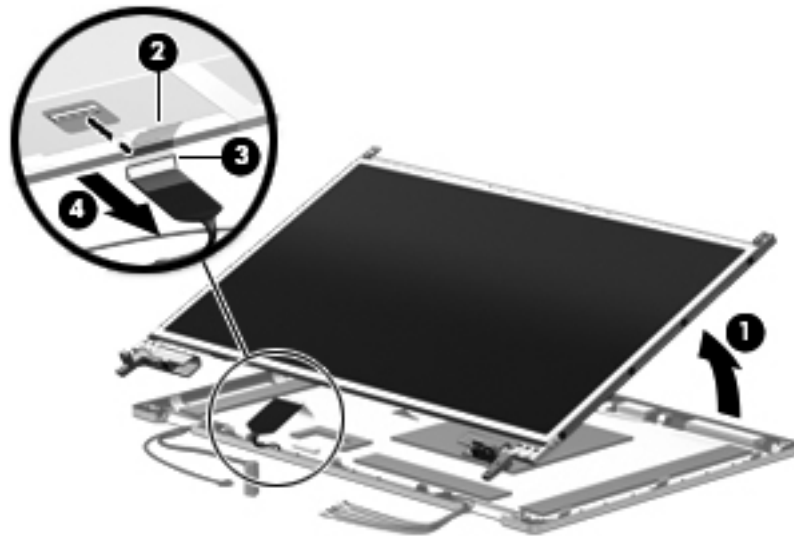
   e. Remove the display panel.

f. Release the tabs ❶ built into the display enclosure shielding that secure the display panel cable to the display enclosure.

g. Release the display panel cable from the clips ❷ and routing channel built into the bottom edge of the display enclosure.

h. Remove the display panel cable ❸. The display panel cable is included in the Display Cable Kit, using the following spare part numbers:

◆ 583956-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD+ display assembly

◆ 583230-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly

◆ 593990-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD+ display assembly

◆ 583231-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly
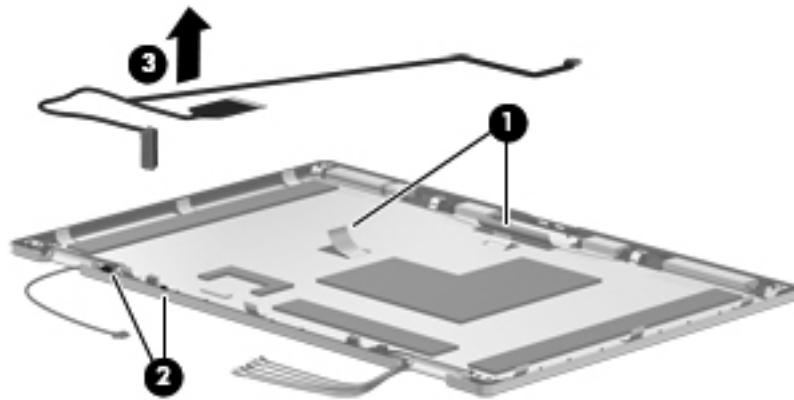
✎ Substeps i and j apply only to HP Compaq 6545b and 6540b computer models.

i. Remove the eight Phillips PM2.0×3.0 screws ❶ that secure the display hinges to the display panel.

j. Remove the display hinges ❷. The display hinges are available in the Display Hinge Kit, spare part numbers 583232-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583959-001 (for use only with HP Compaq 6445b and 6440b computer models).
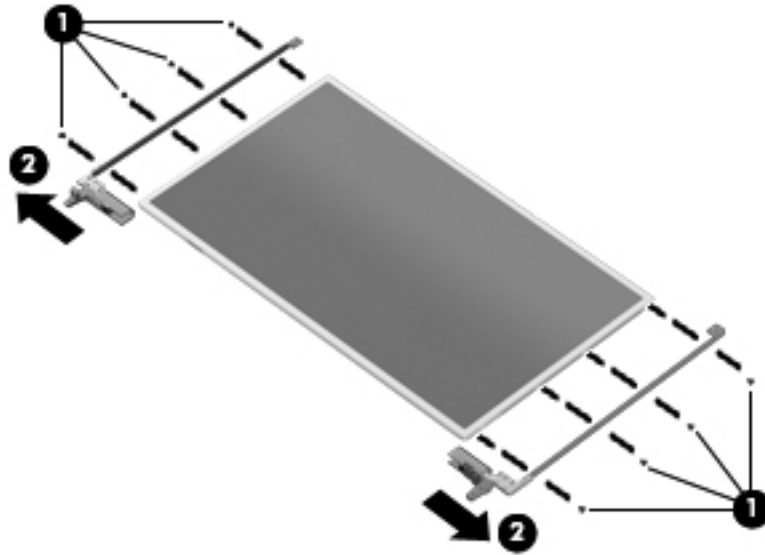
✎ Substeps k and l apply only to HP Compaq 6445b and 6440b computer models.

k. Remove the six Phillips PM2.0×3.0 screws ❶ that secure the display hinges to the display panel.

l. Remove the display hinges ❷. The display hinges are available in the Display Hinge Kit, spare part numbers 583232-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583959-001 (for use only with HP Compaq 6445b and 6440b computer models).
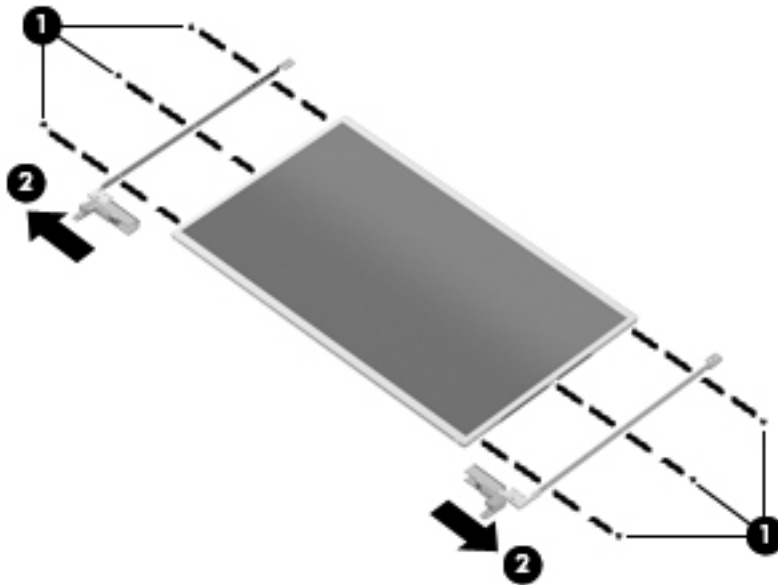
m. Remove the two Phillips PM2.0×3.0 screws ❶ that secure the display hinge covers to the display hinges.

n. Remove the display hinge covers ❷ by sliding them off of the display hinges. The display hinge covers are available in the Display Hinge Kit, spare part numbers 583232-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583959-001 (for use only with HP Compaq 6445b and 6440b computer models).
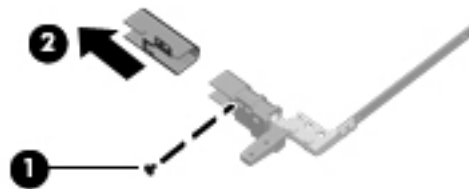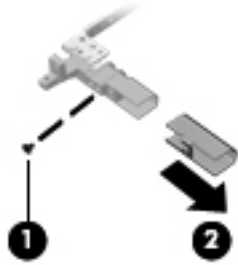
16. If it is necessary to replace the WLAN antenna transceivers and cables:

   a. Release the tabs ❶ built into the display enclosure shielding that secure the WLAN antenna cables.

   b. Detach the WLAN antenna transceivers ❷ from the display enclosure. (The transceivers are attached to the enclosure with double-sided tape.)

   c. Remove the WLAN antenna transceivers and cables ❸. The WLAN antenna transceivers and cables are included in the Display Cable Kit, using the following spare part numbers:

   ◆ 583956-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD+ display assembly

   ◆ 583230-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly

   ◆ 593990-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD+ display assembly

   ◆ 583231-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly
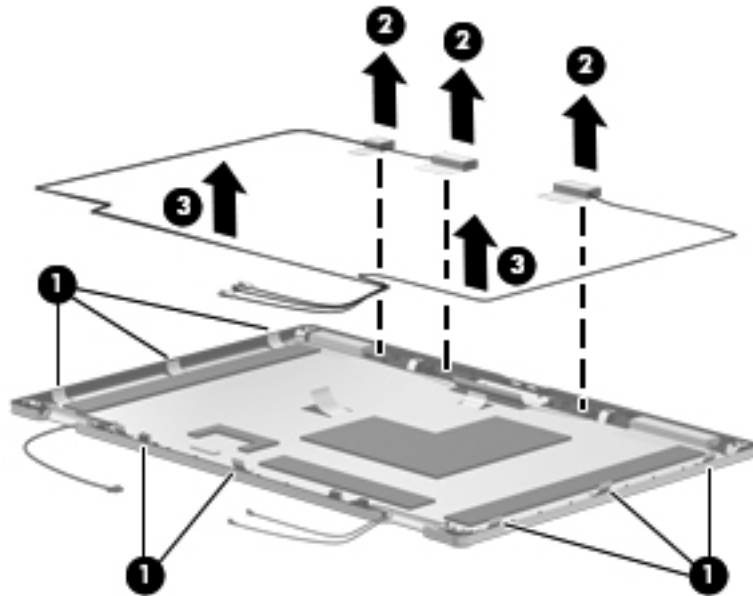
17. If it is necessary to replace the WWAN antenna transceivers and cables:

    a. Release the tabs ❶ built into the display enclosure shielding that secure the WWAN antenna cables.

    b. Detach the WWAN antenna transceivers ❷ from the display enclosure. (The transceivers are attached to the enclosure with double-sided tape.)

    c. Remove the WWAN antenna transceivers and cables ❸. The WWAN antenna transceivers and cables are included in the Display Cable Kit, using the following spare part numbers:

        ◆ 583956-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD+ display assembly

        ◆ 583230-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly

        ◆ 593990-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD+ display assembly

        ◆ 583231-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly
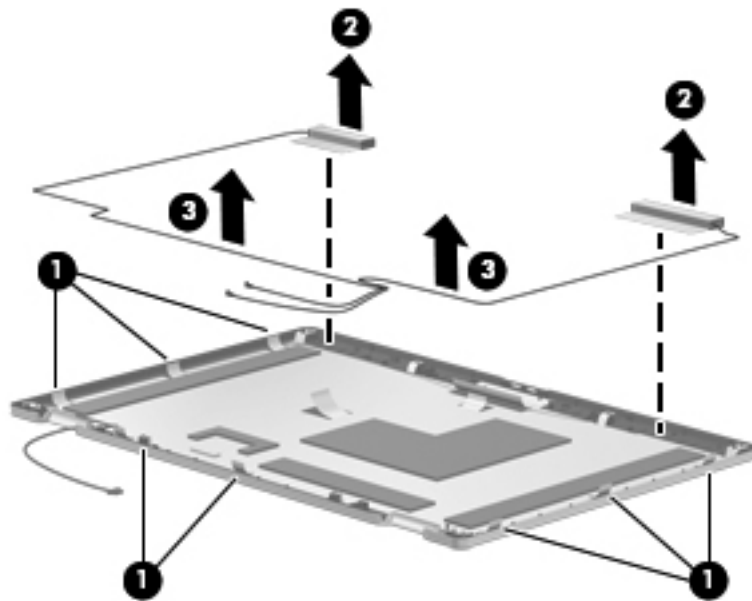
18. If it is necessary to replace the microphones and cables:

   a. Release the tabs ❶ built into the display enclosure shielding that secure the microphone cables.

   b. Release the microphone receivers from the clips ❷ built into the display enclosure.

   c. Release the microphone cables from the clips and routing channel ❸ built into the bottom edge of the display enclosure.

   d. Remove the microphones and cables ❹. The microphones and cables are included in the Display Cable Kit, using the following spare part numbers:

   ◆ 583956-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD+ display assembly

   ◆ 583230-001—for use only with HP Compaq 6545b and 6540b computer models equipped with an HD display assembly

   ◆ 593990-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD+ display assembly

   ◆ 583231-001—for use only with HP Compaq 6445b and 6440b computer models equipped with an HD display assembly
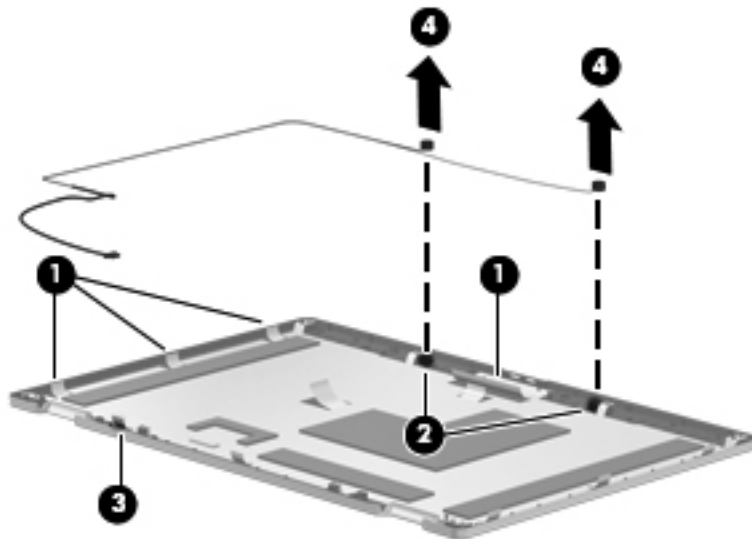
Reverse this procedure to reassemble and install the display assembly.

Top cover

Description	Spare part number
For use only with HP Compaq 6545b computer models equipped with a pointing stick	583271-001
For use only with HP Compaq 6545b computer models not equipped with a pointing stick	583272-001
For use only with HP Compaq 6540b computer models equipped with a pointing stick	593862-001
For use only with HP Compaq 6540b computer models not equipped with a pointing stick	593863-001
For use only with HP Compaq 6445b computer models equipped with a pointing stick	583273-001
For use only with HP Compaq 6545b computer models not equipped with a pointing stick	583274-001
For use only with HP Compaq 6440b computer models equipped with a pointing stick	593864-001
For use only with HP Compaq 6540b computer models not equipped with a pointing stick	593865-001

Before removing the top cover, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Palm rest (see "Palm rest" on page 4-36)

   g. TouchPad (see "TouchPad" on page 4-38)

   h. Display assembly (see "Display assembly" on page 4-45)

Remove the top cover:

1. Turn the computer upside down, with the front toward you.

2. Remove the five slotted Torx T8M2.5×7.0 screws ❶ (in the mass storage device bay) and the five Phillips PM2.0×3.0 screws ❷ (in the optical drive and battery bays) that secure the top cover to the base enclosure.
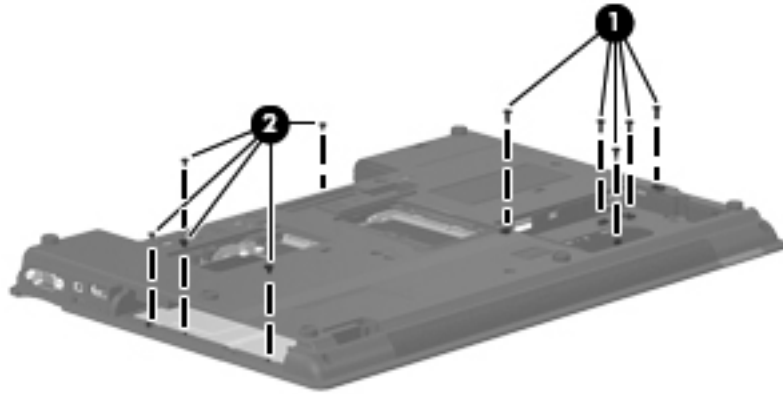
3. Turn the computer right-side up, with the front toward you.

   ✎ Step 4 applies only to HP Compaq 6545b and 6540b computer models.

4. Remove the nine slotted Torx T8M2.5×7.0 screws ❶ and the two slotted Torx T8M2.5×11.0 screws ❷ that secure the top cover to the base enclosure.
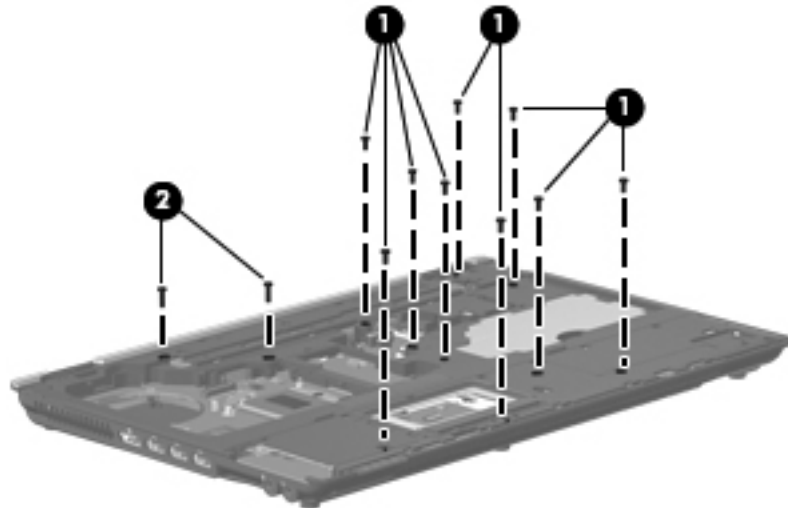
✎ Step 5 applies only to HP Compaq 6445b and 6440b computer models.

5. Remove the six slotted Torx T8M2.5×7.0 screws ❶ and the two slotted Torx T8M2.5×11.0 screws ❷ that secure the top cover to the base enclosure.
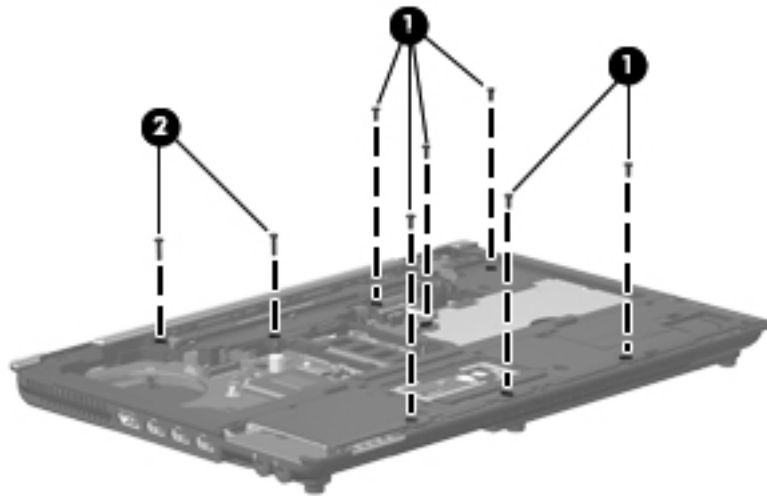
6. Lift the rear edge ❶ of the top cover until it detaches from the base enclosure.

7. Remove the top cover ❷ by lifting it straight up.
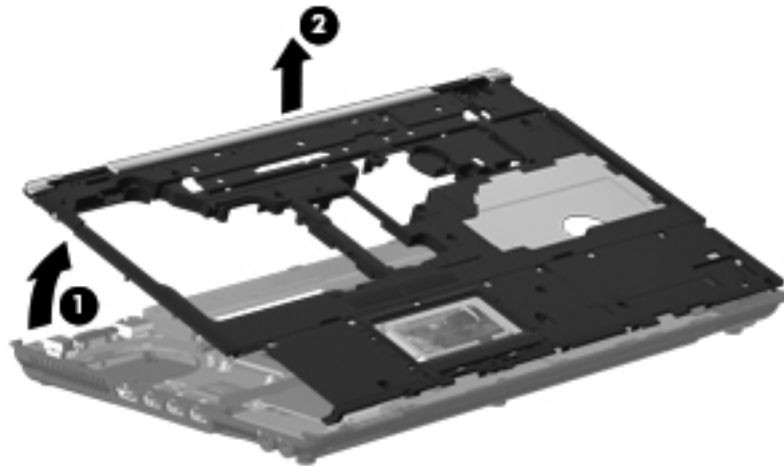
Reverse this procedure to install the top cover.

Smart Card Reader

Description	Spare part number
Smart Card Reader (factory-installed on select models only)	591698-001

Before removing the Smart Card Reader, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Palm rest (see "Palm rest" on page 4-36)

   g. TouchPad (see "TouchPad" on page 4-38)

   h. Display assembly (see "Display assembly" on page 4-45)

   i. Top cover (see "Top cover" on page 4-59)

Remove the Smart Card Reader:

1. Use a flat-bladed screwdriver ❶ to release the hooks ❷ on each side of the Smart Card Reader from the edges of the base enclosure.

