



HP x2 Detachable PC

** Model numbers 10-p0XX*

HP x2 210 G2 Detachable PC

Maintenance and Service Guide

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Product notice

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

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

Software terms

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

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

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 60950-1).

Table of contents

1 Product description	1
2 External component identification	4
Display	4
Top edge	5
Right side	6
Left side	7
Bottom edge	7
Locating the product number and serial number	8
3 Illustrated parts catalog	9
Tablet major components	9
Dock major components	12
Hinge components	14
Cables	15
Rubber Kit	16
Miscellaneous parts	17
4 Removal and replacement preliminary requirements	18
Tools required	18
Service considerations	18
Plastic parts	18
Cables and connectors	18
Grounding guidelines	19
Electrostatic discharge damage	19
Packaging and transporting guidelines	20
Workstation guidelines	20
5 Removal and replacement procedures	22
Tablet component replacement procedures	22
Back cover	22
Docking connector (display)	24
RTC battery	25
Front webcam module	26
Antenna	27
LCD shield	28

Battery	29
Speakers	30
Audio board	32
Power button board	33
Volume board	35
Rear webcam module and lens	36
System board	38
Dock component replacement procedures	40
Bottom cover	40
Hard drive	42
Docking board (models with a hard drive)	43
Docking board (models without a hard drive)	45
TouchPad board	46
Hinge assembly	47
Hinge components	48
Top cover/keyboard	52
6 Using Setup Utility (BIOS)	53
Starting Setup Utility (BIOS)	53
Updating Setup Utility (BIOS)	53
Determining the BIOS version	53
Downloading a BIOS update	54
7 Using HP PC Hardware Diagnostics (UEFI)	56
Downloading HP PC Hardware Diagnostics (UEFI) to a USB device	56
8 Specifications	58
9 Backing up, restoring, and recovering	59
Creating recovery media and backups	59
Creating HP Recovery media (select products only)	59
Using Windows tools	60
Restore and recovery	61
Recovering using HP Recovery Manager	61
What you need to know before you get started	61
Using the HP Recovery partition (select products only)	62
Using HP Recovery media to recover	62
Changing the computer boot order	63
Removing the HP Recovery partition (select products only)	64

10 Power cord set requirements	65
Requirements for all countries	65
Requirements for specific countries and regions	65
11 Recycling	67
Index	68

1 Product description

Category	Description	Tablet	Dock
Product Name	HP x2 Detachable PC (model numbers 10-p0XX)	√	√
	HP x2 210 G2 Detachable PC	√	√
Processor	Intel Atom x5-Z8350 1.44-1.92 GHz quad core processor, 2 W, soldered-on-circuit (SoC)	√	
Chipset	Integrated SoC	√	
Graphics	Internal graphics Intel® HD Graphics 400 Support Dynamic Graphics Frequency, DX12, OpenGL 3.X, OpenCL 1.2	√	
Panel	16:10 Ultra Wide Aspect Ratio 10.1-in (1280x800), antiglare, WLED, WXGA, uslim-bent (2.6 mm), eDP; 250 nits Touch screen with flush glass, multitouch enabled	√	
Memory	On-board system memory DDR3L-1600 single channel support <ul style="list-style-type: none"> 2048 MB (256Mx16 x4pcs) LPDDR3-1600 single channel support (LPDDR3-1866 1.2V downgraded to LPDDR3-1600) <ul style="list-style-type: none"> 4096 MB (256Mx16x4x2pcs) Supports up to 4 GB maximum system memory	√	
Mass storage	Tablet eMMC (TLC) configurations: 128 GB (HP x2 210 G2 models only) 64 GB 32 GB	√	
	Dock Single hard drive configurations (HP x2 models only) 1 TB, 5400 rpm, 7.2 mm 500 GB, 5400 rpm, 7.2 mm		√
Webcam	Two fixed integrated web cameras Front: HP True Vision HD: HD camera - indicator LED, USB2.0, f2.0 Rear : HP True Vision 5 MP Fixed Focus (2592 x 1944) support WFOV Single digital mic HP Noise Cancellation enabled Support for voice recognition	√	

Category	Description	Tablet	Dock
Audio	Stereo speakers (2) DTS Studio Sound	√	
Sensors	Accelerometer eCompass Gyroscope Sensor hub	√	
Wireless networking	Integrated Wireless options with dual antennas (LGA/PCIe) Intel WiDi support Connected Standby support Compatible with Miracast-certified devices	√	
	Intel Dual Band Wireless-AC 3165 802.11ac 1x1 WiFi + Bluetooth 4.2 Combo Adapter (non-vPro)(HP x2 models)	√	
	Intel Dual Band Wireless-AC 7265 802.11ac 2x2 + Bluetooth Combo Adapter (non vPro)(HP x2 210 G2 models)	√	
External expansion	Tablet Micro Secure Digital (SD) Media Reader Support SD/SDHC/SDXC Push-push insertion/removal	√	
Ports	Tablet <ul style="list-style-type: none"> • Headphone/microphone combo jack • One USB 3.0 port • One USB 2.0 type C port supporting charging and data • Micro HDMI v1.4a port supporting up to 1920x1080 @ 60Hz • Pogo-pin (6-pin) docking connector 	√	√
Keyboard	Keyboard Detachable hard keyboard cover 93% island style thin cover non-backlit keyboard (1.5 mm travel distance) TouchPad TouchPad with image sensor <ul style="list-style-type: none"> • Multitouch gestures enabled • Supports Windows 10 Modern Trackpad Gestures 		√
Power requirements	Battery 2-cell, 32.5-Whr polymer battery Battery life enhancement Supports battery fast charge AC adapter 45-W USB Type C AC adapter with power cords	√	

Category	Description	Tablet	Dock
	1 m length power cord		
Security	fTPM 2.0	√	
Operating system	<p>Preinstalled (HP x2 models)</p> <p>For Developed Market (ML)</p> <p>Windows 10 Entry 2-in-1 (Compact)</p> <p>For Emerging Market (EM/SL)</p> <p>CPPP Windows 10 Home China Language Edition 2-in-1 (Compact)</p> <p>SEAP Windows 10 Entry 2-in-1 (Compact)</p>	√	√
	<p>Preinstalled (HP x2 210 G2 models)</p> <p>Windows 10 Home 64 Entry Tablet + 2-in-1 Notebook (Compact)</p> <p>Windows 10 Home 64 Entry Tablet + 2-in-1 Notebook Single Language (Compact)</p> <p>Windows 10 Home 64 Chinese Market CPPP (Compact)</p> <p>Windows 10 Pro 64 Tablet + 2-in-1 Notebook (Compact)</p> <p>Windows 10 Pro 64 Tablet + 2-in-1 Notebook Chinese Market (Compact)</p> <p>Windows 10 Pro 64 StF MSNA (Compact)</p> <p>Windows 10 Pro 64 StF MSNA EM (Compact)</p> <p>Windows 10 Pro 64 StF MSNA - Strategic (Compact)</p>	√	√
Serviceability	End user replaceable part: AC adapter	√	√

2 External component identification

Display




Component	Description
(1) WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLANs).
(2) Camera	Allows you to video chat, record video, and record still images. NOTE: This computer includes a second camera on the rear of the display cover.
(3) Camera light	On: The camera is in use.
(4) Speakers (2)	Produce sound.
(5) Rear camera	Allows you to video chat, record video, and record still images.

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

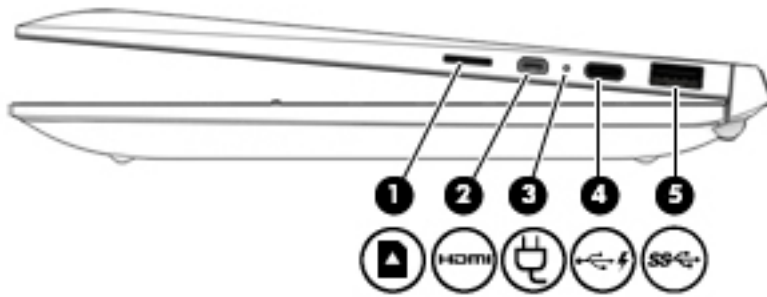
Component	Description
	For wireless regulatory notices, see the section of the Regulatory, Safety, and Environmental Notices that applies to your country or region.
	To access this guide:
	▲ Select the Start button, select All apps , select HP Help and Support , and then select HP Documentation .






Top edge



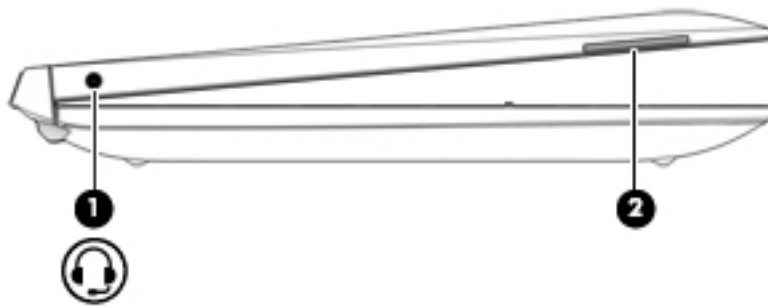
Component	Description
(1)  Power button	<ul style="list-style-type: none"> When the tablet is off, press the button to turn on the tablet. When the tablet is on, press the button briefly to initiate Sleep. When the tablet is in the Sleep state, press the button briefly to exit Sleep. When the tablet is in Hibernation, press the button briefly to exit Hibernation. <p>CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.</p> <p>If the tablet has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button down for at least 10 seconds to turn off the tablet.</p> <p>To learn more about your power settings, see your power options. Type <code>power</code> in the taskbar search box, select Power and sleep settings, and then select Power and sleep.</p>
(2) Internal microphone	Records sound.


