HP EliteBook 850 G2 Notebook PC
HP EliteBook 750 G2 Notebook PC
HP ZBook 15u G2 Mobile Workstation

Maintenance and Service Guide

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 for http://www.microsoft.com details.

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

To access the latest user guide, go to http://www.hp.com/support, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

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 Removal and replacement procedures for Customer Self-Repair parts on page 47 for details. Accessing parts described in Removal and replacement procedures for Authorized Service Provider parts on page 65 can damage the computer or void your warranty.

Safety warning notice

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

Table of contents

1 Product description

Processor

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Intel® Core™ i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W)	√		√
Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W)	√		√
Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W)	√	√	√
Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W)	√	√	√
Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W)	√	√	

Chipset

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Intel soldered on circuit (SoC)	√	√	√

Graphics

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Switchable discrete graphics: AMD® Radeon™ R7 M260X graphics subsystem	√	√	
Switchable discrete graphics: AMD® FirePro™ M4170 128-bit (GDDR5) graphics subsystem			√
Internal graphics: Integrated Intel HD Graphics 5500 universal memory architecture (UMA) graphics	√	√	√

Display panel

Description xxx	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
15.6-in, light-emitting diode (LED) backlit, full high-definition (FHD), SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080), capacitive TouchScreen enabled with webcam	√	√	
15.6-in, LED backlit, FHD, AntiGlare (AG), SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080), with and without webcam	√	√	√
15.6-in, LED backlit, high-definition (HD), AG, SVA, 45% CG, 200 nits, eDP 1.2 flat (1366×768), with and without webcam	√	√	
15.6-in, LED backlit, FHD, AG, UWVA, 72% CG, 300 nits, eDP 1.2 slim PSR (1920×1080), with and without webcam			√
All display assemblies include two wireless local area network (WLAN) antenna cables and two wireless wide area network (WWAN) antenna cables	√	√	√

Memory

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Two customer-accessible/ upgradable memory module slots with the following specifications:	√	√	√
DDR3L PC3L-12800 (1600 MHz) SODIMMs	√	√	√
Supports dual channel memory	√	√	√
Supports 16384 MB of system RAM in the following configurations:	√	√	

- 16384 MB (8192 MB×2; not available on computer models equipped with Windows 7 32-bit operating system, available with Windows 7 downgrade)

- 12288 MB (8192 MB + 4096 MB)

- 8192 MB (8192 MB×1; not available on computer models equipped with Windows 7 32-bit operating system, available with Windows 7 downgrade)

- 8192 MB (4096 MB×2; not available on computer models equipped with Windows 7 32-bit operating system, available with Windows 7 downgrade)

- 6144 MB (4096 MB + 2048 MB)

- 4096 MB (4096 MB×1)

- 2048 MB (2048×1)

Memory

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Supports 16384 MB of system RAM in the following configurations:			√

- 16384 MB (8192 MB×2)
- 12288 MB (8192 MB + 4096 MB)
- 8192 MB (8192 MB×1)
- 8192 MB (4096 MB×2)
- 6144 MB (4096 MB + 2048 MB)
- 4096 MB (4096 MB×1)
- 2048 MB (2048×1)

Hard drive – HP EliteBook 850 G2 and HP EliteBook 750 G2 Notebook PC

Description
Supports 2.5 in (6.35 cm) hard drives in 9.5 mm (.37 in) and 7.0 mm (.28 in) thicknesses (all hard drives use the same bracket)
Customer-accessible

Supports the following hard drives:

- 1-TB, 7200-rpm, 9.5-mm hard drive
- 500-GB, 7200-rpm, 7.0-mm hard drive
- 500-GB, 7200-rpm, 7.0-mm, self-encrypting drive (SED), supporting Opal 1.0 storage specification
- 500-GB, 5400-rpm, SED, FIPS-140-2, supporting Opal 2.0 storage specification
- 320-GB, 7200-rpm, 7.0-mm hard drive

Hard drive – HP ZBook 15u G2 Mobile Workstation

Description
Supports 2.5 in (6.35 cm) hard drives in 9.5 mm (.37 in) and 7.0 mm (.28 in) thicknesses (all hard drives use the same bracket)
Customer-accessible

Supports the following hard drives:

- 1-TB, 7200-rpm, 9.5-mm hard drive
- 500-GB, 7200-rpm, 7.0-mm hard drive
- 500-GB, 7200-rpm, 7.0-mm, self-encrypting drive (SED), supporting Opal 1.0 storage specification
- 500-GB, 5400-rpm, SED, FIPS-140-2, supporting Opal 2.0 storage specification

Solid-state drive – HP EliteBook 850 G2 and HP EliteBook 750 G2 Notebook PC

Description
Supports the following solid-state drives:

- 512-GB SATA-3 solid-state drive

- 512-GB SATA-3 solid-state drive, SED, supporting Opal 2.0

- 256-GB SATA-3 solid-state drive, supporting TLC

- 256-GB SATA-3 solid-state drive, SED, supporting Opal 2.0

- 256-GB SATA-3 solid-state drive, SED, supporting Opal 1.0

- 240 GB, SATA-3 solid-state drive

- 180-GB, SATA-3 solid-state drive, SED, supporting Opal 2.0

- 180-GB, SATA-3 solid-state drive, SED, supporting Opal 1.0

- 180-GB, SATA-3 solid-state drive

- 128-GB, SATA-3 solid-state drive, supporting TLC

- 128-GB solid-state drive

Solid-state drive – HP ZBook 15u G2 Mobile Workstation

Description
Supports the following solid-state drives:

- 512-GB SATA-3 solid-state drive

- 512-GB SATA-3 solid-state drive, SED, supporting Opal 2.0

- 256-GB SATA-3 solid-state drive, SED, supporting Opal 2.0

- 256-GB SATA-3 solid-state drive

- 240 GB, SATA-3 solid-state drive

- 180-GB, SATA-3 solid-state drive

- 180-GB, SATA-3 solid-state drive, SED, supporting Opal 2.0

- 128-GB solid-state drive

Audio and video

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Two stereo speakers (2)	√	√	√
Dual array microphones	√	√	√
Realtek ALC3228 HD Audio with DTS Studio Sound	√	√	√
720p webcam (support for no webcam option)	√	√	√

Ethernet

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Intel I218LM 10/100/1000 Ethernet, with iAMT	√	√	√
S3/S4/S5 wake on LAN	√	√	√

Wireless

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Integrated wireless local area network (WLAN) options by way of minicard	√	√	√
Two WLAN antennas built into display assembly	√	√	√
Supports no WLAN/Bluetooth® option	√	√	√
Compatible with Miracast-certified devices for Windows® 8.1	√	√	√
Support for the following WLAN formats: ● Intel 7265 NGWGQ.I ac 2×2 + Bluetooth 4.0 LE PCIe+USB NGFF 2230 for use in Asia Pacific countries and regions ● Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter ● Intel Dual Band Wireless-N 7265AN 802.11 a/b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter ● Intel Dual Band Wireless-N 7265AN 802.11 b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter	√	√	√
Integrated wireless wide area network (WWAN) options by way of wireless module	√	√	√
Two world-wide/5-band WWAN antennas built into display assembly (separate antennas required for TouchScreen display assembly)	√	√	√
Secured by subscriber identity module (SIM, user-accessible behind battery)	√	√	√
Supports no WWAN option	√	√	√

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Supports WWAN after market option	√	√	√
Support for the following WWAN formats: ● HP lt4211 LTE/EV-DO/ HSPA+ 4G Module ● HP lt4112 LTE/HSPA+ 4G Mobile Broadband Module ● HP hs3110 HSPA+ Mobile Broadband Module	√	√	√

External media cards

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
HP 2-in-1 multiformat Digital Media Reader Slot with push-push technology. Reads data from and writes data to digital memory cards such as Secure Digital (SD).	√	√	√

Ports

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Offers the following ports:	√	√	√

- Headphone/microphone combo
- DisplayPort 1.2
- Docking connector
- USB 3.0 ports (3)
- USB 3.0 charging port
- HP Smart AC adapter
- RJ-45 (Ethernet)
- VGA (Dsub 15 pin) supporting: 1920×1200 external resolution @ 75 Hz, hot plug and unplug and auto detection for correct output to wide-aspect versus standard aspect video

Keyboard/pointing devices

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Glass with chemical etched surface, dual-point, spill-resistant with drain, DuraKeys	√	√	√
Backlit (select models only)	√	√	√
Gesture support: MultiTouch gestures enabled, two-finger scrolling, and pinch-zoom as default	√	√	√
Taps enabled by default	√	√	√
Supports two-way scroll	√	√	√
On/off button	√	√	√

Power requirements

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Supports the following HP Smart AC adapters: • 65 W HP Smart AC adapter (select models only) • 45 W HP Smart AC adapter (select models only) • 45 W 2-prong 7.4 mm DC jack AC adapter (select models only)	√	√	√
Supports the following batteries: • 3 cell, 50 Wh, 4.45 Ah long-life battery • 3 cell, 24 Wh, 2.2 Ah long-life battery	√	√	√

Security

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Supports security cable lock	√	√	√
Supports fingerprint reader and no fingerprint reader option	√	√	√
Supports Trusted Platform Module (TPM) 1.2 (Infineon, soldered down) and TPM Enhanced Drive Lock	√	√	√
Integrated Smart Card reader (active)	√	√	√
Full volume encryption	√	√	√
Preboot authentication (password, Smart Card)	√	√	√

Operating system

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Preinstalled:	√	√	√

- Windows® 8.1 ML 64-bit

- Windows 8.1 CH 64-bit

- Windows 8.1 EM 64-bit

- Windows 8.1 Professional 64-bit

- Windows 8.1 Professional 64-bit DPK with Windows 7 Professional 64- and 32-bit

- Windows 7 Home Premium 64-bit

- Windows 7 Home Premium 32-bit (only available if 4096 MB total system memory or less is selected)

- Windows 7 Home Basic 32-bit (only available if 4096 MB total system memory or less is selected)

- Windows 7 Professional 64-bit

- Windows 7 Professional 32-bit (only available if 4096 MB total system memory or less is selected)

- FreeDOS 2.0

- Ubuntu Linux

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Restore media—DR-DVD:	√	√	√

- Windows 8.1 (available with any Windows 8.1 operating system and required with Windows 8.1 Professional downgrade operating system)

- Windows 7 (available with any Windows 7 or Windows 8.1 Professional downgrade operating system)

Operating system

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
Restore media—OS-DVD:	√	√	√
• Windows 8.1 Professional 64- (only available and required with Windows 8 Professional downgrade operating system)			
• Windows 8.1 64-bit			
• Windows 8.1 Country-Specific 64-bit			
• Windows 8.1 Emerging Market 64-bit (available with Windows 8.1 downgrade AVs only except Asia-Pacific countries and regions and the People's Republic of China)			
• Windows 7 Home Premium 64- and 32-bit (available with any Windows 7 HP operating system except Asia-Pacific countries and regions and the People's Republic of China)			
• Windows 7 Professional 64- and 32-bit (available with any Windows 7 Professional or Windows 8.1 Professional downgrade except Asia-Pacific countries and regions and the People's Republic of China)			
• Windows 7 Home Basic 32-bit (available with any Windows 7 Home Basic except Asia-Pacific countries and regions and the People's Republic of China)			
Certified: Microsoft® WHQL	√	√	√
Web-only support: Windows 8.1 Enterprise 64-bit and Windows 7 Enterprise 64- and 32-bit	√	√	√

Serviceability

Description	HP EliteBook 850 G2 Notebook PC	HP EliteBook 750 G2 Notebook PC	HP ZBook 15u G2 Mobile Workstation
End user replaceable parts:	√	√	√

- AC adapter

- Battery

- Hard drive

- Keyboard

- Memory module

- Solid-state drive

- WLAN module

- WWAN module

2 Getting to know your computer

Display

📝 **NOTE:** Your computer may look slightly different from the illustration in this section.

Item	Component	Description
(1)	WLAN antennas*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(2)	WWAN antennas* (select models only)	Send and receive wireless signals to communicate with wireless wide area networks (WWAN).
(3)	Internal microphones	Record sound.
(4)	Webcam light	On: The webcam is in use.
(5)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video.
		For information on using the webcam, access HP Support Assistant. To access HP Support Assistant, from the Start screen, select the **HP Support Assistant** app.
(6)	Internal display switch	Turns off the display or initiates Sleep if the display is closed while the power is on.
		NOTE: The display switch is not visible from the outside of the computer.

*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`, and then select the **HP Support Assistant** app.

Buttons, speakers, and fingerprint reader (select models only)

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

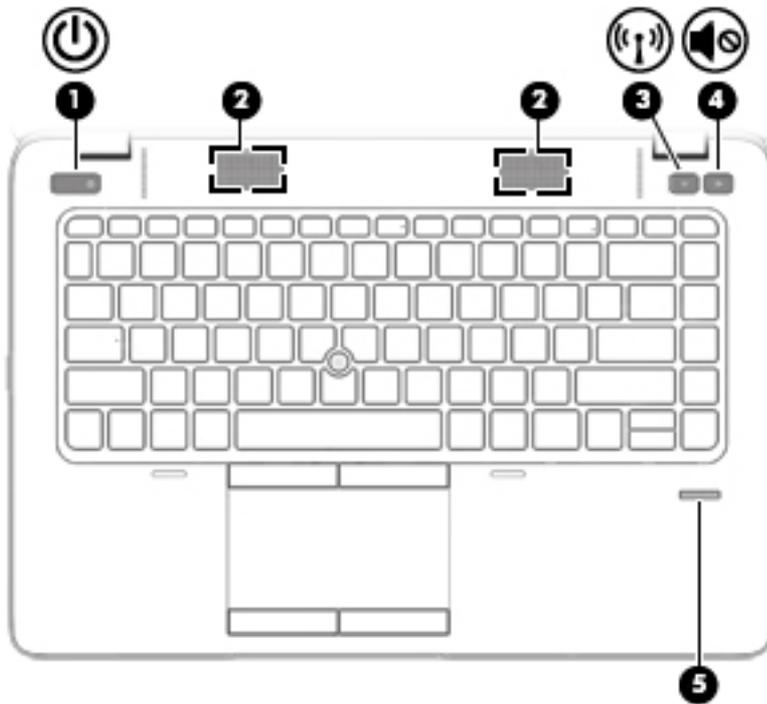| Item	Component	Description
(3)	Wireless button	Turns the wireless feature on or off but does not establish a wireless connection.
(4)	Volume mute button	Mutes and restores speaker sound.
(5)	Fingerprint reader (select models only)	Allows a fingerprint logon to Windows, instead of a password logon.

Keys

📝 **NOTE:** Your computer may look slightly different from the illustration in this section.
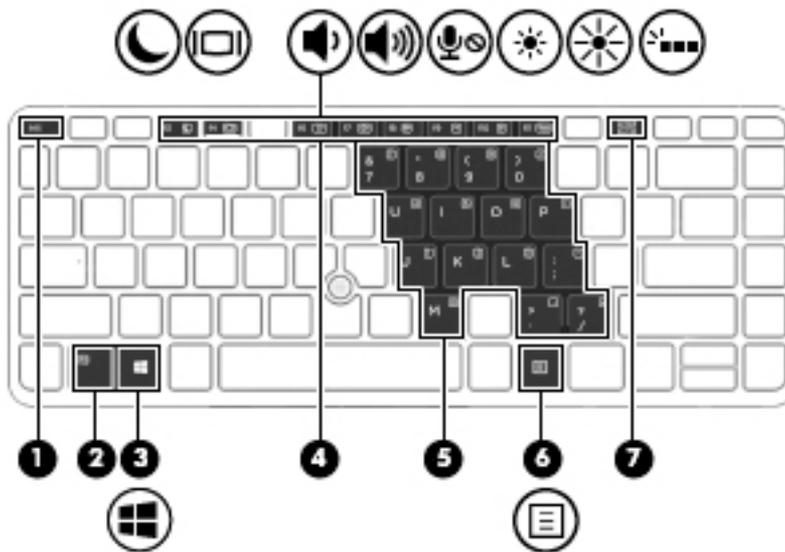
Item	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(3)	Windows key	Returns you to the Start screen from an open app or the Windows desktop.
		NOTE: Pressing the Windows key again will return you to the previous screen.
(4)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.
(5)	Embedded numeric keypad	When the keypad is turned on, it can be used like an external numeric keypad.
		Each key on the keypad performs the function indicated by the icon in the upper-right corner of the key.

Item	Component	Description
(6)	Windows applications key	Displays options for a selected object.
(7)	num lk key	Turns the embedded numeric keypad on and off when pressed in combination with the fn key.
		Alternates between the navigational and numeric functions on the embedded numeric keypad.

Lights

📝 **NOTE:** Your computer may look slightly different from the illustration in this section.

Item	Component	Description
(1)	Power light	● On: The computer is on. ● Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. ● Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power. **NOTE:** For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.
(2)	Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.

Item	Component	Description
(3)	TouchPad light	● On: The TouchPad is off.
		● Off: The TouchPad is on.
(4)	Microphone mute light	● Amber: microphone sound is off.
		● Off: microphone sound is on.
(5)	Num lock light	On: Num lock is on.
(6)	Wireless light	On: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth device, is on. **NOTE:** On some models, the wireless light is amber when all wireless devices are off.
(7)	Mute light	● Amber: Computer sound is off.
		● Off: Computer sound is on.

TouchPad
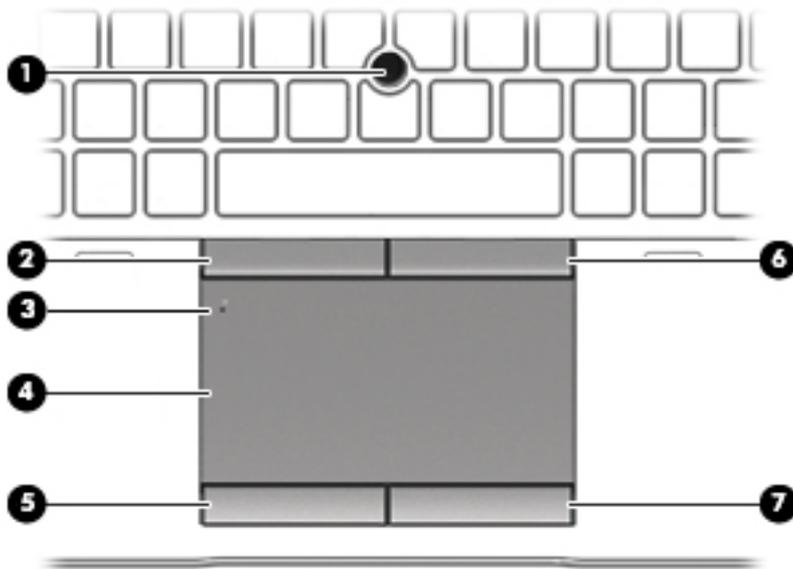
Item	Component	Description
(1)	Pointing stick	Moves the pointer and selects or activates items on the screen.
(2)	Left pointing stick button	Functions like the left button on an external mouse.
(3)	TouchPad on/off button	Turns the TouchPad on and off.
(4)	TouchPad zone	Reads your finger gestures to move the pointer or activate items on the screen.
(5)	Left TouchPad button	Functions like the left button on an external mouse.

Item	Component	Description
(6)	Right pointing stick button	Functions like the right button on an external mouse.
(7)	Right TouchPad button	Functions like the right button on an external mouse.

Front

Item	Component	Description
(1)	Wireless light	On: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth device, is on. **NOTE:** On some models, the wireless light is amber when all wireless devices are off.
(2)	Power light	● On: The computer is on. ● Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. ● Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power. **NOTE:** For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.
(3)	AC adapter/Battery light	● White: The computer is connected to external power and the battery is charged from 90 to 99 percent. ● Amber: The computer is connected to external power and the battery is charged from 0 to 90 percent. ● Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly. ● Off: The battery is fully charged.
(4)	Hard drive light	● Blinking white: The hard drive is being accessed. ● Amber: HP 3D DriveGuard has temporarily parked the hard drive.

Left

Item	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	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)	External monitor port	Connects an external VGA monitor or projector.
(4)	USB 3.0 charging (powered) port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub. 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.
		NOTE: USB charging ports can also charge select models of cell phones and MP3 players, even when the computer is off.
(5)	USB 3.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(6)	Smart card reader	Supports optional smart cards.

