



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.


Not all features are available in all editions of Windows 8. This computer may require upgraded and/or separately purchased hardware, drivers, and/or software to take full advantage of Windows 8 functionality. See <http://www.microsoft.com> for details.

Software terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this computer, you agree to be bound by the terms of the HP End User License Agreement (EULA). If you do not accept these license terms, your sole remedy is to return the entire unused product (hardware and software) within 14 days for a refund subject to the refund policy of your place of purchase.

For any further information or to request a full refund of the computer, please contact your local point of sale (the seller).

Important Notice about Customer Self-Repair Parts

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

Safety warning notice

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

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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	<ul style="list-style-type: none">• 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 i5-3230M 2.60-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)• Intel Dual Core i3-3380M 2.90-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)• Intel Dual Core i3-3120M 2.50-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)
Chipset	Intel® HM87 Express Chipset Intel® HM77 Express Chipset
Graphics	Internal graphics: <ul style="list-style-type: none">• Intel® HD Graphics 4600 internal graphics• Intel® HD Graphics 4000 internal graphics

Category	Description
	<p>Switchable discrete graphics:</p> <ul style="list-style-type: none"> 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)
Panel	<p>17.3" high-definition (HD) light-emitting diode (WLED) BrightView (1600x900) display, (wedge 6.0mm) SVA, Color Gamut 60%, supports LVDS, 200 nits</p> <p>17.3" high-definition (FHD) light-emitting diode (WLED) AntiGlare (1920x1080) (wedge 6.0mm) WVA, Color Gamut 72%, supports LVDS, 300 nits</p> <p>Touchscreen, multitouch enabled, 160 nits (select models only)</p> <p>All display assemblies include 2 wireless local area network (WLAN) antenna cables.</p> <p>Supports 16:9 wide aspect ratio</p>
Memory	<p>Two customer-accessible/upgradable memory module slots</p> <p>DDR3L-1600MHz Dual Channel Support</p> <p>Supports up to 16-GB of system RAM in the following configurations:</p> <ul style="list-style-type: none"> 4096-MB total system memory (2048x2) 4096-MB total system memory (4096x1) 6144-MB total system memory (2048x1 + 4096x1) 8192-MB total system memory (4096x2) 8192-MB total system memory (8192x1) 12288-MB total system memory (8192x1 + 4096x1) 16384-MB total system memory (8192x2)
Hard drives	<p>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)</p> <p>Customer-accessible</p> <p>Serial ATA</p> <p>Supports the following hard drives:</p> <ul style="list-style-type: none"> 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 <p>Dual hard-drive configurations:</p> <ul style="list-style-type: none"> 2TB: (1-TB 5400-rpm x 2) 1500GB: (750-GB 5400-rpm x 2)

Category	Description
Solid-state drive	<p>Only configured with system memory up to 8 GB:</p> <ul style="list-style-type: none"> • 32-GB mSATA (select models only) • 24-GB mSATA (select models only)
Optical drives	<p>Fixed</p> <p>Serial ATA</p> <p>9.5-mm tray load</p> <p>Supports the following optical drives:</p> <ul style="list-style-type: none"> • 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	<p>External USB</p> <p>Serial ATA</p> <p>12.7-mm tray load</p> <p>Supports the following external optical drives:</p> <ul style="list-style-type: none"> • DVD+/-RW Double-Layer SuperMulti
Audio and video	<p>Quad integrated stereo speakers and subwoofer</p> <p>HD Beats audio</p> <p>HP TrueVision high-definition webcam (fixed, no tilt + activity LED, 1PC, USB 2.0 M-JPEG, 1280×720 by 30 frames per second)</p> <p>Dual array digital microphones with appropriate software - beam forming, echo cancellation, noise suppression</p>
Ethernet	<p>Integrated 10/100/1000 GB network interface card (NIC)</p>

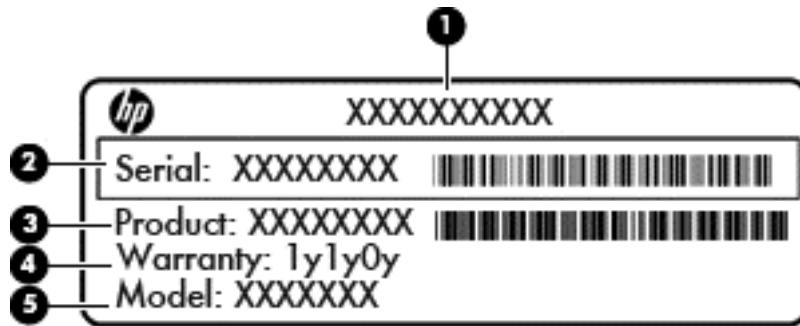
Category	Description
Wireless	<p>Integrated wireless local area network (WLAN) options by way of wireless module</p> <p>Two WLAN antennas built into display assembly</p> <p>Supports Intel Wireless Display (WiDi)</p> <p>Antenna support for 802.11a/b/g/n with MIMO support 2x2</p> <p>Supports the following WLAN formats:</p> <ul style="list-style-type: none"> • Intel® Centrino® Wireless-N 2230 802.11 b/g/n 2x2 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 • Mediatek MT7630E 802.11 b/g/n 1x1 Wi-Fi and Bluetooth 4.0 combo adapter • Ralink RT3290LE 802.11bgn 1x1 Wi-Fi + BT 4.0 Combo Adapter
External memory card	<p>Push-push insertion/removal</p> <p>Supports memory cards such as Secure Digital (SD).</p>
Internal card	<ul style="list-style-type: none"> • One half-size mini-card slot for WLAN • One full-size mini-card slot for Intel mSATA Cache
Ports	<ul style="list-style-type: none"> • 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	<p>Full-size keyboard with numeric keypad</p> <ul style="list-style-type: none"> • Duracoat island-style keyboard, no spill-resistance (in black finish) • Backlit island-style keyboard in black finish <hr/> <p>ClickPad with Imaging sensor</p> <p>Taps enabled as default</p> <p>Multitouch gestures enabled</p> <p>Support Windows 8 Modern Trackpad Gestures</p>

Category	Description
Power requirements	<p>Supports the following HP AC adapters:</p> <ul style="list-style-type: none">• 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) <p>1-M length power cord</p> <p>Supports the following batteries:</p> <ul style="list-style-type: none">• 6-Cell battery - 62Whr (2.8Ah), supports fast charge: up to 90% charged in 90 minutes
Operating system	<p>Preinstalled:</p> <ul style="list-style-type: none">• Windows 8 (64-bit)
Serviceability	<p>End-user replaceable parts</p> <ul style="list-style-type: none">• Memory• Optical drive• Hard drive• Battery• AC adapter• Mini card components

Service tag and PCID label

Service tag

When ordering parts or requesting information, provide the computer serial number and model description provided on the service tag, which is located on the bottom of the computer.



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

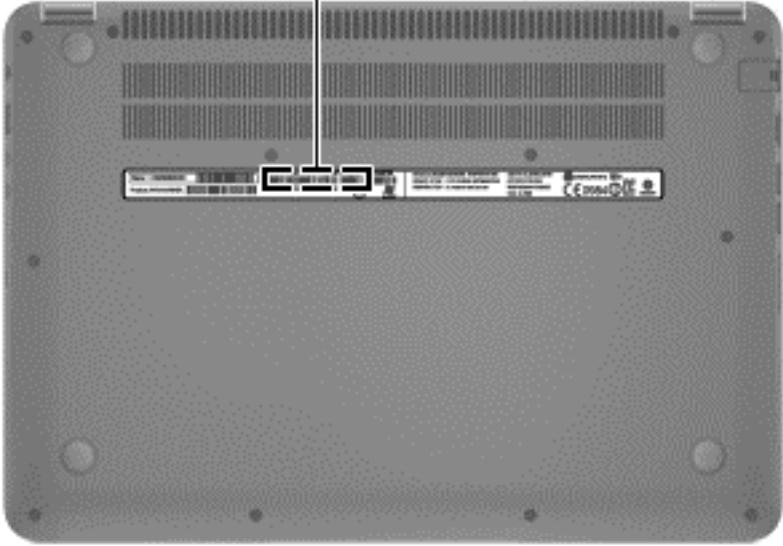
PCID label

The PCID label provides the information required to properly reset the notebook firmware (BIOS) back to factory shipped specifications when replacing the system board. The label may have a different number of characters depending on the operating system on the computer.

 **NOTE:** Computer details may vary from images.

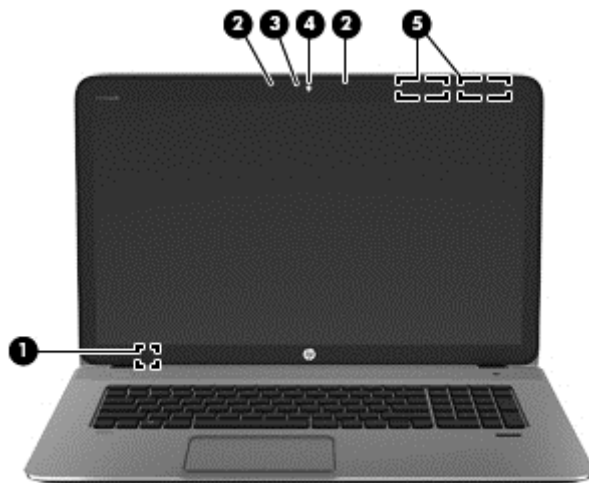
Windows 8 models

PCID:XXXXXXXXXXXXXXXXXXXXXXXXXXXX






2 External component identification

Display

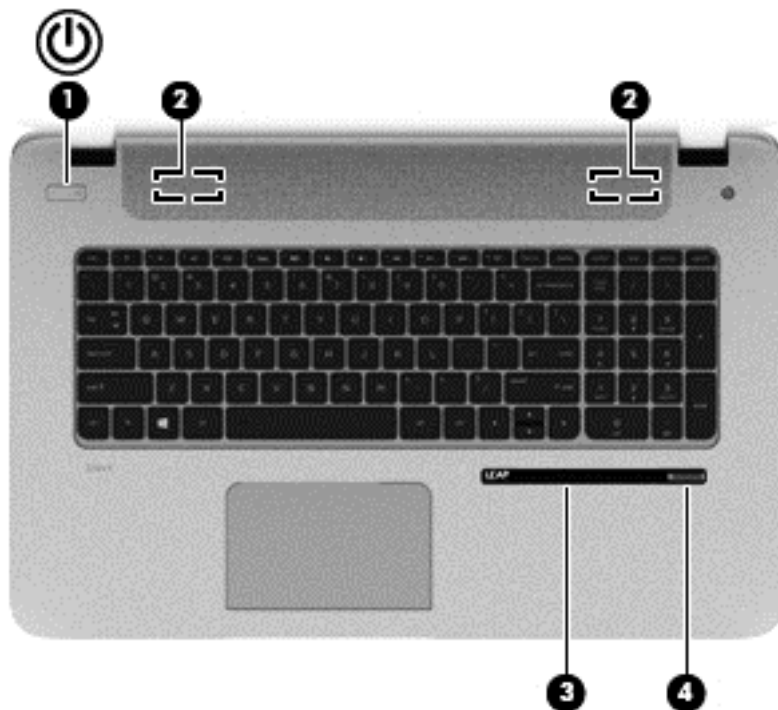





Component	Description
(1) Internal display switch	Turns off the display and initiates Sleep if the display is closed while the power is on. NOTE: The internal display switch is not visible from the outside of the computer.
(2) Internal microphones (2)	Record sound.
(3) Webcam light	On: The webcam is in use.

Component	Description
(4) HP TrueVision HD Webcam	<p>Records video and takes still photographs.</p> <p> Swipe from the right edge of the TouchPad or touch screen (select models only) to display the charms, tap Search, and then tap the search box. Type c, and then select CyberLink YouCam from the list of applications.</p> <p>– or –</p> <p> From the Start screen, type c, and then select CyberLink YouCam from the list of applications.</p>
(5) WLAN antennas (2)*	<p>Send and receive wireless signals to communicate with wireless local area networks (WLANs).</p>

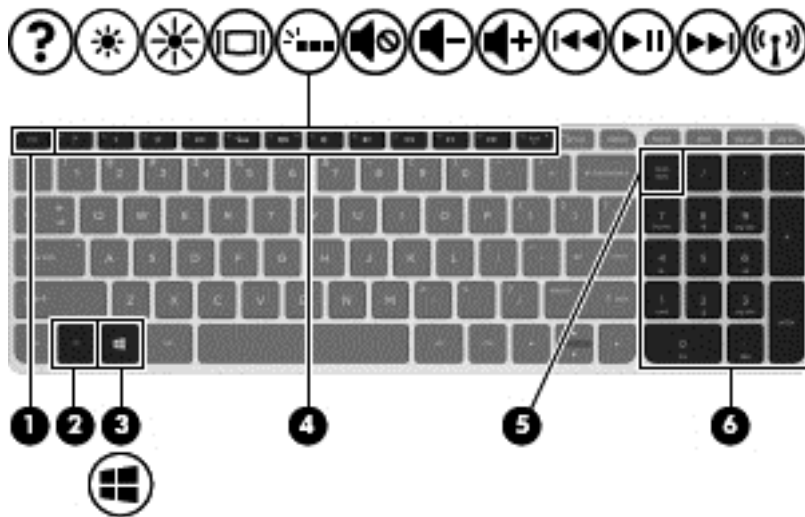
*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.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


Buttons and speakers



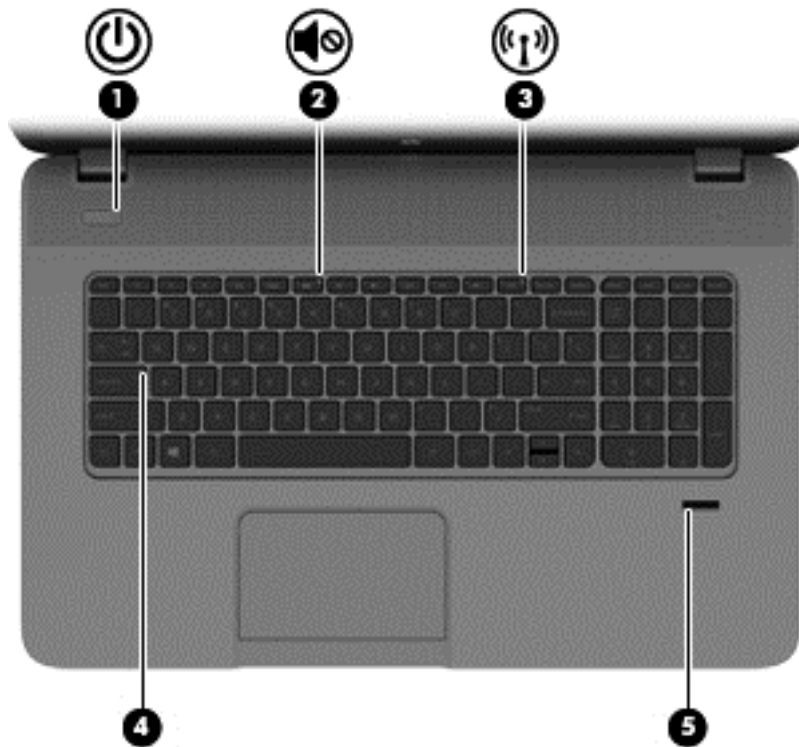
Component	Description
(1)  Power button	<ul style="list-style-type: none"> • When the computer is off, press the button to turn on the tablet. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. <p>CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.</p> <ul style="list-style-type: none"> • If the computer has stopped responding and Microsoft® Windows® shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the tablet. <p> Swipe from the right edge of the TouchPad or touch screen (select models only) to display the charms, tap Search, and then tap the search box. In the search box, type <code>power</code>, select Settings, and then select Power options.</p> <p>– or –</p> <p> To learn more about your power settings, from the Start screen, type <code>p</code>. In the search box, type <code>power</code>, select Settings, and then select Power options.</p>
(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 (select models only)	Allows a fingerprint logon to Windows, instead of a password logon.