Right side



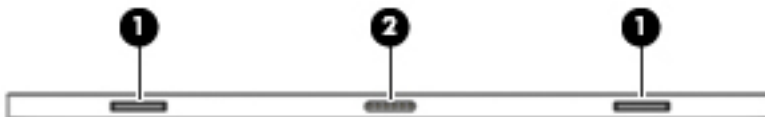
Component	Description
(1) 	<p>microSD memory card reader</p> <p>Reads optional memory cards that enable you to store, manage, share or access information.</p> <p>To insert a card:</p> <ol style="list-style-type: none"> 1. Hold the card label-side up, with connectors facing the computer. 2. Insert the card into the memory card reader, and then press in on the card until it is firmly seated. <p>To remove a card:</p> <ul style="list-style-type: none"> ▲ Press in on the card, and then remove it from the memory card reader.
(2) 	<p>micro-HDMI port</p> <p>Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed High-Definition Multimedia Interface (HDMI) device.</p>
(3) 	<p>AC adapter and battery light</p> <ul style="list-style-type: none"> • White: The AC adapter is connected and the battery is fully charged. • Blinking white: The AC adapter is disconnected and the battery has reached a low battery level. • Amber: The AC adapter is connected and the battery is charging. • Off: The battery is not charging.
(4) 	<p>USB Type-C power connector port</p> <p>Connects a USB device with a Type-C connector to an AC adapter to provide power to the computer and allows data transfer.</p> <p>NOTE: Adapters (purchased separately) may be required.</p>
(5) 	<p>USB 3.0 port</p> <p>Connects an optional USB device such as a keyboard, mouse, external drive, printer, scanner or USB hub.</p>

Left side



Component	Description
(1)  Audio-out (headphone)/Audio-in (microphone) combo jack	<p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional standalone microphones.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>To access this guide:</p> <ul style="list-style-type: none"> ▲ Select the Start button, select All apps, select HP Help and Support, and then select HP Documentation. <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p>
(2) Volume button	Controls speaker volume on the tablet.

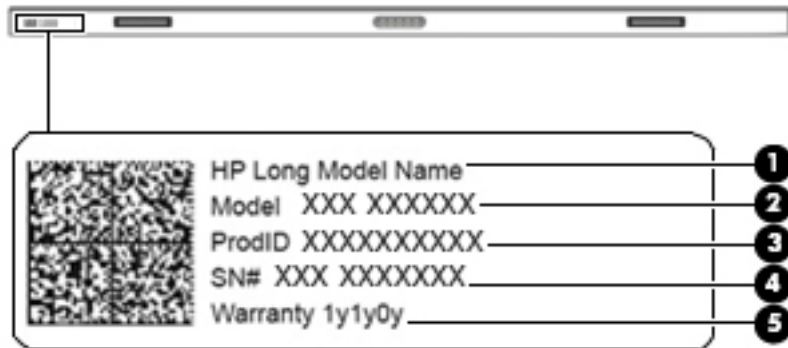
Bottom edge



Component	Description
(1) Alignment posts (2)	Guide the keyboard to the correct connection with the tablet.
(2) Docking port	Connects the tablet to the keyboard base.

Locating the product number and serial number

The tablet and serial number **(2)** and product number **(3)** are located on the tablet bottom edge. This information may be needed when travelling internationally or when contacting support.



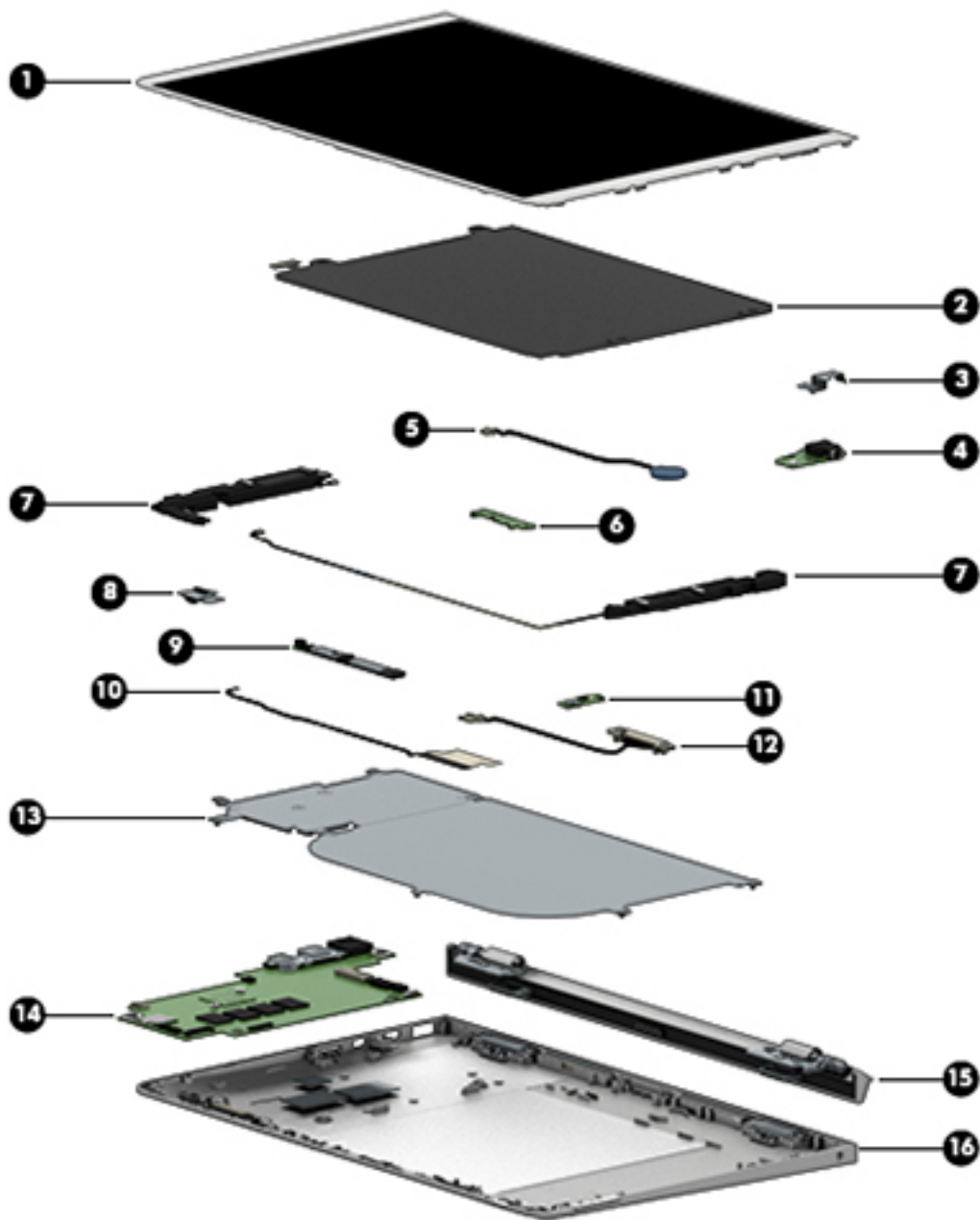
Component

(1)	Quick Response (QR) code
(2)	Serial number
(3)	Product number
(4)	Warranty period
(5)	Model number (select models only)

