HP ENVY 17 Notebook PC
HP ENVY TouchSmart m7 Notebook PC
HP ENVY TouchSmart 17 Notebook PC

Maintenance and Service Guide

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Product notice

This guide describes features that are common to most models. Some features may not be available on your computer.

This computer may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://windows.microsoft.com/en-us/windows7/get-know-windows-7 for details.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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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 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).

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1 Product description

Category	Description
Product Name	HP ENVY 17 Notebook PC HP ENVY TouchSmart m7 Notebook PC HP ENVY TouchSmart 17 Notebook PC
Processors	• Intel® Quad Core™ i7-4900MQ 2.80-GHz (SC turbo up to 3.80-GHz) processor (1600-MHz FSB, 8.0-MB L3 cache, 47 W) • Intel Quad Core i7-4800MQ 2.70-GHz (SC turbo up to 3.70-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W) • Intel Quad Core i7-4702MQ 2.20-GHz (SC turbo up to 3.20-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 37 W) • Intel Quad Core i7-4700MQ 2.40-GHz (SC turbo up to 3.40-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W) • Intel Dual Core i5-4330M 2.80-GHz (SC turbo up to 3.50-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W) • Intel Dual Core i5-4200M 2.50-GHz (SC turbo up to 3.10-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W) • Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)
Chipset	Intel HM87 Express Chipset
Graphics	**Internal graphics:** • Intel HD Graphics 4600 internal graphics
	Switchable discrete graphics: • Nvidia N14P-GV2 (GeForce 740M) switchable discrete graphics with 2GB of dedicated video memory (128Mx16 DDR3 1GHz x 8 pcs) • Nvidia N14P-GT (GeForce 750M) switchable discrete graphics with 2GB of dedicated video memory (128Mx16 DDR3 1GHz x 8 pcs) • Nvidia N14P-GT (GeForce 750M) switchable discrete graphics with 4GB of dedicated video memory (256Mx16 DDR3 1GHz x 8 pcs)
Panel	17.3" high-definition (HD) light-emitting diode (WLED) BrightView (1600x900) display, (wedge 6.0mm) SVA, Color Gamut 60%, supports LVDS, 200 nits
	17.3" high-definition (FHD) light-emitting diode (WLED) AntiGlare (1920x1080) (wedge 6.0mm) WVA, Color Gamut 72%, supports LVDS, 300 nits
	Touchscreen, multitouch enabled, 160 nits (select models only)
	All display assemblies include 2 wireless local area network (WLAN) antenna cables.
	Supports 16:9 wide aspect ratio
Memory	Two customer-accessible/upgradable memory module slots DDR3L-1600MHz Dual Channel Support

Category	Description
	Supports up to 16-GB of system RAM in the following configurations: • 4096-MB total system memory (2048×2) • 4096-MB total system memory (4096×1) • 6144-MB total system memory (2048×1 + 4096×1) • 8192-MB total system memory (4096×2) • 8192-MB total system memory (8192×1) • 12288-MB total system memory (8192×1 + 4096×1) • 16384-MB total system memory (8192×2)
Hard drives	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) Customer-accessible Serial ATA Supports the following hard drives: • 1.5-TB 5400-rpm, 9.5-mm • 1-TB 5400-rpm, 9.5-mm • 750-GB 5400-rpm 9.5-mm • 500-GB 5400-rpm 9.5-mm and 7.0-mm
	Dual hard-drive configurations: • 2TB: (1-TB 5400-rpm x 2) • 1500GB: (750-GB 5400-rpm x 2)
Solid-state drive	Only configured with system memory up to 8 GB: • 32-GB mSATA (select models only) • 24-GB mSATA (select models only)
Optical drives	Fixed Serial ATA 9.5-mm tray load Supports the following optical drives: • DVD+/-RW Double-Layer SuperMulti • Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer • Blu-ray Disc writer with SuperMulti DVD±R/RW Double-Layer • Support Zero-Power ODD
External optical drives	External USB Serial ATA 12.7-mm tray load Supports the following external optical drives: • DVD+/-RW Double-Layer SuperMulti

Category	Description
Audio and video	Quad integrated stereo speakers and subwoofer HD Beats audio HP TrueVision high-definition webcam (fixed, no tilt + activity LED, 1PC, USB 2.0 M-JPEG, 1280×720 by 30 frames per second) Dual array digital microphones with appropriate software - beam forming, echo cancellation, noise suppression
Ethernet	Integrated 10/100/1000 GB network interface card (NIC)
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module Two WLAN antennas built into display assembly Supports Intel Wireless Display (WiDi) Antenna support for 802.11a/b/g/n with MIMO support 2×2 Supports the following WLAN formats: • Intel Centrino Wireless-N 2230 802.11 b/g/n 2×2 WiFi and Bluetooth 4.0 Combo Adapter • Realtek RTL8188EE 802.11 b/g/n 1x1 Wi-Fi Adapter • Qualcomm Atheros AR9485 802.11 b/g/n 1x1 Wi-Fi Adapter • Ralink RT3290LE 802.11bgn 1x1 Wi-Fi + BT 4.0 Combo Adapter
External memory card	Push-push insertion/removal Supports memory cards such as Secure Digital (SD).
Internal card	• One half-size mini-card slot for WLAN • One full-size mini-card slot for Intel mSATA Cache
Ports	• HDMI version 1.4 supporting 1920 ×1200 @ 60Hz • Combination audio-out/audio-in (stereo) port, supports jack detection • USB 3.0 (4 ports) • RJ-45 (Ethernet, includes link and activity lights) • AC Smart Pin power adapter plug
Keyboard/pointing devices	Full-size keyboard with numeric keypad • Duracoat island-style keyboard, no spill-resistance (in black finish) • Backlit island-style keyboard in black finish
	ClickPad with Imaging sensor Taps enabled as default Multitouch gestures enabled Support Windows Modern Trackpad Gestures

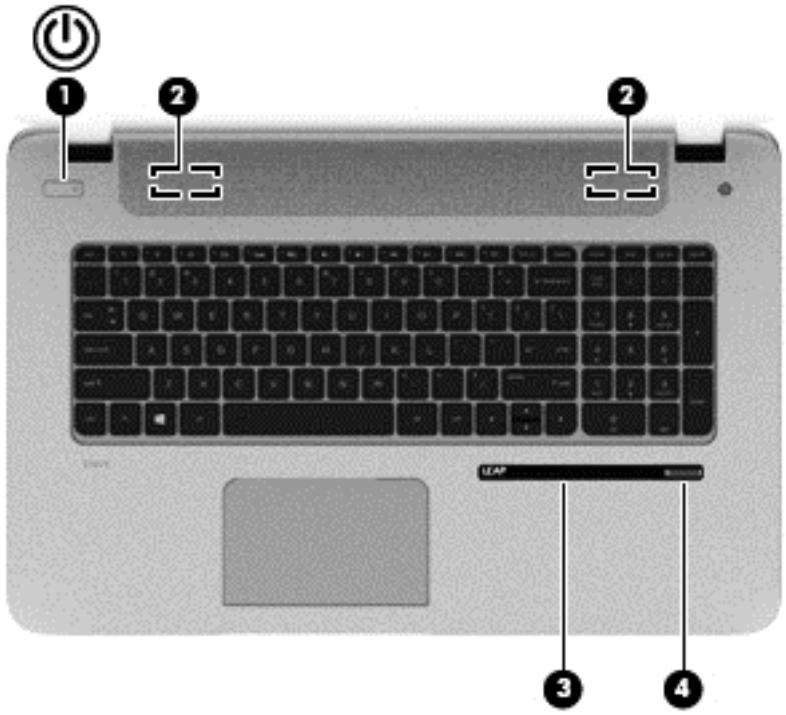
Category	Description
Power requirements	**Supports the following HP AC adapters:** • 65W (4.5mm connector) (select models only) • 65W EM (4.5mm connector) (select models only) • 90W (4.5mm connector) (select models only) • 90W EM (4.5mm connector) (select models only) • 120W (4.5mm connector) (select models only) 1-M length power cord
	Supports the following batteries: • 6-Cell battery - 62Whr (2.8Ah), supports fast charge: up to 90% charged in 90 minutes
Operating system	**Preinstalled:** • Windows 8 (64-bit) • Windows 8.1 (64-bit)
Serviceability	**End-user replaceable parts** • Memory • Optical drive • Hard drive • Battery • AC adapter • Mini card components

2 External component identification

Display

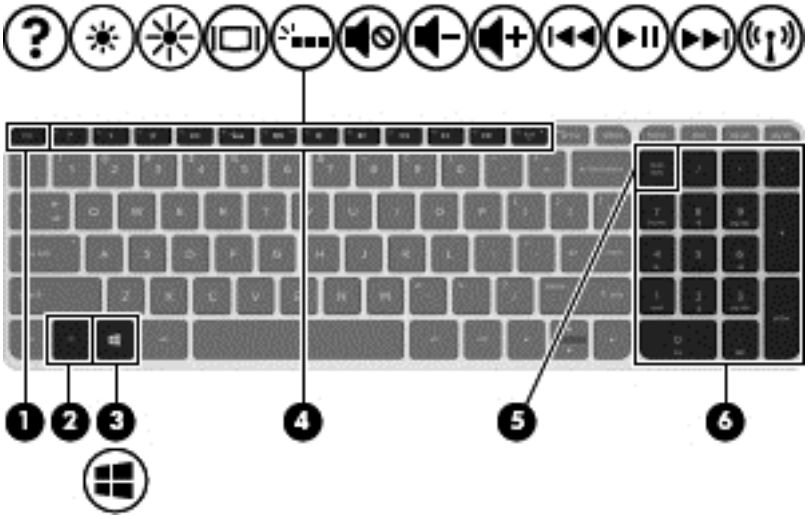
Component		Description
(1)	Internal display switch	Turns off the display and initiates Sleep if the display is closed while the power is on. **NOTE:** The internal display switch is not visible from the outside of the computer.
(2)	Internal microphones (2)	Record sound.
(3)	Webcam light	On: The webcam is in use.
(4)	HD Webcam	Records video and takes still photographs.
(5)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLANs).

Buttons, speakers, and fingerprint reader



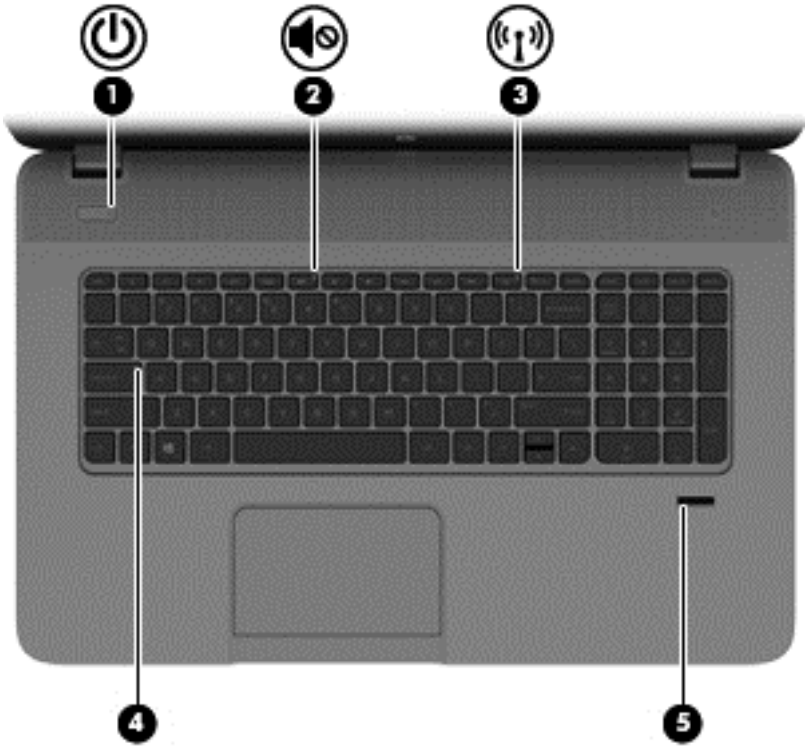
Component		Description
(1)	Power button	• When the computer is off, press the button to turn on the tablet. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. **CAUTION:** Pressing and holding down the power button will result in the loss of unsaved information.
(2)	Speakers (2)	Produce sound.
(3)	Leap Motion™ (select models only)	Leap Motion allows you to control custom apps with your hands and fingers in the air. When you first turn Leap Motion on, follow the setup instructions to experience the interactive tutorial and create an account for Airspace™, the Leap Motion app store. Airspace is where you will launch your Leap Motion apps, and discover new apps designed specifically for 3D interaction using the speed and accuracy of Leap Motion technology.
(4)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.

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 b key, the spacebar, or 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. **NOTE:** On select models, the f5 action key turns the radiance backlight keyboard feature off or on.
(5)	num lk key	Alternates between the navigational and numeric functions on the integrated numeric keypad.
(6)	Integrated numeric keypad	When num lk has been enabled, it can be used like an external numeric keypad.

Lights

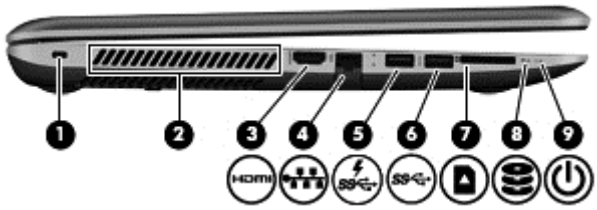


Component			Description
(1)		Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state, which is an energy-saving mode. The computer shuts off power to the display and other unneeded components. • Off: The computer is off or in Hibernation. Hibernation is an energy-saving mode 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)		Mute light	• Amber: Computer sound is off. • Off: Computer sound is on.
(3)		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.
(4)		Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(5)		Fingerprint reader light	• White: The fingerprint authentication was successful. • Amber: The fingerprint authentication failed.

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.

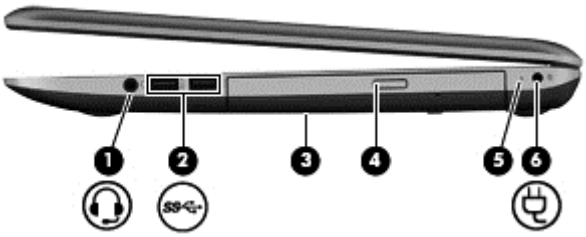
Left side



Component			Description
(1)		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.
(2)		Vents (2)	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.
(3)		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.
(4)		RJ-45 (network) jack	Connects a network cable.
		RJ-45 (network) status light	White: The network is connected. Amber: Activity is occurring on the network.
(5)		USB 3.0 charging port	Connects an optional USB device. The USB 3.0 charging port can also charge select models of cell phones and MP3 players, even when the computer is off. **NOTE:** A USB charging port (also referred to as a USB powered port) allows you to charge connected USB devices. Standard USB ports will not charge all USB devices or will charge using a low current. Some USB devices require power and require you to use a powered port.
(5)		USB 3.0 port	Connects optional USB 3.0 devices and provide enhanced USB power performance.
(6)		Memory card reader	Reads data from and writes data to memory cards such as Secure Digital (SD).

Component		Description
(7)	Hard drive light	• Blinking white: The hard drive is being accessed. • Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(8)	Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state, which is an energy-saving mode. The computer shuts off power to the display and other unneeded components. • Off: The computer is off or in Hibernation. Hibernation is an energy-saving mode 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..

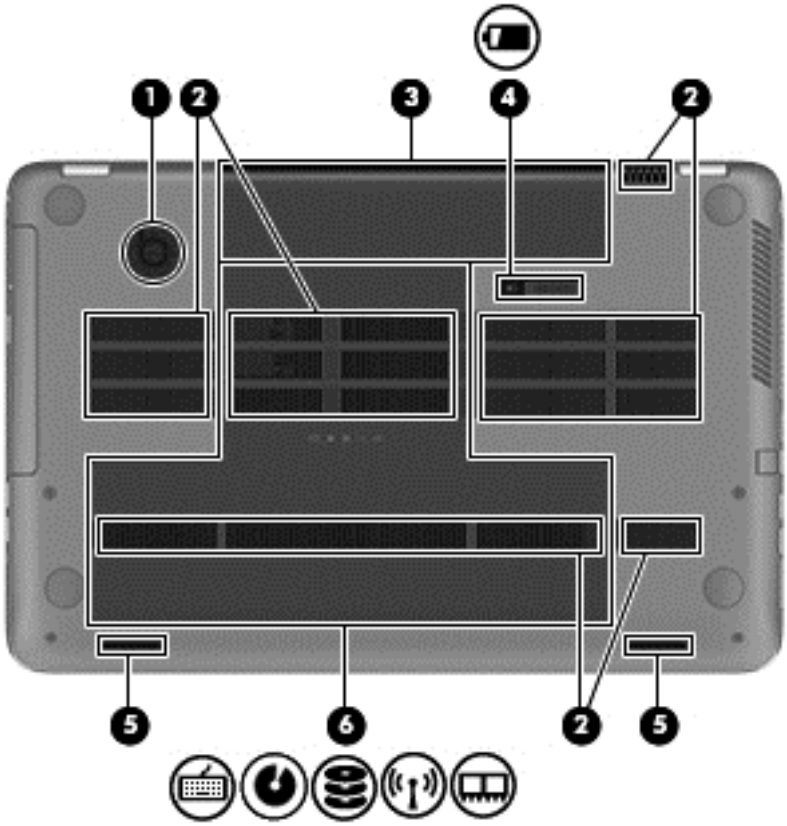
Right side



Component		Description
(1)	Audio-out (headphone) jack/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 putting on 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 it and then select the **HP Support Assistant** app. **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).
(2)	USB 3.0 ports (2)	Connect optional USB 3.0 devices and provide enhanced USB power performance.
(3)	Optical drive	Reads and writes (select models only) to an optical disc.
(4)	Optical drive release button	Releases the optical drive disc tray

Component		Description
(5)	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.
(6)	Power connector	Connects an AC adapter.

Bottom



Component		Description
(1)	HP Triple Bass Reflex Subwoofer	Provides superior bass sound.
(2)	Vents (6)	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.
(3)	Battery bay	Holds the battery.
(4)	Battery release latch	Releases the battery.

Component		Description
(5)	Speakers (2)	Produce sound.
(6)	Service door	Provides access to the hard drive bay, 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.

- 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.

  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.