Right

Item	Component	Description
(1)	Audio-out (headphone)/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.
		WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety, and Environmental Notices*. To access this guide, from the Start screen, type `support`, and then select the **HP Support Assistant** app.
		NOTE: When a device is connected to the jack, the computer speakers are disabled.
		NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(2)	DisplayPort	Connects an optional digital display device, such as a high-performance monitor or projector.
(3)	USB 3.0 ports	Connect optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(4)	Memory card reader	Reads optional memory cards that store, manage, share, or access information.
(5)	RJ-45 (network) jack/lights	Connects a network cable.
		● Green (left): The network is connected.
		● Amber (right): Activity is occurring on the network.
(6)	Docking connector	Connects an optional docking device.
(7)	Power connector	Connects an AC adapter.

Bottom

Item	Component	Description
(1)	Service cover	Provides access to the hard drive bay, the wireless LAN (WLAN) module slot, the WWAN 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 HP Support Assistant. To access HP Support Assistant, from the Start screen, select the **HP Support Assistant** app.
(2)	Service cover release latch	Releases the service door.
(3)	Service cover release lock	Locks the service door.
(4)	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.
(5)	SIM slot (select models only)	Supports a wireless subscriber identity module (SIM). The SIM slot is located inside the battery bay.

3   Illustrated parts catalog

Locating the product name, serial number, product number, warranty information, and model number

The computer product name **(1)**, serial number **(2)**, product number **(3)**, warranty information **(4)**, and model number **(5)** are located on the bottom of the computer. This information may be needed when travelling internationally or when contacting support.
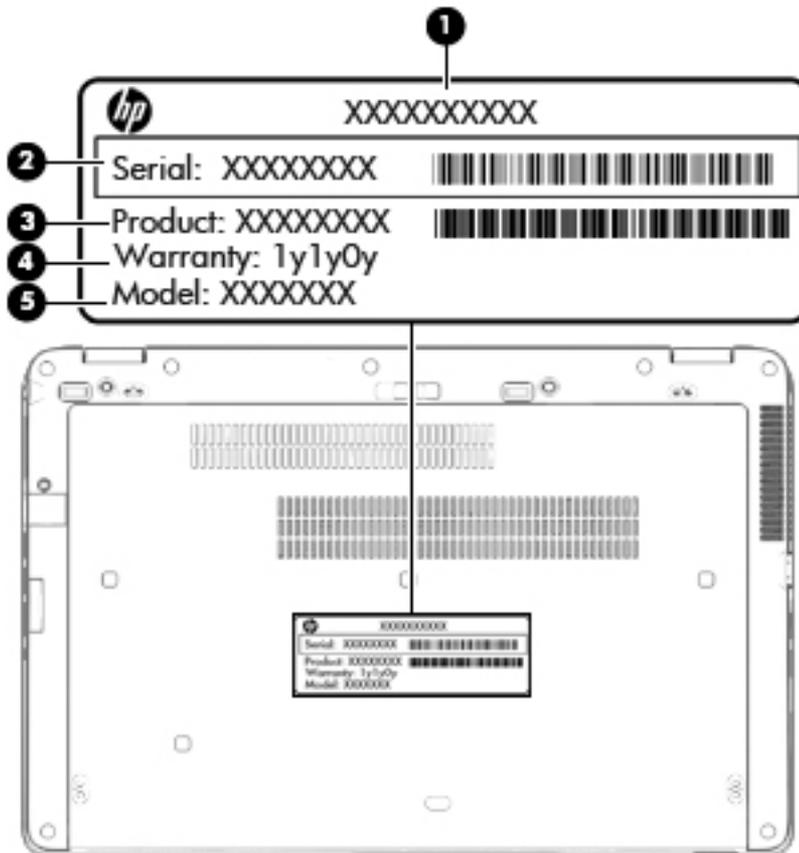
Computer major components

Item	Component	Spare part number
(1)	**Display assembly**: Non-TouchScreen display assemblies are spared at the subcomponent level only. For more display assembly spare part information, see Display assembly subcomponents on page 37.	
	TouchScreen display assemblies are spared only as whole unit spare part kits and are for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models.	
	15.6-in, LED backlit, FHD, SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080), capacitive TouchScreen display assembly (includes webcam and microphone)	784781-001
(2)	**Keyboard** with backlight and pointing sick for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models (includes backlight, keyboard, and pointing stick cables):	
	For use in Belgium	776475-A41
	For use in Brazil	776475-201
	For use in Bulgaria	776475-261
	For use in Canada	776475-DB1
	For use in the Czech Republic and Slovakia	776475-FL1
	For use in Denmark	776475-081
	For use in France	776475-051
	For use in Germany	776475-041
	For use in Greece	776475-151
	For use in Hungary	776475-211
	For use in Iceland	776475-DD1
	For use in India	776475-D61
	For use in Israel	776475-BB1
	For use in Italy	776475-061
	For use in Japan	776475-291
	For use in Latin America	776475-161
	For use in the Netherlands	776475-B31
	For use in North Africa	776475-FP1
	For use in Norway	776475-091
	For use in Portugal	776475-131
	For use in Romania	776475-271
	For use in Russia	776475-251
	For use in Saudi Arabia	776475-171
	For use in Slovenia	776475-BA1
	For use in South Korea	776475-AD1
	For use in Spain	776475-071
	For use in Sweden and Finland	776475-B71
	For use in Switzerland	776475-BG1

Item	Component	Spare part number
	For use in Taiwan	776475-AB1
	For use in Thailand	776475-281
	For use in Turkey	776475-141
	For use in the United Kingdom and Singapore	776475-031
	For use in the United States	776475-001
	Keyboard with backlight and pointing stick tor use only on HP ZBook 15u G2 Mobile Workstation computer models (includes backlight, keyboard, and pointing stick cables):	
	For use in Belgium	731179-A41
	For use in Brazil	731179-201
	For use in Bulgaria	731179-261
	For use in Canada	731179-DB1
	For use in the Czech Republic and Slovakia	731179-FL1
	For use in Denmark	731179-081
	For use in France	731179-051
	For use in Germany	731179-041
	For use in Greece	731179-151
	For use in Hungary	731179-211
	For use in Iceland	731179-DD1
	For use in India	731179-D61
	For use in Israel	731179-BB1
	For use in Italy	731179-061
	For use in Japan	731179-291
	For use in Latin America	731179-161
	For use in the Netherlands	731179-B31
	For use in North Africa	731179-FP1
	For use in Norway	731179-091
	For use in Portugal	731179-131
	For use in Romania	731179-271
	For use in Russia	731179-251
	For use in Saudi Arabia	731179-171
	For use in Slovenia	731179-BA1
	For use in South Korea	731179-AD1
	For use in Spain	731179-071
	For use in Sweden and Finland	731179-B71
	For use in Switzerland	731179-BG1

Item	Component	Spare part number
	For use in Taiwan	731179-AB1
	For use in Thailand	731179-281
	For use in Turkey	731179-141
	For use in the United Kingdom and Singapore	731179-031
	For use in the United States	731179-001
	Keyboard with pointing stick for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models (includes keyboard and pointing stick cables):	
	For use in Belgium	776474-A41
	For use in Brazil	776474-201
	For use in Bulgaria	776474-261
	For use in Canada	776474-DB1
	For use in the Czech Republic and Slovakia	776474-FL1
	For use in Denmark	776474-081
	For use in France	776474-051
	For use in Germany	776474-041
	For use in Greece	776474-151
	For use in Hungary	776474-211
	For use in Iceland	776474-DD1
	For use in India	776474-D61
	For use in Israel	776474-BB1
	For use in Italy	776474-061
	For use in Japan	776474-291
	For use in Latin America	776474-161
	For use in the Netherlands	776474-B31
	For use in North Africa	776474-FP1
	For use in Norway	776474-091
	For use in Portugal	776474-131
	For use in Romania	776474-271
	For use in Russia	776474-251
	For use in Saudi Arabia	776474-171
	For use in Slovenia	776474-BA1
	For use in South Korea	776474-AD1
	For use in Spain	776474-071
	For use in Sweden and Finland	776474-B71
	For use in Switzerland	776474-BG1

Item	Component	Spare part number
	For use in Taiwan	776474-AB1
	For use in Thailand	776474-281
	For use in Turkey	776474-141
	For use in the United Kingdom and Singapore	776474-031
	For use in the United States	776474-001
	Keyboard with pointing stick for use only on HP ZBook 15u G2 Mobile Workstation computer models (includes keyboard and pointing stick cables):	
	For use in Belgium	730794-A41
	For use in Brazil	730794-201
	For use in Bulgaria	730794-261
	For use in Canada	730794-DB1
	For use in the Czech Republic and Slovakia	730794-FL1
	For use in Denmark	730794-081
	For use in France	730794-051
	For use in Germany	730794-041
	For use in Greece	730794-151
	For use in Hungary	730794-211
	For use in Iceland	730794-DD1
	For use in India	730794-D61
	For use in Israel	730794-BB1
	For use in Italy	730794-061
	For use in Japan	730794-291
	For use in Latin America	730794-161
	For use in the Netherlands	730794-B31
	For use in North Africa	730794-FP1
	For use in Norway	730794-091
	For use in Portugal	730794-131
	For use in Romania	730794-271
	For use in Russia	730794-251
	For use in Saudi Arabia	730794-171
	For use in Slovenia	730794-BA1
	For use in South Korea	730794-AD1
	For use in Spain	730794-071
	For use in Sweden and Finland	730794-B71
	For use in Switzerland	730794-BG1

Item	Component	Spare part number
	For use in Taiwan	730794-AB1
	For use in Thailand	730794-281
	For use in Turkey	730794-141
	For use in the United Kingdom and Singapore	730794-031
	For use in the United States	730794-001
(3)	**Top cover:**	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	804337-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796893-001
(4)	**Power button board** (includes cable)	730822-001
(5)	**Card reader board** (includes cable)	784779-001
(6)	**NFC module** (includes 2 cables and double-sided adhesive)	800515-001
(7)	**TouchPad** (includes TouchPad cable):	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with an NFC module (includes NFC module cable)	799544-001
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models not equipped with an NFC module	797431-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models equipped with an NFC module (includes NFC module cable)	798050-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models not equipped with an NFC module	798049-001
(8)	**RTC battery**	665733-001
(9)	**Speaker assembly** (includes cable)	730798-001
(10)	**USB/VGA connector board** (includes cable)	784780-001
(11)	**Fingerprint reader board** (includes bracket and cable)	730817-001
(12)	**Battery** (Li ion):	
	3-cell, 50-WHr, 4.5-AHr	717376-001
	3-cell, 24-WHr, 2.4-AHr	717375-001
(13)	**Hard drive** (does not include hard drive bracket or screws) **NOTE:** The hard drive bracket and screws are included in the Hard Drive Hardware Kit, spare part number 730793-001.	
	1-TB, 7200-rpm, SATA, 9.5-mm hard drive for use on all computer models	766644-001
	500-GB, 7200-rpm, SATA, 7.0-mm hard drive for use on all computer models	703268-001
	500-GB, 7200-rpm, SED, 7.0-mm hard drive for use on all computer models	703267-001
	500-GB, 5400-rpm, FIPS, 7.0-mm hard drive for use on all computer models	730946-001
	320-GB, 7200-rpm, SATA, 7.0-mm hard drive for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	634862-001
(14)	**Fan** (includes cable and captive screws)	

Item	Component	Spare part number
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	730792-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models – included with the heat sink spare part kit, spare part number 796898-001.	
(15)	**Heat sink** (includes replacement thermal material):	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with a graphics subsystem with discrete memory	803019-001
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with a graphics subsystem with UMA memory	803018-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models (includes fan)	796898-001
(16)	**Memory modules** (PC3L, 12800, 1600-MHz):	
	8-GB memory module	693374-001
	4-GB memory module	691740-001
(17)	**System board** (includes replacement thermal material):	
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-601
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-501
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-001
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-601
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-501
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-001
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-601
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-501

Item	Component	Spare part number
	Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-001
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-601
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-501
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-001
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-601
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-501
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-001
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-601
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-501
	Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-001
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-601
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-501
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-001

| Item	Component	Spare part number
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-601
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-501
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-001
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-601
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-501
	Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-001
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-601
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-501
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-001
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-601
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-501
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-001
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-601

Item	Component	Spare part number
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-501
	Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-001
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-601
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-501
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-001
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-601
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-501
	Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-001
(18)	**WLAN module:**	
	Intel 7265 NGWGQ.I ac 2×2 + Bluetooth 4.0 LE PCIe+USB NGFF 2230 for use in Asia Pacific countries and regions	783721-001
	Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter	784644-001
	Intel Dual Band Wireless-N 7265AN 802.11 a/b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter	756748-001
	Intel Dual Band Wireless-N 7265AN 802.11 b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter	756749-001
(19)	**WWAN module:**	
	HP lt4211 LTE/EV-DO/HSPA+ 4G Module	793116-001
	HP lt4112 LTE/HSPA+ 4G Mobile Broadband Module	740011-001
	HP hs3110 HSPA+ Mobile Broadband Module	748599-001
(20)	**2.5-in solid-state drive:**	
	512-GB, SATA-3 solid-state drive	803386-001
	256-GB, SATA-3, TLC solid-state drive	803389-001

Item	Component	Spare part number
	256-GB, SATA-3, SED, Opal 2 solid-state drive	803387-001
	256-GB, SATA-3 solid-state drive	803390-001
	256-GB, M2, PCIe-2×2 solid-state drive	803381-001
	240-GB, SATA-3 solid-state drive	803385-001
	180-GB, SATA-3, SED, Opal 2 solid-state drive	803384-001
	180-GB, SATA-3 solid-state drive	803383-001
	128-GB, SATA-3, TLC solid-state drive	803388-001
	128-GB, SATA-3, solid-state drive	803382-001
	120-GB, M2, SATA-3 solid-state drive	803380-001
(21)	**Base enclosure** (includes RJ-45 door with spring)	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799688-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796892-001
	Rubber Kit (not illustrated; includes rubber screw covers):	730796-001
(22)	**Service cover:**	
	For use only on HP EliteBook 850 G2 Notebook PC computer models	784479-001
	For use only on HP EliteBook 750 G2 Notebook PC computer models	766327-001
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC configure to order (CTO) computer models	745310-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796900-001

Display assembly subcomponents

Item	Component xxx	Spare part number
(1)	**Display bezel:**	
	For use only on HP EliteBook 850 G2 Notebook PC computer models	730814-001
	For use only on HP EliteBook 750 G2 Notebook PC computer models	784478-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796897-001
(2)	**Webcam/microphone module** (includes double-sided adhesive)	784457-001
	Microphone module (includes double-sided adhesive)	730795-001
(3)	**Display panel:**	
	15.6-in, LED backlit, FHD, AG, SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080) display panel for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	806361-001
	15.6-in, LED backlit, HD, AG, SVA, 45% CG, 200 nits, eDP 1.2 flat (1366×768) display panel for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	806360-001
	15.6-in, LED backlit, FHD, AG, UWVA, 72% CG, 300 nits, eDP 1.2 slim PSR (1920×1080) display panel for use only on HP ZBook 15u G2 Mobile Workstation computer models	796895-001
	15.6-in, LED backlit, FHD, AG, SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080) display panel for use only on HP ZBook 15u G2 Mobile Workstation computer models	796894-001
(4)	**Display panel cable** (includes webcam/microphone module cable)	730801-001
(5)	**Wireless antenna** (includes WLAN cables and transceivers for WWAN cables and transceivers)	784778-001
	Display Hinge Kit	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	730819-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796899-001
	Includes:	
(6)	Left and right display hinges	
(7)	Left and right display hinge covers	
(8)	**Display enclosure:**	
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	779686-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	796896-001

Plastics Kit
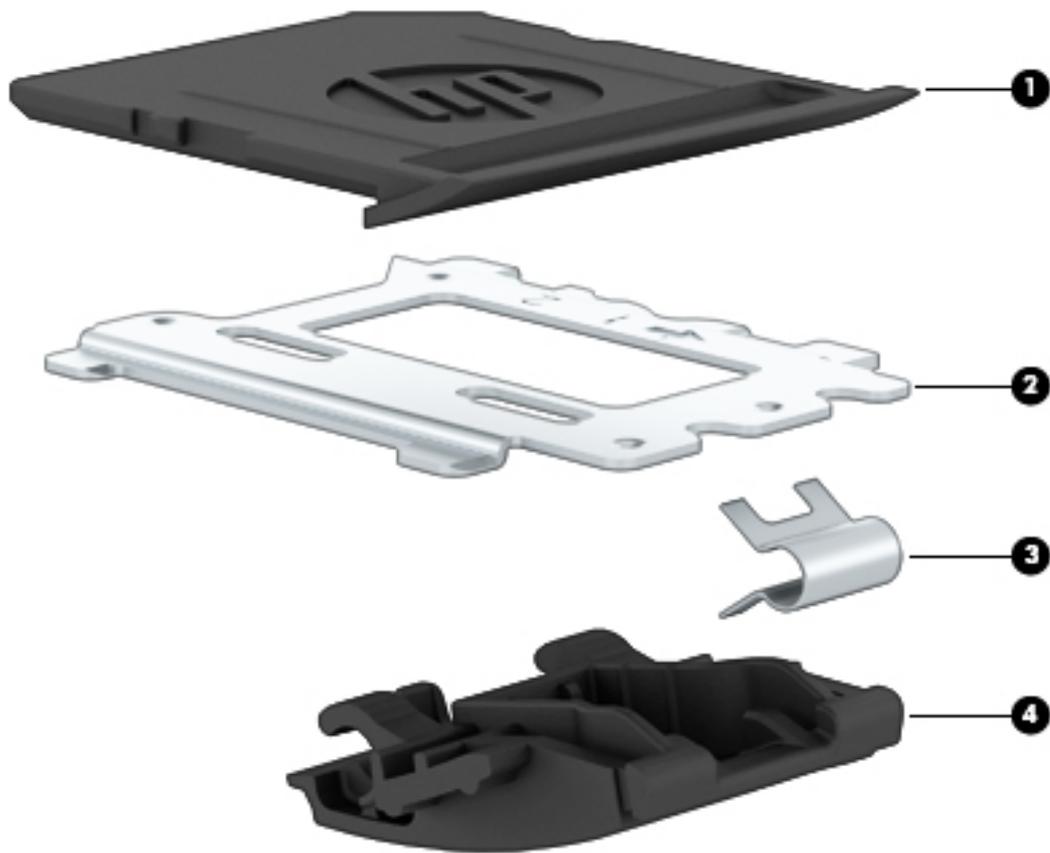
Item	Description	Spare part number
	For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	730802-001
	For use only on HP ZBook 15u G2 Mobile Workstation computer models	806250-001
(1)	SD card insert	
(2)	Fingerprint reader insert	
(3)	RJ-45 spring	
(4)	RJ-45 door	

Miscellaneous parts

Component	Spare part number
AC adapter:	
65-W HP Smart AC adapter (non-PFC) for use on all computer models	693711-001
65-W HP Smart AC adapter (RC/V, EM) for use on all computer models	693710-001
45-W HP Smart AC adapter (RC, non-PFC, 7.4 mm/non-slim) for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	744893-001
45-W HP Smart AC adapter (RC, non-PFC, 2-prong) for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	742437-001
Power cord (3-pin, black, 1.83-m):	
For use on all computer models:	
For use in Argentina on all computer models	490371-D01
For use in Australia on all computer models	490371-011
For use in Brazil on all computer models	490371-202
For use in Denmark on all computer models	490371-081
For use in Europe on all computer models	490371-021
For use in India on all computer models	490371-D61
For use in Israel only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	490371-BB1
For use in Italy on all computer models	490371-061
For use in Japan on all computer models	490371-291
For use in North America on all computer models	490371-001
For use in the People's Republic of China on all computer models	490371-AA1
For use in South Africa on all computer models	490371-AR1
For use in South Korea on all computer models	490371-AD1
For use in Switzerland on all computer models	490371-111
For use in Taiwan on all computer models	490371-AB1
For use in Thailand on all computer models	490371-201
For use in the United Kingdom and Singapore on all computer models	490371-031
Power cord (3-pin, black, 1.0-m)	
For use in Argentina	755530-D01
For use in Australia	755530-011
For use in Brazil	755530-202
For use in Europe	755530-D61
For use in India	755530-BB1
For use in Israel	755530-BB1

Component	Spare part number
For use in Japan	755530-291
For use in North America	755530-001
For use in the People's Republic of China	755530-AA1
For use in South Africa	755530-AR1
For use in Taiwan	755530-AB1
For use in Thailand	755530-201
For use in the United Kingdom and Singapore	755530-031
Power cord (2-pin, black, 1.0-m): For use in Japan	762689-291
Screw Kit	730797-001

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 parts. Apply pressure only at the points designated in the maintenance instructions.

