HP Pavilion 14 Notebook PC
HP Pavilion TouchSmart 14 Notebook PC

Maintenance and Service Guide

Important Notice about Customer Self-Repair Parts

⚠ **CAUTION:**   Your computer includes Customer Self-Repair parts and parts that should only be accessed by an authorized service provider. See Chapter 5, "Removal and replacement procedures for Customer Self-Repair parts," for details. Accessing parts described in Chapter 6, "Removal and replacement procedures for Authorized Service Provider only parts," can damage the computer or void your warranty.

Safety warning notice

⚠ **WARNING!** To reduce the possibility of heat-related injuries or of overheating the device, do not place the device directly on your lap or obstruct the device air vents. Use the device 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 device 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).

Table of contents

1 Product description

Category	Description	AMD	Intel
Product Name	HP Pavilion 14 Notebook PC	√	√
	HP Pavilion TouchSmart 14 Notebook PC		
Processors	Processors are attached to the system board.		
AMD™	● AMD A10-5745M (2.9 GHz/2.1 GHz, 4 MB L2, 1333 MHz DDR3L) quad core, 25 W	√	
	● AMD A8-5545M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L) quad core, 19 W		
	● AMD A8-4555M (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L) quad core, 19 W, for use with computer models with UMA graphics		
	● AMD A6-4455M (2.6 GHz/2.1 GHz, 2MB L2, 1333 MHz DDR3L) dual core, 17 W, for use with computer models with UMA graphics		
	● AMD A6-5200 (2.0 GHz, 2 MB L2, 1600 MHz DDR3L), quad core, 25 W		
	● AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L), quad core, 15 W		
	● AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L), dual core, 15 W		
Intel®	**4th generation processors:**		√
	● Intel Core™ i7-4500U 1.8 GHz processor (3.0 MB L3 cache, 15 W)		
	● Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W)		
	● Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W)		
	3rd generation processors:		
	● Intel Core i3-3217U 1.8 GHz processor (3.0 MB L3 cache, 1600 MHz DDR3, 17 W)		
	● Intel Pentium 2117U 1.8 GHz processor (2.0 MB L3 cache, 1600 MHz DDR3, 17 W)		

Category	Description	AMD	Intel
Chipset	● AMD A76M FCH	√	
	● Intel HM76 Express (for use with 4th generation Intel processors)		√
	● Intel HM86 Express (Integrated in MCP), for use with 3rd generation Intel processors		

Category	Description	AMD	Intel
Graphics	**Internal graphics:**		
	● AMD Radeon HD 8610G, for use with computer models with A10-5745M processor	√	
	● AMD Radeon HD 8510G, for use with computer models with A8-5545M processor		
	● AMD Radeon HD 8400G, for use with computer models with A6-5200 processor		
	● AMD Radeon HD 8330, for use with computer models with A4-5000 processor		
	● AMD Radeon HD 8280, for use with computer models with E2-3000 processor		
	● AMD Radeon HD 7600G, for use with computer models with A8-4555M processor		
	● AMD Radeon HD 7500G, for use with computer models with A6-4455M processor		
	● Intel HD Graphics 4400, for use with 4th Generation Intel Core processors		√
	● Intel HD Graphics 4000, for use with 3rd Generation Intel Core processors		
	● Intel HD Graphics, for use with 3rd Generation Intel Pentium processors		
	Switchable discrete graphics:		
	Supports:	√	√
	HD decode, DX11.1, and HDMI		
	Px5.5		

Category	Description	AMD	Intel
	HD decode, DX11, and HDMI	√	
	AMD Start Now (AMD IOIC) 1.0		
	AMD Start Now (AMD IOIC) 2.0		
	Optimus, supports Dynamic Switching		√
	● AMD Radeon™ HD 8670M with 2048 MB of dedicated video memory (256 M x 16 DDR3 1 GHz x 4 PCs)	√	√
	● AMD Radeon HD 8670M with 1024 MB of dedicated video memory (128 M x16 DDR3 1 GHz x 4 PCs)		
	● NVIDIA GeForce GT 740M with 2048 MB of dedicated video memory (258 M x 16 DDR3 900 MHz x 4 PCs), 64 bit		√
	Dual Graphics:	√	
	● AMD Radeon HD 8610G + HD 8670M Dual Graphics, for use with computer models with A10-5745M processors		
	● AMD Radeon HD 8510G + HD 8670M Dual Graphics, for use with computer models with A8-5545M processors		
Panel	● **35.56 cm** (14 in), high-definition (HD), white light-emitting diode (WLED), BrightView (1366×768) flat display, 3.6 mm, SVA, typical brightness: 200 cd/m² (nits)	√	√
	● **35.56 cm** (14 in), HD, WLED, BrightView (1366×768) slim display, 3.0 mm, typical brightness: 200 cd/m² (nits) SVA + eTP touch (Multitouch enabled)		
	16:9 Ultra Wide Aspect Ratio		
Memory	Supports the following configurations:	√	√
	● 12288 MB (8192 MB×1+ 4096 MB×1) (select models only)		
	● 8192 MB (8192 MB×1 or 4096 MB×2; not supported on computer models equipped with a 32-bit operating system)		
	● 6144 MB (4096 MB×1 + 2048 MB×1; not supported on computer models equipped with a 32-bit operating system)		
	● 4096 MB (4096 MB×1 or 2048 MB×2)		
	● 2048 MB (2048 MB×1)		
	Two SODIMM customer-accessible/upgradable memory module slots		
	DDR3L-1600 MHz dual channel support		
	DDR3L-1600 MHz single channel support	√	

Category	Description	AMD	Intel
Hard drive	Supports **6.35 cm** (2.5 in) hard drives in **9.5 mm** (.37 in) and **7.0 mm** (.28 in) thicknesses (all hard drives use the same bracket)	√	√
	Supports the following hard drives:		
	● 1 TB, 5400 rpm, 9.5 mm		
	● 750 GB, 5400 rpm, 9.5 mm		
	● 500 GB, 5400 rpm, 7.0 mm		
	Customer-accessible		
	Serial ATA		
	HP 3D DriveGuard		
	24 GB mSATA solid-state drive with system memory up to 8 GB (for use with select computer models with switchable discrete graphics)		√
	Supports the following:		√
	● 500 GB, 5400 rpm, + 8 GB NAND Hybrid HDD; 7 mm		
	● 750 GB, 5400 rpm, + 8 GB NAND Hybrid HDD; 9.5 mm		
	● 1 TB, 5400 rpm, + 8 GB NAND Hybrid HDD; 9.5 mm		
Optical drive	Fixed	√	√
	Serial ATA		
	9.5 mm tray load		
	DVD±RW Double-Layer SuperMulti Drive		
	Zero power optical drive		
Audio and video	Supports:	√	√
	DTS Sound+		
	Dual speakers		
	HP TrueVision HD webcam (fixed, no tilt with activity LED; 1280×720 by 30 frames per second)		
	Two dual array, digital microphones with appropriate beam-forming, echo-cancellation, noise-reduction software		
	USB 2.0, M-jpeg		
	Supports Nuance Voice Recognition		√
Ethernet	Integrated 10/100 NIC	√	√
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module	√	√
	One half-size mini card slot		
	Two WLAN antennas built into display assembly		

Category	Description	AMD	Intel
	Support for the following WLAN formats:	√	√
	• Qualcomm Atheros AR9485 802.11 bgn 1x1 Wi-Fi Adapter		
	• Ralink RT3290LE 802.11 bgn 1x1 Wi-Fi + Bluetooth 4.0 Combo Adapter		
	• Realtek RTL8188EE 802.11 bgn 1x1 Wi-Fi Adapter		
	• Intel Wireless-N 7260BN 802.11 bgn 2x2 Wi-Fi + Bluetooth 4.0 combo adapter WLAN module; Intel WiDi support. Support for Intel Smart Connect Technology 4.1. No support for Ubuntu Linux.		√
	• Mediatek MT7630E 802.11 bgn 1x1 Wi-Fi + Bluetooth 4.0 Combo Adapter		
External media cards	HP Multi-Format Memory Card Reader slot with push-push technology, supporting the following digital card formats:	√	√
	• Secure Digital (SD) Memory Card		
	• Secure Digital High Capacity (SDHC) Memory Card		
	• Secure Digital eXtended Capacity (SDXC) Memory Card		
Ports	• AC Smart Pin adapter plug (4.5 mm barrel)	√	√
	• Combination audio-out (stereo headphone)/audio-in (mono microphone)		
	• RJ-45 (Ethernet)		
	• USB 3.0 (2 ports), USB 2.0 (1 port)		
	• HDMI version 1.4 output supporting 1920 x 1080 @ 60 Hz Hot Plug / Unplug and auto detect for correct output to wide-aspect versus standard aspect video		√
	• HDMI version 1.4 output supporting 1920 x 1200 @ 60 Hz Hot Plug / Unplug and auto detect for correct output to wide-aspect versus standard aspect video	√	
Keyboard/ pointing devices	Full-size black textured island-style, with black keyboard frame	√	√
	Full-size white painted island-style, with white keyboard frame		
	Multitouch gestures enabled		
	Supports Windows 8 Modern Trackpad Gestures		
	Supports PS/2 interface		
Power requirements	Supports the following AC adapters:	√	√
	• 65 W HP Smart AC adapter (nPFC, 3-wire, 4.5 mm)		
	• 90 W Smart AC adapter (PFC, 3-wire, 4.5 mm)	√	

Category	Description	AMD	Intel
	Supports battery fast charge	√	√
	Supports the following batteries (battery is user-removable)		
	● 4 cell battery - 41 Whr (2.8 AH)		
	● 4 cell battery - 48 Whr (3.2 AH)		√
Security	● Security cable lock	√	√
	● Intel IPT support		√
	● Intel AT-p Ready support (select models only)		
Operating system	**Preinstalled:**	√	√
	● Windows 8 Standard 64-bit		
	● Windows 8 Professional 64-bit		
	● FreeDOS 2.0		
	● Ubuntu Linux		
Serviceability	**End-user replaceable parts:**	√	√
	● AC adapter		
	● Battery		
	● Keyboard (select model replacement only)		
	● Memory module		
	● Optical drive		
	● WLAN module		

2 External component identification

Finding your hardware and software information

Locating hardware

To find out what hardware is installed on your computer:

1. From the Start screen, type c, and then select **Control Panel**.

2. Select **System and Security**, and then in the **System** area, click **Device Manager**.

   A list reveals all the devices installed on your computer.

Locating software

To find out what software is installed on your computer:

1. From the Start screen, right-click using the mouse.

   – or –

   Swipe from the top of the TouchPad to reveal all apps.

2. Select the **All apps** icon.

Right side

Component		Description
(1)	Power light	• On: The computer is on.
		• Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components.
		• Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.
		NOTE: For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.
(2)	Hard drive light	• Blinking white: The hard drive is being accessed.
		• Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(3)	Audio-out (headphone) / Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.
		WARNING! To reduce the risk of personal injury, adjust the volume before using the headphones, earbuds, or a headset. For additional safety information, refer to the *Regulatory, Safety and Environmental Notices*. To access this guide, from the Start screen, type support, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.
		NOTE: When a device is connected to the jack, the computer speakers are disabled.
		NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(4)	USB 2.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner, or USB hub.

Component		Description
(5)	Optical drive	Reads and/or writes, depending on your computer model, to an optical disc.
		NOTE: For disc compatibility information, navigate to the Help and Support webpage. Follow the web page instructions to select your computer model. Select **Support & Drivers**, and then select **Product Information**.
(6)	Optical drive eject button	Releases the disc tray.

Left side

Component		Description
(1)	Power connector	Connects an AC adapter.
(2)	AC adapter light	● White: The AC adapter is connected and the battery is charged.
		● Amber: The AC adapter is connected and the battery is charging.
		● Off: The computer is using DC power.
(3)	Security cable slot	Attaches an optional security cable to the computer.
		NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(4)	RJ-45 (network) jack	Connects a network cable.
	RJ-45 (network) status lights (2)	White: The network is connected.
		Amber: Activity is occurring on the network.
(5)	Vent	Enable airflow to cool internal components.
		NOTE: 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.
(6)	HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed HDMI device.

Component		Description
(7)	SS⟵	USB 3.0 ports (2)	Connect optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(8)		Memory card reader	Reads data from and writes data to memory cards such as Secure Digital (SD).

(8) Memory card reader — Reads data from and writes data to memory cards such as Secure Digital (SD).

To insert:

1. Hold the card, label side up, with connectors facing the slot and push in the card until it is firmly seated.

To remove:

1. Press in on the card and quickly release it until it pops out.

Display

Component		Description
(1)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLANs). **NOTE:** To set up a WLAN and connect to the Internet, you need a broadband modem (either DSL or cable) (purchased separately), high-speed internet service purchased from an Internet service provider, and a wireless router (purchased separately).
(2)	Internal microphones (2)	Record sound.
(3)	Webcam light	On: The webcam is in use.
(4)	Webcam	Records video and captures photographs. Some models may allow you to video conference and chat online using streaming video. To use the webcam, from the Start screen, type c, and then select **CyberLink YouCam** from the list of applications.

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access this guide, from the Start screen, type support, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.

Top

TouchPad
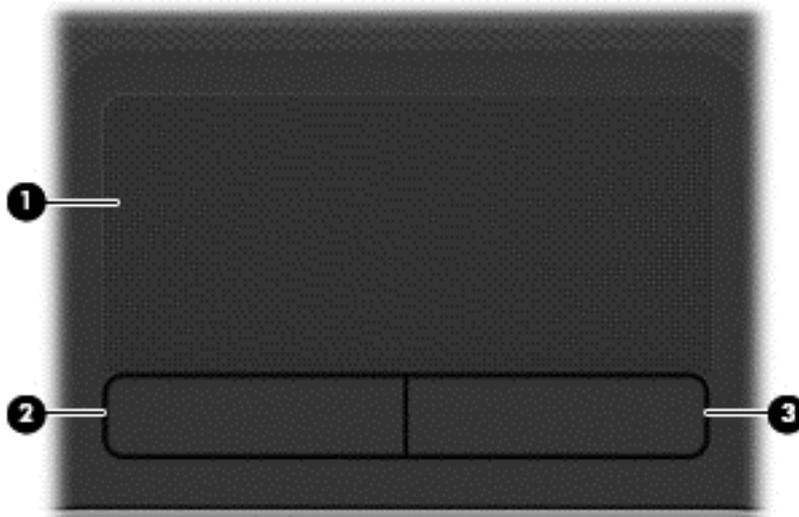
Component		Description
(1)	TouchPad zone	Moves the on-screen pointer and selects or activates items on the screen.
		NOTE: The TouchPad also supports edge-swipe gestures.
(2)	Left TouchPad button	Functions like the left button on an external mouse.
(3)	Right TouchPad button	Functions like the right button on an external mouse.

Lights

Component		Description
(1)	Power light	- On: The computer is on. - Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. - Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power. **NOTE:** For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.
(2)	Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(3)	Mute light	- Amber: Computer sound is off. - Off: Computer sound is on.
(4)	Wireless light	On: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth® device, is on. **NOTE:** On some models, the wireless light is amber when all wireless devices are off.

Buttons and speakers

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 briefly to initiate Sleep.
		• When the computer is in the Sleep state, press the button briefly to exit Sleep.
		• When the computer is in Hibernation, press the button briefly to exit Hibernation.
		CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.
		If the computer has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the computer.
		NOTE: For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.
		To learn more about your power settings, see your power options. From the Start screen, type `power`, select **Settings**, and then select **Power Options** from the list of applications.
(2)	Speakers (2)	Produce sound.

Keys

Component		Description
(1)	esc key	Reveals system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with the esc key.
(3)	Windows key	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows key again will return you to the previous screen.
(4)	Action keys	Execute frequently used system functions.

Bottom
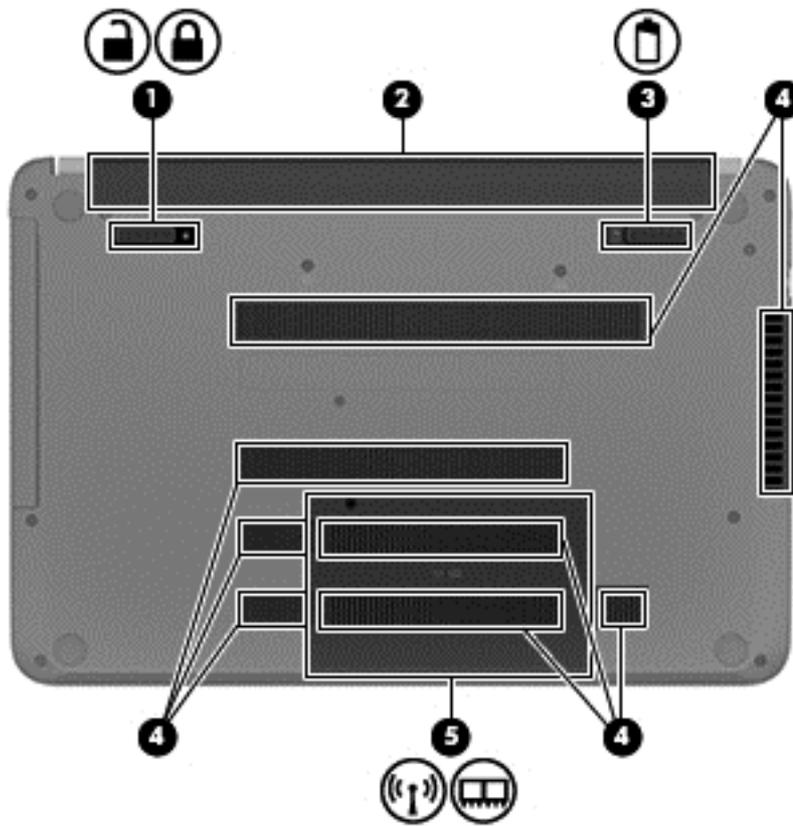
Component		Description
(1)	Battery lock latch	Unlocks the battery.
(2)	Battery bay	Holds the battery.
(3)	Battery release latch	Releases the battery from the battery bay, after the battery lock latch has been released.

Component		Description
(4)	Vents (8)	Enable airflow to cool internal components.
		NOTE: 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.
(5)	Service door	Provides access to the wireless LAN (WLAN) module slot and the memory module slots.
		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 support through Help and Support. From the Start screen, type h, and then select **Help and Support**.

Labels

The labels affixed to the computer provide information you may need when you troubleshoot system problems or travel internationally with the computer.

IMPORTANT: All labels described in this section will be located in one of 3 places depending on your computer model: Affixed to the bottom of the computer, located in the battery bay, or under the service door.

For help finding these locations, refer to .

- Service label—Provides important information to identify your computer. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.

  NOTE: Your service labels will resemble one of the examples shown below. Refer to the illustration that most closely matches the service label on your computer.
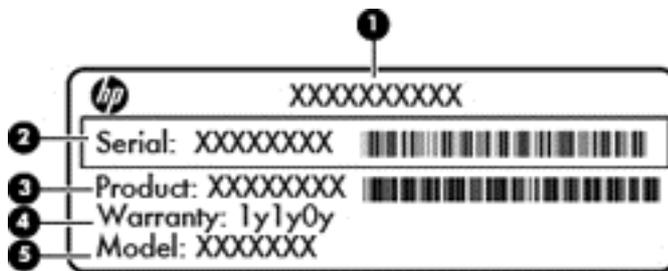
Component		
(1)	Product name	
(2)	Serial number	
(3)	Product number	
(4)	Warranty period	
(5)	Model number (select models only)	

Component		
(1)	Serial number	
(2)	Product number	
(3)	Warranty period	

Component	
(4)	Model number (select models only)
(5)	Revision number

- Regulatory label(s)—Provide(s) regulatory information about the computer.

- Wireless certification label(s)—Provide(s) information about optional wireless devices and the approval markings for the countries or regions in which the devices have been approved for use.

3 Illustrated parts catalog

Computer major components

NOTE: HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to http://partsurfer.hp.com, select your country or region, and then follow the on-screen instructions.