2. Press in on the Smart Card Reader ❸ to release it from the ExpressCard assembly.

3. Remove the Smart Card Reader ❹ from the ExpressCard assembly.
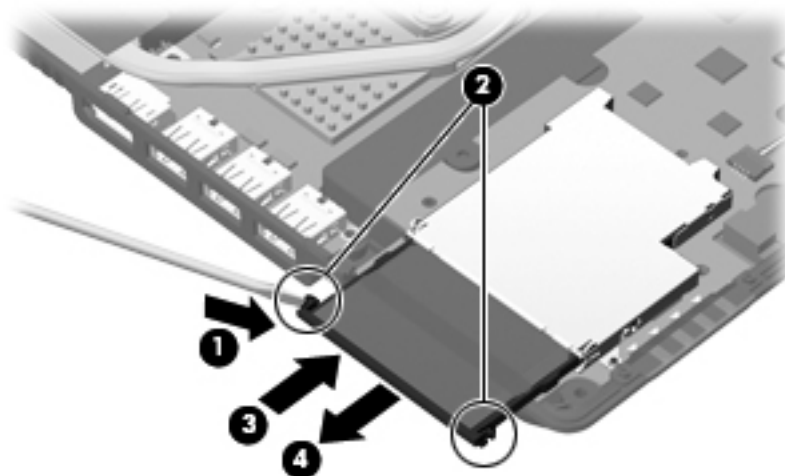
Reverse this procedure to install the Smart Card Reader.

ExpressCard assembly

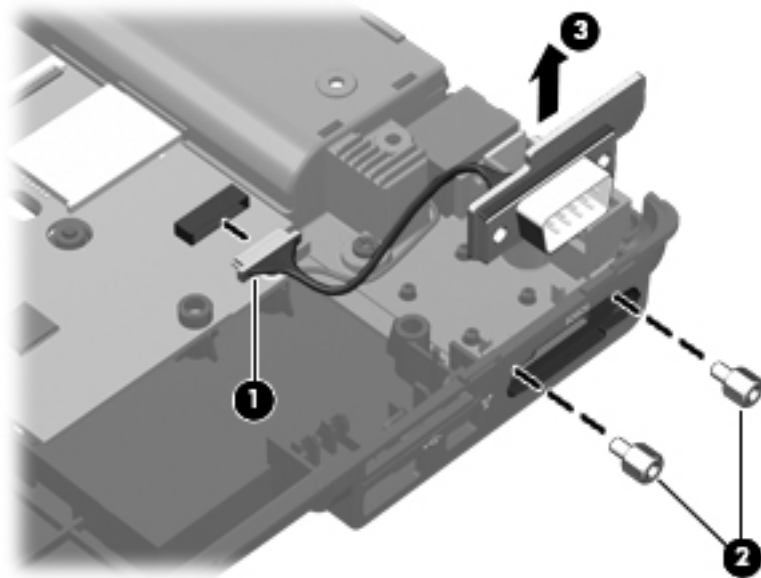| Description	Spare part number
For use only with HP Compaq 6545b computer models	583290-001
For use only with HP Compaq 6540b computer models	593868-001
For use only with HP Compaq 6445b computer models	583291-001
For use only with HP Compaq 6440b computer models	593869-001

Before removing the ExpressCard assembly, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

    a. Bluetooth module (see "Bluetooth module" on page 4-9)

    b. Mass storage device (see "Mass storage device" on page 4-11)

    c. Optical drive (see "Optical drive" on page 4-23)

    d. Keyboard (see "Keyboard" on page 4-25)

    e. Switch cover (see "Switch cover" on page 4-33)

    f. Palm rest (see "Palm rest" on page 4-36)

    g. TouchPad (see "TouchPad" on page 4-38)

    h. Display assembly (see "Display assembly" on page 4-45)

    i. Top cover (see "Top cover" on page 4-59)

    j. Speaker assembly (only on HP Compaq 6445b and 6440b computer models, see "Speaker assembly" on page 4-68)

Remove the ExpressCard assembly:

✎ Steps 1 through 3 apply only to HP Compaq 6545b and 6540b computer models. See steps 4 and 5 for information on removing the ExpressCard assembly on HP Compaq 6445b and 6440b computer models.

1. Disconnect the speaker cable ❶ from the ExpressCard assembly.

2. Lift the right side ❷ of the ExpressCard assembly to disconnect it from the system board.

3. Remove the ExpressCard assembly ❸ by sliding it up and to the right.
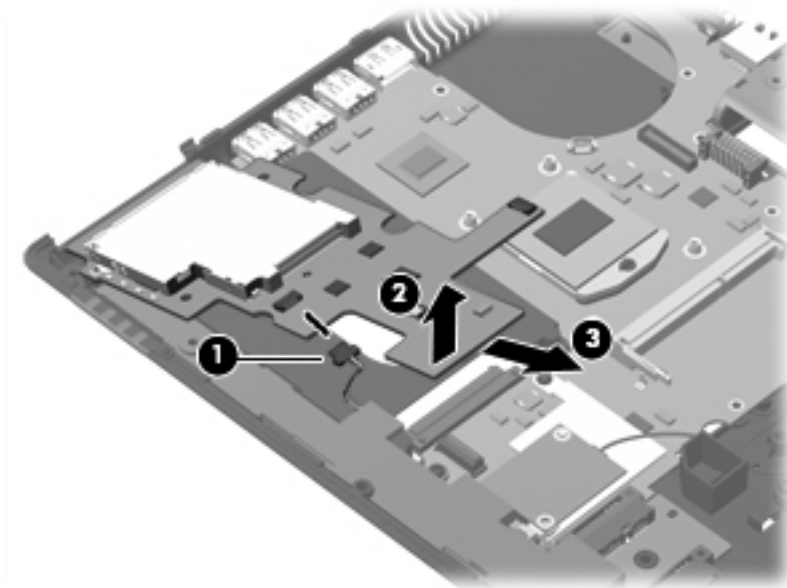
✎ Steps 4 and 5 apply only to HP Compaq 6445b and 6440b computer models.

4. Lift the right side ❶ of the ExpressCard assembly to disconnect it from the system board.

5. Remove the ExpressCard assembly ❷ by sliding it up and to the right.
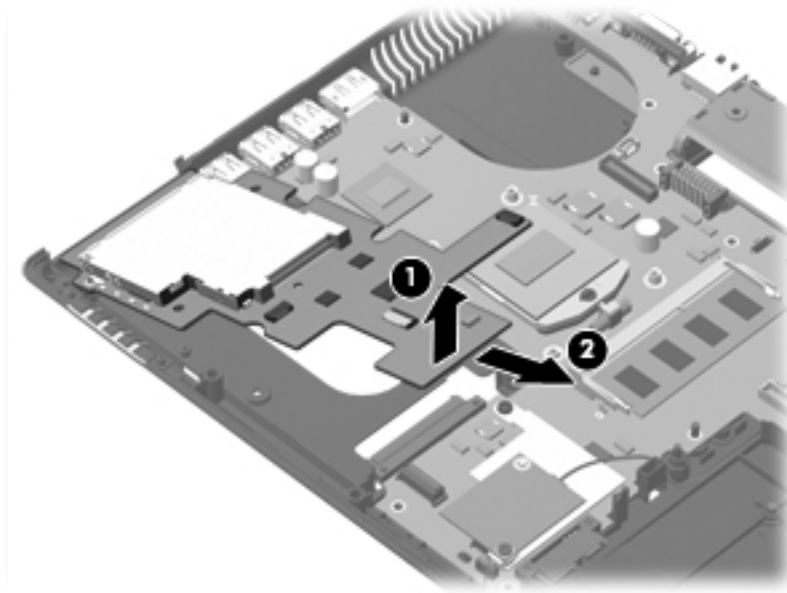
Reverse this procedure to install the ExpressCard assembly.

Modem module

✎ The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, spare part numbers 583282-001 (for use only with HP Compaq 6545b and 6540b computer models) and 583957-001 (for use only with HP Compaq 6445b and 6440b computer models).

Description	Spare part number
For use in all countries and regions except Australia and New Zealand	510100-001
For use only in Australia and New Zealand	510100-011

Before removing the modem module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Palm rest (see "Palm rest" on page 4-36)

   g. TouchPad (see "TouchPad" on page 4-38)

   h. Display assembly (see "Display assembly" on page 4-45)

   i. Top cover (see "Top cover" on page 4-59)

Remove the modem module:

1. Remove the Phillips PM2.0×5.0 screw ❶ that secures the modem module to the system board.

2. Lift the right side ❷ of the modem module to disconnect it from the system board.

3. Disconnect the modem module cable ❸ from the modem module.
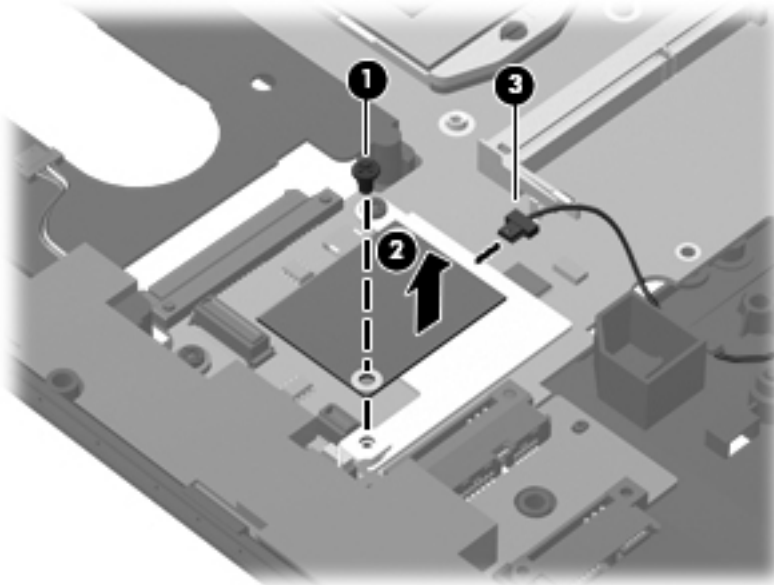
4. Remove the modem module.

Reverse this procedure to install the modem module.

Speaker assembly

✎ The speaker assembly spare part kit includes a cable.

| Description	Spare part number
For use only with HP Compaq 6545b and 6540b computer models	583283-001
For use only with HP Compaq 6445b and 6440b computer models	583284-001

Before removing the speaker assembly, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Palm rest (see "Palm rest" on page 4-36)

   g. TouchPad (see "TouchPad" on page 4-38)

   h. Display assembly (see "Display assembly" on page 4-45)

   i. Top cover (see "Top cover" on page 4-59)

   j. ExpressCard assembly (only on HP Compaq 6545b and 6540b computer models, see "ExpressCard assembly" on page 4-63)

Remove the speaker assembly:

✎ Steps 1 and 2 apply only to HP Compaq 6545b and 6540b computer models. See steps 3 through 5 for speaker assembly removal information for HP Compaq 6445b and 6440b computer models.

1. Remove the slotted Torx T8M2.5×7.0 screw ❶ that secures the speaker assembly to the base enclosure.
2. Remove the speaker assembly ❷.
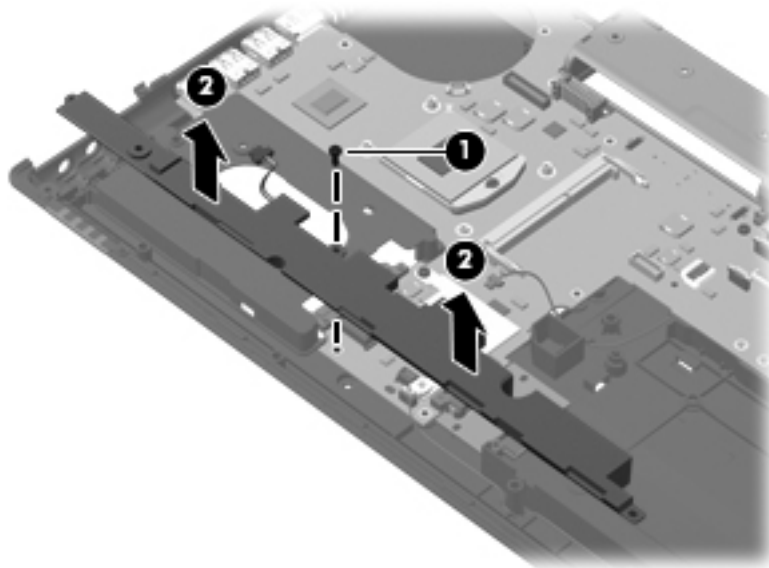
✎ Steps 3 through 5 apply only to HP Compaq 6445b and 6440b computer models.

3. Disconnect the speaker cable ❶ from the ExpressCard assembly.
4. Remove the slotted Torx T8M2.5×7.0 screw ❷ that secures the speaker assembly to the base enclosure.
5. Remove the speaker assembly ❸.
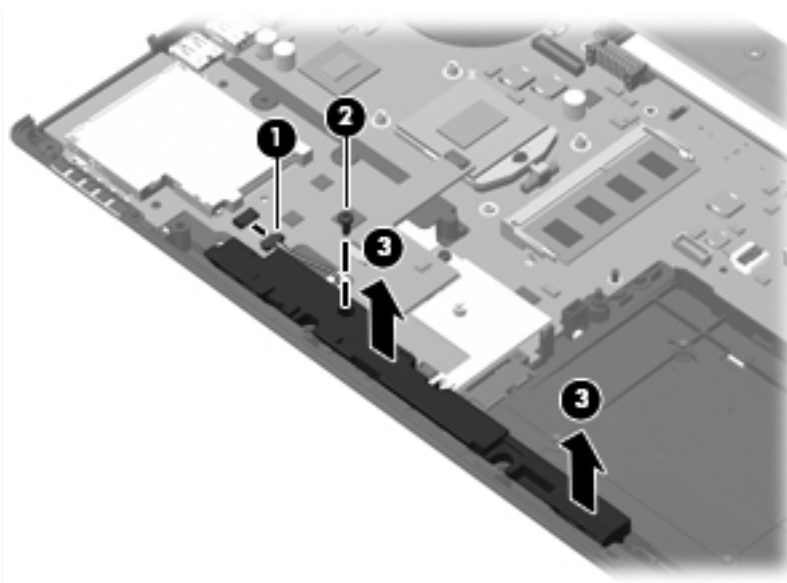
Reverse this procedure to install the speaker assembly.

Bluetooth module cable

✎ The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, using the following spare part numbers:

■ 583282-001—for use only with HP Compaq 6545b computer models
■ 593853-001—for use only with HP Compaq 6540b computer models
■ 583957-001—for use only with HP Compaq 6445b computer models
■ 593854-001—for use only with HP Compaq 6440b computer models

Before removing the Bluetooth module cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Palm rest (see "Palm rest" on page 4-36)

   g. TouchPad (see "TouchPad" on page 4-38)

   h. Display assembly (see "Display assembly" on page 4-45)

   i. Top cover (see "Top cover" on page 4-59)

Remove the Bluetooth module cable:

1. Disconnect the Bluetooth module cable ❶ from the system board.

2. Remove the Bluetooth module cable from the clips and routing channel ❷ built into the base enclosure.
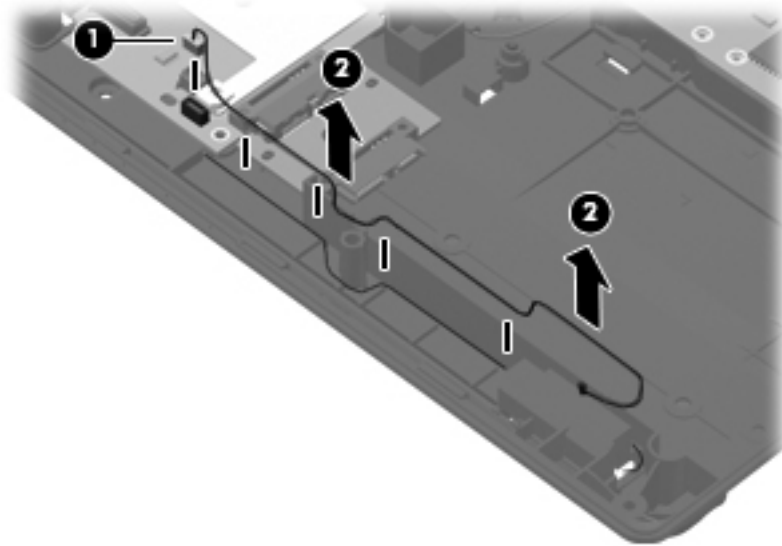
Reverse this procedure to install the Bluetooth module cable.

Card reader/USB board

✎ The card reader/USB board spare part kit includes a cable.

Description	Spare part number
For use only with HP Compaq 6545b computer models	583960-001
For use only with HP Compaq 6540b computer models	593870-001
For use only with HP Compaq 6445b computer models	583961-001
For use only with HP Compaq 6440b computer models	593871-001

Before removing the card reader/USB board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

    a. Bluetooth module (see "Bluetooth module" on page 4-9)

    b. Mass storage device (see "Mass storage device" on page 4-11)

    c. Optical drive (see "Optical drive" on page 4-23)

    d. Keyboard (see "Keyboard" on page 4-25)

    e. Switch cover (see "Switch cover" on page 4-33)

    f. Palm rest (see "Palm rest" on page 4-36)

    g. TouchPad (see "TouchPad" on page 4-38)

    h. Display assembly (see "Display assembly" on page 4-45)

    i. Top cover (see "Top cover" on page 4-59)

Remove the card reader/USB board:

1. Release the ZIF connector to which the card reader/USB board cable is attached, and then disconnect the card reader/USB board cable ❶ from the system board.

2. Remove the slotted Torx T8M2.5×7.0 screw ❷ that secures the card reader/USB board to the base enclosure.

3. Lift the left side ❸ of the card reader/USB board to release the connectors from the openings in the base enclosure.

4. Remove the card reader/USB board by sliding it up and to the left ❹.
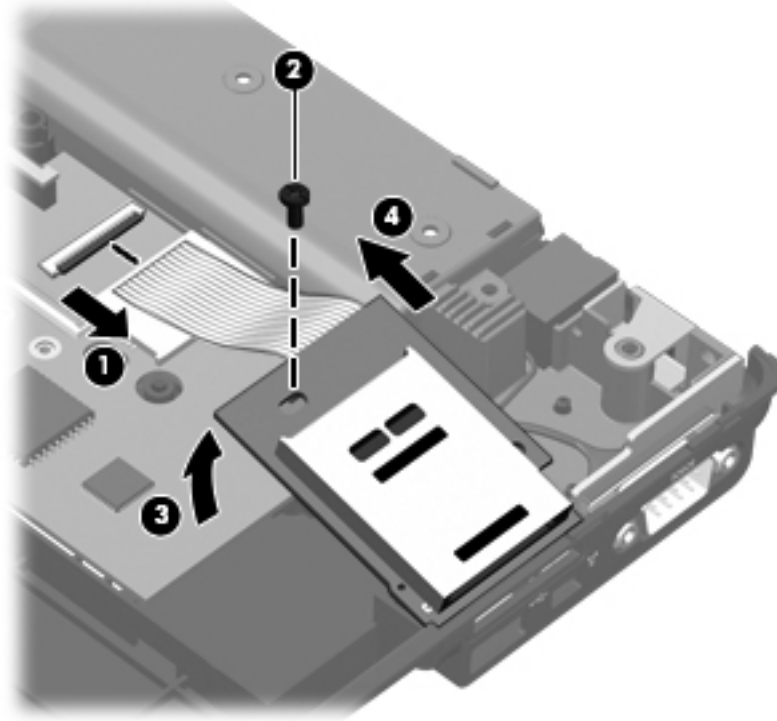
Reverse this procedure to install the card reader/USB board.

System board

✎ The system board spare part kit includes replacement thermal material.