Cables and connectors

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

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

Drive handling

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

Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.

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.

After removing a hard drive, an optical drive, or a diskette drive, place it in a static-proof bag.

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

Avoid exposing a drive to temperature extremes or liquids.

If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package "FRAGILE."

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

Keep components in their electrostatic-safe containers until you are ready to install them.

Before touching an electronic component, discharge static electricity by using the guidelines described in this section.

Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.

If you remove a component, place it in an electrostatic-safe container.

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

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

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

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

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

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

- Place items on a grounded surface before removing items from their containers.

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

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

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

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.

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

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

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

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

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

- Avoid contact with pins, leads, or circuitry.

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

Equipment guidelines

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

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

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

> ⚠ **CAUTION:** 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.

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

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 label at the bottom of your computer. See Locating the product name, serial number, product number, warranty information, and model number on page 25 for details.

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

There are as many as 13 screws that must be removed, replaced, and/or loosened when servicing the Customer Self-Repair parts. Make special note of each screw size and location during removal and replacement.

Service cover

| Description	Spare part number
For use only on HP EliteBook 850 G2 Notebook PC computer models	784479-001
For use only on HP EliteBook 750 G2 Notebook PC computer models	766327-001
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC configure to order (CTO) computer models	745310-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models	796900-001

Before removing the service cover, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

Remove the service cover:

1. Slide the service cover release latch **(1)**.

2. Remove the optional security screw (if it is being used) **(2)**.

NOTE: If the optional security screw is not being used, it can be stored inside the service cover.

3. Slide the release latch again **(3)** to release the service cover.

4. Slide the service cover toward the front of the computer **(4)**.

5. Lift the service cover **(5)** and remove it.
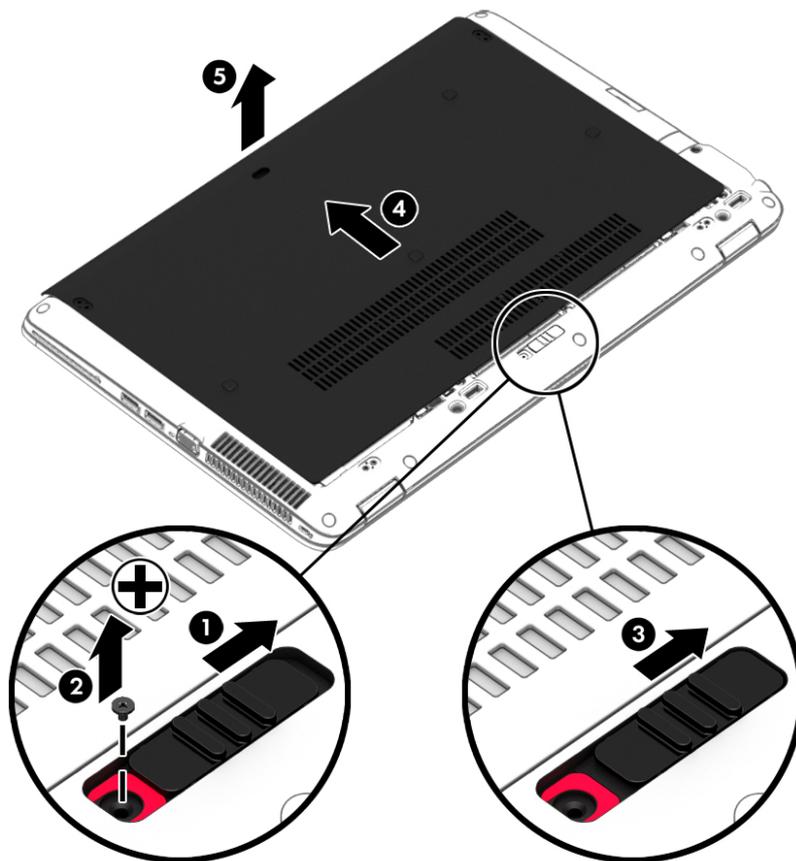
Reverse this procedure to install the service cover.

Battery

Description	Spare part number
3-cell, 50-WHr, 4.5-AHr	717376-001
3-cell, 24-WHr, 2.4-AHr	717375-001

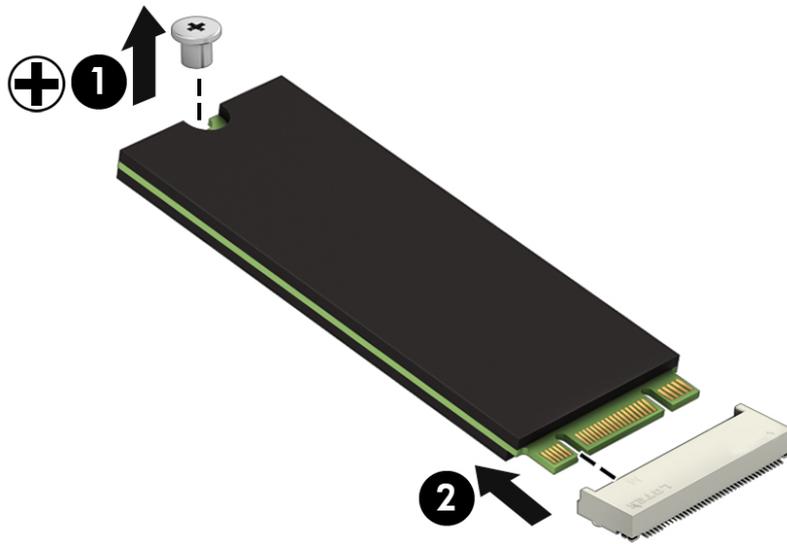Before removing the battery, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see).

Remove the battery:

1. Slide the battery release latches **(1)** to the unlock position.

2. Left the rear edge of the battery **(2)** until it rests at an angle.

3. Remove the battery **(3)**.
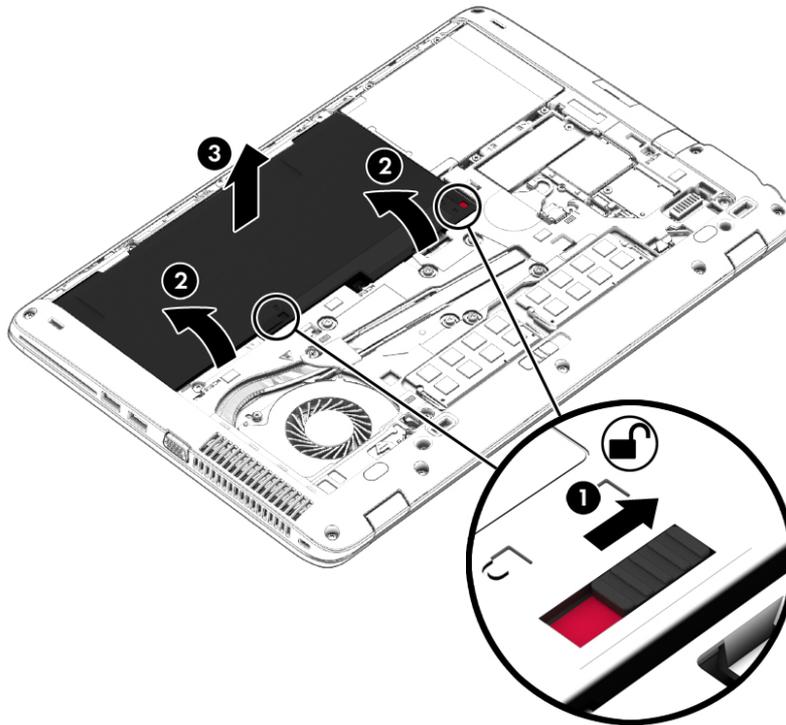
Reverse this procedure to install the battery.

Hard drive

NOTE: The hard drive spare part kit does not include the hard drive bracket or screws. The hard drive bracket and screws are included in the Hard Drive Hardware Kit, spare part number 730793-001.

Description	Spare part number
1-TB, 7200-rpm, SATA, 9.5-mm hard drive for use on all computer models	766644-001
500-GB, 7200-rpm, SATA, 7.0-mm hard drive for use on all computer models	703268-001
500-GB, 7200-rpm, SED, 7.0-mm hard drive for use on all computer models	703267-001
500-GB, 5400-rpm, FIPS, 7.0-mm hard drive for use on all computer models	730946-001
320-GB, 7200-rpm, SATA, 7.0-mm hard drive for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	634862-001

Before removing the hard drive, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

Remove the hard drive:

1. Loosen the 4 hard drive retention screws **(1)**.

2. Release the hard drive **(2)** by sliding it forward.

3. Lift the hard drive **(3)** and remove it.
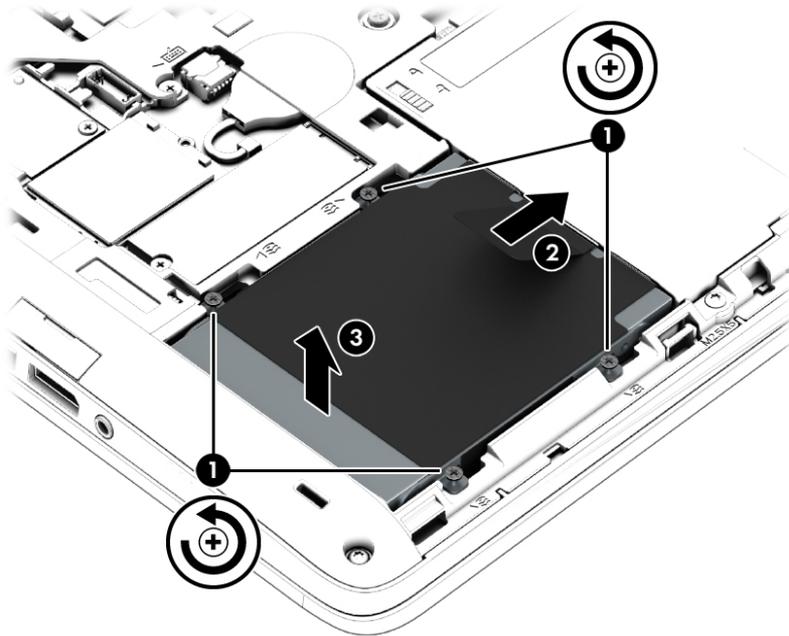
4. If it is necessary to disassemble the hard drive:

    a. Remove the four Phillips PM3.0×3.0 screws **(1)** that secure the hard drive bracket to the hard drive.

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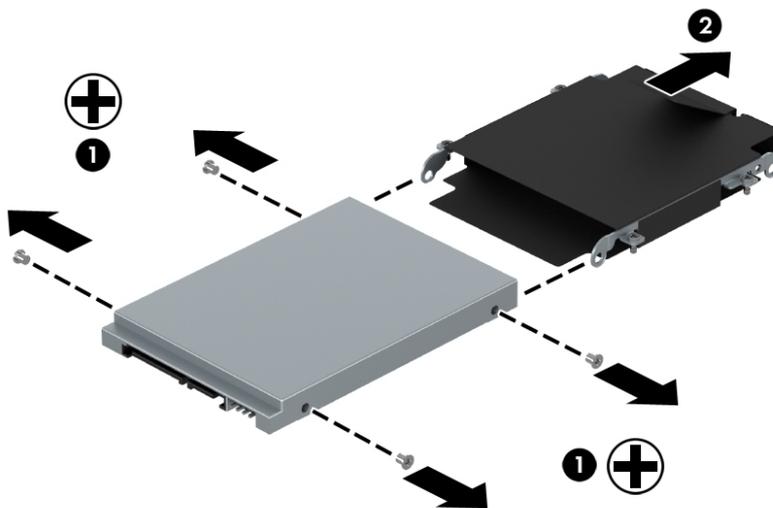
Reverse this procedure to reassemble and install the hard drive.

Solid-state drive

Description	Spare part number
512-GB, SATA-3 solid-state drive	803386-001
256-GB, SATA-3, TLC solid-state drive	803389-001
256-GB, SATA-3, SED, Opal 2 solid-state drive	803387-001
256-GB, SATA-3 solid-state drive	803390-001
256-GB, M2, PCIe-2×2 solid-state drive	803381-001
240-GB, SATA-3 solid-state drive	803385-001
180-GB, SATA-3, SED, Opal 2 solid-state drive	803384-001
180-GB, SATA-3 solid-state drive	803383-001
128-GB, SATA-3, TLC solid-state drive	803388-001
128-GB, SATA-3, solid-state drive	803382-001
120-GB, M2, SATA-3 solid-state drive	803380-001

Before removing the solid-state drive, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

Remove the solid-state drive:

1. Remove the Phillips PM2.0×3.0 screw **(1)** that secures the solid-state drive to the system board. (The solid-state drive tilts up.)

2. Remove the solid-state drive **(3)** by pulling the drive away from the slot at an angle.

📝 **NOTE:** Solid-state drives are designed with a notch to prevent incorrect insertion.

Reverse this procedure to install the solid-state drive.

WWAN module

NOTE: The WWAN module and the WLAN module are not interchangeable.

| Description	Spare part number
HP lt4211 LTE/EV-DO/HSPA+ 4G Module	793116-001
HP lt4112 LTE/HSPA+ 4G Mobile Broadband Module	740011-001
HP hs3110 HSPA+ Mobile Broadband Module	748599-001

Before removing the WWAN module, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

Remove the WWAN module:

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

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

2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the WWAN module to the system board. (The WWAN module tilts up.)

3. Remove the WWAN module **(3)** by pulling the module away from the slot at an angle.

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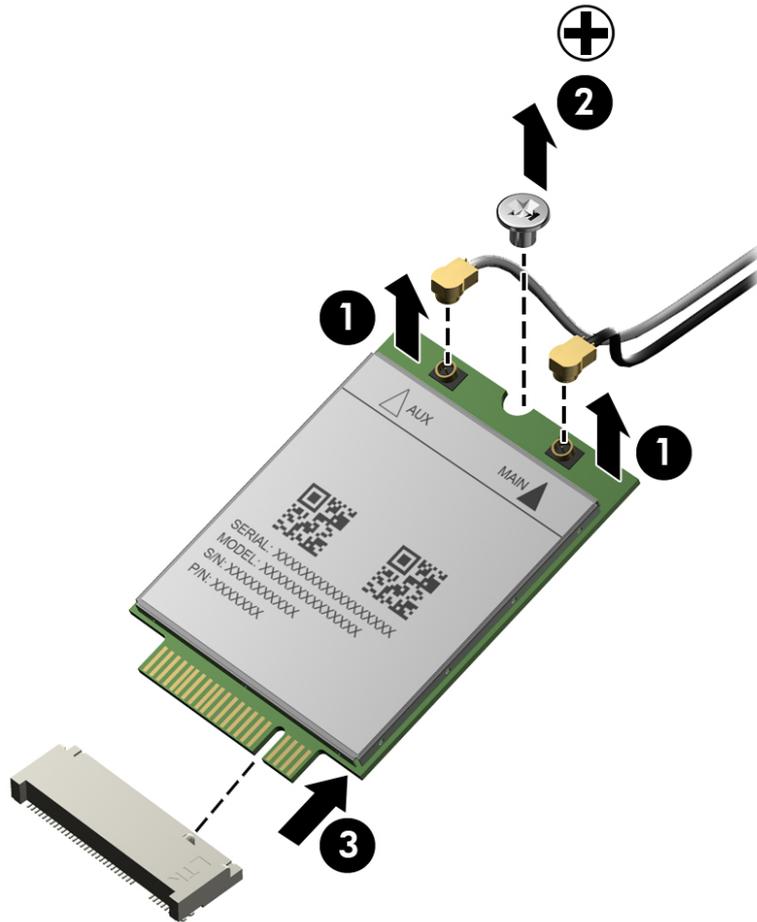
> **NOTE:** If the WWAN antennas are not connected to the terminals on the WWAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.
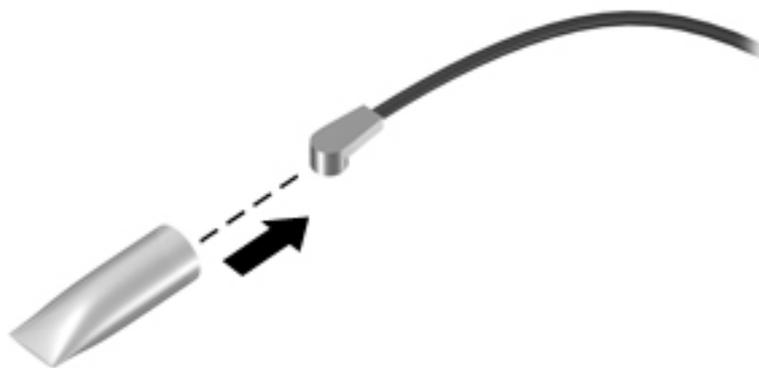
Reverse this procedure to install the WWAN module.

WLAN module

Description	Spare part number
Intel 7265 NGWGQ.I ac 2×2 + Bluetooth 4.0 LE PCIe+USB NGFF 2230 for use in Asia Pacific countries and regions	783721-001
Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter	784644-001
Intel Dual Band Wireless-N 7265AN 802.11 a/b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter	756748-001
Intel Dual Band Wireless-N 7265AN 802.11 b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter	756749-001

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

Before removing the WLAN module, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see).

5. Remove the battery (see).

Remove the WLAN module:

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

    📝 **NOTE:** The WLAN antenna cable labeled "1" connects to the WLAN module "Main" terminal labeled "1". The WLAN antenna cable labeled "2" connects to the WLAN module "Aux" terminal labeled "2".

2. Remove the Phillips PM2.0×3.0 screws **(2)** that secure the WLAN module to the base enclosure. (The WLAN module tilts up.)

3. Remove the WLAN module **(3)** by pulling the module away from the slot at an angle.

📝 **NOTE:** WLAN modules are designed with a notch to prevent incorrect insertion.

📝 **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, as shown in the following illustration.

Reverse this procedure to install the WLAN module.

Memory module

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

Before removing a memory module, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

Remove the memory module:

1. Spread the retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The edge of the module opposite the slot rises away from the computer.)

2. Remove the memory module **(2)** by pulling the module away from the slot at an angle.

> **NOTE:** Memory modules are designed with a notch to prevent incorrect insertion into the memory module slot.
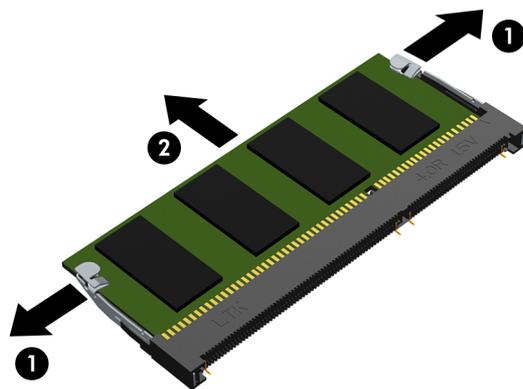
Reverse this procedure to install a memory module.