Keys



Component	Description
(1) <code>esc</code> key	Reveals system information when pressed in combination with the <code>fn</code> key.
(2) <code>fn</code> key	Executes frequently used system functions when pressed in combination with the <code>b</code> key, the <code>spacebar</code> , or the <code>esc</code> 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 <code>f5</code> action key turns the radiance backlight keyboard feature off or on.
(5) <code>num lk</code> key	Alternates between the navigational and numeric functions on the integrated numeric keypad.
(6) Integrated numeric keypad	When <code>num lk</code> has been enabled, it can be used like an external numeric keypad.

Lights



Component	Description
(1)  Power light	<ul style="list-style-type: none">• 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. <p>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.</p>
(2)  Mute light	<ul style="list-style-type: none">• Amber: Computer sound is off.• Off: Computer sound is on.
(3)  Wireless light	<p>On: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth® device, is on.</p> <p>NOTE: On some models, the wireless light is amber when all wireless devices are off.</p>

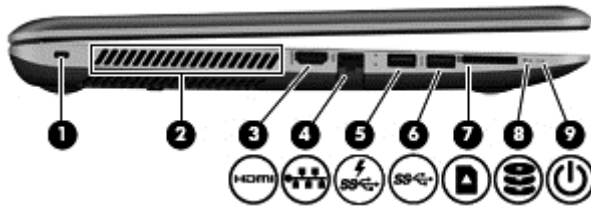
Component	Description
(4) Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(5) Fingerprint reader light	<ul style="list-style-type: none"> • White: The fingerprint authentication was successful. • Amber: The fingerprint authentication failed.







TouchPad





Component	Description
(1) TouchPad zone	<p>Moves the on-screen pointer and selects or activates items on the screen.</p> <p>NOTE: The TouchPad also supports edge-swipe gestures.</p>
(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.

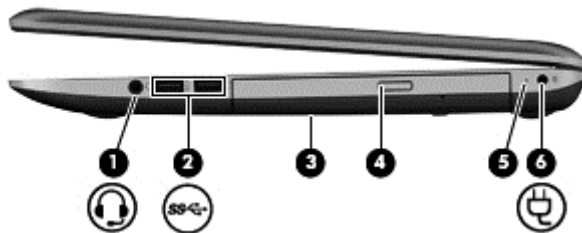
Left side






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	<ul style="list-style-type: none"> Blinking white: The hard drive is being accessed. Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(8)  Power light	<ul style="list-style-type: none"> 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. <p>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..</p>

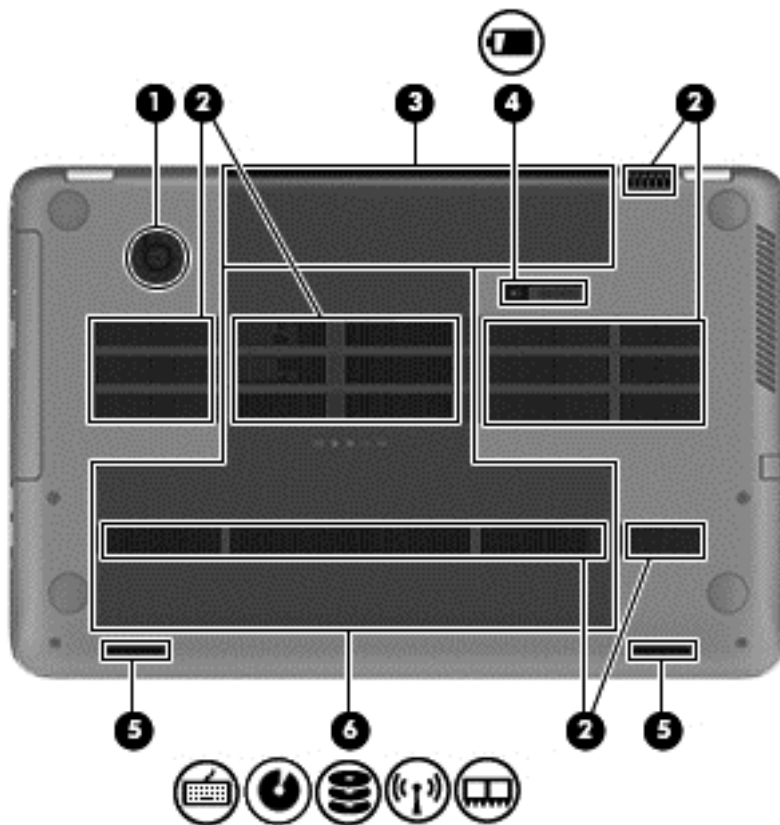
Right side




Component	Description
(1)  Audio-out (headphone) jack/Audio-in (microphone) jack	<p>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.</p> <p>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 <code>support</code>, select the HP Support Assistant app, select My computer, and then select User guides.</p> <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p> <p>NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).</p>
(2)  USB 3.0 ports (2)	<p>Connect optional USB 3.0 devices and provide enhanced USB power performance.</p>

Component		Description
(3)	Optical drive	Reads and writes (select models only) to an optical disc.
(4)	Optical drive eject button	Releases the optical drive disc tray
(5)	AC adapter light	<ul style="list-style-type: none"> • 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




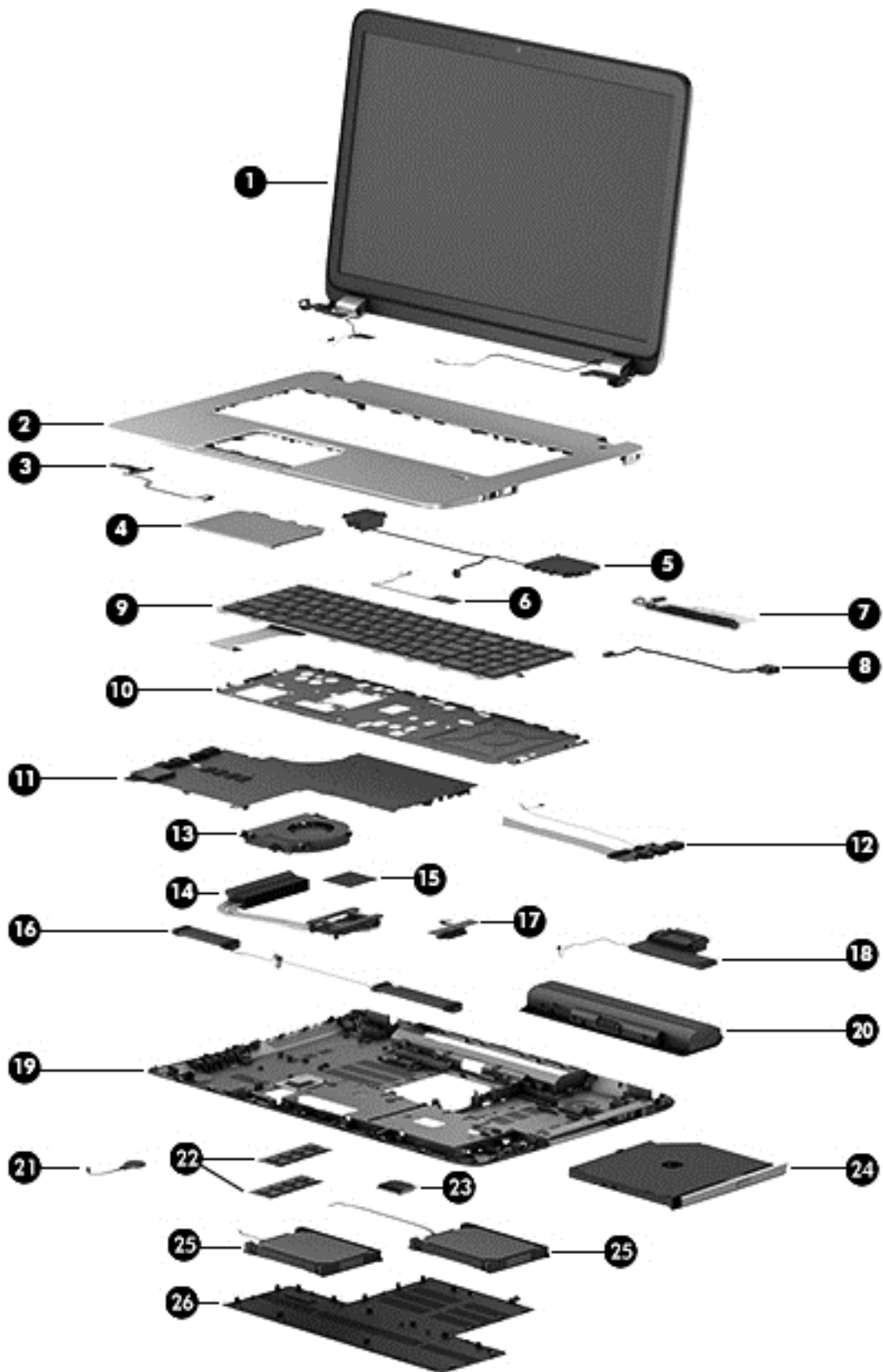
Component		Description
(1)	HP Triple Bass Reflex Subwoofer	Provides superior bass sound.
(2)	Vents (4)	Enable airflow to cool internal components.
		NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off 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 .

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 [Service tag and PCID label on page 6](#) for details.



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 28 .	
	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
(2)	17.3-in, BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart 17 Notebook PC computer models	736479-001
	Top cover:	
	For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720272-001
(3)	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
	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
(5)	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
	Rear 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

Item	Component	Spare part number
	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 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

Item	Component	Spare part number
	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
	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 4-GB of discrete memory, and the Linux operating system for use only on computer models equipped with Leap Motion capability	736481-001
	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-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720267-001
	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

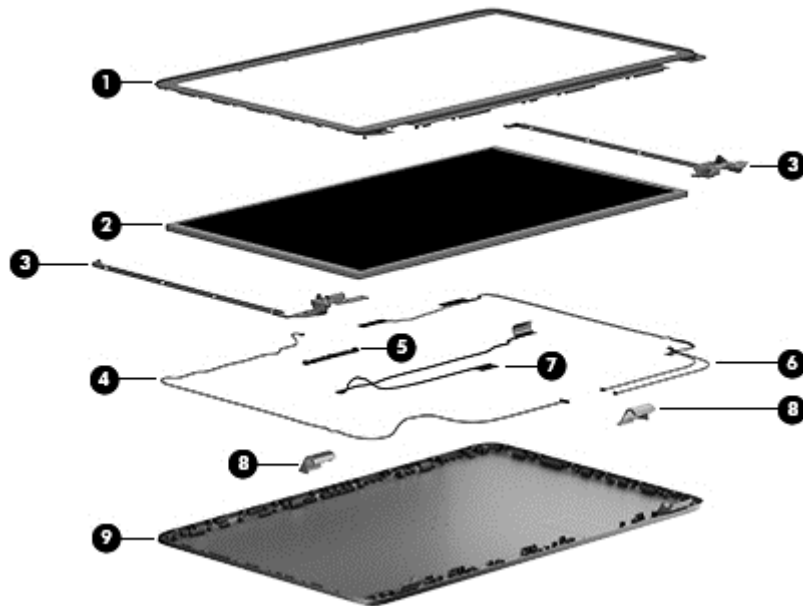
Item	Component	Spare part number
	Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720266-001
	Equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Windows 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 Linux operating system for use only on computer models equipped with Leap Motion capability	736482-001
	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 Linux operating system	720265-001
	Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720269-601
	Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720269-501
	Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720269-001
	Equipped with the Intel HM77 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	720268-601
	Equipped with the Intel HM77 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	720268-501
	Equipped with the Intel HM77 Express chipset, a graphics subsystem with UMA memory, and the Linux operating system for use only on computer models equipped with Leap Motion capability	720268-001
(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):	

Item	Component	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
	For use only on computer models equipped with the Intel HM77 Express chipset and an Nvidia N14P-GV2 (GeForce 740M) graphics subsystem	720234-001
	For use only on computer models equipped with the Intel HM77 Express chipset and a graphics subsystem with UMA memory	722381-001
(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 i5-3230M 2.60-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	711903-001
	Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737327-001
	Intel Dual Core i3-3380M 2.90-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	708762-001
	Intel Dual Core i3-3120M 2.50-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	700627-001
(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

Item	Component	Spare part number
	Base enclosure for use only on computer models equipped with a non-TouchScreen display assembly	720225-001
	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 2x2 Wi-Fi + BT 4.0 Combo Adapter	724935-001
	Intel Centrino Advanced-N 6235 WLAN module	670290-001
	Intel Dual Band Wireless-AC 3160 802.11ac 1x1 Wi-Fi + BT 4.0 Combo Adapter	710662-001
	Intel Wireless-N 7260BN 802.11b/g/n 2x2 Wi-Fi + BT 4.0 Combo Adapter	717384-001
	Mediatek MT7630E 802.11b/g/n 1x1 Wi-Fi and Bluetooth 4.0 Combo Adapter	710418-001
	Qualcomm Atheros AR9565 802.11b/g/n 1x1 Wi-Fi + BT 4.0 Combo Adapter	733476-001
	Qualcomm Atheros AR 9485GN 802.11b/g/n 1x1 Wi-Fi Combo Adapter	675794-001
	Ralink RT3290LE 802.11b/g/n 1x1 Wi-Fi Bluetooth 4.0 Combo Adapter	690020-001
	Realtek RTL 8188EE 802.11b/g/n 1x1 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:	

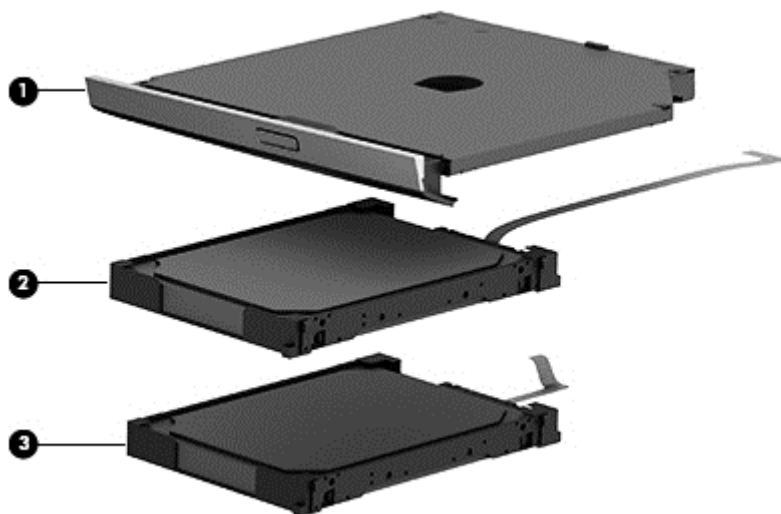
Item	Component	Spare part number
	1-TB, 5400-RPM	676521-001
	1-TB, 5400-RPM hybrid	731999-001
	750-GB, 5400-RPM	634250-001
	750-GB, 5400-RPM hybrid	732001-001
	640-GB, 5400-RPM	669300-001
	500-GB, 5400-RPM	683802-001
	500-GB, 5400-RPM hybrid	732000-001
	Hard Drive Hardware Kit	720237-001
(26)	Service 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
(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-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
	640-GB, 5400-RPM	669300-001
	500-GB, 5400-RPM	683802-001
	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)
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
669300-001	640-GB, 5400-rpm hard drive
670290-001	Intel Centrino Advanced-N 6235 WLAN module
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
700627-001	Intel Core i3-3120M (2.5GHz), 1600MHz (3MB L3, Dual 35W) processor
701943-001	HDMI to VGA adapter
708762-001	Intel Core i3-3380M (2.9GHz), 1600MHz (3MB L3, Dual 35W) processor
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
710418-001	Mediatek MT7630E 802.11 b/g/n 1×1 Wi-Fi and Bluetooth 4.0 combo adapter

Spare part number	Description
710662-001	Intel Dual Band Wireless-AC 3160 802.11ac 1x1 WiFi + BT 4.0 Combo Adapter
711903-001	Intel Core i5-3230M (2.6GHz), 1600MHz (3MB L3, Dual 35W) processor
713163-001	Intel Core i3-3130M (2.6GHz), 1600MHz (3MB L3, Dual 35W) processor
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 2x2 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)
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)
720234-001	Heat sink for use only on computer models equipped with the Intel HM77 Express chipset and an Nvidia N14P-GV2 (GeForce 740M) 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)

Spare part number	Description
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 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)
720244-291	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 Japan (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-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)

Spare part number	Description
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
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