NOTE: Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer. See for details.
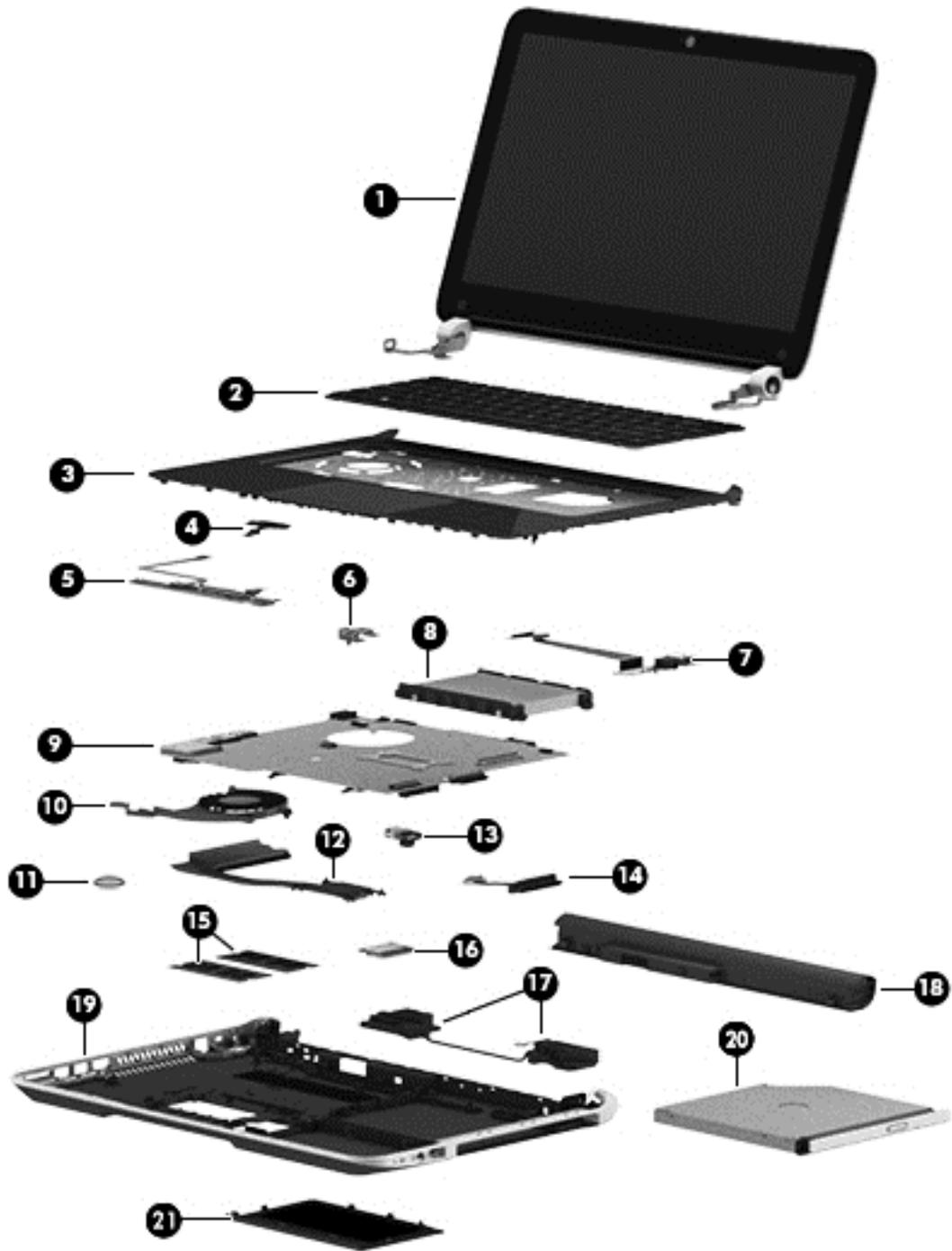
Item	Component	Spare part number
(1)	**Display assembly**:	
	35.56 cm (14.0 in), high definition (HD), WLED, SVA BrightView flat display assembly for use with HP Pavilion Notebooks. The display assembly is spared at the subcomponent level only. For more display assembly spare part information, see Display assembly subcomponents on page 30.	
	35.56 cm (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks:	
	Aluminum with midnight black	734414-001
	Flyer red	734410-001
	Goji berry	736814-001
	Hazel berry	736815-001
	Mineral black	736813-001
	Pearl white	734409 -001
	Raspberry	736816-001
	Regal purple	734412-001
	Revolutionary blue	734411-001
	Silver	734413-001
(2)	**Keyboard** (includes keyboard cable):	
	Textured island-style black finish for use in:	
	Brazil, for use with computer models with Intel processors	740102-201
	Canada	740102-DB1
	Czech Republic and Slovak Republic, for use with computer models with Intel processors	740102-FL1
	France, for use with computer models with Intel processors	740102-051
	Germany, for use with computer models with Intel processors	740102-041
	International use, for use with computer models with Intel processors	740102-B31
	Israel, for use with computer models with Intel processors	740102-BB1
	Japan, for use with computer models with Intel processors	740102-291
	Latin America	740102-161
	Nordic regions, for use with computer models with Intel processors	740102-DH1
	Portugal, for use with computer models with Intel processors	740102-131
	Russia, for use with computer models with Intel processors	740102-251
	Saudi Arabia, for use with computer models with Intel processors	740102-171
	South Korea	740102-AD1

Item	Component	Spare part number
	Spain	740102-071
	Switzerland, for use with computer models with Intel processors	740102-BG1
	Taiwan	740102-AB1
	Thailand	740102-281
	Turkey, for use with computer models with Intel processors	740102-141
	United Kingdom, for use with computer models with Intel processors	740102-031
	United States	740102-001
	Painted island-style white finish for use in:	
	Brazil, for use with computer models with Intel processors	740103-201
	Canada	740103-DB1
	Czech Republic and Slovak Republic, for use with computer models with Intel processors	740103-FL1
	France, for use with computer models with Intel processors	740103-051
	Germany, for use with computer models with Intel processors	740103-041
	International use, for use with computer models with Intel processors	740103-B31
	Israel, for use with computer models with Intel processors	740103-BB1
	Latin America	740103-161
	Nordic regions, for use with computer models with Intel processors	740103-DH1
	Portugal, for use with computer models with Intel processors	740103-131
	Russia, for use with computer models with Intel processors	740103-251
	Saudi Arabia, for use with computer models with Intel processors	740103-171
	South Korea	740103-AD1
	Spain, for use with computer models with Intel processors	740103-071
	Switzerland, for use with computer models with Intel processors	740103-BG1
	Taiwan	740103-AB1
	Thailand	740103-281
	Turkey, for use with computer models with Intel processors	740103-141
	United Kingdom, for use with computer models with Intel processors	740103-031
	United States	740103-001
(3)	**Top cover** (includes TouchPad and cable):	
	Aluminum with midnight black finish	734435-001
	Flyer red finish	734431-001
	Goji berry finish	736818-001

Item	Component	Spare part number
	Hazel berry finish	736819-001
	Mineral black finish	736817-001
	Pearl white finish	734430-001
	Raspberry finish	736820-001
	Regal purple finish	734433-001
	Revolutionary blue finish	734432-001
	Sparkling black finish	734434-001
(4)	**Power button board** (includes cable)	734416-001
(5)	**TouchPad button board** (includes cable)	734418-001
(6)	Power connector bracket is available with the power connector cable, spare part number 732067-001	
(7)	USB/audio board (includes cable)	734417-001
(8)	**Hard drive** (does not include hard drive rubber bracket, hard drive connector cable, or screws):	
	1 TB, 5400 rpm, 9.5 mm	676521-005
	750 GB, 5400 rpm, 9.5 mm	634250-005
	500 GB, 5400 rpm, 7.0 mm	683802-005
	mSATA solid-state drive, 24 GB (for use with select computer models with Intel processors, HM86 Express chipsets, and switchable discrete graphics)	732085-001
	Hard Drive Hardware Kit (not illustrated, includes hard drive rubber bracket, hard drive connector cable, and screws)	740706-001
(9)	**System board** (includes replacement thermal material):	
	For computer models equipped with Intel processors and UMA graphics	
	4th generation	
	Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu	734423-001
	Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard	734423-501
	Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional	734423-601
	Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu	734424-001
	Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard	734424-501
	Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional	734424-601
	For computer models equipped with Intel processors and UMA graphics	
	3rd generation	

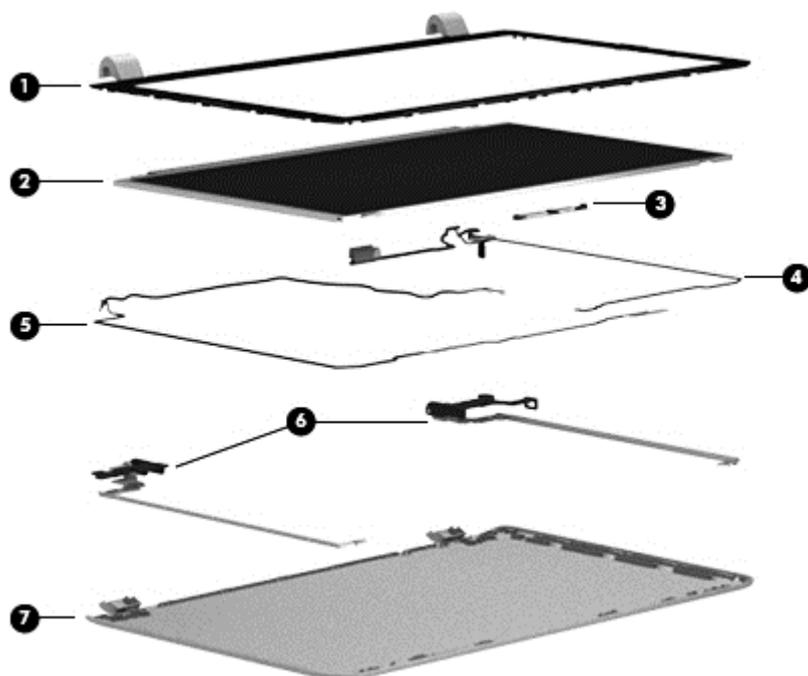| Item	Component	Spare part number
	Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738148-001
	Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738148-501
	Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738148-601
	Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738150-001
	Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738150-501
	Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738150-601
	For computer models equipped with Intel processors and discrete graphics	
	4th generation	
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC 15 W) for use with FreeDOS and Ubuntu	738154-001
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard	738154-501
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional	738154-601
	AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with FreeDOS and Ubuntu	734429-001
	AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard	734429-501
	AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional	734429-601
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with FreeDOS and Ubuntu	738156-001
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Standard	738156-501
	NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Professional	738156-601
	AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with FreeDOS and Ubuntu	734426-001
	AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Standard	734426-501
	AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Professional	734426-601
	AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with FreeDOS and Ubuntu	734427-001

Item	Component	Spare part number
	AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with Windows Standard	734427-501
	AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with Windows Professional	734427-601

For computer models equipped with Intel processors and discrete switchable graphics

3rd generation

Item	Component	Spare part number
	AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U 8670M 2 GB HM76 (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738152-001
	AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U 8670M 2 GB HM76 (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738152-501
	AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U 8670M 2 GB HM76 (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738152-601

For computer models equipped with AMD processors and UMA graphics

Item	Component	Spare part number
	AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core,15 W) for use with FreeDOS and Ubuntu	734443-001
	AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core, 15 W) for use with Windows Standard	734443-501
	AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L dual core, 19 W) for use with FreeDOS and Ubuntu	736821-001
	AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L dual core, 19 W) for use with Windows Standard	736821-501
	AMD A6-5200 (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu	734444-001
	AMD A6-5200 (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard	734444-501
	AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu	734446-001
	AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard	734446-501
	AMD A76M chipset, A8-4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu	736822-001
	AMD A76M chipset, A8-4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard	736822-501
	AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with FreeDOS and Ubuntu	734447-001
	AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with Windows Standard	734447-501

For computer models equipped with AMD processors and discrete switchable graphics

Item	Component	Spare part number
	AMD Radeon 8670M 1 GB graphics A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu	734440-001
	AMD Radeon 8670M 1 GB graphics A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard	734440-501
	AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9 GHz/2.1 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 25 W) for use with FreeDOS and Ubuntu	734441-001
	AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9 GHz/2.1 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 25 W) for use with Windows Standard	734441-501
(10)	**Fan**	732068-001
(11)	**RTC battery**	697917-001
(12)	**Heat sink assembly** (includes replacement thermal material):	
	For use only on computer models equipped with Intel processors and switchable discrete graphics	742582-001
	For use only on computer models equipped with Intel processors and UMA graphics	742581-001
	For use only on computer models equipped with Intel HM76 chipset and switchable discrete graphics	742331-001
	For use only on computer models equipped with Intel HM76 chipset and UMA graphics	742330-001
	For use only on computer models equipped with AMD processors and UMA graphics 19 W	734448-001
	For use only on computer models equipped with AMD processors and UMA graphics 25 W	734449-001
	For use only on computer models equipped with AMD processors and switchable discrete graphics 19 W	734450-001
	For use only on computer models equipped with AMD processors and switchable discrete graphics 25 W	734451-001
(13)	**Power connector cable** (includes bracket):	732067-001
(14)	Hard drive connector cable is available in the Hard Drive Hardware Kit, part number 740706-001	
(15)	**Memory modules** (2), (PC3L, 12800, 1600 MHz):	
	2 GB memory module	691739-001
	4 GB memory module	691740-001
	8 GB memory module	693374-001
(16)	**WLAN module:**	
	Intel Wireless-N 7260BN 802.11 bgn 2x2 Wi-Fi + BT 4.0 combo adaptor for use with computer models with Intel processors, not supported on Ubuntu	717384-001
	Mediatek MT7630E 802.11 bgn Wi-Fi Adapter and Mediatek Bluetooth 4.0 Adapter for use with computer models with Intel processors	710418-001

Item	Component	Spare part number
	Qualcomm Atheros AR9485 802.11 bgn Wi-Fi Adapter	675794-001
	Ralink RT3290LE 802.11 bgn 1×1 Wi-Fi and Bluetooth 4.0 Combo Adapter	690020-001
	Realtek RTL8188EE 802.11 bgn Wi-Fi Adapter	709848-001
(17)	**Speakers** (include subwoofer, speaker cables, and rubber isolators)	734422-001
(18)	**Battery**	
	4 cell, 41 Whr, 2.8 Ah, Li-ion battery	728460-001
	4 cell, 48 Whr, 3.2 Ah, Li-ion battery, for use with computer models with Intel processors	728461-001
(19)	**Base enclosure** (includes battery release latch mechanism, RJ45 cover, and screws)	734406-001
(20)	**Optical drive**, SuperMulti DVD±R/RW Double-Layer Drive (includes bezel, bracket, and screws)	734415-001
(21)	Service door (part of the Plastics Kit 734419-001)	

Display assembly subcomponents

NOTE: The display assembly subcomponents are for the HP Pavilion flat display models only. HP Pavilion TouchSmart Notebooks are spared at the display assembly only.

Item	Component	Spare part number
(1)	**Display bezel** (includes 2 rubber screws)	739355-001
(2)	**35.56 cm (14 in), BrightView, HD, WLED, SVA flat display panel** (Screws included in the screw kit, spare part number 734421-001)	734420-001
(3)	**Webcamera/microphone module** (includes adhesive and screws)	725665-001
(4)	**Display panel cable** (includes webcamera/microphone module cable and screws)	734407-001
(5)	**Antenna Kit** (includes left and right wireless antenna cables and transceivers and 2 rubber screws)	734400-001
(6)	**Display Hinge Kit** (includes left and right hinges and 2 rubber screws)	734408-001
(7)	**Display back cover** (includes 2 rubber screws):	
	Aluminum with midnight black finish	734405-001
	Flyer red finish	734401-001
	Goji berry finish	736810-001
	Hazel berry finish	736811-001
	Mineral black finish	736809-001
	Pearl white finish	726193-001
	Raspberry finish	736812-001

Item	Component	Spare part number
	Regal purple finish	734403-001
	Revolutionary blue finish	734402-001
	Silver finish	734404-001

Miscellaneous parts

Component	Spare part number
AC adapter:	
45 W HP Smart AC adapter (nPFC, RC, 3-wire, 4.5 mm)	
65 W HP Smart AC adapter (nPFC, RC, 3-wire, 4.5 mm), select models only	714657-001
65 W HP Smart AC adapter (nPFC, RC, 3-wire, 4.5 mm)	710412-001
90 W HP Smart AC adapter (PFC, RC, 3-wire, 4.5 mm), for use with computer models with AMD processors	710413-001
90 W HP Smart AC adapter (PFC, RC, 3-wire, 4.5 mm), for use with computer models with AMD processors, select models only	710414-001
Power cord (3 pin, black, 1.83 m):	
For use in the United States	490371-001
For use in Argentina	490371-D01
For use in Australia, for use with computer models with Intel processors	490371-011
For use in Brazil	490371-202
For use in Denmark, for use with computer models with Intel processors	490371-081
For use in Europe	490371-021
For use in India	490371-D61
For use in Israel, for use with computer models with Intel processors	490371-BB1
For use in Italy	490371-061
For use in Japan, for use with computer models with Intel processors	490371-291
For use in the People's Republic of China	490371-AA1
For use in South Africa, for use with computer models with Intel processors	490371-AR1
For use in South Korea	490371-AD1
For use in Switzerland, for use with computer models with Intel processors	490371-111
For use in Taiwan	490371-AB1
For use in Thailand	490371-201

Component	Spare part number
For use in the United Kingdom and Singapore	490371-031
Screw Kit	734421-001
HDMI to VGA Adapter for use with computer models with AMD processors	701943-001

Mass storage devices
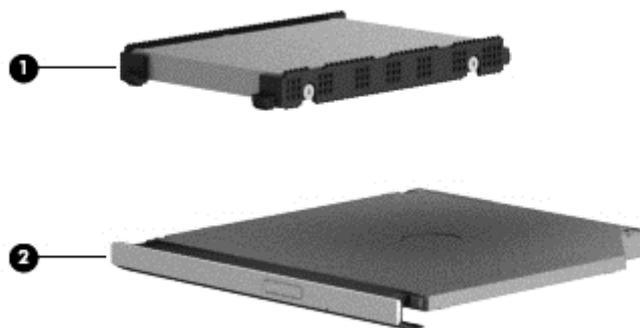
Item	Component	Spare part number
(1)	**Hard drive** (does not include the hard drive rubber bracket, hard drive connector cable, or screws)	
	1 TB, 5400 rpm, 9.5 mm	676521-005
	750 GB, 5400 rpm, 9.5 mm	634250-005
	500 GB 5400 rpm 7 mm	683802-005
	mSATA solid-state drive, 24 GB (for use with select computer models with Intel processors, HM86 Express chipsets, and switchable discrete graphics)	732085-001
	Hard Drive Hardware Kit, includes:	740706-001
	Hard drive rubber bracket	
	Hard drive connector cable	
	Hard drive screws	
(3)	**Optical drive:**	
	DVD+/-RW DL SuperMulti – support Zero power ODD (includes optical drive hardware kit with optical drive bezel, bracket and connector cable).	734415-001

Sequential part number listing

Spare part number	Description
490371-001	Power cord for use in North America (3 pin, black, 1.83 m)
490371-011	Power cord for use in Australia (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-021	Power cord for use in Europe (3 pin, black, 1.83 m)
490371-031	Power cord for use in the United Kingdom and Singapore (3 pin, black, 1.83 m)
490371-061	Power cord for use in Italy (3 pin, black, 1.83 m
490371-081	Power cord for use in Denmark (3 pin, black, 1.83 m), for use with computer models with Intel processors
49037-111	Power cord for use in Switzerland (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-201	Power cord for use in Thailand (3 pin, black, 1.83 m)
490371-202	Power cord for use in Brazil (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-291	Power cord for use in Japan (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-AA1	Power cord for use in the People's Republic of China (3 pin, black, 1.83 m)
490371-AB1	Power cord for use in Taiwan (3 pin, black, 1.83 m)
490371-AD1	Power cord for use in South Korea (3 pin, black, 1.83 m)
490371-AR1	Power cord for use in South Africa (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-BB1	Power cord for use in Israel (3 pin, black, 1.83 m), for use with computer models with Intel processors
490371-D01	Power cord for use in Argentina (3 pin, black, 1.83 m)
490371-D61	Power cord for use in India (3 pin, black, 1.83 m)
634250-005	750 GB, 5400 rpm hard drive (SATA, 9.5 mm, does not include hard drive rubber bracket, hard drive connector cable, or screws) **NOTE:** The hard drive rubber bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 740706-001.
675794-001	Qualcomm Atheros AR9485 802.11 bgn Wi-Fi Adapter
676521-005	1 TB, 5400 rpm hard drive (SATA, 9.5 mm, does not include hard drive rubber bracket, hard drive connector cable, or screws) **NOTE:** The hard drive rubber bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 740706-001.