3 Illustrated parts catalog

 **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.

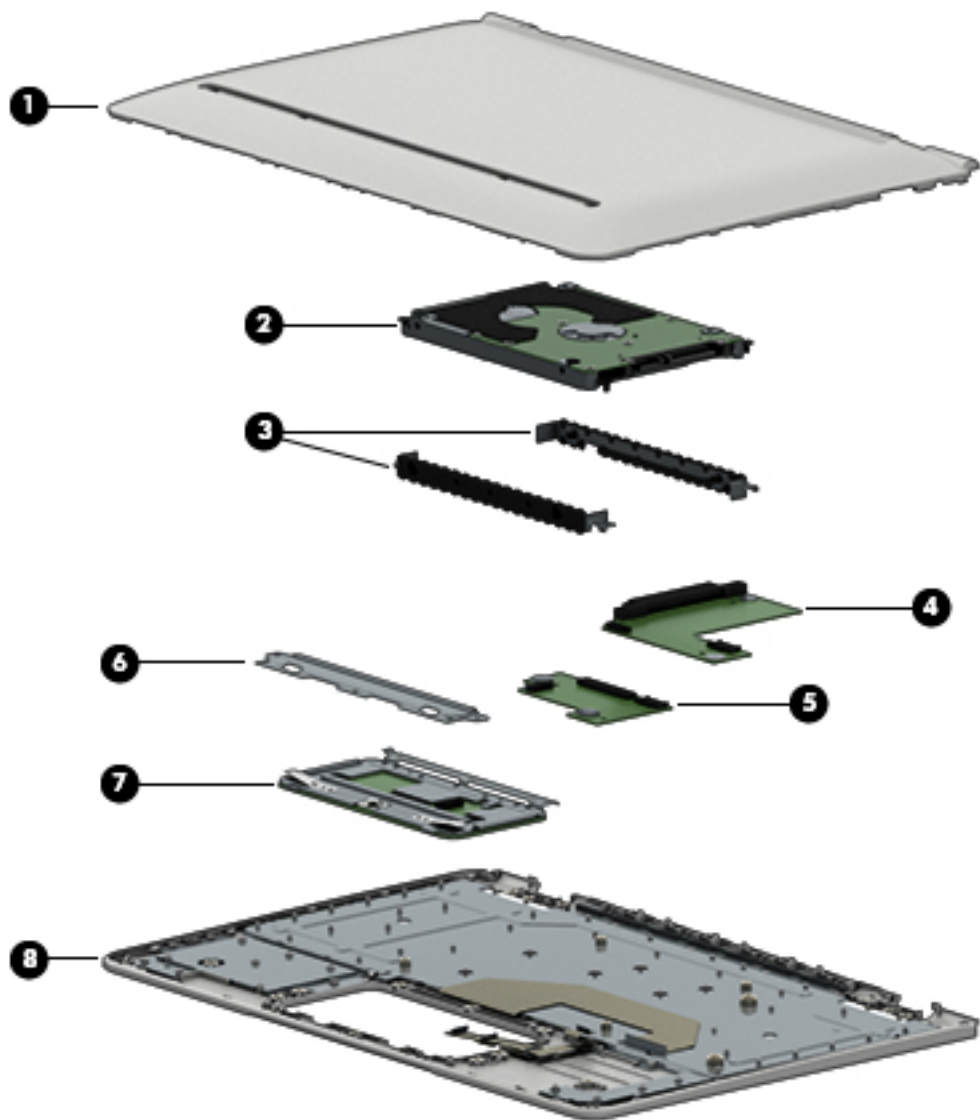
Tablet major components



Item	Component	Spare part number
(1)	Display panel assembly	
	Silver HP x2 and HP x2 210 G2 models	902380-001
	White HP x2 models	902381-001
	Red HP x2 models	902382-001
	Display panel cable (not illustrated)	902354-001
(2)	Battery , 2-cell, 32-Wh (includes cable)	859517-855
(3)	Audio board bracket	902361-001
(4)	Audio board	902368-001
	Audio board cable (not illustrated)	902351-001
(5)	RTC battery	902383-001
(6)	Power button board	902369-001
	Power button board cable (not illustrated)	902352-001
(7)	Speaker Kit (includes left and right speakers and cables)	902391-001
(8)	Rear webcam (includes bracket)	902256-001
(9)	Front webcam (includes microphone rubber)	902255-001
	Front webcam cable (not illustrated)	902355-001
(10)	Antenna	902341-001
(11)	Volume board	902370-001
	Volume board cable (not illustrated)	902353-001
(12)	Docking connector	902356-001
(13)	LCD shielding (includes thermal pad)	902363-001
(14)	System board equipped with an Intel Atom x5-z8350 processor and a graphics subsystem with UMA memory (includes replacement thermal material)	
	For use in HP x2 210 G2 models:	
	<ul style="list-style-type: none"> Equipped with a 128-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system 	903879-601
	<ul style="list-style-type: none"> Equipped with a 128-GB eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system 	903879-001
	For use in HP x2 and HP x2 210 G2 models:	
	<ul style="list-style-type: none"> Equipped with a 64-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system 	902254-601
	<ul style="list-style-type: none"> Equipped with a 64-GB eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system 	902254-001
	<ul style="list-style-type: none"> Equipped with a 32-GB eMMC hard drive (SoC), 2 GB of system memory, and the Windows 10 operating system 	902251-601
	<ul style="list-style-type: none"> Equipped with a 32-GB eMMC hard drive (SoC), 2 GB of system memory, and Windows 7 or a non-Windows operating system 	902251-001

Item	Component	Spare part number
	For use in HP x2 models:	
	<ul style="list-style-type: none"> Equipped with a 64-GB eMMC hard drive (SoC), 2 GB of system memory, and the Windows 10 operating system 	902252-601
	<ul style="list-style-type: none"> Equipped with a 64-GB eMMC hard drive (SoC), 2 GB of system memory, and Windows 7 or a non-Windows operating system 	902252-001
	<ul style="list-style-type: none"> Equipped with a 32-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system 	902253-601
	<ul style="list-style-type: none"> Equipped with a 32-GB eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system 	902253-001
(15)	Hinge assembly NOTE: The hinge assembly is not spared as a whole unit. For more information about hinge subcomponents, see Hinge components on page 14 .	not spared
(16)	Back cover	
	Silver HP x2 and HP x2 210 G2 models	902342-001
	White HP x2 models	902343-001
	Red HP x2 models	902344-001

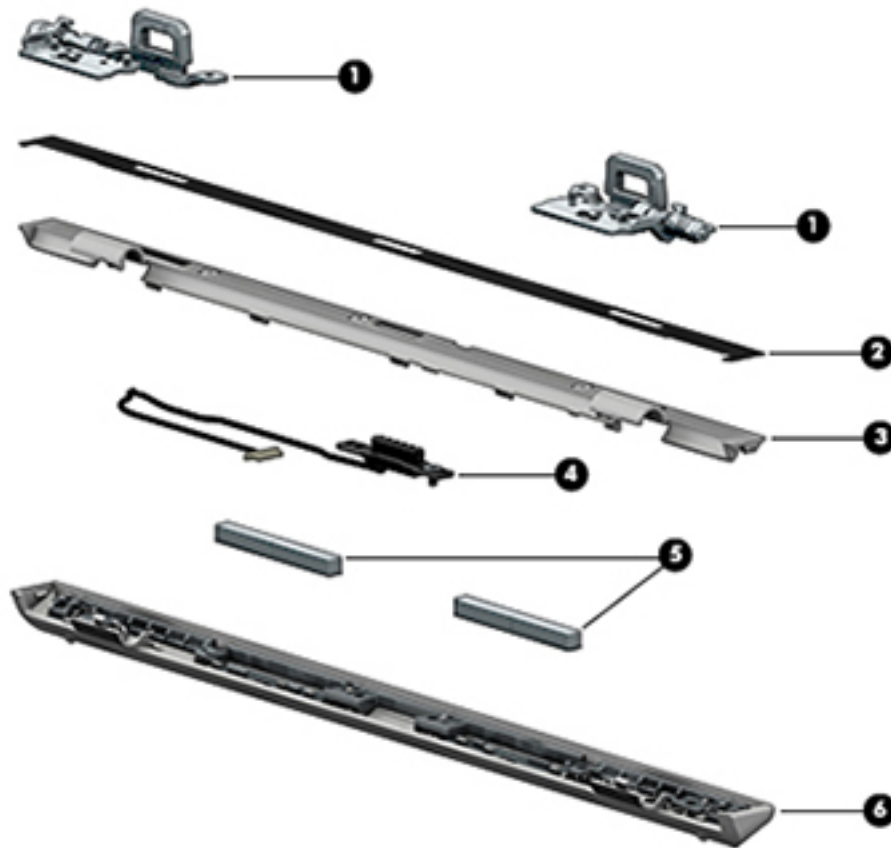
Dock major components



Item	Component	Spare part number
(1)	Bottom cover	
	For use in HP x2 and HP x2 210 models without a hard drive	
	<ul style="list-style-type: none"> Silver models 	902345-001
	For use in HP x2 models without a hard drive	
	<ul style="list-style-type: none"> White models 	902346-001
	<ul style="list-style-type: none"> Red models 	902347-001
	For use in models HP x2 models with a hard drive	
	<ul style="list-style-type: none"> Silver models 	902348-001
	<ul style="list-style-type: none"> White models 	902349-001

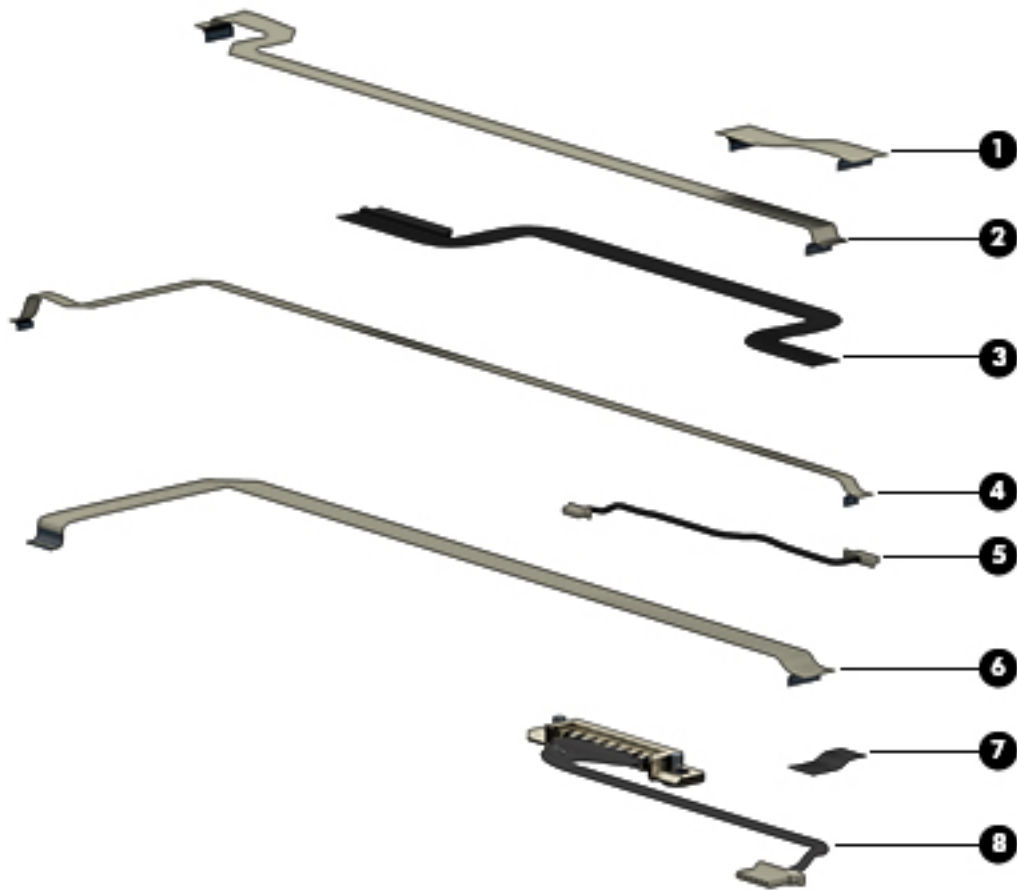
Item	Component	Spare part number
	<ul style="list-style-type: none"> Red models 	902350-001
(2)	Hard drive	
	1 TB, 5400 rpm, 7 mm	762990-005
	500 GB, 5400 rpm, 7 mm	778186-005
(3)	Hard Drive Hardware Kit	902362-001
	Docking board	
(4)	Models with a hard drive	902372-001
(5)	Models without a hard drive	902371-001
(6)	TouchPad bracket	included with TouchPad board spare kit
(7)	TouchPad board	
	Silver models	902373-001
	White models	907508-001
	Red models	907509-001
	TouchPad cable , for use in HP x2 and HP x2 210 G2 models without a hard drive (not illustrated)	902357-001
	TouchPad cable , for use in HP x2 models with a hard drive (not illustrated)	902358-001
(8)	Top cover/keyboard	
	For a list of keyboard country codes, see Top cover/keyboard on page 52 .	
	HP x2 and HP x2 210 G2 models without a hard drive	
	<ul style="list-style-type: none"> Silver 	902365-xx1
	HP x2 models without a hard drive	
	<ul style="list-style-type: none"> White 	902366-xx1
	<ul style="list-style-type: none"> Red 	902367-xx1
	HP x2 models with a hard drive	
	<ul style="list-style-type: none"> Silver 	902680-xx1
	<ul style="list-style-type: none"> White 	902681-xx1
	<ul style="list-style-type: none"> Red 	902682-xx1