Description	Spare part number
For use only with HP Compaq 6545b computer models	583257-001
For use only with HP Compaq 6445b computer models	583261-001
For use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593839-001
For use only with HP Compaq 6545b and 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory; includes replacement thermal material)	603189-001
For use only with HP Compaq 6540b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603190-001
For use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593840-001
For use only with HP Compaq 6540b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603192-001
For use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593841-001
For use only with HP Compaq 6440b computer models equipped with discrete graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603191-001
For use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in all countries and regions except the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	593842-001
For use only with HP Compaq 6440b computer models equipped with UMA graphics subsystem memory in the People's Republic of China and Russia (includes 64-MB of graphics subsystem memory)	603193-001

Before removing the system board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Fan (see "Fan" on page 4-39)

   g. Heat sink (see "Heat sink" on page 4-40)

   h. Palm rest (see "Palm rest" on page 4-36)

   i. TouchPad (see "TouchPad" on page 4-38)

   j. Display assembly (see "Display assembly" on page 4-45)

   k. Top cover (see "Top cover" on page 4-59)

   l. ExpressCard assembly (see "ExpressCard assembly" on page 4-63)

  m. Speaker assembly (see "Speaker assembly" on page 4-68)

   n. Card reader/USB board (see "Card reader/USB board" on page 4-72)

When replacing the system board, be sure that the following additional components are removed from the defective system board and installed on the replacement system board:

- SIM (see "SIM" on page 4-8)
- Expansion and primary memory modules (see "Expansion memory module" on page 4-14 and "Primary memory module" on page 4-30)
- WLAN module (see "WLAN module" on page 4-16)
- WWAN module (see "WWAN module" on page 4-21)
- RTC battery (see "RTC battery" on page 4-32)
- Processor (see "Processor" on page 4-43)
- Modem module (see "Modem module" on page 4-66)
- Bluetooth module cable (see "Bluetooth module cable" on page 4-70)

Remove the system board:

1. Disconnect the following cables:

   ❏ Bluetooth module cable ❶ from the system board

   ❏ Modem module cable ❷ from the modem module

   ❏ External monitor cable ❸ from the system board
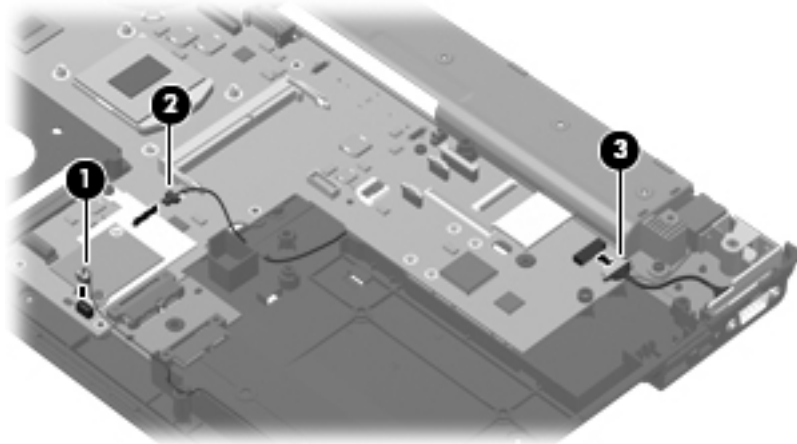
2. Remove the three slotted Torx T8M2.5×7.0 screws ❶ and ❷ that secure the system board to the base enclosure. The front-most screw ❷ is present only on HP Compaq 6545b and 6540b computer models.
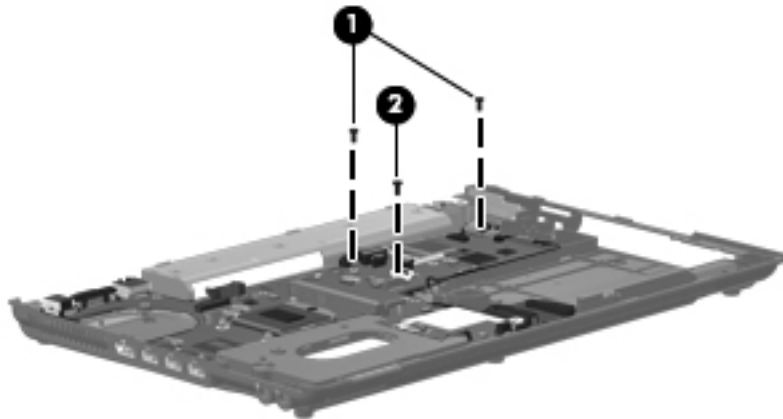
3. Use the middle of the system board ❶ to lift the right side ❷ of the system board until it rests at an angle.

4. Remove the system board ❸ by sliding it away from the base enclosure at an angle.
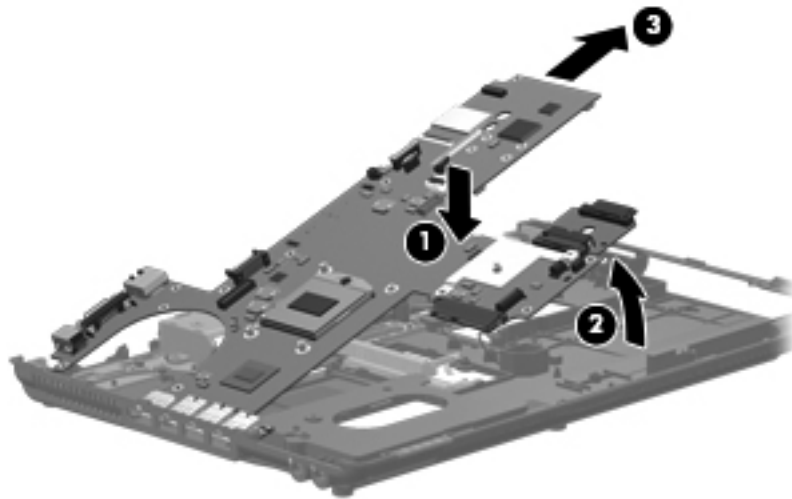
⚠ **CAUTION:** Do not attempt to remove the optical drive connector board from the system board until after the system board has been removed from the base enclosure. Failure to follow this caution can result in damage to the system board and the optical drive connector board.

5. If it is necessary to replace the optical drive connector board, slide the board off of the system board. The optical drive connector board is available using spare part numbers 583252-001 (for use only with HP Compaq 6545b computer models) and 593873-001 (for use only with HP Compaq 6540b computer models).
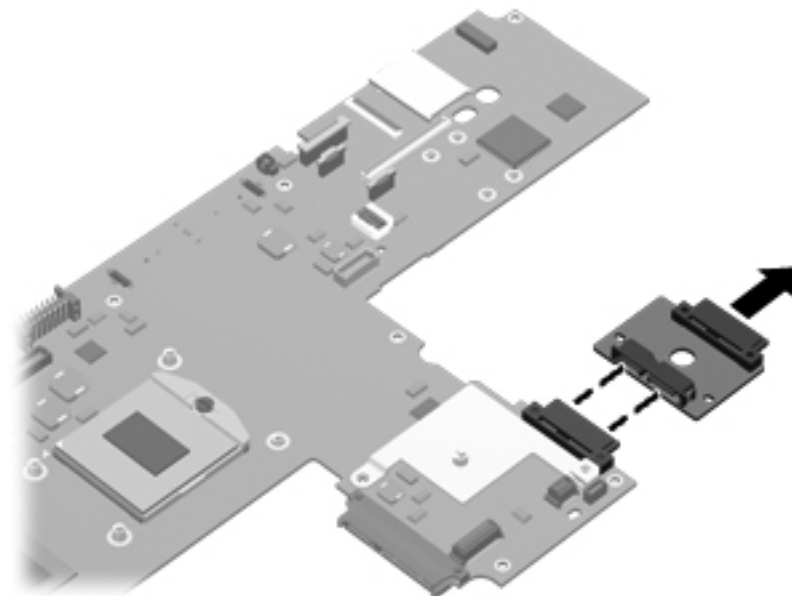
Reverse this procedure to install the system board.

Serial connector and cable

Description	Spare part number
For use only with HP Compaq 6545b and 6445b computer models	583277-001
For use only with HP Compaq 6540b and 6440b computer models	593872-001

Before removing the serial connector and cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Fan (see "Fan" on page 4-39)

   g. Heat sink (see "Heat sink" on page 4-40)

   h. Palm rest (see "Palm rest" on page 4-36)

   i. TouchPad (see "TouchPad" on page 4-38)

   j. Display assembly (see "Display assembly" on page 4-45)

   k. Top cover (see "Top cover" on page 4-59)

   l. ExpressCard assembly (see "ExpressCard assembly" on page 4-63)

   m. Speaker assembly (see "Speaker assembly" on page 4-68)

Remove the serial connector and cable:

1. Disconnect the serial connector cable ❶ from the system board.
2. Remove the two Hex HM5.0×10.0 screw locks ❷ that secure the serial connector to the base enclosure.
3. Remove the serial connector ❸.

Reverse this procedure to install the serial connector and cable.

Modem module cable

✎ The modem module cable is included in the Cable Kit, using the following spare part numbers:

- 583282-001—for use only with HP Compaq 6545b computer models
- 593853-001—for use only with HP Compaq 6540b computer models
- 583957-001—for use only with HP Compaq 6445b computer models
- 593854-001—for use only with HP Compaq 6440b computer models

Before removing the modem module cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Fan (see "Fan" on page 4-39)

   g. Heat sink (see "Heat sink" on page 4-40)

   h. Palm rest (see "Palm rest" on page 4-36)

   i. TouchPad (see "TouchPad" on page 4-38)

   j. Display assembly (see "Display assembly" on page 4-45)

   k. Top cover (see "Top cover" on page 4-59)

   l. ExpressCard assembly (see "ExpressCard assembly" on page 4-63)

   m. Speaker assembly (see "Speaker assembly" on page 4-68)

   n. Card reader/USB board (see "Card reader/USB board" on page 4-72)

   o. System board (see "System board" on page 4-74)

Remove the modem module cable:

1. Release the RJ-11 connector ❶ from the clip built into the base enclosure.

2. Release the modem module cable from the clips ❷ and routing channel built into the base enclosure.

3. Remove the modem module cable ❸.
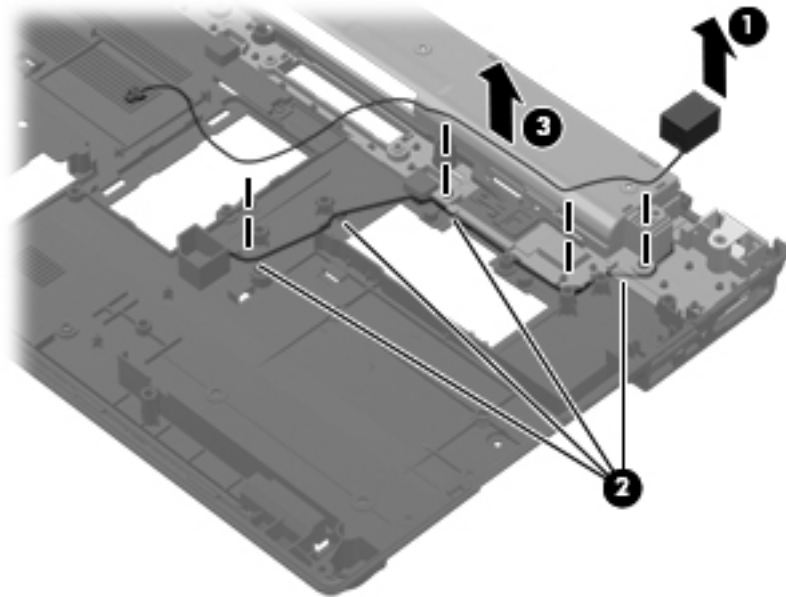
Reverse this procedure to install the modem module cable.

Battery eject latch

✎ The battery eject latch is included in the Battery Latch Kit, spare part number 583239-001. The Battery Latch Kit also includes the battery eject spring and the battery eject arm.

Before removing the battery eject latch, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see "Battery" on page 4-7).

5. Remove the following components:

   a. Bluetooth module (see "Bluetooth module" on page 4-9)

   b. Mass storage device (see "Mass storage device" on page 4-11)

   c. Optical drive (see "Optical drive" on page 4-23)

   d. Keyboard (see "Keyboard" on page 4-25)

   e. Switch cover (see "Switch cover" on page 4-33)

   f. Fan (see "Fan" on page 4-39)

   g. Heat sink (see "Heat sink" on page 4-40)

   h. Palm rest (see "Palm rest" on page 4-36)

   i. TouchPad (see "TouchPad" on page 4-38)

   j. Display assembly (see "Display assembly" on page 4-45)

   k. Top cover (see "Top cover" on page 4-59)

   l. ExpressCard assembly (see "ExpressCard assembly" on page 4-63)

   m. Speaker assembly (see "Speaker assembly" on page 4-68)

   n. Card reader/USB board (see "Card reader/USB board" on page 4-72)

   o. System board (see "System board" on page 4-74)

Remove the battery eject latch:

1. Remove the battery eject spring from the retention pins ❶ and ❷ built onto the the battery eject arm.
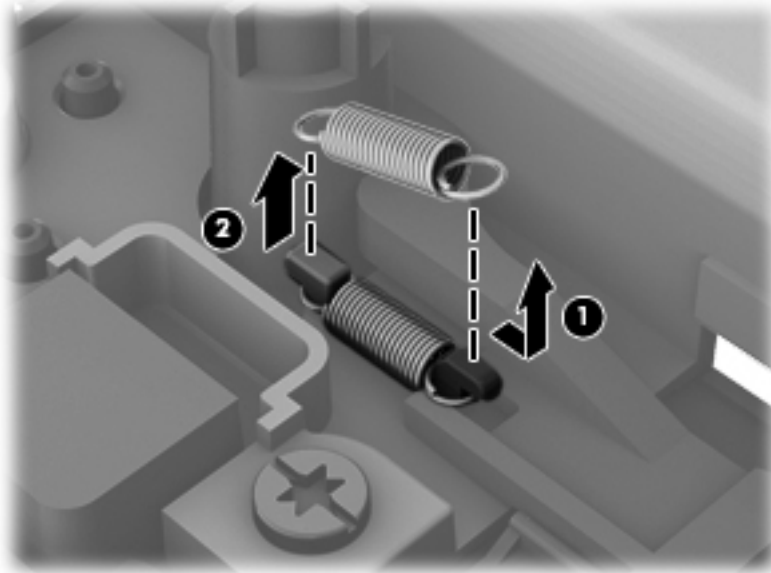
2. Press on the tabs ❶ to release the battery eject latch.
3. Remove the battery eject latch ❷.
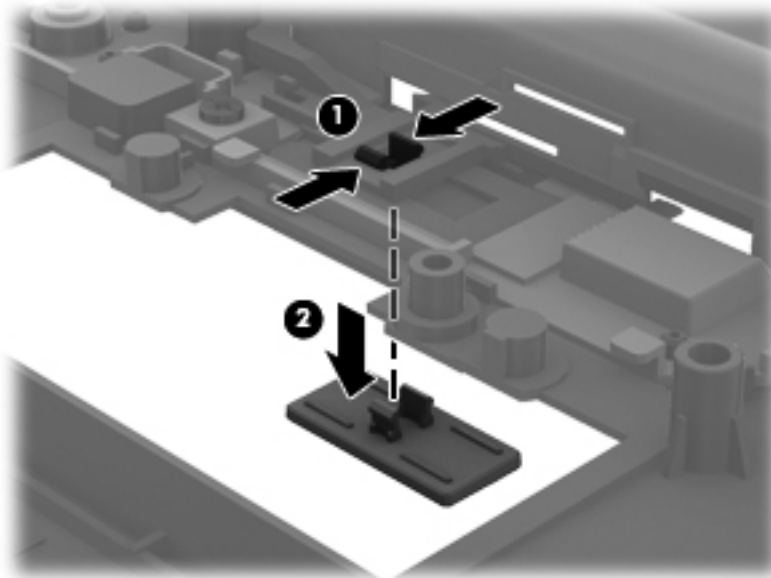
4. Slide the battery eject arm right hook ❶ out of the opening in the base enclosure.

5. Rotate the battery eject arm ❷ up and toward the back of the base enclosure until the battery eject arm middle hook disengages from the base enclosure.

6. Release the right half of the battery eject arm ❸ from the base enclosure.
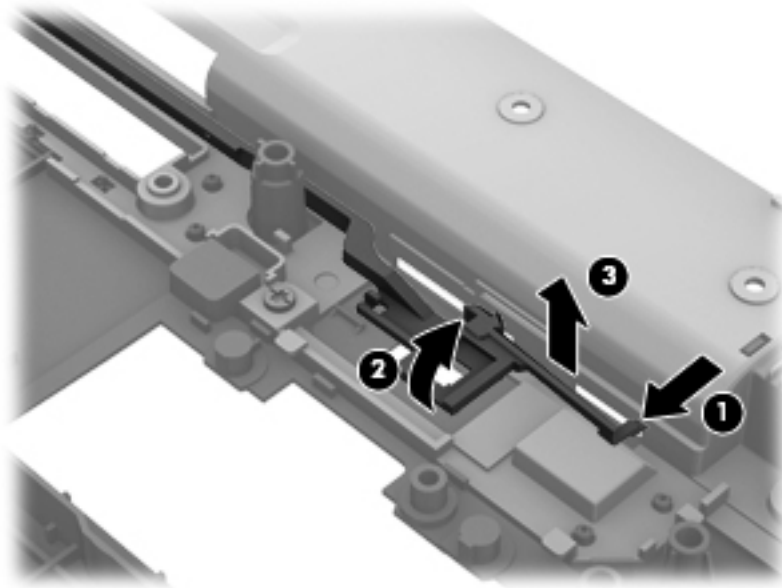
7. Slide the battery eject arm ❶ to the right until the arm notch ❷ clears the docking connector well built into the base enclosure.

8. Lift the right half of the battery eject arm ❸ until it clears the screw standoff.

9. Slide the battery eject arm ❸ forward until the left hook disengages from the base enclosure.
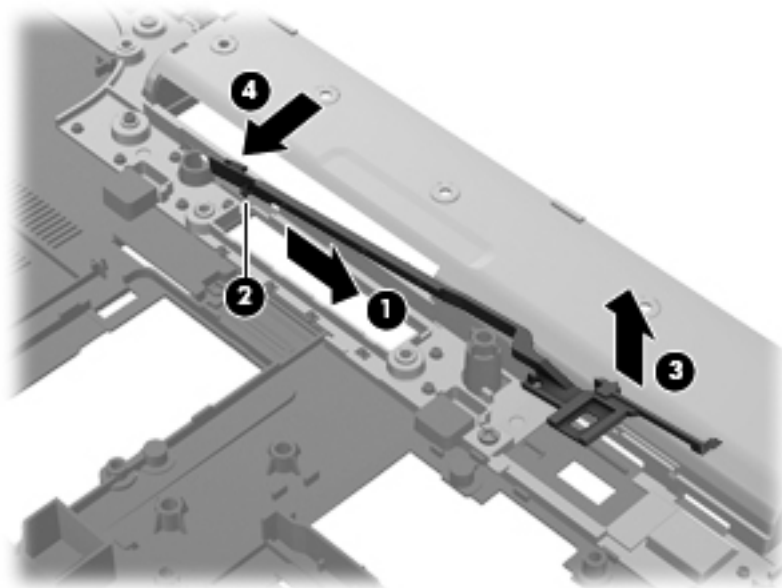
10. Remove the battery eject arm.

To replace the battery eject arm, latch, and spring, follow these steps:

1. Install the battery eject arm left hook ❶ into the opening in the base enclosure.
2. Position the notch ❷ so that it rests just to the left of the docking connector well built into the base enclosure.
3. Slide the battery eject arm ❸ to the left.
4. Install the right side of the battery eject arm ❹ behind the standoff.
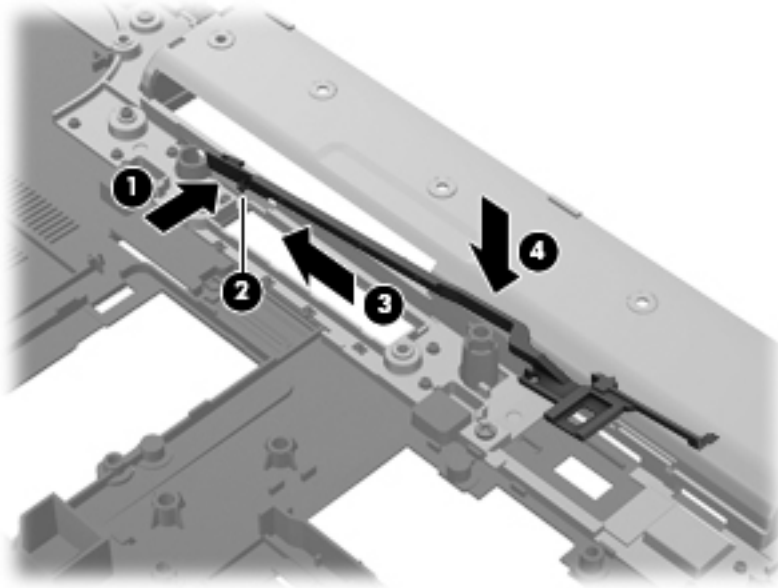
5. Toe the battery eject arm into the base enclosure so that the middle hook ❶ and right hook ❷ install into the openings in the base enclosure.
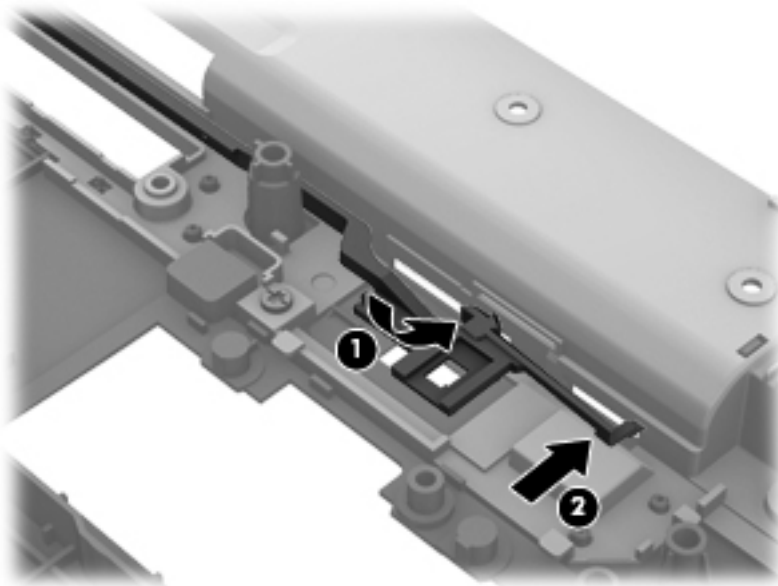
6. Install the battery eject latch.
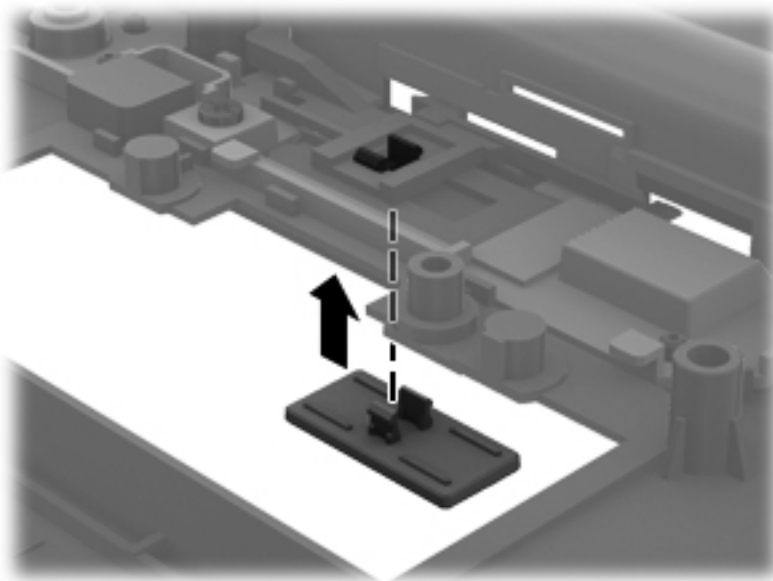
7. Install the battery eject spring onto the two retention pins ❶ and ❷ built onto the battery eject arm.