Spare part number	Description
683802-005	500 GB, 5400 rpm hard drive (SATA, 7.0 mm, does not include hard drive rubber bracket, hard drive connector cable, or screws) **NOTE:** The hard drive rubber bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 740706-001.
690020-001	Ralink RT3290LE 802.11 bgn 1×1 Wi-Fi and Bluetooth 4.0 Combo Adapter
691739-001	2 GB memory module (PC3, 12800, 1600 MHz)
691740-001	4 GB memory module (PC3, 12800, 1600 MHz)
693374-001	8 GB memory module (PC3, 12800, 1600 MHz)
697917-001	RTC battery
701943-001	HDMI to VGA adapter for use with computer models with AMD processors
709848-001	Realtek RTL8188EE 802.11 bgn Wi-Fi Adapter
710412-001	65 W HP Smart AC adapter (nPFC, RC, 3-wire, 4.5 mm), select models only
710413-001	90 W HP Smart AC adapter (PFC, RC, 3-wire, 4.5 mm) for use with computer models with AMD processors
710414-001	90 W HP Smart AC adapter (PFC, RC, 3-wire, 4.5 mm) for use with computer models with AMD processors, select models only
710418-001	Mediatek MT7630E 802.11 bgn Wi-Fi Adapter and Mediatek Bluetooth 4.0 Adapter, for use with computer models with Intel processors
714657-001	65 W HP Smart AC adapter (nPFC, RC, 3-wire, 4.5 mm), select models only
717384-001	Intel Wireless-N 7260BN 802.11 bgn 2x2 Wi-Fi + BT 4.0 combo adaptor for use with computer models with Intel processors; not supported on Ubuntu
725665-001	Webcamera/microphone module (includes adhesive and screws)
726193-001	Display back cover in pearl white (includes screws)
728460-001	4 cell, 41 Whr, 2.8 Ah, Li-ion battery
728461-001	4 cell, 48 Whr, 3.2 Ah, Li-ion battery, for use with computer models with Intel processors
732067-001	Power connector cable (includes bracket)
732068-001	Fan
732085-001	mSATA solid-state drive, 24 GB, for use with select computer models with Intel processors, HM86 Express chipsets, and switchable discrete graphics, (does not include hard drive rubber bracket, hard drive connector cable, or screws) **NOTE:** The hard drive rubber bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 740706-001.
734400-001	Antenna Kit (includes left and right wireless antenna cables and transceivers and 2 rubber screws)
734401-001	Display back cover in flyer red
734402-001	Display back cover in revolutionary blue
734403-001	Display back cover in regal purple

Spare part number	Description
734404-001	Display back cover in silver finish (includes 2 rubber screw covers)
734405-001	Display back cover in aluminum with midnight black
734406-001	Base enclosure (includes battery release latch mechanism , RJ-45 cover, and screws)
734407-001	Display panel cable (includes (includes webcamera/microphone module cable and screws)
734408-001	Display Hinge Kit (includes left and right hinges and 2 rubber screws)
734409-001	Display assembly, pearl white, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734410-001	Display assembly, flyer red, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734411-001	Display assembly, revolutionary blue, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734412-001	Display assembly, regal purple, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734413-001	Display assembly, silver, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734414-001	Display assembly, aluminum with midnight black, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
734415-001	Optical drive, DVD±RW Double-Layer SuperMulti Drive (includes bezel and bracket)
734416-001	Power button board (includes cable)
734417-001	USB/audio board (includes cable)
734418-001	TouchPad button board (includes cable)
734419-001	Plastics Kit (includes service door)
734420-001	**35.56 cm** (14 in), WLED, HD, BrightView flat display panel for use with HP Pavilion Notebooks only
734421-001	Screw Kit
734422-001	Speakers (include subwoofer, speaker cables, and rubber isolators)
734423-001	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu (includes replacement thermal material)
734423-501	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard (includes replacement thermal material)
734423-601	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional. (includes replacement thermal material)
734424-001	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu (includes replacement thermal material)

Spare part number	Description
734424-501	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard (includes replacement thermal material)
734424-601	System board for use with computer models with UMA graphics, Intel HM86 Express chipset, and Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional (includes replacement thermal material)
734426-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz processor 3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu (includes replacement thermal material)
734426-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz processor 3.0 MB L3 cache, 15 W) for use with Windows Standard (includes replacement thermal material)
734426-601	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz processor 3.0 MB L3 cache, 15 W) for use with Windows Professional (includes replacement thermal material)
734427-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with FreeDOS and Ubuntu (includes replacement thermal material)
734427-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with Windows Standard (includes replacement thermal material)
734427-601	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz DC, 15 W) for use with Windows Professional (includes replacement thermal material)
734429-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with FreeDOS and Ubuntu
734429-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard
734429-601	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional
734430-001	Top cover in pearl white finish (includes TouchPad and cable)
734431-001	Top cover in flyer red finish (includes TouchPad and cable)
734432-001	Top cover in revolutionary blue finish (includes TouchPad and cable)
734433-001	Top cover in regal purple finish (includes TouchPad and cable)
734434-001	Top cover in sparkling black finish (includes TouchPad and cable)
734435-001	Top cover in aluminum with midnight black finish (includes TouchPad and cable)
734440-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 1 GB graphics and A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu

Spare part number	Description
734440-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 1 GB graphics and A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard
734441-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9GHz/2.1GHz, 2 GB L2, 1333 MHz DDR3L quad core, 25 W) for use with FreeDOS and Ubuntu
734441-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9 GHz/2.1 GHz, 2 GB L2, 1333 MHz DDR3L quad core, 25 W) for use with Windows Standard
734443-001	System board for use with computer models with UMA graphics, AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core, 15 W) for use with FreeDOS and Ubuntu
734443-501	System board for use with computer models with UMA graphics, AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core, 15 W) for use with Windows Standard
734444-001	System board for use with computer models with UMA graphics, AMD A6-5200 (2.6 GHz/ 2.1GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu
734444-501	System board for use with computer models with UMA graphics, AMD A6-5200 (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard
734446-001	System board for use with computer models with UMA graphics, AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu
734446-501	System board for use with computer models with UMA graphics, AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard
734447-001	System board for use with computer models with UMA graphics, AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with FreeDOS and Ubuntu
734447-501	System board for use with computer models with UMA graphics, AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with Windows Standard
734448-001	Heat sink for use only on computer models equipped with a graphics subsystem with AMD UMA graphics, 19 W
734449-001	Heat sink for use only on computer models equipped with a graphics subsystem with AMD UMA graphics, 25 W
734451-001	Heat sink for use only on computer models equipped with a graphics subsystem with AMD switchable discrete graphics, 25 W
736809-001	Display back cover in mineral black finish
736810-001	Display back cover in goji berry finish
736811-001	Display back cover in hazel berry finish
736812-001	Display back cover in raspberry finish
736813-001	Display assembly, mineral black, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
736814-001	Display assembly, goji berry, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
736815-001	Display assembly, hazel berry, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks

Spare part number	Description
736816-001	Display assembly, raspberry, **35.56 cm** (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks
736817-001	Top cover in mineral black finish (includes TouchPad and cable)
736818-001	Top cover in goji berry finish (includes TouchPad and cable)
736819-001	Top cover in hazel berry finish (includes TouchPad and cable)
736820-001	Top cover in raspberry finish (includes TouchPad and cable)
736821-001	System board for use with computer models with UMA graphics, AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L Dual 19 W) for use with FreeDOS and Ubuntu
736821-501	System board for use with computer models with UMA graphics, AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L Dual 19 W) for use with Windows Standard
736822-001	System board for use with computer models with UMA graphics, AMD A76M chipset, A8 4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu
736822-501	System board for use with computer models with UMA graphics, AMD A76M chipset, A8-4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard
738148-001	System board for use with computer models with UMA graphics, Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu
738148-501	System board for use with computer models with UMA graphics, Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard
738148-601	System board for use with computer models with UMA graphics, Intel HM76 chipset and Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional
738150-001	System board for use with computer models with UMA graphics, Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu.
738150-501	System board for use with computer models with UMA graphics, Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard
738150-601	System board for use with computer models with UMA graphics, Intel HM76 chipset and Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional
738152-001	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U (1.8 GHz, 3 MB, L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu
738152-501	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2GB graphics and Intel Core i3-3217U 8670M 2 GB (1.8 GHz, 3 MB, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard
738152-601	System board for use with computer models with switchable discrete graphics, AMD Radeon 8670M 2GB graphics and Intel Core i3-3217U 8670M 2 GB (1.8 GHz, 3 MB, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional

Spare part number	Description
738154-001	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with FreeDOS and Ubuntu
738154-501	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard
738154-601	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional
738156-001	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with FreeDOS and Ubuntu
738156-501	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Standard
738156-601	System board for use with computer models with switchable discrete graphics, NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Professional
739355-001	Display bezel (includes 2 rubber screw covers and rubber bumpers), for the HP Pavilion flat display models only
740102-001	Keyboard in black finish for use in the United States (includes keyboard cable)
740102-031	Keyboard in black finish for use in the United Kingdom (includes keyboard cable) for use with computer models with Intel processors
740102-041	Keyboard in black finish for use in Germany (includes keyboard cable) for use with computer models with Intel processors
740102-051	Keyboard in black finish for use in France (includes keyboard cable) for use with computer models with Intel processors
740102-071	Keyboard in black finish for use in Spain (includes keyboard cable) for use with computer models with Intel processors
740102-131	Keyboard in black finish for use in Portugal (includes keyboard cable) for use with computer models with Intel processors
740102-141	Keyboard in black finish for use in Turkey (includes keyboard cable) for use with computer models with Intel processors
740102-161	Keyboard in black finish for use in Latin America (includes keyboard cable)
740102-171	Keyboard in black finish for use in Saudi Arabia (includes keyboard cable) for use with computer models with Intel processors
740102-201	Keyboard in black finish for use in Brazil (includes keyboard cable) for use with computer models with Intel processors
740102-251	Keyboard in black finish for use in Russia (includes keyboard cable) for use with computer models with Intel processors
740102-281	Keyboard in black finish for use in Thailand (includes keyboard cable)

Spare part number	Description
740102-291	Keyboard in black finish for use in Japan (includes keyboard cable) for use with computer models with Intel processors
740102-AB1	Keyboard in black finish for use in Taiwan (includes keyboard cable)
740102-AD1	Keyboard in black finish for us in South Korea (includes keyboard cable)
740102-B31	Keyboard in black finish for International use (includes keyboard cable) for use with computer models with Intel processors
740102-BB1	Keyboard in black finish for use in Israel (includes keyboard cable) for use with computer models with Intel processors
740102-BG1	Keyboard in black finish for use in Switzerland (includes keyboard cable) for use with computer models with Intel processors
740102-DB1	Keyboard in black finish for use in Canada (includes keyboard cable)
740102-DH1	Keyboard in black finish for use in Nordic regions (includes keyboard cable) for use with computer models with Intel processors
740102-FL1	Keyboard in black finish for use in the Czech Republic and Slovak Republic (includes keyboard cable) for use with computer models with Intel processors
740103-001	Keyboard in painted island-style pearl white finish for use in the United States (includes keyboard cable)
740103-031	Keyboard in painted island-style pearl white finish for use in United Kingdom (includes keyboard cable), for use with computer models with Intel processors
740103-041	Keyboard in painted island-style pearl white finish for use in Germany (includes keyboard cable), for use with computer models with Intel processors
740103-051	Keyboard in painted island-style pearl white finish for use in France (includes keyboard cable), for use with computer models with Intel processors
740103-071	Keyboard in painted island-style pearl white finish for use in Spain (includes keyboard cable), for use with computer models with Intel processors
740103-131	Keyboard in painted island-style pearl white finish for use in Portugal (includes keyboard cable), for use with computer models with Intel processors
740103-141	Keyboard in painted island-style pearl white finish for use in Turkey (includes keyboard cable), for use with computer models with Intel processors
740103-161	Keyboard in painted island-style pearl white finish for use in Latin America (includes keyboard cable)
740103-171	Keyboard in painted island-style pearl white finish for use in Saudi Arabia (includes keyboard cable), for use with computer models with Intel processors
740103-201	Keyboard in painted island-style pearl white finish for use in Brazil (includes keyboard cable), for use with computer models with Intel processors
740103-251	Keyboard in painted island-style pearl white finish for use in Russia (includes keyboard cable), for use with computer models with Intel processors
740103-281	Keyboard in painted island-style pearl white finish for use in Thailand (includes keyboard cable)
740103-291	Keyboard in painted island-style pearl white finish for use in Japan (includes keyboard cable), for use with computer models with Intel processors

Spare part number	Description
740103-AB1	Keyboard in painted island-style pearl white finish for use in Taiwan (includes keyboard cable)
740103-AD1	Keyboard in painted island-style pearl white finish for use in South Korea (includes keyboard cable)
740103-B31	Keyboard in painted island-style pearl white finish for International use (includes keyboard cable), for use with computer models with Intel processors
740103-BB1	Keyboard in painted island-style pearl white finish for use in Israel (includes keyboard cable), for use with computer models with Intel processors
740103-BG1	Keyboard in painted island-style pearl white finish for use in Switzerland (includes keyboard cable), for use with computer models with Intel processors
740103-DB1	Keyboard in painted island-style pearl white finish for use in Canada (includes keyboard cable)
740103-DH1	Keyboard in painted island-style pearl white finish for use in Nordic regions (includes keyboard cable) for use with computer models with Intel processors
740103-FL1	Keyboard in painted island-style pearl white finish for use in the Czech Republic and Slovak Republic (includes keyboard cable) for use with computer models with Intel processors
740706-001	Hard Drive Hardware Kit (includes hard drive rubber bracket, hard drive connector cable, and screws)
742330-001	For use only on computer models equipped with Intel HM76 chipset and UMA graphics
742331-001	For use only on computer models equipped with Intel HM76 chipset and switchable discrete graphics
742581-001	For use only on computer models equipped with Intel processors and UMA graphics
742582-001	For use only on computer models equipped with Intel processors and switchable discrete graphics

4 Removal and replacement procedures preliminary requirements

Tools required

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

- Flat-bladed screwdriver
- Magnetic screwdriver
- Phillips P0 and P1 screwdrivers

Service considerations

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

NOTE: 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

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.

Before removing a diskette drive or optical drive, be sure that a diskette or disc is not in the drive and be sure that the optical drive tray is closed.

Handle drives on surfaces covered with at least one inch of shock-proof foam.

Avoid dropping drives from any height onto any surface.

Avoid exposing an internal hard drive to products that have magnetic fields, such as monitors or speakers.

Avoid exposing an internal 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, 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.

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 the parts arrive at static-free workstations.

● Place items on a grounded surface before removing items 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 grounding workstation 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 staticsafe 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 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 plastics	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

5 Removal and replacement procedures for Customer Self-Repair parts

NOTE: HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to http://partsurfer.hp.com, select your country or region, and then follow the on-screen instructions.

NOTE: The Customer Self-Repair program is not available in all locations. Installing a part not supported by the Customer Self-Repair program may void your warranty. Check your warranty to determine if Customer Self-Repair is supported in your location.

Component replacement procedures

NOTE: Please read and follow the procedures described here to access and replace Customer Self-Repair parts successfully.

NOTE: Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer. See Labels on page 19 for details.

This chapter provides removal and replacement procedures for Customer Self-Repair parts.

There may be as many as 5 screws that must be removed, replaced, and/or loosened when servicing Customer Self-Repair parts. Make special note of each screw size and location during removal and replacement.

Battery

| Description	Spare part number
4 cell, 41 Whr, 2.8 Ah, Li-ion battery	728460-001
4 cell, 48 Whr, 3.2 Ah, Li-ion battery, for use with computer models with Intel processors	728461-001

Before disassembling the computer, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

Remove the battery:

1. Turn the computer upside down on a flat surface.

2. Firmly slide the battery lock latch **(1)** to unlock the battery and slide the battery release latch **(2)** to release the battery.

3. Slide the battery **(3)** from the middle to remove it from the computer.

To insert the battery:

⚠ **CAUTION:**   Do not slant the battery as you insert it. Slide the battery in straight.

1. Holding the battery in the middle, slide the battery **(1)** straight into the computer until the battery release latch locks into place.

2. Reset the battery lock latch **(2)** to the locked position.
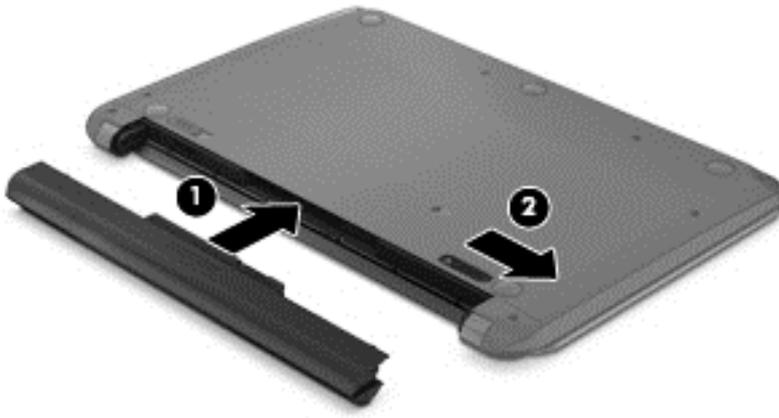
Service door

Description	Spare part number
Service door is available with the Plastics Kit.	734419-001

1. Using a small Phillips screwdriver, loosen the service door screw **(1)**.

2. Lift the door **(2)**.

3. Slide the service door **(3)** forward to remove.
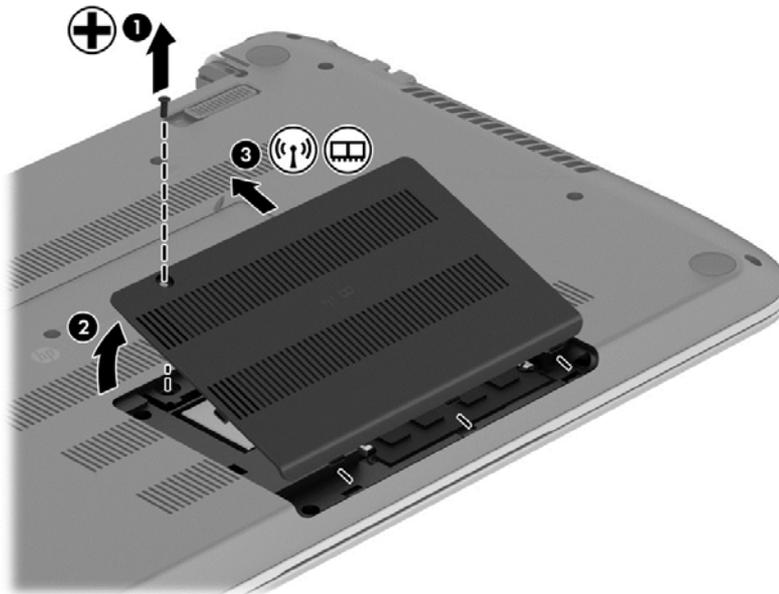
Memory module

Description	Spare part number
4 GB memory module (PC3, 12800, 1600 MHz)	691740-001
2 GB memory module (PC3, 12800, 1600 MHz)	691739-001
8 GB memory module (PC3, 12800, 1600 MHz)	693374-001

NOTE: Before adding memory modules, make sure the computer has the most recent BIOS version, and update the BIOS if needed. For Windows operating systems, see Updating the BIOS on page 105; for Linux Ubuntu, see Updating the BIOS on page 110.

Before removing a memory module, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49).

5. Remove the service door (see Service door on page 50).

Remove the memory module:

NOTE: Note the location of the memory module **(1)** you are removing. If you are replacing it, install the new memory module in the same slot.
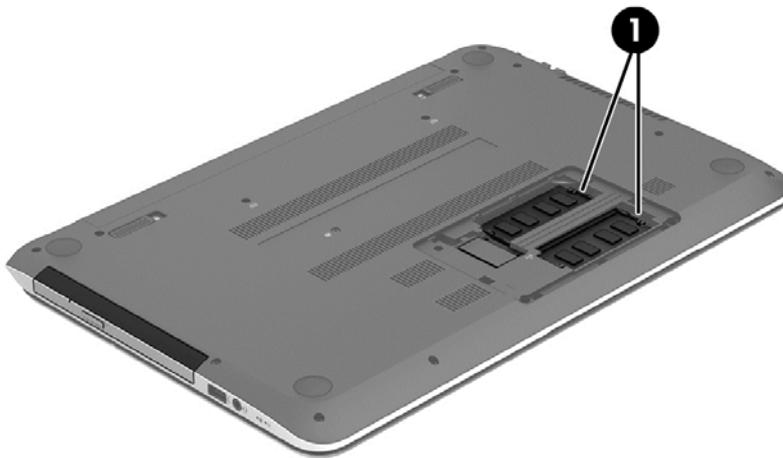
1. Spread the two retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The memory module tilts up.)

2. Remove the memory module **(2)** by pulling it away from the slot at a 45 degree angle.
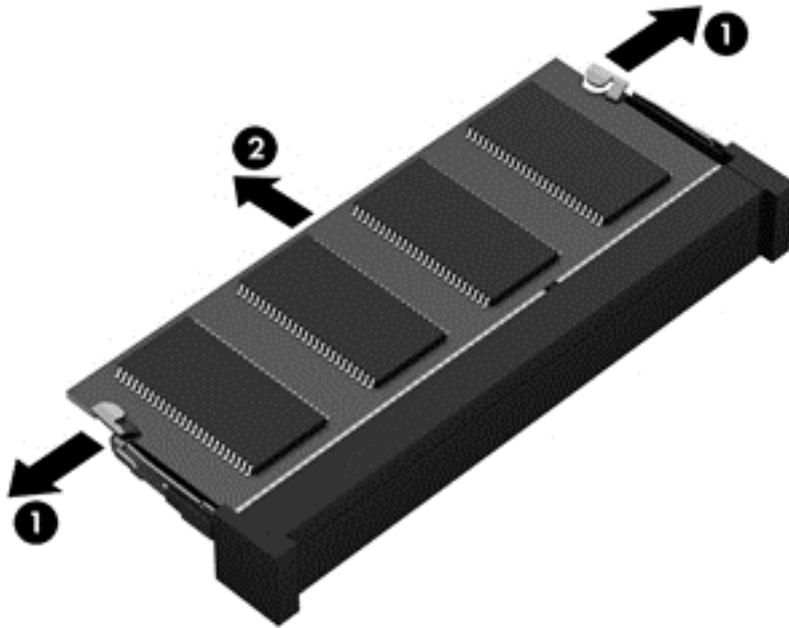
Reverse this procedure to install the memory module.

WLAN module

Description	Spare part number
Intel Wireless-N 7260BN 802.11 bgn 2x2 Wi-Fi + BT 4.0 combo adaptor for use with computer models with Intel processors; not supported on Ubuntu	717384-001
Mediatek MT7630E 802.11 bgn Wi-Fi Adapter and Mediatek Bluetooth 4.0 Adapter for use with computer models with Intel processors	710418-001
Qualcomm Atheros AR9485 802.11 bgn Wi-Fi Adapter	675794-001
Ralink RT3290LE 802.11 bgn 1×1 Wi-Fi and Bluetooth 4.0 Combo Adapter	690020-001
Realtek RTL8188EE 802.11 bgn Wi-Fi Adapter	709848-001

⚠ **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 device functionality, and then contact technical support.

Before removing the WLAN module, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49).

5. Remove the service door (see Service door on page 50).

6. Locate the WLAN module **(1)**.
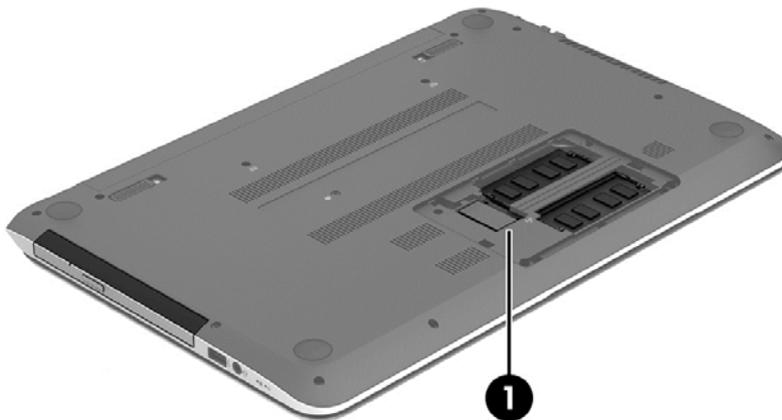
Remove the WLAN module:

1. Disconnect the WLAN antenna cables **(1)** from the terminals on the WLAN module.

   NOTE: The #1 WLAN antenna cable is connected to the WLAN module "Main" terminal. The #2 WLAN antenna cable is connected to the WLAN module "Aux" terminal.

2. Remove the Phillips M2.0×2.5 screw **(2)** that secures the WLAN module to the system board. (The WLAN module tilts up.)