Keyboard

Keyboard with backlight and pointing sick for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models (includes backlight, keyboard, and pointing stick cables):

For use in Belgium	776475-A41	For use in North Africa	776475-FP1
For use in Brazil	776475-201	For use in Norway	776475-091
For use in Bulgaria	776475-261	For use in Portugal	776475-131
For use in Canada	776475-DB1	For use in Romania	776475-271
For use in the Czech Republic and Slovakia	776475-FL1	For use in Russia	776475-251
For use in Denmark	776475-081	For use in Saudi Arabia	776475-171
For use in France	776475-051	For use in Slovenia	776475-BA1
For use in Germany	776475-041	For use in South Korea	776475-AD
For use in Greece	776475-151	For use in Spain	776475-07
For use in Hungary	776475-211	For use in Sweden and Finland	776475-B71
For use in Iceland	776475-DD1	For use in Switzerland	776475-BG1
For use in India	776475-D61	For use in Taiwan	776475-AB1
For use in Israel	776475-BB1	For use in Thailand	776475-281
For use in Italy	776475-061	For use in Turkey	776475-141
For use in Japan	776475-291	For use in the United Kingdom and Singapore	776475-031
For use in Latin America	776475-161	For use in the United States	776475-001
For use in the Netherlands	776475-B31		

Keyboard with backlight and pointing stick tor use only on HP ZBook 15u G2 Mobile Workstation computer models (includes backlight, keyboard, and pointing stick cables):

For use in Belgium	731179-A41	For use in North Africa	731179-FP1
For use in Brazil	731179-201	For use in Norway	731179-091
For use in Bulgaria	731179-261	For use in Portugal	731179-131
For use in Canada	731179-DB1	For use in Romania	731179-271
For use in the Czech Republic and Slovakia	731179-FL1	For use in Russia	731179-251
For use in Denmark	731179-081	For use in Saudi Arabia	731179-171
For use in France	731179-051	For use in Slovenia	731179-BA1
For use in Germany	731179-041	For use in South Korea	731179-AD
For use in Greece	731179-151	For use in Spain	731179-07
For use in Hungary	731179-211	For use in Sweden and Finland	731179-B71
For use in Iceland	731179-DD1	For use in Switzerland	731179-BG1
For use in India	731179-D61	For use in Taiwan	731179-AB1

For use in Israel	731179-BB1	For use in Thailand	731179-281
For use in Italy	731179-061	For use in Turkey	731179-141
For use in Japan	731179-291	For use in the United Kingdom and Singapore	731179-031
For use in Latin America	731179-161	For use in the United States	731179-001
For use in the Netherlands	731179-B31		

Keyboard with pointing stick for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models (includes keyboard and pointing stick cables):

For use in Belgium	776474-A41	For use in North Africa	776474-FP1
For use in Brazil	776474-201	For use in Norway	776474-091
For use in Bulgaria	776474-261	For use in Portugal	776474-131
For use in Canada	776474-DB1	For use in Romania	776474-271
For use in the Czech Republic and Slovakia	776474-FL1	For use in Russia	776474-251
For use in Denmark	776474-081	For use in Saudi Arabia	776474-171
For use in France	776474-051	For use in Slovenia	776474-BA1
For use in Germany	776474-041	For use in South Korea	776474-AD
For use in Greece	776474-151	For use in Spain	776474-07
For use in Hungary	776474-211	For use in Sweden and Finland	776474-B71
For use in Iceland	776474-DD1	For use in Switzerland	776474-BG1
For use in India	776474-D61	For use in Taiwan	776474-AB1
For use in Israel	776474-BB1	For use in Thailand	776474-281
For use in Italy	776474-061	For use in Turkey	776474-141
For use in Japan	776474-291	For use in the United Kingdom and Singapore	776474-031
For use in Latin America	776474-161	For use in the United States	776474-001
For use in the Netherlands	776474-B31		

Keyboard with pointing stick for use only on HP ZBook 15u G2 Mobile Workstation computer models (includes keyboard and pointing stick cables):

For use in Belgium	730794-A41	For use in North Africa	730794-FP1
For use in Brazil	730794-201	For use in Norway	730794-091
For use in Bulgaria	730794-261	For use in Portugal	730794-131
For use in Canada	730794-DB1	For use in Romania	730794-271
For use in the Czech Republic and Slovakia	730794-FL1	For use in Russia	730794-251
For use in Denmark	730794-081	For use in Saudi Arabia	730794-171
For use in France	730794-051	For use in Slovenia	730794-BA1
For use in Germany	730794-041	For use in South Korea	730794-AD

For use in Greece	730794-151	For use in Spain	730794-07
For use in Hungary	730794-211	For use in Sweden and Finland	730794-B71
For use in Iceland	730794-DD1	For use in Switzerland	730794-BG1
For use in India	730794-D61	For use in Taiwan	730794-AB1
For use in Israel	730794-BB1	For use in Thailand	730794-281
For use in Italy	730794-061	For use in Turkey	730794-141
For use in Japan	730794-291	For use in the United Kingdom and Singapore	730794-031
For use in Latin America	730794-161	For use in the United States	730794-001
For use in the Netherlands	730794-B31		

Before removing the keyboard, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

Remove the keyboard:

1. Loosen the two Phillips captive screws that secure the keyboard to the computer.
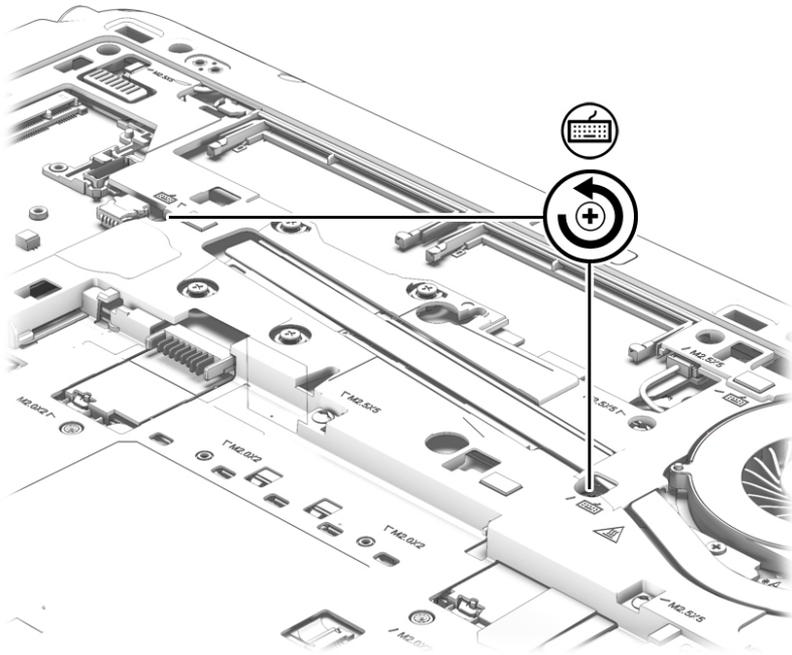
2. Partially open the computer.

3. Rest and secure the computer on its left side.

4. Insert a keyboard release tool or similar thin tool into the keyboard release hole, and then press on the back of the keyboard until the keyboard disengages from the computer.
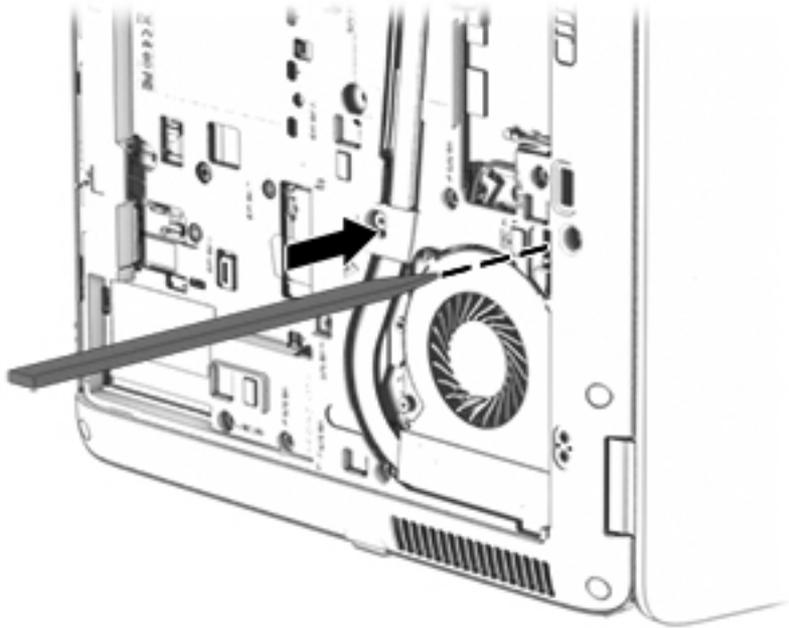
5. Position the computer right-side up with the front toward you.

6. Lift the rear edge of the keyboard upward.

7. Swing the keyboard **(1)** up and forward until it rests upside down on the palm rest.

8. Release the zero insertion force (ZIF) connector **(2)** to which the keyboard cable is attached, and then disconnect the keyboard cable from the system board.

9. Release the ZIF connector **(3)** to which the pointing stick cable is attached, and then disconnect the pointing stick cable from the system board.

> **NOTE:** Step 10 applies only to computer models equipped with a backlight.

10. Release the ZIF connector **(4)** to which the backlight cable is attached, and then disconnect the backlight cable from the system board.

11. Remove the keyboard **(5)**.
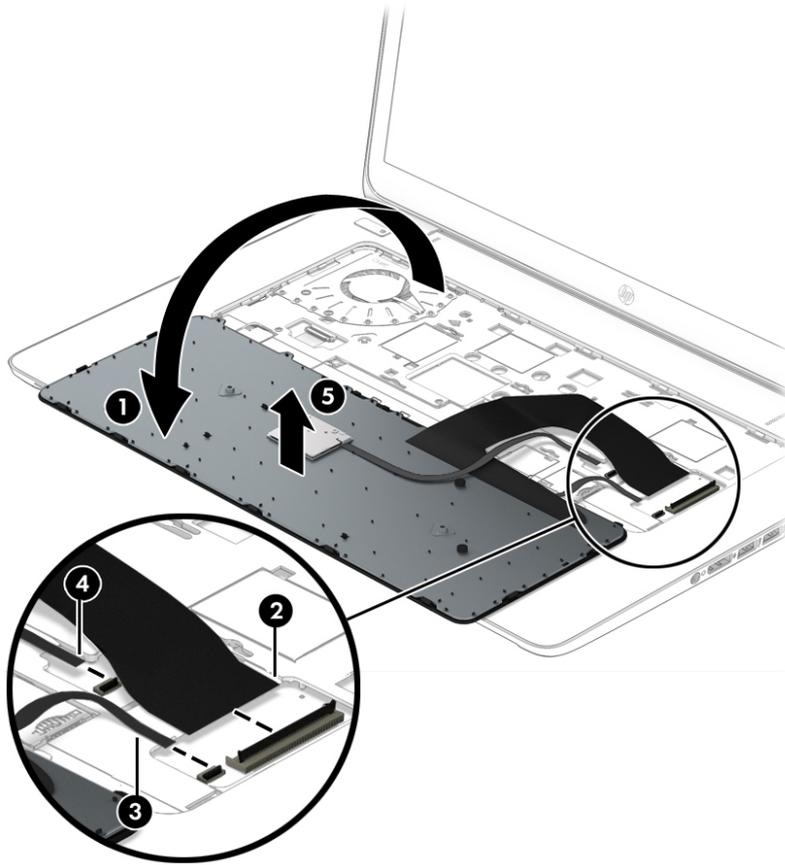
Reverse this procedure to install the keyboard.

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 and void the warranty.

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

Component replacement procedures

📝 **NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service label at the bottom of your computer. See Locating the product name, serial number, product number, warranty information, and model number on page 25 for details.

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

There are as many as 56 screws that must be removed, replaced, and/or loosened when servicing the Authorized Service Provider parts. Make special note of each screw size and location during removal and replacement.

Unlocking the device and disabling Always On Remote Management (select HP devices only)

HP Touchpoint Manager (HPTM) is a complete cloud-based solution for managing devices. For select HP devices with the Windows operating system, the Always On Remote Management (AORM) feature is automatically activated when HP Touchpoint Manager software is installed.

AORM can perform a secure BIOS level lock and can also securely erase internal drives (except for encrypted self-encrypting drives). The HP Touchpoint Manager website (http://www.hptouchpointmanager.com) provides access to the AORM lock feature. The device must be unlocked using an authorized PIN from the same website before you can access HP Computer Setup and start the Windows operating system.

📝 **IMPORTANT:** A service agent cannot retrieve the PIN from the HP Touchpoint Manager website. If a locked device is returned for service, the agent must contact the customer to obtain the PIN to unlock the device. If a PIN is not available, the entire system board must be replaced.

Before returning the device for service, be sure to unlock the device using the PIN from the HP Touchpoint Manager website (http://www.hptouchpointmanager.com), and also disable the AORM feature in HP Computer Setup.

To disable AORM:

1. Access HP Computer Setup (F10).

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

   b. Press f10 to enter Computer Setup.

   > **NOTE:** If the BIOS is protected with an Administrator password, enter the password.

2. Select **Advanced**, and then select **HP Touchpoint Manager Options**.

3. Clear the **Allow Activation** check box.

4. Select **Save changes and exit**.

Display panel

> **NOTE:** Non-TouchScreen display assemblies are spared at the subcomponent level only. TouchScreen display assemblies are spared only as whole unit replacement kits.

On non-TouchScreen computer models, the display bezel, display panel, and webcam/microphone module can be removed with the display assembly still installed on the computer. The following section provides instructions on how to remove the these components without removing the display assembly from the computer.

See later in this chapter for information on removing the display assembly and other display assembly subcomponents.

Before removing the display bezel, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see).

5. Remove the battery (see).

Remove the display bezel:

1. Flex the inside edges of the bottom edge **(1)**, the left and right sides **(2)**, and the bottom edge **(3)** of the display bezel until the bezel disengages from the display enclosure.

2. Remove the bezel **(4)**.

   The display bezel is available using the following spare part numbers:

   ● 730814-001 – For use only on HP EliteBook 850 G2 Notebook PC computer models

   ● 784478-001 – For use only on HP EliteBook 750 G2 Notebook PC computer models

   ● 796897-001 – For use only on HP ZBook 15u G2 Mobile Workstation computer models
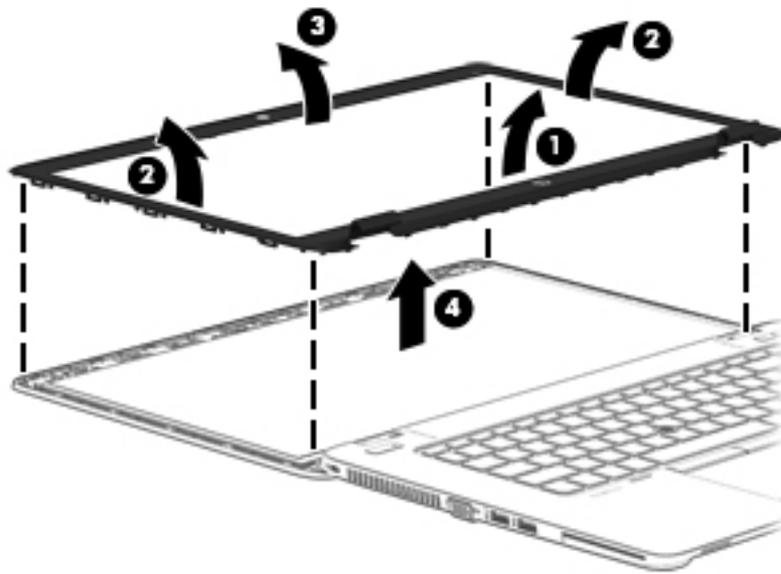
3. Remove the four Phillips PM2.0×3.0 screws **(1)** that secure the display panel to the display enclosure.

4. Swing the top edge of the display panel **(2)** up and forward until it rests on the computer.
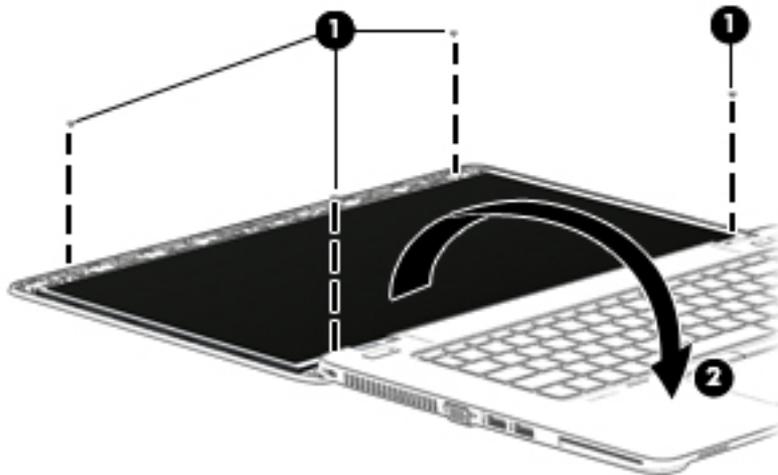
5. Release the adhesive support strip **(1)** that secures the display panel cable to the display panel.

6. Disconnect the display panel cable **(2)** from the display panel.
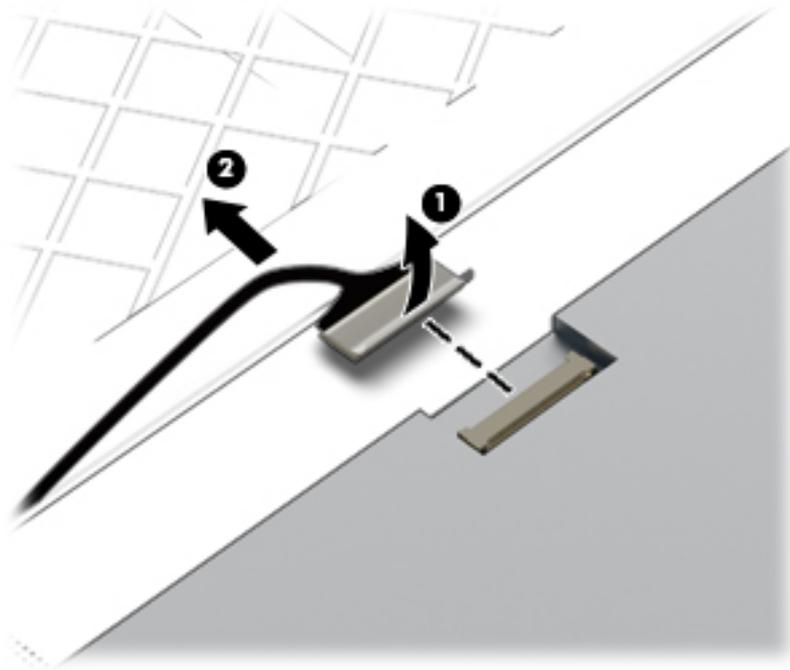
7. Remove the display panel.

The display panel is available using the following spare part numbers:

- 806361-001 – 15.6-in, LED backlit, FHD, AG, SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080) display panel for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models

- 806360-001 – 15.6-in, LED backlit, HD, AG, SVA, 45% CG, 200 nits, eDP 1.2 flat (1366×768) display panel for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models

- 796895-001 – 15.6-in, LED backlit, FHD, AG, UWVA, 72% CG, 300 nits, eDP 1.2 slim PSR (1920×1080) display panel for use only on HP ZBook 15u G2 Mobile Workstation computer models

- 796894-001 – 15.6-in, LED backlit, FHD, AG, SVA, 60% CG, 300 nits, eDP 1.2 slim (1920×1080) display panel for use only on HP ZBook 15u G2 Mobile Workstation computer models
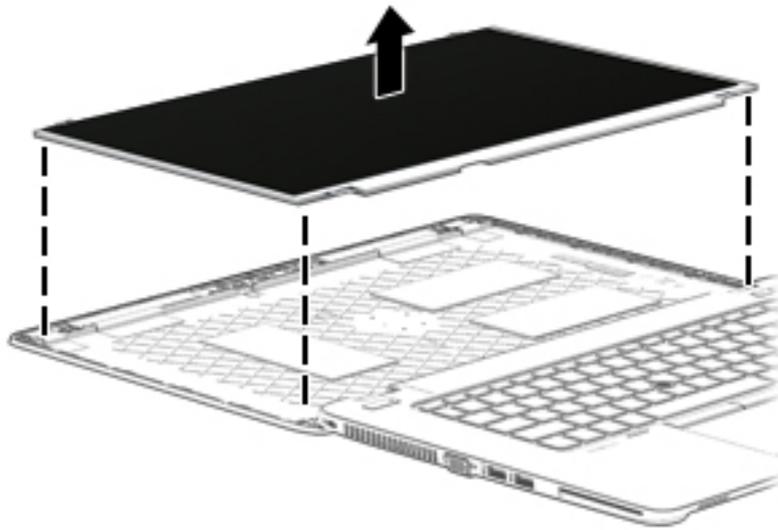
8. If it is necessary to replace the webcam/microphone module or the microphone module:

   a. Release the tape that secures the webcam/microphone module cable to the webcam/microphone module **(1)**.

   b. Disconnect the cable **(2)** from the module.

   > ⚠ **CAUTION:** Handle the module with caution. The module has a thin profile and is susceptible to damage when not handled carefully.

   c. Remove the webcam/microphone module **(3)** from the display enclosure. (The webcam/microphone module is attached to the display enclosure with double-sided tape.)