5
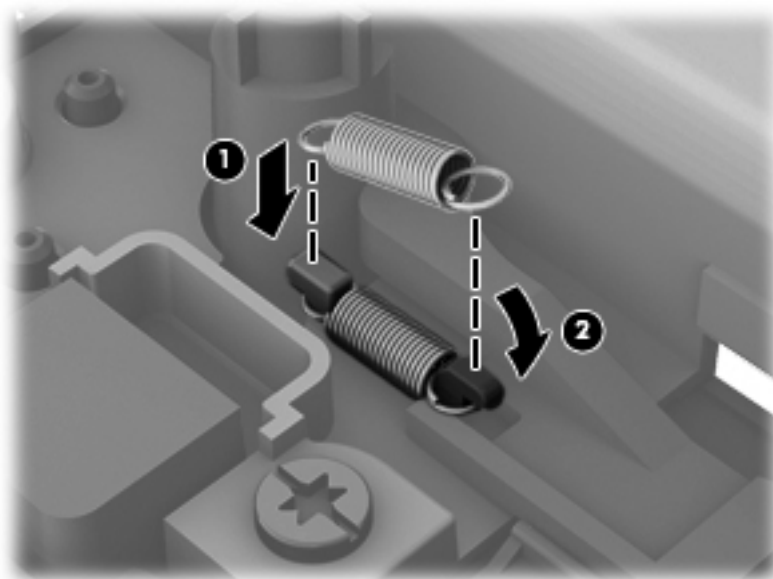
Computer Setup

Computer Setup in Windows 7

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

✎ Some of the Computer Setup menu items listed in this guide may not be supported by your computer.

An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:
1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.
2. Press **f10** to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:
1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.
   - ❏ To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press **enter**, or use a pointing device to click the item.
   - ❏ To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.
   - ❏ To close open dialog boxes and return to the main Computer Setup screen, press esc, and then follow the on-screen instructions.

   ✎ You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press **f10** to enter BIOS Setup.
3. Select the **File**, **Security**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

■ To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press **enter**.

   – or –

■ To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

✎ Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press **f10** to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

✎ Your password settings and security settings are not changed when you restore the factory settings.

Computer Setup menus

The menu tables in this section provide an overview of Computer Setup options.

✎ Some of the Computer Setup menu items listed in this chapter may not be supported by your computer.

File menu

Select	To do this
System Information	■ View identification information for the computer and the batteries in the system. ■ View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.

System Diagnostics	Displays the following information:
	■ System Information
	  ❒ Identification information for the computer and the batteries in the system.
	  ❒ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
	■ Start-up Test—Verifies the system components needed for starting the computer.
	■ Run-In Test—Runs a comprehensive check on system memory.
	■ Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system.
	■ Memory Test—Runs a comprehensive test on any memory installed in the computer.
	■ Battery Test—Runs a comprehensive test on any batteries installed in the computer.
	■ Error Log—Displays a log file if any errors have occurred.

Reset BIOS security to factory default	Restore the BIOS security settings to the factory default.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Security menu

✎ Some of the menu items listed in this section may not be supported by your computer.

Select	To do this
Setup BIOS Administrator Password	Set up a BIOS administrator password.
Password Policy (requires a BIOS administrator password)	Revise password policy criteria.
HP SpareKey	Enable/disable HP SpareKey (enabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (enabled by default).
Fingerprint Reset on Reboot (If Present)	Reset/clear the fingerprint reader ownership (select models only; disabled by default).
Change Password	Enter, change, or delete a BIOS administrator password.
HP SpareKey Enrollment	Enroll or reset HP SpareKey, which is a set of security questions and answers used if you forget your password.
DriveLock Passwords	■ Enable/disable DriveLock on any computer hard drive (enabled by default). ■ Change a DriveLock user password or master password. ✎ DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.
Automatic DriveLock	Enable/disable Automatic DriveLock support.
TPM Embedded Security	Enable/disable support for Trusted Platform Module (TPM) Embedded Security, which protects the computer from unauthorized access to owner functions available in Embedded Security for ProtectTools. For more information, refer to the ProtectTools software Help. ✎ You must have a setup password to change this setting.
Disk Sanitizer	Run Disk Sanitizer to destroy all existing data on the primary hard drive or the drive in the upgrade bay. △ If you run Disk Sanitizer, the data on the selected drive is destroyed permanently.
System IDs	Enter a user-defined computer asset tracking number and ownership tag.

System Configuration menu

✎ Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	■ Set a Startup Menu delay (in seconds). ■ Enable/disable MultiBoot (enabled by default). ■ Set the Express Boot Popup delay in seconds. ■ Enable/disable Custom Logo (disabled by default). ■ Enable/disable Display Diagnostic URL (enabled by default). ■ Enable/disable CD-ROM boot (disabled by default). ■ Enable/disable SD Card boot (enabled by default). ■ Enable/disable floppy boot (enabled by default). ■ Enable/disable PXE Internal NIC boot (enabled by default). ■ Enable/Disable Unified Extensible Firmware Interface (UEFI) Boot Mode (disabled by default). ■ Set the Legacy Boot Order.
Device Configurations	■ Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following: ❒ Use of a USB keyboard in Computer Setup even when a Windows operating system is not running ❒ Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer ■ Select a parallel port mode: ECP (Enhanced Capabilities Port), standard, bidirectional, or EPP (Enhanced Parallel Port). ■ Enable/disable fan always on while connected to an AC outlet (disabled by default). ■ Enable/disable Data Execution Prevention (select models only). When enabled, the processor can disable some virus code execution, which helps to improve computer security (disabled by default). ■ SATA (Serial Advanced Technology Attachment) device mode. The following options are available: ❒ AHCI (Advanced Host Controller Interface) ❒ IDE (Integrated Drive Electronics) ❒ RAID (select models only) ✎ Availability of these options varies by computer model. ■ Enable/disable secondary battery fast charge (enabled by default). ■ Enable/disable HP QuickLook (enabled by default). ■ Enable/disable Preboot Authentication on HP QuickLook Boot (enabled by default). ■ Enable/disable HP QuickWeb (enabled by default). ■ Enable/disable HP QuickWeb Elevated Security (disabled by default).

(Continued)

Select	To do this
System Configuration menu *(continued)*	
Device Configurations *(continued)*	■ Enable/disable Virtualization Technology (select models only; disabled by default). ■ Enable/disable Wake on USB (enabled by default). ■ Enable/disable Num lock state at boot (disabled by default). ■ Enable/disable TXT (Intel® Trusted Execution Technology) (select models only; disabled by default).

Built-In Device Options	■ Enable/disable the wireless button state (enabled by default).
	■ Enable/disable embedded WLAN device radio (select models only; enabled by default).
	■ Enable/disable the Network Interface Controller (LAN) (enabled by default).
	■ Enable/disable the embedded Bluetooth device radio (enabled by default).
	■ Enable/disable LAN/WLAN switching (disabled by default).
	■ Enable/disable LAN Power Save (select models only). When enabled, saves power by turning off the LAN when not in use (enabled by default).
	■ Set the wake on LAN state. Options include the following:
	  ❒ Disabled
	  ❒ Boot to Network
	  ❒ Follow Boot Order
	■ Enable/disable the Notebook Upgrade Bay device (enabled by default).
	■ Enable/disable the Power Monitor Circuit (enabled by default).
	■ Enable/disable the audio devices (enabled by default).
	■ Enable/disable the fingerprint device (enabled by default).
	■ Enable/disable a modem device (enabled by default).
	■ Enable/disable the microphone (enabled by default).
	■ Enable/disable the internal speakers (enabled by default).

Port Options (all are enabled by default)	✎ All port options are enabled by default. ■ Enable/disable the serial port. ■ Enable/disable the parallel port. ■ Enable/disable the flash media reader. ■ Enable/disable the USB port. ⚠ Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator. ■ Enable/disable the 1394 port. ■ Enable/disable the ExpressCard slot. ■ Enable/disable the Smart Card slot. ■ Enable/disable the eSATA port.
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

Computer Setup in Windows Vista

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

✎ Some of the Computer Setup menu items listed in this guide may not be supported by your computer.

An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press **f10** to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   ❏ To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press **enter**, or use a pointing device to click the item.

   ❏ To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.

   ❏ To close open dialog boxes and return to the main Computer Setup screen, press **esc**, and then follow the on-screen instructions.

   ✎ You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press **f10** to enter BIOS Setup.

3. Select the **File**, **Security**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

■   To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press **enter**.

– or –

■   To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

✎ Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press **f10** to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

✎ Your password settings and security settings are not changed when you restore the factory settings.

Computer Setup menus

The menu tables in this section provide an overview of Computer Setup options.

✎ Some of the Computer Setup menu items listed in this chapter may not be supported by your computer.

File menu

Select	To do this
System Information	■ View identification information for the computer and the batteries in the system. ■ View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.

System Diagnostics	Displays the following information:
	■ System Information
	  ❒ Identification information for the computer and the batteries in the system.
	  ❒ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
	■ Start-up Test—Verifies the system components needed for starting the computer.
	■ Run-In Test—Runs a comprehensive check on system memory.
	■ Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system.
	■ Memory Test—Runs a comprehensive test on any memory installed in the computer.
	■ Battery Test—Runs a comprehensive test on any batteries installed in the computer.
	■ Error Log—Displays a log file if any errors have occurred.

Reset BIOS security to factory default	Restore the BIOS security settings to the factory default.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Security menu

✎ Some of the menu items listed in this section may not be supported by your computer.

Select	To do this
Setup BIOS Administrator Password	Set up a BIOS administrator password.
Password Policy (requires a BIOS administrator password)	Revise password policy criteria.
HP SpareKey	Enable/disable HP SpareKey (enabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (enabled by default).
Fingerprint Reset on Reboot (If Present)	Reset/clear the fingerprint reader ownership (select models only; disabled by default).
Change Password	Enter, change, or delete a BIOS administrator password.
HP SpareKey Enrollment	Enroll or reset HP SpareKey, which is a set of security questions and answers used if you forget your password.
DriveLock Passwords	■ Enable/disable DriveLock on any computer hard drive (enabled by default). ■ Change a DriveLock user password or master password. ✎ DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.
Automatic DriveLock	Enable/disable Automatic DriveLock support.
TPM Embedded Security	Enable/disable support for Trusted Platform Module (TPM) Embedded Security, which protects the computer from unauthorized access to owner functions available in Embedded Security for ProtectTools. For more information, refer to the ProtectTools software Help. ✎ You must have a setup password to change this setting.
Disk Sanitizer	Run Disk Sanitizer to destroy all existing data on the primary hard drive or the drive in the upgrade bay. ⚠ If you run Disk Sanitizer, the data on the selected drive is destroyed permanently.
System IDs	Enter a user-defined computer asset tracking number and ownership tag.

System Configuration menu

✎ Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	■ Set a Startup Menu delay (in seconds).
	■ Enable/disable MultiBoot (enabled by default).
	■ Set the Express Boot Popup delay in seconds.
	■ Enable/disable Custom Logo (disabled by default).
	■ Enable/disable Display Diagnostic URL (enabled by default).
	■ Enable/disable CD-ROM boot (disabled by default).
	■ Enable/disable SD Card boot (enabled by default).
	■ Enable/disable floppy boot (enabled by default).
	■ Enable/disable PXE Internal NIC boot (enabled by default).
	■ Enable/Disable Unified Extensible Firmware Interface (UEFI) Boot Mode (disabled by default).
	■ Set the Legacy Boot Order.
Device Configurations	■ Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following:
	❒ Use of a USB keyboard in Computer Setup even when a Windows operating system is not running
	❒ Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer
	■ Select a parallel port mode: ECP (Enhanced Capabilities Port), standard, bidirectional, or EPP (Enhanced Parallel Port).
	■ Enable/disable fan always on while connected to an AC outlet (disabled by default).
	■ Enable/disable Data Execution Prevention (select models only). When enabled, the processor can disable some virus code execution, which helps to improve computer security (disabled by default).
	■ SATA (Serial Advanced Technology Attachment) device mode. The following options are available:
	❒ AHCI (Advanced Host Controller Interface)
	❒ IDE (Integrated Drive Electronics)
	❒ RAID (select models only)
	✎ Availability of these options varies by computer model.
	■ Enable/disable secondary battery fast charge (enabled by default).
	■ Enable/disable HP QuickLook (enabled by default).
	■ Enable/disable Preboot Authentication on HP QuickLook Boot (enabled by default).
	■ Enable/disable HP QuickWeb (enabled by default).

(Continued)

Select	To do this
System Configuration menu *(continued)*	
Device Configurations *(continued)*	■ Enable/disable HP QuickWeb Elevated Security (disabled by default). ■ Enable/disable Virtualization Technology (select models only; disabled by default). ■ Enable/disable Wake on USB (enabled by default). ■ Enable/disable Num lock state at boot (disabled by default). ■ Enable/disable TXT (Intel Trusted Execution Technology) (select models only; disabled by default).

Built-In Device Options	■ Enable/disable the wireless button state (enabled by default).
	■ Enable/disable embedded WLAN device radio (select models only; enabled by default).
	■ Enable/disable the Network Interface Controller (LAN) (enabled by default).
	■ Enable/disable the embedded Bluetooth device radio (enabled by default).
	■ Enable/disable LAN/WLAN switching (disabled by default).
	■ Enable/disable LAN Power Save (select models only).
	■ When enabled, saves power by turning off the LAN when not in use (enabled by default).
	■ Set the wake on LAN state. Options include the following:
	  ❐ Disabled
	  ❐ Boot to Network
	  ❐ Follow Boot Order
	■ Enable/disable the Notebook Upgrade Bay device (enabled by default).
	■ Enable/disable the Power Monitor Circuit (enabled by default).
	■ Enable/disable the audio devices (enabled by default).
	■ Enable/disable the fingerprint device (enabled by default).
	■ Enable/disable a modem device (enabled by default).
	■ Enable/disable the microphone (enabled by default).
	■ Enable/disable the internal speakers (enabled by default).

Port Options (all are enabled by default)	✎ All port options are enabled by default. ■ Enable/disable the serial port. ■ Enable/disable the parallel port. ■ Enable/disable the flash media reader. ■ Enable/disable the USB port. ⚠ Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator. ■ Enable/disable the 1394 port. ■ Enable/disable the ExpressCard slot. ■ Enable/disable the Smart Card slot. ■ Enable/disable the eSATA port.
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

Computer Setup in Windows XP

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

✎ Some of the Computer Setup menu items listed in this guide may not be supported by your computer.

An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press **f10** to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   ❏ To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press **enter**, or use a pointing device to click the item.

   ❏ To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.

   ❏ To close open dialog boxes and return to the main Computer Setup screen, press **esc**, and then follow the on-screen instructions.

   ✎ You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press **f10** to enter BIOS Setup.

3. Select the **File**, **Security**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

■ To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press **enter**.

   – or –

■ To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

✎ Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press **f10** to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the arrow keys to select **File > Save changes and exit**, and then press **enter**.

Your changes go into effect when the computer restarts.

✎ Your password settings and security settings are not changed when you restore the factory settings.

Computer Setup menus

The menu tables in this section provide an overview of Computer Setup options.

✎ Some of the Computer Setup menu items listed in this chapter may not be supported by your computer.

File menu

Select	To do this
System Information	■ View identification information for the computer and the batteries in the system. ■ View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.

System Diagnostics	Displays the following information:
	■ System Information
	  ❒ Identification information for the computer and the batteries in the system
	  ❒ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version
	■ Start-up Test—Verifies the system components needed for starting the computer.
	■ Run-In Test—Runs a comprehensive check on system memory.
	■ Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system.
	■ Memory Test—Runs a comprehensive test on any memory installed in the computer.
	■ Battery Test—Runs a comprehensive test on any batteries installed in the computer.
	■ Error Log—Displays a log file if any errors have occurred.

Reset BIOS security to factory default	Restore the BIOS security settings to the factory default.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Security menu

✎ Some of the menu items listed in this section may not be supported by your computer.

Select	To do this
Setup BIOS Administrator Password	Set up a BIOS administrator password.
Password Policy (requires a BIOS administrator password)	Revise password policy criteria.
HP SpareKey	Enable/disable HP SpareKey (enabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (enabled by default).
Fingerprint Reset on Reboot (If Present)	Reset/clear the fingerprint reader ownership (select models only; disabled by default).
Change Password	Enter, change, or delete a BIOS administrator password.
HP SpareKey Enrollment	Enroll or reset HP SpareKey, which is a set of security questions and answers used if you forget your password.
DriveLock Passwords	■ Enable/disable DriveLock on any computer hard drive (enabled by default). ■ Change a DriveLock user password or master password. ✎ DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.
Automatic DriveLock	Enable/disable Automatic DriveLock support.
TPM Embedded Security	Enable/disable support for Trusted Platform Module (TPM) Embedded Security, which protects the computer from unauthorized access to owner functions available in Embedded Security for ProtectTools. For more information, refer to the ProtectTools software Help. ✎ You must have a setup password to change this setting.
Disk Sanitizer	Run Disk Sanitizer to destroy all existing data on the primary hard drive or the drive in the upgrade bay. ⚠ If you run Disk Sanitizer, the data on the selected drive is destroyed permanently.
System IDs	Enter a user-defined computer asset tracking number and ownership tag.

System Configuration menu

✎ Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	■ Set a Startup Menu delay (in seconds). ■ Enable/disable MultiBoot (enabled by default). ■ Set the Express Boot Popup delay in seconds. ■ Enable/disable Custom Logo (disabled by default). ■ Enable/disable Display Diagnostic URL (enabled by default). ■ Enable/disable CD-ROM boot (disabled by default). ■ Enable/disable SD Card boot (enabled by default). ■ Enable/disable floppy boot (enabled by default). ■ Enable/disable PXE Internal NIC boot (enabled by default). ■ Enable/Disable Unified Extensible Firmware Interface (UEFI) Boot Mode (disabled by default). ■ Set the Legacy Boot Order.
Device Configurations	■ Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following: ❐ Use of a USB keyboard in Computer Setup even when a Windows operating system is not running. ❐ Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer. ■ Select a parallel port mode: ECP (Enhanced Capabilities Port), standard, bidirectional, or EPP (Enhanced Parallel Port). ■ Enable/disable fan always on while connected to an AC outlet (disabled by default). ■ Enable/disable Data Execution Prevention (select models only). When enabled, the processor can disable some virus code execution, which helps to improve computer security (disabled by default). ■ SATA (Serial Advanced Technology Attachment) device mode. The following options are available: ❐ AHCI (Advanced Host Controller Interface) ❐ IDE (Integrated Drive Electronics) ❐ RAID (select models only) ✎ Availability of the options above varies by computer model. ■ Enable/disable secondary battery fast charge (enabled by default). ■ Enable/disable HP QuickLook (enabled by default). ■ Enable/disable Preboot Authentication on HP QuickLook Boot (enabled by default). ■ Enable/disable HP QuickWeb (enabled by default).