3. Remove the WLAN module **(3)** by pulling the module away from the slot at an angle.
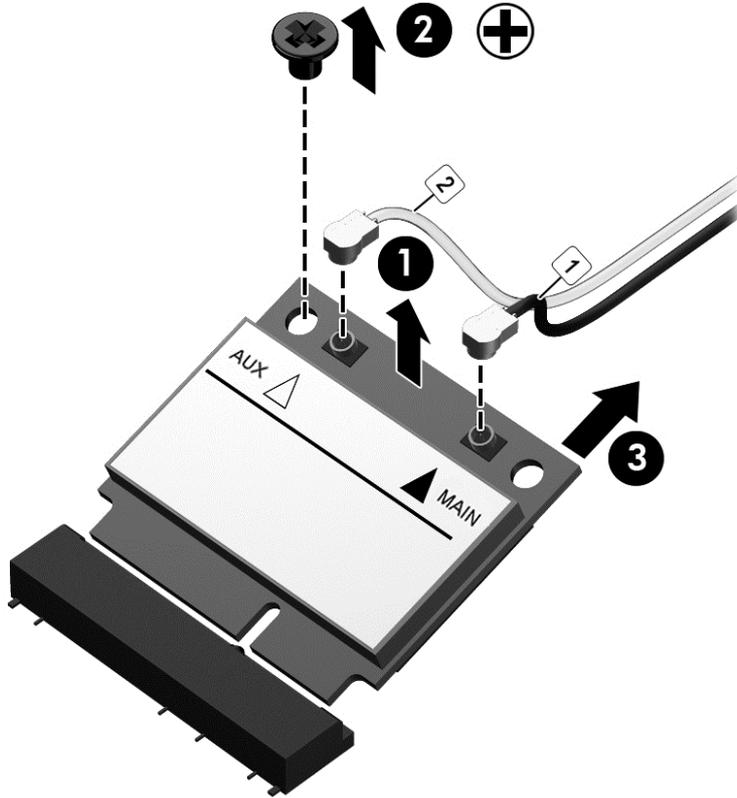
NOTE: If the WLAN antennas are not connected to the terminals on the WLAN module, the protective sleeves should be installed on the antenna connectors, as shown in the following illustration.

Reverse this procedure to install the WLAN module.

Optical drive

NOTE: The optical drive spare part kit includes a bezel and bracket.

Description	Spare part number
Optical drive, SuperMulti DVD±R/RW Double-Layer Drive (includes bezel, bracket, and screws)	734415-001

Before removing the optical drive, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see).

Remove the optical drive:

1. Using a small Phillips screwdriver, remove the Phillips M2.5×6.5 screw that secures the optical drive to the computer **(1)**.

2. Using the screwdriver, push on the rear of the optical drive to disconnect it from the computer

3. If necessary, use an unbent paperclip and press in gently on the paper clip **(2)** until the disc tray releases. Pull the tray **(3)** out from the front until the optical drive is completely removed from the computer.
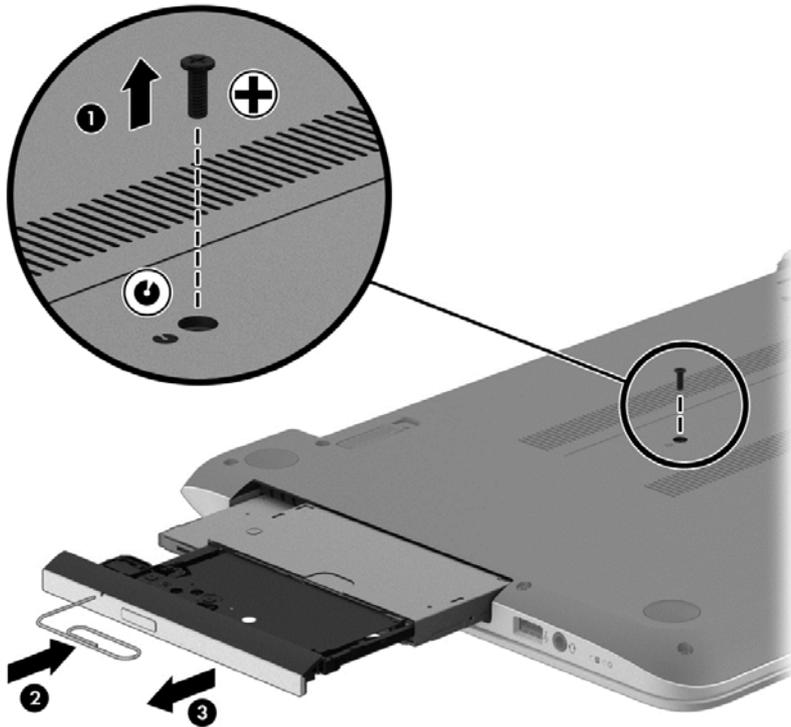
If it is necessary to replace the optical drive bracket and bezel, position the optical drive with the rear panel toward you.

1. Remove the two Phillips screws from the optical drive **(1)** and remove the bracket **(2)**.
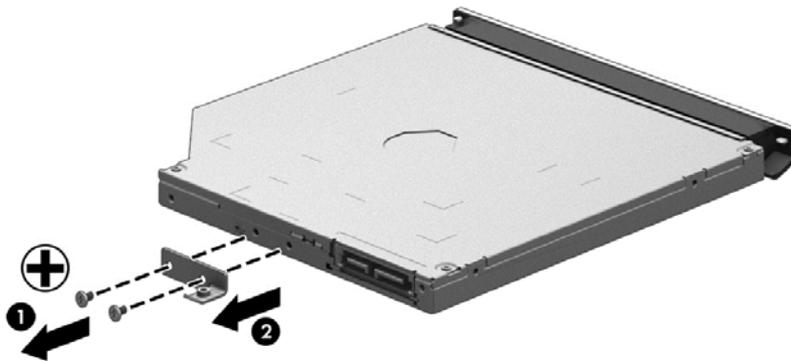
2. Use an unbent paperclip and press in gently on the paper clip **(1)** and release from the tab **(2)** until the disc tray releases. Tilt the tray **(3)** and pull the bezel **(4)** to remove it.
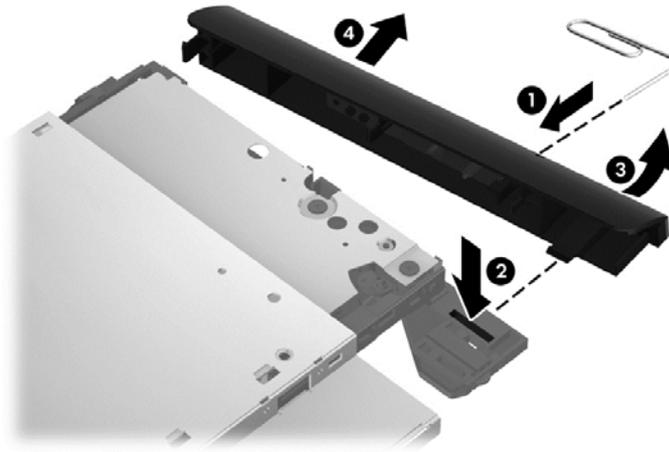
Reverse this procedure to reassemble and install the optical drive.

6 Removal and replacement procedures for Authorized Service Provider parts

NOTE: HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to http://partsurfer.hp.com, select your country or region, and then follow the on-screen instructions.

CAUTION: Components described in this chapter should only be accessed by an authorized service provider. Accessing these parts can damage the computer or void the warranty.

Component replacement procedures

NOTE: Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer. See Labels on page 19 for details.

This chapter provides removal and replacement procedures for Authorized Service Provider only parts.

There may be as many as 51 screws that must be removed, replaced, and/or loosened when servicing Authorized Service Provider only parts. Make special note of each screw size and location during removal and replacement.

Display panel

NOTE: These procedures are for replacing the display panel for HP Pavilion Notebook. For procedures to replace the HP Pavilion Notebook display assembly subcomponents, see Display assembly on page 98 and then Display assembly subcomponents on page 101. For procedures to replace the HP Pavilion TouchSmart display assembly, see Display assembly on page 98.

Description	Spare part number
Display bezel (includes 2 rubber screws)	739355-001
Display panel, **35.56 cm** (14 in), WLED, HD, BrightView flat display panel	734420-001

IMPORTANT: Make special note of each screw and screw lock size and location during removal and replacement

Before removing the display panel, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49).

Remove the panel:

If it is necessary to replace the display bezel:

1. Remove the plastic screw covers **(1)** and the two Phillips M2.5×3.0 screws **(2)** that secure the display bezel to the display assembly.

2. If it is necessary to replace the display bezel or any of the display assembly subcomponents:

   a. Flex the inside edges of the bottom edge **(3)**, the left and right sides **(4)**, and the top edge **(5)** of the display bezel until the bezel disengages from the display enclosure.

b. Remove the display bezel **(6)**.
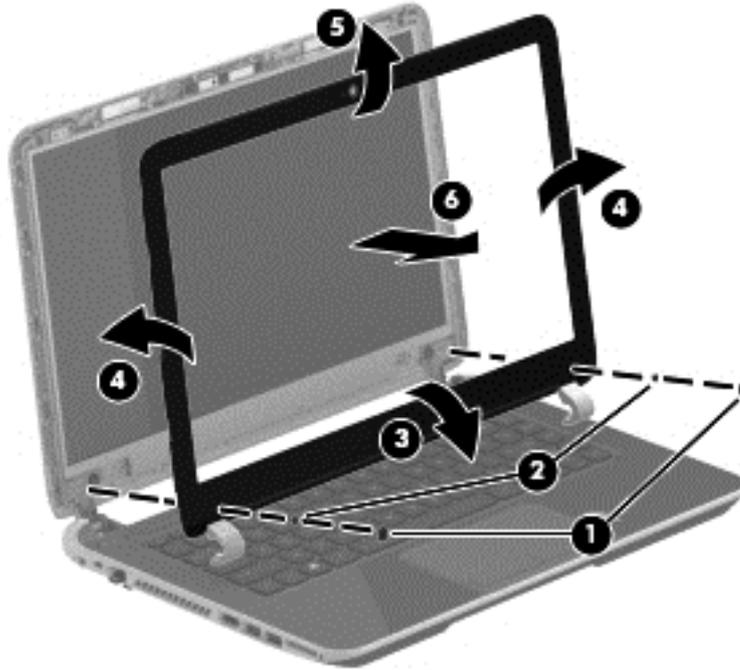
c. Remove the four Phillips M2.0×2.5 screws **(1)** and carefully move the display panel **(2)** to the keyboard.
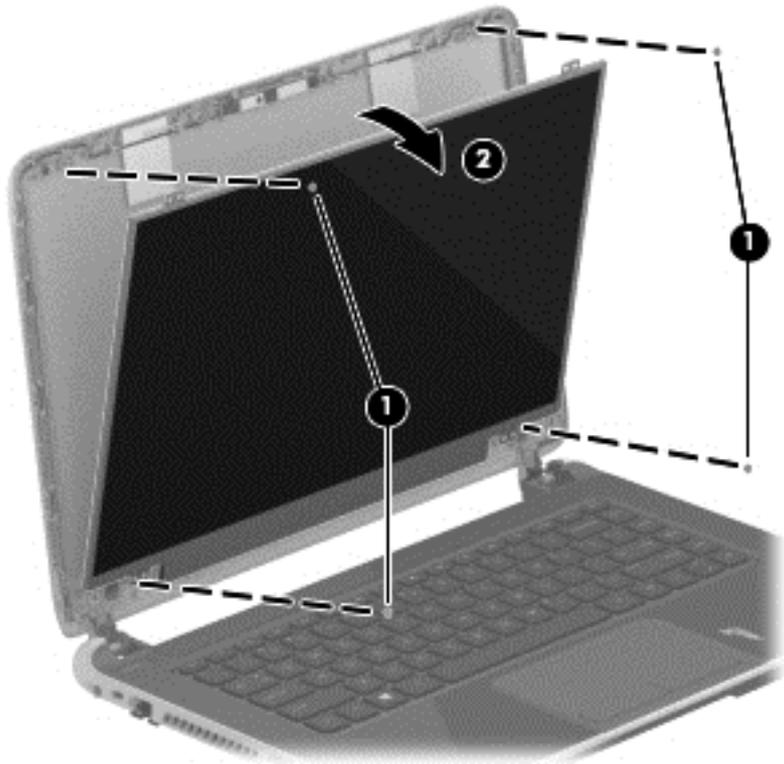
Release the tab **(1)** and disconnect the display panel cable connector **(2)**. Lift the panel **(3)** to remove it.
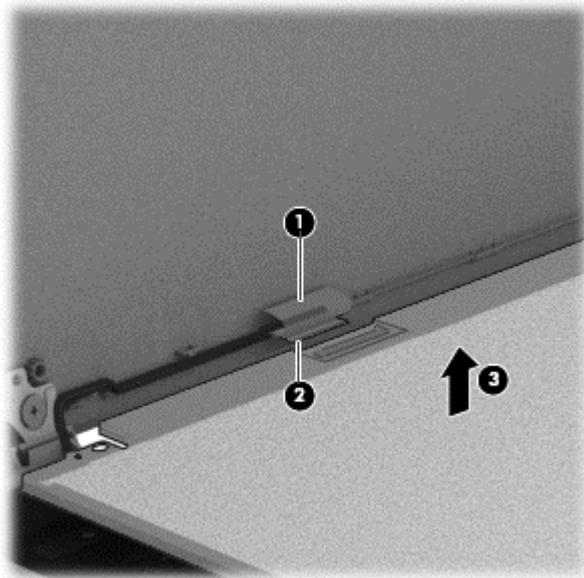
Reverse this procedure to replace the panel.

Keyboard

NOTE: The keyboard spare part kit includes a keyboard cable.

Description	Spare part number
Textured island-style black finish for use in the United States	740102-001
Textured island-style black finish for use in United Kingdom	740102-031
Textured island-style black finish for use in Germany	740102-041
Textured island-style black finish for use in France	740102-051
Textured island-style black finish for use in Spain	740102-071
Textured island-style black finish for use in Portugal	740102-131
Textured island-style black finish for use in Turkey	740102-141
Textured island-style black finish for use in Latin America	740102-161
Textured island-style black finish for use in Saudi Arabia	740102-171
Textured island-style black finish for use in Brazil	740102-201
Textured island-style black finish for use in Russia	740102-251
Textured island-style black finish for use in Thailand	740102-281
Textured island-style black finish for use in Japan	740102-291
Textured island-style black finish for use in Taiwan	740102-AB1
Textured island-style black finish for use in South Korea	740102-AD1
Textured island-style black finish for International use	740102-B31
Textured island-style black finish for use in Israel	740102-BB1
Textured island-style black finish for use in Switzerland	740102-BG1
Textured island-style black finish for use in Canada	740102-DB1
Textured island-style black finish for use in Nordic regions	740102-DH1
Textured island-style black finish for use in the Czech Republic and Slovak Republic, for use with computer models with Intel processors	740102-FL1
Painted island-style white finish for use in the United States	740103-001
Painted island-style white finish for use in the United Kingdom, for use with computer models with Intel processors	740103-031
Painted island-style white finish for use in Greece, for use with computer models with Intel processors	740103-041
Painted island-style white finish for use in France, for use with computer models with Intel processors	740103-051
Painted island-style white finish for use in Spain, for use with computer models with Intel processors	740103-071

Description	Spare part number
Painted island-style white finish for use in Portugal, for use with computer models with Intel processors	740103-131
Painted island-style white finish for use in Turkey, for use with computer models with Intel processors	740103-141
Painted island-style white finish for use in Latin America	740103-161
Painted island-style white finish for use in Saudi Arabia, for use with computer models with Intel processors	740103-171
Painted island-style white finish for use in Brazil, for use with computer models with Intel processors	740103-201
Painted island-style white finish for use in Russia, for use with computer models with Intel processors	740103-251
Painted island-style white finish for use in Thailand	740103-281
Painted island-style white finish for use in Japan, for use with computer models with Intel processors	740597-291
Painted island-style white finish for use in Taiwan	740103-AB1
Painted island-style white finish for use in Korea	740103-AD1
Painted island-style white finish for International use, for use with computer models with Intel processors	740103-B31
Painted island-style white finish for use in Israel, for use with computer models with Intel processors	740103-BB1
Painted island-style white finish for use in Switzerland, for use with computer models with Intel processors	740103-BG1
Painted island-style white finish for use in Canada	740103-DB1
Painted island-style white finish for use in Nordic regions, for use with computer models with Intel processors	740103-DH1
Painted island-style white finish for use in the Czech Republic and Slovak Republic, for use with computer models with Intel processors	740103-FL1

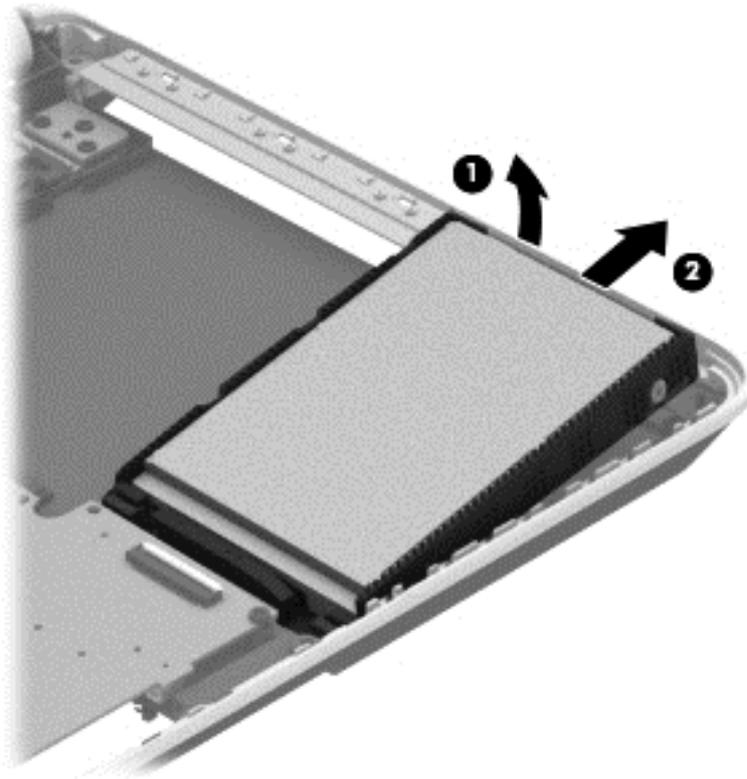Before removing the keyboard, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49).

Remove the keyboard:

1. Remove the 2 Phillips M2.5×6.5 screws that secure the keyboard to the computer.
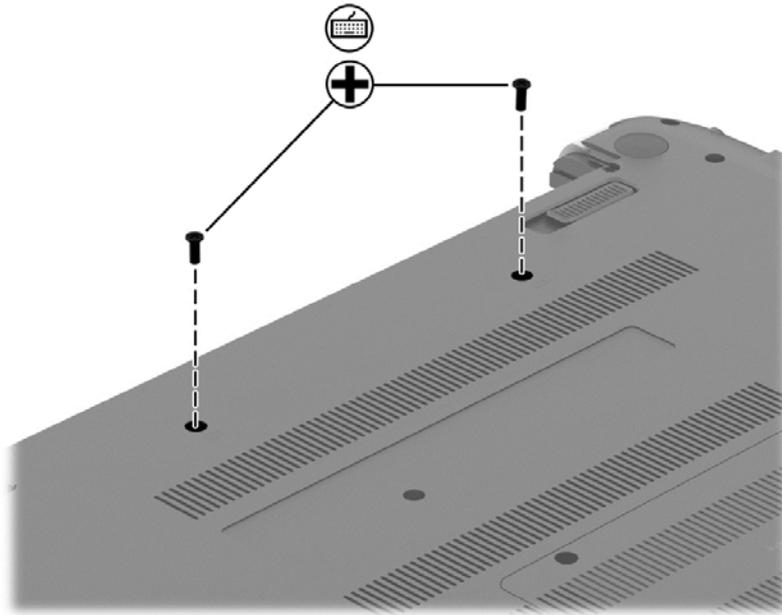
2. Rest the computer on its left side.

3. Open the computer.

4. Insert a thin tool or a keyboard push tool into the left retention screw hole, and then press on the back of the keyboard until the keyboard disengages from the computer.

5. Turn the computer right-side up with the front toward you.

6. Gently slide your finger along the top edge of the keyboard to release the keyboard clips **(1)**. Lift up the rear edge of the keyboard **(2)**.
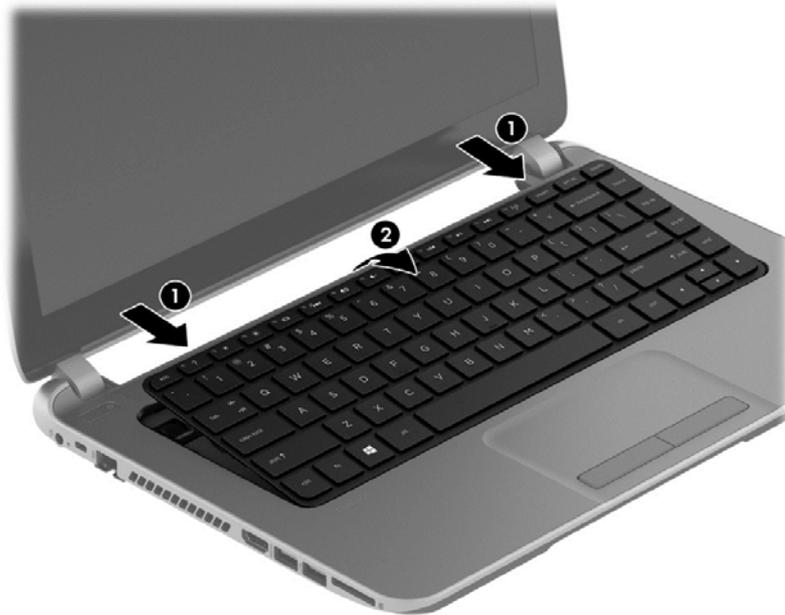
7. Swing the keyboard **(1)** up and forward until it rests upside down on the palm rest. Release the ZIF connector **(2)** by lifting connector tab and then disconnecting the keyboard cable **(3)** from the system board.