Spare part number	Description
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
720265-001	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Linux operating system for use only on computer models equipped with a TouchScreen display assembly (includes replacement thermal material)
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)
720266-001	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 Linux 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)
720267-001	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 Linux 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)
720268-001	System board equipped with the Intel HM77 Express chipset, a graphics subsystem with UMA memory, and the Linux operating system for use only on computer models equipped with a non-TouchScreen display assembly (includes replacement thermal material)

Spare part number	Description
720268-501	System board equipped with the Intel HM77 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on computer models equipped with a non-TouchScreen display assembly (includes replacement thermal material)
720268-601	System board equipped with the Intel HM77 Express chipset, a graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on computer models equipped with a non-TouchScreen display assembly (includes replacement thermal material)
720269-001	System board equipped with the Intel HM77 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system for use only on computer models equipped with a non-TouchScreen display assembly (includes replacement thermal material)
720269-501	System board equipped with the Intel HM77 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 non-TouchScreen display assembly (includes replacement thermal material)
720269-601	System board equipped with the Intel HM77 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 non-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	Webcamera/microphone module
720783-001	17.3-in., BV, HD, LED TouchScreen display assembly for use only on HP ENVY TouchSmart m7 Notebook PC computer models
722381-001	Heat sink for use only on computer models equipped with the Intel HM77 Express chipset and a graphics subsystem with UMA memory (includes replacement thermal material)
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 2x2 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

Spare part number	Description
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 1x1 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)
736481-001	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 Linux operating system for use only on computer models equipped with a TouchScreen display assembly and with Leap Motion capability (includes replacement thermal material)
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)
736482-001	System board equipped with the Intel HM87 Express chipset, a graphics subsystem with UMA memory, and the Linux 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)
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)

Spare part number	Description
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)
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)

Spare part number	Description
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)

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			
Event	Relative humidity		
	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 $\pm 10\%$ 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 [Service tag and PCID label on page 6](#) 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:

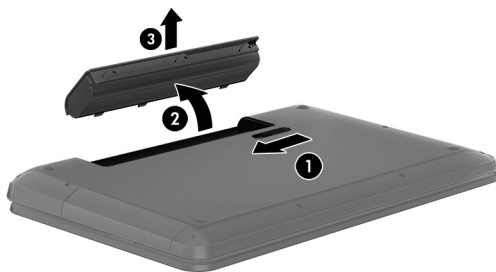
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord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

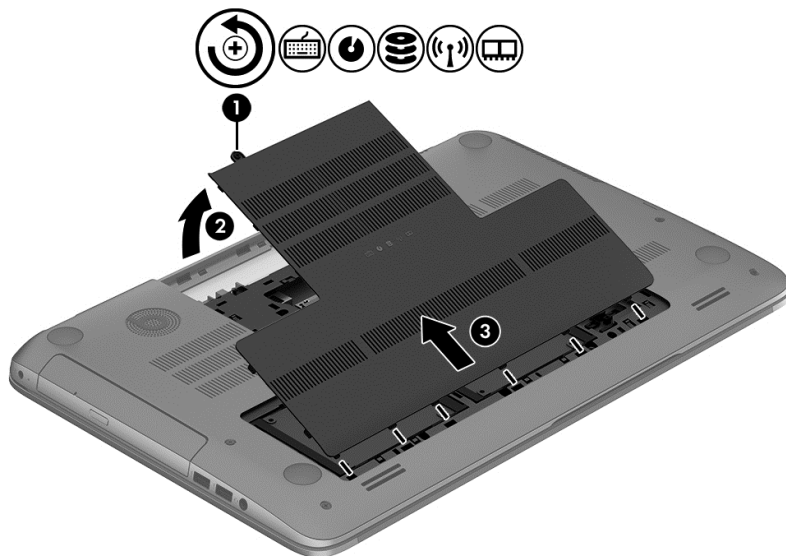
Description	Spare part number
For use on HP ENVY TouchSmart m7 Notebook PC computer models	720255-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly	720254-001

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 46](#)).

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-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
640-GB, 5400-RPM	669300-001
500-GB, 5400-RPM	683802-001
500-GB, 5400-RPM hybrid	732000-001

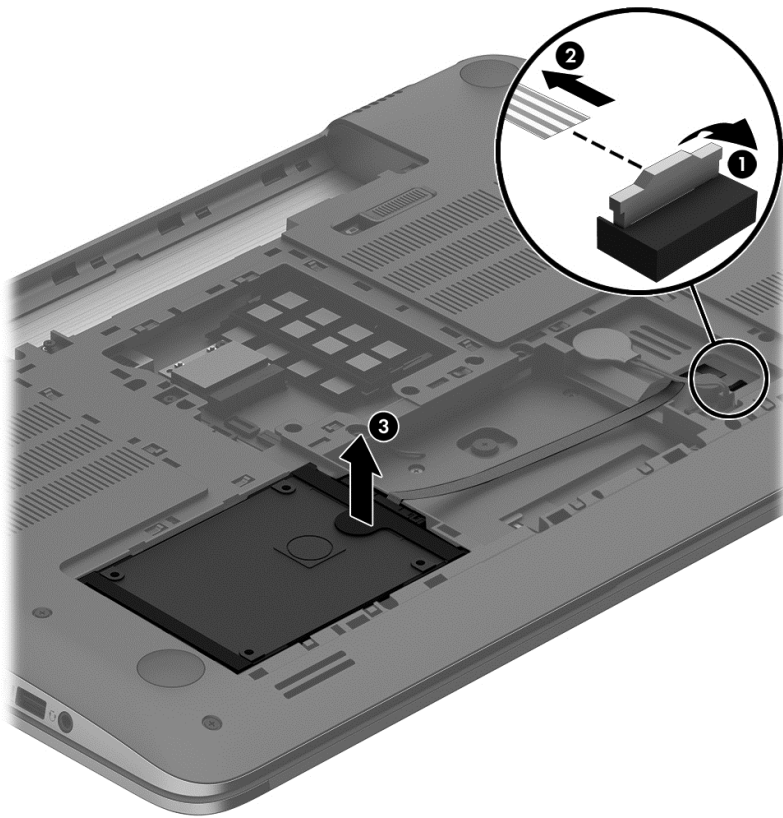
Before removing the primary hard drive or secondary hard drive (select models only), follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

Remove the primary hard drive:

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

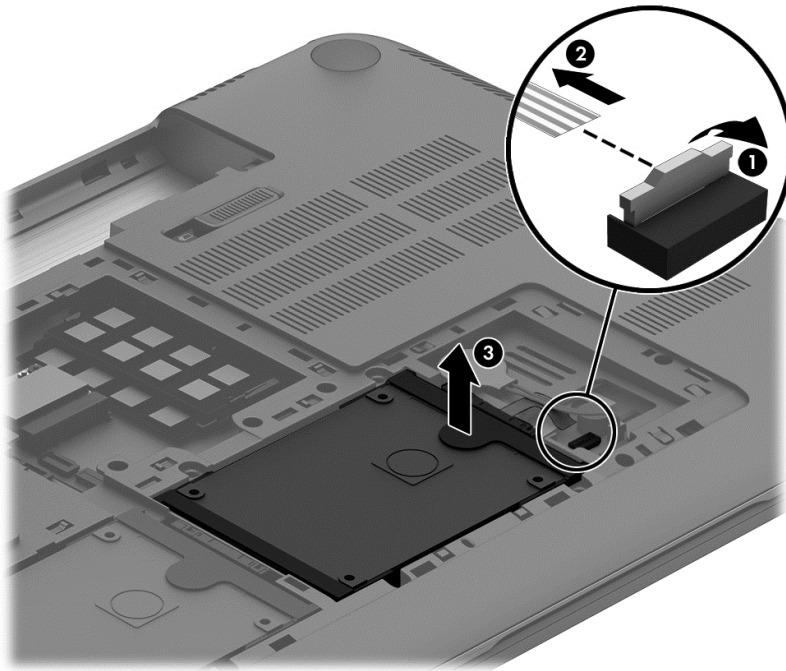
2. Use the tab to remove the hard drive from the hard drive bay **(3)**.



Remove the secondary hard drive (select models only):

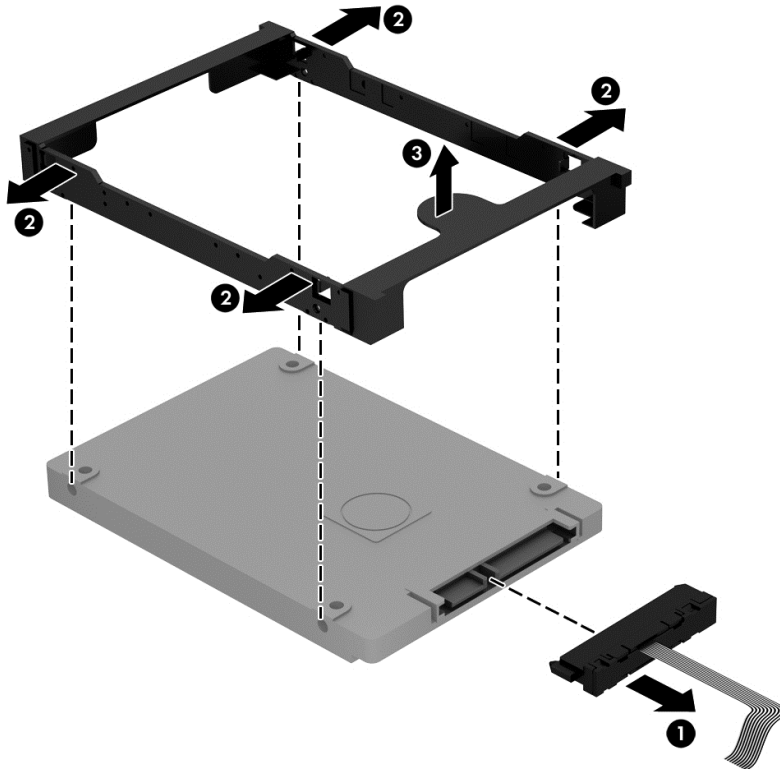
1. Disconnect the hard drive cable from the system board **(1)**, and then remove it **(2)**.

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:

- ▲ Remove the hard drive cable (1), and then remove the hard drive bracket (2).



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:

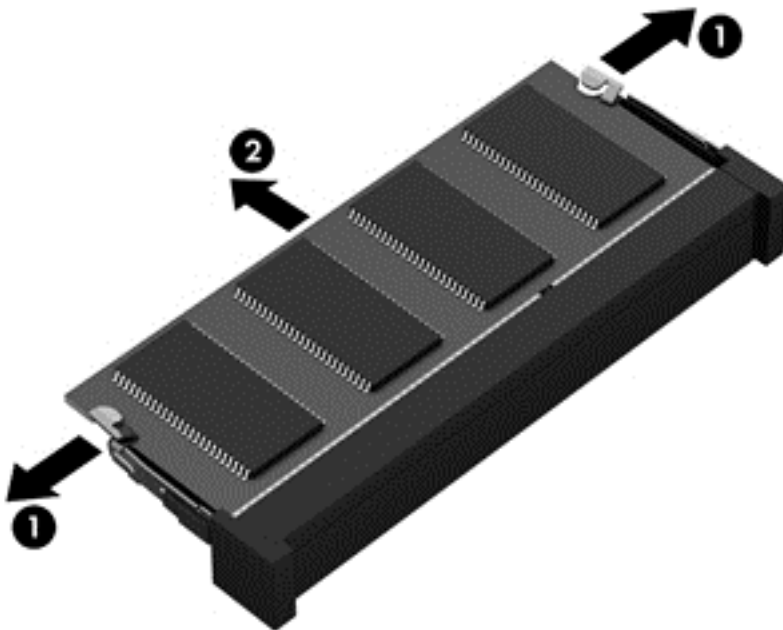
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

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 2x2 Wi-Fi + BT 4.0 Combo Adapter	724935-001
Intel Centrino Advanced-N 6235 WLAN module	670290-001
Intel Dual Band Wireless-AC 3160 802.11ac 1x1 Wi-Fi + BT 4.0 Combo Adapter	710662-001
Intel Wireless-N 7260BN 802.11b/g/n 2x2 Wi-Fi + BT 4.0 Combo Adapter	717384-001
Mediatek MT7630E 802.11b/g/n 1x1 Wi-Fi and Bluetooth 4.0 Combo Adapter	710418-001
Qualcomm Atheros AR9565 802.11b/g/n 1x1 Wi-Fi + BT 4.0 Combo Adapter	733476-001
Qualcomm Atheros AR9485GN 802.11b/g/n 1x1 Wi-Fi Combo Adapter	675794-001
Ralink RT3290LE 802.11b/g/n 1x1 Wi-Fi Bluetooth 4.0 Combo Adapter	690020-001
Realtek RTL 8188EE 802.11b/g/n 1x1 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.

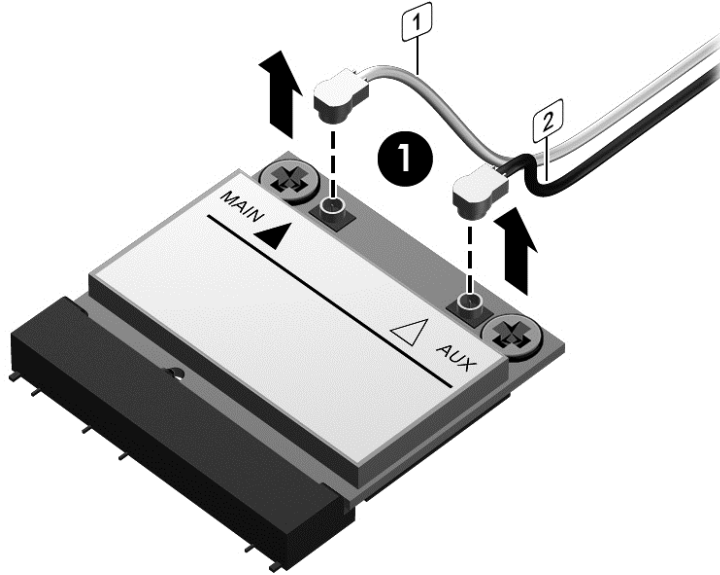
Before removing the WLAN module, follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

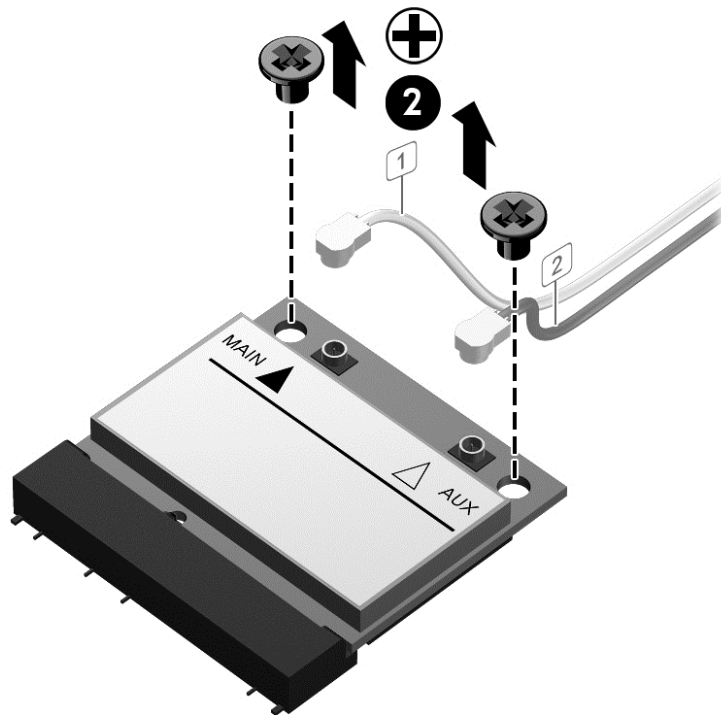
Remove the WLAN module:

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

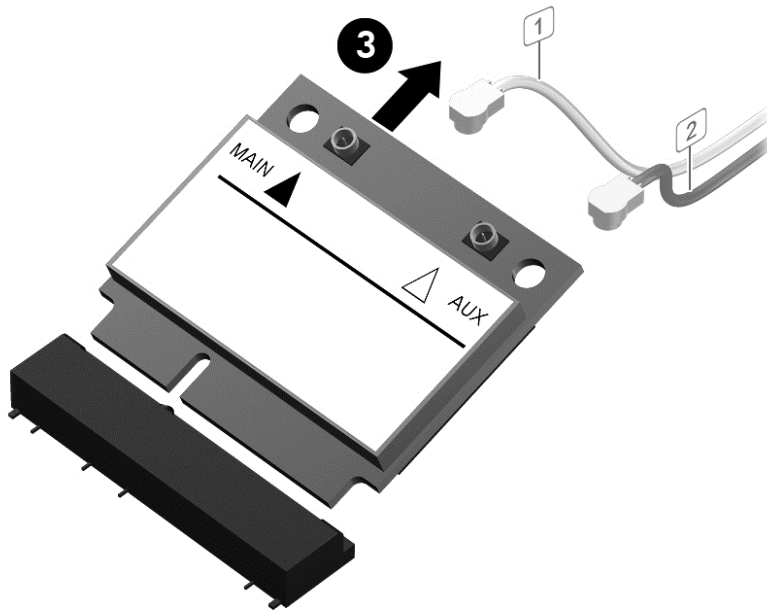
 **NOTE:** The #1 WLAN antenna cable is connected to the WLAN module #1 main terminal. The #2 WLAN antenna cable is connected to the WLAN module #2 auxiliary terminal.