Hinge components



Item	Component	Spare part number
(1)	Hinge brackets, left and right	902364-001
	Hinge Bezel Kit	
	<ul style="list-style-type: none"> Silver HP x2 and HP x2 210 G2 models 	902377-001
	<ul style="list-style-type: none"> White HP x2 models 	902378-001
	<ul style="list-style-type: none"> Red HP x2 models 	902379-001
(2)	Hinge Mylar	
(3)	Hinge bezel	
(4)	Pogo docking connector	
	For use in HP x2 and HP x2 210 G2 models without a hard drive	902359-001
	For use on HP x2 models with a hard drive	902360-001
(5)	Magnets	not spared
(6)	Hinge cover	
	Silver HP x2 and HP x2 210 G2 models	902374-001
	White HP x2 models	902375-001
	Red HP x2 models	902376-001

Cables



Item	Component	Spare part number
(1)	TouchPad cable	
	For use in HP x2 and HP x2 210 G2 models without a hard drive	902357-001
	For use in HP x2 models with a hard drive	902358-001
(2)	Audio board cable	902351-001
(3)	Display (LCD) cable	902354-001
(4)	Volume board cable	902353-001
(5)	Front webcam cable	902355-001
(6)	Power button board cable	902352-001
(7)	Rear webcam	not spared
(8)	Docking cable	902359-001

Rubber Kit



Item	Component	Spare part number
	Rubber Kit for use in models without a hard drive	
	Silver HP x2 and HP x2 210 G2 models	902384-001
	White HP x2 models	902385-001
	Red HP x2 models	902386-001
	Rubber Kit for use in models with a hard drive models	
	Silver HP x2 models	902387-001
	White HP x2 models	902388-001
	Red HP x2 models	902389-001
(1)	Screw covers	
(2)	Bottom rubber strip	

Miscellaneous parts

Component	Spare part number
45-W AC adapter, USB-C	844205-850
Power cord (3-pin, black, 1.00-m):	
For use in Australia	213356-008
For use in the People's Republic of China	286497-008
For use in Denmark	213353-008
For use in Europe (Austria, Belgium, Finland, France, Germany, the Netherlands, Norway and Sweden)	213350-009
For use in India	404827-003
For use in Israel	398063-003
For use in Italy	213352-008
For use in Japan	349756-002
For use in North America	213349-009
For use in South Africa	361240-002
For use in South Korea	267836-008
For use in Switzerland	213354-008
For use in Taiwan	393313-003
For use in Thailand	285096-006
For use in the United Kingdom and Singapore	213351-008
RJ-45/USB adapter	539614-001
Screw Kit	902390-001
HP Pro Tablet Active Pen	798051-001
External optical drive	747080-001

4 Removal and replacement preliminary requirements


Tools required

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


- Magnetic screw driver
- Phillips P0 screw driver
- Plastic case utility tool

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 tablet, 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 tablet, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the tablet.

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.

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 tablet when you are removing or installing internal components, observe these precautions:

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

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

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

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

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

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

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screw drivers, 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 $\pm 10\%$ resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:


- Antistatic tape
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Nonconductive foam
- Conductive tabletop workstations with ground cords of one megohm resistance
- Static-dissipative tables or floor mats with hard ties to the ground
- Field service kits
- Static awareness labels
- Material-handling packages
- Nonconductive plastic bags, tubes, or boxes
- Metal tote boxes
- Electrostatic voltage levels and protective materials

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

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

5 Removal and replacement procedures

This chapter provides removal and replacement procedures for authorized service provider only parts.

 **CAUTION:** Tablet components described in this chapter should only be accessed by an authorized service provider. Accessing these parts can damage the tablet 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.

Tablet component replacement procedures

There are as many as 19 screws that must be removed, replaced, and/or loosened when servicing the tablet. Make special note of each screw size and location during removal and replacement.

Back cover

Description	Spare part number
Back cover	
Silver HP x2 and HP x2 210 G2 models	902342-001
White HP x2 models	902343-001
Red HP x2 models	902344-001
Display panel	
Silver HP x2 and HP x2 210 G2 models	902380-001
White HP x2 models	902381-001
Red HP x2 models	902382-001
Display cable	902354-001

Before disassembling the tablet, follow these steps:

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

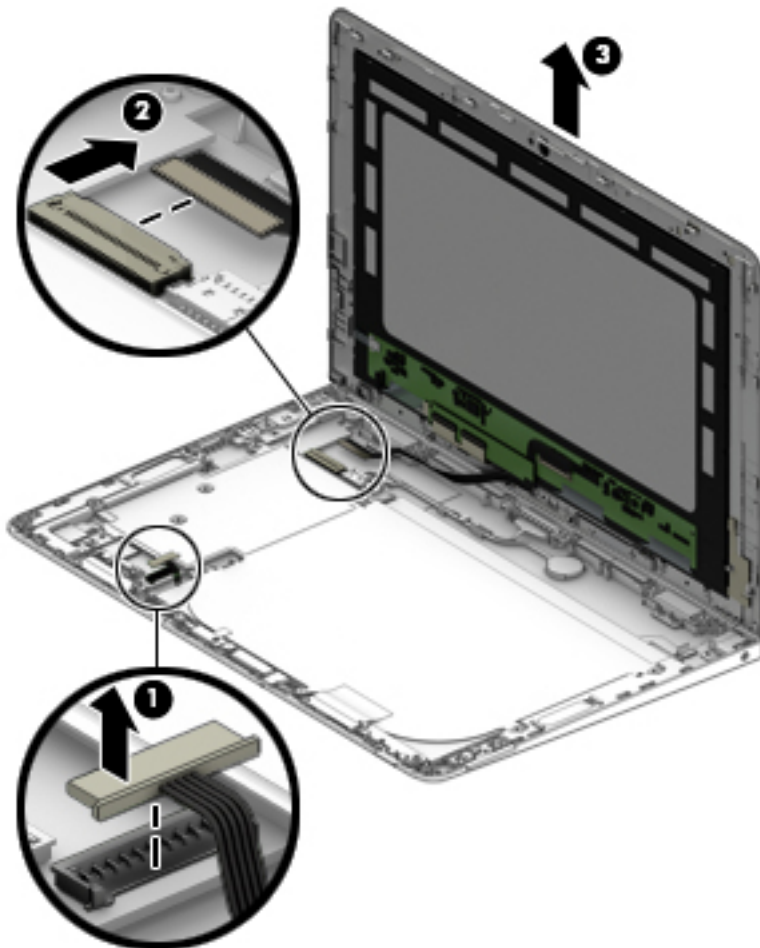
Remove the back cover:

 **CAUTION:** Before turning the display panel assembly upside down, make sure the work surface is clear of tools, screws, and any other foreign objects. Failure to follow this caution can result in damage to the display panel assembly.

1. Place the tablet on a flat surface, display panel side down.
2. Starting from the sides, insert a thin, plastic tool in the seam to disengage the top and bottom of the display (1).
3. Remove the back cover (2).



4. Disconnect the battery cable from the system board (1).
5. Disconnect the display cable from the system board (2), and then remove the display from the enclosure (3).



Reverse this procedure to install the back cover.

Docking connector (display)

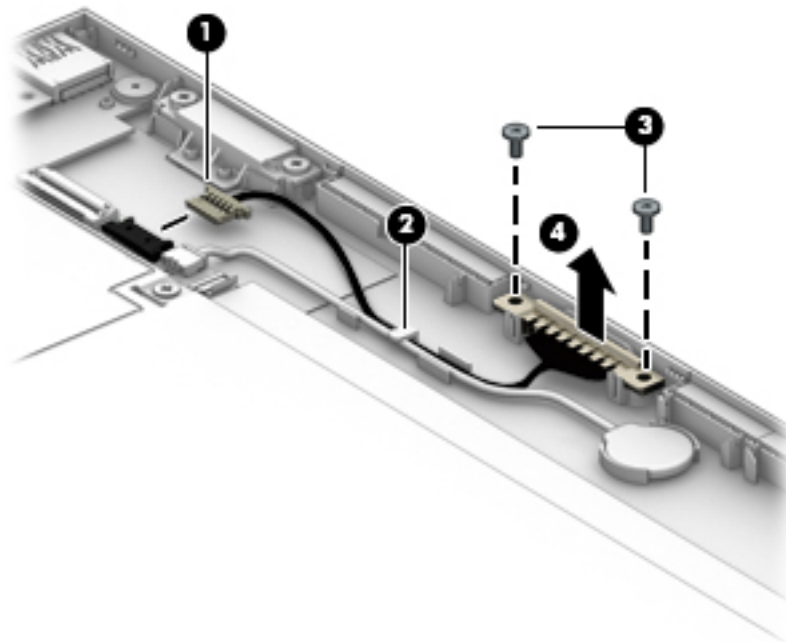
Description	Spare part number
Docking connector	902356-001

Before removing the docking connector, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).