   The webcam/microphone module is available using spare part number 784457-001. The microphone module is available using spare part number 730795-001.
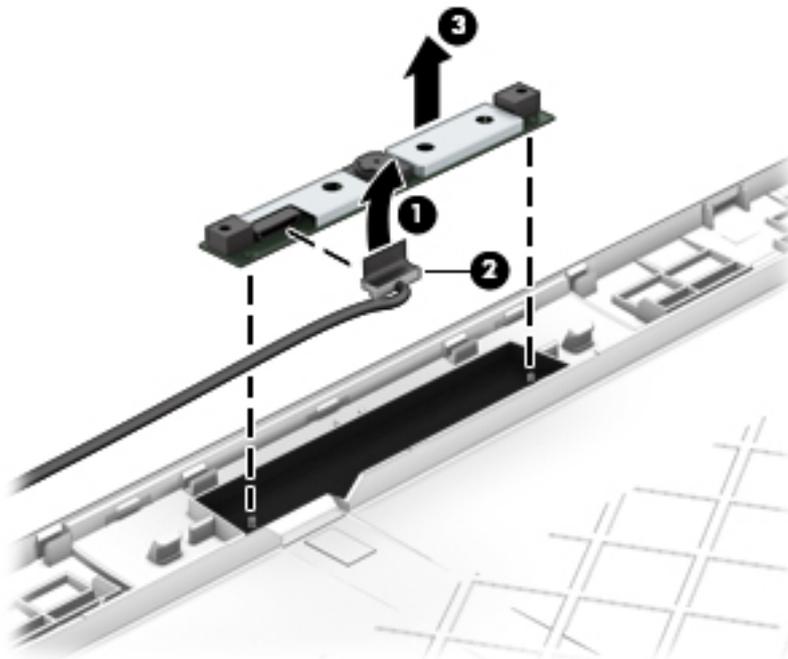
Reverse this procedure to reassemble and install the display assembly.

RTC battery

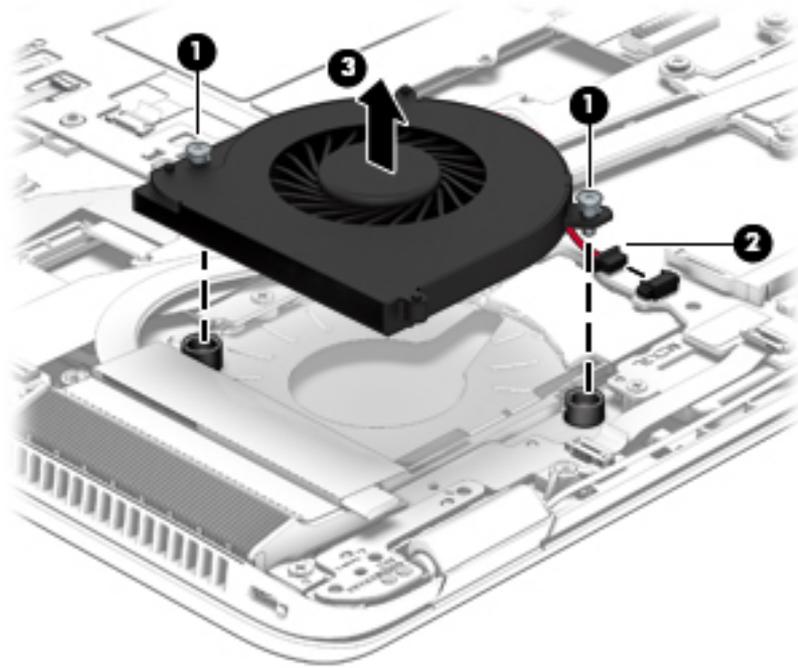| Description	Spare part number
RTC battery (includes cable and double-sided adhesive)	665733-001

Before removing the RTC battery, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

5. Remove the battery (see Battery on page 49.

Remove the RTC battery:

1. Disconnect the RTC battery cable **(1)** from the system board.

2. Slide the battery out from the bottom cover **(2)**, and then remove the battery **(3)**. (The RTC battery is attached to the base enclosure with double-sided adhesive.)
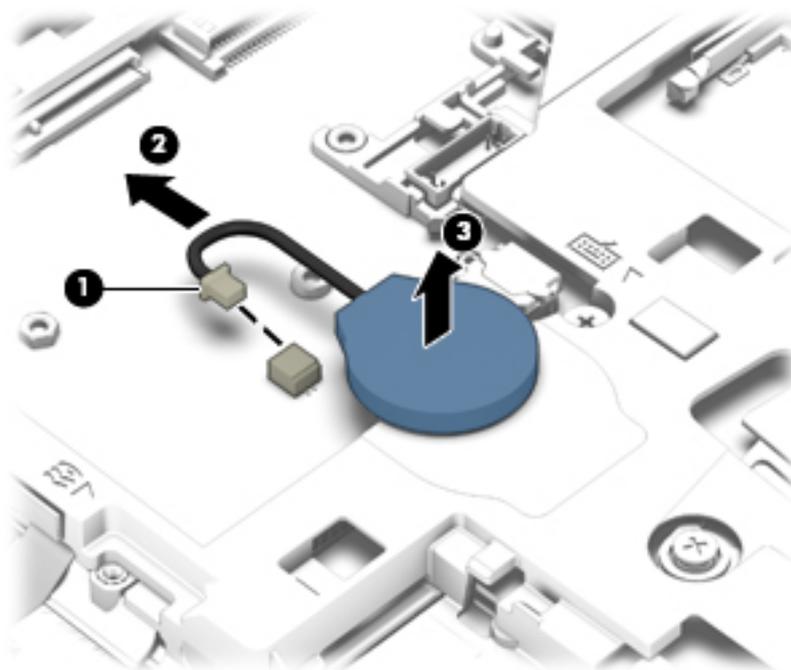
3. Remove the RTC battery.

Reverse this procedure to install the RTC battery.

Base enclosure

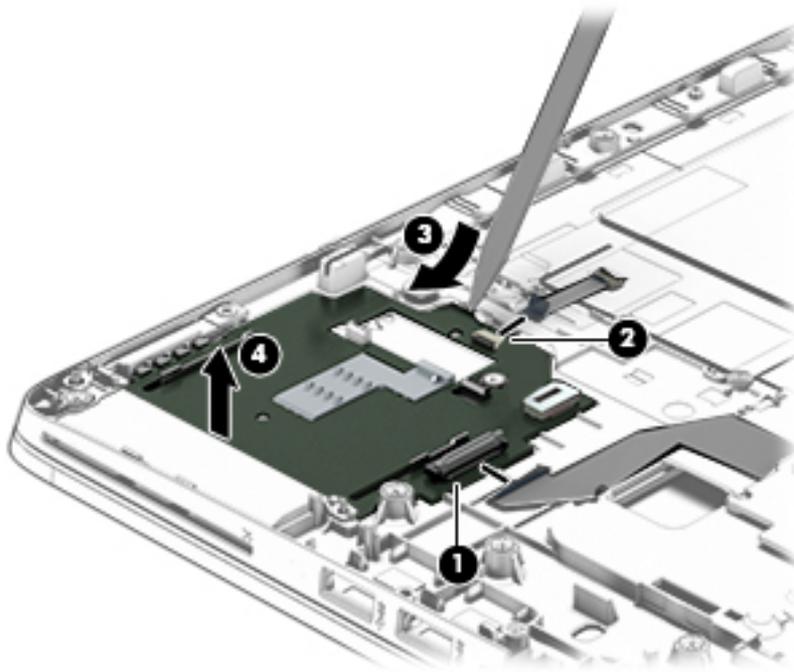| Description	Spare part number
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799688-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models	796892-001

Before removing the base enclosure, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47).

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

6. Remove the keyboard (see Keyboard on page 59).

Remove the base enclosure:

1. Close the computer.

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

3. Remove the eight rubber screw covers.

   The base enclosure rubber screw covers are included in the Rubber Kit, spare part number 730796-001
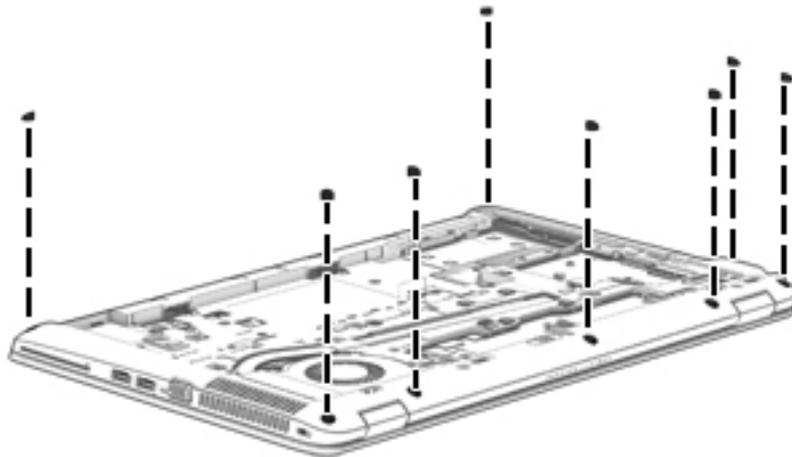
4. Remove the 21 Torx T8M2.5×5.0 screws that secure the base enclosure to the computer.
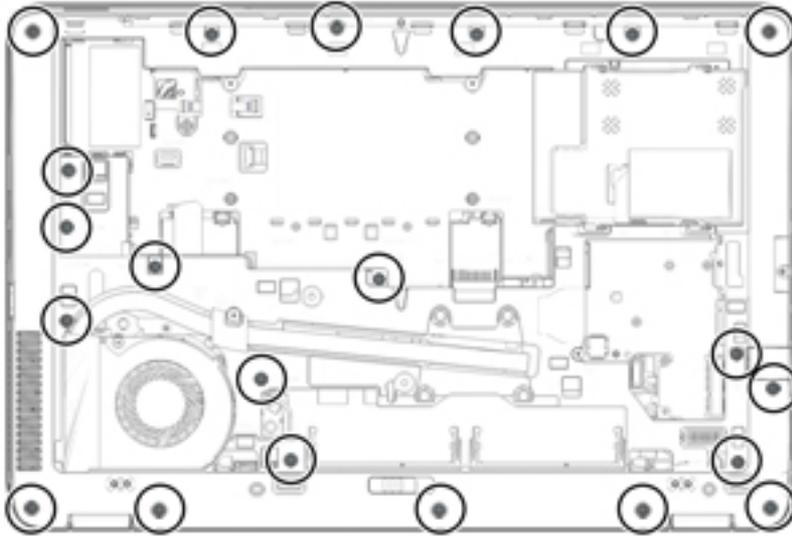
5. Remove the Phillips PM2.0×8.0 screw **(1)** near the media card reader that secures the base enclosure to the computer.

6. Remove the five Phillips PM2.0×5.0 broad head screws **(2)** inside the battery bay that secure the base enclosure to the computer.
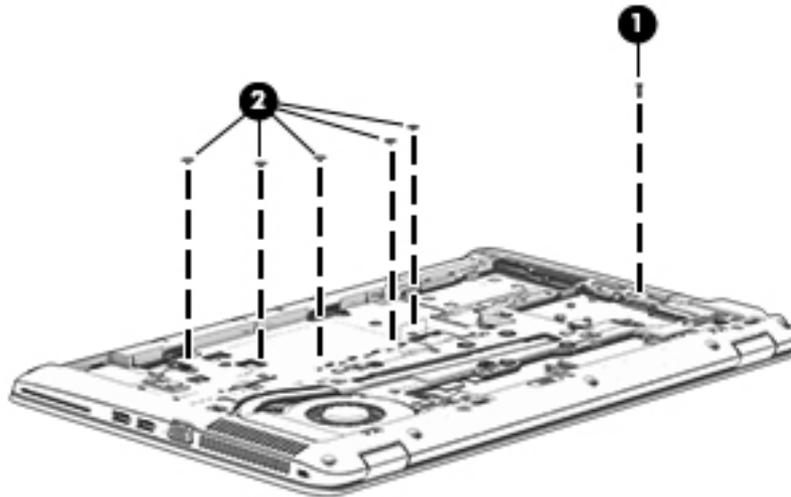
7. Lift the base enclosure off the computer.
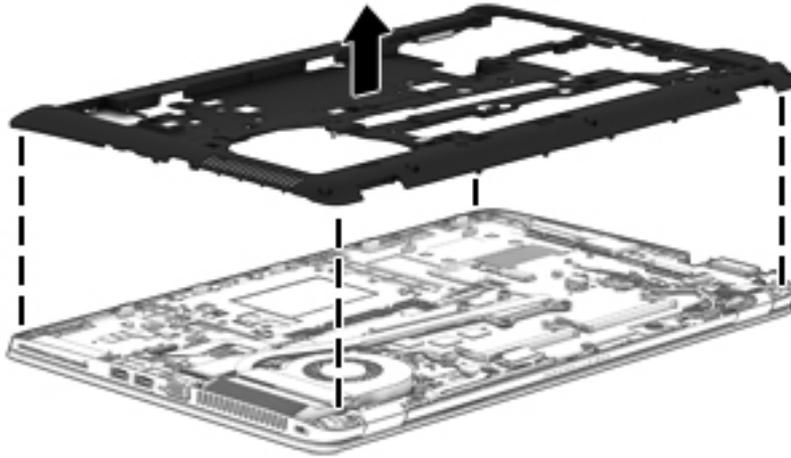
Reverse this procedure to install the base enclosure.

Fan

Description	Spare part number
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models (includes cable)	730792-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models – included with the heat sink spare part kit.	796898-001

Before removing the fan, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

   c. Base enclosure (see Base enclosure on page 71)

Remove the fan:

1. Loosen the two captive Phillips screws **(1)** that secure the fan to the top cover.

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

3. Remove the fan **(3)**.

Reverse this procedure to install the fan.

NFC module

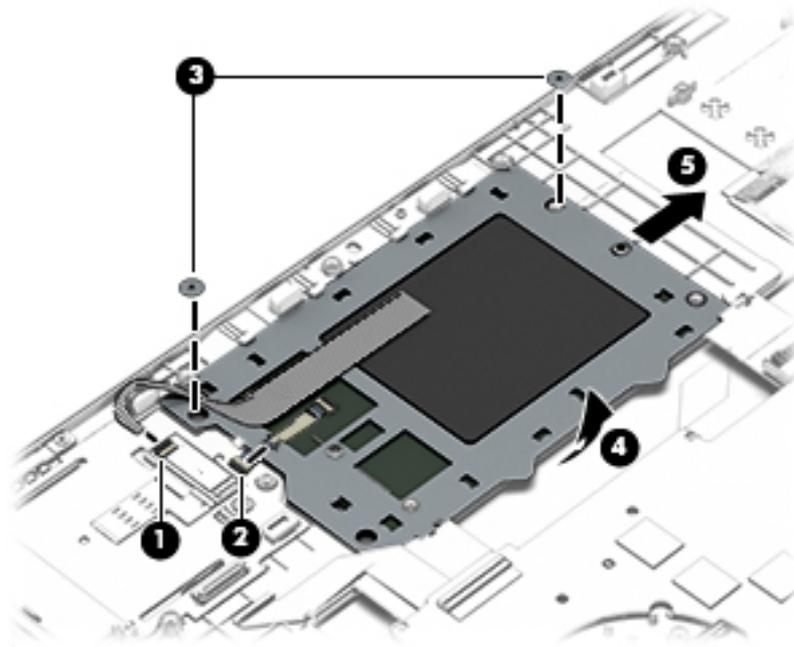| Description	Spare part number
NFC module (includes 2 cables and double-sided adhesive)	800515-001

Before removing the NFC module, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

   c. Base enclosure (see Base enclosure on page 71)

Remove the NFC module:

1. Release the ZIF connector **(1)** to which the NFC module cable is connected, and then disconnect the NFC module cable from the card reader board.

2. Release the ZIF connector **(2)** to which the NFC module cable is connected, and then disconnect the NFC module cable from the NFC module.

3. Release the NFC module **(3)** from the top cover. (The NFC module is attached to the top cover with double-sided adhesive.)
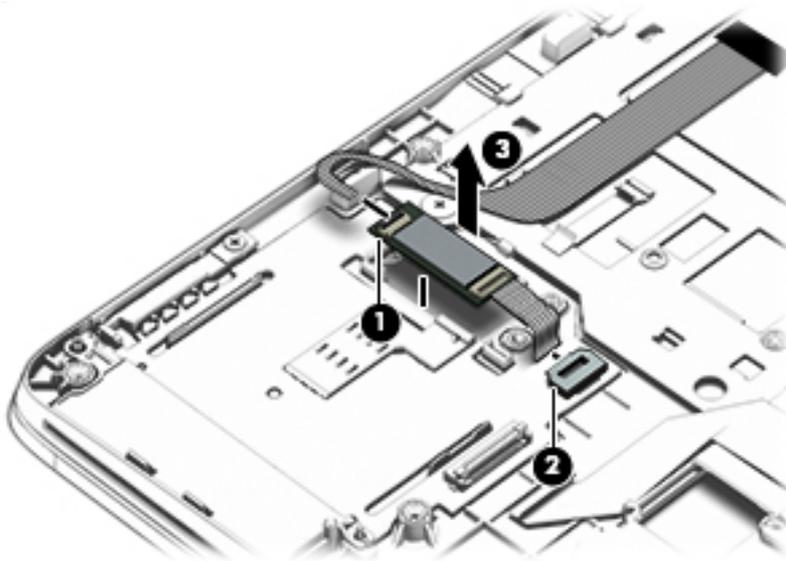
4. Remove the NFC module.

Reverse this procedure to install the NFC module.

Card reader board

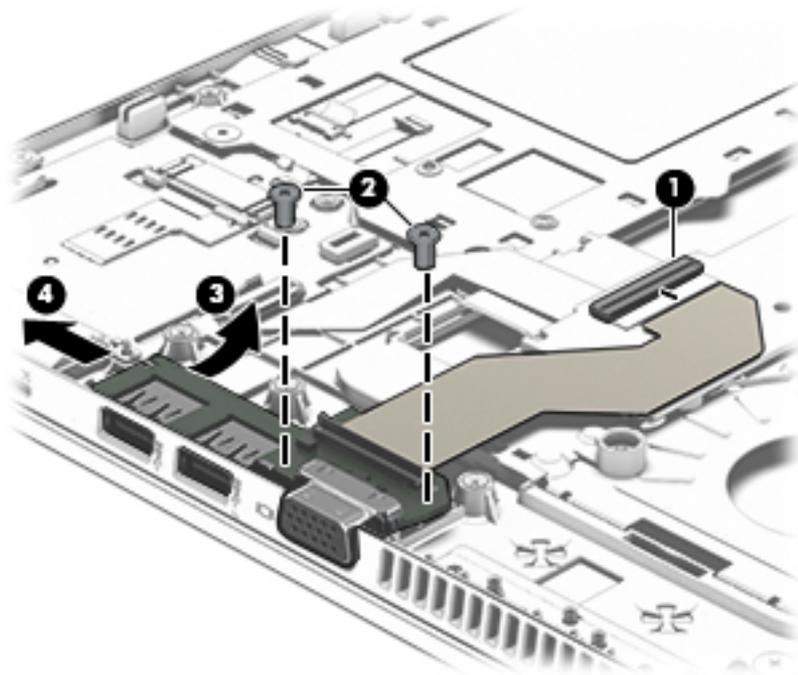| Description	Spare part number
Fan (includes cable)	784779-001

Before removing the card reader board, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

   c. Base enclosure (see Base enclosure on page 71)

   d. NFC module (see NFC module on page 75 ,where applicable)

Remove the card reader board:

1. Release the ZIF connector **(1)** to which the card reader board cable is connected, and then disconnect the card reader board cable from the card reader board.

2. Release the ZIF connector **(2)** to which the TouchPad cable is connected, and then disconnect the TouchPad cable from the card reader board.

3. Use a case utility tool **(3)** or similar thin, plastic tool to disengage the left side of the card reader board it from the top cover (3). (The card reader board is attached to the top cover with double-sided adhesive.)

4. Remove the card reader board **(4)**.

Reverse this procedure to install the card reader board.

TouchPad

NOTE: The TouchPad spare part kit includes the TouchPad cable.