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

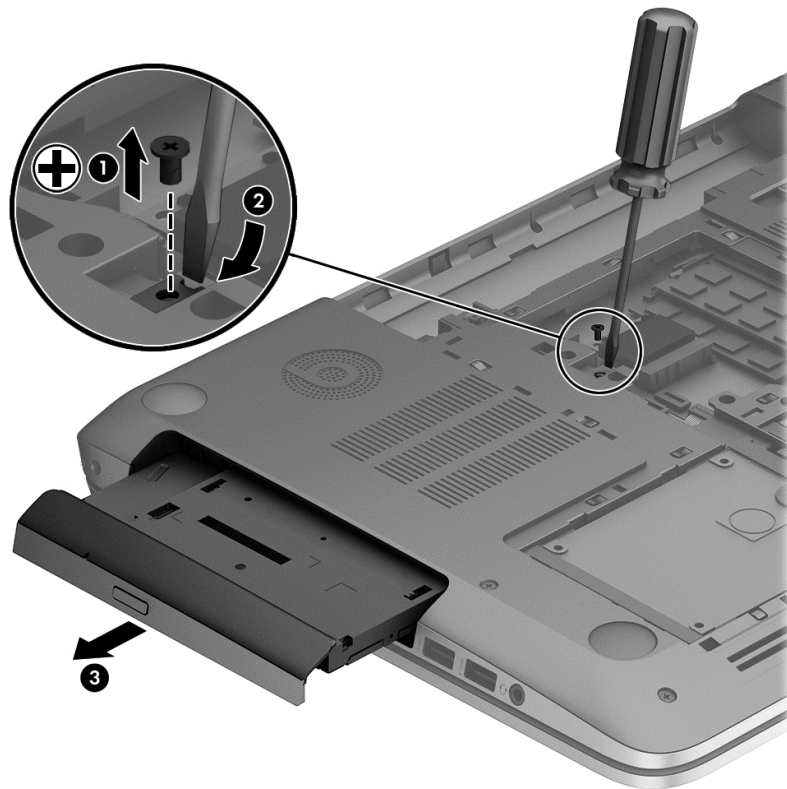
Before removing the optical drive, follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

Remove the optical drive:

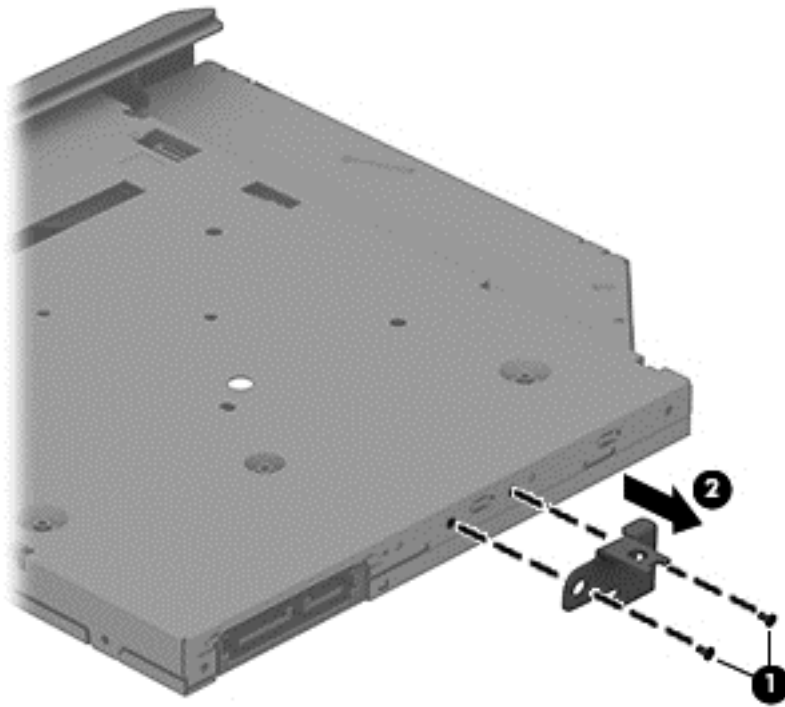
1. Remove the screw **(1)** that secures the optical drive to the computer.
2. Use a flat-blade screw driver or similar tool to press on the optical drive bracket tab **(2)** to release the optical drive.

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 [Service tag and PCID label on page 6](#) 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.

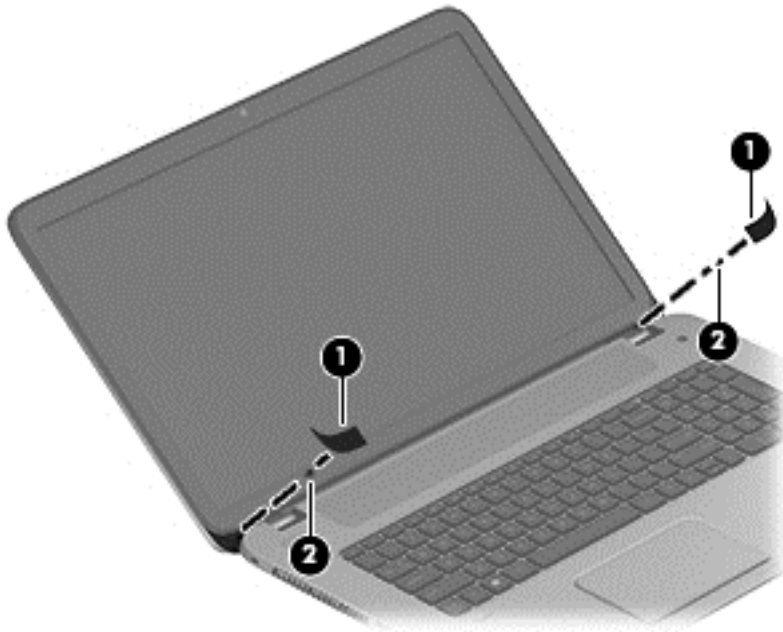
Before removing the display panel, follow these steps:

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 46](#)).


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.



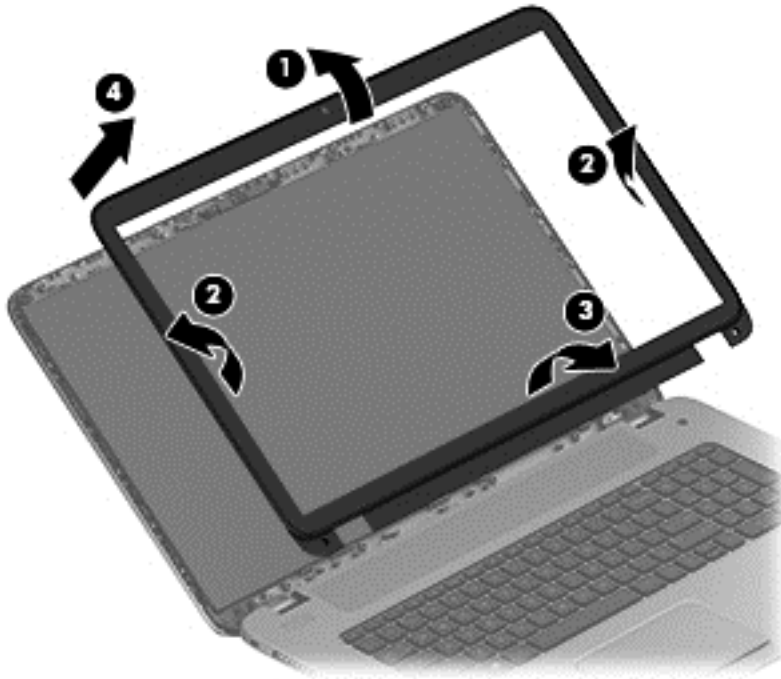
3. Remove the 2 screws **(2)** on the left and right hinges that secure the display panel to the computer.

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

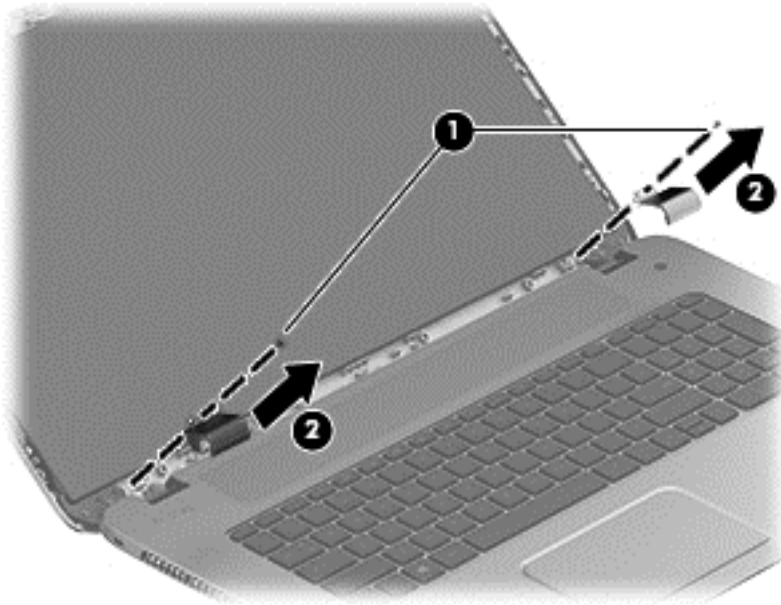
4. Loosen the edges of the plastic bezel cover **(3)** from all four sides of the display panel.

5. Lift the display bezel **(4)**, and then remove the bezel **(5)**.


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

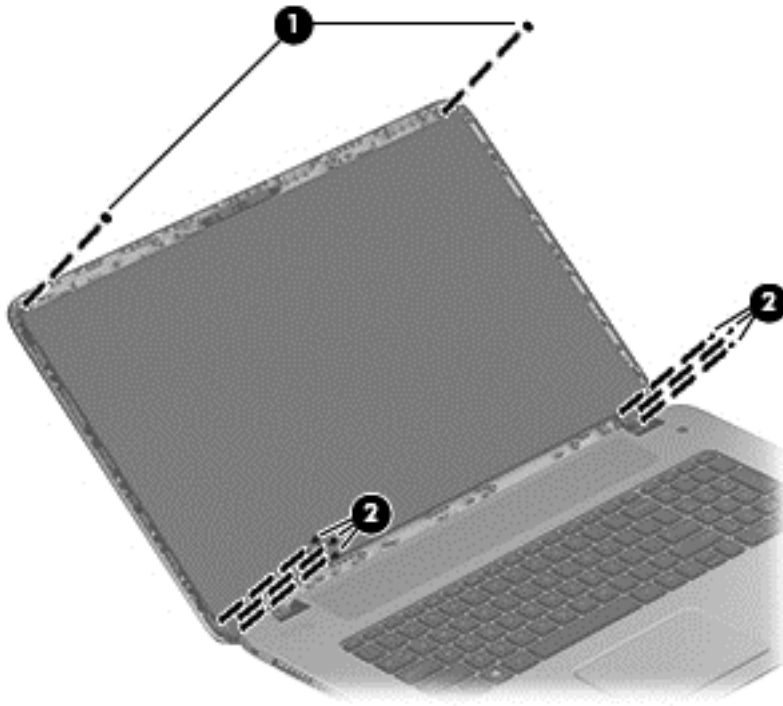


6. Remove the display hinge covers **(1)**, 1 screw per hinge.

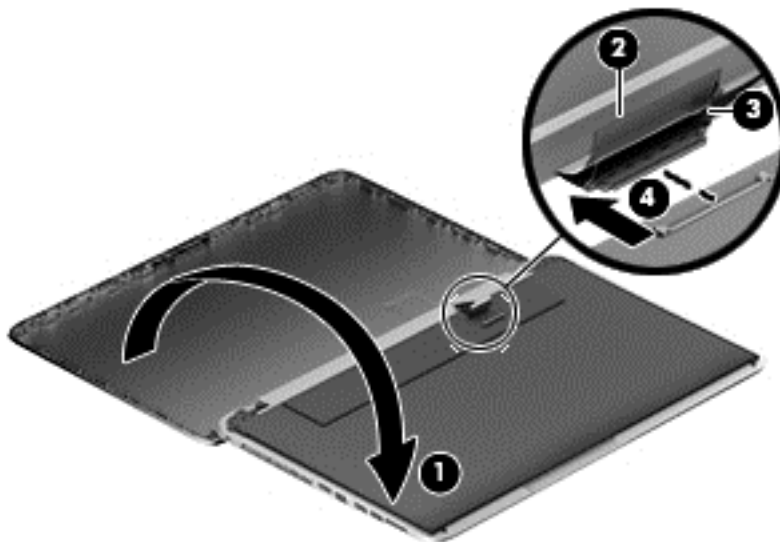


7. Remove the 6 display panel screws (2 on the top and 6 on the bottom).

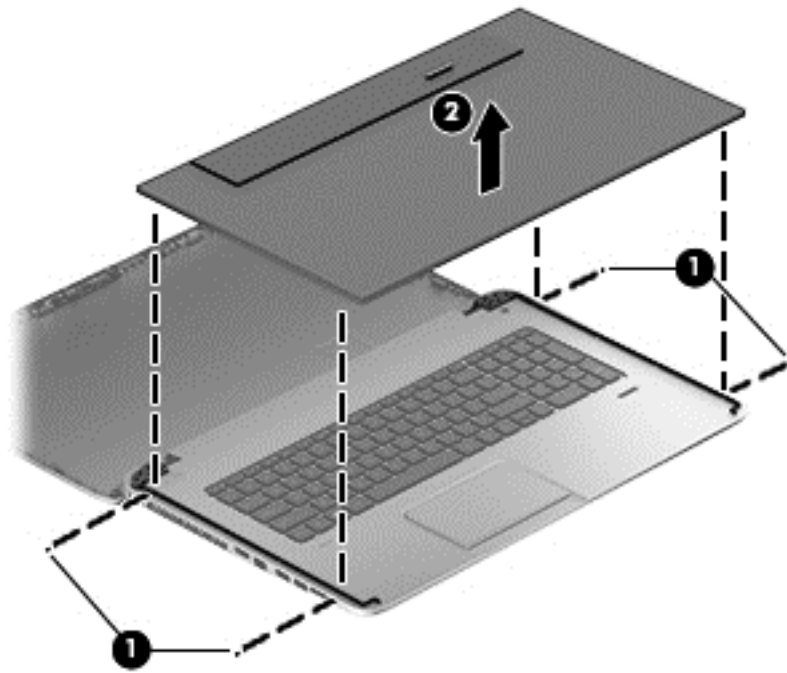
 **NOTE:** Remove any tabs or tape adhering to the display panel.