(Continued)

Select	To do this
System Configuration menu *(continued)*	
Device Configurations *(continued)*	■ Enable/disable HP QuickWeb Elevated Security (disabled by default).
	■ Enable/disable Virtualization Technology (select models only; disabled by default).
	■ Enable/disable Wake on USB (enabled by default).
	■ Enable/disable Num lock state at boot (disabled by default).
	■ Enable/disable TXT (Intel Trusted Execution Technology) (select models only; disabled by default).
Built-In Device Options	■ Enable/disable the wireless button state (enabled by default).
	■ Enable/disable embedded WLAN device radio (select models only; enabled by default).
	■ Enable/disable the Network Interface Controller (LAN) (enabled by default).
	■ Enable/disable the embedded Bluetooth device radio (enabled by default).
	■ Enable/disable LAN/WLAN switching (disabled by default).
	■ Enable/disable LAN Power Save (select models only). When enabled, saves power by turning off the LAN when not in use (enabled by default).
	■ Set the wake on LAN state. Options include the following:
	❒ Disabled
	❒ Boot to Network
	❒ Follow Boot Order
	■ Enable/disable the Notebook Upgrade Bay device (enabled by default).
	■ Enable/disable the Power Monitor Circuit (enabled by default).
	■ Enable/disable the audio devices (enabled by default).
	■ Enable/disable the fingerprint device (enabled by default).
	■ Enable/disable a modem device (enabled by default).
	■ Enable/disable the microphone (enabled by default).
	■ Enable/disable the internal speakers (enabled by default).
Port Options (all are enabled by default)	✎ All port options are enabled by default.
	■ Enable/disable the serial port.
	■ Enable/disable the parallel port.
	■ Enable/disable the flash media reader.
	■ Enable/disable the USB port.
	△ Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator.
	■ Enable/disable the 1394 port.
	■ Enable/disable the ExpressCard slot.
	■ Enable/disable the Smart Card slot.
	■ Enable/disable the eSATA port.
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

6

Specifications

Computer specifications

	Metric	U.S.
Dimensions		
HP ProBook 6545b Notebook PC		
Depth	24.8 cm	9.76 in
Width	37.1 cm	14.61 in
Height (front to back)	3.5 to 3.9 cm	1.38 to 1.54 in
Weight		
With 15.6-in WXGA display assembly, no optical drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	2.51 kg	5.53 lb
With 15.6-in WXGA display assembly, DVD-ROM drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	2.64 kg	5.82 lb
HP ProBook 6445b Notebook PC		
Depth	23.6 cm	9.29 in
Width	33.9 cm	13.35 in
Height (front to back)	3.4 to 3.9 cm	1.34 to 1.54 in
Weight		
With 14.0-in WXGA display assembly, no optical drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	2.26 kg	4.98 lbs
With 14.0-in WXGA display assembly, DVD-ROM drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	2.39 kg	5.5.27 lb

(Continued)

	Metric	U.S.
Input power		
Operating voltage	18.5 V dc @ 3.5 A - 65 W or 19.0 V dc @ 4.74 A - 90 W	
Operating current	3.5 A or 4.74 A	
Temperature		
Operating (not writing to optical disc)	0°C to 35°C	32°F to 95°F
Operating (writing to optical disc)	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft

✎ Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

15.6-in display specifications

	Metric	U.S.
Dimensions		
Height	19.5 cm	7.68 in
Width	34.1 cm	13.43 in
Diagonal	39.6 cm	15.59 in
Number of colors	Up to 16.8 million	
Contrast ratio	250:1 (typical)	
Brightness	200 nits (typical)	
Pixel resolution		
Pitch	0.279 × 0.279 mm	
Format	1366 × 768	
Configuration	RGB vertical stripe	
Backlight	LED	
Character display	80 × 25	
Total power consumption	4.0 W	
Viewing angle	±40° horizontal, +120°/-40° vertical (typical)	

14.0-in display specifications

	Metric	U.S.
Dimensions		
Height	17.6 cm	6.93 in
Width	31.1 cm	12.24 in
Diagonal	35.7 cm	14.06 in
Number of colors	Up to 16.8 million	
Contrast ratio	250:1 (typical)	
Brightness	200 nits (typical)	
Pixel resolution		
Pitch	0.279 × 0.279 mm	
Format	1366 × 768	
Configuration	RGB vertical stripe	
Backlight	LED	
Character display	80 × 25	
Total power consumption	4.0 W	
Viewing angle	±40° horizontal, +120°/-40° vertical (typical)	

Hard drive specifications

	500-GB*	320-GB*	250-GB*	160-GB*
Dimensions				
Height	9.5 mm	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm	70 mm
Weight	101 g	101 g	101 g	101 g
Interface type	SATA	SATA	SATA	SATA
Transfer rate	100 MB/sec	100 MB/sec	100 MB/sec	100 MB/sec
Security	ATA security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)				
Single track	1.5 ms	1.5 ms	2.0 ms	2.0 ms
Average	12.0 ms	12.0 ms	12.0 ms	12.0 ms
Maximum	22.0 ms	22.0 ms	22.0 ms	22.0 ms
Logical blocks	976,785,075	625,142,448	488,397,168	312,581,808
Disc rotational speed	7200 rpm	7200 rpm	7200 rpm	7200 rpm
Operating temperature	5°C to 55°C (41°F to 131°F)			

*1 GB = 1 billion bytes when referring to hard drive storage capacity. Actual accessible capacity is less. Actual drive specifications may differ slightly.

✎ Certain restrictions and exclusions apply. Contact technical support for details.

Blu-ray ROM DVD±RW SuperMulti Double-Layer Drive specifications

Applicable disc	Read:	Write:
	BD-ROM, BD-ROM-DL, BD-R, BD-R-DL, BD-RE, BD-RE-DL, DVD-ROM, DVD+R, DVD+R-DL, DVD+RW, DVD-R, DVD-R-DL, DVD-RW, DVD-RAM (Ver.2), CD-DA, CD-ROM (mode 1 and mode 2), CD-ROM XA (mode 2, form 1 and form 2), Photo CD (single and multiple sessions), CD Extra, CD-R, CD-RW, and CD-TEXT	DVD-RAM (Ver.2), DVD+R, DVD-R, CD-R, and CD-ROM
Access time	**BD**	**DVD**
Random	< 230 ms	< 180 ms
Cache buffer	4.5 MB	
Data transfer rate		
2X BD-RAM	9 MB/sec	
8X DVD	2,400 KB/sec	
16X CD-R	2,400 KB/sec	
16X CD-RW	2,400 KB/sec	

DVD±RW and CD-RW SuperMulti Double-Layer Drive specifications

Applicable disc	Read:	Write:
	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CDROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	CD-R and CD-RW DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM
Access time	**CD**	**DVD**
Random	< 175 ms	< 230 ms
Cache buffer	2.5 MB	
Data transfer rate		
24X CD-ROM	3,600 KB/sec	
8X DVD	10,800 KB/sec	
24X CD-R	3,600 KB/sec	
16X CD-RW	2,400 KB/sec	
8x DVD+R	10,800 KB/sec	
4X DVD+RW	5,400 KB/sec	
8X DVD-R	10,800 KB/sec	
4X DVD-RW	5,400 KB/sec	
2.4X DVD+R(9)	2,700 KB/sec	
5X DVD-RAM	6,750 KB/sec	
Transfer mode	Multiword DMA mode	

DVD-ROM Drive specifications

Applicable disc	Read:	Write:
	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CDEXTRA, Portfolio, CD-R, CD-RW), CDR, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	CD-R and CD-RW
Access time	**CD**	**DVD**
Random	< 110 ms	< 130 ms
Cache buffer	2 MB	
Data transfer rate		
24X CD-ROM	3,600 KB/sec	
8X DVD	10,800 KB/sec	
24X CD-R	3,600 KB/sec	
24X CD-RW	3,600 KB/sec	

System DMA specifications

Hardware	DMA system function
DMA0	Not applicable
DMA1*	Not applicable
DMA2*	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller
DMA5*	Not applicable
DMA6	Not assigned
DMA7	Not assigned
*ExpressCard controller can use DMA 1, 2, or 5.	

System memory map specifications

Size	Memory address	System function
640 KB	00000000–0009FFFF	Base memory
128 KB	000A0000–000BFFFF	Video memory
64 KB	000C0000–000CFFFF	Video BIOS
64 KB	000E8000–000FFFFF	System BIOS
	00100000–XFFFFFFF	Extended memory (based on memory installed)
	(X+1)0000000–FEDFFFFF	PCI bus
	FED00000–FED003FF	High-precision event timer
	FEE01000–FFFFFFFF	PCI bus

System interrupt specifications

Hardware IRQ	System function
IRQ0	System timer
IRQ1	Standard 101-/102-key or Microsoft natural keyboard
IRQ8	System CMOS/real-time clock
IRQ12	Synaptics PS/2 TouchPad
IRQ13	Numeric data processor
IRQ16	Intel ICH9 family USB universal host controller 2937 Mobile Intel 4 Series express chipset family
IRQ17*	High-definition audio controller Intel ICH9 family USB universal host controller 2938 Marvell Yukon 88E8072 PCIE-gigabit Ethernet controller
IRQ18	Intel ICH9 family USB universal host controller 2939 Intel ICH9 family USB universal host controller 2936
IRQ19	Intel ICH9 family USB2 enhanced controller 293C
IRQ20	Intel ICH9 family USB2 enhanced controller 293A Intel ICH9 family USB universal host controller 2934
IRQ21	Intel ICH9M-E/M SATA AHCI controller
IRQ22	Intel ICH9 family USB universal host controller 2935

*Default configuration; other possible audio configurations are IRQ5, IRQ7, IRQ9, IRQ10, or none.

✎ ExpressCards may assert IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, or IRQ15. Either the infrared or the serial port may assert IRQ3 or IRQ4.

✎ For operating systems after Windows 2000, APIC (advanced programming interrupt controller) is used.

System I/O address specifications

I/O address (hex)	System function (shipping configuration)
000–01F	DMA controller
020–021	Program interrupt controller
024–025	Program interrupt controller
028–029	Program interrupt controller
02C–03D	Program interrupt controller
02E–02F	Motherboard resources
030–031	Program interrupt controller
034–035	Program interrupt controller
038–039	Program interrupt controller
03C–03D	Program interrupt controller
040–043	System timer
04E–04F	Motherboard resources
050–053	System timer
060	Standard 101-/102-key or Microsoft natural keyboard
061	Motherboard resources
062	Microsoft ACPI-compliant embedded controller
063	Motherboard resources
064	Standard 101-/102-key or Microsoft natural keyboard
065	Motherboard resources
066	Microsoft ACPI-compliant embedded controller
067	Motherboard resources
070	Motherboard resources
071–077	System CMOS/real-time clock
080	Motherboard resources
081–091	Direct memory access controller
092	Motherboard resources
093–09F	Direct memory access controller
0A0–0A1	Program interrupt controller
0A4–0A5	Program interrupt controller
0A8–0A9	Program interrupt controller
0AC–0AD	Program interrupt controller
0B0–0B1	Program interrupt controller
0B2–0B3	Motherboard resources
0B4–0B5	Program interrupt controller
0B8–0B9	Program interrupt controller
0BC–0BD	Program interrupt controller

(Continued)

I/O address (hex)	System function (shipping configuration)
0C0–0DF	Direct memory access controller
0F0–0F0	Numeric data processor
0200–027F	Motherboard resources
3B0–3BB	Mobile Intel 4 Series express chipset family
3C0–3DF	Mobile Intel 4 Series express chipset family
400–47F	Motherboard resources
4D0–4D1	Programmable interrupt controller
500–57F	Motherboard resources
1000–1003	Motherboard resources
1010–101F	Motherboard resources
2000–20FF	Marvell Yukon 88E8072 PCIE-gigabit Ethernet controller
2000–2FFF	ICH9 family PCI express root port6-294A
3000–4FFF	ICH9 family PCI express root port5-2948
5000–6FFF	ICH9 family PCI express root port3-2944
7000–701F	ICH9M-E/M SATA AHCI controller
7020–703F	ICH9 family USB universal host controller 2936
7040–705F	ICH9 family USB universal host controller 2935
7060–707F	ICH9 family USB universal host controller 2934
7080–709F	ICH9 family USB universal host controller 2939
70A0–70BF	ICH9 family USB universal host controller 2938
70C0–70DF	ICH9 family USB universal host controller 2937
70E0–70E7	ICH9M-E/M SATA AHCI controller
70E8–70EF	ICH9M-E/M SATA AHCI Controller
70F0–70F7	Mobile Intel 4 Series express chipset family
70F8–70FB	ICH9M-E/M SATA AHCI controller
70FC–70FF	ICH9M-E/M SATA AHCI controller
EF80–EF9F	Motherboard resources
FE00–FE0F	Motherboard resources
FE80–EF8F	Motherboard resources
FFFF	Motherboard resources

7

Screw listing

This chapter provides specification and reference information for the screws used in the computer. The screws listed in this chapter are available in the Screw Kit, spare part number 583281-001.

Phillips PM2.5×13.0 captive screw
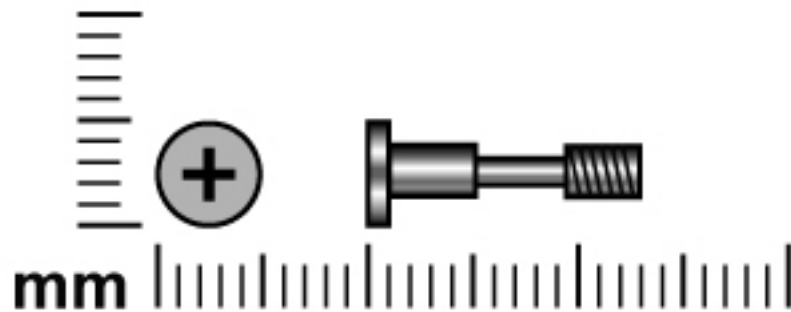
Color	Quantity	Length	Thread	Head diameter
Black	1	13.0 mm	2.5 mm	5.0 mm

Where used: One captive screw that secures the mass storage device to the computer (screw is secured to the mass storage device bracket)
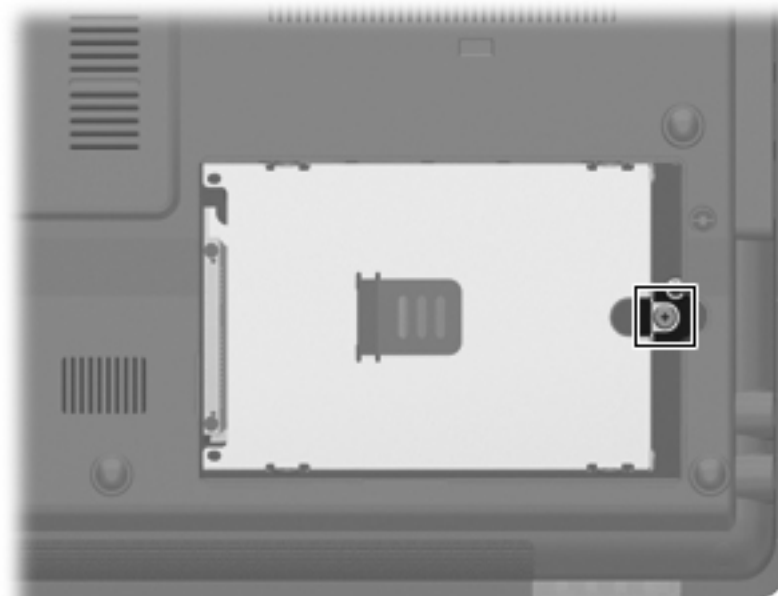
Phillips PM2.0×6.0 captive screw
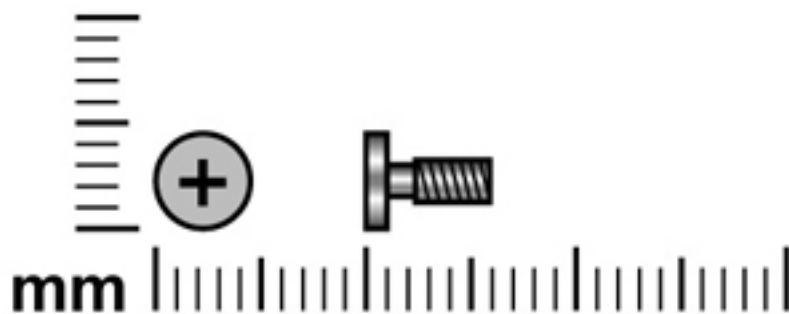
Color	Quantity	Length	Thread	Head diameter
Black	6	6.0 mm	2.0 mm	5.0 mm

Where used:

❶ One captive screw that secures the Bluetooth module compartment cover to the computer (screw is secured to the cover by a C-clip)

❷ Two captive screws that secure the mass storage device cover to the computer (screws are secured to the cover by C-clips)

❸ One captive screw that secures the memory module compartment cover to the computer (screw is secured to the cover by a C-clip)

❹ Two captive screws that secure the wireless module compartment cover to the computer (screws are secured to the cover by C-clips)
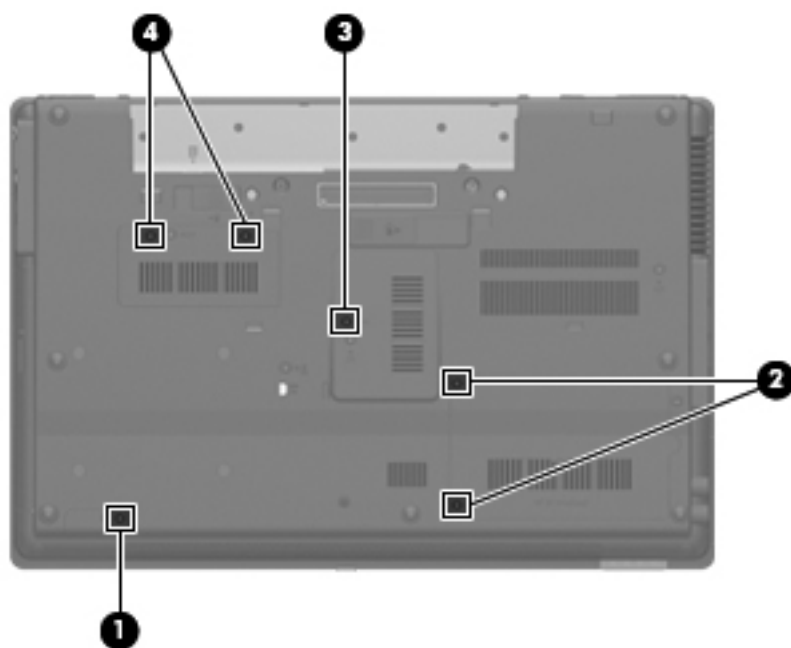
Phillips PM3.0×3.0 screw
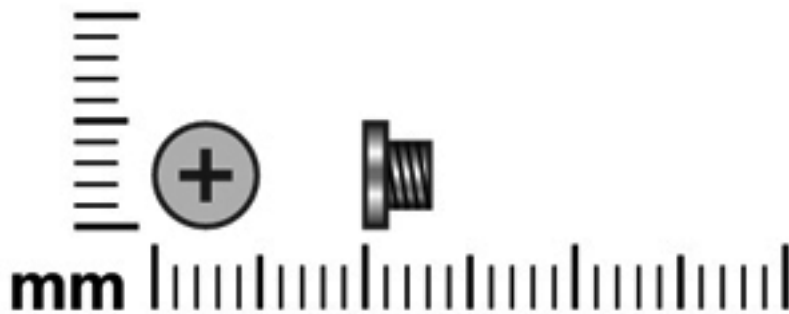
Color	Quantity	Length	Thread	Head diameter
Black	4	3.0 mm	3.0 mm	5.0 mm

Where used: 4 screws that secure the mass storage device bracket to the mass storage device
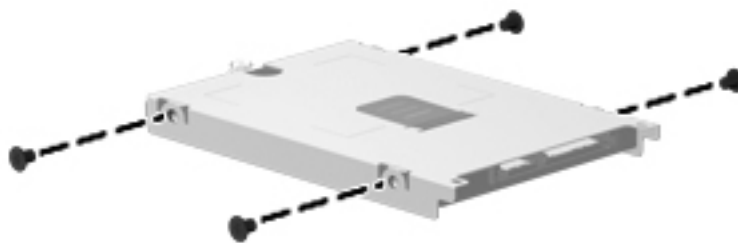
Phillips PM2.5×6.0 screw
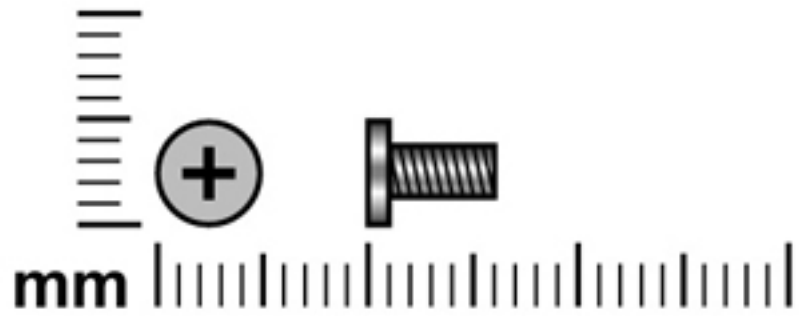
Color	Quantity	Length	Thread	Head diameter
Black	14	6.0 mm	2.5 mm	5.0 mm

Where used:

❶ Two screws that secure the WLAN module to the system board

❷ Two screws that secure the WWAN module to the system board
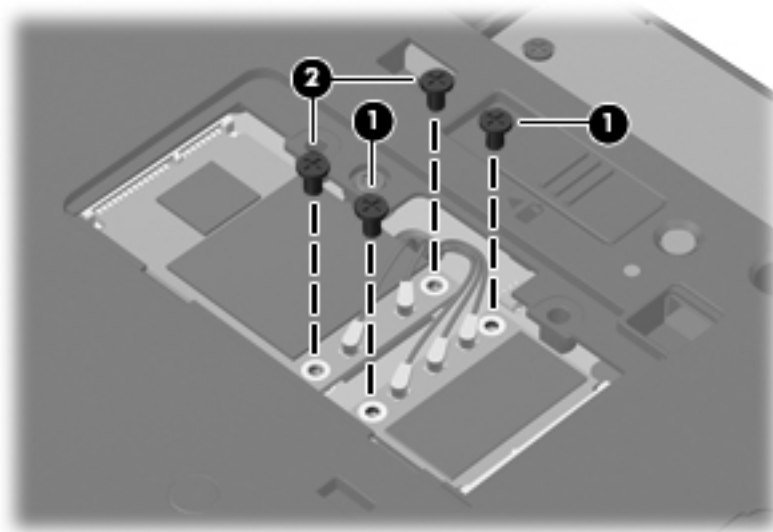
Where used: 8 screws that secure the display bezel to the display assembly
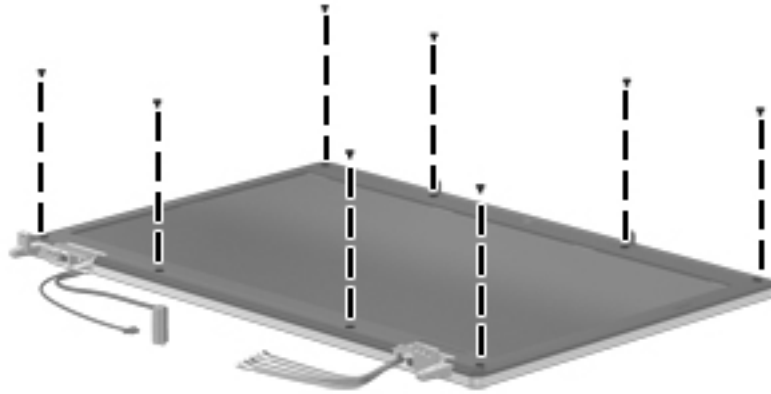
Where used: 2 screws that secure the display panel to the display enclosure

Phillips PM2.5×11.0 captive screw
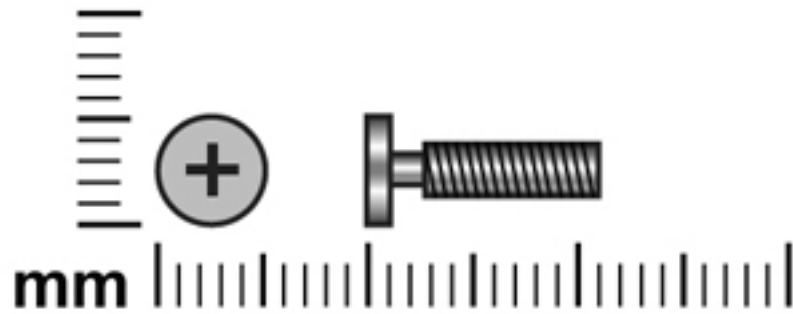
Color	Quantity	Length	Thread	Head diameter
Black	4	11.0 mm	2.5 mm	5.0 mm

Where used:

❶ One captive screw that secures the optical drive to the computer (screw is secured to the computer by an O-ring)

❷ Three captive screws that secure the keyboard to the computer (screws are secured to the computer by O-rings)
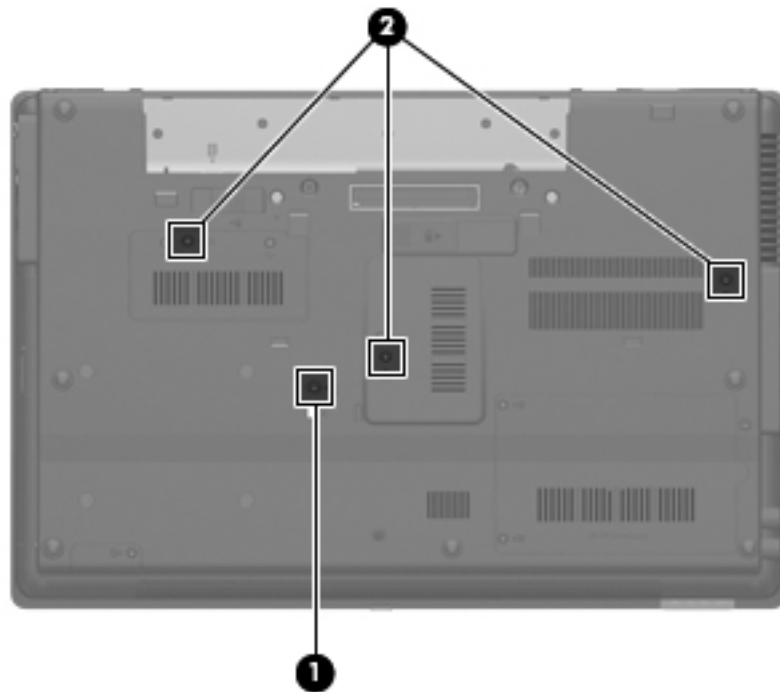
Phillips PM2.0×3.0 screw

Color	Quantity	Length	Thread	Head diameter
Black	23 on computer models equipped with a 15.6-in display, 21 on computer models equipped with a 14.0-in display	3.0 mm	2.0 mm	4.5 mm

Where used: 3 screws that secure the optical drive bracket to the optical drive
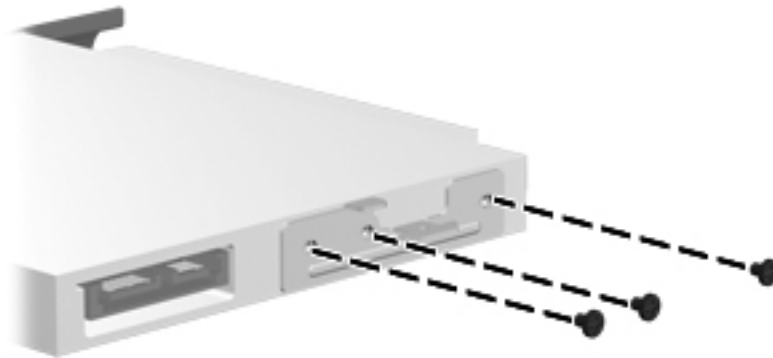
Where used: 3 screws that secure the switch cover to the computer
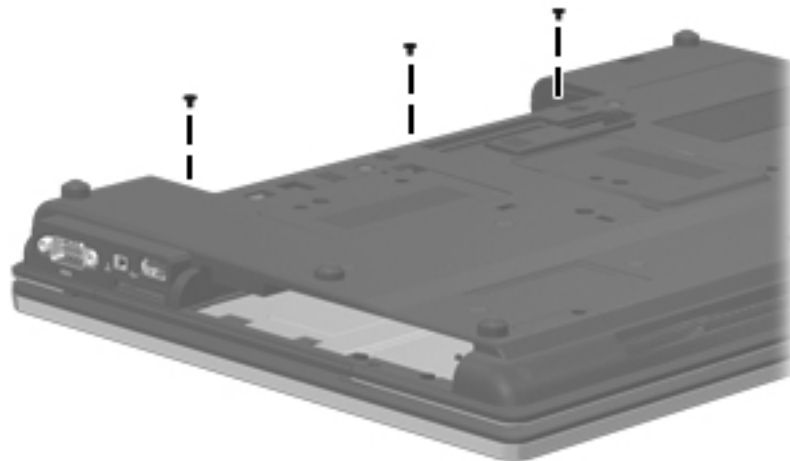
Where used: 2 screws that secure the power button board to the switch cover
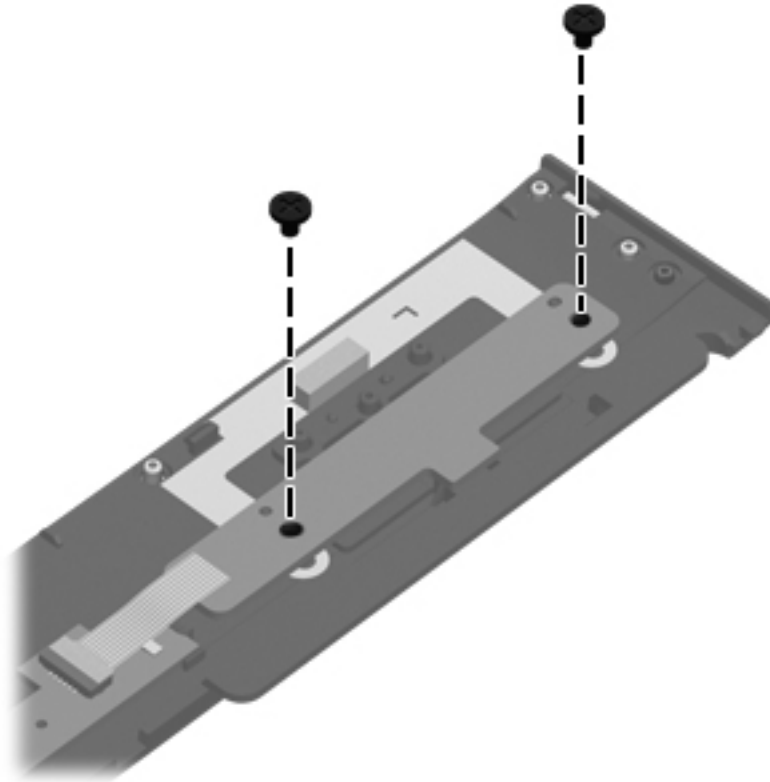
Where used:

❶ Eight screws that secure the display hinges to the display panel on computer models equipped with a 15.6-in display assembly

❷ Two screws that secure the display hinge covers to the display hinges
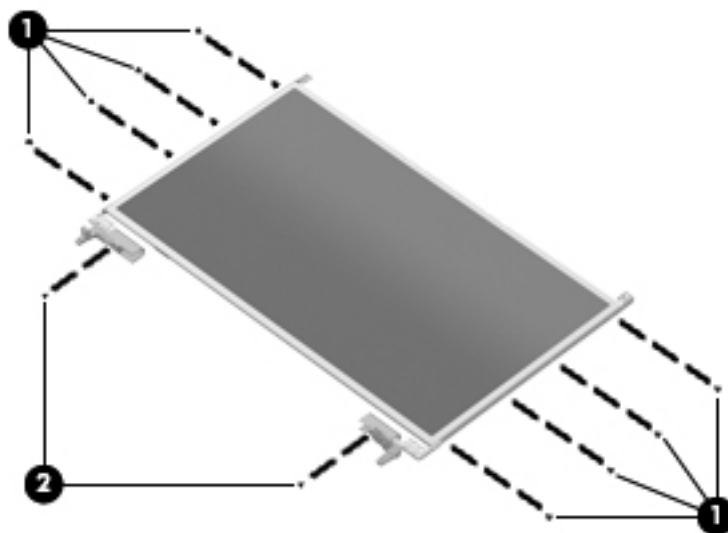
Where used:

❶ Six screws that secure the display hinges to the display panel on computer models equipped with a 14.0-in display assembly

❷ Two screws that secure the display hinge covers to the display hinges
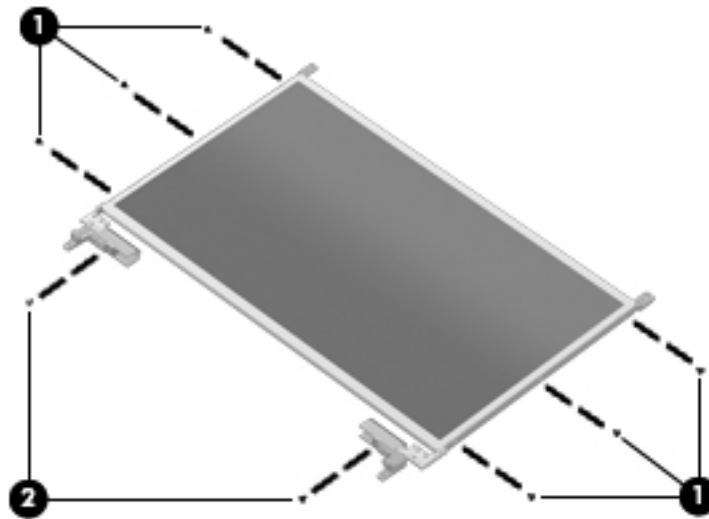
Where used: 5 screws that secure the top cover to the base enclosure

Slotted Torx T8M2.5×7.0 screw
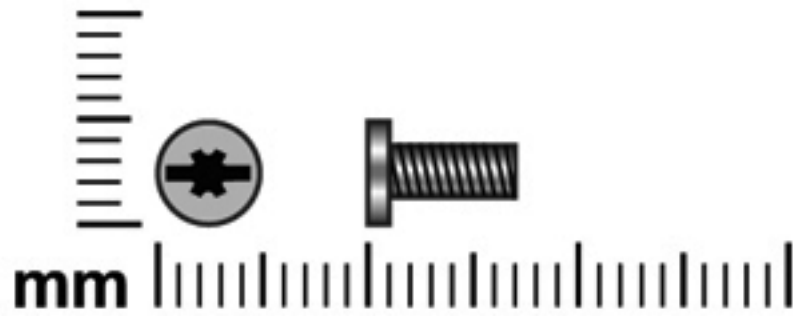
Color	Quantity	Length	Thread	Head diameter
Black	25 on computer models equipped with a 15.6-in display, 21 on computer models equipped with a 14.0-in display	7.0 mm	2.5 mm	5.0 mm

Where used: 4 screws that secure the palm rest to the computer
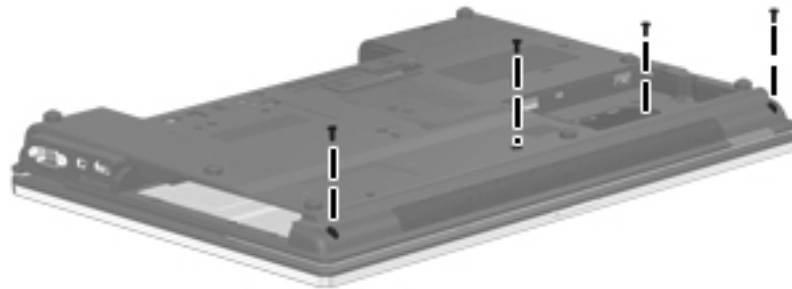
Where used: 2 screws that secure the fan to the system board
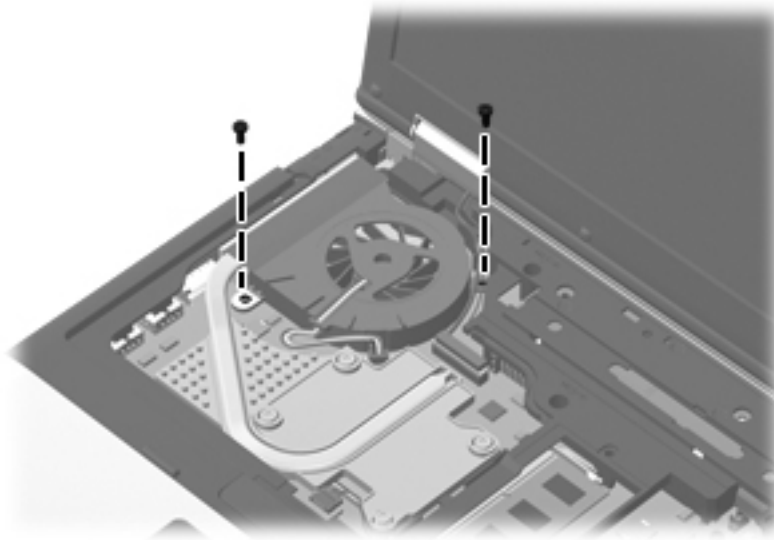
Where used: 5 screws that secure the top cover to the base enclosure
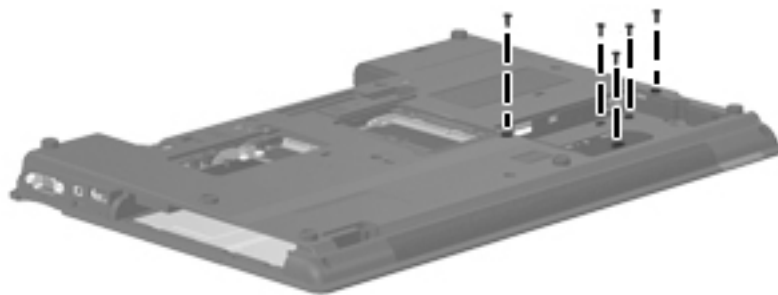
Where used: 9 screws that secure the top cover to the base enclosure only on computer models equipped with a 15.6-in display assembly
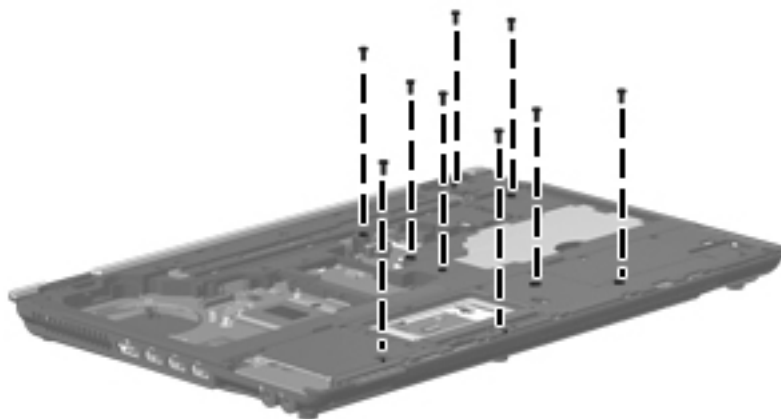
Where used: 6 screws that secure the top cover to the base enclosure only on computer models equipped with a 14.0-in display assembly
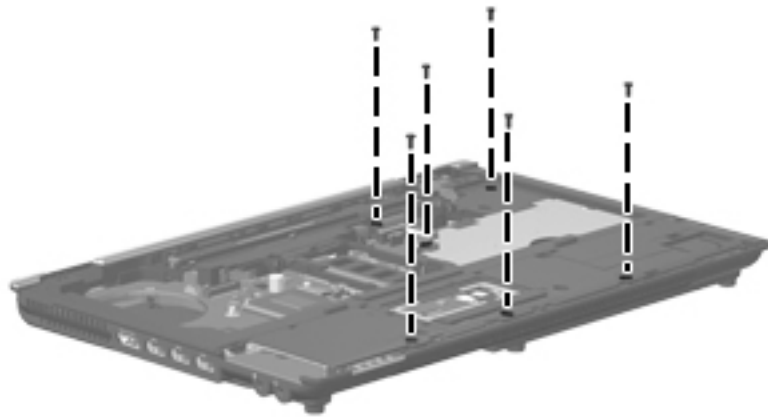
Where used: One screw that secures the speaker assembly to the base enclosure
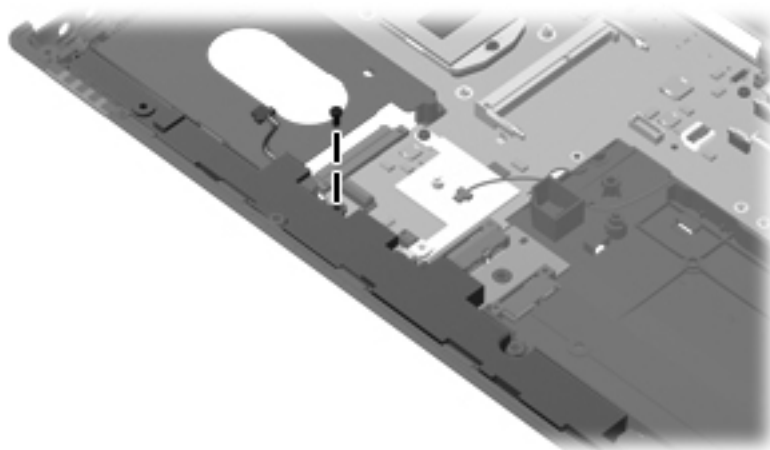
Where used: One screw that secures the card reader/USB board to the base enclosure
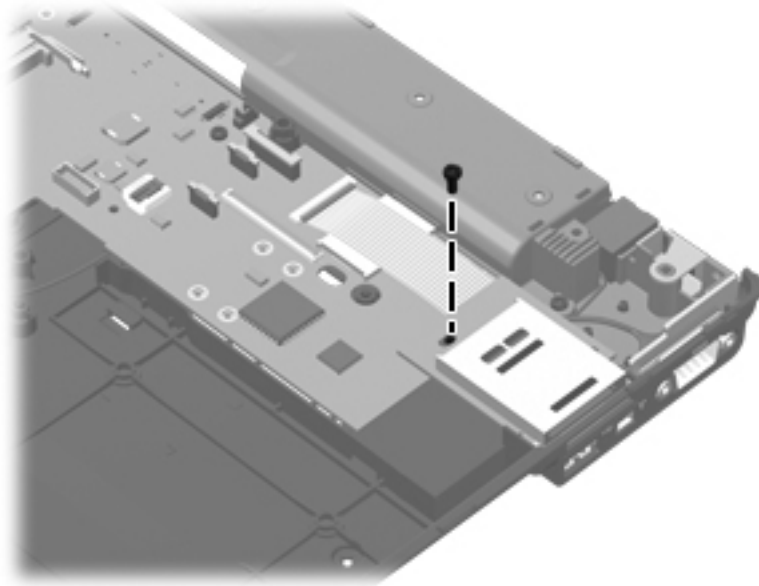
Where used:

❶ Two screws that secure the system board to the base enclosure

❷ One screw that secures the system board to the base enclosure only on computer models equipped with a 15.6-in display assembly
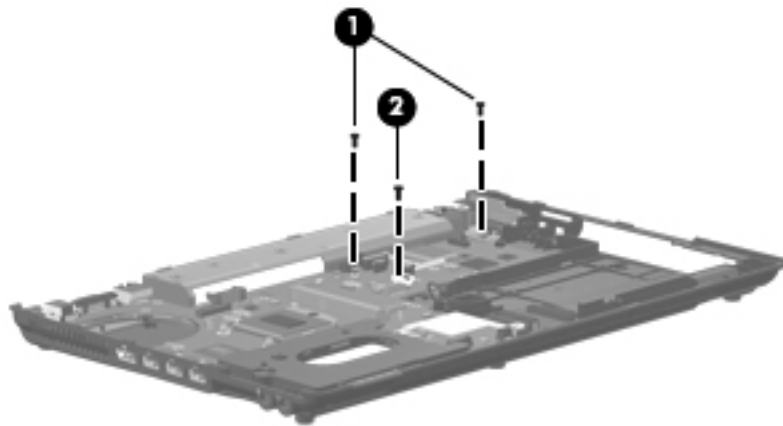
Phillips PM2.5×9.0 captive screw
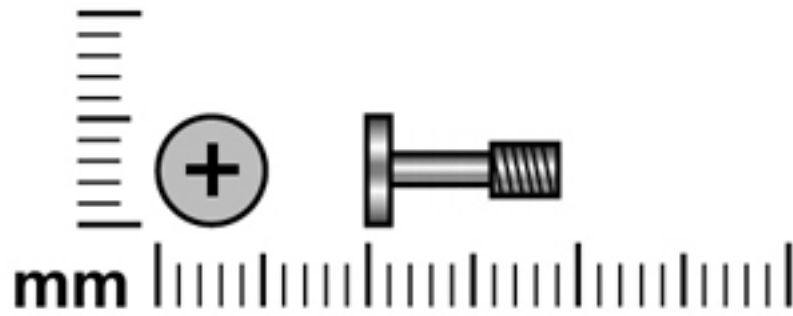
Color	Quantity	Length	Thread	Head diameter
Black	4	9.0 mm	2.5 mm	5.0 mm

Where used: 4 captive screws that secure the heat sink to the system board (screws are secured to the computer by O-rings)
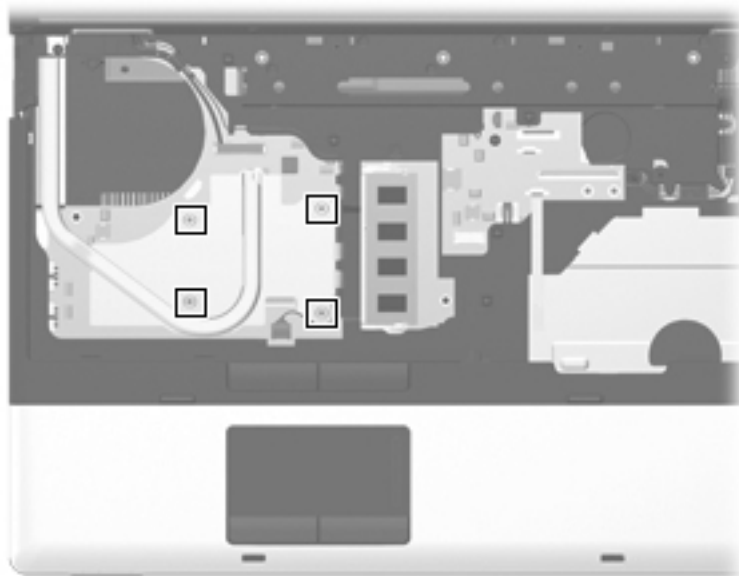
Slotted Torx T8M2.5×11.0 screw
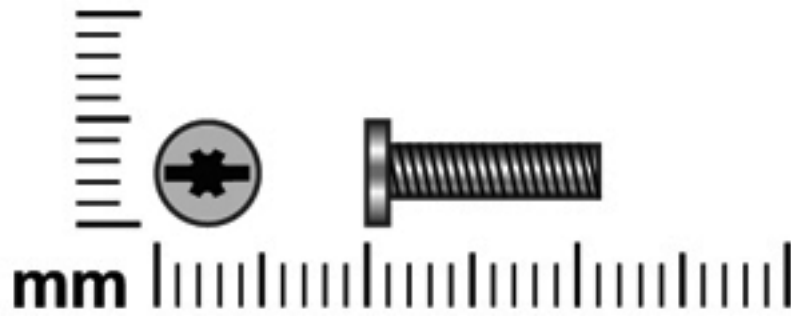
Color	Quantity	Length	Thread	Head diameter
Black	8	11.0 mm	2.5 mm	5.0 mm

Where used: 4 screws that secure the display assembly to the computer
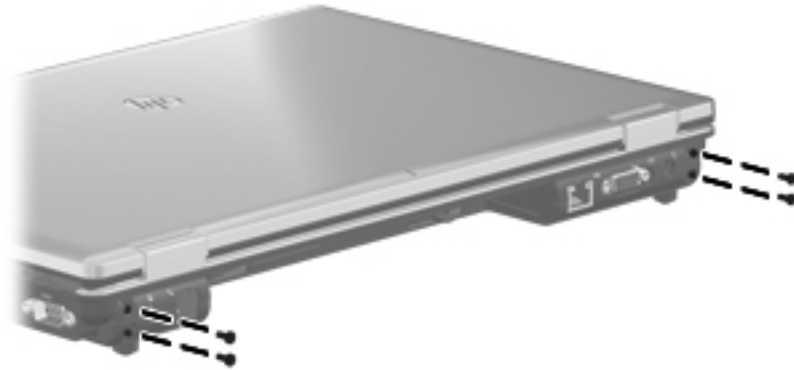
Where used: 2 screws that secure the display assembly to the computer
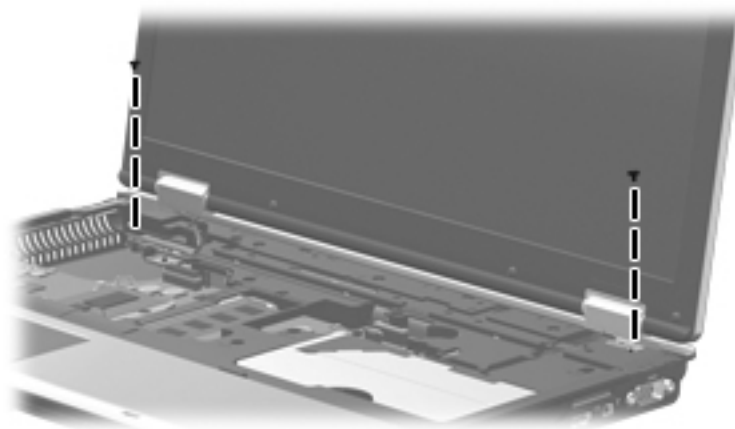
Where used: 2 screws that secure the top cover to the base enclosure

Phillips PM2.0×5.0 screw
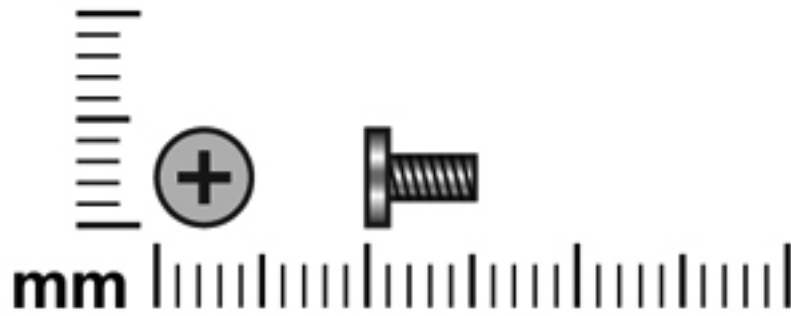
Color	Quantity	Length	Thread	Head diameter
Black	1	5.0 mm	2.0 mm	5.0 mm

Where used: One screw that secures the modem module to the system board
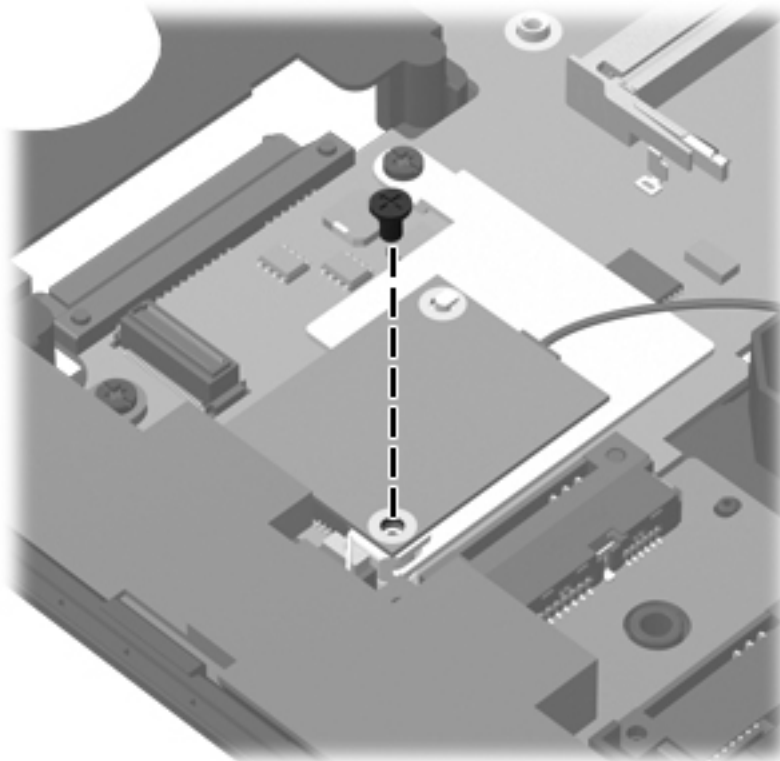
Hex HM5.0×10.0 screw lock
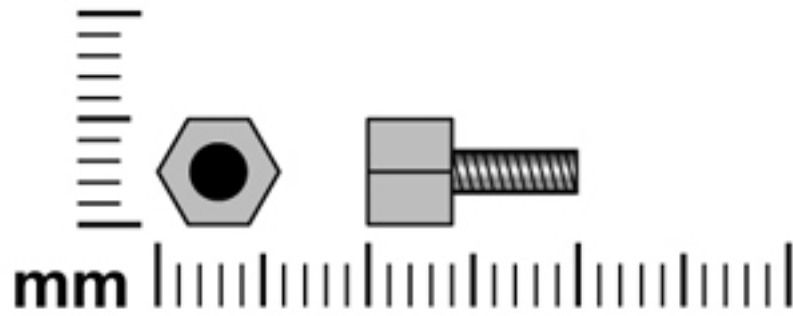
Color	Quantity	Length	Thread	Head diameter
Silver	2	10.0 mm	5.0 mm	5.0 mm

Where used: 2 screw locks that secure the serial connector to the base enclosure

8
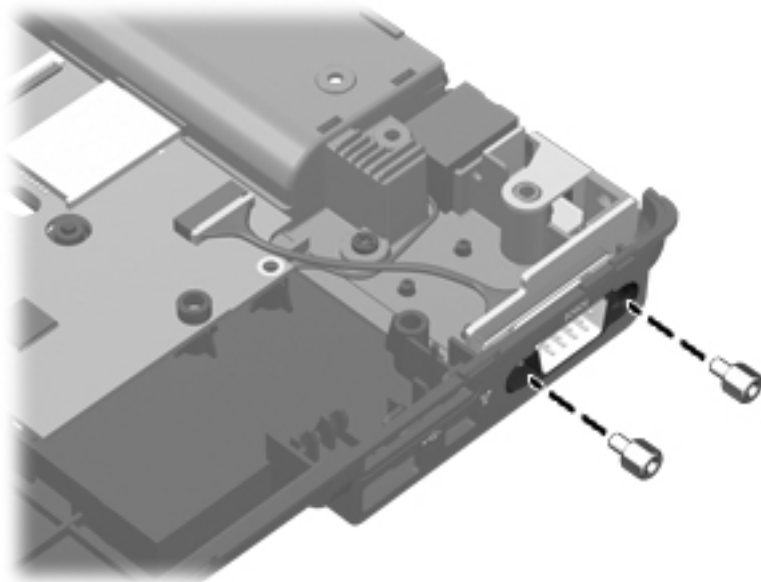
Backup and recovery

Backup and recovery in Windows 7

Overview

To protect your information, use the Backup and Restore Center to back up individual files and folders, back up your entire hard drive (select models only), or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

The Backup and Restore Center provides the following options:

- Backing up individual files and folders
- Backing up the entire hard drive (select models only)
- Scheduling automatic backups (select models only)
- Creating system restore points
- Recovering individual files
- Restoring the computer to a previous state
- Recovering information using recovery tools

✎ For detailed instructions, perform a search for these topics in Help and Support.

In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup. You can back up your information to an optional external hard drive, a network drive, or discs.

Note the following when backing up:

- Store personal files in the Documents folder, and back it up regularly.
- Back up templates that are stored in their associated programs.
- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

  To create a screen shot:

  1. Display the screen you want to save.
  2. Copy the screen image:

     To copy only the active window, press **alt+fn+prt sc**.

     To copy the entire screen, press **fn+prt sc**.

3. Open a word-processing document, and then select **Edit > Paste**.

   The screen image is added to the document.

4. Save the document.

■ When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

✎ DVDs and DVDs with double-layer (DL) support store more information than CDs, so using them for backup reduces the number of recovery discs required.

■ When backing up to discs, number each disc before inserting it into the optical drive of the computer.

To create a backup using Backup and Restore Center, follow these steps:

✎ Be sure that the computer is connected to AC power before you start the backup process.

The backup process may take over an hour, depending on file size and the speed of the computer.

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to back up your entire computer (select models only) or your files.

✎ Windows includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

Performing a recovery

In case of system failure or instability, the computer provides the following tools to recover your files:

■ Windows recovery tools: You can use the Backup and Restore Center to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.

■ **f11** recovery tools: You can use the **f11** recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

✎ If you are unable to boot (start up) your computer, you must purchase a Windows Vista operating system DVD to reboot the computer and repair the operating system. For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

Using the Windows recovery tools

To recover information you previously backed up, follow these steps:

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to recover your entire computer (select models only) or your files.

✎ Windows includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

To recover your information using Startup Repair, follow these steps:

⚠ **CAUTION:** Using Startup Repair completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process restores the operating system, as well as the drivers, software, and utilities from the backup used for recovery.

1. If possible, back up all personal files.

2. If possible, check for the presence of the Windows partition and the HP Recovery partition. To find the partitions, select **Start > Computer**.

   ✎ If the Windows partition and the HP Recovery partition have been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

3. Restart the computer, and then press **f8** before the Windows operating system loads.

4. Select **Repair your computer**.

5. Follow the on-screen instructions.

✎ For additional information on recovering information using the Windows tools, perform a search for these topics in Help and Support.

Using f11 recovery tools

⚠ **CAUTION:** Using **f11** completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The **f11** recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled. Personal files must be restored from a backup.

✎ If your computer includes a solid-state drive (SSD), you may not have a recovery partition. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, select **Start > Computer**. If the partition is present, an HP Recovery drive is listed in the Hard Disk Drives section of the window.

To recover the original hard drive image using **f11**, follow these steps:

1. If possible, back up all personal files.

2. If possible, check for the presence of the HP Recovery partition. To find the partition, select **Start > Computer**.

   ✎ If the HP Recovery partition has been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

3. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

4. Press **f11** while the "Press <F11> for recovery" message is displayed on the screen.

5. Follow the on-screen instructions.

Using a Windows Vista operating system DVD (purchased separately)

If you are unable to boot (start up) your computer, you must purchase a Windows Vista operating system DVD to reboot the computer and repair the operating system. Make sure that your most recent backup (stored on discs or on an external drive) is easily accessible. To order a Windows Vista operating system DVD, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions. You can also order the DVD by calling technical support. For contact information, refer to the *Worldwide Telephone Numbers* booklet included with the computer.

⚠ **CAUTION:** Using a Windows Vista operating system DVD completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate recovery using a Windows Vista operating system DVD, follow these steps:

✎ This process takes several minutes.

1. If possible, back up all personal files.
2. Restart the computer, and then insert the Windows Vista operating system DVD into the optical drive before the Windows operating system loads.
3. When prompted, press any keyboard key.
4. Follow the on-screen instructions.
5. Click **Next**.
6. Select **Repair your computer**.
7. Follow the on-screen instructions.

Backup and recovery in Windows Vista

Overview

To protect your information, use the Backup and Restore Center to back up individual files and folders, back up your entire hard drive (select models only), or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

The Backup and Restore Center provides the following options:

■ Backing up individual files and folders

■ Backing up the entire hard drive (select models only)

■ Scheduling automatic backups (select models only)

■ Creating system restore points

■ Recovering individual files

■ Restoring the computer to a previous state

■ Recovering information using recovery tools

✎ For detailed instructions, perform a search for these topics in Help and Support.

In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup. You can back up your information to an optional external hard drive, a network drive, or discs.

Note the following when backing up:

■ Store personal files in the Documents folder, and back it up regularly.

■ Back up templates that are stored in their associated programs.

■ Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

   To create a screen shot:

   1. Display the screen you want to save.

   2. Copy the screen image:

      To copy only the active window, press **alt+fn+prt sc**.

      To copy the entire screen, press **fn+prt sc**.

   3. Open a word-processing document, and then select **Edit > Paste**.

      The screen image is added to the document.

   4. Save the document.

■ When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

✎ DVDs and DVDs with double-layer (DL) support store more information than CDs, so using them for backup reduces the number of recovery discs required.

■ When backing up to discs, number each disc before inserting it into the optical drive of the computer.

To create a backup using Backup and Restore Center, follow these steps:

✎ Be sure that the computer is connected to AC power before you start the backup process.

The backup process may take over an hour, depending on file size and the speed of the computer.

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to back up your entire computer (select models only) or your files.

✎ Windows includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

Performing a recovery

In case of system failure or instability, the computer provides the following tools to recover your files:

■ Windows recovery tools: You can use the Backup and Restore Center to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.

■ **f11** recovery tools: You can use the **f11** recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

✎ If you are unable to boot (start up) your computer, you must purchase a Windows Vista operating system DVD to reboot the computer and repair the operating system. For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

Using the Windows recovery tools

To recover information you previously backed up, follow these steps:

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to recover your entire computer (select models only) or your files.

✎ Windows includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

To recover your information using Startup Repair, follow these steps:

⚠ **CAUTION:** Using Startup Repair completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process restores the operating system, as well as the drivers, software, and utilities from the backup used for recovery.

1. If possible, back up all personal files.

2. If possible, check for the presence of the Windows partition and the HP Recovery partition. To find the partitions, select **Start > Computer**.

   ✎ If the Windows partition and the HP Recovery partition have been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

3. Restart the computer, and then press **f8** before the Windows operating system loads.

4. Select **Repair your computer**.

5. Follow the on-screen instructions.

✎ For additional information on recovering information using the Windows tools, perform a search for these topics in Help and Support.

Using f11 recovery tools

⚠ **CAUTION:** Using **f11** completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The **f11** recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled. Personal files must be restored from a backup.

✎ If your computer includes a solid-state drive (SSD), you may not have a recovery partition. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, select **Start > Computer**. If the partition is present, an HP Recovery drive is listed in the Hard Disk Drives section of the window.

To recover the original hard drive image using **f11**, follow these steps:

1. If possible, back up all personal files.

2. If possible, check for the presence of the HP Recovery partition. To find the partition, select **Start > Computer**.

   ✎ If the HP Recovery partition has been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this chapter.

3. Turn on or restart the computer, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

4. Press **f11** while the "Press <F11> for recovery" message is displayed on the screen.

5. Follow the on-screen instructions.

Using a Windows Vista operating system DVD (purchased separately)

If you are unable to boot (start up) your computer, you must purchase a Windows Vista operating system DVD to reboot the computer and repair the operating system. Make sure that your most recent backup (stored on discs or on an external drive) is easily accessible. To order a Windows Vista operating system DVD, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions. You can also order the DVD by calling technical support. For contact information, refer to the *Worldwide Telephone Numbers* booklet included with the computer.

CAUTION: Using a Windows Vista operating system DVD completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate recovery using a Windows Vista operating system DVD, follow these steps:

✎ This process takes several minutes.

1. If possible, back up all personal files.
2. Restart the computer, and then insert the Windows Vista operating system DVD into the optical drive before the Windows operating system loads.
3. When prompted, press any keyboard key.
4. Follow the on-screen instructions.
5. Click **Next**.
6. Select **Repair your computer**.
7. Follow the on-screen instructions.

Backup and recovery in Windows XP

Overview

To protect your information, use the Windows Backup utility (select models only) to back up files and folders or create recovery points. In case of system failure, you can use the backup files to restore your computer.

Windows provides the following options:

- Backing up individual files and folders
- Backing up all files and folders
- Scheduling automatic backups
- Creating recovery points
- Recovering information

✎ For detailed instructions, perform a search for these topics in Help and Support.