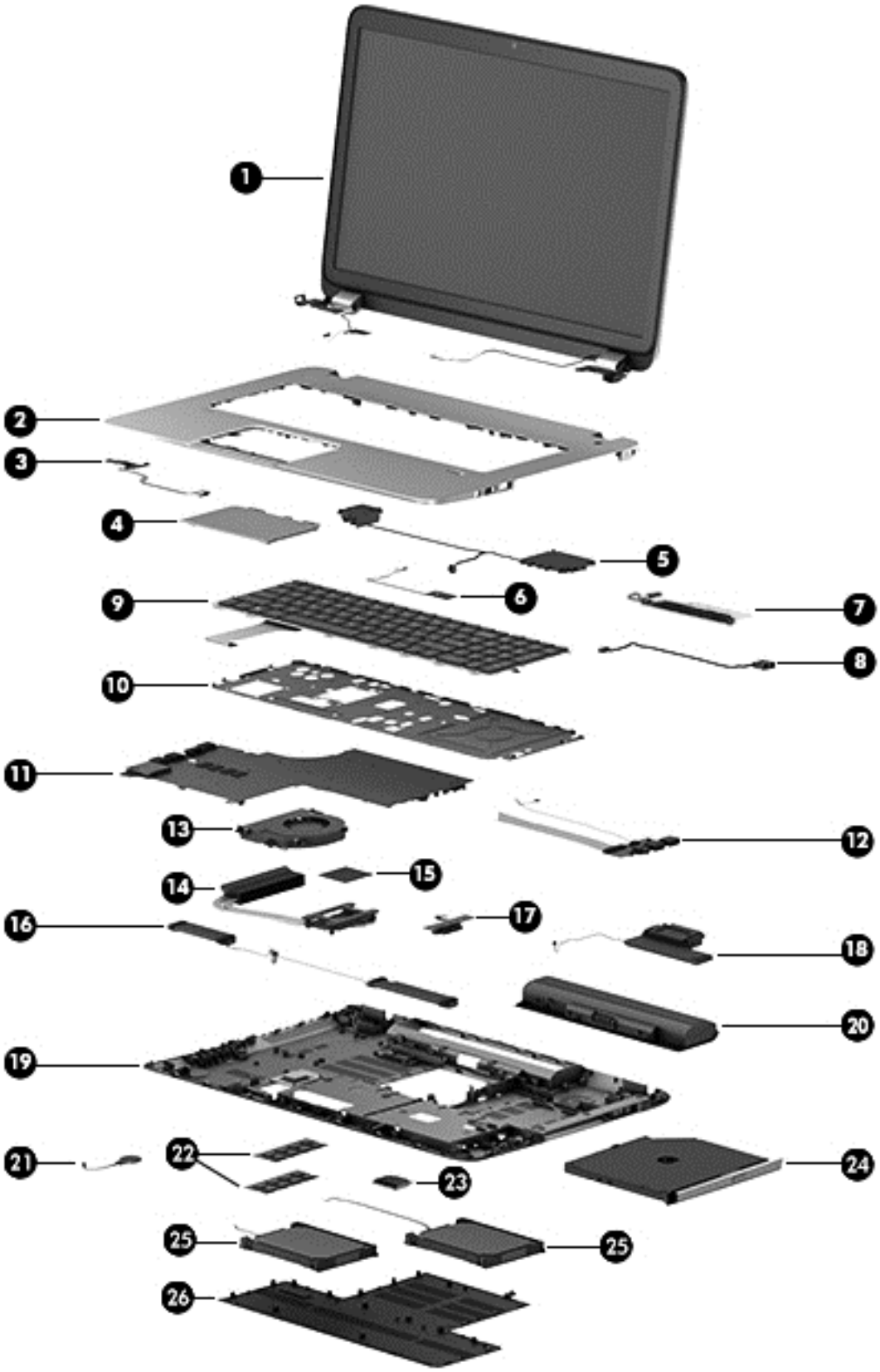
Component	
(1)	Serial number
(2)	Product number
(3)	Warranty period
(4)	Model number (select models only)

- Microsoft® Certificate of Authenticity—Contains the Windows Product Key. You may need the Product Key to update or troubleshoot the operating system. The Microsoft Certificate of Authenticity is located on the bottom of the computer.
- Regulatory label—Provides regulatory information about the computer.
- Wireless certification label or labels—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: 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 14 for details.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Item	Component	Spare part number
(1)	**Display assembly**: The TouchScreen display assembly is spared as a whole unit assembly only. The non-TouchScreen display is spared at the subcomponent level only. For more non-TouchScreen display assembly spare part information, see Display assembly subcomponents on page 22.	
	17.3-in, AG, FHD, LED TouchScreen display assembly for use on HP ENVY TouchSmart m7 Notebook PC computer models	720252-001
	17.3-in., BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart m7 Notebook PC computer models	720783-001
	17.3-in, AG, FHD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart 17 Notebook PC computer models	736478-001
	17.3-in, BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart 17 Notebook PC computer models	736479-001
(2)	**Top cover:**	
	For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720272-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability	736483-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly, but not equipped with Leap Motion capability	720271-001
(3)	**Power button board** (includes cable)	720250-001
(4)	**TouchPad module** (includes cable):	
	For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720230-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability	720253-001
(5)	**Top speaker kit**	720261-001
(6)	**Fingerprint reader module** (includes cable):	
	For use only on computer models with Leap Motion capability	741076-001
	For use only on computer models not equipped with Leap Motion capability	720236-001
(7)	**Leap Motion module** (includes cable)	736480-001
(8)	**Power connector cable:**	
	For use only on computer models equipped with a graphics subsystem with discrete memory	720240-001
	For use only on computer models equipped with a graphics subsystem with UMA memory	720241-001
(9)	**Keyboard:**	
	Keyboard with backlight for use only on HP ENVY TouchSmart m7 Notebook PC computer models in Canada (includes keyboard cable and backlight cable)	720245-DB1
	Keyboard with backlight for use only on HP ENVY TouchSmart m7 Notebook PC computer models in the United States (includes keyboard cable and backlight cable)	720245-001
	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability (includes keyboard cable and backlight cable):	
	For use in Belgium	736685-A41

Item	Component	Spare part number
	For use in Canada	736685-DB1
	For use in the Czech Republic and Slovakia	736685-FL1
	For use in Denmark, Finland, and Norway	736685-DH1
	For use in France	736685-051
	For use in Germany	736685-041
	For use in Italy	736685-061
	For use in Latin America	736685-161
	For use in the Netherlands	736685-B31
	For use in Portugal	736685-131
	For use in Russia	736685-251
	For use in Saudi Arabia	736685-171
	For use in Spain	736685-071
	For use in Switzerland	736685-BG1
	For use in Turkey	736685-141
	For use in the United Kingdom and Singapore	736685-031
	For use in the United States	736685-001
	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly, but without Leap Motion capability (includes keyboard cable and backlight cable):	
	For use in Belgium	720244-A41
	For use in Canada	720244-DB1
	For use in the Czech Republic and Slovakia	720244-FL1
	For use in Denmark, Finland, and Norway	720244-DH1
	For use in France	720244-051
	For use in Germany	720244-041
	For use in Italy	720244-061
	For use in the Netherlands	720244-B31
	For use in Portugal	720244-131
	For use in Russia	720244-251
	For use in Saudi Arabia	720244-171
	For use in Spain	720244-071
	For use in Switzerland	720244-BG1
	For use in Turkey	720244-141
	For use in the United Kingdom and Singapore	720244-031

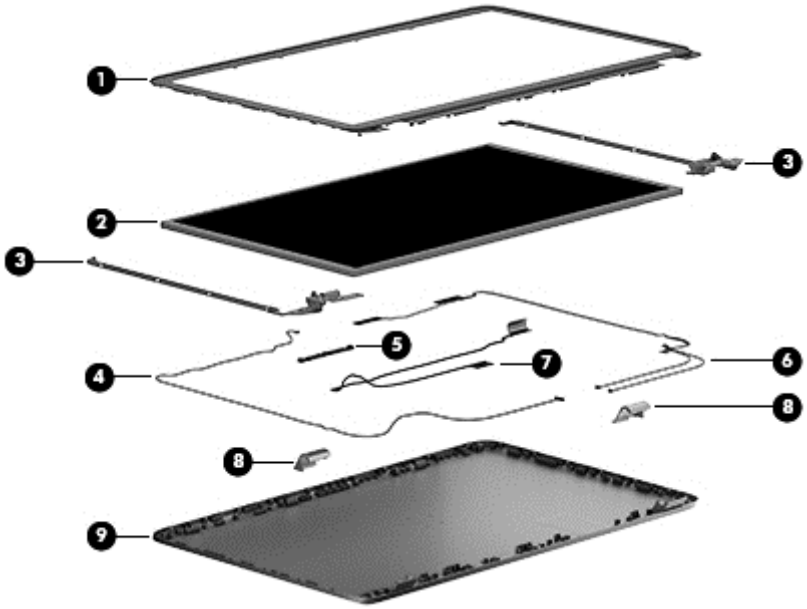
Item	Component	Spare part number
	For use in the United States	720244-001
	Keyboard with pointing stick for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly (includes keyboard cable and pointing stick cable):	
	For use in the United States	720242-001
	For use in France	720242-051
	For use in Italy	720242-061
(10)	**Keyboard bracket:**	
	For use only on computer models equipped with a backlit keyboard	732792-001
	For use only on computer models equipped with a non-backlit keyboard	720270-001
(11)	**System board** (includes replacement thermal material):	
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped Leap Motion capability	736481-601
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Standard operating system for use only on computer models equipped with Leap Motion capability	736481-501
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720267-601
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720267-501
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720266-601
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720266-501
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with Leap Motion capability	736482-601
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with Leap Motion capability	736482-501
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system	720265-601
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system	720265-501
	Equipped with the MB HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system	746450-501
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system	746450-601
	Equipped with the MB HM87 Express chipset, a graphics subsystem with discrete memory, and the Windows 8.1 Standard operating system	746451-501

Item	Component	Spare part number
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with discrete memory, and the Windows 8 Professional operating system	746451-601
(12)	**USB board** (includes cables):	
	For use only on computer models equipped with a graphics subsystem with discrete memory	724142-001
	For use only on computer models with Leap Motion capability	741074-001
	For use only on computer models equipped with a graphics subsystem with UMA memory	720251-001
(13)	**Fan**	720235-001
(14)	**Heat sink** (includes replacement thermal material):	
	For use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GT (GeForce 750M) graphics subsystem	720233-001
	For use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GV2 (GeForce 740M) graphics subsystem	720232-001
	For use only on computer models equipped with the Intel HM87 Express Chipset and a graphics subsystem with UMA memory	720231-001
(15)	**Processor** (includes replacement thermal material):	
	Intel Quad Core i7-4900MQ 2.80-GHz (SC turbo up to 3.80-GHz) processor (1600-MHz FSB, 8.0-MB L3 cache, 47 W)	723523-001
	Intel Quad Core i7-4800MQ 2.70-GHz (SC turbo up to 3.70-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W)	723524-001
	Intel Quad Core i7-4702MQ 2.20-GHz (SC turbo up to 3.20-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 37 W)	723522-001
	Intel Quad Core i7-4700MQ 2.40-GHz (SC turbo up to 3.40-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W)	723521-001
	Intel Dual Core i5-4330M 2.80-GHz (SC turbo up to 3.50-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	738201-001
	Intel Dual Core i5-4200M 2.50-GHz (SC turbo up to 3.10-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737328-001
	Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737327-001
(16)	**Front Speaker Kit** (includes left and right front speakers and cables)	720262-001
(17)	**Optical drive connector board**: The optical drive connector board and cable are included in the optical drive spare part kit. See item 24 for optical drive spare part number information.	
(18)	**Subwoofer**	720263-001
(19)	**Base enclosure:**	
	For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720226-001
	Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models with Leap Motion capability	736476-001
	Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models without Leap Motion capability	736475-001
	Base enclosure for use only on computer models equipped with a non-TouchScreen display assembly	720225-001

Item	Component	Spare part number
	Rubber Feet Kit (not illustrated):	
	For use on HP ENVY TouchSmart m7 Notebook PC computer models	720259-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly	720258-001
(20)	**6-cell, 62WHr 32.8AH Li-ion battery**	710417-001
(21)	**RTC battery**	651948-001
(22)	**Memory module** (PC3L, 12800, 1600-MHz, shared):	
	2-GB	691739-001
	4-GB	691740-001
	8-GB	693374-001
(23)	**WLAN module**	
	Broadcom BCM4352 802.11ac 2×2 Wi-Fi + BT 4.0 Combo Adapter	724935-001
	Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter	710662-001
	Intel Wireless-N 7260BN 802.11b/g/n 2×2 WiFi + BT 4.0 Combo Adapter	717384-001
	Qualcomm Atheros AR9565 802.11b/g/n 1×1 WiFi + BT 4.0 Combo Adapter	733476-001
	Qualcomm Atheros AR 9485GN 802.11b/g/n 1×1 Wi-Fi Combo Adapter	675794-001
	Ralink RT3290LE 802.11b/g/n 1×1 Wi-Fi Bluetooth 4.0 Combo Adapter	690020-001
	Realtek RTL 8188EE 802.11b/g/n 1×1 Wi-Fi Combo Adapter	709848-001
(24)	**Optical drive:**	
	For use on HP ENVY TouchSmart m7 Notebook PC computer models:	
	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720249-001
	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	729728-001
	DVD±RW Double-Layer SuperMulti Drive	720248-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly:	
	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720247-001
	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	720246-001
	DVD±RW Double-Layer SuperMulti Drive	729727-001
(25)	**Hard drive:**	
	1.5-TB, 5400-RPM	747375-001
	1-TB, 5400-RPM	676521-001
	1-TB, 5400-RPM hybrid	731999-001
	750-GB, 5400-RPM	634250-001
	750-GB, 5400-RPM hybrid	732001-001

Item	Component	Spare part number
	500-GB, 5400-RPM	683802-001
	500-GB, 5400-RPM hybrid	732000-001
	Hard Drive Hardware Kit	720237-001
(26)	**Service cover:**	
	For use on HP ENVY TouchSmart m7 Notebook PC computer models	720255-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly	720254-001

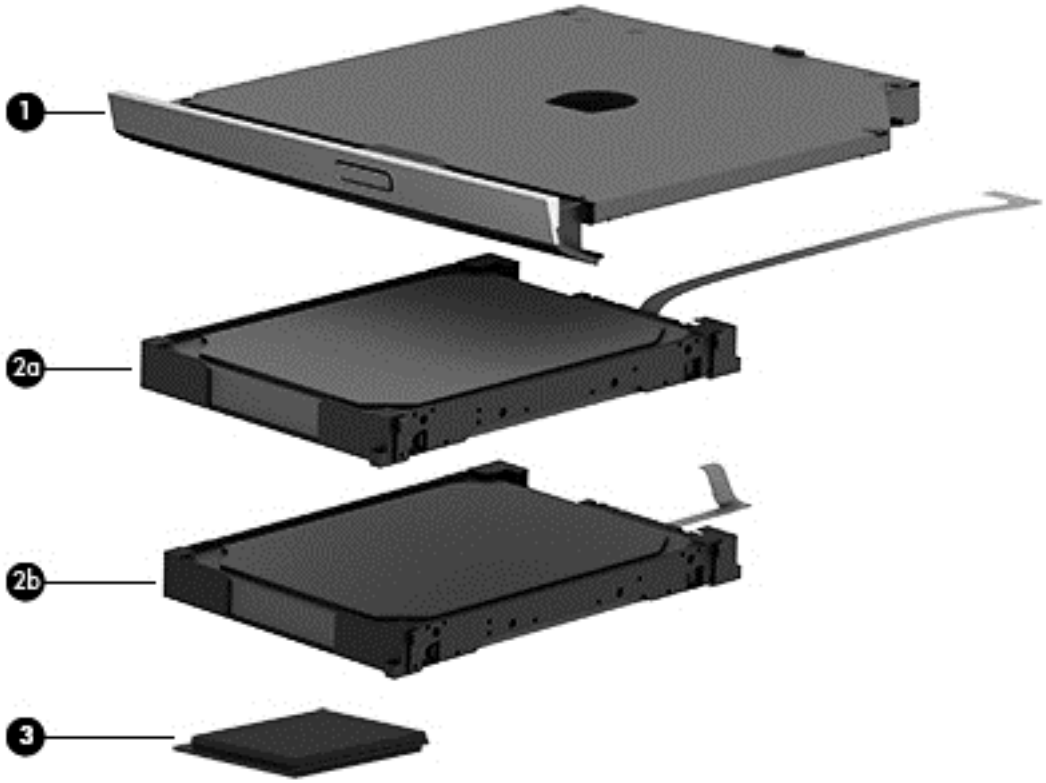
Display assembly subcomponents



Item	Component	Spare part number
(1)	**Display bezel** (includes 2 rubber screw covers)	720227-001
(2)	**17.3-in, LED. HD, BrightView display panel** (includes 2 rubber screw covers):	
	17.3-in, AG, FHD, LED	720256-001
	17.3-in, BV, HD, LED	720257-001
(3)	**Display hinge** (includes 2 rubber screw covers)	720238-001
(4)	**WLAN Antenna Kit** (includes left and right wireless antenna cables and transceivers and 2 rubber screw covers)	720222-001
(5)	**Webcamera/microphone module**	720273-001
(6)	**Webcamera/microphone module cable** (includes 2 rubber screw covers)	720229-001
(7)	**Display panel cable**	720229-001

Item	Component	Spare part number
(8)	**Left and right hinge covers**	720238-001
(9)	**Display enclosure** (includes 2 rubber screw covers):	720223-001

Mass storage devices



Item	Component	Spare part number
(1)	**Optical drive:**	
	For use on HP ENVY TouchSmart m7 Notebook PC computer models:	
	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720249-001
	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	729728-001
	DVD±RW Double-Layer SuperMulti Drive	720248-001
	For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly:	
	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720247-001
	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	720246-001
	DVD±RW Double-Layer SuperMulti Drive	729727-001
(2)	**Hard drive:**	
	1.5-TB, 5400-RPM	747375-001
	1-TB, 5400-RPM	676521-001
	1-TB, 5400-RPM hybrid	731999-001
	750-GB, 5400-RPM	634250-001
	750-GB, 5400-RPM hybrid	732001-001
	500-GB, 5400-RPM	683802-001

Item	Component	Spare part number
	500-GB, 5400-RPM hybrid	732000-001
	Hard Drive Hardware Kit	720237-001
(3)	**24-GB mSATA solid-state drive**	720264-001

Miscellaneous parts

Component	Spare part number
AC adapter:	
120-W AC adapter (PFC, S, 3-wire, 4.5-mm)	710415-001
90-W AC adapter (EM, PFC, SMT, 3-wire, 4.5-mm)	710414-001
90-W AC adapter (PFC, S, 3-wire, 4.5-mm)	710413-001
65-W HP Smart AC adapter (non-PFC, EM, 3-wire, 4.5-mm)	714657-001
65-W AC adapter (non-PFC, S, 3-wire, 4.5-mm)	710412-001
HP HDMI to VGA adapter	701943-001
Power cord (3-pin, black, 1.83-m):	
For use in Australia	490371-011
For use in Denmark, Finland, Norway	490371-081
For use in Europe	490371-021
For use in India	490371-D61
For use in North America	490371-001
For use in the People's Republic of China	490371-AA1
For use in South Africa	490371-AR1
For use in Switzerland	490371-111
For use in the United Kingdom and Singapore	490371-031
Screw Kit	720260-001

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)
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)
490371-081	Power cord for use in Denmark, Finland, and Norway (3-pin, black, 1.83-m)