Description	Spare part number
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with an NFC module (includes NFC module cable)	799544-001
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models not equipped with an NFC module	797431-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models equipped with an NFC module (includes NFC module cable)	798050-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models not equipped with an NFC module	798049-001

Before removing the TouchPad, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

   c. Base enclosure (see Base enclosure on page 71)

   d. NFC module (see NFC module on page 75)

Remove the TouchPad:

1. Release the ZIF connector **(1)** to which the TouchPad cable is connected, and then disconnect the TouchPad cable from the card reader board.

2. Remove the two Phillips PM2.0×2.0 broad head screws **(2)** that secure the TouchPad to the top cover.

3. Lift the top edge of the TouchPad until it rests at an angle **(3)**.

4. Remove the TouchPad **(4)** by sliding it away from the top cover at an angle.

Reverse this procedure to install the TouchPad.

USB/VGA connector board

Description	Spare part number
USB/VGA connector board (includes cable)	784780-001

Before removing the USB/VGA connector board, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

    a. Battery (see Battery on page 49)

    b. Keyboard (see Keyboard on page 59)

    c. Base enclosure (see Base enclosure on page 71)

Remove the USB/VGA connector board:

1. Release the ZIF connector **(1)** to which the USB/VGA connector board cable is connected, and then disconnect the USB/VGA connector board cable from the system board.

2. Remove the two Phillips PM2.0×8.0 screws **(2)** that secure the USB/VGA connector board to the top cover.

3. Release the USB/VGA connector board **(3)** from the openings in the base enclosure.

4. Remove the USB/VGA connector board **(4)** and cable by sliding them away from the heat sink.

Reverse this procedure to install the USB/VGA connector board.

Heat sink

NOTE: The heat sink spare part kit includes replacement thermal material.

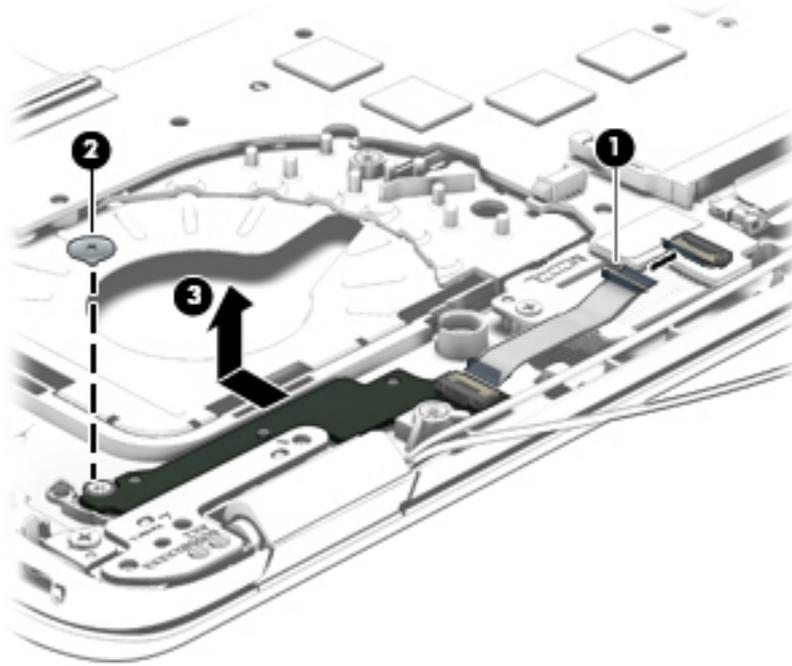| Description	Spare part number
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with a graphics subsystem with discrete memory	803019-001
For use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models equipped with a graphics subsystem with UMA memory	803018-001
For use only on HP ZBook 15u G2 Mobile Workstation computer models (includes fan)	796898-001

Before removing the heat sink, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

c. Base enclosure (see Base enclosure on page 71)

d. Fan (see Fan on page 73)

Remove the heat sink:

NOTE: Steps 1 and 2 apply to computer models equipped with graphics subsystems with discrete memory. See steps 3 and 4 for heat sink removal information for computer models equipped with graphics subsystems with UMA memory.

1. Following the 1, 2, 3, 4, 5, 6 sequence stamped into the heat sink, loosen the six captive Philllips screws **(1)** through **(6)** that secure the heat sink to the system board.

2. Remove the heat sink **(7)**.

NOTE: Due to the adhesive quality of the thermal material located between the heat sink and the system board components, it may be necessary to move the heat sink from side to side to detach it.
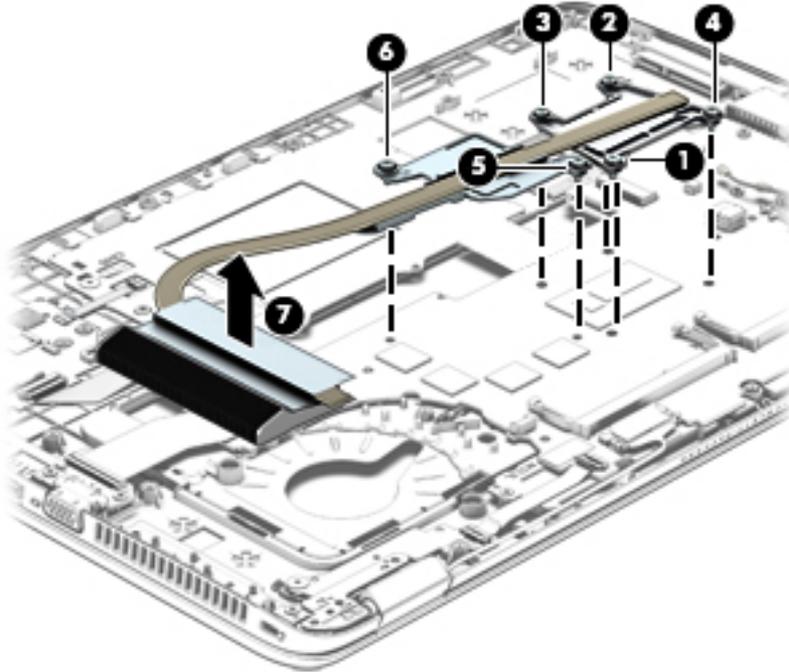
NOTE: Steps 3 and 4 apply to computer models equipped with graphics subsystems with UMA memory. See steps 1 and 2 for heat sink removal information for computer models equipped with graphics subsystems with discrete memory.

3. Following the 1, 2, 3, 4 sequence stamped into the heat sink, loosen the four captive Philllips screws **(1)** through **(4)** that secure the heat sink to the system board.

4. Remove the heat sink **(4)**.

> **NOTE:** Due to the adhesive quality of the thermal material located between the heat sink and the system board components, it may be necessary to move the heat sink from side to side to detach it.
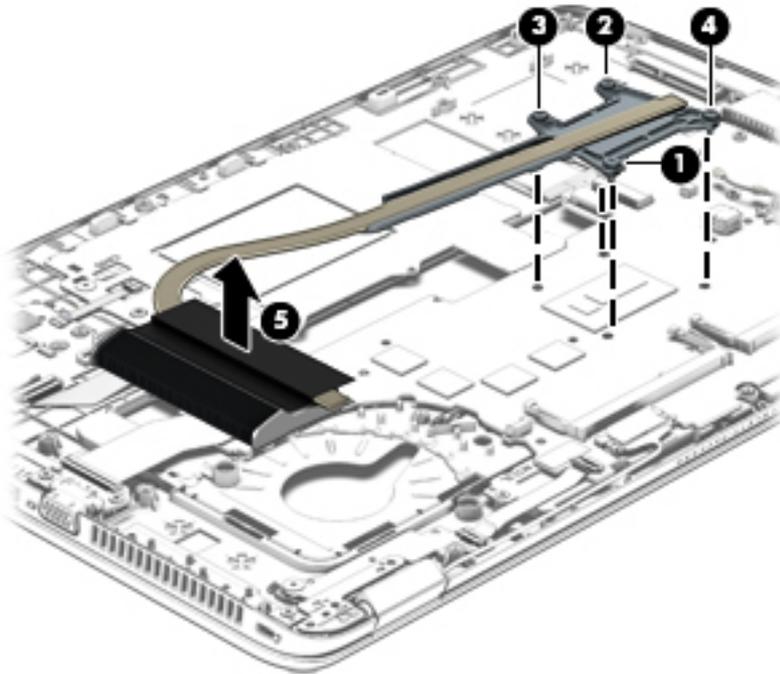
The following illustration shows the replacement thermal material locations on the system board and the heat sink on computer models equipped with a graphics subsystem with discrete memory. The thermal material must be thoroughly cleaned from the surfaces of the system board and the heat sink components each time the heat sink is removed. Replacement thermal material is included with the system board and heat sink spare part kits.

Thermal paste is used on the processor **(1)** and on the heat sink component **(2)** that services it. Thermal paste is also used on the graphics subsystem component **(3)** and on the heat sink component **(4)** that services it.
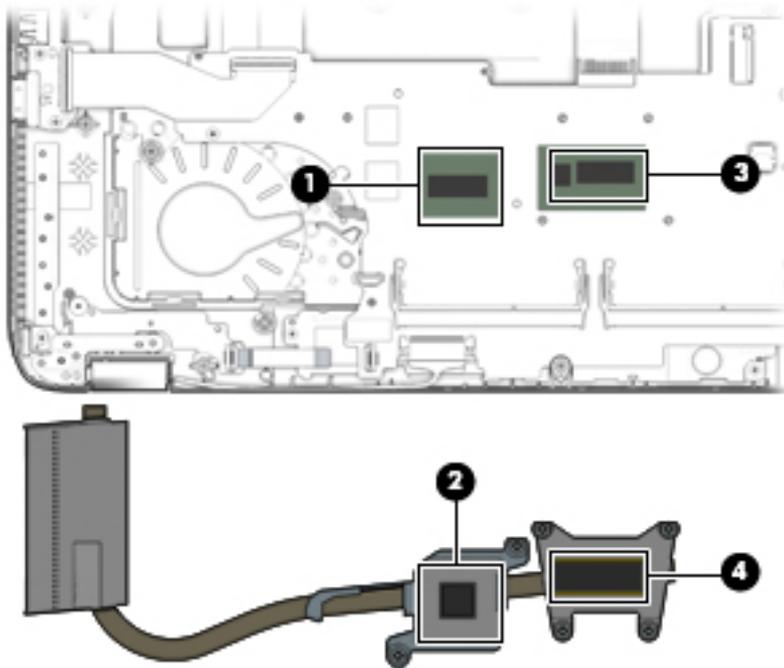
The following illustration shows the replacement thermal material locations on computer models equipped with a graphics subsystem with UMA memory. The thermal material must be thoroughly cleaned from the surfaces of the heat sink and the system board components each time the heat sink is removed. Replacement thermal material is included with the heat sink, processor, and system board spare part kits.

Thermal paste is used on the processor **(1)** and on the heat sink component **(2)** that services it.
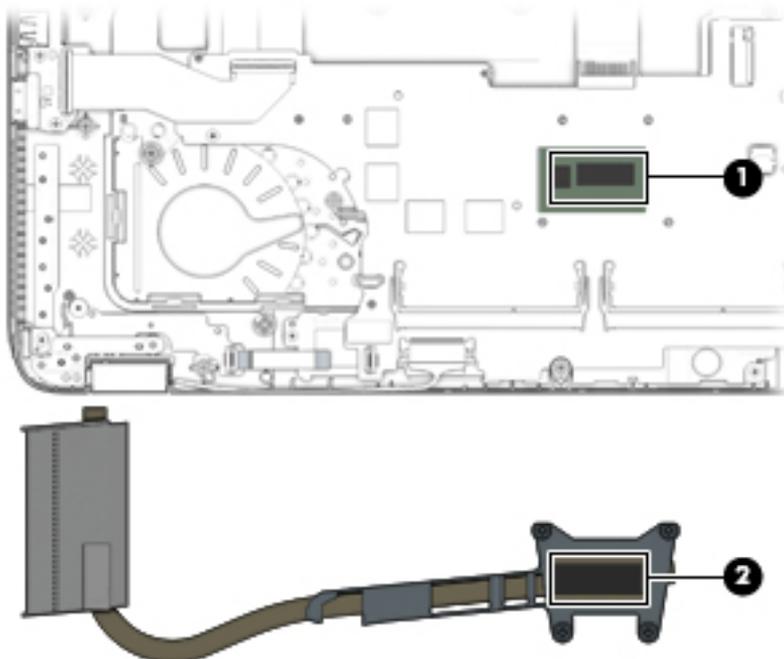
Reverse this procedure to install the heat sink.

Power button board

Description	Spare part number
Power button board (includes cable)	730822-001

Before removing the power button board, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

    a. Battery (see Battery on page 49)

    b. Keyboard (see Keyboard on page 59)

    c. Base enclosure (see Base enclosure on page 71)

    d. Fan (see Fan on page 73)

    e. Heat sink (see Heat sink on page 80)

Remove the power button board:

1. Release the ZIF connector **(1)** to which the power button board cable is connected, and then disconnect the power button board cable from the system board.

2. Remove the Phillips PM2.0×3.0 broad head screw **(2)** that secures the power button board to the top cover.

3. Slide the power button board **(3)** toward the inside of the top cover, and then lift it off the top cover.

Reverse this procedure to install the power button board.

Fingerprint reader board

Description	Spare part number
Fingerprint reader board (includes bracket and cable)	730817-001

Before removing the fingerprint reader board, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

    a. Battery (see Battery on page 49)

    b. Keyboard (see Keyboard on page 59)

    c. Base enclosure (see Base enclosure on page 71)

    d. Fan (see Fan on page 73)

    e. Heat sink (see Heat sink on page 80)

Remove the fingerprint reader board:

1. Turn the computer upside down.

2. Release the plastic cover **(1)** that covers the fingerprint reader board.

3. Slide the fingerprint reader board bracket away from the fingerprint reader board **(2)**, and remove it.

4. Remove the fingerprint reader board **(3)**.
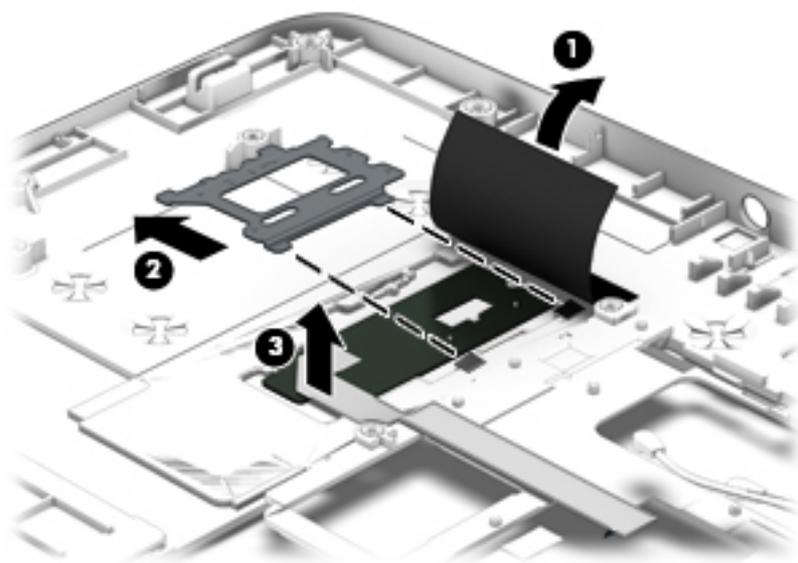
Reverse this procedure to install the fingerprint reader board.

System board

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

Description	Spare part number
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-601
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-501
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799543-001
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-601
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-501
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796891-001
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-601
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-501
Equipped with an Intel Core i7-5600U 2.60-GHz (SC turbo up to 3.20-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799513-001
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-601
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-501
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799517-001
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-601

Description	Spare part number
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-501
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796890-001
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-601
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-501
Equipped with an Intel Core i7-5500U 2.40-GHz (SC turbo up to 3.00-GHz) processor (4.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC computer models	799512-001
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-601
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-501
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799516-001
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-601
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-501
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796889-001
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-601
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-501

Description	Spare part number
Equipped with an Intel Core i5-5300U 2.30-GHz (SC turbo up to 2.90-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799511-001
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-601
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-501
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799515-001
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-601
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-501
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), AMD FirePro M4170 128-bit (GDDR5) graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP ZBook 15u G2 Mobile Workstation computer models	796888-001
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-601
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-501
Equipped with an Intel Core i5-5200U 2.20-GHz (SC turbo up to 2.70-GHz) processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799510-001
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-601
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-501
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), AMD Radeon R7 M260X graphics subsystem with discrete memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799514-001

Description	Spare part number
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Professional operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-601
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and the Windows 8 Standard operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-501
Equipped with an Intel Core i3-5010U 2.10-GHz processor (3.0-MB L3 cache, dual core, 15-W), Intel HD Graphics 5500 graphics subsystem with UMA memory, and a non-Windows 8 operating system for use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models	799509-001

Before removing the system board, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

   a. Battery (see Battery on page 49)

   b. Keyboard (see Keyboard on page 59)

   c. Base enclosure (see Base enclosure on page 71)

   d. Fan (see Fan on page 73)

   e. Heat sink (see Heat sink on page 80)

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

- Memory modules (see Memory module on page 58)

- Heat sink (see Heat sink on page 80)

- WLAN module (see WLAN module on page 56)

- WWAN module (see WWAN module on page 54)

Remove the system board:

1. Position the computer right side up.

2. Open the computer as far as it will open.

3. Release the ZIF connector **(1)** to which the fingerprint reader cable is connected, and then disconnect the fingerprint reader cable **(2)** from the system board.
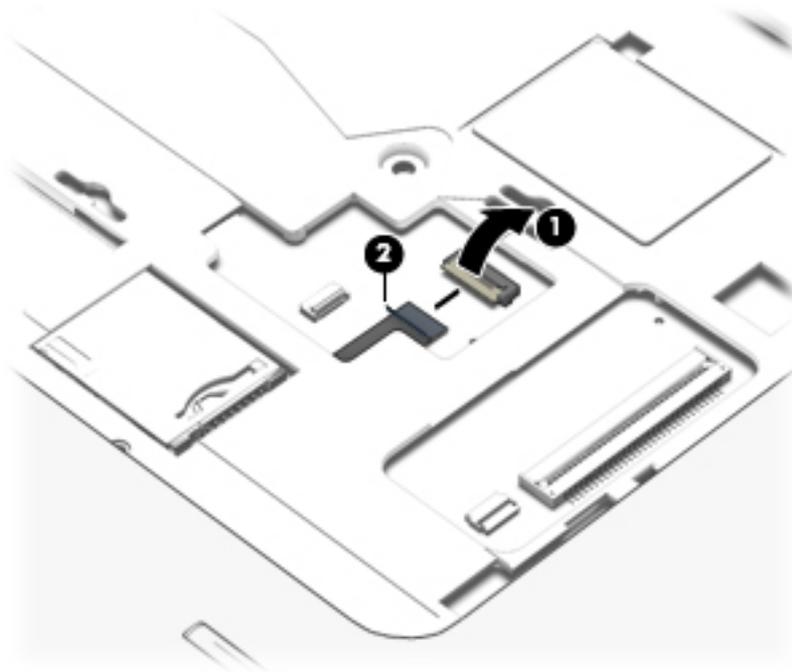
4. Close the computer.

5. Turn the computer upside down with the rear toward you.

6. Release the ZIF connector **(1)** to which the card reader cable is connected, and then disconnect the card reader cable from the system board.

7. Release the ZIF connector **(2)** to which the USB/VGA connector board cable is connected, and then disconnect the USB/VGA connector board cable from the system board.

8. Release the ZIF connector **(3)** to which the power button board cable is connected, and then disconnect the power button board cable from the system board.