8. Remove the keyboard **(4)**.
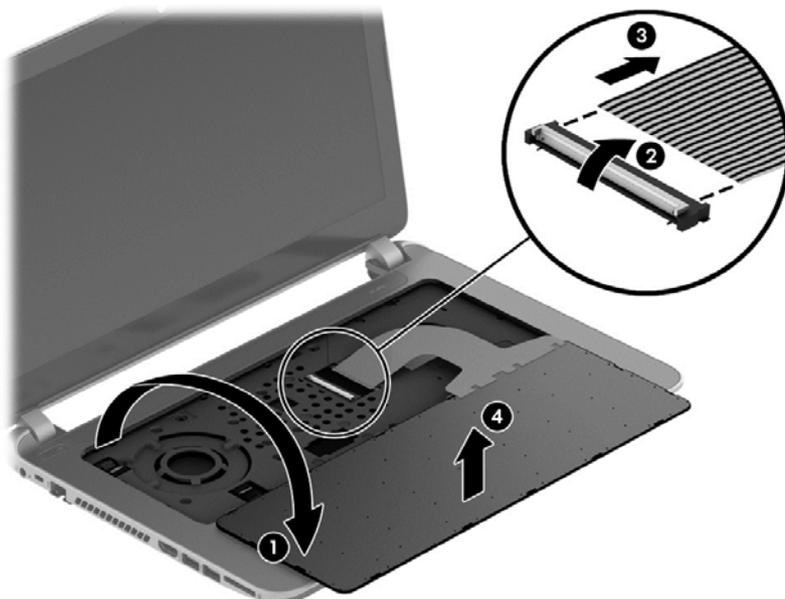
Reverse this procedure to install the keyboard.

Top cover

NOTE: The top cover spare part kit includes the TouchPad and cable.

Description	Spare part number
Aluminum with midnight black finish	734435-001
Flyer red finish	734431-001
Goji berry finish	736818-001
Hazel berry finish	736819-001
Mineral black finish	736817-001
Pearl white finish	734430-001
Raspberry finish	736820-001
Revolutionary blue finish	734432-001
Regal purple finish	734433-001
Sparkling black finish	734434-001

IMPORTANT: Make special note of each screw and screw lock size and location during removal and replacement

Before removing the top cover, follow these steps:

1. Shut down the computer.

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 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. Keyboard (see Keyboard on page 62)

   c. Service door (see Service door on page 50)

   d. WLAN module (see WLAN module on page 53)

   e. Memory module (see Memory module on page 51)

Remove the top cover:

1. Remove the 5 Phillips M2.5×3.0 screws that secure the top cover to the base enclosure.
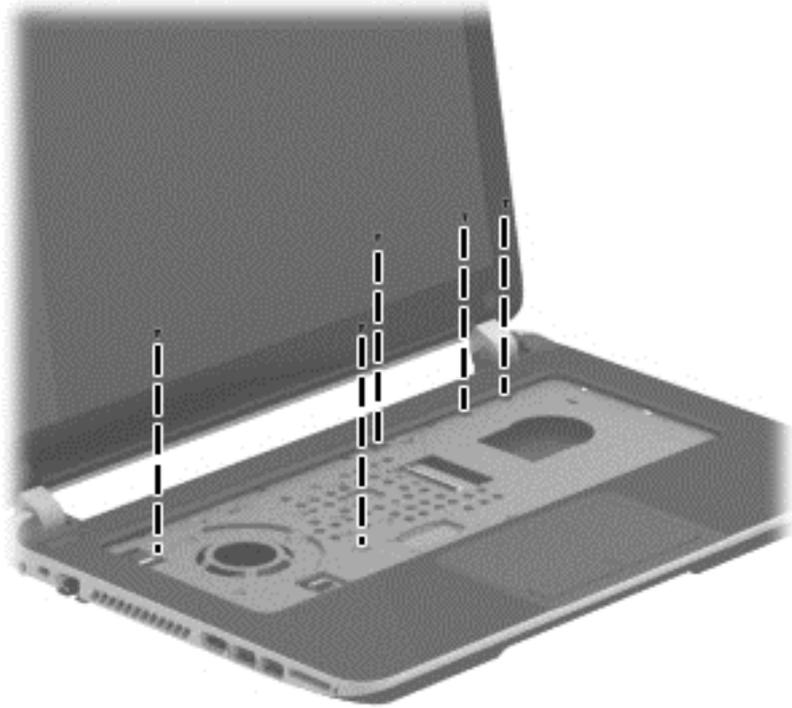
2. Disconnect the power button cable **(1)** and the TouchPad cable **(2)**.
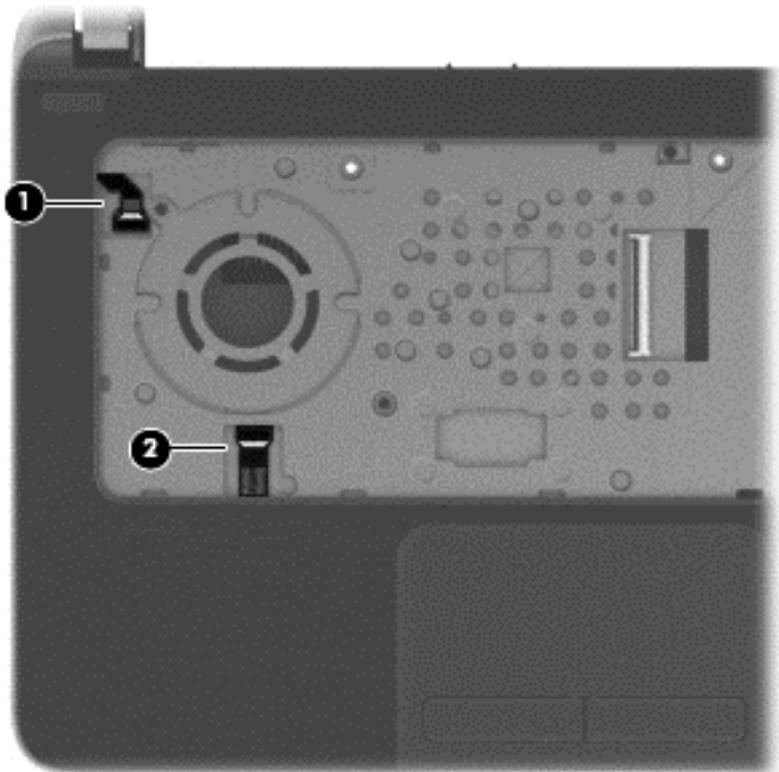
3. Close the display and turn the computer upside down.

4. Remove the 8 Phillips M2.5×6.5 screws from the bottom of the computer.
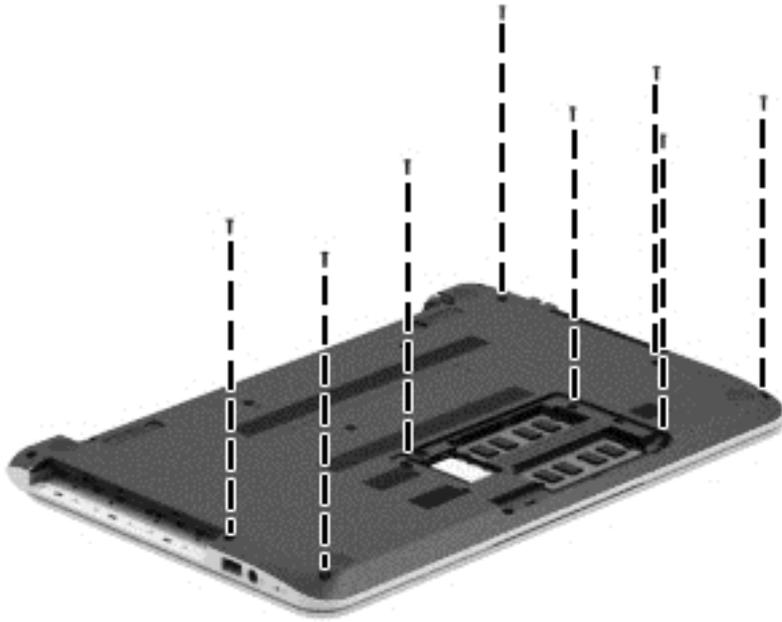
5. Turn the computer over and open the display.

6. Gently pull on the right upper corner **(1)** and lift around the edges of the top cover **(2)**. Lift to remove the top cover **(3)**.
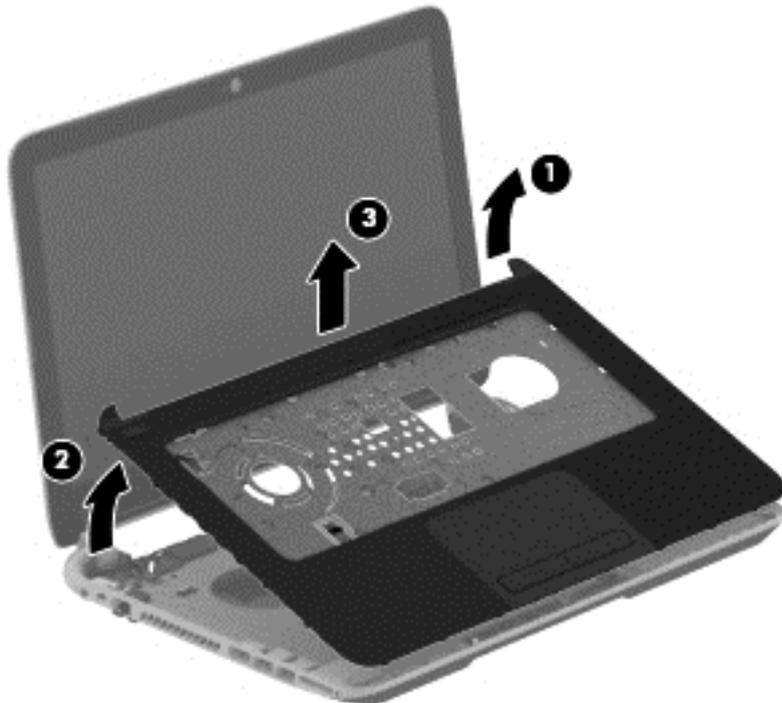
When replacing the top cover, be sure that the following components are removed from the defective top cover and installed on the replacement top cover:

- Power button board and cable (see Power button board on page 75)

- Touchpad button board (includes cable and buttons), (see TouchPad button board on page 77)

- USB/audio board (instructions are included in the steps for removing the hard drive; see Hard drive on page 71)

Reverse this procedure to install the top cover.

Hard drive

NOTE: The hard drive spare part kit does not include the hard drive rubber bracket, hard drive connector cable, or screws. These components are included in the Hard Drive Hardware Kit, spare part number 740706-001.

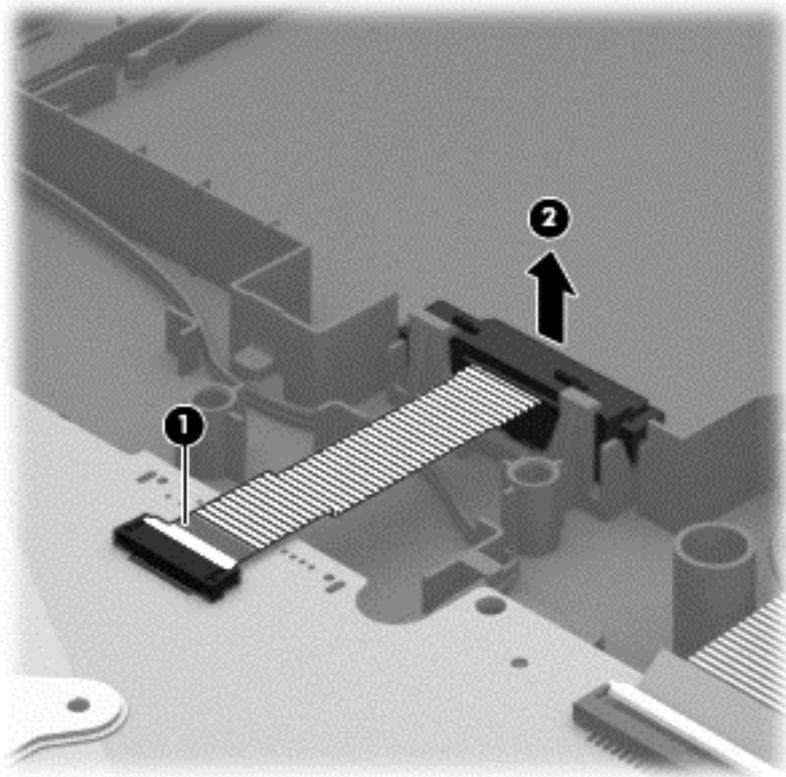| Description	Spare part number
1 TB, 5400 rpm, 9.5 mm	676521-005
750 GB, 5400 rpm, 9.5 mm	634250-005
500 GB, 5400 rpm, 7.0 mm	683802-005
mSATA solid-state drive, 24 GB (for use with select computer models with Intel processors, HM86 Express chipsets, and switchable discrete graphics)	732085-001

Before removing the hard drive, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. Keyboard (see Keyboard on page 62)

   c. Service door (see Service door on page 50)

   d. WLAN module (see WLAN module on page 53)

   e. Memory module (see Memory module on page 51)

   f. Top cover (see Top cover on page 67)

Remove the hard drive:

1. Disconnect the USB/audio cable **(1)** by flipping the connector and lifting the cable. Remove the USB/audio cable Phillips M 2.5×3.0 screw **(2)** and then lift the USB/audio board **(3)**. The USB/audio board spare part number is 734417-001.
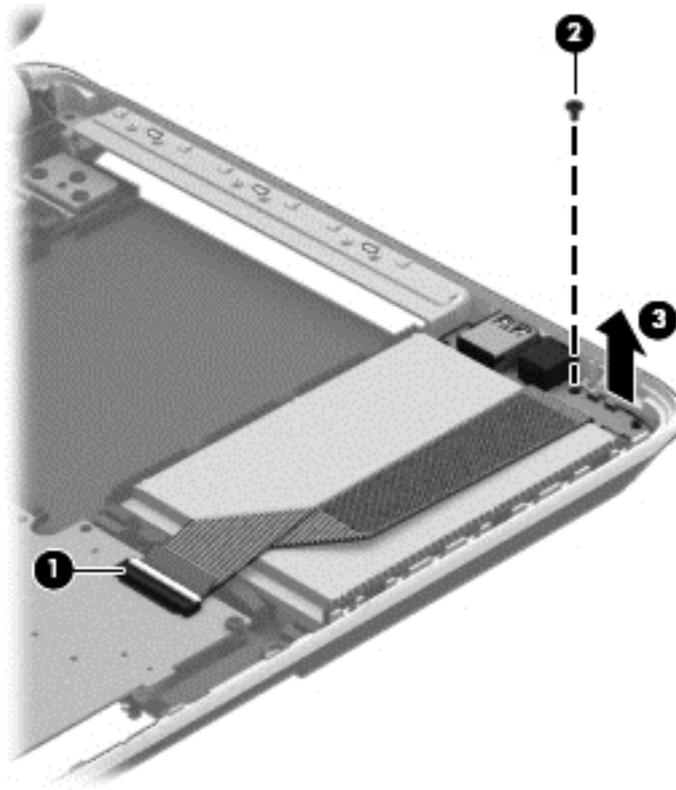
2. Lift up the front of the hard drive **(1)**, and then move the hard drive **(2)** forward.

3. Disconnect the hard drive connector cable from the hard drive.
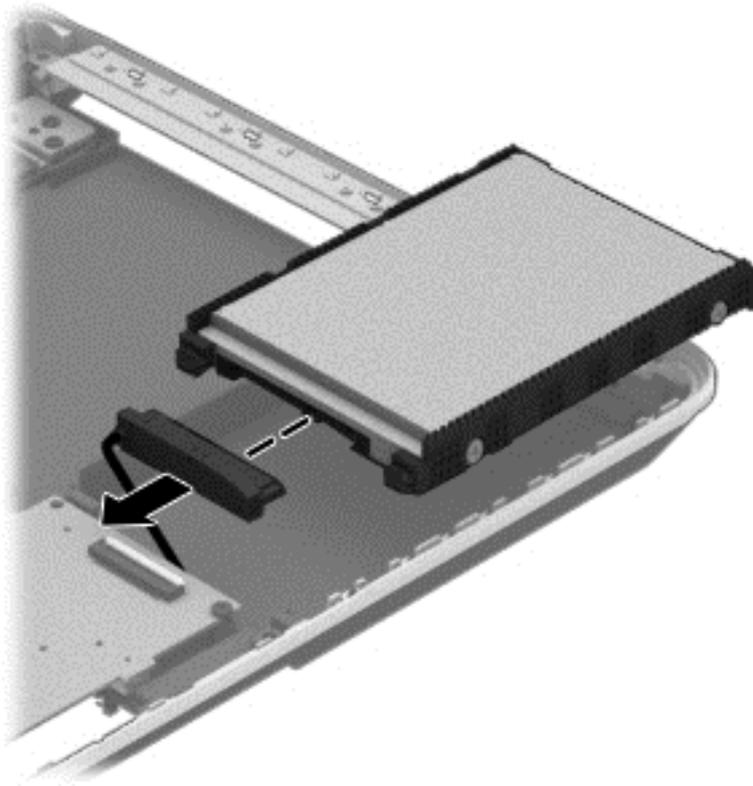
4. If it is necessary to disassemble the hard drive, perform the following steps:

a. Remove the four Phillips M3.0×3.5 screws (1) from the bracket.

b. Remove the bracket **(2)** from the hard drive.
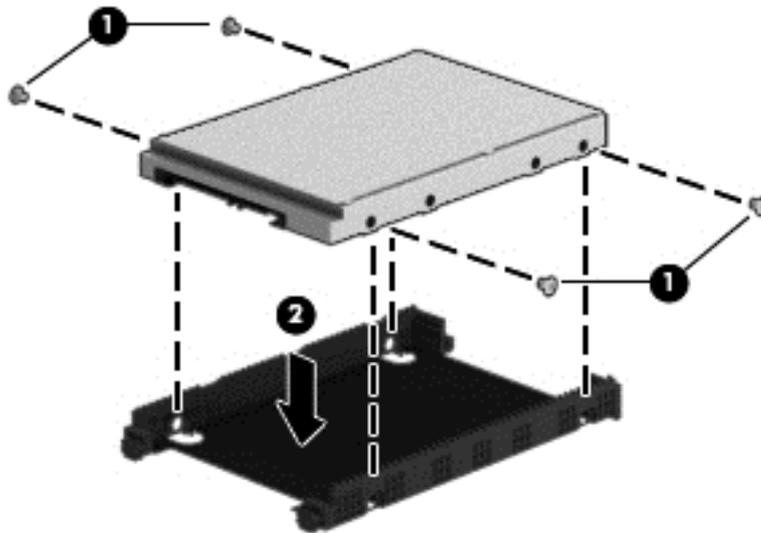
Reverse this procedure to reassemble and install the hard drive.

Power button board

Description	Spare part number
Power button board (includes cable)	734416-001

Before removing the power button board, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

    a. Optical drive (see Optical drive on page 55)

    b. Service door (see Service door on page 50)

    c. Keyboard (see Keyboard on page 62)

    d. WLAN module (see WLAN module on page 53)

    e. Memory module (see Memory module on page 51)

    f. Top cover (see Top cover on page 67)

Remove the power button board:

1. Turn the top cover upside down, with the front toward you.

2. Remove the Phillips PM2.5×2.5 screw **(1)** that secures the power button board to the top cover.

3. Remove the power button board **(2)** with cable (the cable was disconnected when removing the top cover).
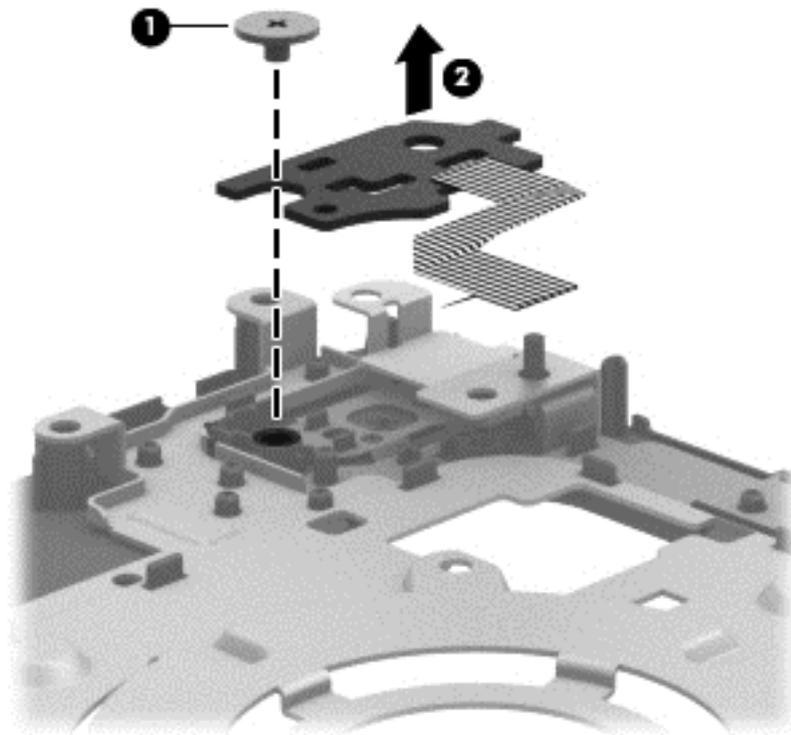
Reverse this procedure to install the power button board.

TouchPad button board

Description	Spare part number
TouchPad button board (includes cable)	734418-001

Before removing the TouchPad button board, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see), and then remove the following components:

   a. Optical drive (see)

   b. Service door (see)

   c. WLAN module (see)

   d. Memory module (see)

   e. Keyboard (see)

   f. Top cover (see)

Remove the TouchPad button board:

1. Turn the top cover upside down, with the front toward you.

2. Release the TouchPad ZIF connector, and then disconnect the TouchPad button board cable **(1)** from the TouchPad board.