Spare part number	Description
490371-111	Power cord for use in Switzerland (3-pin, black, 1.83-m)
490371-AA1	Power cord for use in the People's Republic of China (3-pin, black, 1.83-m)
490371-AR1	Power cord for use in South Africa (3-pin, black, 1.83-m)
490371-D61	Power cord for use in India (3-pin, black, 1.83-m)
634250-001	750-GB, 7200-rpm hard drive
651948-001	RTC battery
675794-001	Qualcomm Atheros AR 9485GN 802.11b/g/n 1×1 Wi-Fi
676521-001	1-TB 5400-rpm hard drive
683802-001	500-GB 5400-rpm hard drive
690020-001	Ralink RT3290LE 802.11 b/g/n 1×1 Wi-Fi Bluetooth 4.0 Combo Adapter
691739-001	2-GB memory module
691740-001	4-GB memory module
693374-001	8-GB memory module
701943-001	HDMI to VGA adapter
709848-001	Realtek RTL 8188EE 802.11b/g/n 1×1 Wi-Fi
710412-001	65-W AC adapter (non-PFC, S, 3-wire, 4.5-mm)
710413-001	90-W AC adapter (PFC, S, 3-wire, 4.5-mm)
710414-001	90-W AC adapter (EM, PFC, SMT, 3-wire, 4.5-mm)
710415-001	120-W AC adapter (PFC, S, 3-wire, 4.5-mm)
710417-001	6-cell, 62-WHr 32.8-AHr, Li-ion battery
710662-001	Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter
714657-001	65-W HP Smart AC adapter (non-PFC, EM, 3-wire, 4.5-mm)
717384-001	Intel Wireless-N 7260BN 802.11 b/g/n 2×2 WiFi + BT 4.0 combo adapter
720222-001	WLAN antenna
720223-001	Display enclosure for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720225-001	Base enclosure for use only on computer models equipped with a non-TouchScreen display assembly
720226-001	Base enclosure for use only on HP ENVY TouchSmart m7 Notebook PC computer models
720227-001	Display bezel (includes 2 rubber screw covers)
720229-001	Webcamera/microphone module cable for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720230-001	TouchPad assembly for use only on HP ENVY TouchSmart m7 Notebook PC computer models
720231-001	Heat sink for use only on computer models equipped with the Intel HM87 Express Chipset and a graphics subsystem with UMA memory (includes replacement thermal material)
720232-001	Heat sink for use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GV2 (GeForce 740M) graphics subsystem (includes replacement thermal material)

Spare part number	Description
720233-001	Heat sink for use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GT (GeForce 750M) graphics subsystem (includes replacement thermal material)
720235-001	Fan
720236-001	Fingerprint reader module for use on computer models not equipped with Leap Motion capability (includes cable)
720237-001	Hard Drive Hardware Kit
720238-001	Display hinges for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly (include brackets)
720240-001	Power connector cable for use only on computer models equipped with a graphics subsystem with discrete memory
720241-001	Power connector cable for use only on computer models equipped with a graphics subsystem with UMA memory
720242-001	Keyboard with pointing stick for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in the United States (includes keyboard cable and pointing stick cable)
720242-051	Keyboard with pointing stick for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in France (includes keyboard cable and pointing stick cable)
720242-061	Keyboard with pointing stick for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Italy (includes keyboard cable and pointing stick cable)
720244-001	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in the United States (includes keyboard cable and backlight cable)
720244-031	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in the United Kingdom (includes keyboard cable and backlight cable)
720244-041	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Germany (includes keyboard cable and backlight cable)
720244-051	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in France (includes keyboard cable and backlight cable)
720244-061	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Italy (includes keyboard cable and backlight cable)
720244-071	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Latin America (includes keyboard cable and backlight cable)
720244-131	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Portugal (includes keyboard cable and backlight cable)
720244-141	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Latin America (includes keyboard cable and backlight cable)

Spare part number	Description
720244-161	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Turkey (includes keyboard cable and backlight cable)
720244-171	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Saudi Arabia (includes keyboard cable and backlight cable)
720244-251	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Russia (includes keyboard cable and backlight cable)
720244-A41	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Belgium (includes keyboard cable and backlight cable)
720244-B31	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in the Netherlands (includes keyboard cable and backlight cable)
720244-BG1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Switzerland (includes keyboard cable and backlight cable)
720244-DB1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Canada (includes keyboard cable and backlight cable)
720244-DH1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in Denmark, Finland, Norway (includes keyboard cable and backlight cable)
720244-FL1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly in the Czech Republic (includes keyboard cable and backlight cable)
720245-001	Keyboard with backlight for use only on HP ENVY TouchSmart m7 Notebook PC computer models in the United States (includes keyboard cable and backlight cable)
720245-DB1	Keyboard with backlight for use only on HP ENVY TouchSmart m7 Notebook PC computer models in Canada (includes keyboard cable and backlight cable)
720246-001	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720247-001	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720248-001	DVD±RW Double-Layer SuperMulti Drive for use on HP ENVY TouchSmart m7 Notebook PC computer models
720249-001	Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive for use on HP ENVY TouchSmart m7 Notebook PC computer models
720250-001	Power button board (includes cable)
720251-001	USB board for use only on computer models equipped with a graphics subsystem with UMA memory (includes cable)
720252-001	17.3-in, AG, FHD, LED TouchScreen display assembly for use on HP ENVY TouchSmart m7 Notebook PC computer models

Spare part number	Description
720253-001	TouchPad assembly for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720254-001	Service cover for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720255-001	Service cover for use on HP ENVY TouchSmart m7 Notebook PC computer models
720256-001	17.3-in, AG, FHD, LED display panel for use only on computer models equipped with a non-TouchScreen display assembly
720257-001	17.3-in, BV, HD, LED display panel for use only on computer models equipped with a non-TouchScreen display assembly
720258-001	Rubber Feet Kit for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
720259-001	Rubber Feet Kit for use on HP ENVY TouchSmart m7 Notebook PC computer models
720260-001	Screw Kit
720261-001	Top Speaker Kit
720262-001	Front Speaker Kit
720263-001	Subwoofer
720264-001	24-GB solid-state drive
720265-501	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720265-601	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720266-501	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720266-601	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720267-501	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720267-601	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
720270-001	Keyboard bracket for use only on computer models equipped with a non-backlit keyboard
720271-001	Top cover for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly, but not equipped with Leap Motion capability
720272-001	Top cover for use only on HP ENVY TouchSmart m7 Notebook PC computer models
720273-001	Webcamerea/microphone module

Spare part number	Description
720783-001	17.3-in., BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart m7 Notebook PC computer models
723521-001	Intel Quad Core i7-4700MQ 2.40-GHz (SC turbo up to 3.40-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W; includes replacement thermal material)
723522-001	Intel Quad Core i7-4702MQ 2.20-GHz (SC turbo up to 3.20-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 37 W; includes replacement thermal material)
723523-001	Intel Quad Core i7-4900MQ 2.80-GHz (SC turbo up to 3.80-GHz) processor (1600-MHz FSB, 8.0-MB L3 cache, 47 W; includes replacement thermal material)
723524-001	Intel Quad Core i7-4800MQ 2.70-GHz (SC turbo up to 3.70-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W; includes replacement thermal material))
724142-001	USB board for use only on computer models equipped with a graphics subsystem with discrete memory (includes cable)
724935-001	Broadcom BCM4352 802.11ac 2×2 Wi-Fi + BT 4.0 Combo Adapter
729727-001	DVD±RW Double-Layer SuperMulti Drive for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly
729728-001	Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive for use on HP ENVY TouchSmart m7 Notebook PC computer models
731999-001	1-TB, 5400-RPM hard drive
732000-001	500-GB, 5400-RPM hybrid hard drive
732001-001	750-GB, 5400-RPM hybrid hard drive
732792-001	Keyboard bracket for use only on computer models equipped with a backlit keyboard
733476-001	Qualcomm Atheros AR9565 802.11b/g/n 1×1 WiFi + BT 4.0 Combo Adapter
736475-001	Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models without Leap Motion capability
736476-001	Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models with Leap Motion capability
736478-001	17.3-in, AG, FHD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart 17 Notebook PC computer models
736479-001	17.3-in, BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart 17 Notebook PC computer models
736480-001	Leap Motion module (includes cable)
736481-501	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Standard operating system for use only on computer models equipped with a TouchScreen display assembly and with Leap Motion capability (includes replacement thermal material)
736481-601	System board equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped with a TouchScreen display assembly and with Leap Motion capability (includes replacement thermal material)
736482-501	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with a TouchScreen display assembly and with Leap Motion capability (includes replacement thermal material)

Spare part number	Description
736482-601	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with a TouchScreen display assembly and with Leap Motion capability (includes replacement thermal material)
736483-001	Top cover for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability
736685-001	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in the United States (includes keyboard cable and backlight cable)
736685-031	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in the United Kingdom and Singapore (includes keyboard cable and backlight cable)
736685-041	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Germany (includes keyboard cable and backlight cable)
736685-051	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in France (includes keyboard cable and backlight cable)
736685-061	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Italy (includes keyboard cable and backlight cable)
736685-071	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Spain (includes keyboard cable and backlight cable)
736685-131	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Portugal (includes keyboard cable and backlight cable)
736685-141	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Turkey (includes keyboard cable and backlight cable)
736685-161	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Latin America (includes keyboard cable and backlight cable)
736685-171	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Saudi Arabia (includes keyboard cable and backlight cable)
736685-251	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Russia (includes keyboard cable and backlight cable)
736685-A41	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Belgium (includes keyboard cable and backlight cable)
736685-B31	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in the Netherlands (includes keyboard cable and backlight cable)
736685-BG1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Switzerland (includes keyboard cable and backlight cable)

Spare part number	Description
736685-DB1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Canada (includes keyboard cable and backlight cable)
736685-DH1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in Denmark, Finland, and Norway (includes keyboard cable and backlight cable)
736685-FL1	Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability in the Czech Republic and Slovakia (includes keyboard cable and backlight cable)
737327-001	Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W; includes replacement thermal material)
737328-001	Intel Dual Core i5-4200M 2.50-GHz (SC turbo up to 3.10-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W; includes replacement thermal material)
738201-001	Intel Dual Core i5-4330M 2.80-GHz (SC turbo up to 3.50-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W; includes replacement thermal material)
741074-001	USB board for use only on computer models with Leap Motion capability (includes cable)
741076-001	Fingerprint reader module for use only on computer models with Leap Motion capability (includes cable)
746450-501	MB UMA HM87 37 W Standard system board
746450-601	MB UMA HM87 37 W Professional system board
746451-501	MB HM87 740M/2G 37 W Standard system board
746451-601	MB HM87 740M/2G 37 W Professional system board
747375-001	1.5 TB 5400RPM SATA RAW 9.5 mm Hard Drive

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: 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 14 for details.

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

There are 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
6-cell, 62WHr 32.8AH Li-ion battery	710417-001

Before removing the battery, follow these steps:

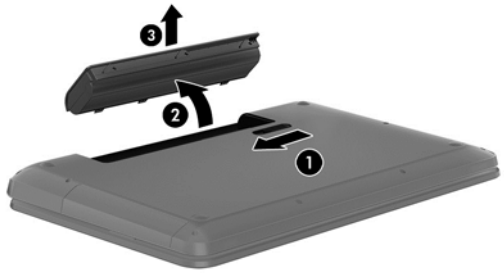
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.

Remove the battery:

1. Turn the computer upside down on a flat surface.
2. Slide the battery release latch **(1)** to release the battery.

NOTE: The battery release latch automatically returns to its original position.

3. Pivot the battery upward **(2)**, and then remove the battery from the computer **(3)**.



Reverse this procedure to install the battery.

Service cover

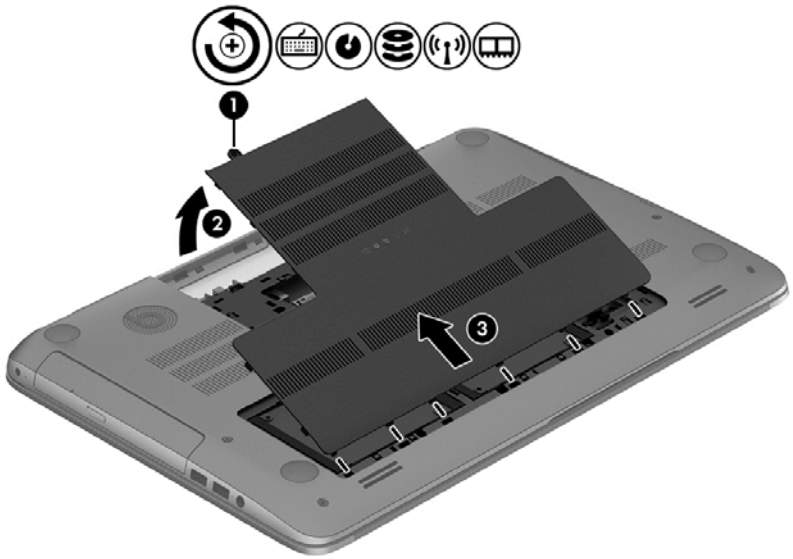
Description	Spare part number
For use on HP ENVY TouchSmart m7 Notebook PC computer models	720255-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly	720254-001

Before disassembling the computer, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).

Remove the service cover:

▲ Loosen the captive screw **(1)** that secures the service cover to the computer, lift the cover **(2)**, and then remove it **(3)**.



Hard drive

Description	Spare part number
1.5 TB 5400-RPM SATA RAW 9.5 mm	747375-001
1-TB, 5400-RPM	676521-001
1-TB, 5400-RPM hybrid	731999-001
750-GB, 5400-RPM	634250-001
750-GB, 5400-RPM hybrid	732001-001
500-GB, 5400-RPM	683802-001
500-GB, 5400-RPM hybrid	732000-001

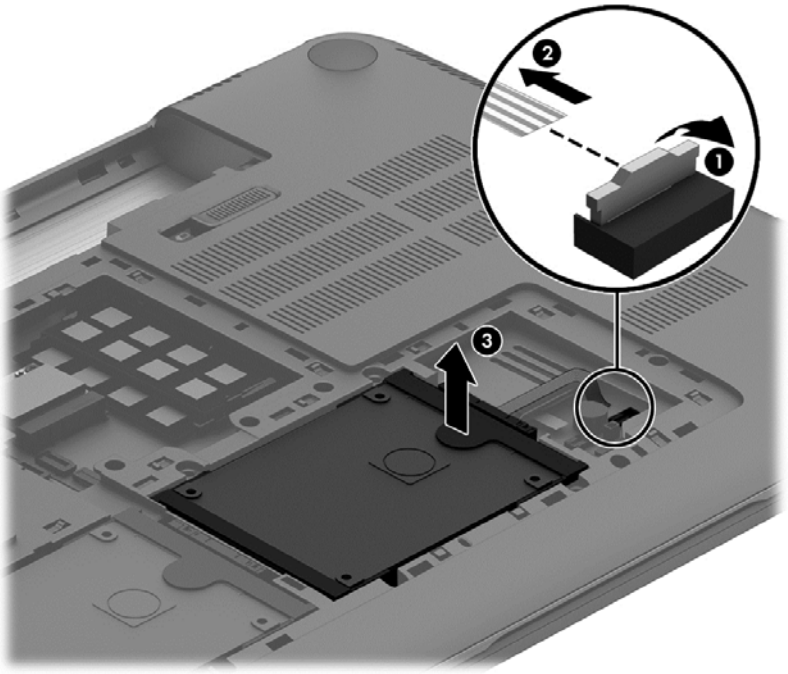
Before removing the primary hard drive or secondary hard drive (select models only), follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).

Remove the primary hard drive:

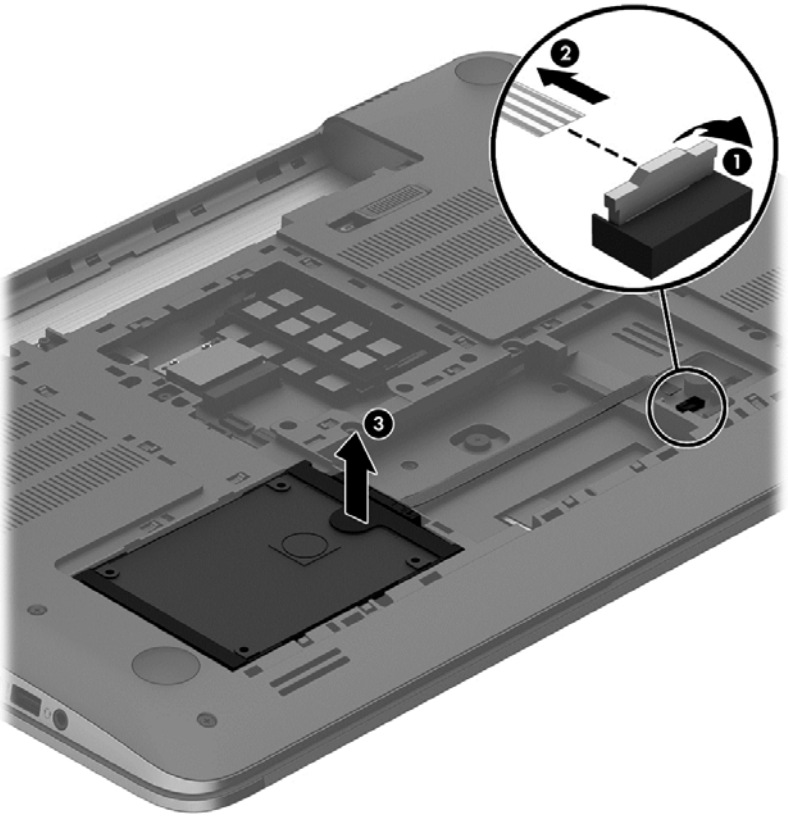
1. Disconnect the hard drive cable from the system board **(1)**, and then remove it **(2)**.

2. Use the tab to remove the hard drive from the hard drive bay **(3)**.



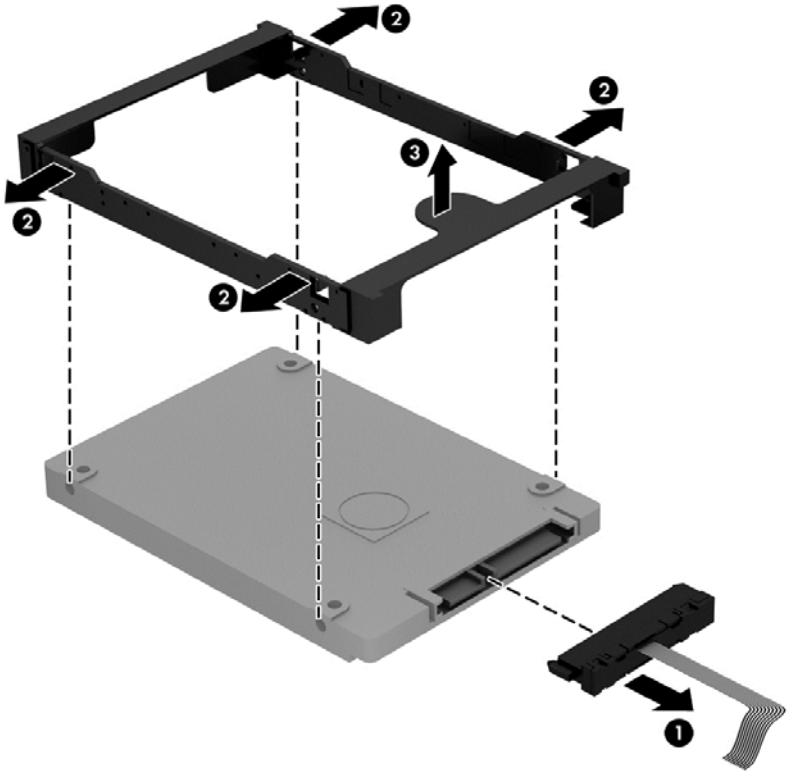
Remove the secondary hard drive (select models only):

1. Disconnect the hard drive cable from the system board **(1)**, and then remove it **(2)**.
2. Use the tab to remove the hard drive from the hard drive bay **(3)**.



If it is necessary to disassemble the primary or secondary hard drive:

1. Disconnect the hard drive connector cable **(1)** from the hard drive.
2. Spread the left and right sides **(2)** of the hard drive bracket outward to separate the bracket from the hard drive.
3. Remove the hard drive bracket **(3)** from the hard drive.



Reverse these procedures to reassemble and install the hard drive.

Memory modules

Description	Spare part number
2-GB memory module (PC3L, 12800, 1600-MHz)	691739-001
4-GB memory module (PC3L, 12800, 1600-MHz)	691740-001
8-GB memory module (PC3L, 12800, 1600-MHz)	693374-001

Before removing a memory module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.