In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup. You can back up individual files or folders to an optional external hard drive or to a network drive.

Note the following when backing up:

- Store personal files in the My Documents folder, and back it up periodically.
- Back up templates stored in their associated programs.
- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time saver if you have to reset your preferences.

To copy the screen and paste it into a word-processing document:

    a. Display the screen you want to save.

    b. Copy the screen image:

        To copy only the active window, press **alt+fn+prt sc**.

        To copy the entire screen, press **fn+prt sc**.

    c. Open a word-processing document, and then select **Edit > Paste**.

        The screen image is added to the document.

    d. Save the document.

To create a backup using the Windows Backup utility (select models only), follow these steps:

✎ Be sure that the computer is connected to AC power before you start the backup process.

The backup process may take over an hour, depending on file size and the speed of the computer.

    1. Select **Start > All Programs > Accessories > System Tools > Backup**.

    2. Follow the on-screen instructions.

Performing a recovery

In case of system failure or instability, the computer provides the following tools to recover your files:

■ Windows recovery tools (select models only): You can use the Windows Backup utility to recover information you have previously backed up.

■ *Operating System* and *Driver Recovery* discs (included with your computer): You can use the discs to recover your operating system and programs installed at the factory.

Recovering your information

To recover information you previously backed up, follow these steps:

1. If possible, back up all personal files.

2. Select **Start > All Programs > Accessories > System Tools > Backup**.

   The Backup or Restore Wizard opens.

3. Select **Restore files and settings**, and then select **Next**.

4. Follow the on-screen instructions.

✎ For additional information on initiating a recovery in Windows, perform a search for this topic in Help and Support.

Recovering the operating system and programs

⚠ **CAUTION:** The recovery process reformats and completely erases the hard drive. All files you have created and any software installed on the computer are permanently removed. The recovery process reinstalls the original operating system as well as software and drivers. Software, drivers, and updates not installed by HP must be manually reinstalled. Personal files must be restored from a backup.

To recover your operating system and programs, follow these steps:

1. If possible, back up all personal files.

2. Insert the *Operating System* disc into the optical drive.

3. Shut down the computer.

4. Turn on the computer.

5. Follow the on-screen instructions to install the operating system.

6. After the operating system is installed, remove the *Operating System* disc and insert the *Driver Recovery* disc.

7. Follow the on-screen instructions to install the drivers and programs.

9

Connector pin assignments

1394
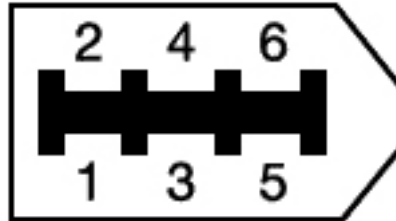
Pin	Signal
1	Power
2	Ground
3	TPB-
4	TPB+
5	TPA-
6	TPA+

Audio-in (microphone)
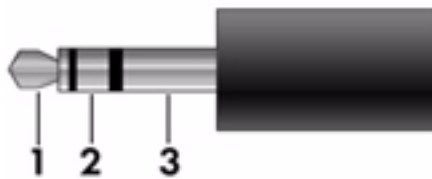
Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

Audio-out (headphone)
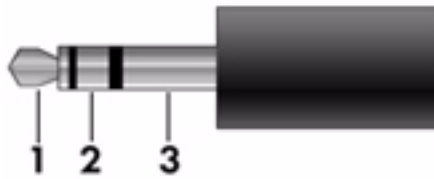
Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

External monitor
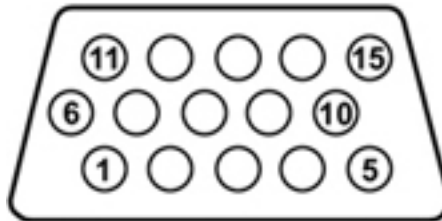
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

RJ-45 (network)
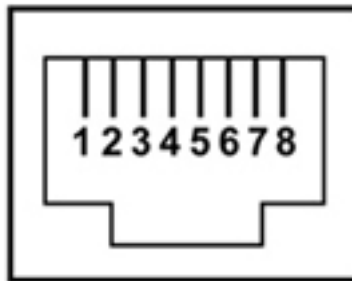
Pin	Signal
1	Transmit +
2	Transmit -
3	Receive +
4	Unused
5	Unused
6	Receive -
7	Unused
8	Unused

RJ-11 (modem)
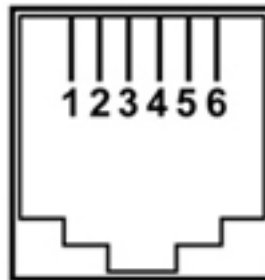
Pin	Signal
1	Unused
2	Tip
3	Ring
4	Unused
5	Unused
6	Unused

Serial
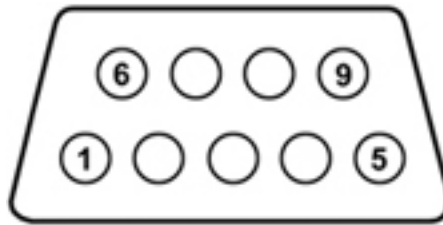
Pin	Signal
1	1 Data carrier detect
2	Received data
3	Transmitted data
4	Data terminal ready
5	Signal ground
6	Data set ready
7	Request to send
8	Clear to send
9	Ring indicator

Universal Serial Bus
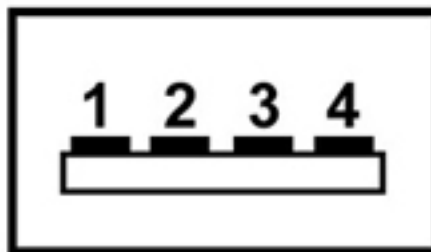
Pin	Signal
1	+5 VDC
2	Data
3	Data +
4	Ground

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Power cord set requirements

The wide-range input feature of the computer permits it to operate from any line voltage from 100 to 120 volts AC, or from 220 to 240 volts AC.

The 3-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries and regions must meet the requirements of the country or region where the computer is used.

Requirements for all countries and regions

The following requirements are applicable to all countries and regions:

■ The length of the power cord set must be at least 1.5 m (5.0 ft) and no more than 2.0 m (6.5 ft).

■ All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.

■ The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 V AC, as required by the power system of each country or region.

■ The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	CCC	5
South Korea	EK	4
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.

3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.

4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

Recycling

Battery

When a battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for computer battery disposal.

Display

⚠ **WARNING:** The backlight contains mercury. Caution must be exercised when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

⚠ **CAUTION:** The procedures in this chapter can result in damage to display components. The only components intended for recycling purposes are the liquid crystal display (LCD) panel and the backlight. When you remove these components, handle them carefully.

✎ **Materials Disposal.** This HP product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury may be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities, or see the Electronic Industries Alliance (EIA) Web site at http://www.eiae.org.

This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight ❶ and the liquid crystal display (LCD) panel ❷.

✎ The procedures provided in this chapter are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.

Perform the following steps to disassemble the display assembly:

1. Remove all screw covers ❶ and screws ❷ that secure the display bezel to the display assembly.
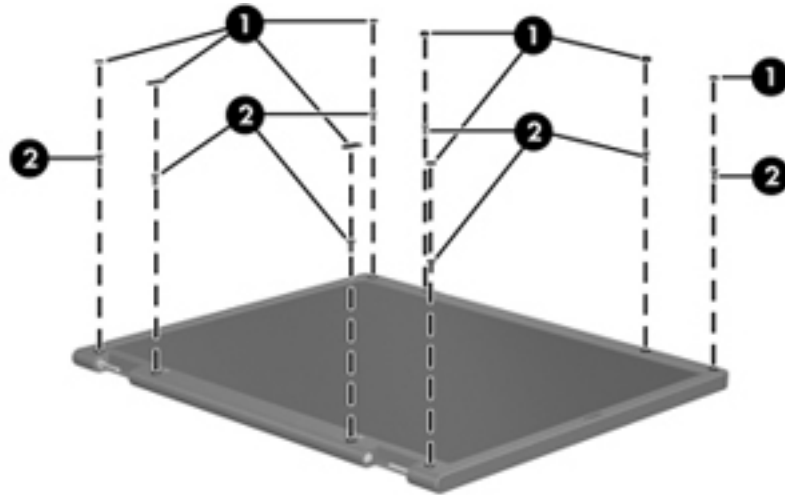
2. Lift up and out on the left and right inside edges ❶ and the top and bottom inside edges ❷ of the display bezel until the bezel disengages from the display assembly.

3. Remove the display bezel ❸.
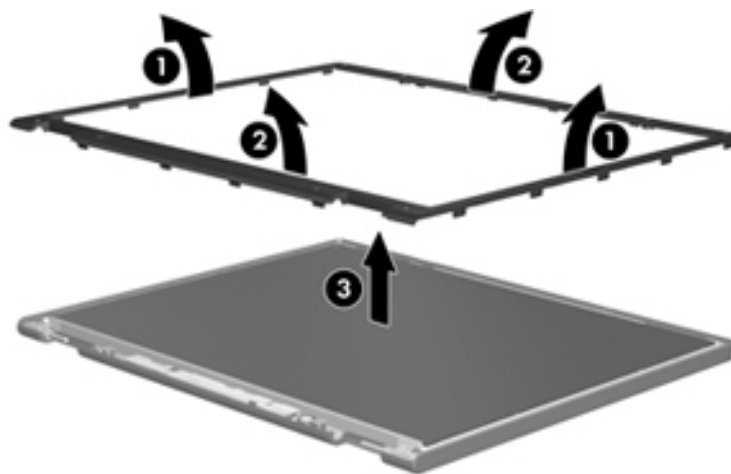
4. Disconnect all display panel cables ❶ from the display inverter and remove the inverter ❷.
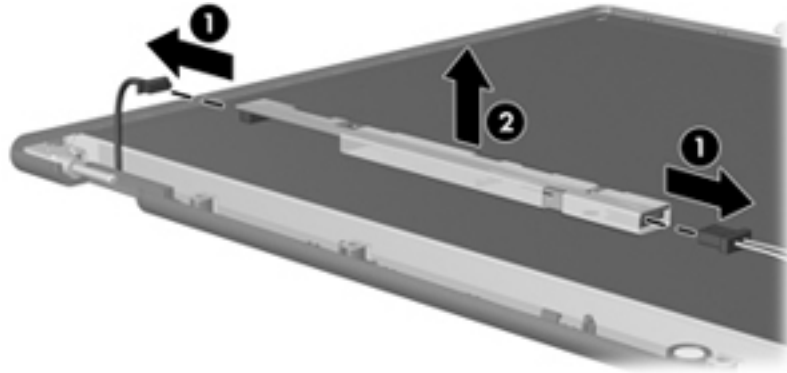
5. Remove all screws ❶ that secure the display panel assembly to the display enclosure.

6. Remove the display panel assembly ❷ from the display enclosure.
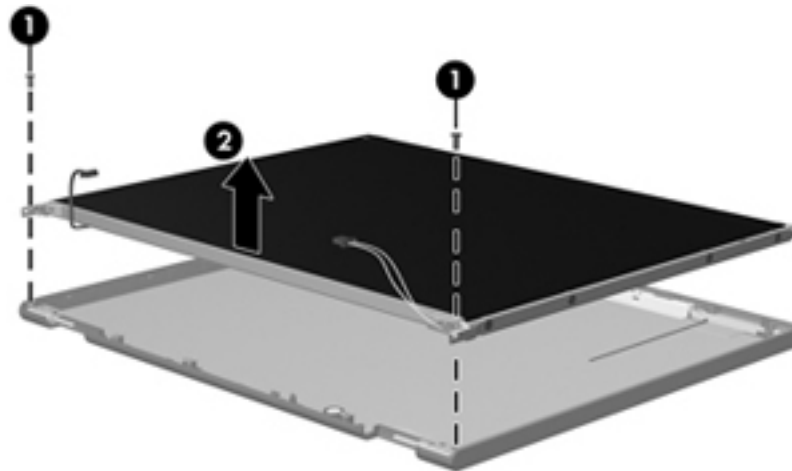
7. Turn the display panel assembly upside down.

8. Remove all screws that secure the display panel frame to the display panel.
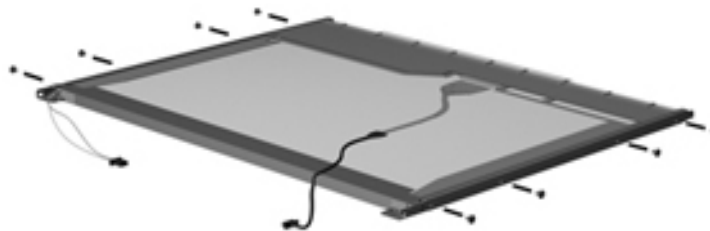
9. Use a sharp-edged tool to cut the tape ❶ that secures the sides of the display panel to the display panel frame.

10. Remove the display panel frame ❷ from the display panel.
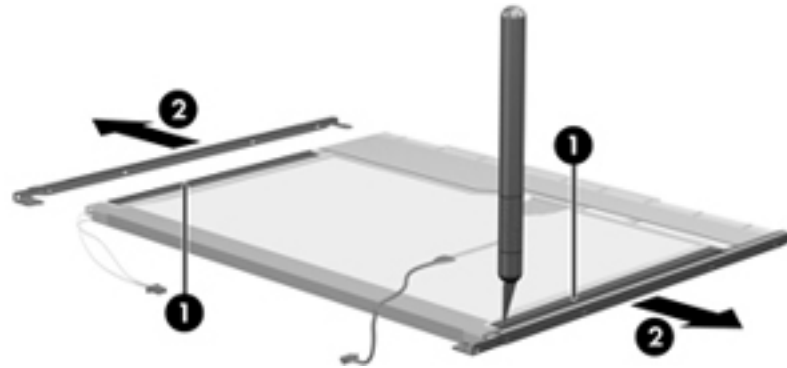
11. Remove the screws ❶ that secure the backlight cover to the display panel.

12. Lift the top edge of the backlight cover ❷ and swing it outward.
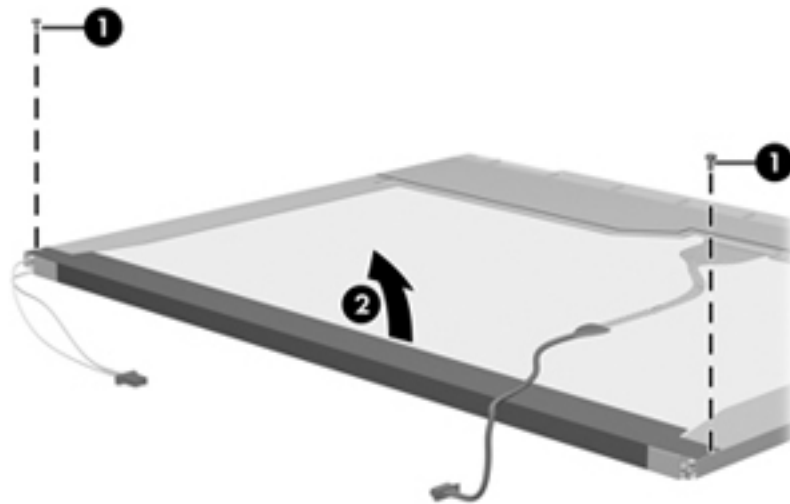
13. Remove the backlight cover.

14. Turn the display panel right-side up.

15. Remove the backlight cables ❶ from the clip ❷ in the display panel.
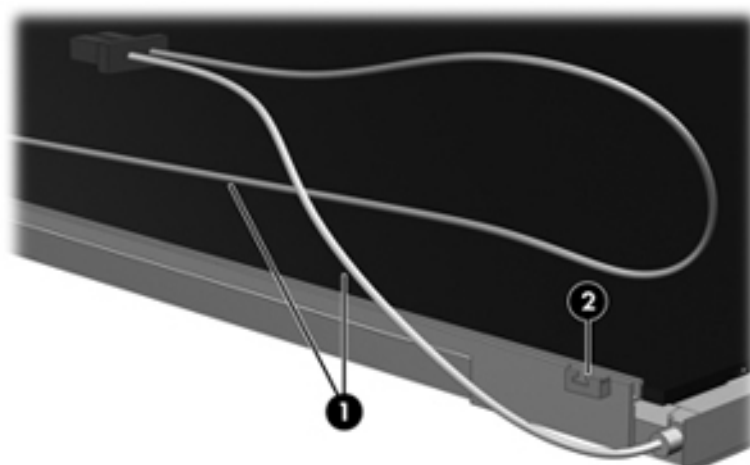
16. Turn the display panel upside down.

17. Remove the backlight frame from the display panel.

⚠ **WARNING:** The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.
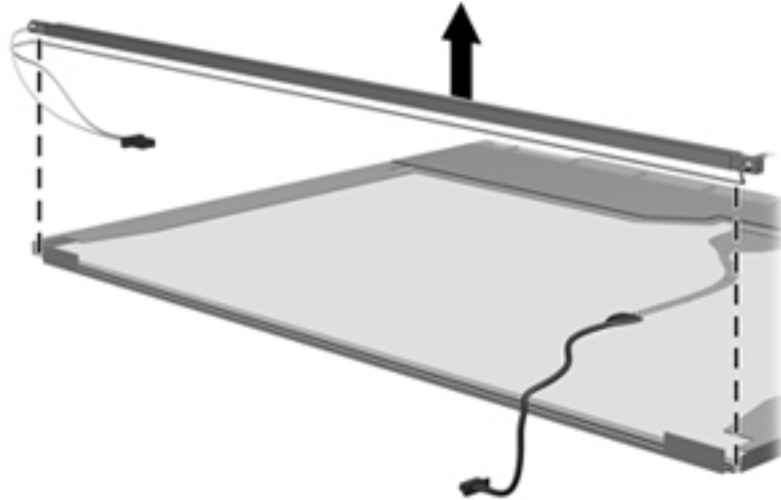
18. Remove the backlight from the backlight frame.
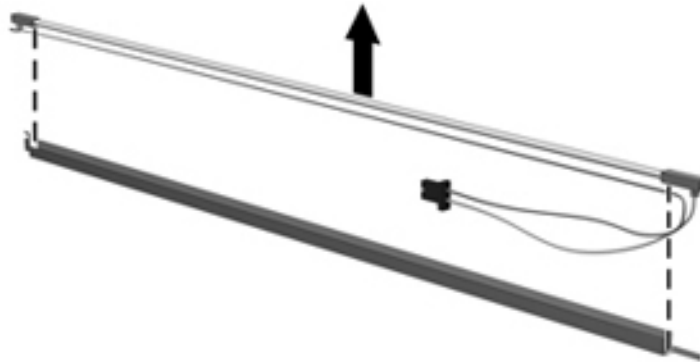
19. Disconnect the display cable ❶ from the LCD panel.

20. Remove the screws ❷ that secure the LCD panel to the display rear panel.

21. Release the LCD panel ❸ from the display rear panel.

22. Release the tape ❹ that secures the LCD panel to the display rear panel.
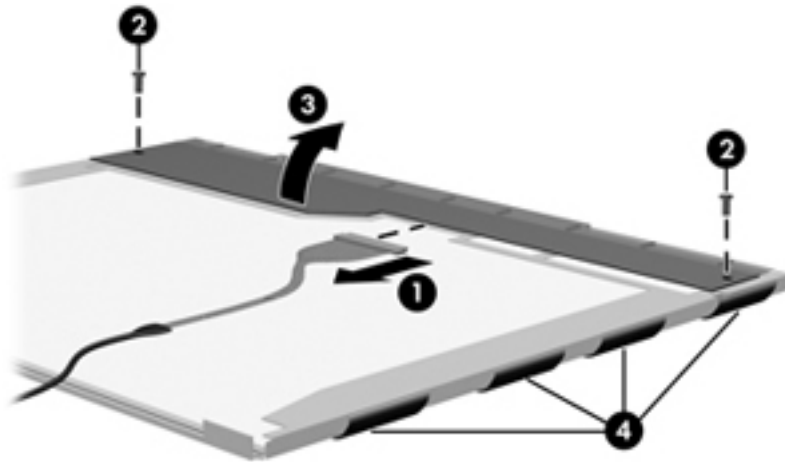
23. Remove the LCD panel.
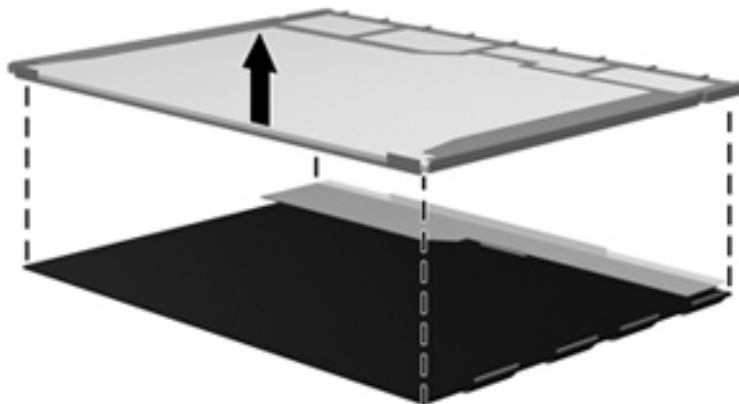
24. Recycle the LCD panel and backlight.

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