Remove the docking connector:

1. Disconnect the docking connector from the system board **(1)**, and remove the cable from the clip built into the display enclosure **(2)**.
2. Remove the two Phillips PM2.0×4.0 screws **(3)** that secure the docking connector to the display panel assembly, and then remove the docking connector **(4)**.



Reverse this procedure to install the display docking connector.

RTC battery

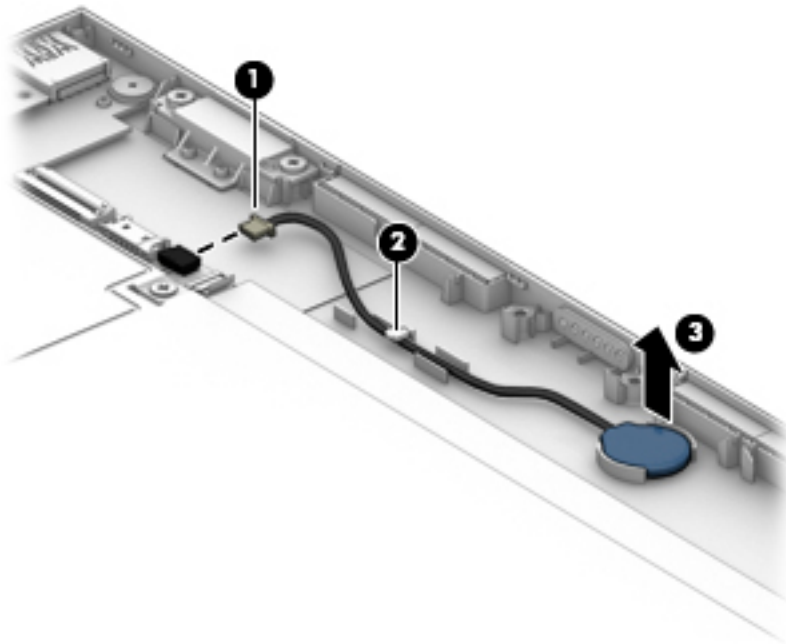
Description	Spare part number
RTC battery	902383-001

Before removing the RTC battery, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).

Remove the RTC battery:

1. Disconnect the battery cable from the system board (1), and remove the cable from the clip built into the display enclosure (2).
2. Lift the battery to disengage the adhesive that secures it to the display enclosure (3).



Reverse this procedure to install the RTC battery.

Front webcam module

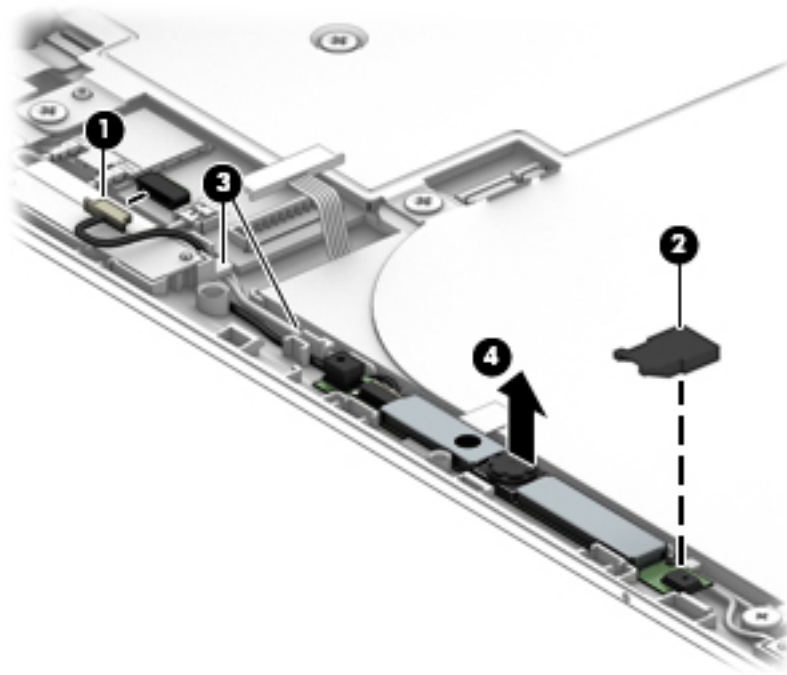
Description	Spare part number
Front webcam module (includes microphone rubber)	902255-001
Front webcam cable	902355-001

Before removing the front webcam module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).

Remove the front webcam module:

1. Disconnect the webcam cable from the system board **(1)**.
2. Lift the microphone rubber piece up and off the right side of the module **(2)**.
3. Remove the cable from its routing path **(3)**.
4. Remove the webcam module **(4)** from the display panel assembly (The webcam module cable is attached to the display panel assembly with double-sided adhesive).



5. Remove the front webcam module and cable.

Reverse this procedure to install the front webcam module.

Antenna

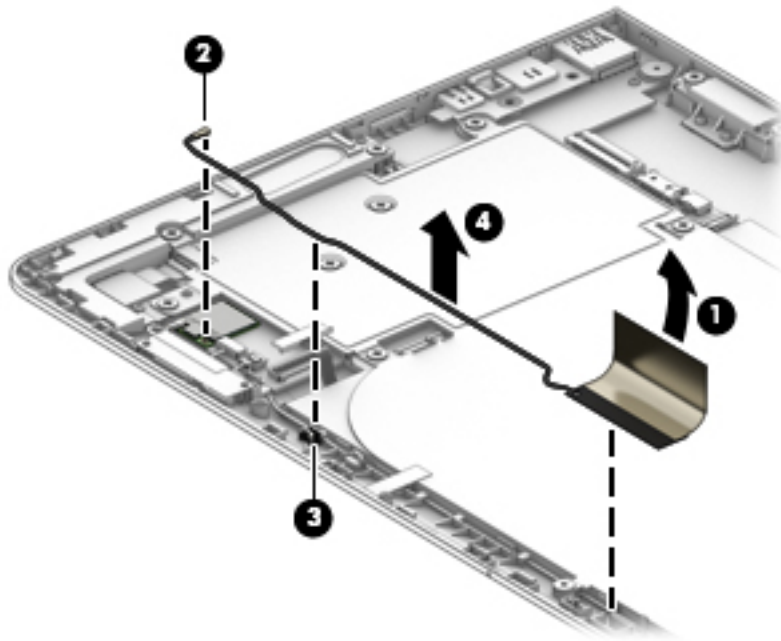
Description	Spare part number
Antenna	902341-001

Before removing the antenna, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the battery (see [Battery on page 29](#)).

Remove the antenna:

1. Peel the antenna off the shield **(1)**.
2. Disconnect the antenna cable from the system board **(2)**.
3. Remove the antenna cable from its routing path in the display enclosure **(3)**.
4. Remove the antenna from the display panel assembly **(4)**.



Reverse this procedure to install the antenna.

LCD shield

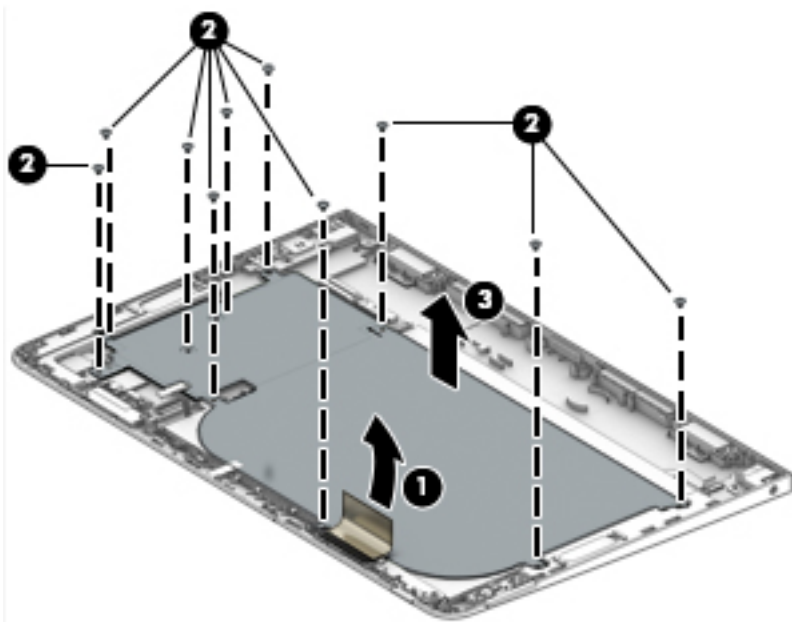
Description	Spare part number
LCD shield (includes thermal pad)	902363-001

Before removing the LCD shield, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).

Remove the LCD shield:

1. Peel the antenna off the shield **(1)**.
2. Remove the 10 Phillips PM2.0×2.5 screws **(2)** that secure the shield to the display.
3. Lift the shield from the display panel assembly **(3)**.



Reverse this procedure to install the LCD shield.