3. Remove the 3 Phillips PM2.0×3.5 screws **(2)** that secures the TouchPad button board bracket to the top cover.

4. Remove the TouchPad button board **(3)** carefully lifting the cable from the guides (the cable was disconnected when removing the top cover).

5. Lift up the TouchPad button board **(4)**.

6. Remove the TouchPad button board **(5)**.
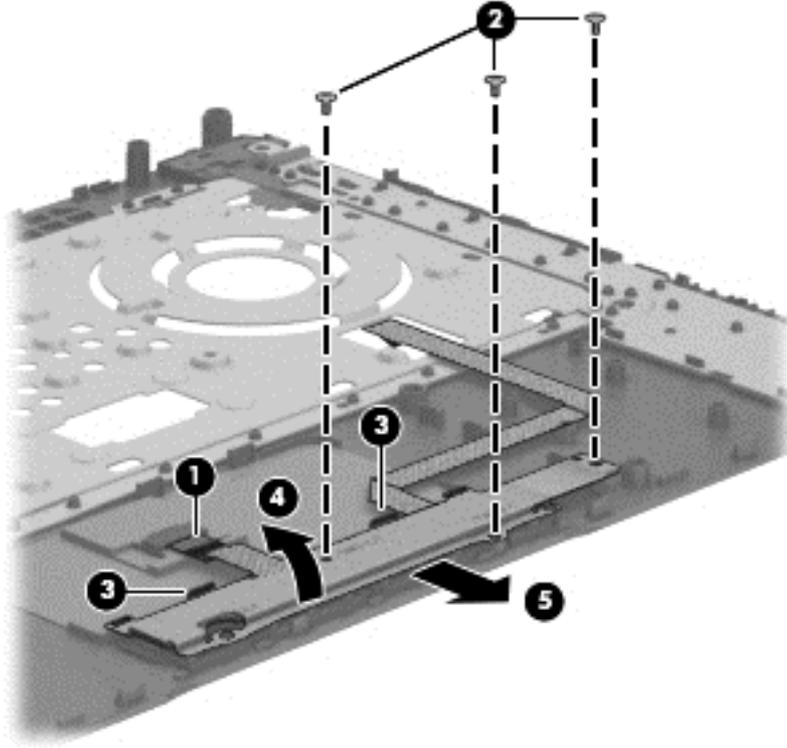
Reverse this procedure to install the TouchPad button board.

Optical drive connector cable

NOTE: The optical drive connector cable is included with the Optical Drive, spare part number 734415-001.

Before removing the optical drive connector cable, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

    a. Optical drive (see Optical drive on page 55)

    b. Service door (see Service door on page 50)

    c. WLAN module (see WLAN module on page 53)

    d. Memory module (see Memory module on page 51)

e. Keyboard (see <u>Keyboard on page 62</u>)

f. Top cover (see <u>Top cover on page 67</u>)

Remove the optical drive connector cable:

1. Disconnect the optical drive connector cable **(1)** from the system board.

2. Release the optical drive connector cable from the clip **(2)** built into the base enclosure.

3. Remove the optical drive connector cable.

Reverse this procedure to install the optical drive connector cable.

System board

NOTE: The system board spare part kit includes replacement thermal material.

Description	Spare part number
For computer models equipped with Intel processors and UMA graphics	
4th generation	
Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu	734423-001
Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard	734423-501
Intel Core i5-4200U 1.6 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional	734423-601
Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with FreeDOS and Ubuntu	734424-001
Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Standard	734424-501
Intel Core i3-4005U 1.7 GHz processor (3.0 MB L3 cache, 15 W) for use with Windows Professional	734424-601
For computer models equipped with Intel processors and UMA graphics	
3rd generation	
Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738148-001
Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738148-501
Pentium 2117U HM76 (1.8 GHz, 2 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738148-601
Core i3-3217U (1. 8GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738150-001
Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738150-501
Core i3-3217U (1.8 GHz, 3 MB L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738150-601
For computer models equipped with Intel processors and switchable discrete graphics	
4th generation	
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with FreeDOS and Ubuntu	738154-001
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard	738154-501

Description	Spare part number
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional	738154-601
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with FreeDOS and Ubuntu	738156-001
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Standard	738156-501
NVIDIA N14P-GV2 GeForce GT 740M 2 GB graphics and Intel Core i5-4200U (1.6 GHz DC, 15 W) for use with Windows Professional	738156-601
AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with FreeDOS and Ubuntu	734429-001
AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Standard	734429-501
AMD Radeon 8670M 2 GB graphics and Intel Core i7-4500U (1.8 GHz DC, 15 W) for use with Windows Professional	734429-601
AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz, DC 15 W) for use with FreeDOS and Ubuntu	734429-001
AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz, DC 15 W) for use with Windows Standard	734426-501
AMD Radeon 8670M 2 GB graphics and Intel Core i5-4200U (1.6 GHz, DC 15 W) for use with Windows Professional	734426-601
AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz, DC 15 W) for use with FreeDOS and Ubuntu	734427-001
AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz, DC 15 W) for use with Windows Standard	734427-501
AMD Radeon 8670M 1 GB graphics and Intel Core i3-4005U (1.7 GHz, DC 15 W) for use with Windows Professional	734427-601
For computer models equipped with Intel processors and switchable discrete graphics	
3rd generation	
AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with FreeDOS and Ubuntu	738152-001
AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Standard	738152-501
AMD Radeon 8670M 2 GB graphics and Intel Core i3-3217U (1.8 GHz, L3 Cache, 1600 MHz DDR3, 17 W) for use with Windows Professional	738152-601
For computer models equipped with AMD processors and UMA graphics	
AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core, 15 W) for use with FreeDOS and Ubuntu	734443-001
AMD A4-5000 (1.5 GHz, 2 MB L2, 1600 MHz DDR3L, quad core, 15 W) for use with Windows Standard	734443-501

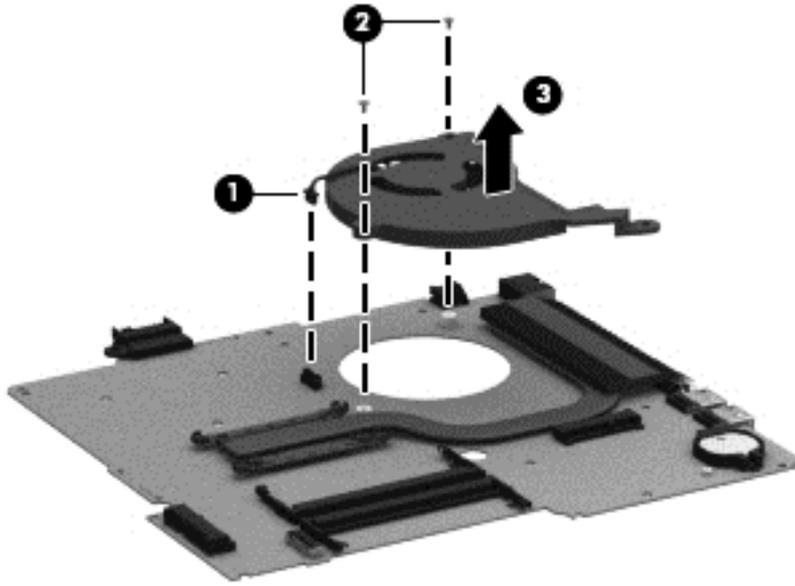| Description	Spare part number
AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L dual core, 19 W) for use with FreeDOS and Ubuntu	736821-001
AMD A76M chipset, A6-4455M processor (2.6 GHz/2.1 GHz, 2 MB L2, 1333 MHz DDR3L dual core, 19 W) for use with Windows Standard	736821-501
AMD A6-5200 (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu	734444-001
AMD A6-5200 (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard	734444-501
AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu	734446-001
AMD A8-5545M A76M (2.7 GHz/1.7 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard	734446-501
AMD A76M chipset, A8-4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with FreeDOS and Ubuntu	736822-001
AMD A76M chipset, A8-4555M processor (2.4 GHz/1.6 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 19 W) for use with Windows Standard	736822-501
AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with FreeDOS and Ubuntu	734447-001
AMD E2-3000 (1.65 GHz, 1 MB L2, 1600 MHz DDR3L, dual core, 15 W) for use with Windows Standard	734447-501
For computer models equipped with AMD processors and switchable discrete graphics	
AMD Radeon 8670M 1 GB graphics and A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with FreeDOS and Ubuntu	734440-001
AMD Radeon 8670M 1 GB graphics and A6-5200 processor (2.6 GHz/2.1 GHz, 2 MB L2, 1600 MHz DDR3L, dual core, 17 W) for use with Windows Standard	734440-501
AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9 GHz/2.1 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 25 W) for use with FreeDOS and Ubuntu	734441-001
AMD Radeon 8670M 2 GB graphics and A10-5745M processor (2.9 GHz/2.1 GHz, 4 MB L2, 1333 MHz DDR3L quad core, 25 W) for use with FreeDOS and Ubuntu	734441-001

Before removing the system board, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see <u>Battery on page 49</u>), and then remove the following components:

    a. Optical drive (see <u>Optical drive on page 55</u>)

    b. Service door (see <u>Service door on page 50</u>)

    c. WLAN module (see <u>WLAN module on page 53</u>)

    d. Memory module (see <u>Memory module on page 51</u>)

    e. Keyboard (see <u>Keyboard on page 62</u>)

    f. Top cover (see <u>Top cover on page 67</u>)

    g. Hard drive (see <u>Hard drive on page 71</u>)

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

- Hard drive connector cable

- Power connector cable (see <u>Power connector cable on page 95</u>)

- RTC battery (see <u>RTC battery on page 87</u>)

- Fan (see <u>Fan on page 89</u>)

- Heat sink assembly (see <u>Heat sink assembly on page 91</u>)

Remove the system board:

1. Disconnect the following cables from the system board:

- Display panel cable **(1)**

- Speaker cable **(2)**
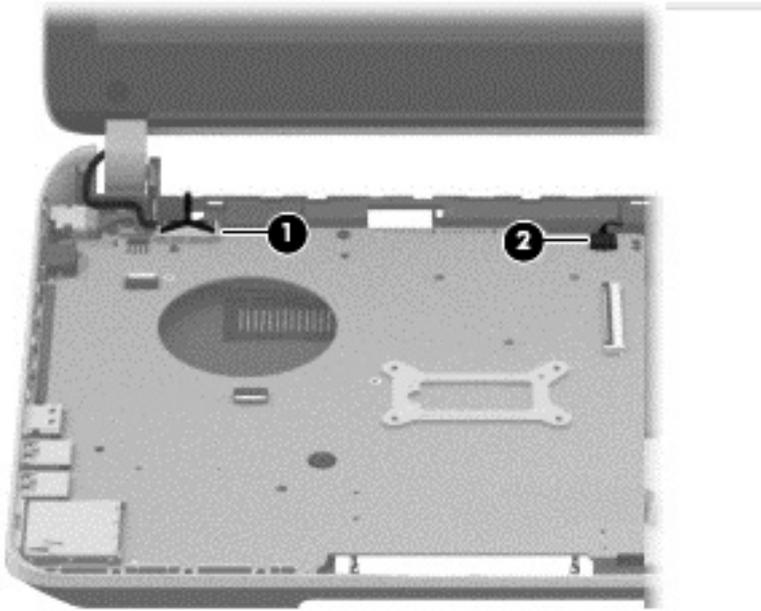
2. Remove the Phillips PM2.5×6.5 screw **(1)** that secures the power connector bracket to the base enclosure. Remove the power connector bracket **(2)**.
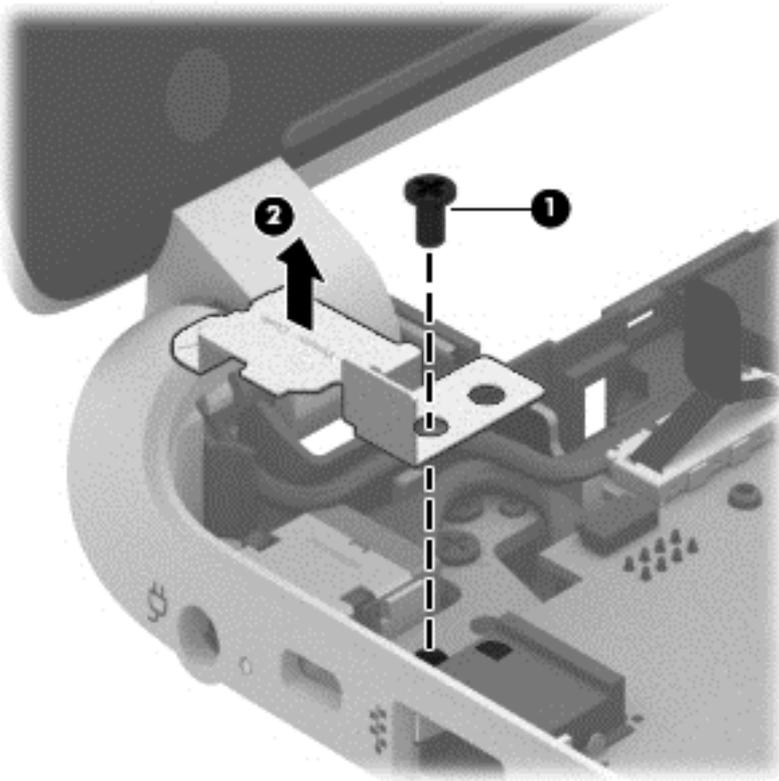
3. Remove the 2 Phillips M2.5×5.0 screws **(1)** that secure the system board to the base enclosure.

4. Lift the right side of the system board **(2)** until it rests at an angle.

5. Carefully remove from the power connector **(3)**. Remove the system board **(4)** by sliding it up and to the right at an angle.
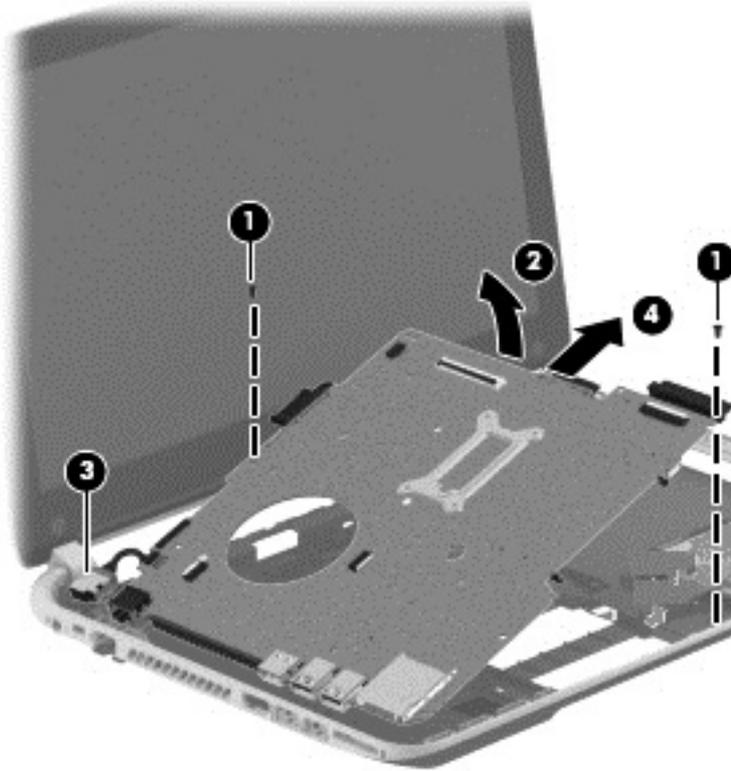
6. Remove the hard drive connector cable:

    a. Turn the system board upside down, with the front toward you.

b. Disconnect the hard drive connector cable from the system board. The hard drive cable is part of the Hard Drive Hardware Kit, part number 740706-001.
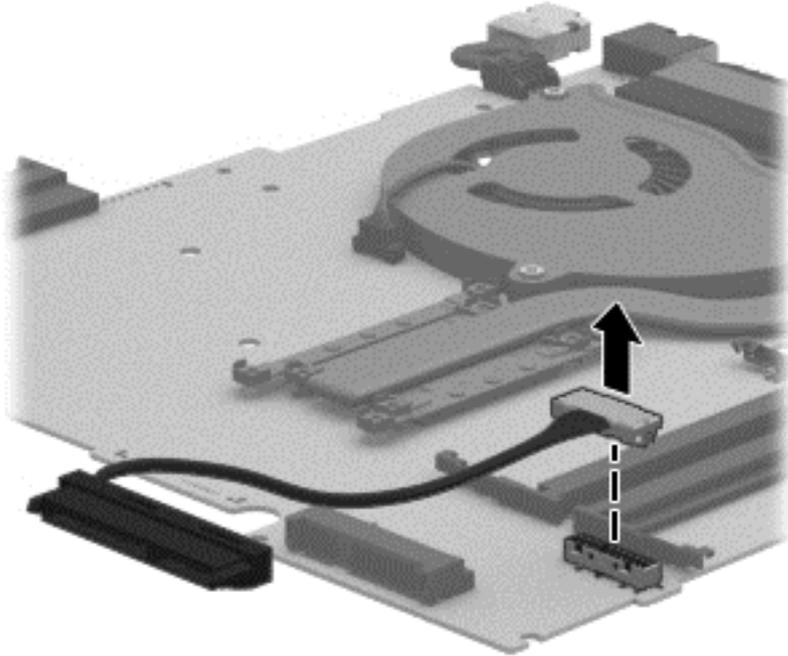
Reverse this procedure to install the system board.

RTC battery

Description	Spare part number
RTC battery	697917-001

Before removing the RTC battery, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. Service door (see Service door on page 50)

   c. Remove the WLAN module (see WLAN module on page 53)

   d. Remove the Memory module (see Memory module on page 51)

   e. Keyboard (see Keyboard on page 62)

   f. Top cover (see Top cover on page 67)

   g. Hard drive (see Hard drive on page 71)

   h. System board (see System board on page 80)

Remove the RTC battery:

1. Turn the system board upside down, with the front toward you.

2. Use a flat-bladed, non-metallic tool **(1)** to release the RTC battery from the socket on the system board. The battery is spring loaded and will pop up.

3. Remove the RTC battery **(2)**.
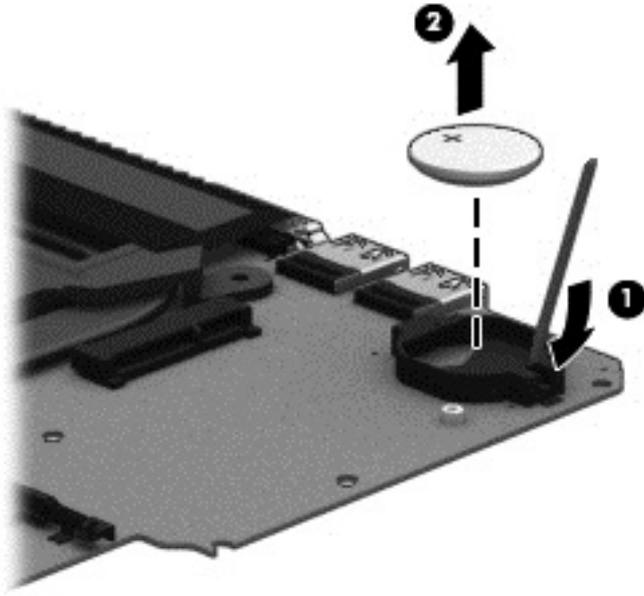
Reverse this procedure to install the RTC battery. When installing the RTC battery, make sure the "+" sign faces up.

Fan

Description	Spare part number
Fan	732068-001

NOTE: 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.

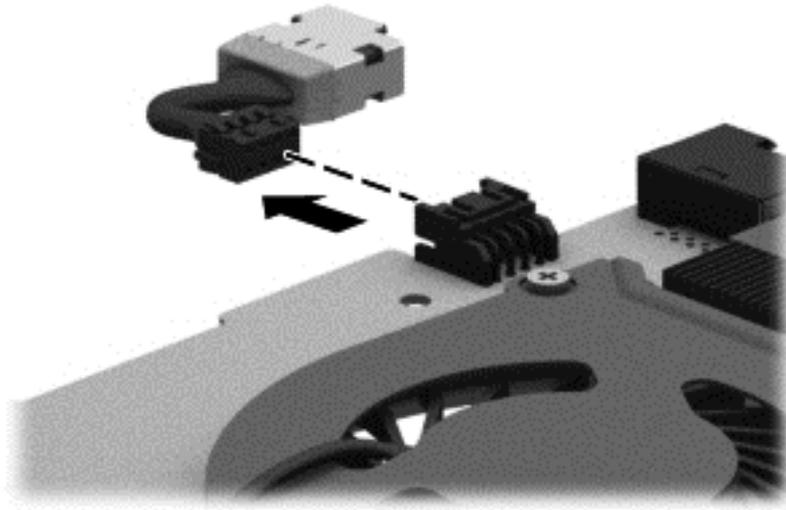Before removing the fan, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. Service door (see Service door on page 50)

   c. WLAN module (see WLAN module on page 53)

   d. Memory module (see Memory module on page 51)

   e. Keyboard (see Keyboard on page 62)

   f. Top cover (see Top cover on page 67)

   g. Hard drive (see Hard drive on page 71)

   h. System board (see System board on page 80)

Remove the fan:

1. Turn the system board upside down, with the front toward you.

2. Disconnect the fan cable **(1)** from the system board.

3. Remove the 2 screws **(2)** that secure the fan to the system board.

4. Remove the fan **(3)** from the system board.

Reverse this procedure to install the fan.