9. Release the display panel cable from the routing channel **(4)** attached to the system board.

10. Disconnect the display panel cable **(5)** from the system board.

11. Disconnect the speaker cable **(6)** from the system board.

12. Release the wireless antenna cables **(7)** from the routing clips and channels built into the top cover.
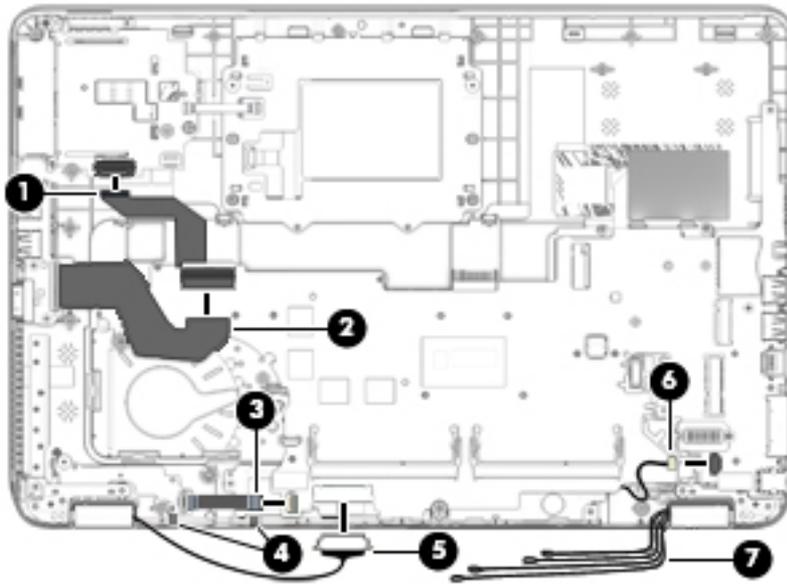
13. Remove the three Phillips PM2.5×5.0 screws that secure the system board to the top cover.
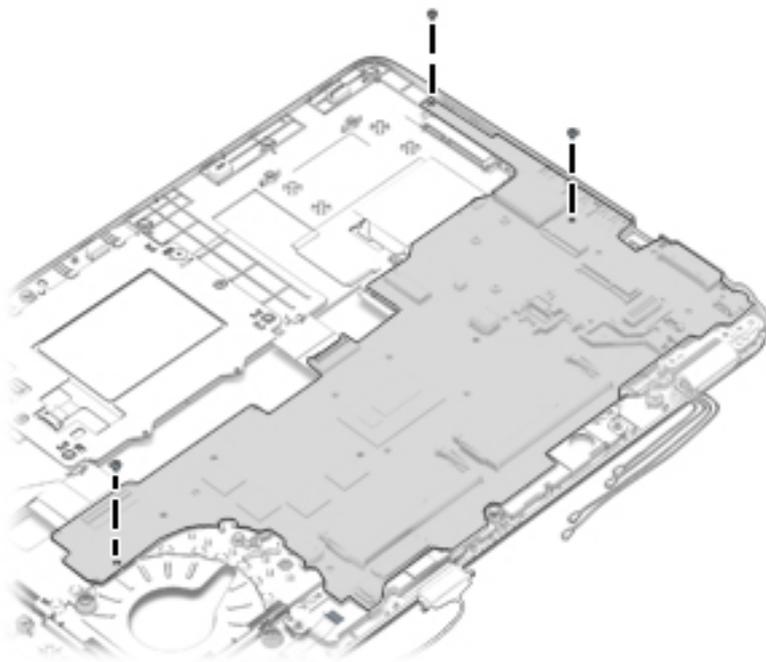
14. Lift the left side of the system board **(1)** until it rests at an angle.

15. Remove the system board **(2)** by sliding it up and to the left at an angle.
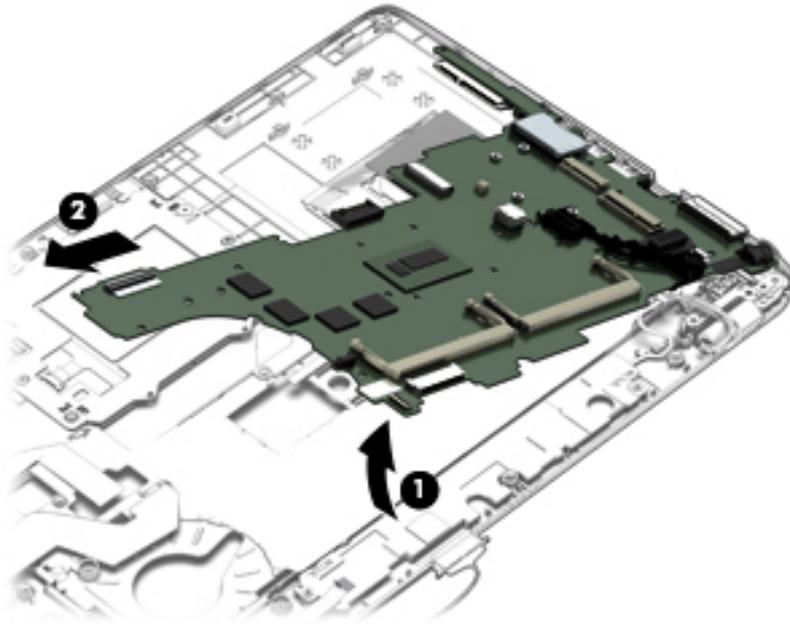
Reverse this procedure to install the system board.

Speaker assembly

Description	Spare part number
Speaker assembly (includes cable)	730798-001

Before removing the speaker assembly, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

    a. Battery (see Battery on page 49)

    b. Keyboard (see Keyboard on page 59)

    c. Base enclosure (see Base enclosure on page 71)

    d. Fan (see Fan on page 73)

    e. Heat sink (see Heat sink on page 80)

    f. System board (see System board on page 87)

Remove the speaker assembly:

1. Remove the two Phillips PM2.0×3.0 screws **(1)** that secure the speaker assembly to the base enclosure.

2. Remove the speaker assembly **(2)** from the top cover.
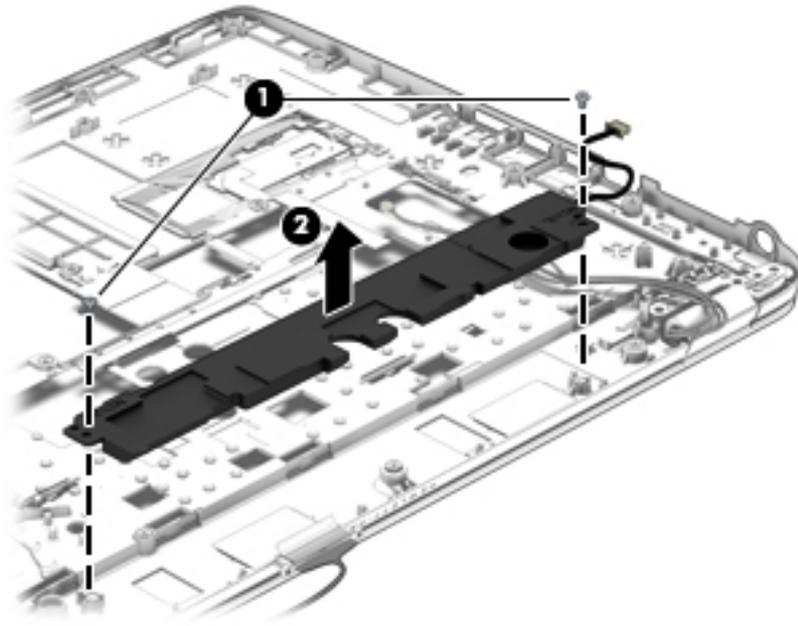
Reverse this procedure to install the speaker assembly.

Display assembly

NOTE: Non-TouchScreen display assemblies are spared at the subcomponent level only. See Display panel on page 66 earlier in this chapter for information on removing the display bezel, display panel, and webcam/microphone module.

Description	Spare part number
15.6-in, FHD, SVA (1920×1080), capacitive TouchScreen display assembly (includes webcam and microphone)	784781-001

Before removing the display assembly, follow these steps:

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

2. Disconnect the power from the computer by unplugging the power cord from the computer.

3. Disconnect all external devices from the computer.

4. Remove the service cover (see Service cover on page 47), and then remove the following components:

    a. Battery (see Battery on page 49)

    b. Keyboard (see Keyboard on page 59)

    c. Base enclosure (see Base enclosure on page 71)

Remove the display assembly:

1. Release the display panel cable from the routing channel built into the system board, and then disconnect the display panel cable **(1)** from the system board.

2. Release the wireless antenna cables **(2)** from the routing channel built into the system board.
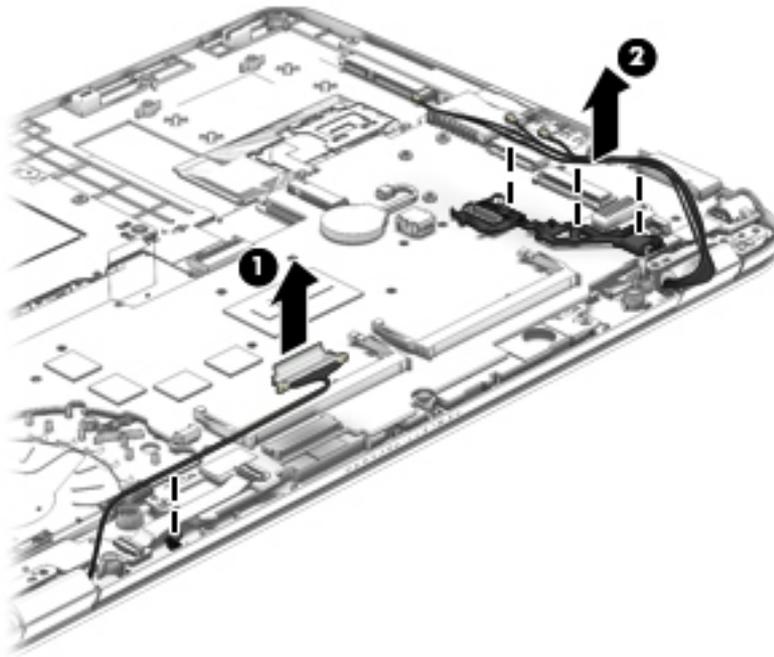
3. Remove the four Torx TM2.5×6.0 screws **(1)** that secure the display panel to the top cover.

4. Rotate the display hinges **(2)** back until the top cover is free for removal.

5. Separate the display assembly **(3)** from the top cover.
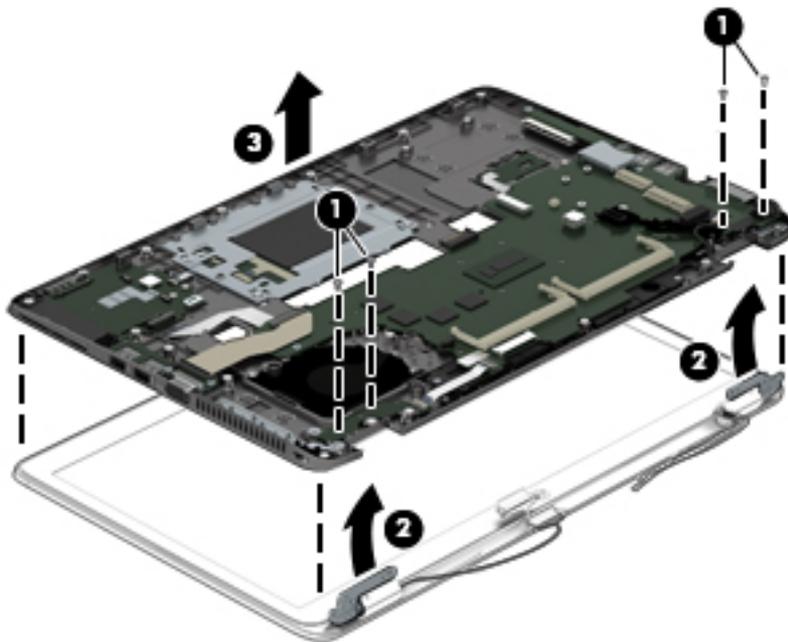
6. To remove the display bezel, flex the inside edges of the bottom edge **(1)**, the left and right sides **(2)**, and the bottom edge **(3)** of the bezel until the bezel disengages from the display enclosure.

7. Remove the bezel **(4)**.

The display bezel is available using the following spare part numbers:

- 730814-001 – For use only on HP EliteBook 850 G2 Notebook PC computer models

- 784478-001 – For use only on HP EliteBook 750 G2 Notebook PC computer models

- 796897-001 – For use only on HP ZBook 15u G2 Mobile Workstation computer models

NOTE: In the following steps, the display assembly will not be attached to the computer, as shown in the following illustration.
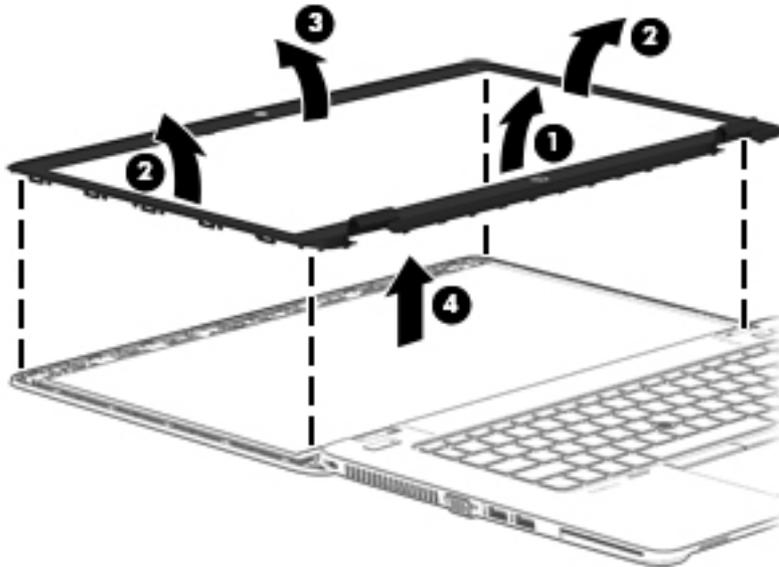
8. To remove the display hinges:

a. Remove the display bezel.

b. Remove the display panel.

c. Remove the six Phillips PM 2.0×2.0 broad head screws **(1)** that secure the display hinges to the display enclosure.

d. Remove the display hinges **(2)**.

The display hinges are available using spare part numbers 730819-001 (or use only on HP EliteBook 850 G2 Notebook PC and HP EliteBook 750 G2 Notebook PC computer models) and 796899-001 (for use only on HP ZBook 15u G2 Mobile Workstation computer models).
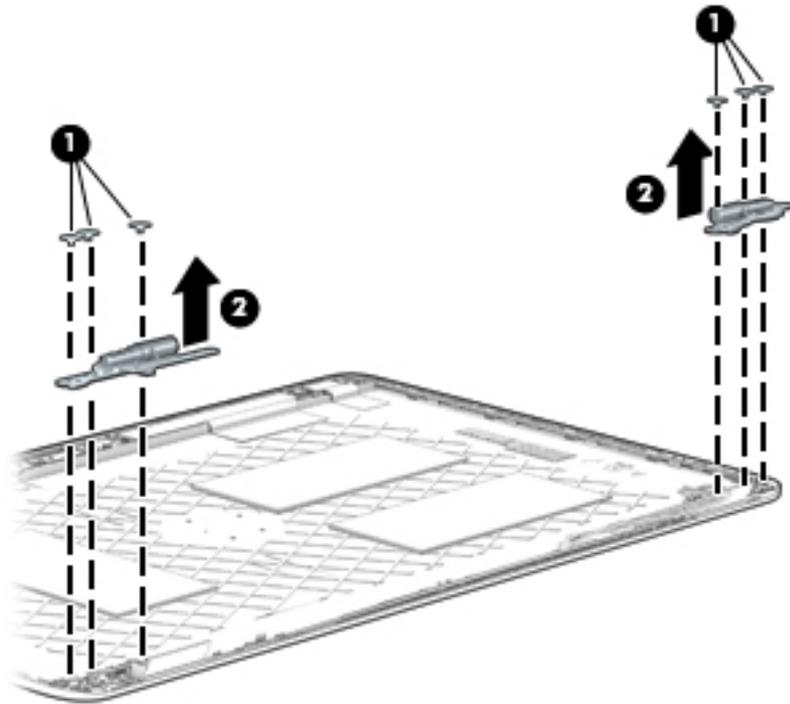
9. To remove the display panel cable:

   a. Remove the display bezel.

   b. Remove the display panel.

   c. Lift the cable straight up and out of the display enclosure.

       The display panel cable is available using spare part number 730801-001 and includes the webcam/microphone module cable.

   📝 **NOTE:** Use the following image to properly route the cable.
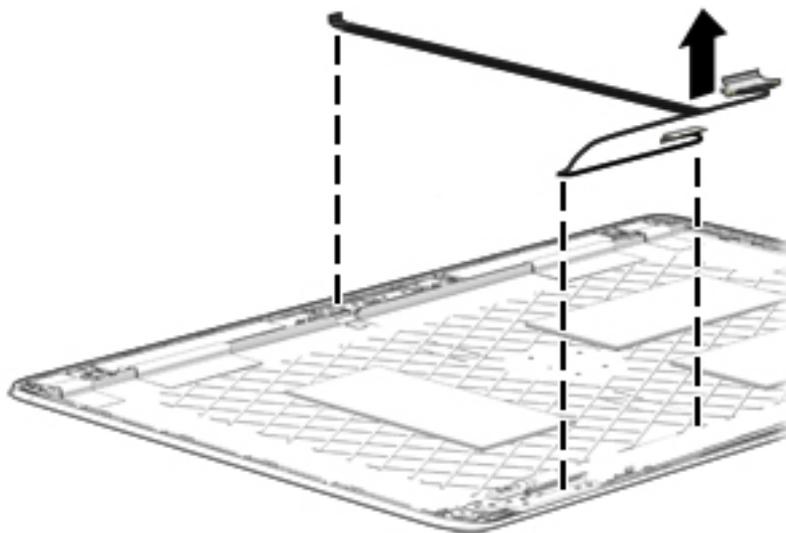
10. To remove the WLAN/WWAN antenna cables and transceivers:

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

b. Detach the WLAN antennas and transceivers **(2)** and the WWAN antennas and transceivers **(3)** from the display enclosure.
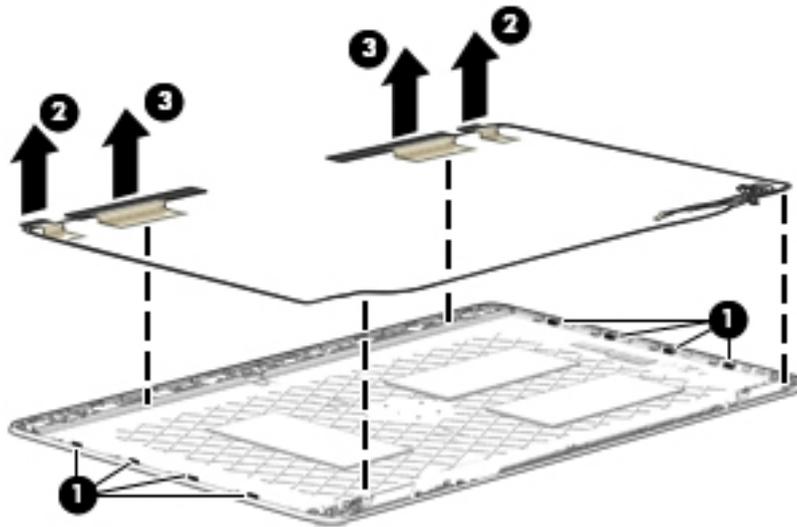
c. Remove the WLAN and WWAN antenna cables and transceivers.

The WLAN and WWAN antenna cables and transceivers are available in the Antenna Kit, spare part number 784778-001.

Reverse this procedure to reassemble and install the display assembly.

7 Computer Setup (BIOS), MultiBoot, and HP PC Hardware Diagnostics (UEFI)

Using Computer Setup

Computer Setup, 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). Computer Setup includes settings for the types of devices installed, the startup sequence of the computer, and the amount of system and extended memory.

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

Starting Computer Setup

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

To start Computer Setup, follow these steps:

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

2. Press f10 to enter Computer Setup.

Navigating and selecting in Computer Setup

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

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

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

2. Press f10 to enter Computer Setup.

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

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

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

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

- To exit Computer Setup menus without saving your changes:

  Click the **Exit** icon in the lower-right corner of the screen, and then follow the on-screen instructions.

  – or –

  Use the arrow keys to select **Main > Ignore Changes and Exit**, and then press enter.

- To save your changes and exit Computer Setup menus:

  Click the **Save** icon in the lower-right corner of the screen, and then follow the on-screen instructions.

  – or –

  Use the arrow keys to select **Main > Save Changes and Exit**, and then press enter.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

NOTE: Restoring defaults will not change the hard drive mode.

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

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

2. Press f10 to enter Computer Setup.

3. Use a pointing device or the arrow keys to select **Main > Restore Defaults**.

4. Follow the on-screen instructions.

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

   – or –

   Use the arrow keys to select **Main > Save Changes and Exit**, and then press enter.

Your changes go into effect when the computer restarts.