Battery

Description	Spare part number
Battery, 2-cell, 32-Wh (includes cable)	859517-855

Before removing the battery, follow these steps:

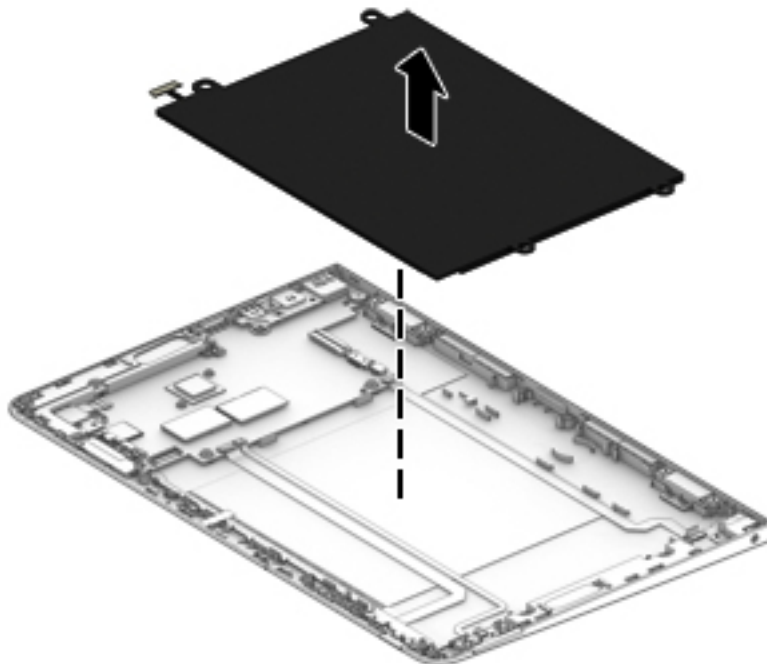
1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).

⚠ WARNING! To reduce potential safety issues, use only the battery provided with the tablet, a replacement battery provided by HP, or a compatible battery purchased from HP.

⚠ CAUTION: Removing a battery that is the sole power source for the tablet can cause loss of information. To prevent loss of information, save your work or shut down the tablet through Windows before removing the battery.

Remove the battery:

1. Lift the battery straight up and out of the display assembly.



2. Remove the battery.

Reverse this procedure to install the battery.

Speakers

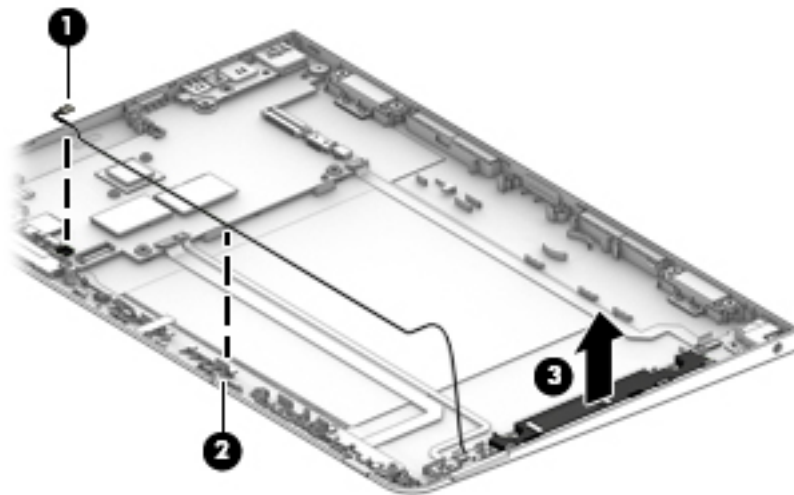
Description	Spare part number
Speaker Kit (includes left and right speakers and cables)	902391-001

Before removing the speakers, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).

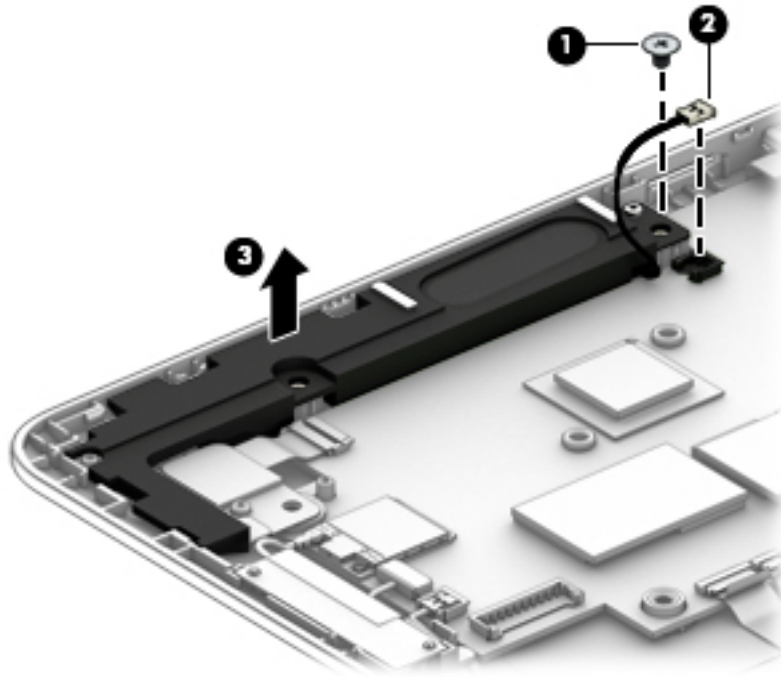
Remove the speakers:

1. To remove the right speaker, disconnect the speaker cable from the system board **(1)**.
2. Remove the speaker cable from its routing path in the display assembly **(2)**.
3. Remove the right speaker **(3)**.



4. To remove the left speaker, remove the Phillips PM2.0×2.0 screw **(1)** that secures the speaker to the display panel assembly.
5. Disconnect the cable from the system board **(2)**.

6. Remove the speaker **(3)**.



Reverse this procedure to install the speakers.

Audio board

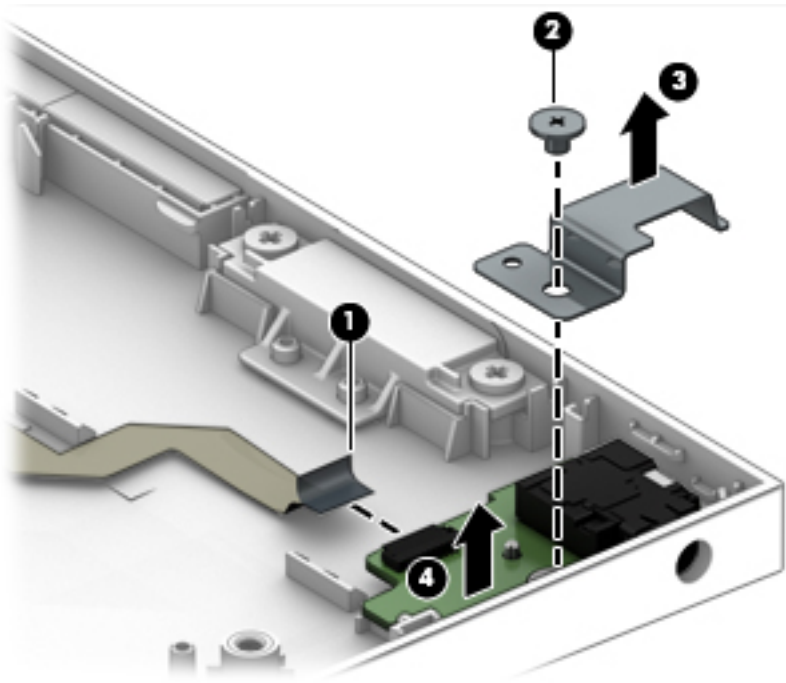
Description	Spare part number
Audio board	902368-001
Audio board bracket	902361-001
Audio board cable	902351-001

Before removing the audio board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).
6. Remove the battery (see [Battery on page 29](#)).

Remove the audio board:

1. Release the ZIF connector **(1)** to which the audio board cable is attached, and then disconnect the audio jack board cable from the audio board.
2. Remove the Phillips PM2.0×2.0 screw **(2)** that secures the audio board bracket to the display assembly.
3. Lift the bracket out of the display panel assembly **(3)**.
4. Remove the audio board **(4)** and cable.



Reverse this procedure to install the audio board.

Power button board

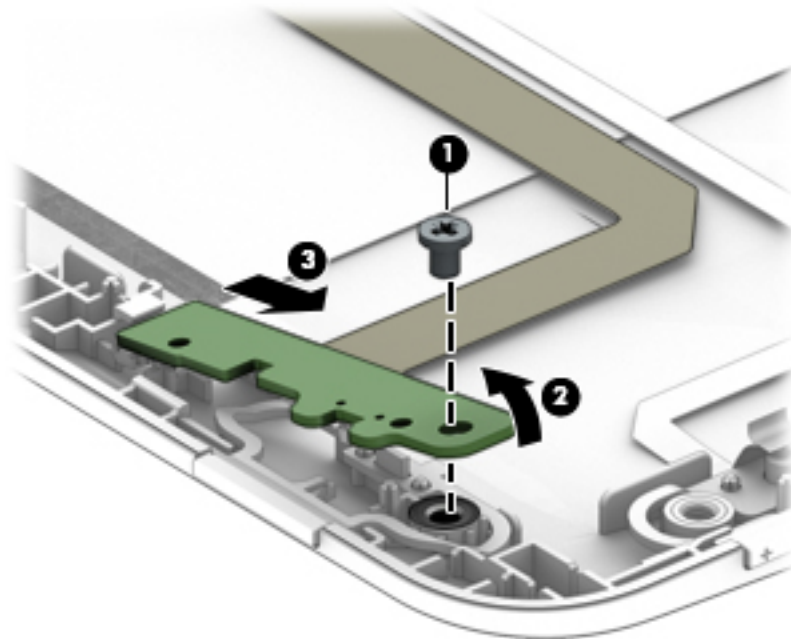
Description	Spare part number
Power button board	902369-001
Power button board cable	902352-001

Before removing the power button board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).
6. Remove the battery (see [Battery on page 29](#)).