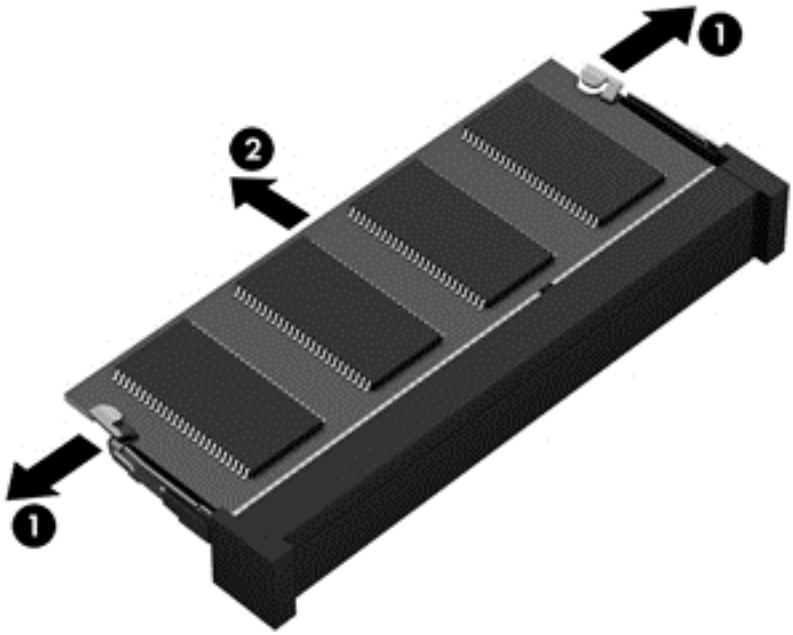
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).

Remove the memory module:

1. Spread the retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The memory module tilts up.)

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

2. Slide the memory module forward **(2)** to remove it.



Reverse this procedure to install a memory module.

WLAN module

Description	Spare part number
Broadcom BCM4352 802.11ac 2×2 Wi-Fi + BT 4.0 Combo Adapter	724935-001
Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter	710662-001
Intel Wireless-N 7260BN 802.11b/g/n 2×2 WiFi + BT 4.0 Combo Adapter	717384-001
Qualcomm Atheros AR9565 802.11b/g/n 1×1 WiFi + BT 4.0 Combo Adapter	733476-001
Qualcomm Atheros AR9485GN 802.11b/g/n 1×1 Wi-Fi Combo Adapter	675794-001
Ralink RT3290LE 802.11b/g/n 1×1 Wi-Fi Bluetooth 4.0 Combo Adapter	690020-001
Realtek RTL 8188EE 802.11b/g/n 1×1 Wi-Fi Combo 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:

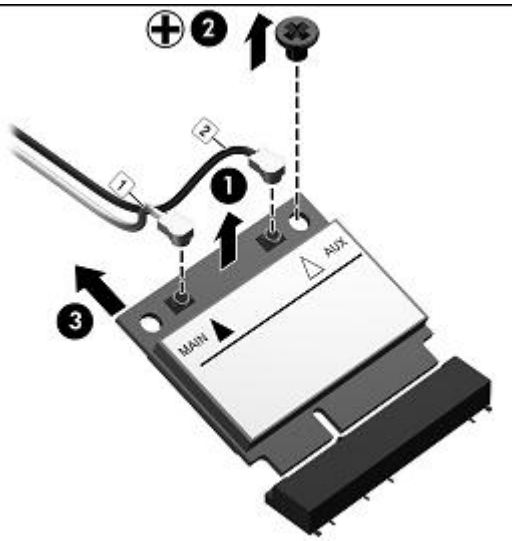
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).

Remove the WLAN module:

1. Disconnect the #1 and #2 WLAN antenna cables from the WLAN module **(1)**.

NOTE: The #1 WLAN antenna cable is connected to the WLAN module #1 main terminal. The #2 WLAN antenna cable is connected to the WLAN module #2 auxiliary terminal.

2. Remove the Phillips PM screws **(2)** that secure the WLAN module to the system board. (The WLAN module tilts up.)
3. Remove the WLAN module by pulling the module away from the slot at an angle **(3)**.



NOTE: If the WLAN antennas are not connected to the terminals on the WLAN module, the protective sleeves must be installed on the antenna connectors.

Optical drive

NOTE: The optical drive spare part kit includes the optical drive connector board and cable.

Description	Spare part number
For use on HP ENVY TouchSmart m7 Notebook PC computer models:	
Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720249-001
Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	729728-001
DVD±RW Double-Layer SuperMulti Drive	720248-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly:	
Blu-ray Disc Read/Write with SuperMulti DVD±R/RW Double-Layer Combo Drive	720247-001
Blu-ray Disc ROM with SuperMulti DVD±R/RW Double-Layer Combo Drive	720246-001
DVD±RW Double-Layer SuperMulti Drive	729727-001

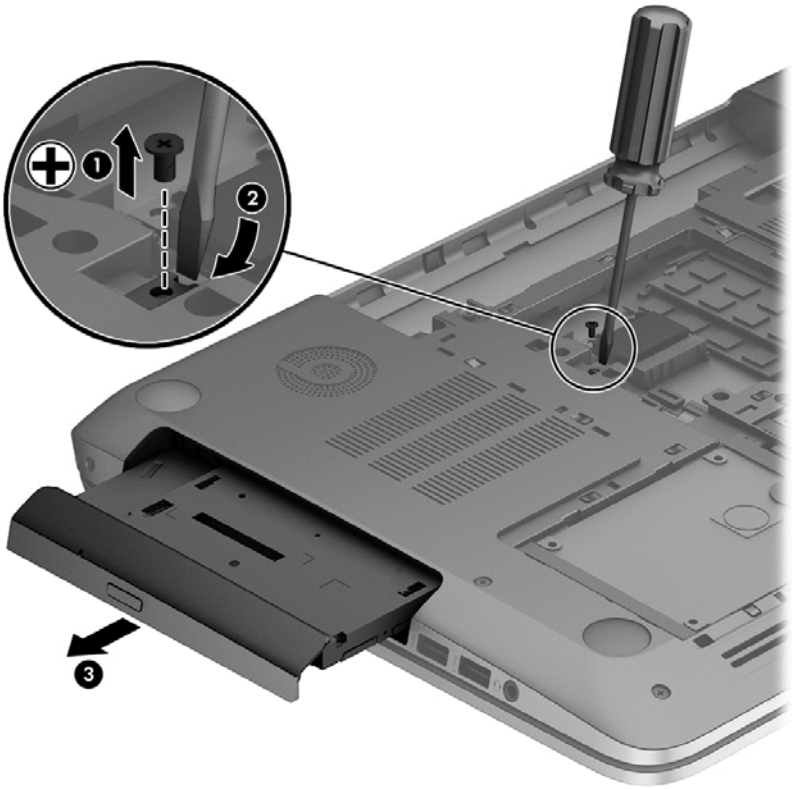
Before removing the optical drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).

Remove the optical drive:

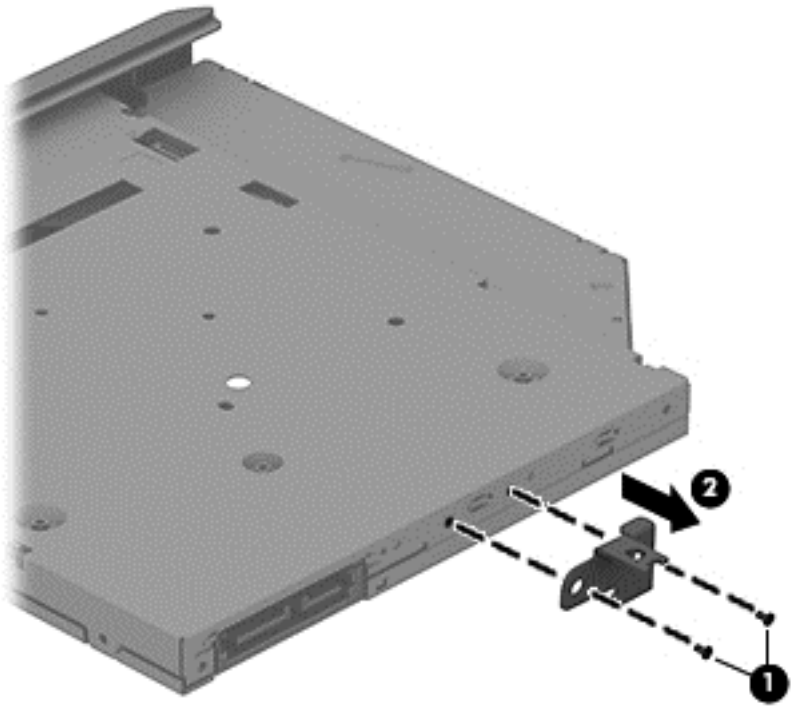
1. Remove the screw **(1)** that secures the optical drive to the computer.
2. Use a flat-blade screw driver or similar tool to press on the optical drive bracket tab **(2)** to release the optical drive.

3. Remove the optical drive **(3)** from the computer.



4. If it is necessary to replace the optical drive bracket, position the optical drive with the rear panel toward you.
5. Remove the two screws (**1)** that secure the optical drive bracket to the optical drive.

6. Remove the optical drive bracket **(2)**.



Reverse this procedure to reassemble and install the optical drive.

6 Removal and replacement procedures for Authorized Service Provider parts

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 14 for details.

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

There are as many as 83 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: The TouchScreen display assembly is spared as a whole unit assembly only. The non-TouchScreen display is spared at the subcomponent level only.

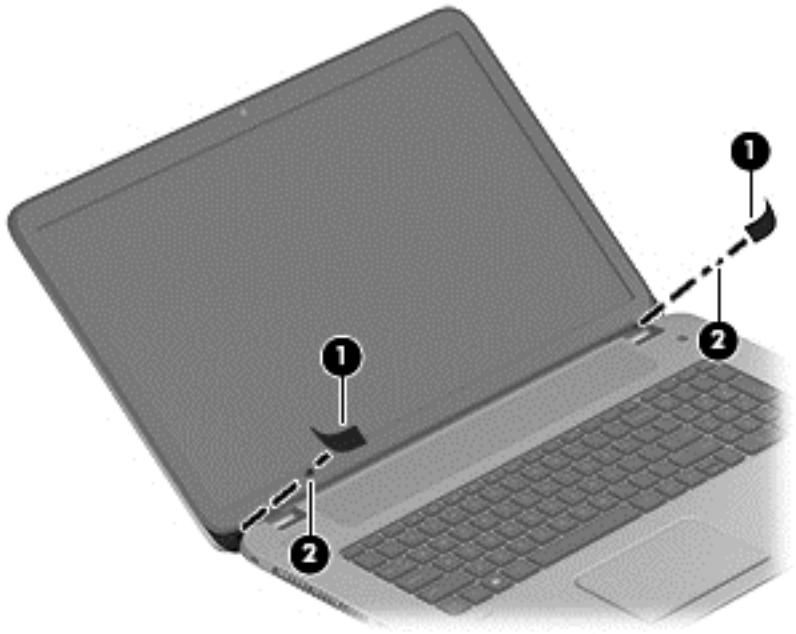
Before removing the display panel, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).

Remove the display panel:

1. Open the computer.
2. Remove the 2 screw covers **(1)** on the left and right side base of the display panel.

NOTE: Use a sharp probe to pop the covers out to avoid scratching the bezel.



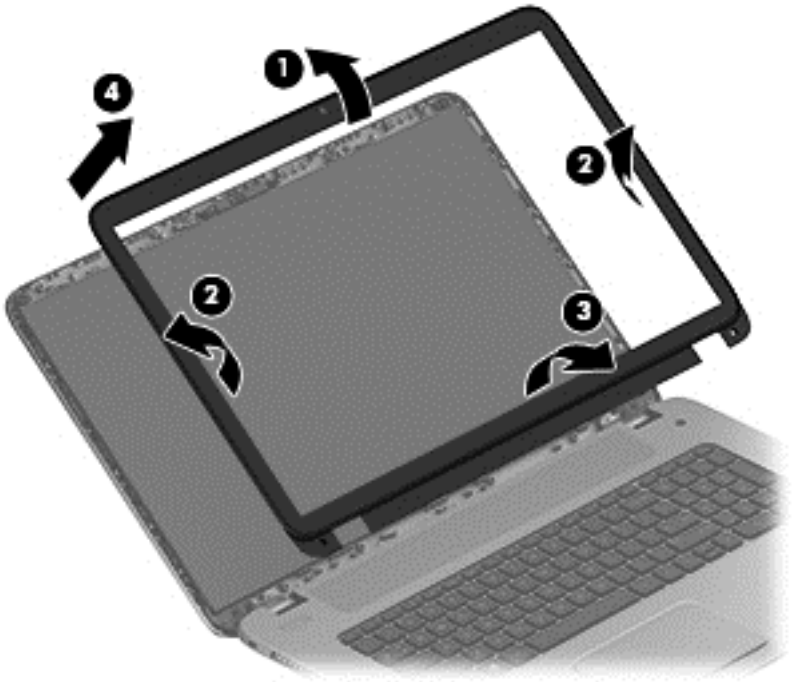
3. Remove the 2 screws **(2)** on the left and right hinges that secure the display panel to the computer.

NOTE: Support the display panel as you are removing the screws.

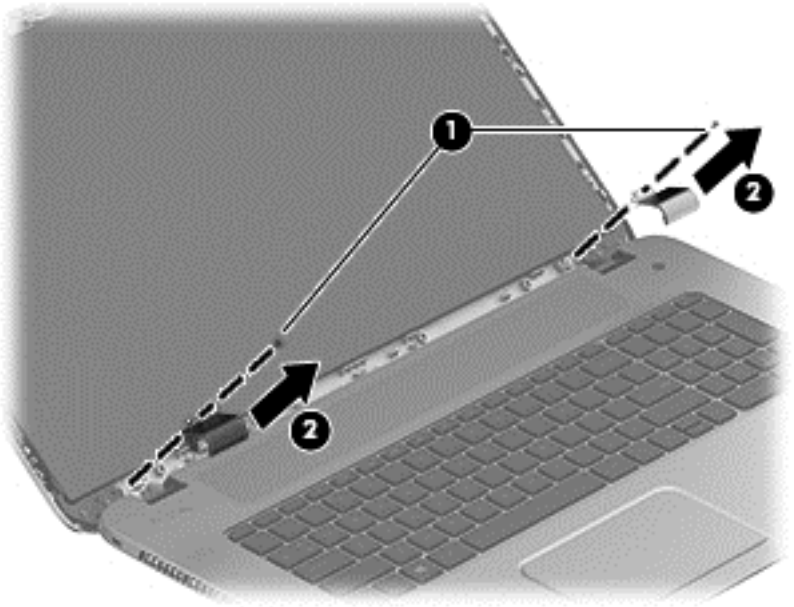
4. Loosen the edges of the plastic bezel cover **(3)** from all four sides of the display panel.

5. Remove the display bezel **(4)**.

   The display bezel is available using spare part number 720227-001.

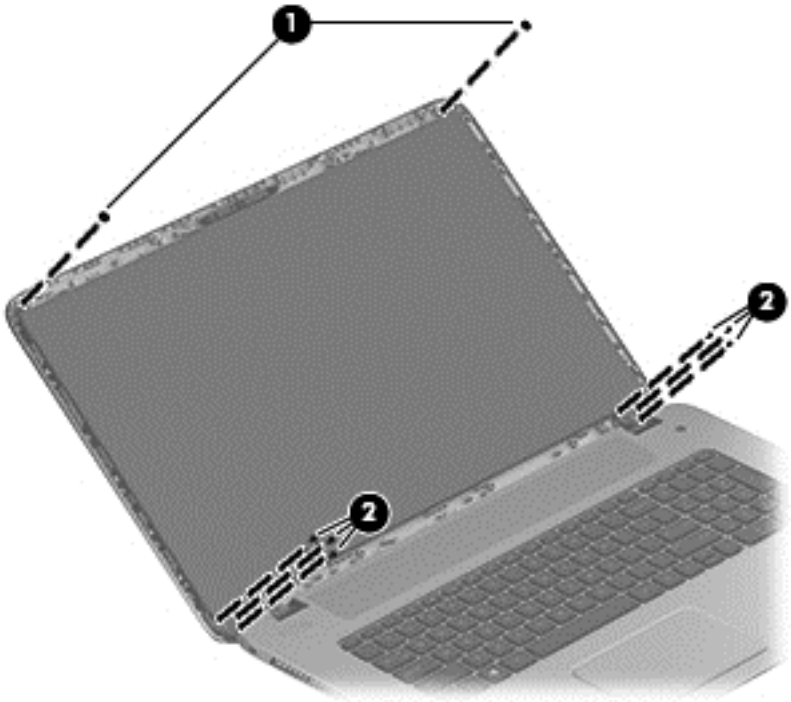


6. Remove the display hinge covers **(1)**,1 screw per hinge.

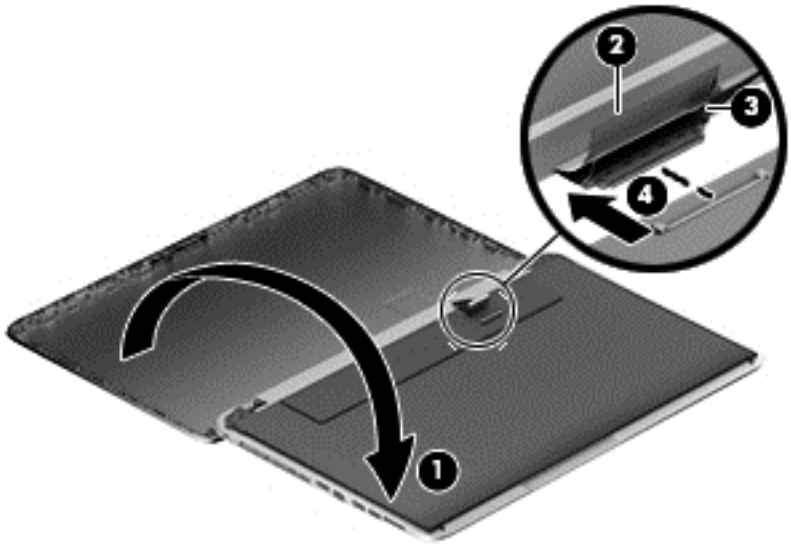


7. Remove the 6 display panel screws (2 on the top and 6 on the bottom).

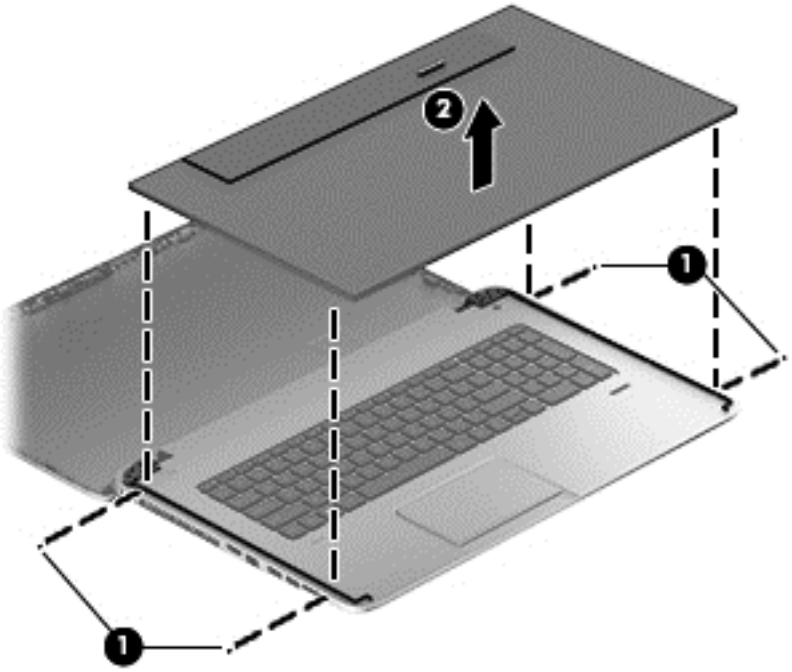
NOTE: Remove any tabs or tape adhering to the display panel.