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

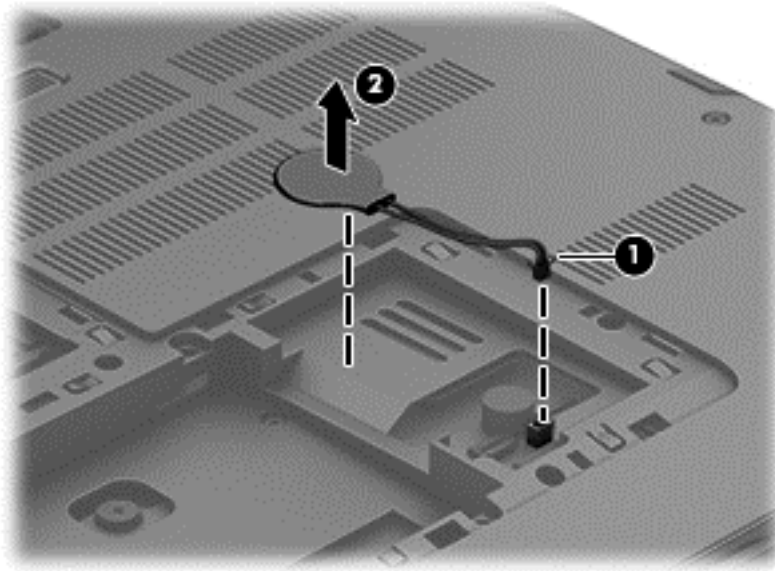
Description	Spare part number
RTC battery	651948-001

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

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 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

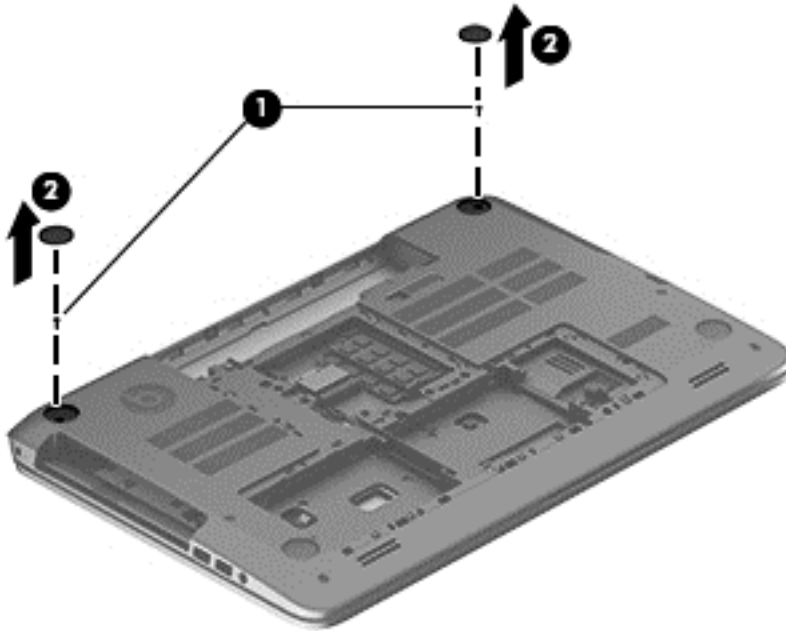
Description	Spare part number
For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720226-001
Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer models with Leap Motion capability	736476-001
Base enclosure for use only on HP ENVY TouchSmart 17 Notebook PC computer 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:

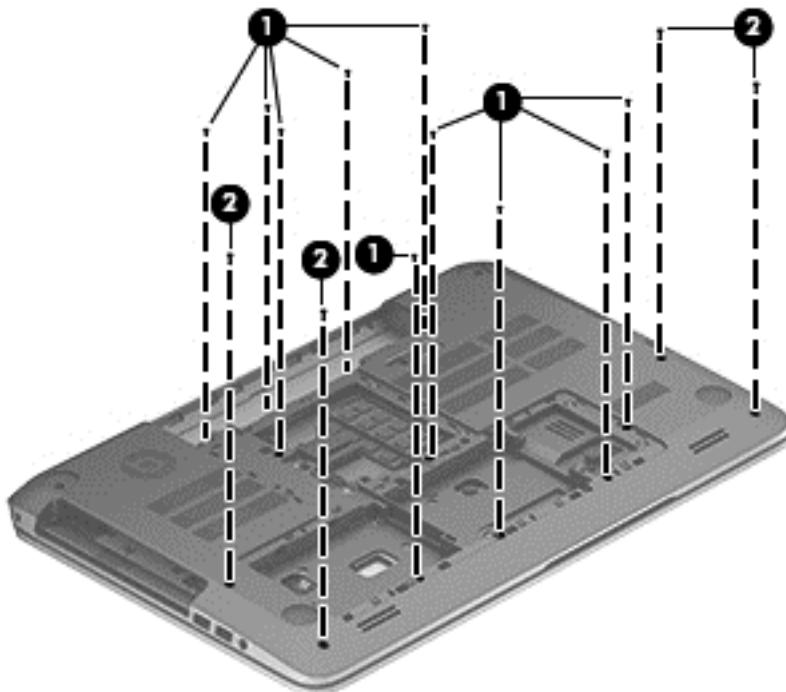
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).
6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).

Remove the base enclosure:

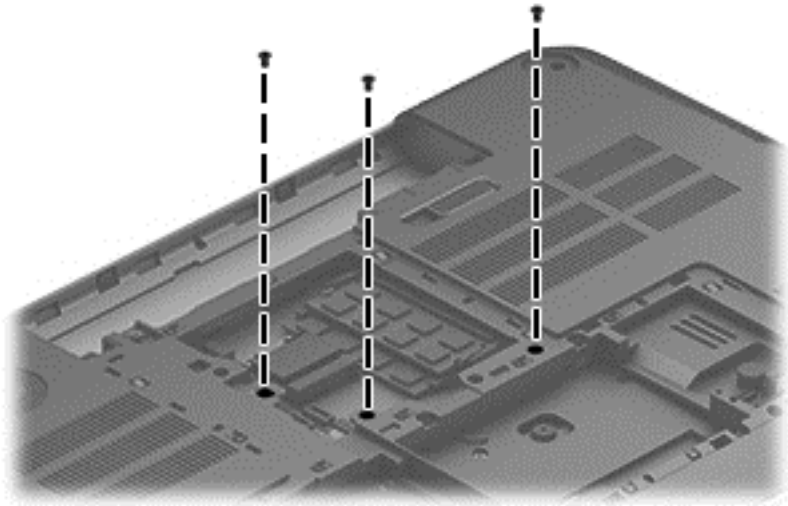
1. Turn the computer face down, and remove the rubber feet **(1)** and the 2 screws **(2)**.



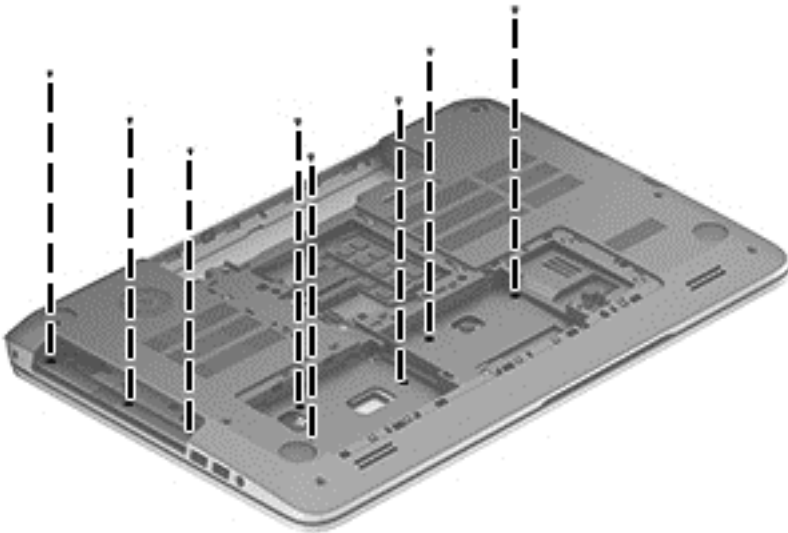
2. Remove 10 2.5x4-MM screws **(1)**, and then remove 4 screws from the left and right sides of the base enclosure **(2)**.



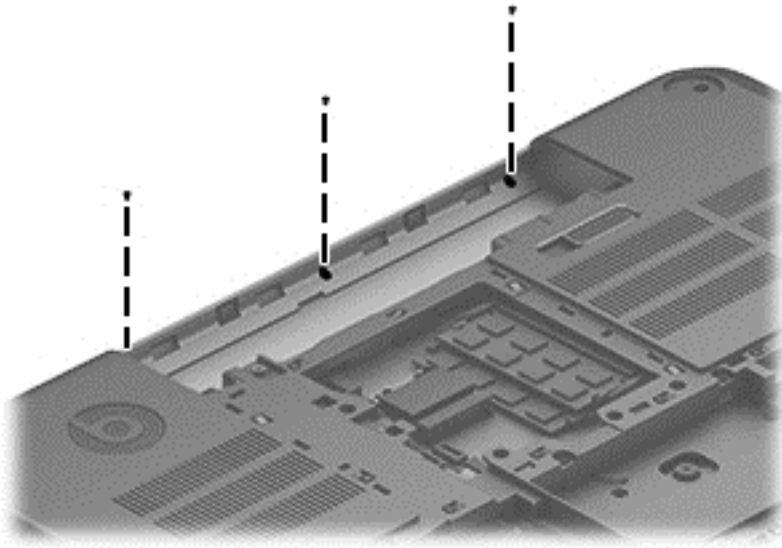
3. Remove 3 2x5-MM screws around the memory module area.



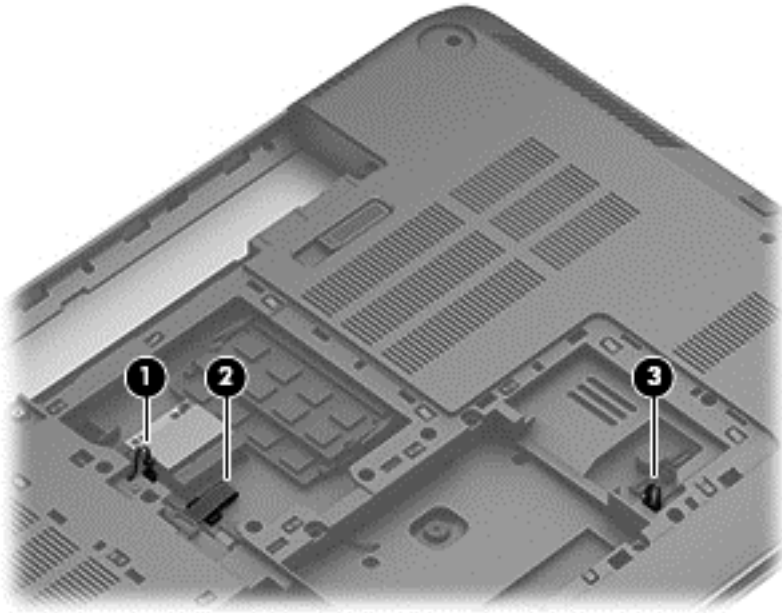
4. Remove 3 2x3-MM screws from the optical drive bay, and then remove 5 2x3-MM screws from the hard drive bays.




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

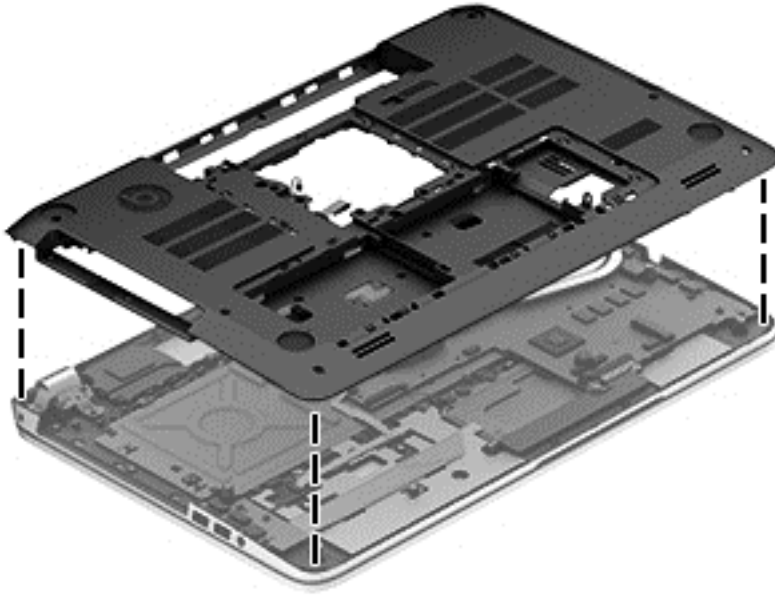


6. Disconnect the subwoofer cable (1), the optical drive cable (2), and the front speaker cable (3) from the system board.



7. Remove the base enclosure.

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



Front speakers

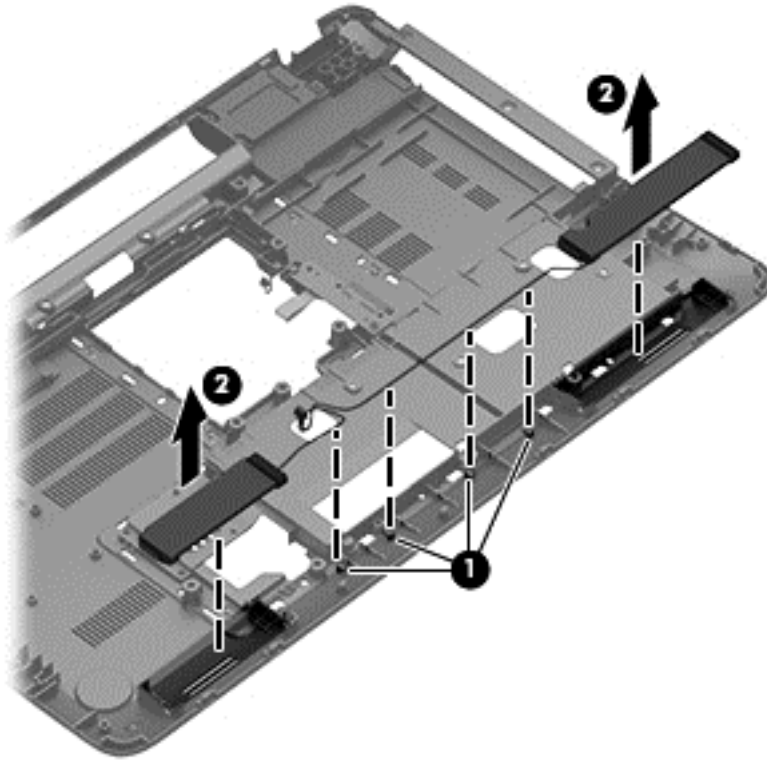
Description	Spare part number
Front speaker Kit (includes left and right speakers and cable)	720262-001

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).
6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).


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.

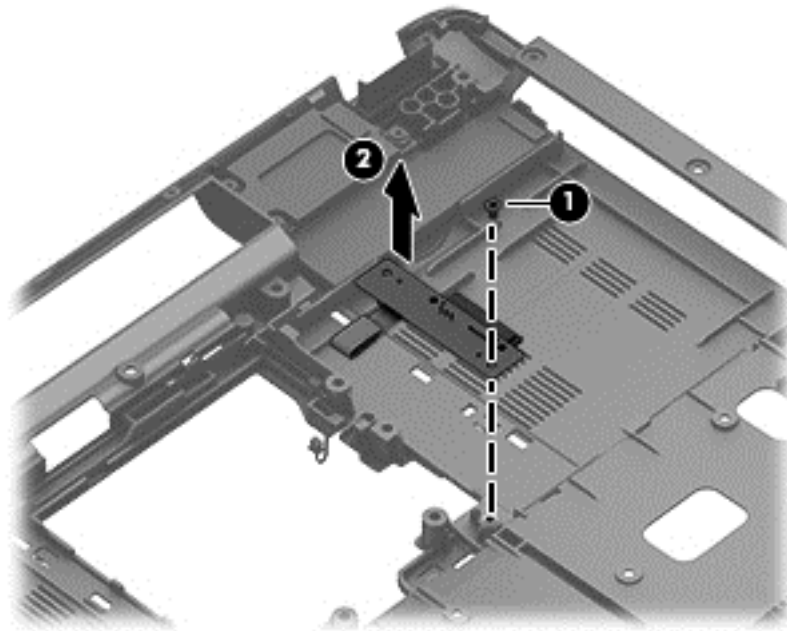
Before removing the optical drive connector board, follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).
6. Remove the hard drive (see [Hard drive on page 48](#)).

7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).