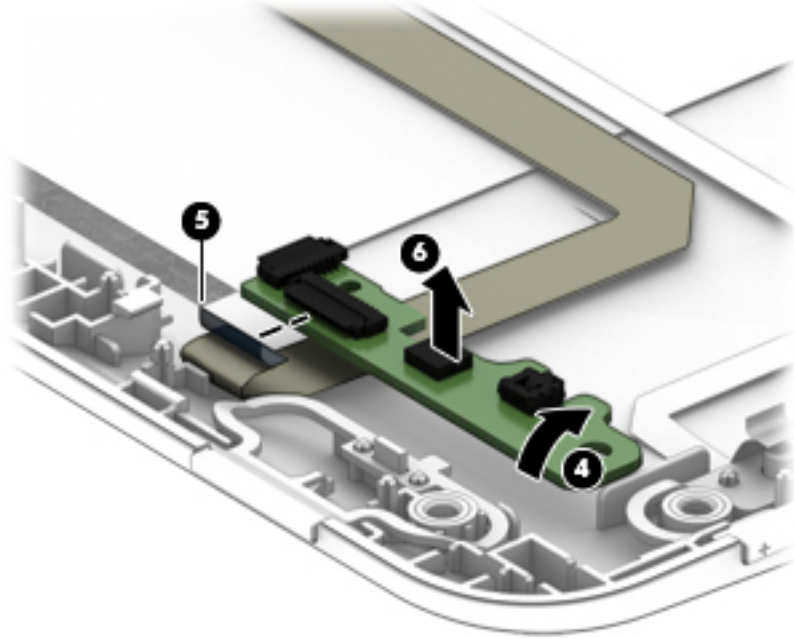
Remove the power button board:

1. Remove the Phillips PM2.0×2.0 screw **(1)** that secures that secures the power button board to the display panel assembly.
2. Lift the top of the board upward **(2)**, and then pull the board out from under the tab **(3)**.



3. Turn the board over so you can access the connector underneath **(4)**.
4. Disconnect the cable from the system board **(5)**.

5. Remove the power button board (6).



Reverse this procedure to install the power button board.

Volume board

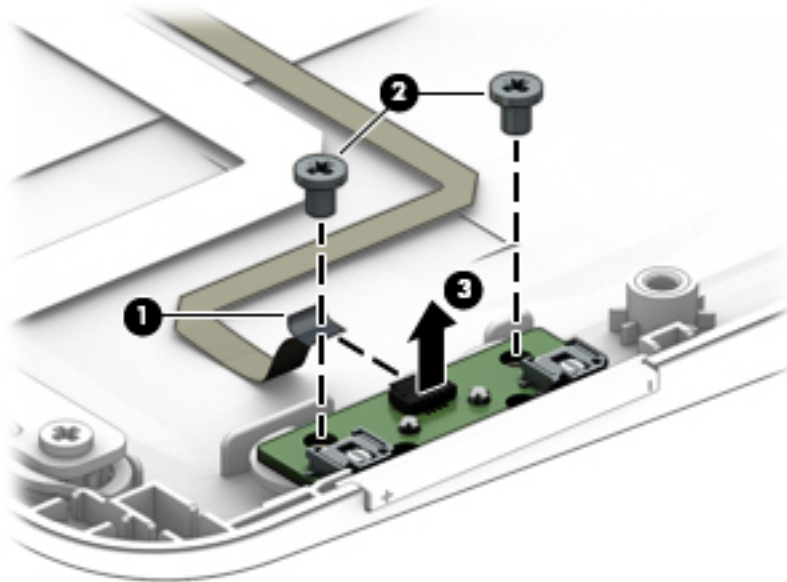
Description	Spare part number
Volume board	902370-001
Volume board cable	902353-001

Before removing the volume board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).
6. Remove the battery (see [Battery on page 29](#)).

Remove the volume board:

1. Disconnect the cable from the volume board **(1)**.
2. Remove the two Phillips PM2.0×2.0 screws **(2)** that secure the volume board to the display panel assembly.
3. Remove the volume board **(3)**.



Reverse this procedure to install the volume board.

Rear webcam module and lens

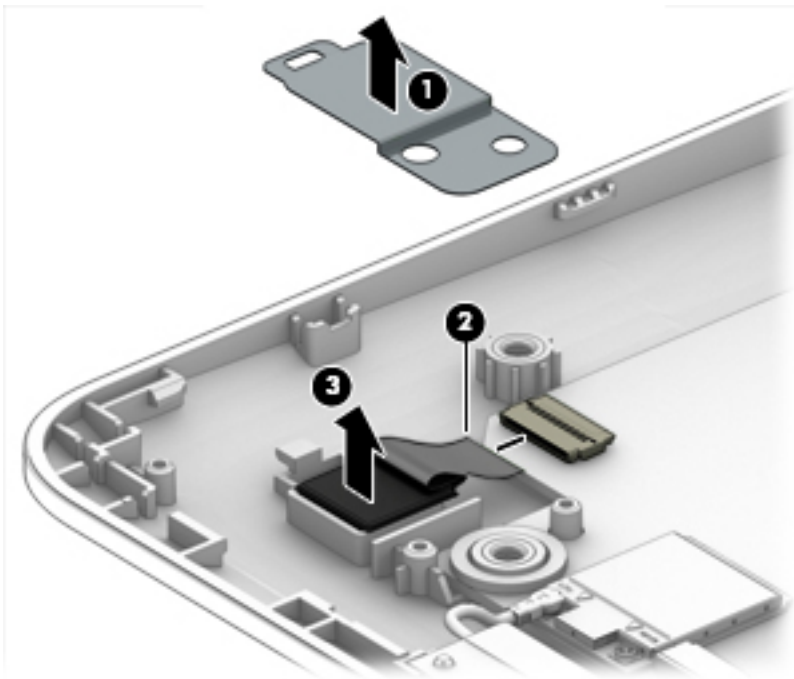
Description	Spare part number
Rear webcam module (includes bracket)	902256-001

Before removing the rear webcam module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).
6. Remove the left speaker (see [Speakers on page 30](#)).

Remove the rear webcam module:

1. Lift the bracket from atop the webcam module **(1)**.
2. Disconnect the webcam cable from the system board **(2)**.
3. Remove the webcam module **(3)** from the display panel assembly.

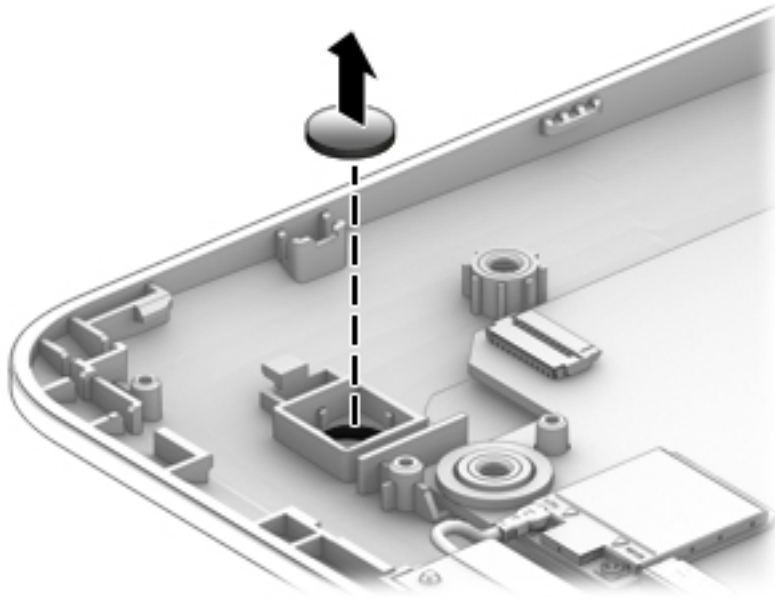


4. Remove the rear webcam module and cable.



NOTE: You have to clean the lens when replacing the rear webcam.

5. To remove the rear webcam lens, from inside of the display enclosure, pull the lens up to remove it. The lens is secured with adhesive.



Reverse this procedure to install the rear webcam module.