8. Support the display panel as you lean the panel forward **(1)**, and then release the support strip **(2)** that secures the display panel connector.
9. Disconnect the display panel cable from the display panel **(3)**, and then remove the panel **(4)**.



10. Remove the 4 screws securing the hinge brackets to the panel **(1)**, and then remove the panel **(2)**.



Reverse this procedure to install the display panel.

RTC battery

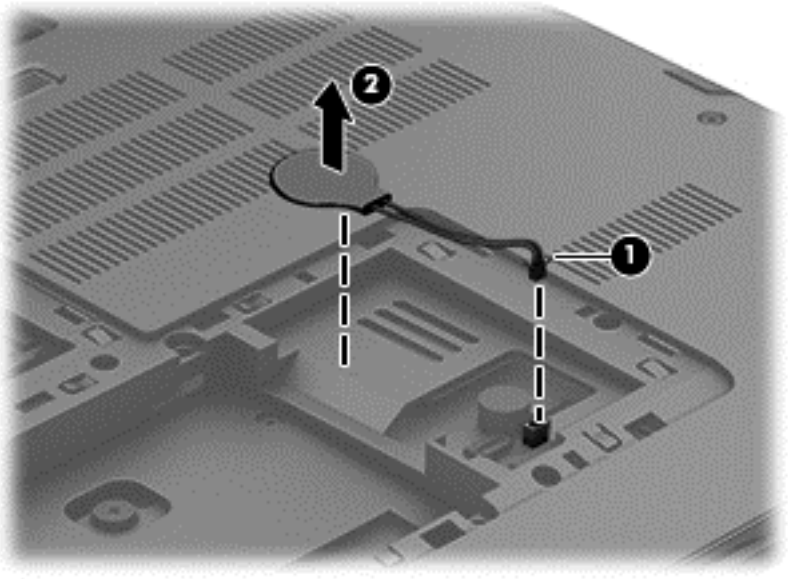
Description	Spare part number
RTC battery	651948-001

Before removing the RTC battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).

Remove the RTC battery:

▲ Disconnect the RTC battery cable from the system board **(1)**. Use a thin, non-conductive tool to remove the RTC battery **(2)** from the socket on the system board.



Reverse this procedure to install the RTC battery on computer models. When installing the RTC battery, make sure the “+” sign faces up.

Base enclosure

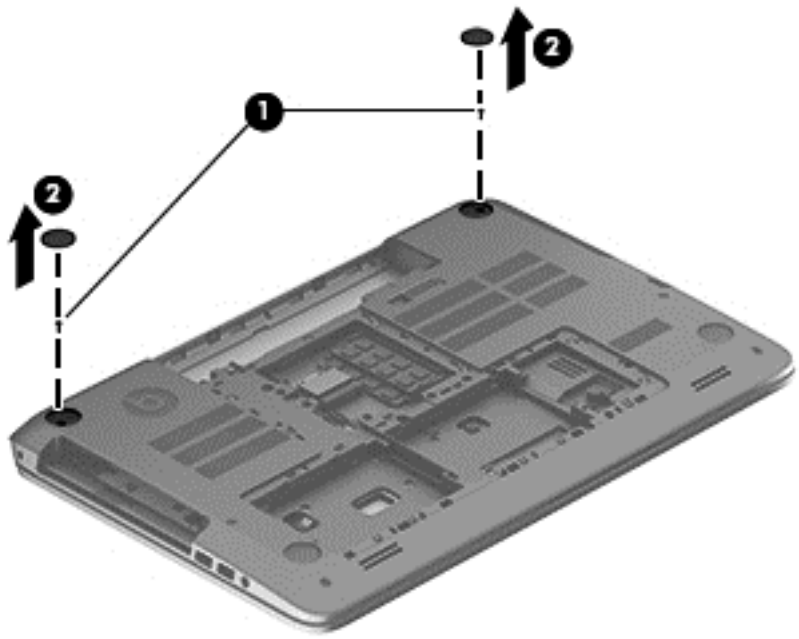
Description	Spare part number
For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720226-001
Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models with Leap Motion capability	736476-001
Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models without Leap Motion capability	736475-001
Base enclosure for use only on computer models equipped with a non-TouchScreen display assembly	720225-001
Rubber Feet Kit:	
For use on HP ENVY TouchSmart m7 Notebook PC computer models	720259-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly	720258-001

Before disassembling the computer, follow these steps:

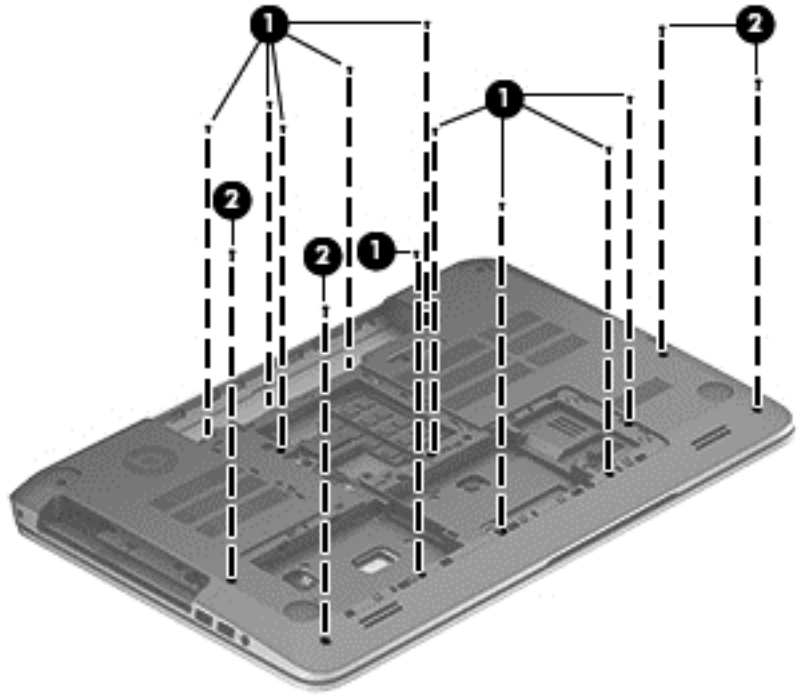
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).
9. Remove the optical drive (see Optical drive on page 46).

Remove the base enclosure:

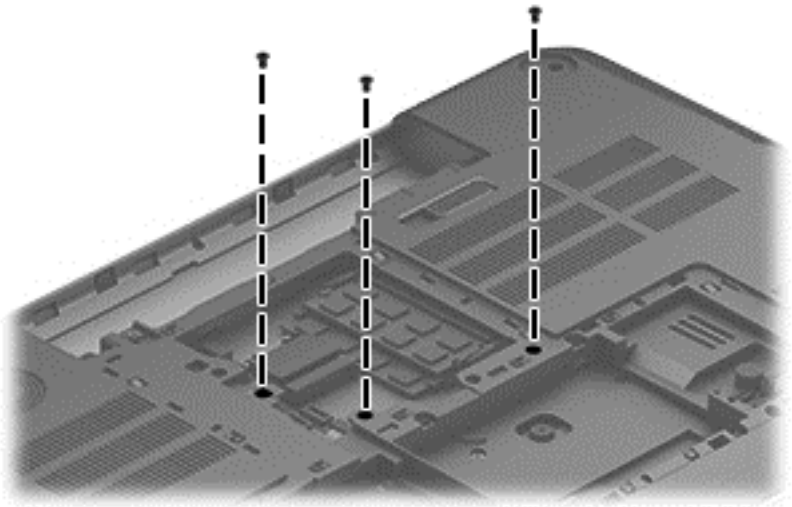
1. Turn the computer face down, and remove the rubber feet **(1)** and the 2 screws **(2)**.



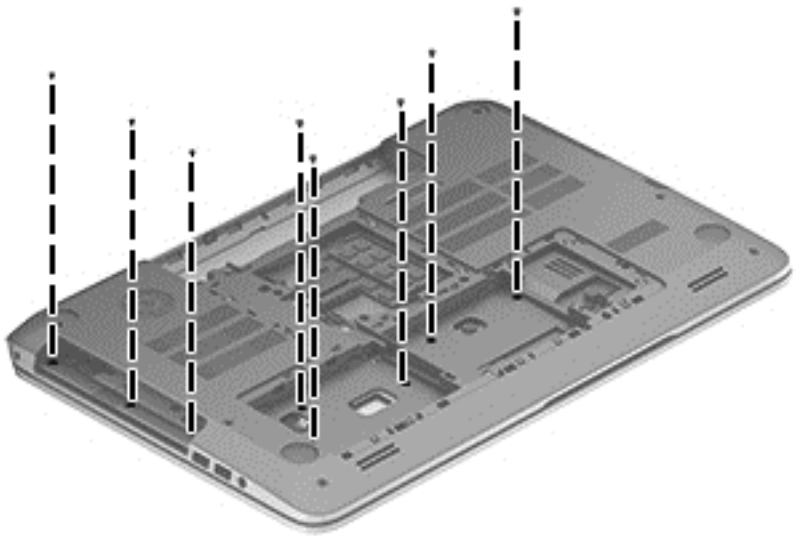
2. Remove 10 2.5x4-MM screws **(1)**, and then remove 4 screws from the left and right sides of the base enclosure **(2)**.



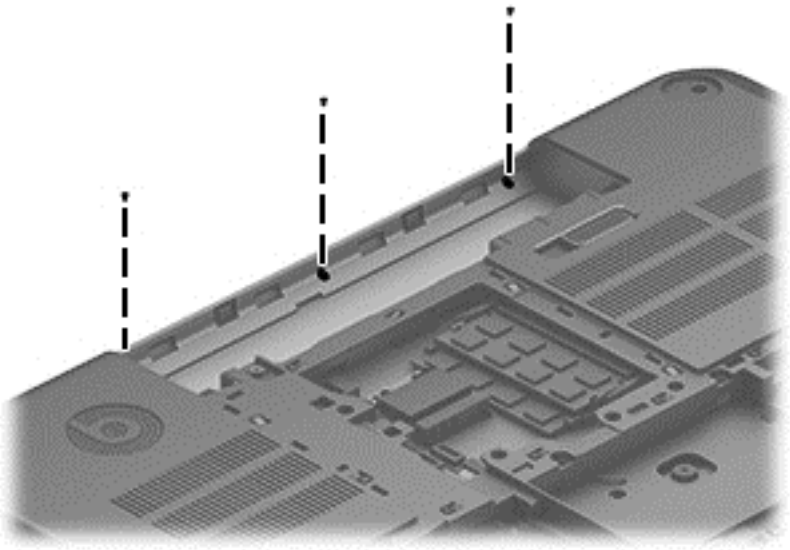
3. Remove 3 2x5-MM screws around the memory module area.



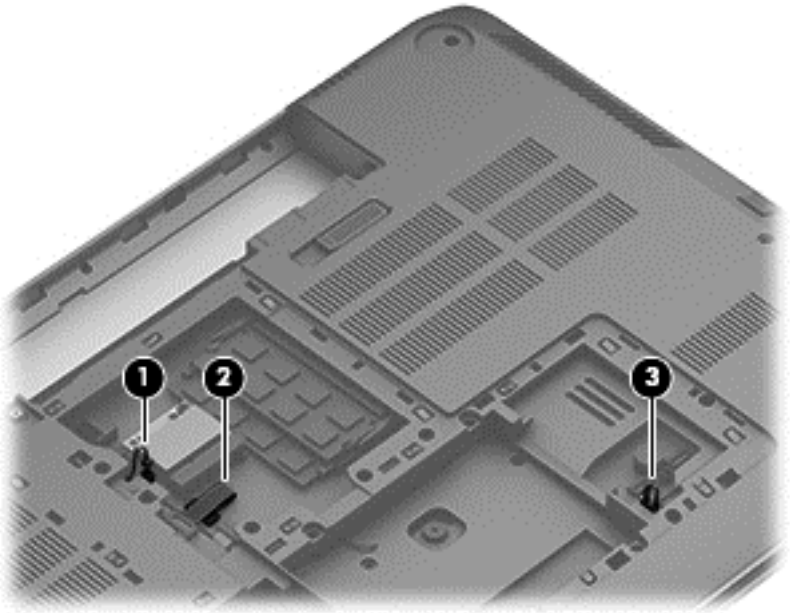
4. Remove 3 2x3-MM screws from the optical drive bay, and then remove 5 2x3-MM screws from the hard drive bays.



5. Remove 3 1.5x2-MM screws from the battery bay.

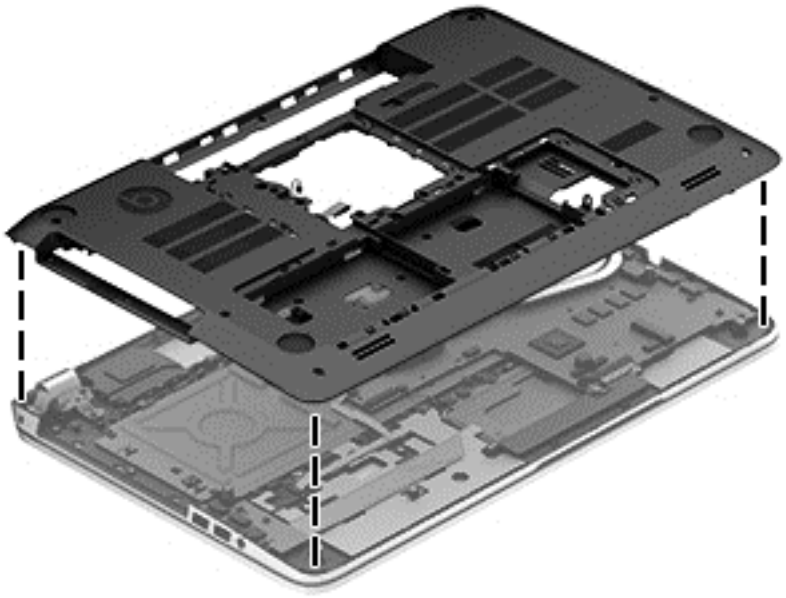


6. Disconnect the subwoofer cable **(1)**, the optical drive cable **(2)**, and the front speaker cable **(3)** from the system board.



7. Remove the base enclosure.

NOTE: Use a thin, non-conductive tool to remove the base enclosure.



Front speakers

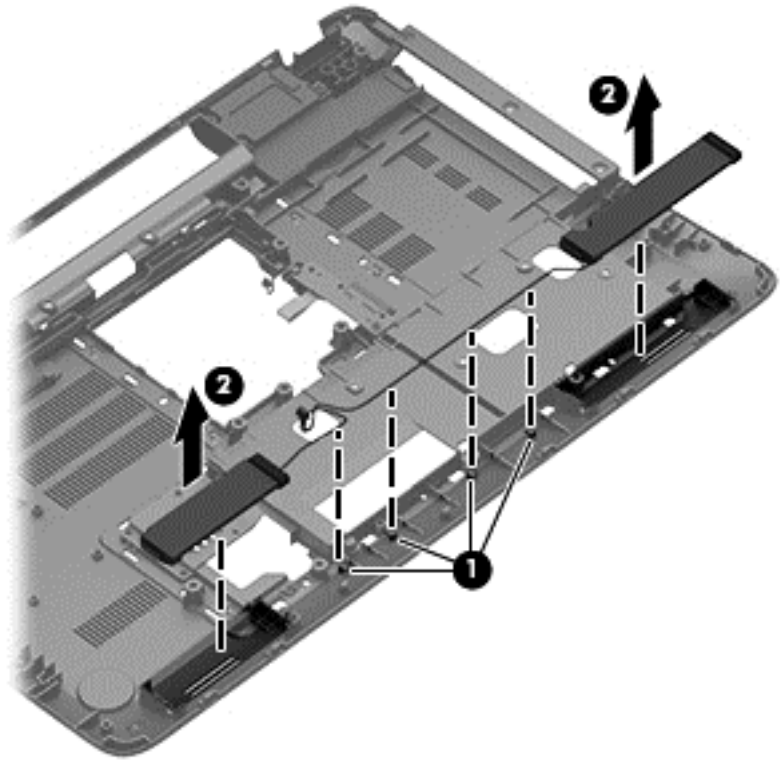
Description	Spare part number
Front speaker Kit (includes left and right speakers and cable)	720262-001

Before removing the front speakers, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).
9. Remove the optical drive (see Optical drive on page 46).
10. Remove the base enclosure (see Base enclosure on page 55).

Remove the front speakers:

1. Turn the computer, with the front edge toward you.
2. Remove 4 screws **(1)**.
3. Disengage the cables, and then remove the front speakers **(2)**.



Reverse this procedure to install the speakers.

Optical drive connector board

NOTE: The optical drive connector board and cable are included in the optical drive spare part kit. See x for optical drive spare part kit information.

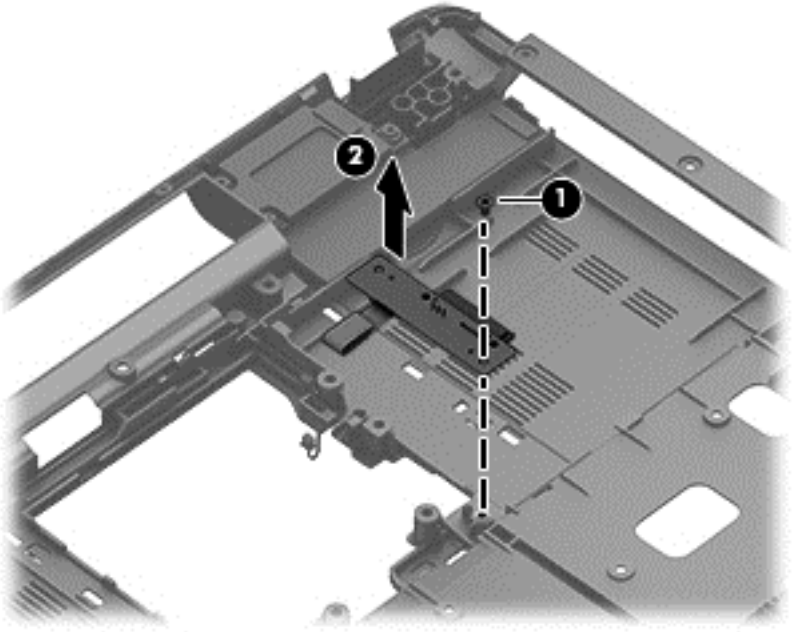
Before removing the optical drive connector board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).

9. Remove the optical drive (see Optical drive on page 46).
10. Remove the base enclosure (see Base enclosure on page 55).

Remove the optical drive connector board:

▲ Remove the screw **(1)**, and then lift the optical drive connector board **(2)** to remove it.



Reverse this procedure to install the optical drive connector board.