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

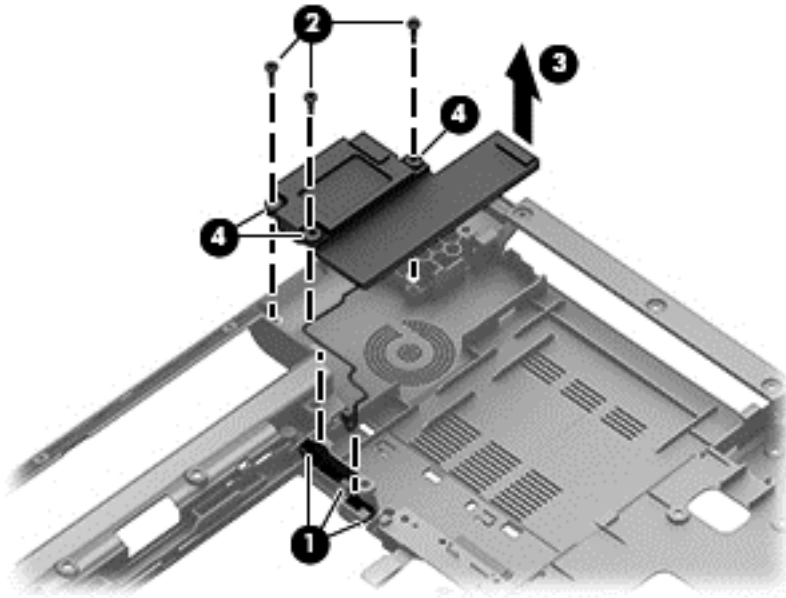
Before removing the subwoofer, follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).

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

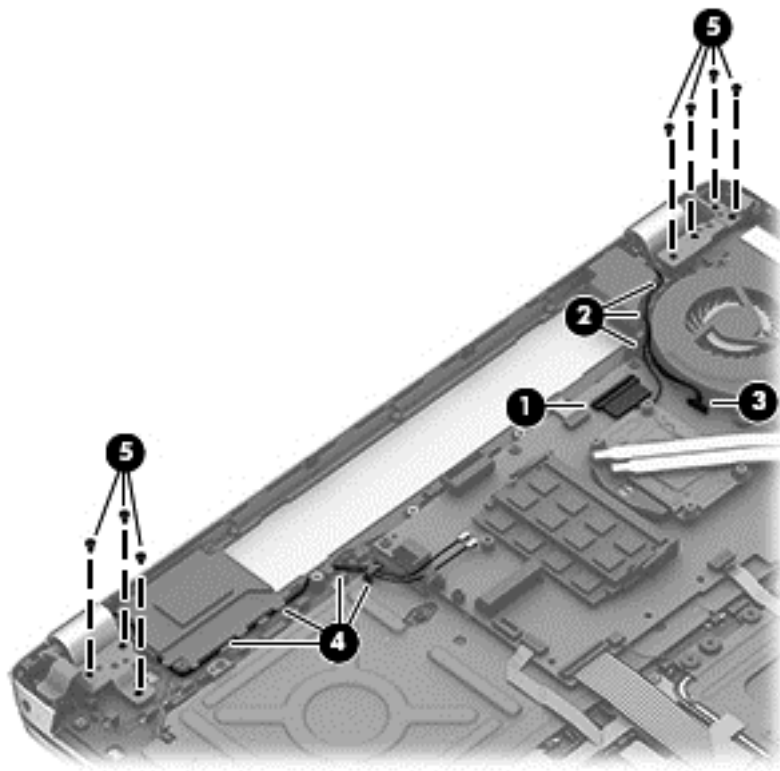
Description	Spare part number
Display hinges (including covers and brackets)	720238-001
For use only on HP ENVY TouchSmart m7 Notebook PC computer models	720272-001
For use on HP ENVY TouchSmart 17 Notebook PC computer models and computer models equipped with a non-TouchScreen display assembly with Leap 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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).
10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).

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

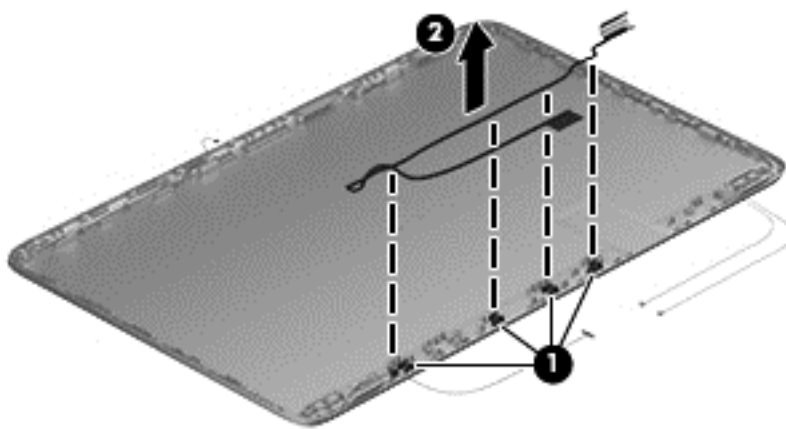
Description	Spare part number
Display panel cable	720229-001

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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).
10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).
12. Remove the top cover (see [Display hinges and top cover on page 72](#)).

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

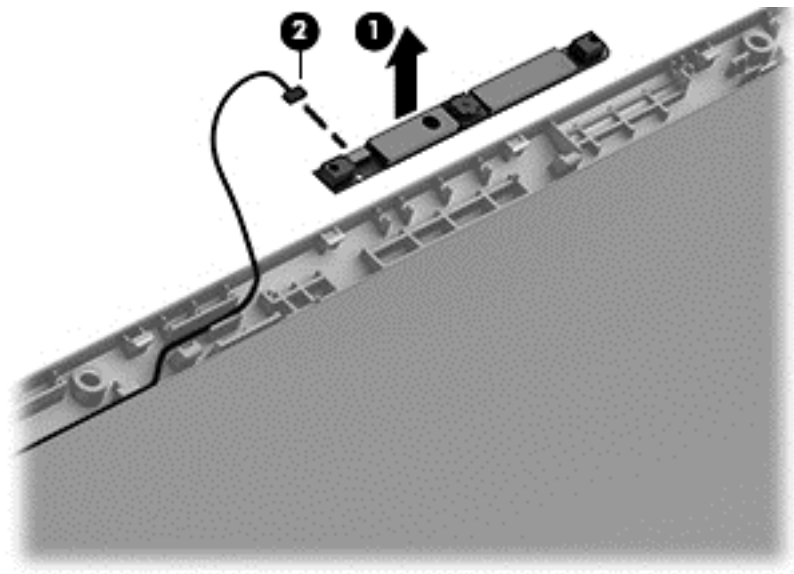
Description	Spare part numbers
Webcamera/microphone module	720273-001
Webcamera/microphone module cable	720229-001

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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).
10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).
12. Remove the top cover (see [Display hinges and top cover on page 72](#)).

Remove the webcamera/microphone module:

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



Reverse this procedure to install the webcam/microphone module.

WLAN antenna cables

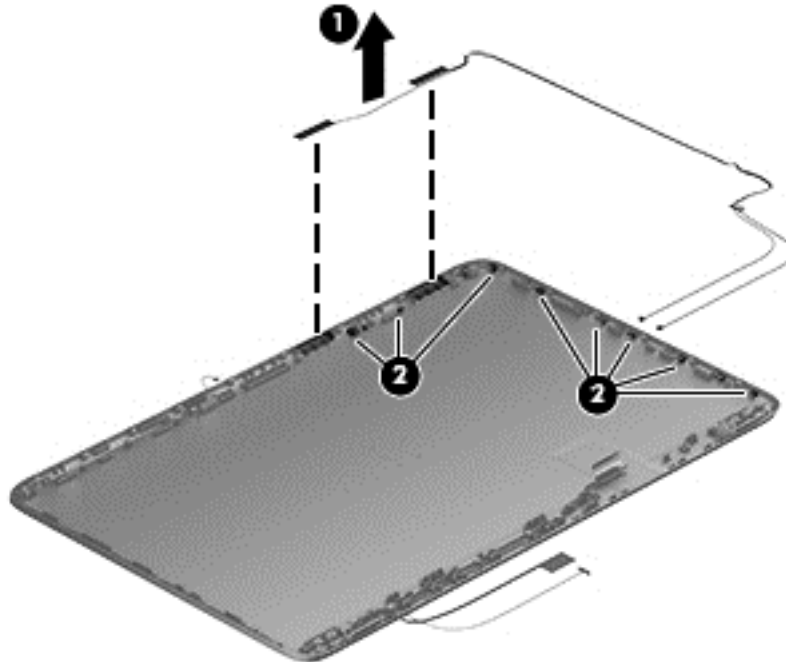
Description	Spare part numbers
WLAN antenna cables	720222-001

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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).
10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).
12. Remove the top cover (see [Display hinges and top cover on page 72](#)).

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

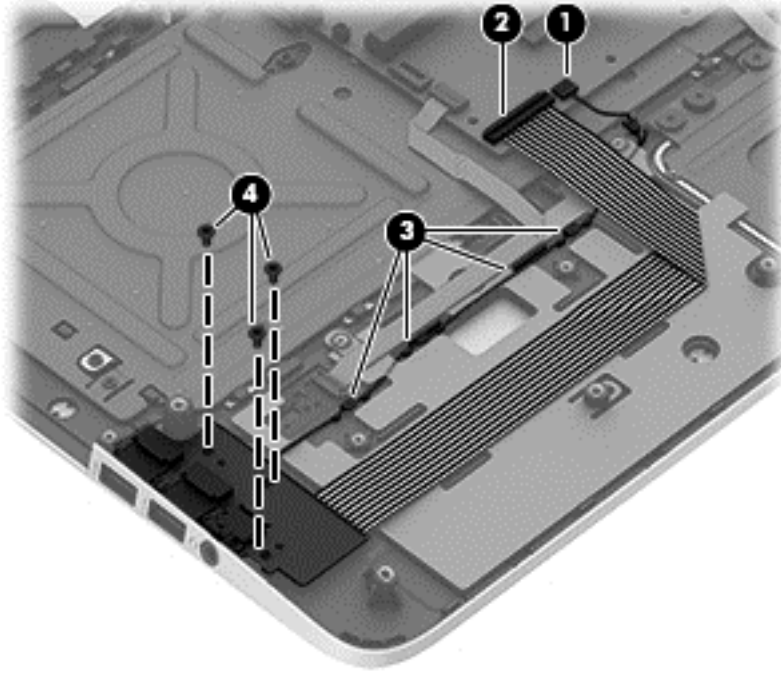
Description	Spare part number
For use only on computer models equipped with a graphics subsystem with discrete memory	724142-001
For use only on computer models with Leap Motion capability	741074-001
For use only on computer models equipped with a graphics subsystem with UMA memory	720251-001

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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).
10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).
12. Remove the front speakers (see [Front speakers on page 68](#)).
13. Remove the subwoofer (see).

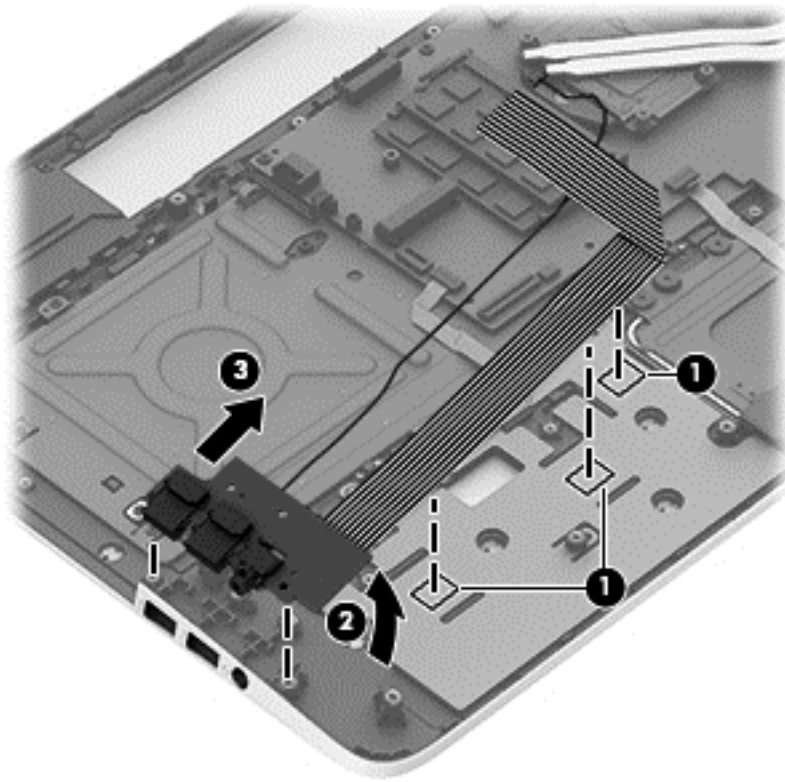
Remove the USB board and cables:

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

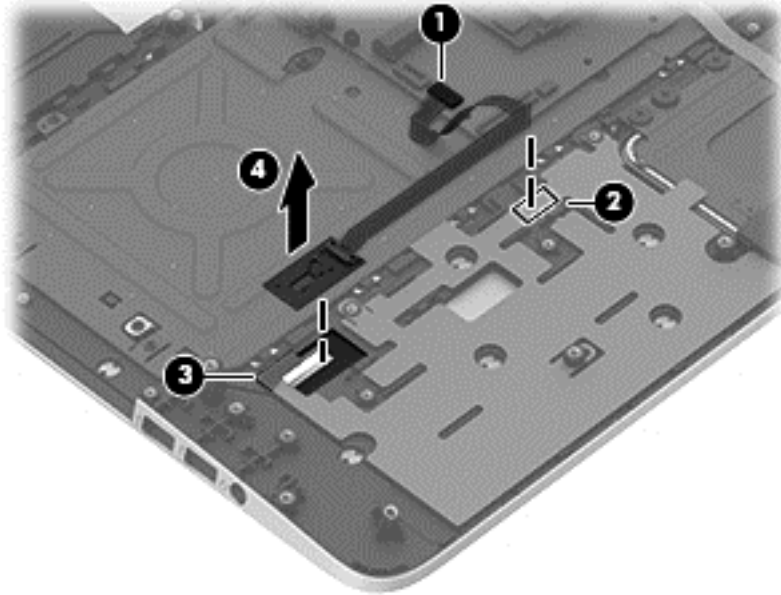
Before removing the Fingerprint reader board, follow these steps:

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 46](#)).
5. Remove the service cover (see [Service cover on page 47](#)).
6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).

8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).

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

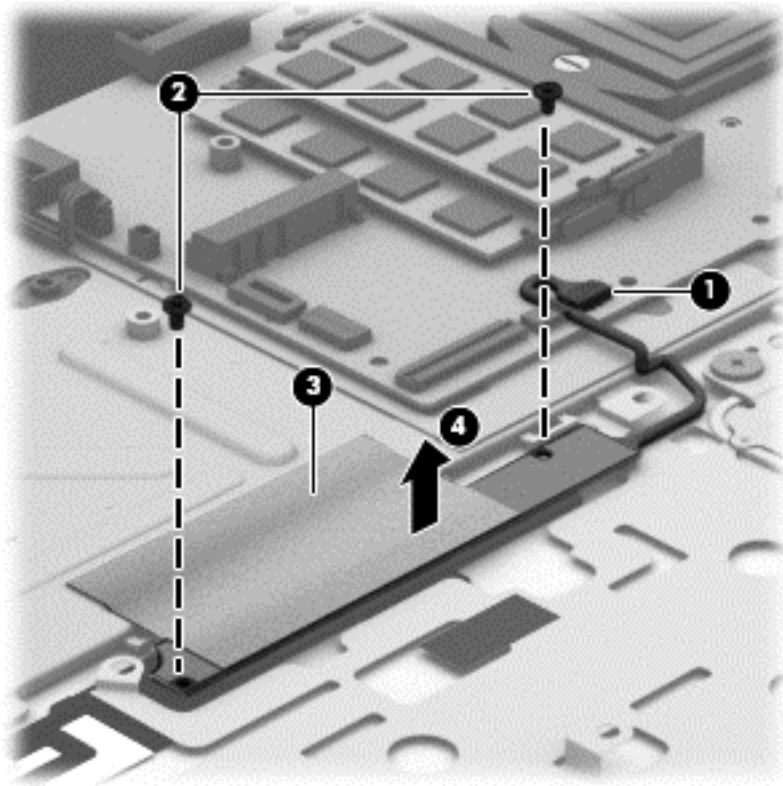
Before removing the Leap Motion module, follow these steps:

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 59](#)).
5. Remove the service cover (see [Service cover on page 47](#)).