Heat sink assembly

Description	Spare part number
For use only on computer models equipped with Intel processors and switchable discrete graphics	742582-001
For use only on computer models equipped with Intel processors and UMA graphics	742581-001
For use only on computer models equipped with Intel HM76 chipset and switchable discrete graphics	742331-001
For use only on computer models equipped with Intel HM76 chipset and UMA graphics	742330-001
Heat sink for use only on computer models equipped with AMD processors and UMA graphics 19 W	734448-001
Heat sink for use only on computer models equipped with AMD processors and AMD UMA graphics 25 W	734449-001
Heat sink for use only on computer models equipped with AMD processors and switchable discrete graphics 19 W	734450-001
Heat sink for use only on computer models equipped with AMD processors and switchable discrete graphics 25 W	734451-001

Before removing the heat sink assembly, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see), and then remove the following components:

    a. Optical drive (see)

    b. Service door (see)

    c. WLAN module (see)

    d. Memory module (see)

    e. Keyboard (see)

    f. Top cover (see)

    g. Hard drive (see)

    h. System board (see)

    i. Fan (see)

Remove the heat sink assembly:

1. Turn the system board upside down, with the front toward you.

    NOTE: Steps 2 through 4 apply to computer models equipped with switchable discrete graphics. See steps 5 through 7 for heat sink assembly removal information for computer models equipped with UMA graphics.

2. Following the 1, 2, 3, 4, 5, 6, 7 sequence stamped into the heat sink assembly, loosen the 4 Phillips PM2.0×10.0 captive screws **(1)** and the 3 Phillips PM2.0×3.5 captive screws **(2)** that secure the heat sink assembly to the system board.

3. Remove the heat sink assembly **(3)** from the system board.
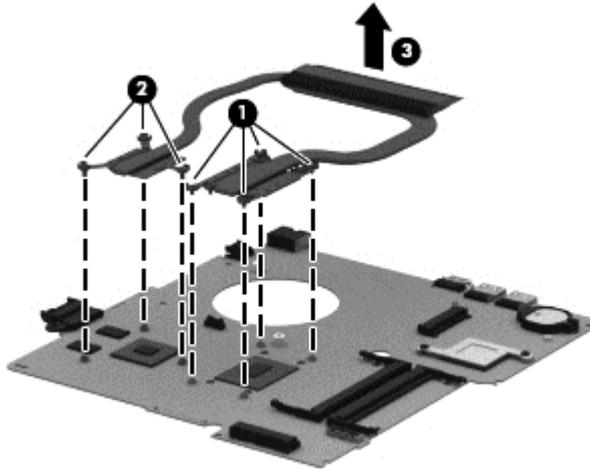
    NOTE: Due to the adhesive quality of the thermal material located between the heat sink assembly and the system board components, it may be necessary to move the heat sink assembly from side to side to detach it.

4. Remove the thermal material. The thermal material must be thoroughly cleaned from the surfaces of the heat sink assembly and the system board components each time the heat sink assembly is removed. Replacement thermal material is included with the heat sink assembly and system board spare part kits.

    ● Thermal paste is used on the processor **(1)** and the heat sink assembly section **(2)** that services it

    ● Thermal paste is used on the graphics subsystem chip **(3)** and the heat sink assembly section **(4)** that services it
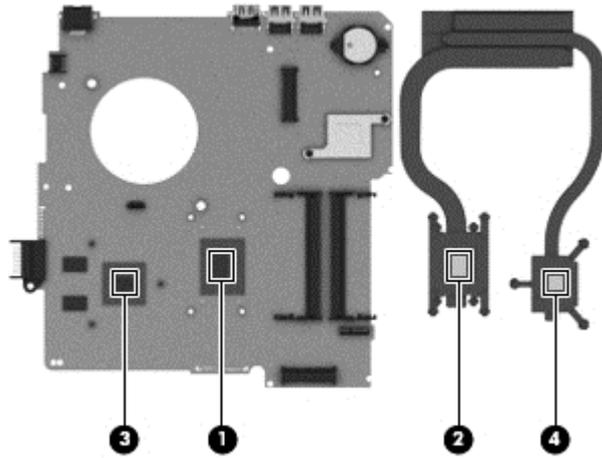
Reverse this procedure to install the heat sink assembly on computer models equipped with switchable discrete graphics.

5. Following the 1, 2, 3, 4 sequence stamped into the heat sink assembly, loosen the 4 Phillips PM2.0×10.0 captive screws **(1)** that secure the heat sink assembly to the system board.

6. Remove the heat sink assembly **(2)**.

> **NOTE:** Due to the adhesive quality of the thermal material located between the heat sink assembly and system board components, it may be necessary to move the heat sink assembly from side to side to detach it.
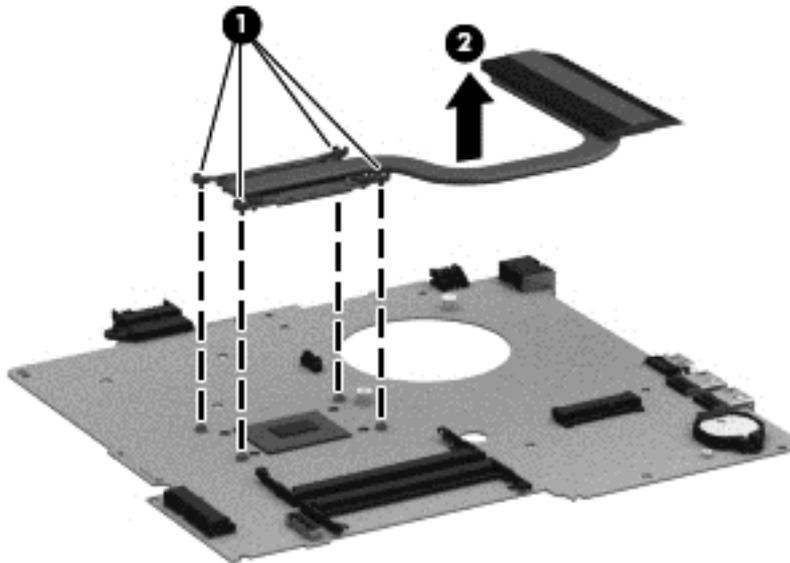
7. Remove the thermal material. The thermal material must be thoroughly cleaned from the surfaces of the heat sink assembly and the system board components each time the heat sink assembly is removed. Replacement thermal material is included with the heat sink assembly and system board spare part kits. Thermal paste is used on the processor **(1)** and the heat sink assembly section **(2)** that services it.

Reverse this procedure to install the heat sink assembly on computer models equipped with UMA graphics.

Power connector cable

Description	Spare part number
Power connector cable (includes bracket)	732067-001

Before removing the power connector cable, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. WLAN module (see WLAN module on page 53)

   c. Memory module (see Memory module on page 51)

   d. Keyboard (see Keyboard on page 62)

   e. Top cover (see Top cover on page 67)

   f. Hard drive (see Hard drive on page 71)

   g. System board (see System board on page 80)

Remove the power connector board:

NOTE: The power connector bracket was removed when removing the system board.

1. Turn the system board upside down, with the front toward you.

2. Release the power connector from the clip built into the system board.

Reverse this procedure to install the power connector cable.

Speakers

| Description	Spare part number
Speakers (include subwoofer, speaker cable, and rubber isolators)	734422-001

Before removing the speakers, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

    a. Optical drive (see Optical drive on page 55)

    b. WLAN module (see WLAN module on page 53)

    c. Memory module (see Memory module on page 51)

    d. Keyboard (see Keyboard on page 62)

    e. Top cover (see Top cover on page 67)

    f. Hard drive (see Hard drive on page 71)

    g. System board (see System board on page 80)

Remove the speakers:

▲ Remove the speakers by lifting up on the clip on the right side speaker and lifting the speakers. Carefully and gently lift the speaker wire connecting the left and right speakers.

NOTE: The speaker connection cable was removed when removing the system board.

NOTE: The speakers include rubber isolators that are installed in the screw holes. These isolators are crucial to the performance of the speakers.
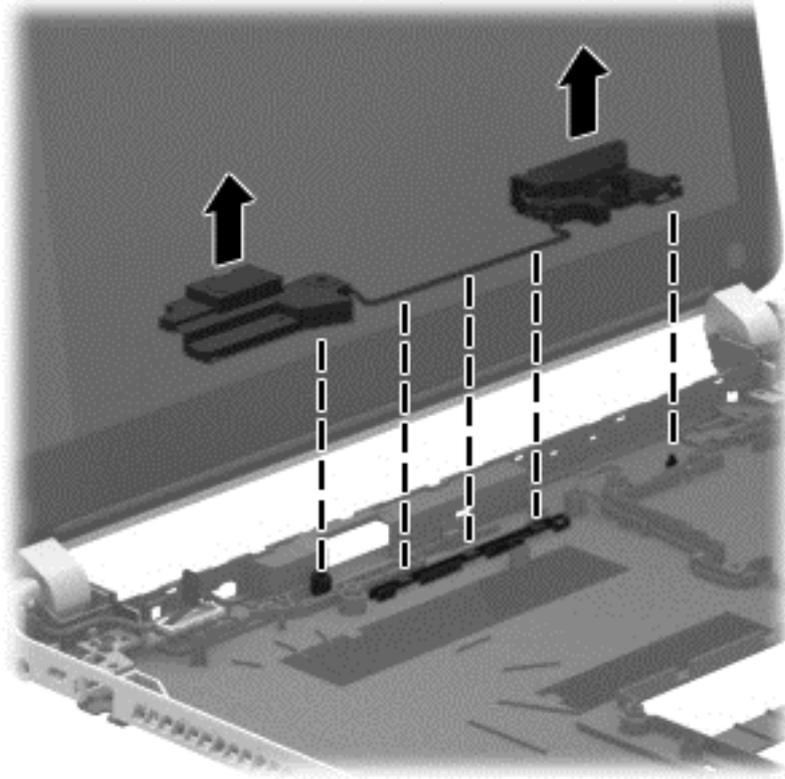
Reverse this procedure to install the speakers.

Display assembly

Display assembly:

35.56 cm (14.0 in), high definition (HD), WLED, SVA BrightView flat display assembly for use with HP Pavilion Notebooks. This display assembly is spared at the subcomponent level only.

35.56 cm (14.0 in), high definition (HD), WLED, SVA BrightView TouchSmart slim display assembly for use with HP Pavilion TouchSmart Notebooks:

●	Aluminum with midnight black	734414-001
●	Flyer red	734410-001
●	Goji berry	736814-001
●	Hazel berry	736815-001
●	Mineral black	736813-001

●	Pearl white	734409-001
●	Raspberry	736816-001
●	Regal purple	734412-001
●	Revolutionary blue	734411-001
●	Silver	734413-001

Before removing the display assembly, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see), and then remove the following components:

   a. Optical drive (see)

   b. WLAN module (see)

   c. Memory module (see)

   d. Keyboard (see)

   e. Top cover (see)

   f. Hard drive (see)

   g. System board (see)

Remove the display assembly:

1. Remove the 5 Phillips PM2.5×6.5 screws **(1)** that secure the display assembly to the base enclosure.

2. Remove the display assembly **(2)**.
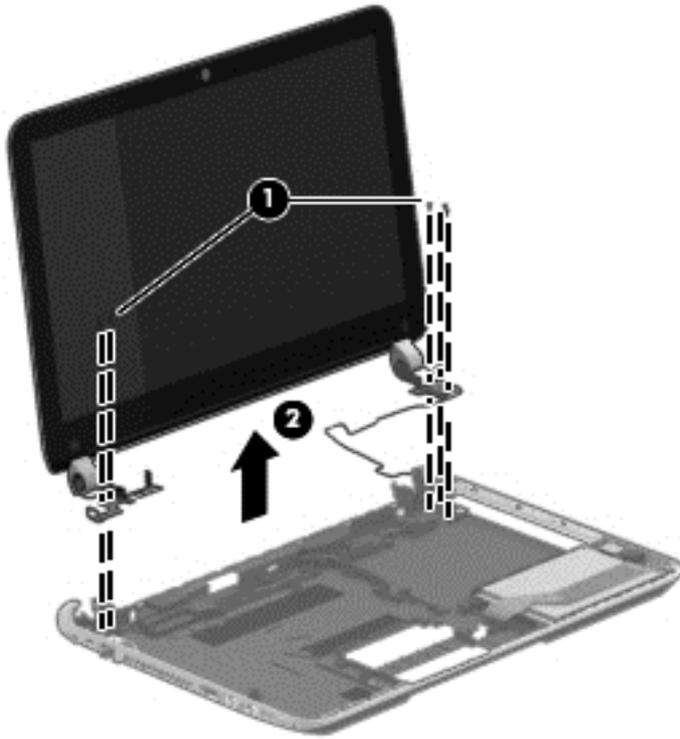
NOTE: For instructions on removing the display assembly subcomponents for a HP Pavilion notebook flat display model, see Display assembly subcomponents on page 30.

Reverse this procedure to install the display assembly.

Display assembly subcomponents

NOTE: These procedures are for replacing the display assembly internal components for the HP Pavilion flat display models only.

Component	Spare part number
Webcamera/microphone module (includes adhesive and screws)	725665-001
Display panel cable (includes webcamera/microphone module cable and screws)	734407-001
Antenna Kit (includes left and right wireless antenna cables and transceivers and 2 rubber screws)	734400-001
Display Hinge Kit (includes left and right hinges and rubber screws)	734408-001
Display back cover (includes 2 rubber screws):	
Aluminum with midnight black finish	734405-001
Flyer red finish	734401-001
Goji berry finish	736810-001
Hazel berry finish	736811-001
Mineral black finish	736809-001
Pearl white finish	726193-001
Raspberry finish	736812-001
Regal purple finish	734403-001
Revolutionary blue finish	734402-001
Silver finish	734404-001

Before removing the display assembly subcomponents, follow these steps:

1. Turn off 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 the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the battery (see Battery on page 49), and then remove the following components:

   a. Optical drive (see Optical drive on page 55)

   b. WLAN module (see WLAN module on page 53)

   c. Memory module (see Memory module on page 51)

   d. Keyboard (see Keyboard on page 62)

   e. Top cover (see Top cover on page 67)

f. Hard drive (see Hard drive on page 71)

g. System board (see System board on page 80)

5. Remove the display panel (see Display panel on page 59).

6. Remove the display assembly (see Display assembly on page 98).

Remove the display assembly subcomponents:

1. If it is necessary to replace the webcamera/microphone module:

a. Disconnect the webcamera/microphone module cable **(1)** from the webcamera/microphone module. (The webcamera/microphone module cable is part of the display panel cable.)

b. Detach the webcamera/microphone module **(2)** from the display back cover.)
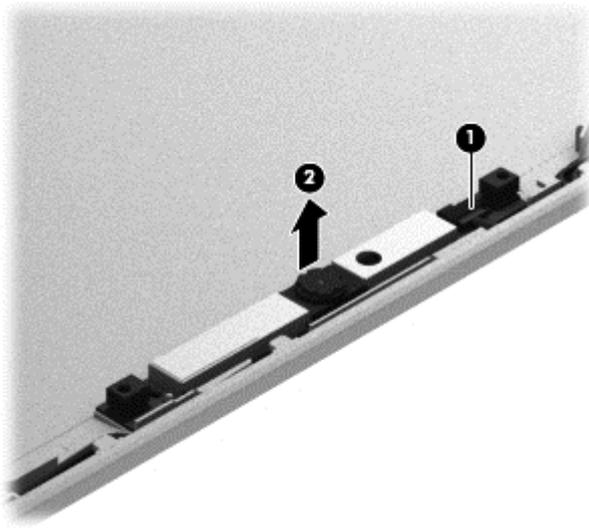
2. If it is necessary to replace the hinges:

a. Remove the two top screws **(1)** and two bottom screws **(2)** from the display hinges.

b. Remove the display hinge covers **(2)**.

c. Remove the hinges **(3)** from the display enclosure.
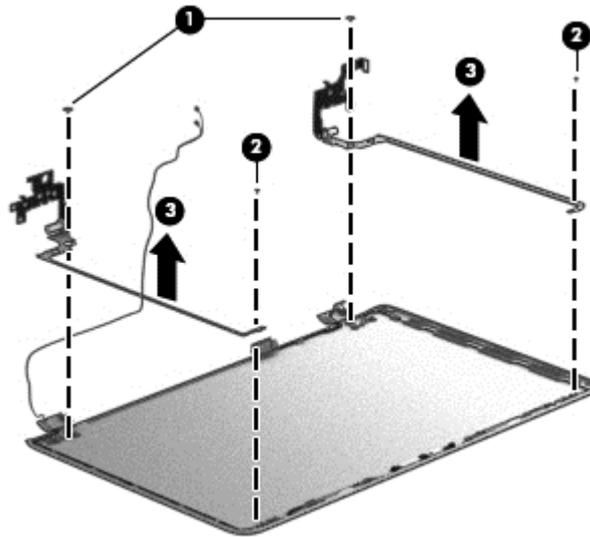
3. If it is necessary to replace the display panel cable:

   a. Release the display panel cable from the clips **(1)** and routing channel built into the display enclosure.

   b. Carefully release the cable from the channel guides **(2)**, and remove the display panel cable **(3)**.
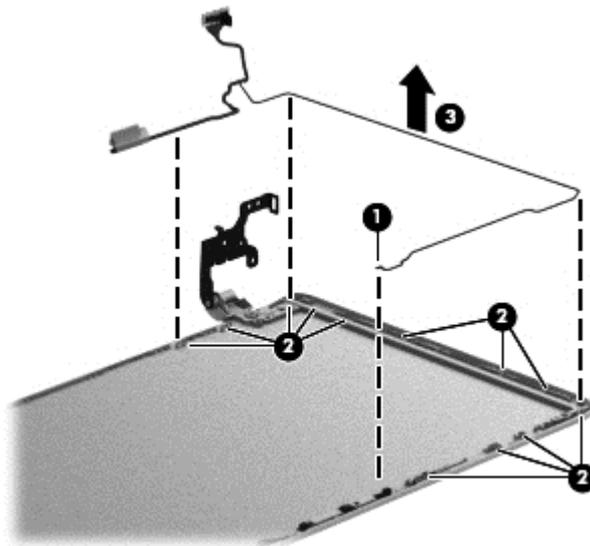
4. If it is necessary to replace the wireless antenna cables and transceivers:

   a. Release the wireless antenna transceivers **(1)** from the display back cover. (The wireless antenna transceivers are attached to the display back cover with double-sided tape.)

   b. Release the wireless antenna cables from the clips **(2)** built into the display back cover.

c. Remove the wireless antenna cables and transceivers **(3)**.
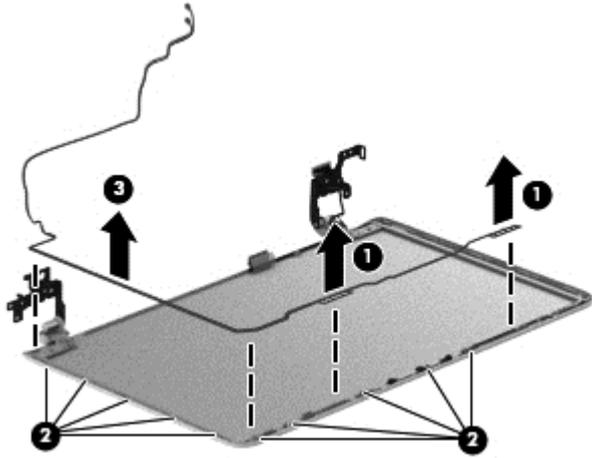
Reverse this procedure to install the display assembly subcomponents.

7 Windows 8 – Using Setup Utility (BIOS) and HP PC Hardware Diagnostics (UEFI)

Setup Utility, or Basic Input/Output System (BIOS), controls communication between all the input and output devices on the system (such as disk drives, display, keyboard, mouse, and printer). Setup Utility (BIOS) includes settings for the types of devices installed, the startup sequence of the computer, and the amount of system and extended memory.

Starting Setup Utility (BIOS)

To start Setup Utility (BIOS), turn on or restart the computer, quickly press esc, and then press f10.

> **NOTE:** Use extreme care when making changes in Setup Utility (BIOS). Errors can prevent the computer from operating properly.

Updating the BIOS

Updated versions of the BIOS may be available on the HP website.

Most BIOS updates on the HP website are packaged in compressed files called *SoftPaqs*.

Some download packages contain a file named Readme.txt, which contains information regarding installing and troubleshooting the file.

Determining the BIOS version

To determine whether available BIOS updates contain later BIOS versions than those currently installed on the computer, you need to know the version of the system BIOS currently installed.

BIOS version information (also known as *ROM date* and *System BIOS*) can be revealed by pressing fn +esc (if you are already in Windows) or by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS) (see).

2. Use the arrow keys to select **Main**.

3. To exit Setup Utility (BIOS) without saving your changes, use the arrow keys to select **Exit**, select **Exit Discarding Changes**, and then press **enter**.

4. Select **Yes**.

Downloading a BIOS update

⚠ **CAUTION:** To reduce the risk of damage to the computer or an unsuccessful installation, download and install a BIOS update only when the computer is connected to reliable external power using the AC adapter. Do not download or install a BIOS update while the computer is running on battery power, docked in an optional docking device, or connected to an optional power source. During the download and installation, follow these instructions:

Do not disconnect power from the computer by unplugging the power cord from the AC outlet.

Do not shut down the computer or initiate Sleep.

Do not insert, remove, connect, or disconnect any device, cable, or cord.

1. From the Start screen, type `support`, and then select the **HP Support Assistant** app.

2. Click **Updates and tune-ups**, and then click **Check for HP updates now**.

3. Follow the on-screen instructions.

4. At the download area, follow these steps:

   a. Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. If the update is more recent than your BIOS, make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.

   b. Follow the on-screen instructions to download your selection to the hard drive.

   If the update is more recent than your BIOS, make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

📝 **NOTE:** If you connect your computer to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

BIOS installation procedures vary. Follow any instructions that are revealed on the screen after the download is complete. If no instructions are revealed, follow these steps:

1. From the Start screen, type `e`, and then select **File Explorer**.

2. Click your hard drive designation. The hard drive designation is typically Local Disk (C:).

3. Using the hard drive path you recorded earlier, open the folder on your hard drive that contains the update.

4. Double-click the file that has an .exe extension (for example, *filename*.exe).

   The BIOS installation begins.