Subwoofer

Description	Spare part number
Subwoofer	720263-001

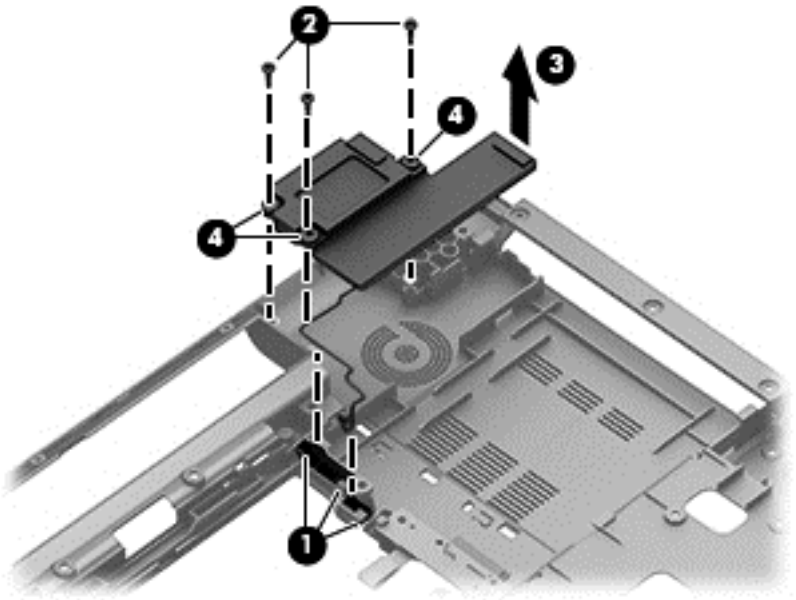
Before removing the subwoofer, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).

9. Remove the optical drive (see Optical drive on page 46).
10. Remove the base enclosure (see Base enclosure on page 55).

Remove the subwoofer:

▲ Disconnect the subwoofer cable **(1)**, remove the 3 screws **(2)**, and then remove the subwoofer **(3)** and 3 rubber grommets **(4)**.



Reverse this procedure to install the subwoofer.

Display hinges and top cover

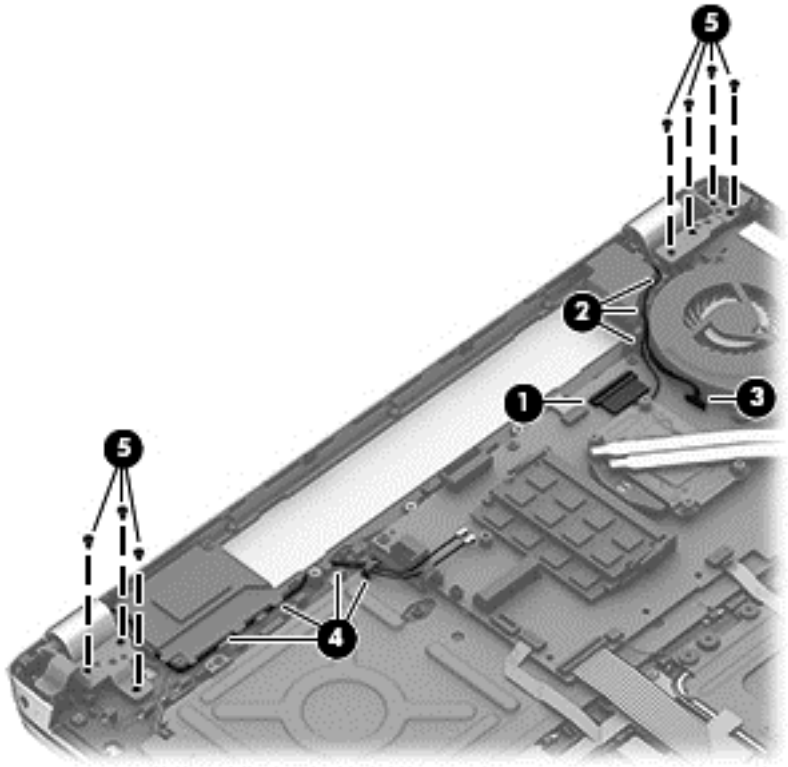
Description	Spare part number
Display hinges (including covers and brackets)	720238-001
For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720272-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability	736483-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly, but not equipped with Leap Motion capability	720271-001

Before removing the hinges and top cover:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).

Remove the display hinge covers:

1. Disengage the WLAN cable **(1)** and the display cable **(2)**, and then disconnect the webcam cable **(3)**.



2. Remove the 3 6.5-MM screws on the left side **(5)** and the 4 6.5-MM screws on the right side **(5)** that secure the hinges to the display panel.
3. Open the hinges slightly, and then slide the top cover away from the display assembly.

To install the display hinges, reverse these steps.

Display panel cable

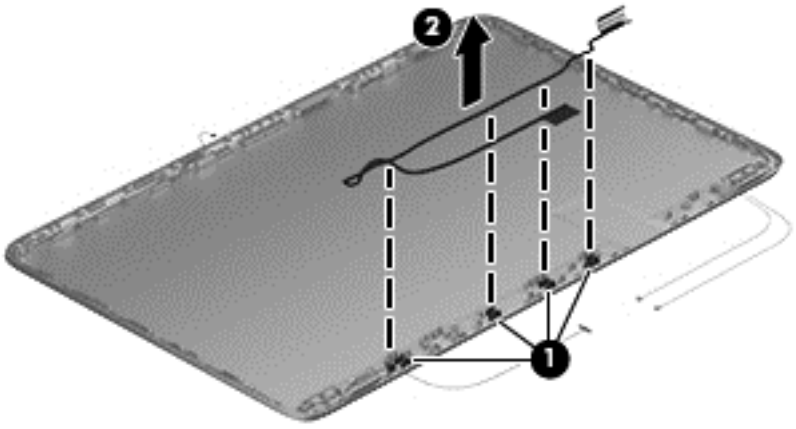
Description	Spare part number
Display panel cable	720229-001

Before removing the display panel cable:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39.
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).
12. Remove the top cover (see Display hinges and top cover on page 63).

Remove the display panel cable:

▲ Disconnect the display panel cable from the clips to release it **(1)**, and then remove the cable **(2)**.



Reverse this procedure to install the display panel cables.

Webcamera/microphone module

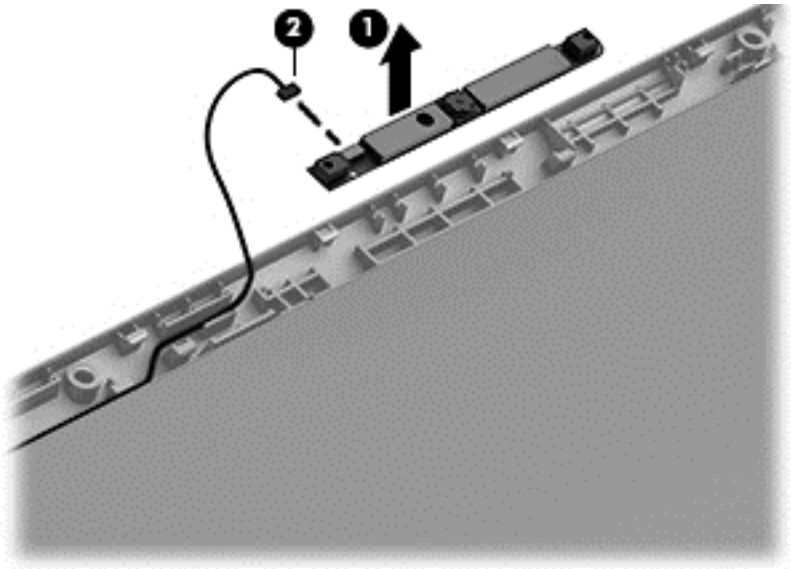
Description	Spare part numbers
Webcamera/microphone module	720273-001
Webcamera/microphone module cable	720229-001

Before removing the webcamera/microphone module:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39.
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).
12. Remove the top cover (see Display hinges and top cover on page 63).

Remove the webcamera/microphone module:

▲ Release the webcamera/microphone module **(1)**, and then disconnect the webcamera/microphone module cable **(2)**.



Reverse this procedure to install the webcamera/microphone module.

WLAN antenna cables

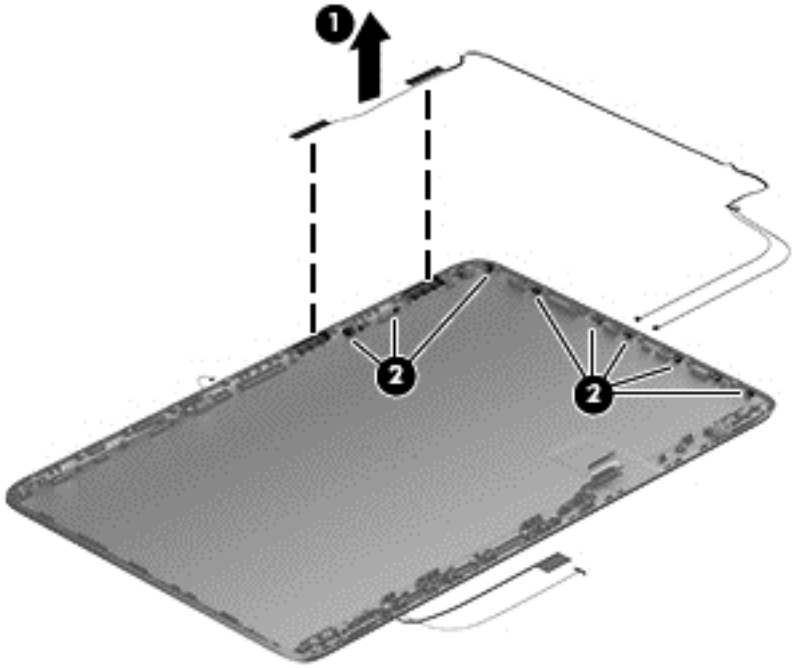
Description	Spare part numbers
WLAN antenna cables	720222-001

Before removing the antenna cables:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).
12. Remove the top cover (see Display hinges and top cover on page 63).

Remove the WLAN antenna cables:

- Remove the WLAN antenna transceivers **(1)**, and then remove the cables **(2)** from the left and right sides of the hinge.



Reverse this procedure to install the WLAN antenna cables.

USB board

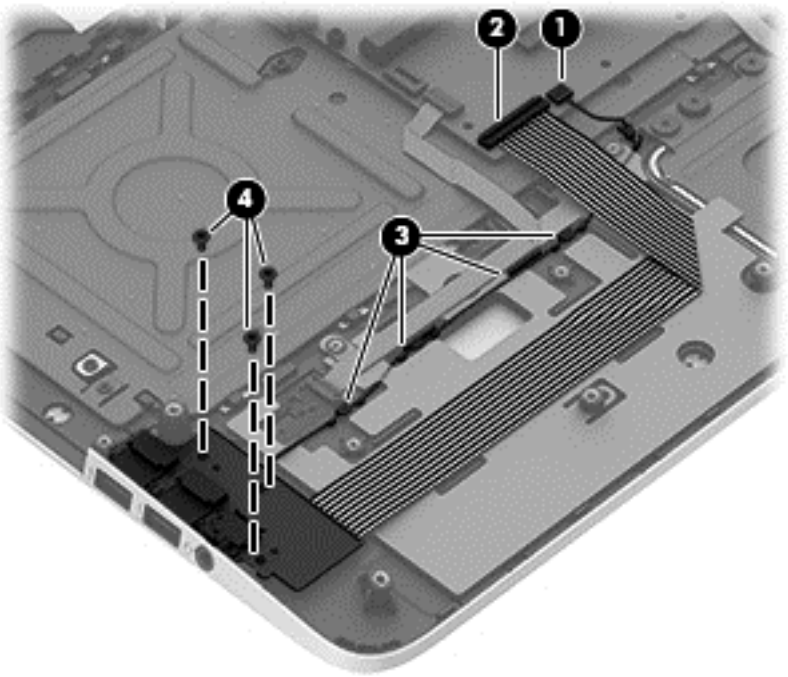
Description	Spare part number
For use only on computer models equipped with a graphics subsystem with discrete memory	724142-001
For use only on computer models with Leap Motion capability	741074-001
For use only on computer models equipped with a graphics subsystem with UMA memory	720251-001

Before removing the USB board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).
12. Remove the front speakers (see Front speakers on page 59).
13. Remove the subwoofer (see Subwoofer on page 61).

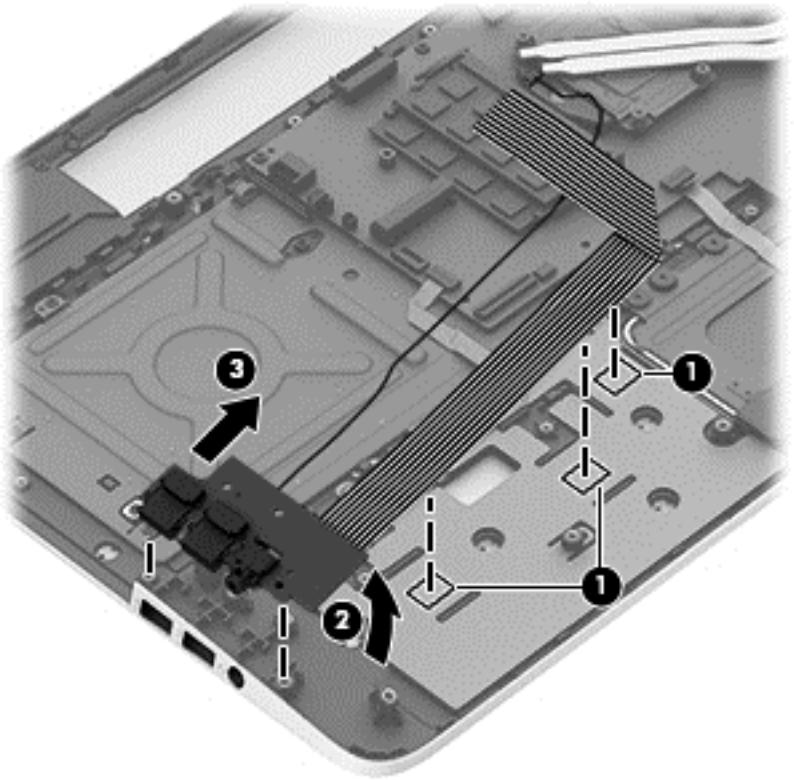
Remove the USB board and cables:

1. Disconnect the USB board cable **(1)** disconnect the ZIF connector for the ribbon cable **(2)** from the top cover, and then disengage the cable **(3)** from the channels.



2. Remove the screws securing the USB board **(4)**.

3. Disengage the audio cable **(1)**, disconnect the board **(2)**, and then remove the USB board **(3)**.



Reverse this procedure to install the USB board and cables.

Fingerprint reader board

Description	Spare part number
Fingerprint reader board	720236-001

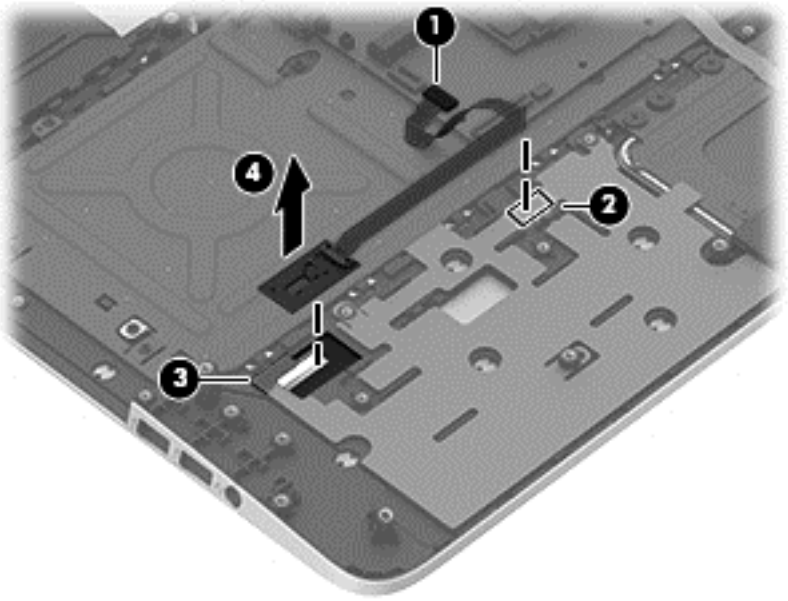
Before removing the Fingerprint reader board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).

9. Remove the optical drive (see Optical drive on page 46).
10. Remove the base enclosure (see Base enclosure on page 55).

Remove the fingerprint reader board and cable:

1. Disconnect the cable **(1)** that secures the fingerprint reader to the top cover.



2. Release the top cover shield **(2)** and **(3)**, and then remove the fingerprint reader board.

Reverse this procedure to install the fingerprint reader board and cable.

Leap Motion module

Description	Spare part number
Leap Motion module (includes cable)	736480-001

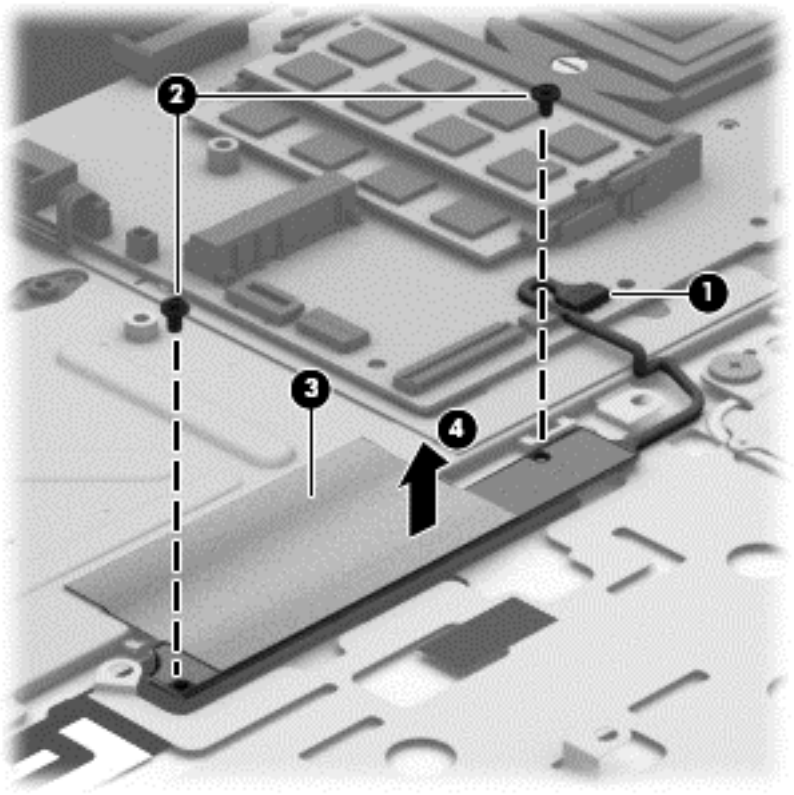
Before removing the Leap Motion module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the display panel (see Display panel on page 50).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).
9. Remove the optical drive (see Optical drive on page 46).

10. Remove the base enclosure (see Base enclosure on page 55).
11. Remove the USB board (see USB board on page 69).
12. Remove the fingerprint reader module (see Fingerprint reader board on page 71).

Remove the Leap Motion module:

1. Disconnect the Leap Motion module cable **(1)** from the system board.
2. Remove the two Phillips PM1.5×2.5 screws **(2)** that secure the Leap Motion module to the top cover.
3. Detach the Leap Motion module grounding shield **(3)** from the top cover. (The Leap Motion grounding shield is attached to the top cover with double-sided adhesive.)
4. Remove the Leap Motion module **(4)**.