6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).
11. Remove the USB board (see [USB board on page 79](#)).
12. Remove the fingerprint reader module (see [Fingerprint reader board on page 81](#)).

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

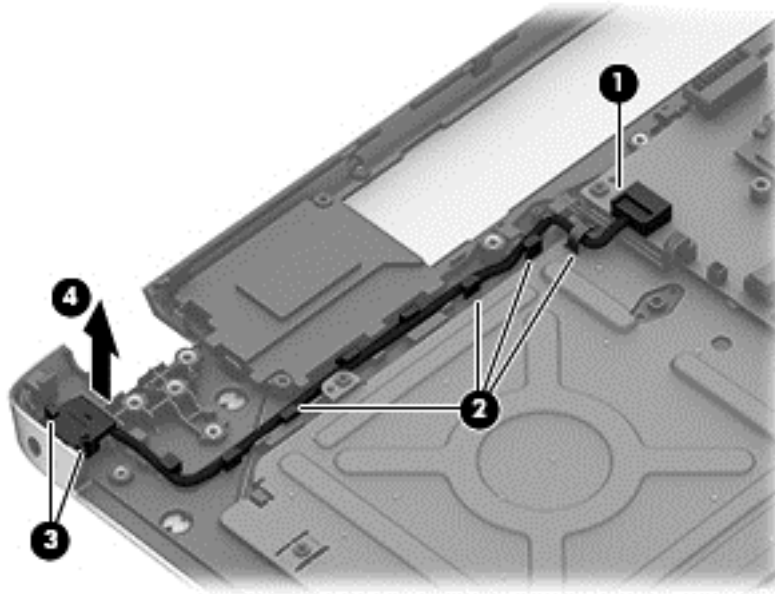
Before removing the power connector cable, follow these steps:

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 59](#)).
5. Remove the service cover (see [Service cover on page 47](#)).
6. Remove the hard drive (see [Hard drive on page 48](#)).
7. Remove the memory modules (see [Memory modules on page 51](#)).
8. Remove the WLAN module (see [WLAN module on page 52](#)).
9. Remove the optical drive (see [Optical drive on page 55](#)).
10. Remove the base enclosure (see [Base enclosure on page 64](#)).

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

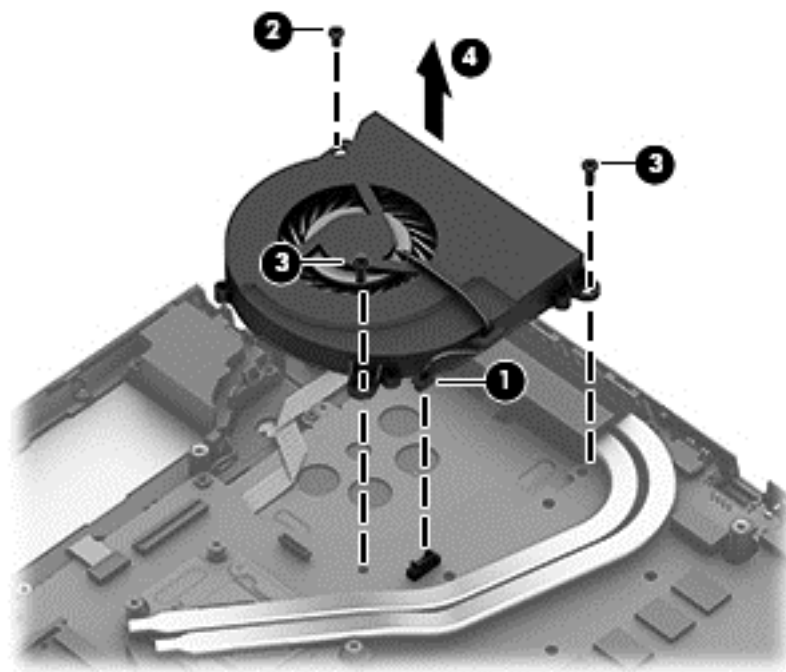
Before removing the fan:

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 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the memory modules (see [Memory modules on page 51](#)).
9. Remove the WLAN module (see [WLAN module on page 52](#)).

10. Remove the optical drive (see [Optical drive on page 55](#)).
11. Remove the base enclosure (see [Base enclosure on page 64](#)).


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 4-GB of discrete memory, and the Linux operating system for use only on computer models equipped with Leap Motion capability	736481-001

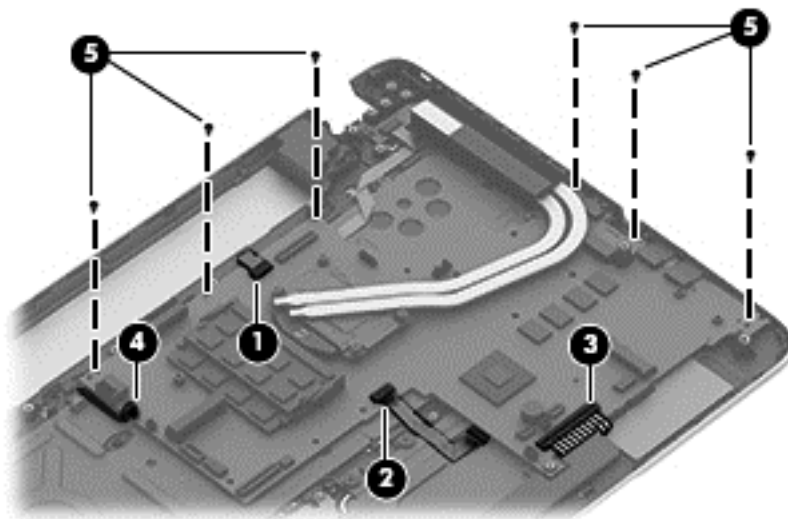
Description	Spare part number
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720267-601
Equipped with the Intel HM87 Express chipset, the Nvidia N14P-GT (GeForce 750M) graphics 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-GT (GeForce 750M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720267-001
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, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720266-001
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 Linux operating system for use only on computer models equipped with Leap Motion capability	736482-001
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 Linux operating system	720265-001
Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Professional operating system	720269-601
Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Windows 8 Standard operating system	720269-501
Equipped with the Intel HM77 Express chipset, the Nvidia N14P-GV2 (GeForce 740M) graphics subsystem with 2-GB of discrete memory, and the Linux operating system	720269-001
Equipped with the Intel HM77 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	720268-601
Equipped with the Intel HM77 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	720268-501
Equipped with the Intel HM77 Express chipset, a graphics subsystem with UMA memory, and the Linux operating system for use only on computer models equipped with Leap Motion capability	720268-001

Before removing the system board, follow these steps:

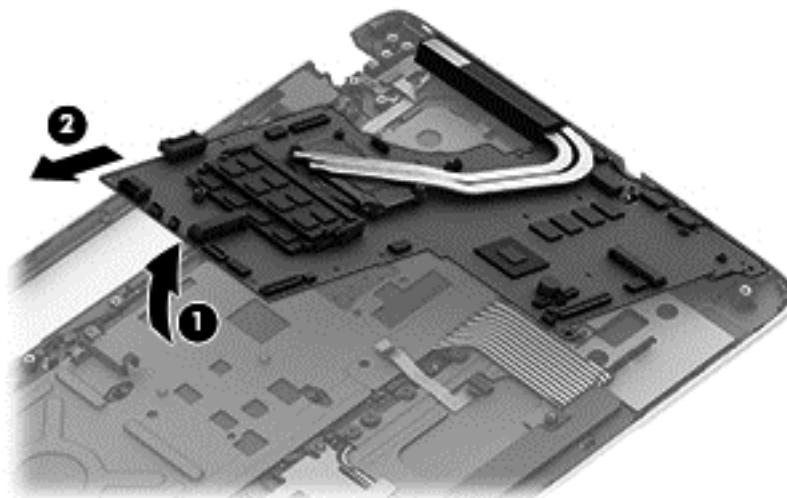
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 46](#)).
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see RTC battery (see [RTC battery on page 63](#))).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).

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)**.



- 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
For use only on computer models equipped with the Intel HM77 Express chipset and an Nvidia N14P-GV2 (GeForce 740M) graphics subsystem	720234-001
For use only on computer models equipped with the Intel HM77 Express chipset and a graphics subsystem with UMA memory	722381-001

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.

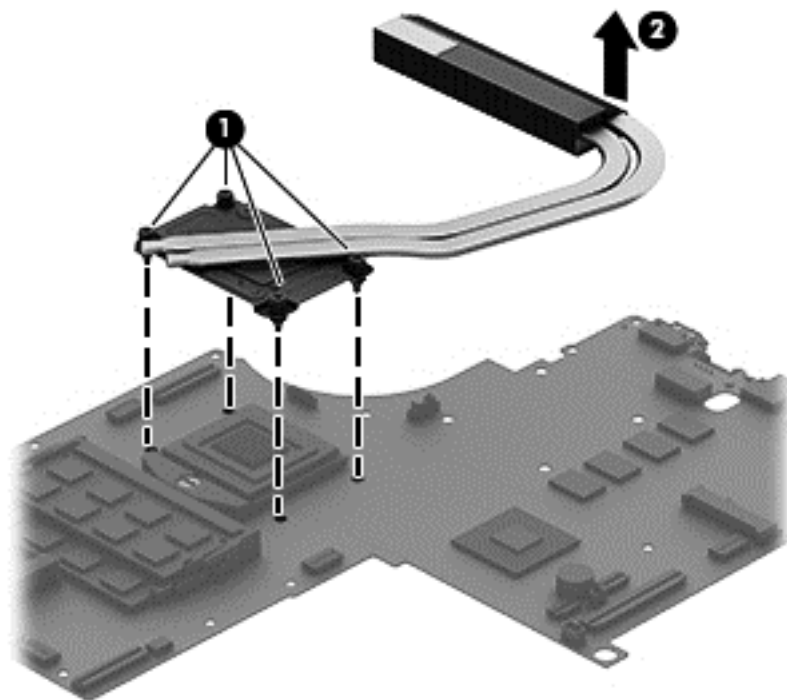
Before removing the heat sink, follow these steps:

- 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.
- 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 46](#)),
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see RTC battery (see [RTC battery on page 63](#))).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).
13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).

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
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 i5-3230M 2.60-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	711903-001
Intel Dual Core i3-4000M 2.40-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	737327-001
Intel Dual Core i3-3380M 2.90-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	708762-001
Intel Dual Core i3-3120M 2.50-GHz processor (1600-MHz FSB, 3.0-MB L3 cache, 37 W)	700627-001

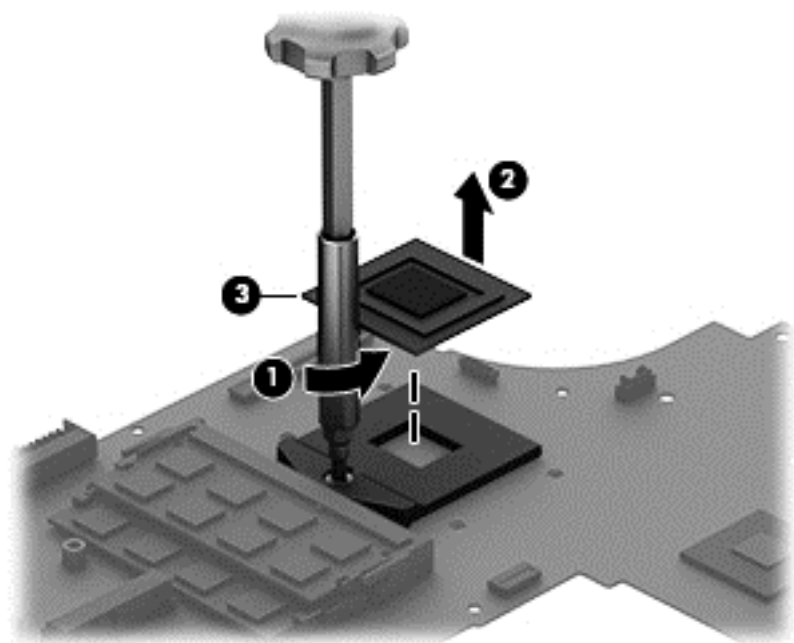
Before removing the processor, follow these steps:

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 46](#)),
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see [RTC battery on page 63](#)).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).

13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).
15. Remove the heat sink (see [Heat sink on page 89](#)).

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 country or region:	Spare part number:	For use in country or region:	Spare part number:
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 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
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		

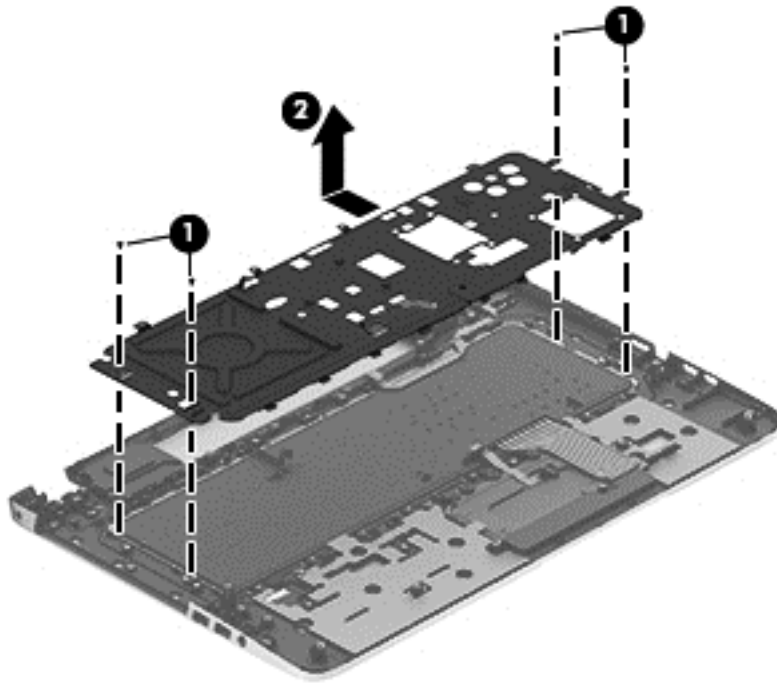
Before removing the keyboard, follow these steps:

- 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 46](#)),

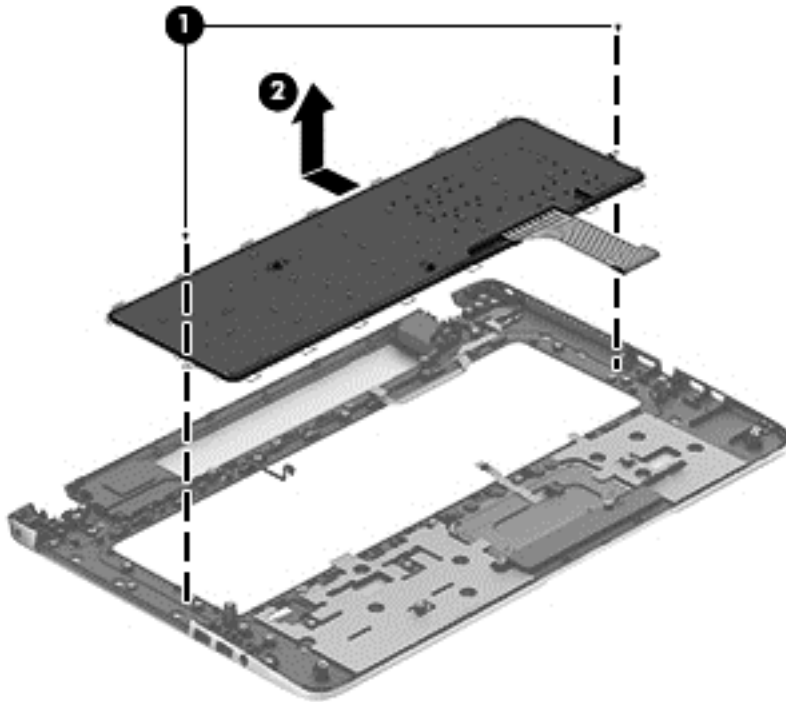
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see RTC battery (see [RTC battery on page 63](#))).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).
13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).