5. Complete the installation by following the on-screen instructions.

NOTE: After a message on the screen reports a successful installation, you can delete the downloaded file from your hard drive.

Using HP PC Hardware Diagnostics (UEFI)

HP PC Hardware Diagnostics is a Unified Extensible Firmware Interface (UEFI) that allows you to run diagnostic tests to determine whether the computer hardware is functioning properly. The tool runs outside the operating system so that it can isolate hardware failures from issues that are caused by the operating system or other software components.

To start HP PC Hardware Diagnostics UEFI:

1. Turn on or restart the computer, quickly press esc, and then press f2.

    The BIOS searches three places for the HP PC Hardware Diagnostics (UEFI) tools in the following order:

    a. Connected USB drive

        NOTE: To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see <u>Downloading HP PC Hardware Diagnostics (UEFI) to a USB device on page 107</u>.

    b. Hard drive

    c. BIOS

2. Click the type of diagnostic test you want to run, and then follow the on-screen instructions.

    NOTE: If you need to stop a diagnostic test, press esc.

Downloading HP PC Hardware Diagnostics (UEFI) to a USB device

NOTE: The HP PC Hardware Diagnostics (UEFI) download instructions are provided in English only.

1. Go to <u>http://www.hp.com</u>.

2. Click **Support & Drivers**, and then click the **Drivers & Software** tab.

3. Enter the product name in the text box, and then click **Search**.

4. Select your computer model, and then select your operating system.

5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

    – or –

    Click **Download**, and then select **Run**.

8   Ubuntu Linux – Using Setup Utility (BIOS) and System Diagnostics

Setup Utility, or Basic Input/Output System (BIOS), controls communication between all the input and output devices on the system (such as disk drives, display, keyboard, mouse, and printer). Setup Utility includes settings for the types of peripherals installed, the startup sequence of the computer, and the amount of system and extended memory.

NOTE: Use extreme care when making changes in Setup Utility. Errors can prevent the computer from operating properly.

Starting Setup Utility

▲   Turn on or restart the computer. While the computer is booting press esc. When the Startup menu is displayed, press f10.

Using Setup Utility

Changing the language of Setup Utility

1.   Start Setup Utility.

2.   Use the arrow keys to select **System Configuration > Language**, and then press enter.

3.   Use the arrow keys to select a language, and then press enter.

4.   When a confirmation prompt with your language selected is displayed, press enter.

5.   To save your change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

Your change takes effect immediately.

Navigating and selecting in Setup Utility

Setup Utility does not support the TouchPad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.

- To choose an item in a list or to toggle a field—for example an Enable/Disable field—use either the arrow keys or f5 and f6.

- To select an item, press enter.

- To close a text box or return to the menu display, press esc.

- To display additional navigation and selection information while Setup Utility is open, press f1.

Displaying system information

1. Start Setup Utility.

2. Select the **Main** menu. System information such as the system time and date, and identification information about the computer is displayed.

3. To exit Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

Restoring factory default settings in Setup Utility

1. Start Setup Utility.

2. Use the arrow keys to select **Exit > Load Setup Defaults**, and then press enter.

3. When the Setup Confirmation is displayed, press enter.

4. To save your change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

The Setup Utility factory settings take effect when the computer restarts.

NOTE: Your password, security, and language settings are not changed when you restore the factory settings.

Exiting Setup Utility

- To exit Setup Utility and save your changes from the current session:

  If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

- To exit Setup Utility without saving your changes from the current session:

  If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

Updating the BIOS

Updated versions of the BIOS may be available on the HP website.

Most BIOS updates on the HP website are packaged in compressed files called *SoftPaqs*.

Some download packages contain a file named Readme.txt, which contains information regarding installing and troubleshooting the file.

Determining the BIOS version

To determine whether available BIOS updates contain later BIOS versions than those currently installed on the computer, you need to know the version of the system BIOS currently installed.

BIOS version information (also known as *ROM date* and *System BIOS*) can be displayed by using Setup Utility.

1. Start Setup Utility.

2. If the system information is not displayed, use the arrow keys to select the **Main** menu.

    BIOS and other system information is displayed.

3. To exit Setup Utility, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

Downloading a BIOS update

⚠ **CAUTION:** To reduce the risk of damage to the computer or an unsuccessful installation, download and install a BIOS update only when the computer is connected to reliable external power using the AC adapter. Do not download or install a BIOS update while the computer is running on battery power, or connected to an optional power source. During the download and installation, follow these instructions:

Do not disconnect power from the computer by unplugging the power cord from the AC outlet.

Do not shut down the computer or initiate Suspend or Hibernation.

Do not insert, remove, connect, or disconnect any device, cable, or cord.

1. Access the page on the HP website that provides software for your computer.

2. Follow the on-screen instructions to identify your computer and access the BIOS update you want to download.

3. At the download area, follow these steps:

    a. Identify the BIOS update that is later than the BIOS version currently installed on your computer. Make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.

    b. Follow the on-screen instructions to download your selection to the hard drive.

        Make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

> **NOTE:** If you connect your computer to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

BIOS installation procedures vary. Follow any instructions that are displayed on the screen after the download is complete.

> **NOTE:** After a message on the screen reports a successful installation, you can delete the downloaded file from your hard drive.

Using Advanced System Diagnostics

Advanced System Diagnostics allows you to run diagnostic tests to determine if the computer hardware is functioning properly. The following diagnostic tests are available in Advanced System Diagnostics:

- Start-up test—This test analyzes the main computer components that are required to start the computer.

- Run-in test—This test repeats the start-up test and checks for intermittent problems that the start-up test does not detect.

- Hard disk test—This test analyzes the physical condition of the hard drive, and then checks all data in every sector of the hard drive. If the test detects a damaged sector, it attempts to move the data to a good sector.

- Memory test—This test analyzes the physical condition of the memory modules. If it reports an error, replace the memory modules immediately.

- Battery test—This test analyzes the condition of the battery and calibrates the battery if necessary. If the battery fails the test, contact support to report the issue and purchase a replacement battery.

- System Tune-Up—This group of additional tests checks your computer to make sure that the main components are functioning correctly. System Tune-Up runs longer and more comprehensive tests on memory modules, hard drive SMART attributes, the hard drive surface, the battery (and battery calibration), video memory, and the WLAN module status.

You can view system information and error logs in the Advanced System Diagnostics window.

To start Advanced System Diagnostics:

1. Turn on or restart the computer. While the computer is booting press esc. When the Startup menu is displayed, press f2.

2. Click the diagnostic test you want to run, and then follow the on-screen instructions.

> **NOTE:** If you need to stop a diagnostics test while it is running, press esc.

9 Specifications

Computer specifications

	Metric	U.S.
Dimensions:		
Width	**34.70 cm**	13.67 in
Depth	**≤ 23.90 cm**	≤ 9.42 in
Height	**≤ 2.30 cm**	≤ .91 in
Weight:		
For TouchSmart computer models with Intel processors	**2.10 kg**	4.61 lbs
For computer models with flat display panels and Intel processors	**2.03 kg**	4.48 lbs
For TouchSmart computer models with AMD processors	**2.07 kg**	4.56 lbs
For computer models with flat display panels and AMD processors	**2.01 kg**	4.42 lbs
Input power		
Operating voltage and current	19.5 V dc @ 3.33 A – 65 W	
	19.5 V dc @ 4.62 A – 90 W	
Temperature		
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 (14.7 to 10.1 psia)	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating (14.7 to 4.4 psia)	**-15 m to 12,192 m**	-50 ft to 40,000 ft
Shock		

	Metric	U.S.
Operating	125 g, 2 ms, half-sine	
Nonoperating	200 g, 2 ms, half-sine	
Random vibration		
Operating	0.75 g zero-to-peak, 10 Hz to 500 Hz, 0.25 oct/min sweep rate	
Nonoperating	1.50 g zero-to-peak, 10 Hz to 500 Hz, 0.5 oct/min sweep rate	

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

35.56 cm (14.0 in), display specifications

	Metric	U.S.
Dimensions		
Width	**32.4 cm**	12.8 in
Height	**19.3 cm**	7.6 in
Diagonal	**35.56 cm**	14.0 in
Number of colors	262K (6 bit)	
Contrast ratio	500:1 (typical)	
Brightness	200 cd/m^2 (nits) (typical)	
Backlight	WLED	
Total power consumption	3.2 W (max)	
Viewing angle	±45° horizontal, +15° up & -35° down vertical (typical)	

Hard drive specifications

	1 TB*	750 GB*	500 GB*
Dimensions			
Height	9.5 mm	9.5 mm	7 mm
Width	70 mm	70 mm	70 mm
Weight	107 g max	107 g max	107 g max
Interface type	SATA	SATA	SATA
Transfer rate	300 MB/sec	300 MB/sec	300 MB/sec
Security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)			
Single track	1.5 ms	1.0 ms	1.5 ms
Average	11.0 ms	14.0 ms	12.0 ms
Maximum	22.0 ms	24.0 ms	22.0 ms
Logical blocks	1,953,525,168	1,465,128,359	976,752,240
Disk rotational speed	5400 rpm	7200 and 5400 rpm	7200 and 5400 rpm
Operating temperature	**5°C to 55°C** (41°F to 131°F)		

*Size refers to hard drive storage capacity. Actual accessible capacity is less. Actual drive specifications may differ slightly.

NOTE: Certain restrictions and exclusions apply. Contact support for details.

DVD±RW SuperMulti Double-Layer Combination Drive specifications

Applicable disc	
Read	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, 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
Write	CD-R and CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM
Random access time	
DVD	< 230 ms
CD	< 175 ms
Cache buffer	2 MB
Data transfer rate	
24X CD-ROM	3,600 KB/sec
8X DVD-ROM	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

10 Windows 8 – Backing up, restoring, and recovering

Your computer includes tools provided by HP and Windows to help you safeguard your information and retrieve it if you ever need to. These tools will help you return your computer to a proper working state or even back to the original factory state, all with simple steps.

This chapter provides information about the following processes:

- Creating recovery media and backups

- Restoring and recovering your system

NOTE: This chapter describes an overview of backing up, restoring and recovering options. For more details about the tools provided, see Help and Support. From the Start screen, type help, and then select **Help and Support**.

Creating recovery media and backups

1. After you successfully set up the computer, create HP Recovery media. This step creates a backup of the HP Recovery partition on the computer. The backup can be used to reinstall the original operating system in cases where the hard drive is corrupted or has been replaced.

   HP Recovery media you create will provide the following recovery options:

   ● System Recovery—Reinstalls the original operating system and the programs that were installed at the factory.

   ● Minimized Image Recovery—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.

   ● Factory Reset—Restores the computer to the state its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

   See Creating HP Recovery media on page 117.

2. Use the Windows tools to create system restore points and create backups of personal information. For more information and steps, see Windows Help and Support. From the Start screen, type help, and then select **Help and Support**.

Creating HP Recovery media

HP Recovery Manager is a software program that offers a way to create recovery media after you successfully set up the computer. HP Recovery media can be used to perform system recovery if the hard drive becomes corrupted. System recovery reinstalls the original operating system and the software programs installed at the factory, and then configures the settings for the programs. HP Recovery media can also be used to customize the system or restore the factory image if you replace the hard drive.

● Only one set of HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.

● HP Recovery Manager examines the computer and determines the required storage capacity for the blank USB flash drive or the number of blank DVD discs that will be required.

● To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, DVD+R DL discs. Do not use rewritable discs such as CD±RW, DVD±RW, double-layer DVD±RW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or instead you can use a high-quality blank USB flash drive.

● If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from the HP website. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub.

- Be sure that the computer is connected to AC power before you begin creating the recovery media.

- The creation process can take up to an hour or more. Do not interrupt the creation process.

- If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue, and the remaining discs will be burned.

To create HP Recovery media:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.

2. Select **Recovery Media Creation**, and follow the on-screen instructions to continue.

If you ever need to recover the system, see .

Restore and recovery

There are several options for recovering your system. Choose the method that best matches your situation and level of expertise:

- Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state. For more information and steps, see Help and Support. From the Start screen, type help, and then select **Help and Support**.

- If you need to correct a problem with a preinstalled application or driver, use the Drivers and Applications Reinstall option of HP Recovery Manager to reinstall the individual application or driver.

  From the Start screen, type recovery, select **HP Recovery Manager**, and then select **Drivers and Applications Reinstall**, and follow the on-screen instructions.

- If you want to reset your computer using a minimized image, you can choose the HP Minimized Image Recovery option from the HP Recovery partition or HP Recovery media. Minimized Image Recovery installs only drivers and hardware-enabling applications. Other applications included in the image continue to be available for installation through the Drivers and Applications Reinstall option in HP Recovery Manager.

  For more information, see Recovering using HP Recovery Manager on page 119.

- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery media. For more information, see Recovering using HP Recovery Manager on page 119.

- If you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see Recovering using HP Recovery Manager on page 119.

- If you wish to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.

  For more information, see Removing the HP Recovery partition on page 121.

Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state. Using the HP Recovery media you created, you can choose from one of the following recovery options:

- System Recovery—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.

- Minimized Image Recovery—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.

- Factory Reset—Restores the computer to the state its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

The HP Recovery partition allows Minimized Image Recovery.

What you need to know

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.

- Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.

- HP Recovery media must be used if the computer hard drive fails.

- To use the Factory Reset or System Recovery options, you must use HP Recovery media.

- If the HP Recovery media do not work, you can obtain recovery media for your system from the HP website. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

IMPORTANT: HP Recovery Manager does not automatically provide backups of your personal data. Before beginning recovery, back up any personal data you wish to retain.

Using the HP Recovery partition to recover a minimized image

The HP Recovery partition allows you to perform a minimized image recovery without the need for recovery discs or a recovery USB flash drive. This type of recovery can only be used if the hard drive is still working.

To start HP Recovery Manager from the HP Recovery partition:

1. Press f11 while the computer boots.

   – or –

   Press and hold f11 as you press the power button.

2. Select **Troubleshoot** from the boot options menu.

3. Select **HP Recovery Manager**, and follow the on-screen instructions.

Using HP Recovery media to recover

You can use HP Recovery media to recover the original system. This method can be used if your system does not have an HP Recovery partition or if the hard drive is not working properly.

1. If possible, back up all personal files.

2. Insert the first HP Recovery disc you created into the optical drive on your computer or into an optional external optical drive, and then restart the computer.

    – or –

    Insert the HP Recovery USB flash drive you created into a USB port on your computer, and then restart the computer.

    NOTE: If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See Changing the computer boot order on page 121.

3. Follow the on-screen instructions.

Changing the computer boot order

If computer does not restart in HP Recovery Manager, you can change the computer boot order, which is the order of devices listed in BIOS where the computer looks for startup information. You can change the selection for an optical drive or a USB flash drive.

To change the boot order:

1. Insert the HP Recovery media you created.

2. Restart the computer.

3. Press and hold esc while the computer is restarting, and then press f9 for boot options.

4. Select the optical drive or USB flash drive you want to boot from.

5. Follow the on-screen instructions.

Removing the HP Recovery partition

HP Recovery Manager software allows you to remove the HP Recovery partition to free up hard drive space.

IMPORTANT: Removing the HP Recovery partition means you can no longer use Windows Refresh, the Windows Remove everything and reinstall Windows option, or the HP Recovery Manager option for minimized image recovery. Create HP Recovery media before removing the Recovery partition to ensure you have recovery options; see Creating HP Recovery media on page 117.

Follow these steps to remove the HP Recovery partition:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.

2. Select **Remove Recovery Partition**, and follow the on-screen instructions to continue.

11 Ubuntu Linux – Backing up, restoring, and recovering

Recovery after a system failure is as good as your most recent backup. 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.

Performing a system recovery

The Deja Dup Restore Tool allows you to repair or restore the computer to its original factory state. You can create an image restore DVD using an optional external DVD±RW optical drive. You can also create a restore image on a USB storage device.

CAUTION: Using Restore 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 recovery tool reinstalls the original operating system and programs and drivers that were installed at the factory. Software, drivers, and updates not installed at the factory must be manually reinstalled. Personal files must be restored from a backup.

NOTE: HP recommends that you create the image restore in the event of a system failure.

Creating the restore DVDs

The restore creation software creates a set of system restore discs using blank, writable DVDs (DVD-R or DVD+R). HP recommends using blank DVD+R discs from a manufacturer you trust, because these recovery DVDs are so important. You need approximately 3 blank DVD+R discs. The program states how many discs are needed at the beginning of the process.

To create restore DVDs:

1. Click the **System menu** icon at the far right of the top panel, and then click **System Settings > Backup**.

2. Select **Storage** from the panel on the left side of the window, click the down-arrow next to **Backup Location**, and select the DVD from the drop-down list.

3. Select **Overview** from the panel on the left side of the window, and then click **Back Up Now**.

4. Follow the on-screen instructions.

Creating a restore image on a USB device

NOTE: Be sure AC power is connected to the computer you begin.

Verify the exact amount of free space on your storage device before you begin the creation process. For most models, you will need at least 8 GB of free space on the storage device. However, depending on the drivers and software installed on your computer, you may need slightly more than 8 GB of space. **HP recommends that you use a 16 GB device or above for best results.**

IMPORTANT: Remember to insert your USB device into the USB port on the computer before starting this procedure.

To create the restore image:

1. Click the **System menu** icon at the far right of the top panel, and then click **System Settings > Backup**.

2. Select **Storage** from the panel on the left side of the window, click the down-arrow next to **Backup location**, and select the USB device from the drop-down list.

   NOTE: If the USB device is not listed in the drop-down list for Backup Location, select **Local Folder**, and then click the **Choose Folder** button. Select the USB device from the panel on the left side of the **Choose Folder** window, and click **OK**.

3. Select **Overview** from the panel on the left side of the window, and then click **Backup Now**.

4. Follow the on-screen instructions.

Performing recovery using the restore media

NOTE: The following procedure uses the F11 BIOS Recovery feature to perform the recovery.

1. If possible, back up all personal files.

2. Shut down the computer.

3. Be sure the restore DVD or USB device is connected to the computer.

4. Restart the computer.

5. Using the arrow keys, select **Recovery**, and then press enter.

6. Follow the on-screen instructions.

NOTE: If you are unable to boot (start up) your computer with the primary operating system, and you did not create a system recovery disc, you must purchase an *Ubuntu Operating System* DVD to reinstall the operating system. For additional information, refer to the *Worldwide Telephone Numbers* booklet for more information.

Backing up your information

You should back up your computer files on a regular schedule to maintain a current backup. You can manually back up your information to an optional external drive, a network drive, discs, or the Ubuntu One website. Back up your system at the following times:

- At regularly scheduled times
- Before the computer is repaired or restored
- Before you add or modify hardware or software

To back up your home directory files to the Ubuntu website using the Deja Dup Backup Tool:

NOTE: Before you back up your information, be sure you have designated a location to save the backup files.

1. Click the **System menu** icon at the far right of the top panel, and then click **System Settings > Backup** icon.

2. Select **Folders** from the panel on the left side of the window, and beneath **Folders to back up**, select the folders to back up.

3. Select **Storage** from the panel on the left side of the window, click the down-arrow next to **Backup Location**, and select **Ubuntu One** from the drop-down list.

4. Select **Overview** from the panel on the left side of the window, and then click **Back Up Now**.

   NOTE: The first time you backup your files to Ubuntu One, you will need to create an account to sign into Ubuntu One. Enter your email address and password into the account sign-in boxes and follow the on-screen instructions to complete the sign-in process.

To restore backup files:

1. Click the **System menu** icon at the far right of the top panel, and then click **System Settings > Backup** icon.

2. Click **Restore**, select the location of the backup files and the folder name, and then click **Forward**.

3. Under **Restore from When?**, select the date of the files to be restored and click **Forward**.

4. Select the location and folder where the files are to be restored and click **Forward**.

5. Follow the on-line instructions.

6. Click **Restore** to start restoring the files, or click **Cancel** to cancel the operation.

NOTE: You may also back up to cloud storage services provided by various companies. For a small fee, they will keep your backup for you. A cloud service is recommended since it is an easy way to keep your backups off-site and safe from any disaster.

12 Power cord set requirements

The wide-range input feature of the computer permits it to operate from any line voltage from 100 to 120 V ac, or from 220 to 240 V 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 or regions must meet the requirements of the country and region where the computer is used.

Requirements for all countries

The following requirements are applicable to all countries and regions:

- The length of the power cord set must be at least **1.0 m** (3.3 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 A 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
Argentina	IRAM	1
Australia	SAA	1
Austria	OVE	1
Belgium	CEBEC	1
Brazil	ABNT	1
Canada	CSA	2
Chile	IMQ	1
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
India	ISI	1
Israel	SII	1
Italy	IMQ	1
Japan	JIS	3
The Netherlands	KEMA	1
New Zealand	SANZ	1
Norway	NEMKO	1
The People's Republic of China	CCC	4
Saudi Arabia	SASO	7
Singapore	PSB	1
South Africa	SABS	1
South Korea	KTL	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	6
Thailand	TISI	1
The United Kingdom	ASTA	1

Country/region	Accredited agency	Applicable note number
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 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.

2. The flexible cord must be Type SVT/SJT 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 ac) or NEMA 6-15P (15 A, 250 V ac) configuration. CSA or C-UL mark. UL file number must be on each element.

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 VCTF, 3-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V ac) 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 CCC certification mark.

5. The flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² conductor size. KTL logo and individual approval number must be on each element. Corset approval number and logo must be printed on a flag label.

6. The flexible cord must be Type HVCTF 3-conductor, 1.25 mm² conductor size. Power cord set fittings (appliance coupler, cable, and wall plug) must bear the BSMI certification mark.

7. For 127 V ac, the flexible cord must be Type SVT or SJT 3-conductor, 18 AWG, with plug NEMA 5-15P (15 A, 125 V ac), with UL and CSA or C-UL marks. For 240 V ac, the flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² or 1.00 mm2 conductor size, with plug BS 1363/A with BSI or ASTA marks.

13 Recycling

When a non-rechargeable or rechargeable 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 battery disposal.

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, see the HP Web site at http://www.hp.com/recycle.

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