Reverse this procedure to install the Leap Motion module.

Power connector cable

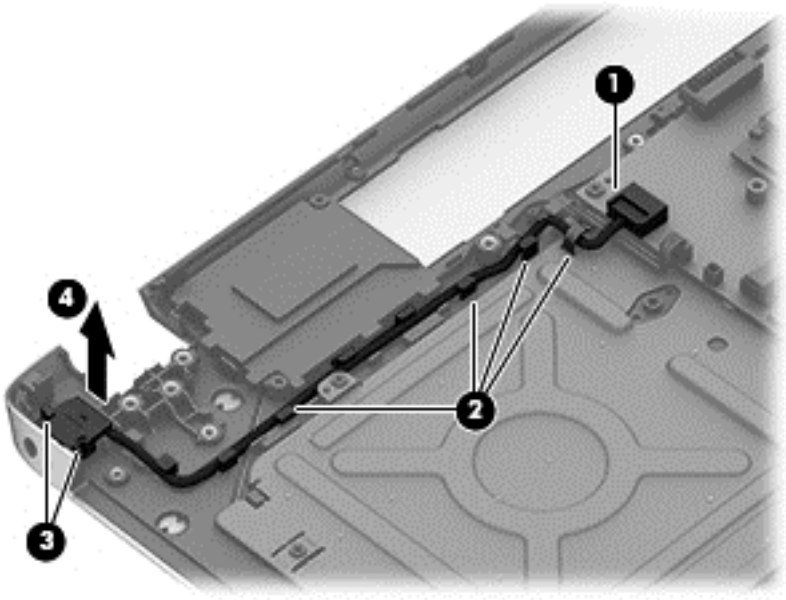
Description	Spare part number
For use only on computer models equipped with a graphics subsystem with discrete memory	720240-001
For use only on computer models equipped with a graphics subsystem with UMA memory	720241-001

Before removing the power connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the display panel (see Display panel on page 50).
5. Remove the service cover (see Service cover on page 40).
6. Remove the hard drive (see Hard drive on page 41).
7. Remove the memory modules (see Memory modules on page 43).
8. Remove the WLAN module (see WLAN module on page 44).
9. Remove the optical drive (see Optical drive on page 46).
10. Remove the base enclosure (see Base enclosure on page 55).

Remove the power connector cable:

1. Release the metal clip to disconnect the power connector cable **(1)** from the system board.
2. Disengage the cable from the clips **(2)**.
3. Release the clips **(3)**, and then remove the power connector cable **(4)**.



Reverse this procedure to install the power connector cable and bracket.

Fan

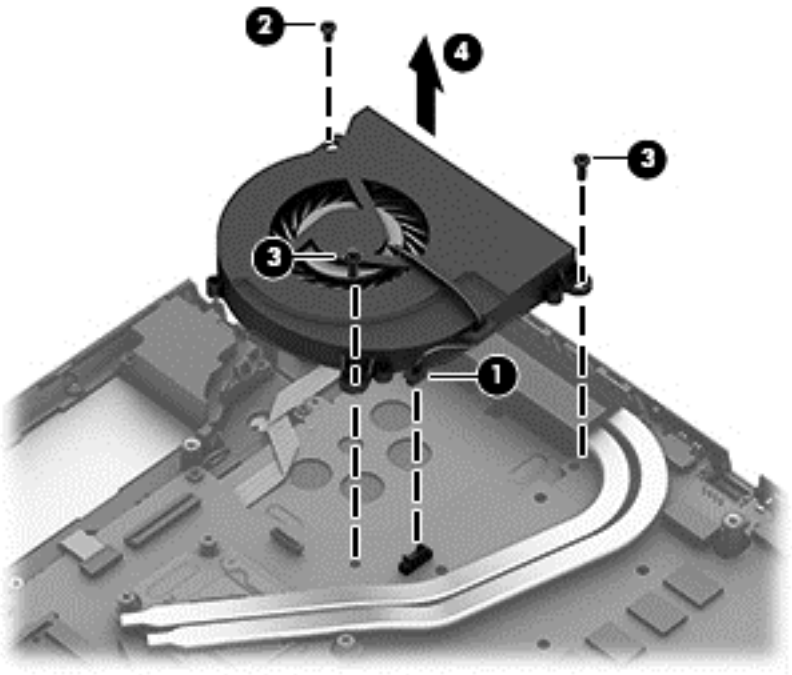
Description	Spare part number
Fan (with foil)	720235-001

Before removing the fan:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the memory modules (see Memory modules on page 43).
9. Remove the WLAN module (see WLAN module on page 44).
10. Remove the optical drive (see Optical drive on page 46).
11. Remove the base enclosure (see Base enclosure on page 55).

Remove the fan:

1. Disconnect the fan cable from the system board, and then remove the piece of tape that secures the fan to the heat sink **(1)**.
2. Remove the 3 screws securing the fan to the unit **(2)** and **(3)**.
3. Lift the fan **(4)** to remove it.



Reverse this procedure to install the fan.

System board

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

Description	Spare part number
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped Leap Motion capability	736481-601
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 4-GB of discrete memory, and the Windows 8 Standard operating system for use only on computer models equipped with Leap Motion capability	736481-501
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720267-601
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720267-501
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720266-601
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720266-501
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with Leap Motion capability	736482-601
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with Leap Motion capability	736482-501
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system	720265-601
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system	720265-501
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with Leap Motion capability	746450-501
Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with Leap Motion capability	746450-601
Equipped with the Intel HM87 Express chipset, a graphics subsystem with discrete memory, and the Windows 8.1 Standard operating system for use only on computer models equipped with Leap Motion capability	746451-501
Equipped with the Intel HM87 Express chipset, a graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on computer models equipped with Leap Motion capability	746451-601

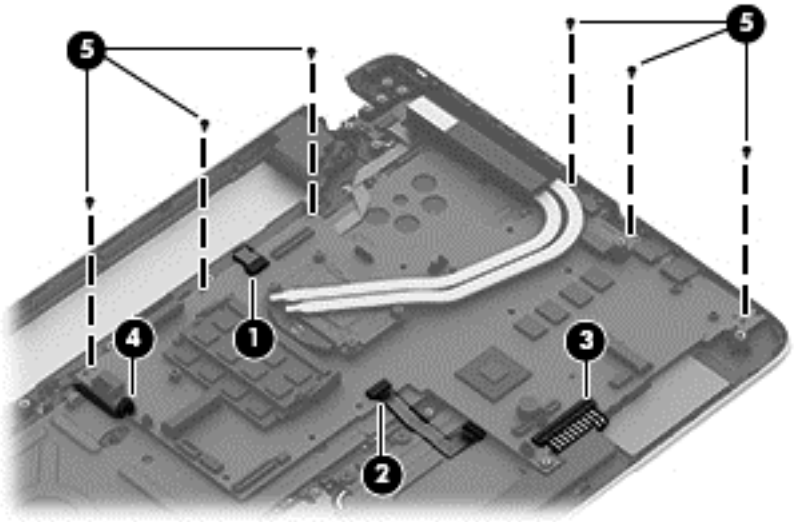
Before removing the system board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.

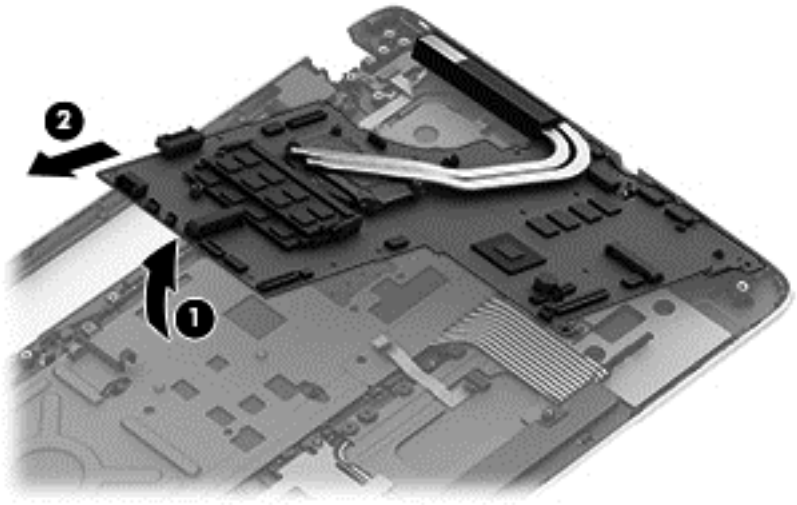
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39).
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).

Remove the system board:

1. Remove the following cables:
   - Power button board cable **(1)** and **(4)**
   - TouchPad board cable **(2)**
   - Keyboard cable **(3)**
2. Remove the 6 screws **(5)**.



3. Lift the system board **(1)** , and then remove the system board **(2)** by sliding it up and to the right at an angle.



Reverse this procedure to install the system board.

Heat sink

Description	Spare part number
For use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GT (GeForce 750M) graphics subsystem	720233-001
For use only on computer models equipped with the Intel HM87 Express Chipset and an Nvidia N14P-GV2 (GeForce 740M) graphics subsystem	720232-001
For use only on computer models equipped with the Intel HM87 Express Chipset and a graphics subsystem with UMA memory	720231-001

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.

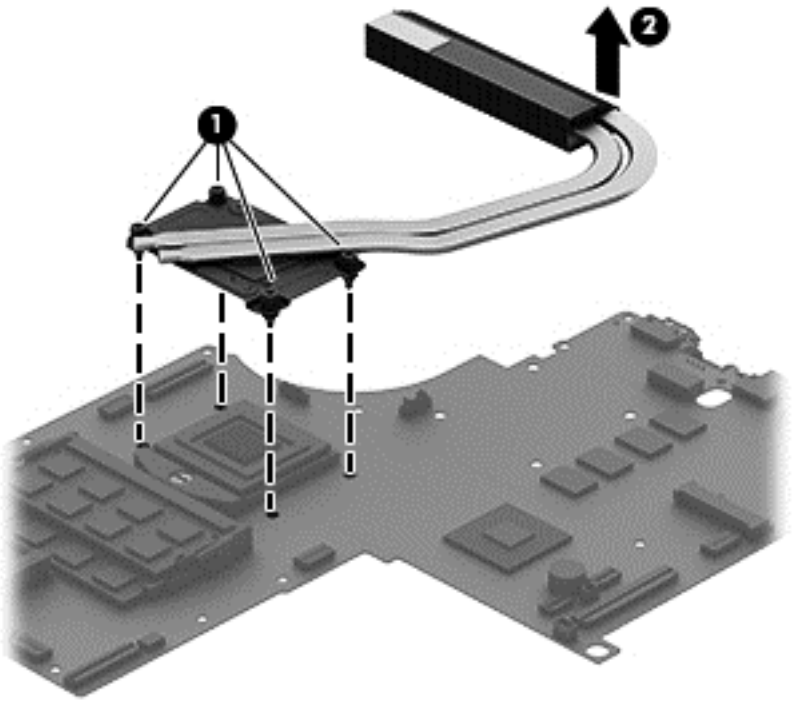
Before removing the heat sink, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).

7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).

Remove the heat sink:

▲ Loosen the 4 captive screws in the order listed on the heat sink **(1)**, and then remove the heat sink **(2)**.



NOTE: There is thermal paste between the heat sink and the processor.

Reverse this procedure to install the heat sink.

Processor

Description	Spare part number
Intel Quad Core i7-4900MQ 2.80-GHz (SC turbo up to 3.80-GHz) processor (1600-MHz FSB, 8.0-MB L3 cache, 47 W)	723523-001
Intel Quad Core i7-4800MQ 2.70-GHz (SC turbo up to 3.70-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W)	723524-001
Intel Quad Core i7-4702MQ 2.20-GHz (SC turbo up to 3.20-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 37 W)	723522-001

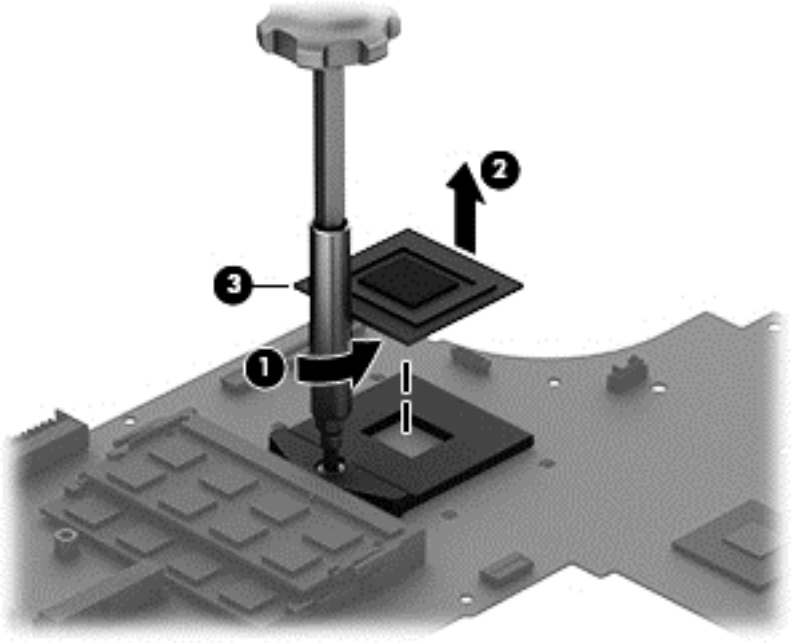
Description	Spare part number
Intel Quad Core i7-4700MQ 2.40-GHz (SC turbo up to 3.40-GHz) processor (1600-MHz FSB, 6.0-MB L3 cache, 47 W)	723521-001
Intel Dual Core i5-4330M 2.80-GHz (SC turbo up to 3.50-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	738201-001
Intel Dual Core i5-4200M 2.50-GHz (SC turbo up to 3.10-GHz) processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737328-001
Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737327-001

Before removing the processor, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).
15. Remove the heat sink (see Heat sink on page 78).

Remove the processor:

1. Use a Torx T8 screwdriver to unlock the processor by turning the screw counter-clockwise 1/2 turn **(1)**.



2. Lift the processor **(2)** to remove it from the socket **(3)**.

Reverse this procedure to install the processor.

Keyboard

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

For use in country or region:	Spare part number:	For use in country or region:	Spare part number:
Keyboard with backlight for use only on HP ENVY TouchSmart m7 Notebook PC computer models (includes keyboard cable and backlight cable):			
For use in Canada	720245-DB1	For use in the United States	720245-001
Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability (includes keyboard cable and backlight cable):			
For use in Belgium	736685-A41	For use in Portugal	736685-131
For use in Canada	736685-DB1	For use in Russia	736685-251
For use in the Czech Republic and Slovakia	736685-FL1	For use in Saudi Arabia	736685-171
For use in Denmark, Finland, and Norway	736685-DH1	For use in Spain	736685-071
For use in France	736685-051	For use in Switzerland	736685-BG1
For use in Germany	736685-041	For use in Turkey	736685-141

For use in country or region:	Spare part number:	For use in country or region:	Spare part number:
For use in Italy	736685-061	For use in the United Kingdom and Singapore	736685-031
For use in Latin America	736685-161	For use in the United States	736685-001
For use in the Netherlands	736685-B31		
Keyboard with backlight for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly, but without Leap Motion capability (includes keyboard cable and backlight cable):			
For use in Belgium	720244-A41	For use in Portugal	720244-131
For use in Canada	720244-DB1	For use in Russia	720244-251
For use in the Czech Republic and Slovakia	720244-FL1	For use in Saudi Arabia	720244-171
For use in Denmark, Finland, and Norway	720244-DH1	For use in Spain	720244-071
For use in France	720244-051	For use in Switzerland	720244-BG1
For use in Germany	720244-041	For use in Turkey	720244-141
For use in Italy	720244-061	For use in the United Kingdom and Singapore	720244-031
For use in the Netherlands	720244-B31	For use in the United States	720244-001
For use in Latin America	720244-161		
Keyboard with pointing stick for use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly (includes keyboard cable and pointing stick cable):			
For use in the United States	720242-001	For use in Italy	720242-061
For use in France	720242-051		

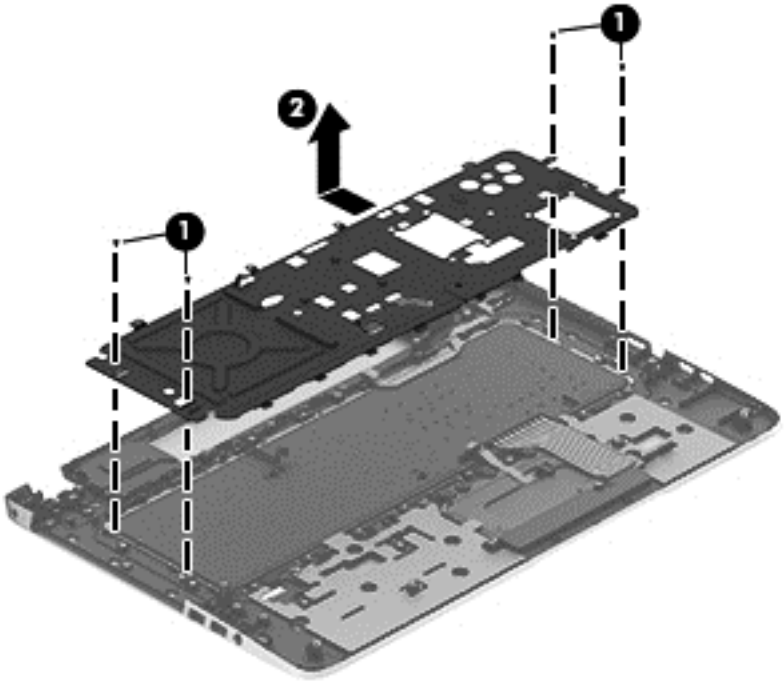
Before removing the keyboard, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).

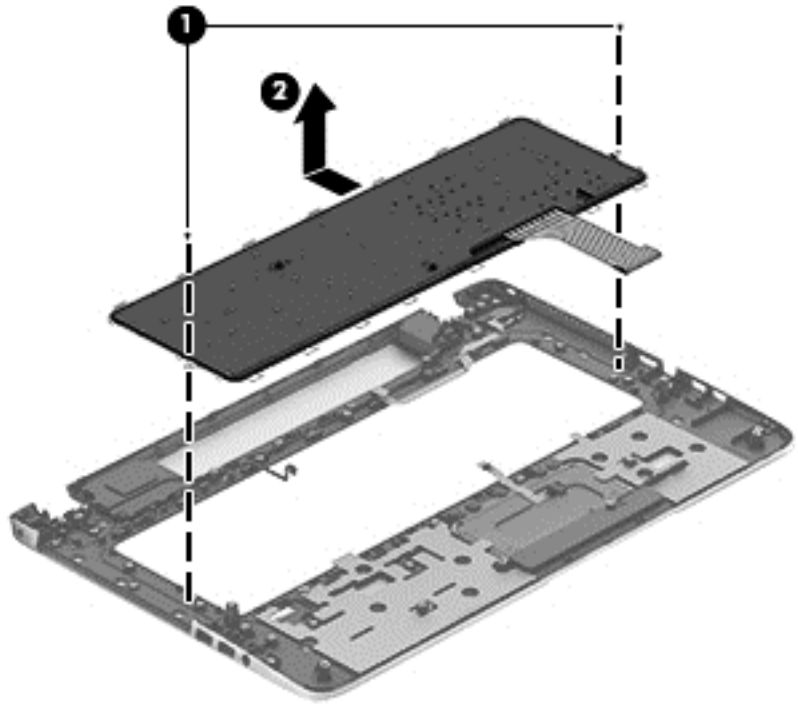
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).