Remove the keyboard:

1. Release the power button board cable.
2. Remove the 6 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

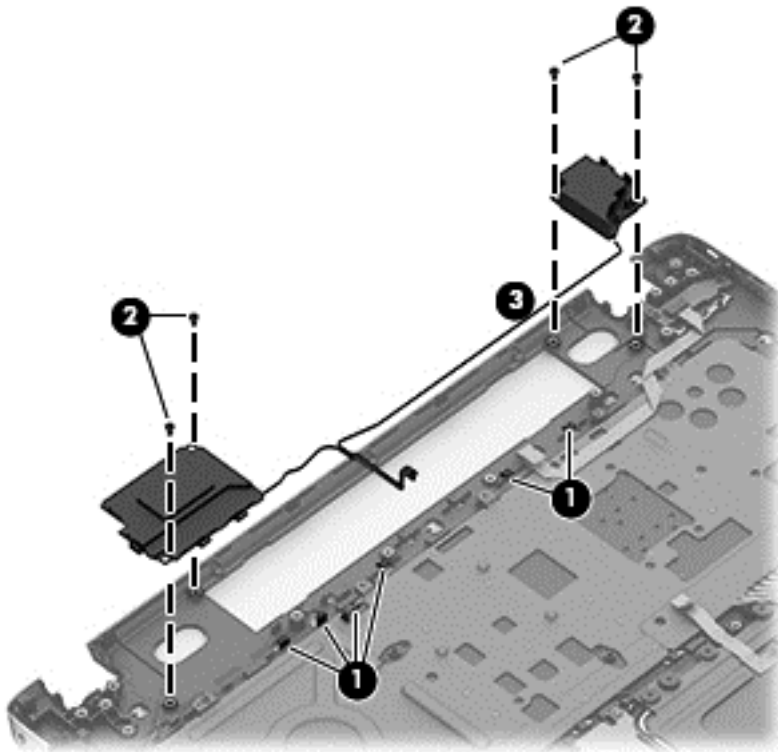
Before removing the rear speakers, follow these steps:

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 46](#)),
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see [RTC battery on page 63](#)).

9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).
13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).
15. Remove the keyboard (see [Keyboard on page 92](#)).

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:

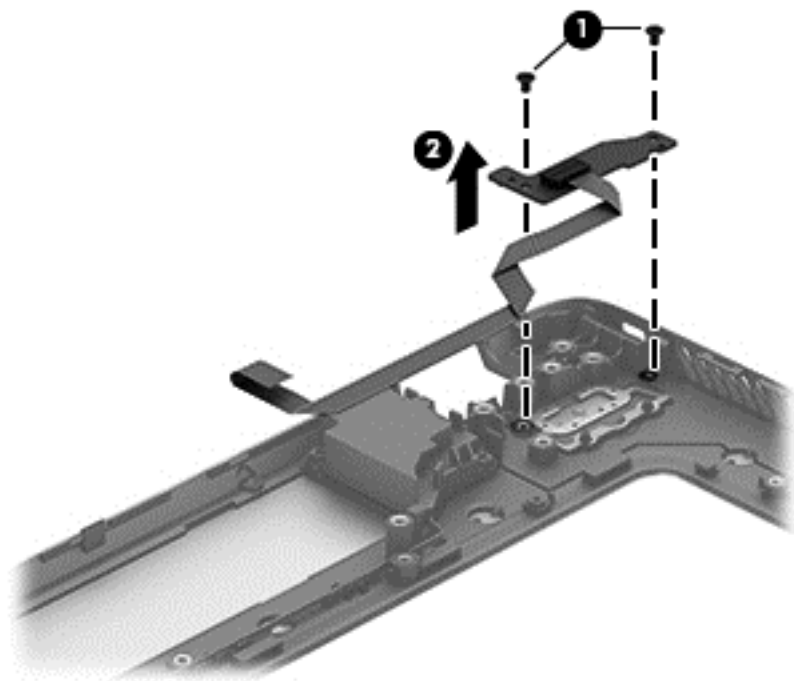
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 46](#)),
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).
7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see [RTC battery on page 63](#)).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).
13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).
15. Remove the keyboard (see [Keyboard on page 92](#)).

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

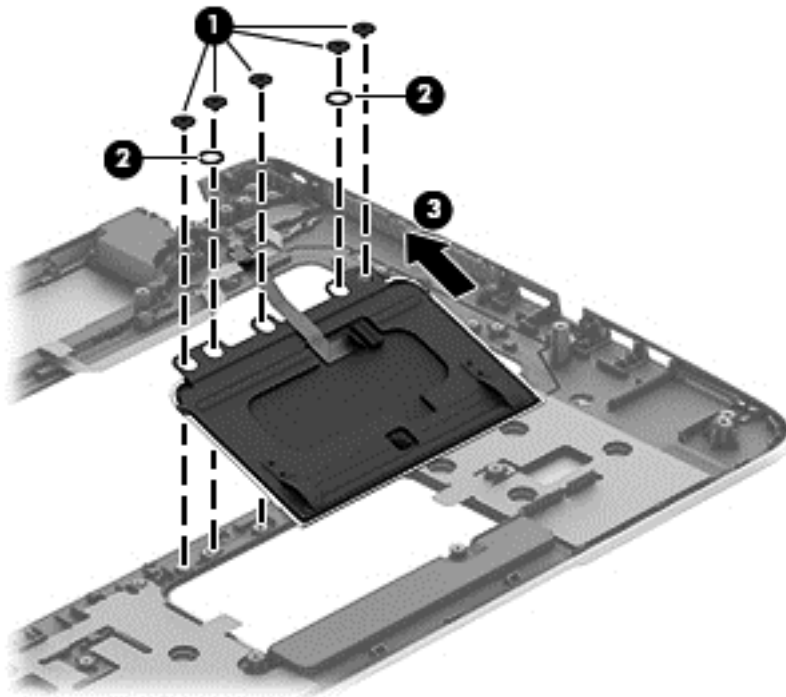
Before removing the TouchPad button board, follow these steps:

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 46](#)),
5. Remove the display panel (see [Display panel on page 59](#)).
6. Remove the service cover (see [Service cover on page 47](#)).

7. Remove the hard drive (see [Hard drive on page 48](#)).
8. Remove the RTC battery (see [RTC battery on page 63](#)).
9. Remove the memory modules (see [Memory modules on page 51](#)).
10. Remove the WLAN module (see [WLAN module on page 52](#)).
11. Remove the optical drive (see [Optical drive on page 55](#)).
12. Remove the base enclosure (see [Base enclosure on page 64](#)).
13. Remove the fan (see [Fan on page 85](#)).
14. Remove the system board (see [System board on page 86](#)).
15. Remove the keyboard (see [Keyboard on page 92](#)).

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 3 Phillips PM 2.5×3.0 screws **(1)** and the 2 Phillips PM 2.5×3.0 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 Setup Utility (BIOS) and System Diagnostics

Windows 8 – Computer Setup (BIOS) and Advanced System Diagnostics

Using Setup Utility

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**.

Information about how to navigate in Setup Utility (BIOS) is located at the bottom of the screen.



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

Updating the BIOS

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

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

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


Determining the BIOS version

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

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

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

Downloading a BIOS update

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


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

Do not shut down the computer or initiate Sleep.

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

1. From the Start screen, select the **HP Support Assistant** app.
2. Click **Updates and tune-ups**, and then click **Check for HP updates now**.
3. Follow the on-screen instructions.
4. At the download area, follow these steps:
 - a. Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. If the update is more recent than your BIOS, make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.
 - b. Follow the on-screen instructions to download your selection to the hard drive.

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

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

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

1. From the Start screen, type **e**, and then select **File Explorer**.
2. Click your hard drive designation. The hard drive designation is typically Local Disk (C:).
3. Using the hard drive path you recorded earlier, open the folder on your hard drive that contains the update.

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

The BIOS installation begins.

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



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

Using System Diagnostics

System Diagnostics allows you to run diagnostic tests to determine if the computer hardware is functioning properly.

To start System Diagnostics:

1. Turn on or restart the computer, quickly press **esc**, and then press **f2**.
2. Click the diagnostic test you want to run, and then follow the on-screen instructions.



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

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	
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-TB*	750-GB*	500-GB*
Dimensions			
Height	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm
Weight	107 g	115 g	101 g
Interface type			
	SATA	SATA	SATA
Transfer rate			
	145 MB/sec	100 MB/sec	100 MB/sec
Security			
	ATA security	ATA security	ATA security
Seek times (typical read, including setting)			
Single track	2.0 ms	1.5 ms	3 ms
Average	12 ms	11 ms	13 ms
Maximum	22ms	14 ms	24 ms
Logical blocks			
	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 Backing up, restoring, and recovering

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

This chapter provides information about the following processes:

- Creating recovery media and backups
- Restoring and recovering your system



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

Creating recovery media and backups

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

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

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

- System Recovery—Reinstalls the original operating system and the programs that were installed at the factory.
- Minimized Image Recovery—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- Factory Reset—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

See [Creating HP Recovery media on page 107](#).

2. As you add hardware and software programs, create 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 system restore point contains information that Windows uses, such as registry settings. Windows creates a system restore point for you automatically during a Windows update and during other system maintenance (such as a software update, security scanning, or system diagnostics). You can also manually create a system restore point at any time. For more information and steps for creating specific system restore points, see Help and Support. From the Start screen, type **h**, and then select **Help and Support**.
3. As you add photos, video, music, and other personal files, create a backup of your personal information. Windows File History can be set to regularly and automatically back up files from libraries, desktop, contacts, and favorites. If files are accidentally deleted from the hard drive and they can no longer be restored from the Recycle Bin, or if files become corrupted, you can restore the files that you backed up using File History. Restoring files is also useful if you ever choose to reset the computer by reinstalling Windows or choose to recover using HP Recovery Manager.



NOTE: File History is not enabled by default, so you must turn it on.

For more information and steps for enabling Windows File History, see Help and Support. From the Start screen, type **h**, and then select **Help and Support**.

Creating HP Recovery media

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

- Only one set of HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
- HP Recovery Manager examines the computer and determines the required storage capacity for the blank USB flash drive or the number of blank DVD discs that will be required.
- To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, or DVD+R DL discs. Do not use rewritable discs such as CD±RW, DVD±RW, double-layer DVD±RW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or instead you can use a high-quality blank USB flash drive.
- If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from the HP website. For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub.

- Be sure that the computer is connected to AC power before you begin creating the recovery media.
- The creation process can take up to an hour or more. Do not interrupt the creation process.
- If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue, and the remaining discs will be burned.

To create HP Recovery media:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.
2. Select **Recovery Media Creation**, and then follow the on-screen instructions.

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 110](#).

Restore and recovery

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

- If you need to restore your personal files and data, you can use Windows File History to restore your information from the backups you created. For more information and steps for using File History, see Help and Support. From the Start screen, type `h`, and then select **Help and Support**.
- If you need to correct a problem with a preinstalled application or driver, use the Drivers and Applications Reinstall option of HP Recovery Manager to reinstall the individual application or driver.

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

- If you want to restore the system to a previous state without losing any personal information, Windows System Restore is an option. System Restore allows you to restore without the requirements of Windows Refresh or a reinstallation. Windows creates system restore points automatically during a Windows update and other system maintenance events. Even if you did not manually create a restore point, you can choose to restore to a previous point, automatically created. For more information and steps for using Windows System Restore, see Help and Support. From the Start screen, type `h`, and then select **Help and Support**.
- If you want a quick and easy way to recover the system without losing your personal information, settings, or apps that came preinstalled on your computer or were purchased from the Windows Store, consider using Windows Refresh. This option does not require backing up data to another drive. See [Using Windows Refresh for quick and easy recovery on page 109](#).
- If you want to reset your computer to its original state, Windows provides an easy way to remove all personal data, apps, and settings, and reinstall Windows.

For more information, see [Remove everything and reinstall Windows on page 109](#).

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


For more information, see [Recovering using HP Recovery Manager on page 110](#).


- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 110](#).
- If you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see [Recovering using HP Recovery Manager on page 110](#).
- If you wish to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.


For more information, see [Removing the HP Recovery partition on page 112](#).

Using Windows Refresh for quick and easy recovery

When your computer is not working properly and you need to regain system stability, the Windows Refresh option allows you to start fresh and keep what is important to you.

 **IMPORTANT:** Refresh removes any traditional applications that were not originally installed on the system at the factory.

 **NOTE:** During Refresh, a list of removed traditional applications will be saved so that you have a quick way to see what you might need to reinstall. See Help and Support for instructions on reinstalling traditional applications. From the Start screen, type **h**, and then select **Help and Support**.

 **NOTE:** You may be prompted for your permission or password when using Refresh. See Help and Support for more information. From the Start screen, type **h**, and then select **Help and Support**.


To start Refresh:

1. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.
2. Click **Settings**.
3. Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.
4. Under **Refresh your PC without affecting your files**, select **Get started**, and then follow the on-screen instructions.

Remove everything and reinstall Windows

Sometimes you want to perform detailed reformatting of your computer, or you want to remove personal information before you give away or recycle your computer. The process described in this

section provides a speedy, simple way to return the computer to its original state. This option removes all personal data, apps, and settings from your computer, and reinstalls Windows.

 **IMPORTANT:** This option does not provide backups of your information. Before using this option, back up any personal information you wish to retain.

You can initiate this option by using the **f11** key or from the Start screen.

To use the **f11** key:

1. Press **f11** while the computer boots.
– or –
Press and hold **f11** as you press the power button.
2. Select **Troubleshoot** from the boot options menu.
3. Select **Reset your PC**, and then follow the on-screen instructions.

To use the Start screen:

1. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.
2. Click **Settings**.
3. Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.
4. Under **Remove everything and reinstall Windows**, select **Get started**, and follow the on-screen instructions.

Recovering using HP Recovery Manager

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

- **System Recovery**—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.
- **Minimized Image Recovery**—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- **Factory Reset**—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

The HP Recovery partition (select models only) allows Minimized Image Recovery.

What you need to know

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.
- Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.
- HP Recovery media must be used if the computer hard drive fails.
- To use the Factory Reset or System Recovery options, you must use HP Recovery media.
- If the HP Recovery media do not work, you can obtain recovery media for your system from the HP website. For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.



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

Using the HP Recovery partition to recover a minimized image (select models only)

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

To start HP Recovery Manager from the HP Recovery partition:

1. Press **f11** while the computer boots.
– or –
Press and hold **f11** as you press the power button.
2. Select **Troubleshoot** from the boot options menu.
3. Select **HP Recovery Manager**, and follow the on-screen instructions.

Using HP Recovery media to recover

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

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

– or –

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

 **NOTE:** If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 112](#).

3. Follow the on-screen instructions.

Changing the computer boot order


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

To change the boot order:

1. Insert the HP Recovery media you created.
2. Restart the computer.
3. Press and hold **esc** while the computer is restarting, and then press **f9** for boot options.
4. Select the optical drive or USB flash drive you want to boot from.
5. Follow the on-screen instructions.

Removing the HP Recovery partition

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

 **IMPORTANT:** Removing the HP Recovery partition means you can no longer use Windows Refresh, the Windows Remove everything and reinstall Windows option, or the HP Recovery Manager option for minimized image recovery. Create HP Recovery media before removing the Recovery partition to ensure you have recovery options; see [Creating HP Recovery media on page 107](#).

Follow these steps to remove the HP Recovery partition:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.
2. Select **Remove Recovery Partition**, and then follow the on-screen instructions.

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
Japan	JIS	3
The Netherlands	KEMA	1
New Zealand	SANZ	1
Norway	NEMKO	1
The People's Republic of China	CCC	4
Saudi Arabia	SASO	7
Singapore	PSB	1
South Africa	SABS	1
South Korea	KTL	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	6
Thailand	TISI	1
The United Kingdom	ASTA	1

Country/region	Accredited agency	Applicable note number
The United States	UL	2
<ol style="list-style-type: none"> 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 HO5VV-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 3x1.25-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 HO5VV-F 3x0.75-/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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