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

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 Computer Setup.

1.   Start Computer Setup.

2.   Use a pointing device or the arrow keys to select **Main > System Information**.

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

     – or –

     Use the arrow keys to select **Main > Ignore Changes and Exit**, 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 on the computer by unplugging the power cord from the AC outlet.

Do not shut down the computer or initiate Sleep.

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

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

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

3.   Follow the on-screen instructions.

4.   At the download area, follow these steps:

     a.   Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. 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 `file`, 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 MultiBoot

About the boot device order

As the computer starts, the system attempts to boot from enabled devices. The MultiBoot utility, which is enabled at the factory, controls the order in which the system selects a boot device. Boot devices can include optical drives, diskette drives, a network interface card (NIC), hard drives, and USB devices. Boot devices contain bootable media or files that the computer needs to start and operate properly.

NOTE: Some boot devices must be enabled in Computer Setup before they can be included in the boot order.

You can change the order in which the computer searches for a boot device by changing the boot order in Computer Setup. You can also press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen, and then press f9. Pressing f9 displays a menu that shows the current boot devices and allows you to select a boot device. Or, you can use MultiBoot Express to set the computer to prompt you for a boot location each time the computer turns on or restarts.

Choosing MultiBoot preferences

You can use MultiBoot in the following ways:

- To set a new boot order that the computer uses each time it is turned on, by changing the boot order in Computer Setup.

- To dynamically choose the boot device, by pressing esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen, and then pressing f9 to enter the Boot Device Options menu.

- To use MultiBoot Express to set variable boot orders. This feature prompts you for a boot device each time the computer is turned on or restarted.

Setting a new boot order in Computer Setup

To start Computer Setup and set a boot device order that the computer uses each time it is turned on or restarted, follow these steps:

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

2. Press f10 to enter Computer Setup.

3. Use a pointing device or the arrow keys to select one of the following options:

    - **Advanced > Boot Options > UEFI Boot Order > UEFI Hybrid**

    - **Advanced > Boot Options > UEFI Boot Order > UEFI Native Boot mode**

    - **Advanced > Boot Options > Legacy Boot Order > Legacy Boot Mode**

    Press enter.

4. To move the device up in the boot order, use a pointing device to click the up arrow, or press the + key.

    – or –

To move the device down in the boot order, use a pointing device to click the down arrow, or press the -
key.

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

    – or –

    Use the arrow keys to select **Main > Save Changes and Exit**, and then press enter.

Dynamically choosing a boot device using the f9 prompt

To dynamically choose a boot device for the current startup sequence, follow these steps:

1. Open the Select Boot Device menu by turning on or restarting the computer, and then pressing esc while
    the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f9.

3. Use a pointing device or the arrow keys to select a boot device, then press enter.

Setting a MultiBoot Express prompt

To start Computer Setup and set the computer to display the MultiBoot startup location menu each time the
computer is started or restarted, follow these steps:

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

2. Press f10 to enter Computer Setup.

3. Use a pointing device or the arrow keys to select **Advanced > Boot Options > MultiBoot Express Boot
    Popup Delay (Sec)**, and then press enter.

4. In the **MultiBoot Express Popup Delay (Sec)** field, enter the length of time in seconds that you want the
    computer to display the startup location menu before it defaults to the current MultiBoot setting.
    (When 0 is selected, the Express Boot startup location menu is not displayed.)

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

    – or –

    Use the arrow keys to select **Main > Save Changes and Exit**, and then press enter.

Your changes go into effect when the computer restarts.

Entering MultiBoot Express preferences

When the Express Boot menu is displayed during startup, you have the following choices:

- To specify a boot device from the Express Boot menu, select your preference within the allotted time, and then press enter.

- To prevent the computer from defaulting to the current MultiBoot setting, press any key before the allotted time expires. The computer will not start until you select a boot device and press enter.

- To allow the computer to start according to the current MultiBoot settings, wait for the allotted time to expire.

Using HP PC Hardware Diagnostics (UEFI)

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

To start HP PC Hardware Diagnostics UEFI:

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

   The BIOS searches three places for the diagnostic tools, in the following order:

   a. Connected USB drive

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

   b. Hard drive

   c. BIOS

2. When the diagnostic tool opens, use the keyboard arrow keys to select the type of diagnostic test you want to run, and then follow the on-screen instructions.

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

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

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

There are two options to download HP PC Hardware Diagnostics to a USB device:

Option 1: HP PC Diagnostics homepage— Provides access to the latest UEFI version

1. Go to http://hp.com/go/techcenter/pcdiags.

2. Click the **UEFI Download** link, and then select **Run**.

Option 2: Support and Drivers page—Provides downloads for a specific product for earlier and later versions

1. Go to http://www.hp.com.

2. Point to **Support**, located at the top of the page, and then click **Download Drivers**.

3. In the text box, enter the product name, and then click **Go**.

– or –

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

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

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

– or –

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

Using HP Sure Start (select models only)

Select computer models are configured with HP Sure Start, a technology that continuously monitors the computer's BIOS for attacks or corruption. If the BIOS becomes corrupted or is attacked, HP Sure Start automatically restores the BIOS to its previously safe state, without user intervention.

HP Sure Start is configured and already enabled so that most users can use the HP Sure Start default configuration. The default configuration can be customized by advanced users.

To access the latest documentation on HP Sure Start, go to http://www.hp.com/support, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

8 Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Width	**37.6 cm**	14.78 in
Depth	**25.4 cm**	9.98 in
Height	**2.1 cm**	0.84 in
Weight		
Computer model equipped with a TouchScreen display assembly, graphics subsystem with UMA memory, lightest M.2 solid-state drive, WLAN module, 3-cell, 50-WHr battery, and one memory module	**1.97 kg**	4.35 lbs
Computer model equipped with an HD non-TouchScreen display assembly, graphics subsystem with UMA memory, lightest M.2 solid-state drive, WLAN module, 3-cell, 50-WHr battery, and one memory module	**1.97 kg**	4.35 lbs
Computer model equipped with a TouchScreen display assembly, graphics subsystem with UMA memory, lightest M.2 solid-state drive, WLAN module, 3-cell, 24-WHr battery, and one memory module	**1.88 kg**	4.15 lbs
Computer model equipped with an HD non-TouchScreen display assembly, graphics subsystem with UMA memory, lightest M.2 solid-state drive, WLAN module, 3-cell, 24-WHr battery, and one memory module	**1.88 kg**	4.15 lbs
Input power		
Operating voltage and current	19.5 V dc @ 3.33 A - 65 W	
	19.5 V dc @ 2.31 A - 45 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%	

	Metric	U.S.
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.

9 Backup and recovery

To protect your information, use Windows backup and restore utilities to back up individual files and folders, back up your entire hard drive, create system repair media (select models only) by using the installed optical drive (select models only) or an optional external optical drive, or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

From the Start screen, type `restore`, click **Settings**, and then select from the list of displayed options.

NOTE: For detailed instructions on various backup and restore options, perform a search for these topics in Windows Help and Support.

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

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

Backing up your information

Recovery after a system failure is as good as your most recent backup. You should create system repair media and your initial backup immediately after initial system setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

For more information on the Windows backup features, see Windows Help and Support.

Performing a system recovery

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

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

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

NOTE: If you are unable to boot (start up) your computer and you cannot use the system repair media you previously created (select models only), you must purchase Windows operating system media to reboot the computer and repair the operating system. For additional information, see Using Windows operating system media (purchased separately) on page 113.

Using the Windows recovery tools

To recover information you previously backed up, see Windows Help and Support for steps on restoring files and folders.

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

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

1.   If possible, back up all personal files.

2.   If possible, check for the presence of the Recovery Image partition and the Windows partition.

From the Start screen, type `file`, and then click **File Explorer**.

– or –

From the Start screen, type `pc`, and then select **This PC**.

📝 **NOTE:**   If the Windows partition and the Recovery Image partition are not listed, you must recover your operating system and programs using the Windows operating system DVD and the *Driver Recovery* media (both purchased separately). For additional information, see Using Windows operating system media (purchased separately) on page 113.

3.   If the Windows partition and the Recovery Image partition are listed, restart the computer by pressing and holding the shift key while clicking **Restart**.

4.   Select **Troubleshoot**, then select **Advanced Options**, and then select **Startup Repair**.

5.   Follow the on-screen instructions.

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

Using f11 recovery tools

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

To recover the original hard drive image using f11:

1.   If possible, back up all personal files.

2.   If possible, check for the presence of the Recovery Image partition: From the Start screen, type `pc`, and then select **This PC**.

📝 **NOTE:**   If the Recovery Image partition is not listed, you must recover your operating system and programs using the Windows operating system media and the *Driver Recovery* media (both purchased separately). For additional information, see Using Windows operating system media (purchased separately) on page 113.

3. If the Recovery Image partition is listed, restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

4. Press f11 while the "Press <F11> for recovery" message is displayed on the screen.

5. Follow the on-screen instructions.

Using Windows operating system media (purchased separately)

To order a Windows operating system DVD, contact support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information from the HP website. Go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.

⚠ **CAUTION:** Using a Windows operating system media completely erases hard drive contents and reformats the hard drive. All files that you have created and any software that you have installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate a full install of the operating system using a Windows operating system DVD:

📝 **NOTE:** This process takes several minutes.

1. If possible, back up all personal files.

2. Insert the Windows operating system DVD into the optical drive, and then restart the computer.

3. When prompted, press any keyboard key.

4. Follow the on-screen instructions.

After the installation is completed:

1. Eject the Windows operating system media and then insert the *Driver Recovery* media.

2. Install the Hardware Enabling Drivers first, and then install Recommended Applications.

Using Windows Refresh or Windows Reset

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.

The Windows Reset option allows you to perform detailed reformatting of your computer, or remove personal information before you give away or recycle your computer. For more information on these features, see Windows Help and Support.

Using HP Software Setup

HP Software Setup can be used to reinstall drivers or select software that has been corrupted or deleted from the system.

1. From the Start screen, type `HP Software Setup`.

2. Open HP Software Setup.

3. Follow the on-screen directions to reinstall drivers or select software.

10 Statement of Volatility

The purpose of this chapter is to provide general information regarding nonvolatile memory in industry-standards based HP Business Notebook PC systems and provide general instructions for restoring nonvolatile memory that can contain personal data after the system has been powered off and the hard drive has been removed.

HP Business Notebook PC products that use Intel®-based or AMD®-based system boards contain volatile DDR memory. The amount of nonvolatile memory present in the system depends upon the system configuration. Intel-based and AMD-based system boards contain nonvolatile memory subcomponents as originally shipped from HP assuming that no subsequent modifications have been made to the system and assuming that no applications, features, or functionality have been added to or installed on the system.

Following system shutdown and removal of all power sources from an HP Business Notebook PC system, personal data can remain on volatile system memory (DIMMs) for a finite period of time and will also remain in nonvolatile memory. The steps below will remove personal data from the notebook PC, including the nonvolatile memory found in Intel-based and AMD-based system boards.

1. Follow steps (a) through (j) below to restore the nonvolatile memory that can contain personal data. Restoring or re-programming nonvolatile memory that does not store personal data is neither necessary nor recommended.

   a. Enter BIOS (F10) Setup by powering on the system and pressing F10 when prompted near the bottom of the display, or press the ESC key to display the start up menu, then press F10. If the system has a BIOS administrator password, enter the password at the prompt.

   b. Select **Main > Restore Defaults**.

   c. Select the **Security** menu, and then **Restore Security Level Defaults**.

   d. If an asset or ownership tag is set, select the **Security** menu and scroll down to the **Utilities** menu. Select **System IDs**, and the select **Asset Tracking Number**. Press the spacebar once to clear the tag, then press Enter to return to the prior menu.

   e. If a DriveLock password is set, select the **Security** menu, scroll down to **Hard Drive Tools** under the **Utilities** menu, select **Hard Drive Tools**, select **DriveLock**, then uncheck **DriveLock password on restart**.

   f. If an Automatic DriveLock password is set, select the **Security** menu, scroll down to **Hard Drive Tools** under the **Utilities** menu, select **Hard Drive Tools**, scroll down to **Automatic DriveLock**, then select the desired hard drive and disable protection. At the automatic drive lock warning screen, select **Yes** to continue. Repeat this procedure if more than one hard drive has an Automatic DriveLock password.

   g. Select the **Main** menu, then **Reset BIOS Security to factory default**. Click **yes** at the warning message.

h. Select the **Main** menu, then **Save Changes and Exit**.

i. Reboot the system. If the system has a Trusted Platform Module (TPM) and/or fingerprint sensor, one or two prompts will appear. One to clear the TPM and the other to Reset Fingerprint Sensor; press F1 to accept or F2 to reject.

j. Remove all power and system batteries for at least 24 hours.

2. Remove and retain the storage drive or clear the contents of the drive.

Clear the drive contents by using the BIOS Setup Secure Erase command option, or by using a third party utility designed to erase data from an SSD. To run Secure Erase, follow these steps:

a. Enter BIOS Setup by powering on the system, and then pressing F10 when prompted near the bottom of the display.

b. Select the **Security** menu and scroll down to the **Utilities** menu.

c. Select **Hard Drive Tools**.

d. Under **Utilities**, select **Secure Erase**, and then select the desired hard drive.

Non-volatile memory usage

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
HP Sure Start flash (select models only)	2 MB	No	Yes	Provides protected backup of critical System BIOS code, EC firmware, and critical PC configuration data for select platforms that support HP Sure Start. For more information, see Using HP Sure Start (select models only) on page 120.	Data cannot be written to this device via the host processor. The content is managed solely by the HP Sure Start Embedded Controller.	This memory is protected by the HP Sure Start Embedded Controller.
Real Time Clock (RTC) battery backed-up CMOS configuration memory (CMOS)	256 Bytes	No	Yes	Stores system date and time and limited keyboard controller data.	Using the F10 Setup utility or changing the Microsoft Windows date & time.	This memory is not write-protected. HP recommends password protecting the F10 Setup utility.

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
Controller (NIC) EEPROM	64 Kbytes (not customer accessible)	No	Yes	Store NIC configuration and NIC firmware.	Using a utility from the NIC vendor that can be run from DOS.	A utility is required to write data to this memory and is available from NIC vendor. Writing data to this ROM in an inappropriate manner will render the NIC non-functional.
Keyboard ROM	64 Kbytes (not customer accessible)	No	Yes	Stores firmware code (keyboard, mouse, & battery management).	Programmed at the factory. Code is updated when the system BIOS is updated.	A utility is required for writing data to this memory and is available on the HP website. Writing data to this ROM in an inappropriate manner can render the PC non-functional.
DIMM Serial Presence Detect (SPD) configuration data	256 Bytes per memory module, 128 Bytes programmable (not customer accessible)	No	Yes	Stores memory module information.	Programmed by the memory vendor.	Data cannot be written to this memory when the module is installed in a PC. The specific write protection method varies by memory vendor.
System BIOS	4 to 5 MBytes	Yes	Yes	Store system BIOS code and PC configuration data.	System BIOS code is programmed at the factory. Code is updated when the system BIOS is updated. Configuration data and settings are input using the F10 setup utility or a custom utility.	A utility is required for writing data to this memory and is available on the HP website. Writing data to this ROM in an inappropriate manner can render the PC non-functional.
Intel Management Engine Firmware (present only in specific ZBook and EliteBook models. For more information, go to http://www.hp.com/support, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.)	1.5 or 5MByte	Yes	Yes	Stores Management Engine Code, Settings, Provisioning Data and iAMT third party data store.	Management Engine Code is programmed at the factory. Code is updated via Intel secure firmware update utility. Unique Provisioning Data can be entered at the factory or by an administrator using the Management Engine (MEBx) setup utility. The third party data store contents can populated by a remote management console or local applications registered by an administrator to have access to the space.	The Intel chipset is configured to enforce HW protection to block all direct read/write access to this area. An Intel utility is required for updating the firmware. Only firmware updates digitally signed by Intel can be applied using this utility.

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
Bluetooth flash	2Mbit	No	Yes	Stores Bluetooth configuration and firmware.	Programmed at the factory. Tools for writing data to this memory are not publicly available but can be obtained from the silicon vendor.	A utility is required for writing data to this memory and is made available through newer versions of the driver if the flash requires an upgrade.
802.11 WLAN EEPROM	4kb to 8kb	No	Yes	Stores configuration and calibration data.	Programmed at the factory. Tools for writing data to this memory are not made public.	A utility is required for writing data to this memory and is typically not made available to the public unless a firmware upgrade is necessary to address a unique issue.
Web Camera	64K bit	No	Yes	Store Web Cam configuration and firmware.	Using a utility from the device manufacturer that can be run from Windows.	A utility is required for writing data to this memory and is typically not made available to the public unless a firmware upgrade is necessary to address a unique issue.
Fingerprint Reader	512kByte Flash	Yes	Yes	Stores fingerprint templates.	By enrolling in HP ProtectTools Security Manager.	Only a digitally signed application can make the call to write to the flash.

Questions and answers

1. **How can the BIOS settings be restored (returned to factory settings)?**

   a. Turn on or restart the computer and press F10 when prompted near the bottom of the display.

   b. Select **Main**, then select **Restore defaults**.

   c. Follow the on-screen instructions.

   d. Select **Main**, save changes and exit, then press Enter.

2. **What kind of configuration data is stored on the DIMM Serial Presence Detect (SPD) memory module? How would this data be written?**

   The DIMM SPD memory contains information about the memory module such as size, serial number, data width, speed/timing, voltage and thermal information. This information is written by the module manufacturer and stored on an EEPROM. This EEPROM cannot be written to when the memory module is installed in a PC. Third party tools do exist that can write to the EEPROM when the memory module is not installed in a PC. There are various third party tools available to read SPD memory.

3. **Does the "Firmware Hub for System BIOS" contain the BIOS program? Is this chip writable, and if so how?**

   The Firmware Hub does contain the BIOS program and is writable. A utility is required to perform the write function.

4. **In some PC systems, the Firmware Hub for System BIOS is a flash memory chip so that updates can be written by the customer. Is this true for these BIOS chips?**

   Yes, they are flash memory chips.

5. **What is meant by "Restore the nonvolatile memory found in Intel-based system boards"?**

   This relates to clearing the Real Time Clock (RTC) CMOS memory that contains PC configuration data.

6. **Does resetting the CMOS configuration memory return the PC back to factory defaults?**

   The process of resetting the CMOS will return certain system settings to factory default but will not reset many of the system data and configuration defaults to their factory settings. To return these system data and configuration defaults to factory settings, refer to question and answer 1 and follow the instructions for returning the BIOS settings to factory defaults.

Using HP Sure Start (select models only)

Select computer models are configured with HP Sure Start, a technology that continuously monitors your computer's BIOS for attacks or corruption. If the BIOS becomes corrupted or is attacked, HP Sure Start restores the BIOS to its previously safe state automatically, without user intervention. Those select computer models ship with HP Sure Start configured and enabled. Most users can use HP Sure Start with the default configuration.

To access the latest documentation on HP Sure Start, go to http://www.hp.com/support, and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

11 Power cord set requirements

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

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

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

Requirements for all countries

The following requirements are applicable to all countries and regions:

- The length of the power cord set must be at least **1.0 m** (3.3 ft) and no more than **2.0 m** (6.5 ft).

- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.

- The power cord sets must have a minimum current capacity of 10 A and a nominal voltage rating of 125 or 250 V ac, as required by the power system of each country or region.

- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Argentina	IRAM	1
Australia	SAA	1
Austria	OVE	1
Belgium	CEBEC	1
Brazil	ABNT	1
Canada	CSA	2
Chile	IMQ	1
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
India	ISI	1
Israel	SII	1
Italy	IMQ	1
Japan	JIS	3
The Netherlands	KEMA	1
New Zealand	SANZ	1
Norway	NEMKO	1
The People's Republic of China	CCC	4
Saudi Arabia	SASO	7
Singapore	PSB	1
South Africa	SABS	1
South Korea	KTL	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	6
Thailand	TISI	1
The United Kingdom	ASTA	1

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

1. The flexible cord must be Type HO5VV-F, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

2. The flexible cord must be Type SVT/SJT or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V ac) or NEMA 6-15P (15 A, 250 V ac) configuration. CSA or C-UL mark. UL file number must be on each element.

3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCTF, 3-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V ac) configuration.

4. The flexible cord must be Type RVV, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the CCC certification mark.

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

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

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

12 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.

Index