Remove the keyboard:

1. Release the power button board cable.
2. Remove the 4 Phillips PM 2x3 screws **(1)**, and then release the shield from the keyboard **(2)**.



3. Remove the 2 Phillips PM 2.5x3 screws securing the keyboard to the top cover **(1)**, slide the keyboard to release it from the tabs, and then remove the keyboard from the top cover **(2)**.



Reverse this procedure to install the keyboard.

Rear speakers

Description	Spare part number
Speaker Kit (includes left and right speakers and cable)	720261-001

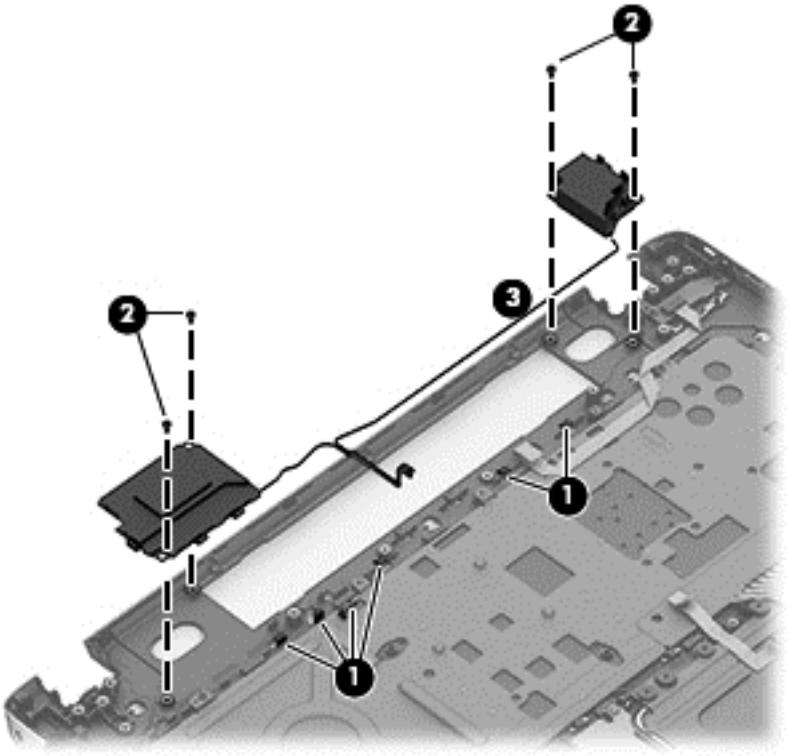
Before removing the rear speakers, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).

11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).
15. Remove the keyboard (see Keyboard on page 81).

Remove the rear speakers:

▲ Disengage the power connector cable **(1)** from the tabs, remove the 4 screws **(2)**, and then remove the rear speakers **(3)**.



Reverse this procedure to install the rear speakers.

Power button board

Description	Spare part number
Power button board (includes cable)	720250-001

Before removing the Power button board, follow these steps:

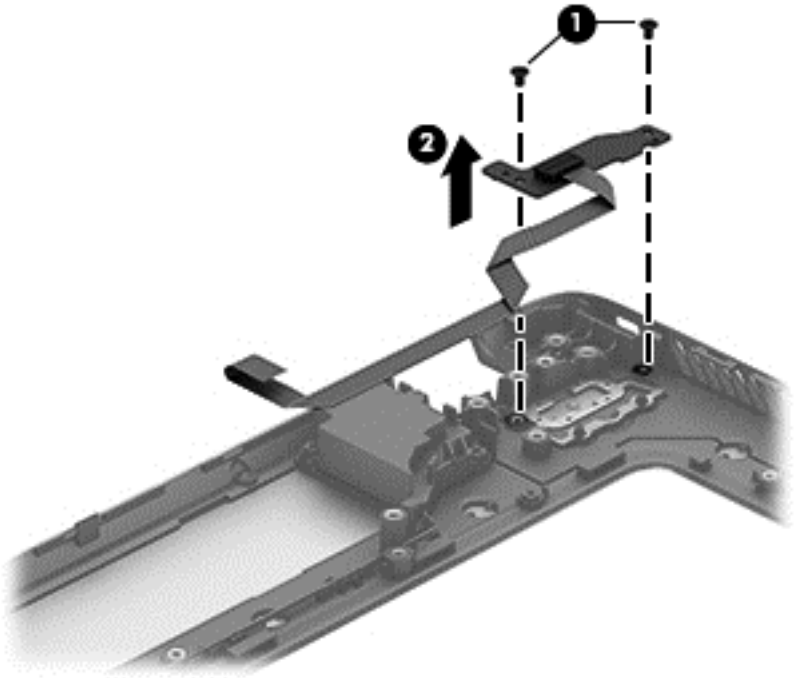
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).
9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).
15. Remove the keyboard (see Keyboard on page 81).

Remove the Power button board and cable:

1. Turn the top cover upside down, with the back edge toward you.
2. Remove the 2 Phillips PM 2.0x3x0 screws securing the Power button board to the top cover **(1)**.

3. Remove the Power button board **(2)**.

NOTE: The Power button board's cable is attached to the board.



Reverse this procedure to install the Power button board.

TouchPad module

Description	Spare part number
For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720230-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap Motion capability	720253-001

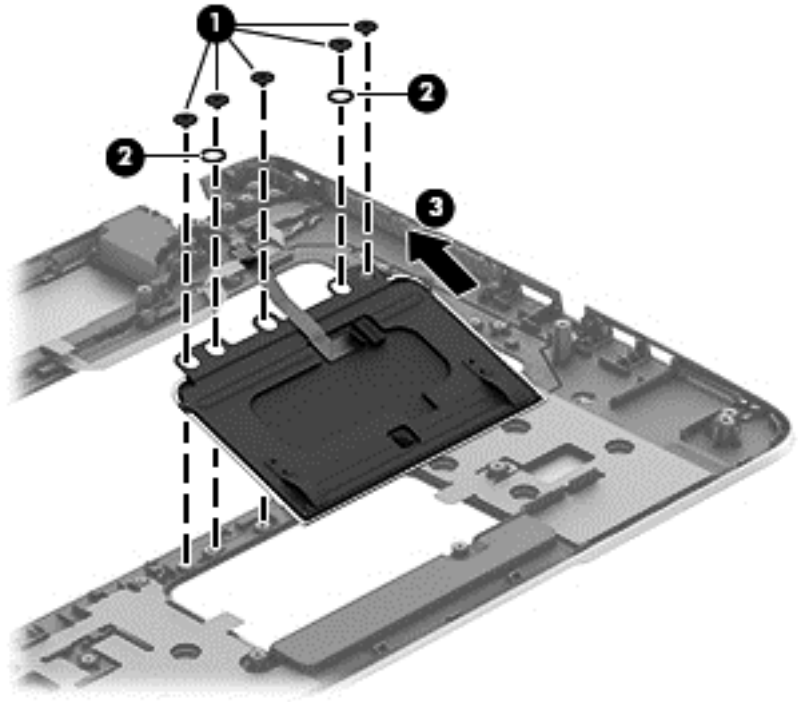
Before removing the TouchPad button board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 39),
5. Remove the display panel (see Display panel on page 50).
6. Remove the service cover (see Service cover on page 40).
7. Remove the hard drive (see Hard drive on page 41).
8. Remove the RTC battery (see RTC battery (see RTC battery on page 54).

9. Remove the memory modules (see Memory modules on page 43).
10. Remove the WLAN module (see WLAN module on page 44).
11. Remove the optical drive (see Optical drive on page 46).
12. Remove the base enclosure (see Base enclosure on page 55).
13. Remove the fan (see Fan on page 74).
14. Remove the system board (see System board on page 76).
15. Remove the keyboard (see Keyboard on page 81).

Remove the TouchPad button board and cable:

1. Turn the top cover upside down, with the back edge toward you.
2. Disconnect the cable that secures the TouchPad cable to the system board.
3. Remove the 5 Phillips PM 2.5×3.0 screws **(1)** and the 2 Phillips PM 2.5x3.0 screws **(2)** that secure the TouchPad button board to the top cover.
4. Lift up on the rear edge, slide backward, and then remove the TouchPad button board and cable **(3)**.



Reverse this procedure to install the TouchPad button board and cable.

7 Windows 7 - Using Computer Setup (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 displayed by pressing fn+esc (if you are already in Windows) or by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS).
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 or Hibernation.

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

1. Select **Start > Help and Support > Maintain**.
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. If no instructions are displayed, follow these steps:

1. Open Windows Explorer by selecting **Start > Computer**.
2. Double-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) (select models only)

HP PC Hardware Diagnostics is a Unified Extensible Firmware Interface (UEFI) that allows you to run diagnostic tests to determine if the computer hardware is functioning properly. The tool runs outside of the operating system to isolate hardware failures from issues that may be 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 Downloading HP PC Hardware Diagnostics (UEFI) to a USB device on page 91.

   b. Hard drive

   c. BIOS

2. When the diagnostic tool opens, use the keyboard arrow keys to select 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 while it is running, press esc.

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

NOTE: Instructions for downloading HP PC Hardware Diagnostics (UEFI) are provided in English only.

1. Go to http://www.hp.com.
2. Point to **Support**, located at the top of the page, and then click **Download Drivers**.
3. In the text box, enter the product name, and then click **Go**.

   – or –

   Click **Find Now** to let HP automatically detect your product.
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 Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Width	**29.16 cm**	11.48 in
Depth	**2.15 cm**	8.46 in
Height (front to back)	**2.11 to 3.19 cm**	0.83 to 1.26 in
Weight		
With 6-cell battery	**1.60 kg**	3.53 lb
With 3-cell battery	**1.46 kg**	3.22 lb
Input power		
Operating voltage and current	19.5 V dc @ 3.33 A – 65 W 19.5 V dc @ 4.62 A – 90 W 19.5 V dc @ 6.15 A – 120 W	
Temperature		
Operating	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 60°C**	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating	**-15 m to 12,192 m**	-50 ft to 40,000 ft

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

43.9-cm (17.3-in), HD+ display specifications

	Metric	U.S.
Active diagonal size	43.9-cm	17.3-in
Resolution	1600x900 (HD+)	
Active area	382.08x214.92	

	Metric	U.S.
PPI	106	
Surface treatment	Anti-glare or BrightView	
Contrast ratio	300:1 (typical) – Anti-glare 500:1 – BrightView	
Response time	16 ms	
Brightness	200 nits (typical)	
Viewing angle	SVA	
Backlight	LED	
Luminance uniformity @ 13 points	1.4 (typ), 1.6 (max)	
Lifetime (1/2 luminance)	12,000 hours	
Color coordinate (white)	(0.313, 0.329)	
Color tolerance (White)	+/- 0.02	
Color tolerance (W, R, G, B)	+/- 0.03	
Color gamut	60% NTSC @ CIE 1931	

Hard drive specifications

	1. 5 TB, 5400 rpm*	1-TB*	750-GB*	500-GB*
Dimensions				
Height	9.5 mm	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm	70 mm
Weight	107 g	107 g	115 g	101 g
Interface type	SATA	SATA	SATA	SATA
Transfer rate	145 MB/sec	145 MB/sec	100 MB/sec	100 MB/sec
Security	ATA security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)				
Single track	2.0 ms	2.0 ms	1.5 ms	3 ms
Average	12 ms	12 ms	11 ms	13 ms
Maximum	22ms	22ms	14 ms	24 ms
Logical blocks	2,930,277,168	1,953,525,168	1,465,149,168	1,048,576,000
Disc rotational speed		5400 rpm		
Operating temperature		5°C to 55°C (41°F to 131°F)		

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

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

9 Windows 7 - Backing up, restoring, and recovering

Your computer includes tools provided by the operating system and HP to help you safeguard your information and retrieve it if ever needed.

Creating backups

1. Use HP Recovery Manager to create recovery media immediately after you set up the working computer.
2. As you add hardware and software programs, create system restore points.
3. As you add photos, video, music, and other personal files, create a backup of your system and personal information.

Creating recovery media to recover the original system

After you successfully set up the computer, you should create recovery discs or a recovery flash drive using HP Recovery Manager. You will need these recovery discs or recovery flash drive to perform a system recovery should the hard drive become corrupted. A system recovery reinstalls the original operating system, and then configures the settings for the default programs.

What you need to know

- Only one set of 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 flash drive or the number of blank DVD discs that will be required.

  Use DVD-R, DVD+R, DVD-R DL, DVD+R DL discs or a flash drive. Do not use rewriteable discs such as CD±RW, DVD±RW, double-layer DVD±RW, and BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software.
- You can use an optional external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from support through the HP website. Go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions. If you use an external optical drive, it must be connected directly to a USB port on the computer, not 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.
- Store the recovery media in a safe location, separate from the computer.
- If necessary, you can exit the program before you have finished creating the recovery media. The next time you open HP Recovery Manager, you will be prompted to continue the process.

Creating the recovery media

1. Select **Start** and type `recovery` in the search field. Select **Recovery Manager** from the list. Allow the action to continue, if prompted.
2. Click **Recovery Media Creation**.
3. Follow the on-screen instructions to continue.

To recover, see Recovering the original system using HP Recovery Manager on page 97.

Creating system restore points

A system restore point is a snapshot of certain hard drive contents saved by Windows System Restore at a specific time. A restore point contains information such as registry settings that Windows uses. Restoring to a previous restore point allows you to reverse changes that have been made to the system since the restore point was created.

Restoring to an earlier system restore point does not affect data files saved or emails created since the last restore point, but it does affect software you may have installed.

For example, if you download a photo from a digital camera and then restore the computer to the state it was on the previous day, the photo remains on the computer.

However, if you install photo viewing software and then restore your computer to the state it was on the previous day, the software will be uninstalled, and you won't be able to use it.

What you need to know

- If you restore to a restore point and then change your mind, you can undo the restoration.
- You should create system restore points:
  - Before you add or change software or hardware
  - Periodically, whenever the computer is running normally
- System Restore also saves shadow copies of files that have been changed since the last restore point was created. For more information about using shadow copies to restore, see Help and Support.

Creating a system restore point

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Click **Create**, and follow the on-screen instructions.

To restore, see Restoring to a previous system restore point on page 97.

Backing up system and personal information

Your computer stores information that is important to you, such as files, emails, and photos, and you will want to keep that information even if you download a virus or the system stops working properly. How completely you are able to recover your files depends on how recent your backup is. As you add new software and data files, you should create backups on a regular basis.

Tips for a successful backup

- Number backup discs before inserting them into the optical drive.
- Store personal files in the Documents, Music, Pictures, and Videos libraries, and back up these folders periodically.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to re-enter your preferences.

To create a screen shot:

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

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

   To copy the entire screen, press prt sc.
3. Open a word-processing document or graphics editing program, and then select **Edit > Paste**. The screen image is added to the document.
4. Save and print the document.

What you need to know

- You can back up your information to an optional external hard drive, a flash drive, a network drive, or discs.
- Connect the computer to AC power during backups.
- Allow enough time for the backup. Depending on files sizes, it may take more than an hour.
- Verify the amount of free space on your backup storage device before you back up.
- You should back up:
  - Before adding or changing software or hardware.
  - Before the computer is repaired or restored.
  - On a regular schedule to be sure you have recent copies of personal information.
  - After you add many files—for example, if you saved videos from a birthday party.
  - Before using antivirus software to remove a malicious program.
  - After adding information that is hard to replace, such as pictures, videos, music, project files, or data records.

Creating a backup using Windows Backup and Restore

Windows allows you to back up files using Windows Backup and Restore. You can select the level you want to back up, from individual folders to drives. The backups are compressed to save space. To back up:

1. Select **Start > Control Panel > System and Security > Backup and Restore**.
2. Follow the on-screen instructions to schedule and create a backup.

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

To restore, see Restoring specific files using Windows Backup and Restore on page 97.

Restore and recovery

Restoring to a previous system restore point

Sometimes installing a software program causes your computer or Windows to behave unpredictably. Usually uninstalling the software fixes the problems. If uninstalling does not fix the problems, you can restore the computer to a previous system restore point (created at an earlier date and time).

To restore to a previous system restore point, when the computer was running correctly:

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Click **System Restore**, and follow the on-screen instructions.

Restoring specific files

If files are accidentally deleted from the hard disk and they can no longer be restored from the Recycle Bin, or if files become corrupt, restoring specific files is useful. Restoring specific files is also useful if you ever choose to recover the original system using HP Recovery Manager. You can only restore specific files that you have backed up before.

Restoring specific files using Windows Backup and Restore

Windows allows you to restore files that were backed up using Windows Backup and Restore:

1. Select **Start > Control Panel > System and Security > Backup and Restore**.
2. Follow the on-screen instructions to restore your backup.

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

Recovering the original system using HP Recovery Manager

HP Recovery Manager software allows you to repair or recover the computer to its original factory state.

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 disc provided by the manufacturer.
- A system recovery should be used as a final attempt to correct computer issues. If you have not already tried restore points (see Restoring to a previous system restore point on page 97) and partial restores (see Restoring specific files on page 97), try them before using HP Recovery Manager to recover your system.
- A system recovery must be performed if the computer hard drive fails or if all attempts to correct any functional computer issues fail.

- If the recovery media do not work, you can obtain recovery discs for your system from support through the HP website. Go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.
- The Minimized Image Recovery option is recommended for advanced users only. All hardware-related drivers and software are re-installed, but other software applications are not. Do not interrupt the process until it is complete, otherwise the recovery will fail.

Recovering using HP Recovery partition (select models only)

The HP Recovery partition (select models only), allows you to restore your system without the need for recovery discs or a recovery flash drive. This type of recovery can only be used if the hard drive is still working.

To check for the presence of a recovery partition, select **Start**, right-click **Computer** then select **Manage > Disk Management**. If the recovery partition is present, a Recovery drive is listed in the window.

NOTE: Recovery discs have been included if your computer did not ship with a recovery partition.

1. Access HP Recovery Manager in either of the following ways:
   - Select **Start** and type `recovery` in the search field. Select **Recovery Manager** from the list.

     – or –
   - Turn on or restart the computer, and then press esc while the “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen. Then press f11 while the “F11 (System Recovery)” message is displayed on the screen.
2. Click **System Recovery** in the **HP Recovery Manager** window.
3. Follow the on-screen instructions.

Recovering using the recovery media

1. If possible, back up all personal files.
2. Insert the first recovery disc into the optical drive on your computer or an optional external optical drive, and then restart the computer.

   – or –

   Insert the recovery flash drive 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 99.
3. Press f9 at system bootup.
4. Select the optical drive or the flash drive.
5. Follow the on-screen instructions.

Changing the computer boot order

To change the boot order for recovery discs:

1. Restart the computer.
2. Press esc while the computer is restarting, and then press f9 for boot options.
3. Select **Internal CD/DVD ROM Drive** from the boot options window.

To change the boot order for a recovery flash drive:

1. Insert the flash drive into a USB port.
2. Restart the computer.
3. Press esc while the computer is restarting, and then press f9 for boot options.
4. Select the flash drive from the boot options window.

10 Power cord set requirements

The wide-range input feature of the computer permits it to operate from any line voltage from 100 to 120 volts AC, or from 220 to 240 volts AC.

The 3-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries and regions must meet the requirements of the country or region where the computer is used.

Requirements for all countries

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

Country/region	Accredited agency	Applicable note number
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
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) 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 3X0.75-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 3×1.25-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 x 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 3×0.75-/1.00-mm² conductor size, with plug BS 1363/A with BSI or ASTA marks.

11 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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