System board

Description	Spare part number
System board equipped with an Intel Atom x5-z8350 processor and a graphics subsystem with UMA memory (includes replacement thermal material)	
For use in HP x2 210 G2 models:	
128-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system	903879-601
128 eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system	903879-001
For use in HP x2 and HP x2 210 G2 models:	
64-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system	902254-601
64-GB eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system	902254-001
32-GB eMMC hard drive (SoC), 2 GB of system memory, and the Windows 10 operating system	902251-601
32-GB eMMC hard drive (SoC), 2 GB of system memory, and Windows 7 or a non-Windows operating system	902251-001
For use in HP x2 models:	
64-GB eMMC hard drive (SoC), 2 GB of system memory, and the Windows 10 operating system	902252-601
64-GB eMMC hard drive (SoC), 2 GB of system memory, and Windows 7 or a non-Windows operating system	902252-001
32-GB eMMC hard drive (SoC), 4 GB of system memory, and the Windows 10 operating system	902253-601
32-GB eMMC hard drive (SoC), 4 GB of system memory, and Windows 7 or a non-Windows operating system	902253-001

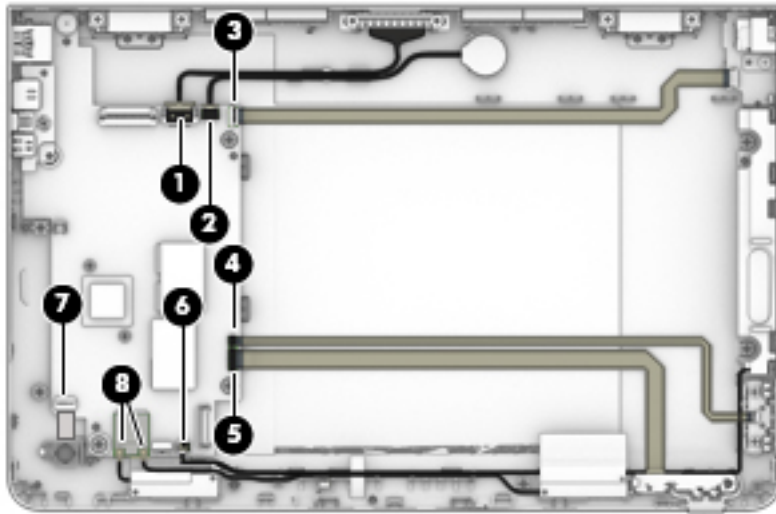
Before removing the system board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.
2. Disconnect the power from the tablet by unplugging the power cord from the tablet.
3. Disconnect all external devices from the tablet.
4. Remove the back cover (see [Back cover on page 22](#)).
5. Remove the LCD shield (see [LCD shield on page 28](#)).
6. Remove the battery (see [Battery on page 29](#)).
7. Remove the left speaker (see [Speakers on page 30](#)).
8. Remove the rear webcam (see [Rear webcam module and lens on page 36](#)).

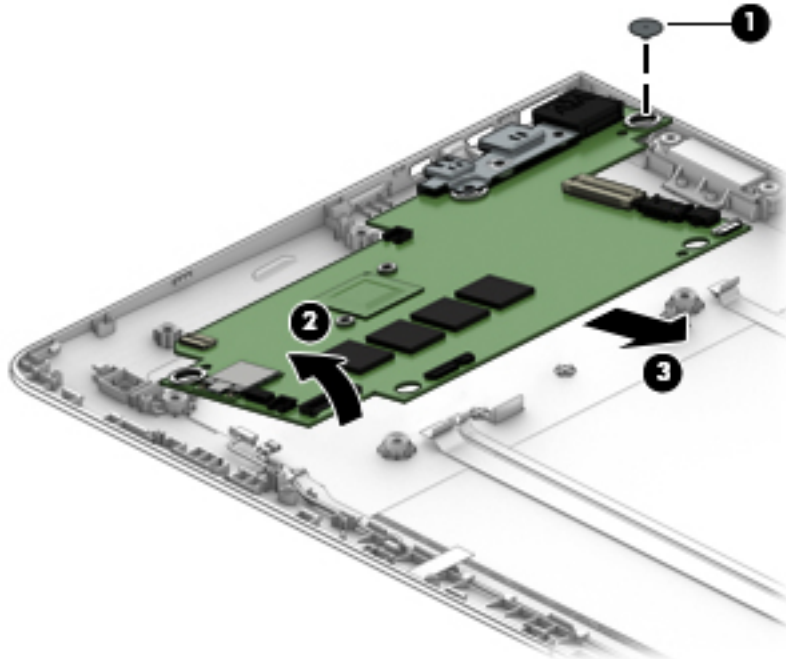
Remove the system board:

1. Disconnect the following cables from the system board:
 - (1) Docking connector cable (see [Docking connector \(display\) on page 24](#))
 - (2) RTC battery (see [RTC battery on page 25](#))
 - (3) Audio board cable (see [Audio board on page 32](#))
 - (4) Volume board cable (see [Volume board on page 35](#))
 - (5) Power button board cable (see [Power button board on page 33](#))

- (6) Right speaker cable (see [Speakers on page 30](#))
- (7) Front webcam (see [Front webcam module on page 26](#))
- (8) WLAN antennas (see [Antenna on page 27](#))



2. Remove the broadhead Phillips PM2.0×2.0 screw **(1)** that secures the system board to the display panel assembly.
3. Lift the right side of the system board up **(2)**, and then pull the board toward the right, away from the connectors on the side of the display, and then out of the display enclosure **(3)**.



Reverse this procedure to install the system board.

Dock component replacement procedures

There are as many as 32 screws that must be removed, replaced, and/or loosened when servicing the dock. Make special note of each screw size and location during removal and replacement.

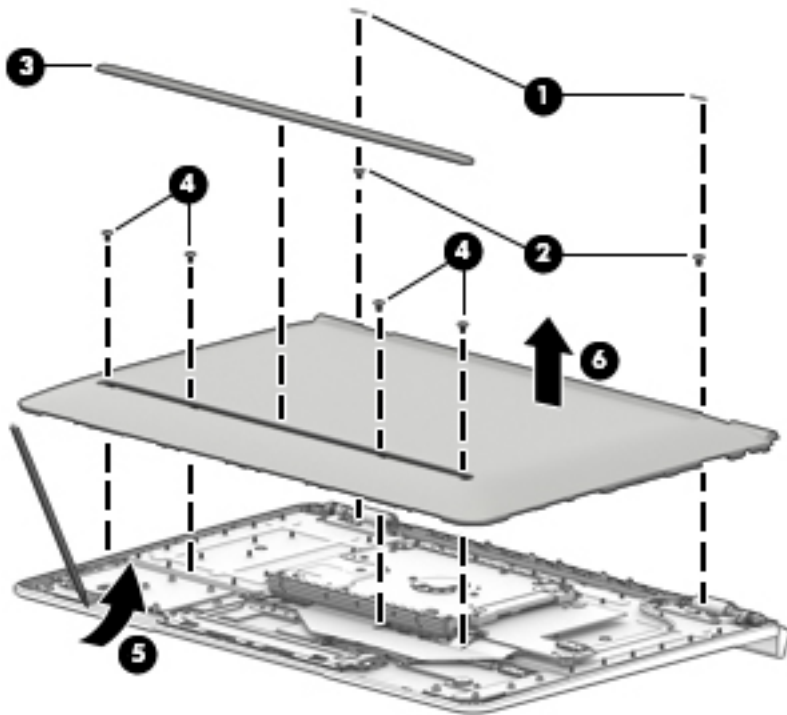
Bottom cover

Description	Spare part number
Bottom cover for use in HP x2 models with a hard drive:	
Silver models	902348-001
White models	902349-001
Red models	902350-001
Bottom cover for use in HP x2 and HP x2 210 G2 models without a hard drive:	
Silver models	902345-001
Bottom cover for use in HP x2 models without a hard drive:	
White models	902346-001
Red models	902347-001

Remove the bottom cover:

1. Place the dock upside-down on a flat surface.
2. Remove the two screw covers **(1)** and two silver Phillips PM2.0×4.0 screws **(2)**.
3. Remove the rubber strip from the bottom cover **(3)**.
4. Remove the four black Phillips PM2.0×3.0 screws **(4)** from under the rubber strip.
5. Insert a thin, plastic tool between the bottom cover and the dock **(5)** and pry upward to separate the bottom cover from the dock.

6. Remove the bottom cover (6).



Reverse this procedure to install the bottom cover.

Hard drive

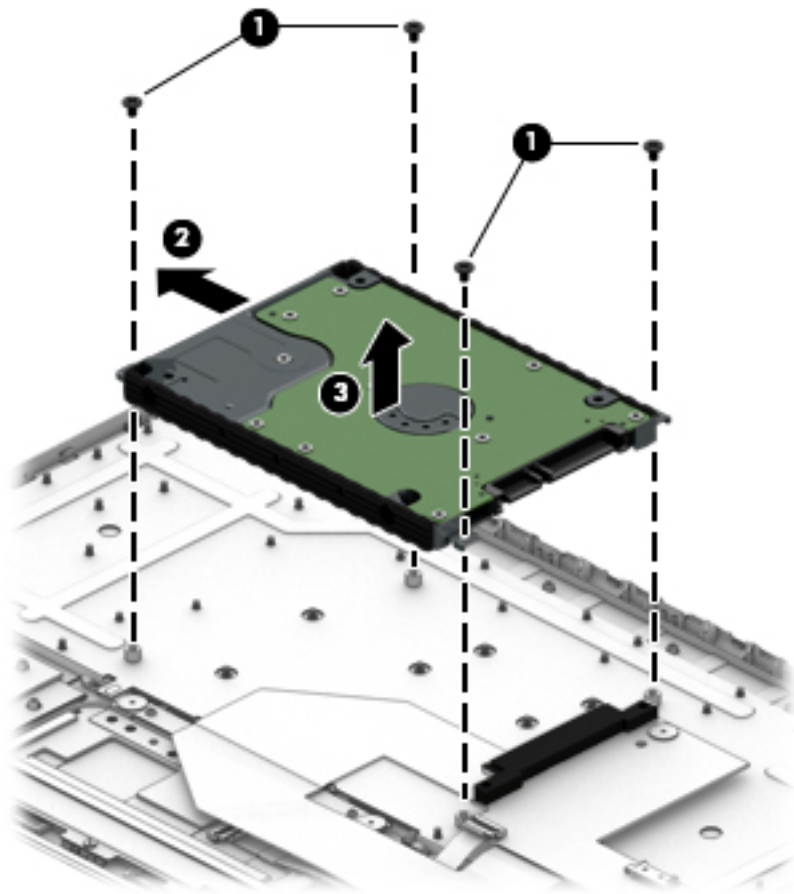
Description	Spare part number
Hard drive, 1 TB	762990-005
Hard drive, 500 GB	778186-005
Hard Drive Hardware Kit	902362-001

Before disassembling the dock, follow this step:

- ▲ Remove the bottom cover (see [Bottom cover on page 40](#)).

Remove the hard drive:

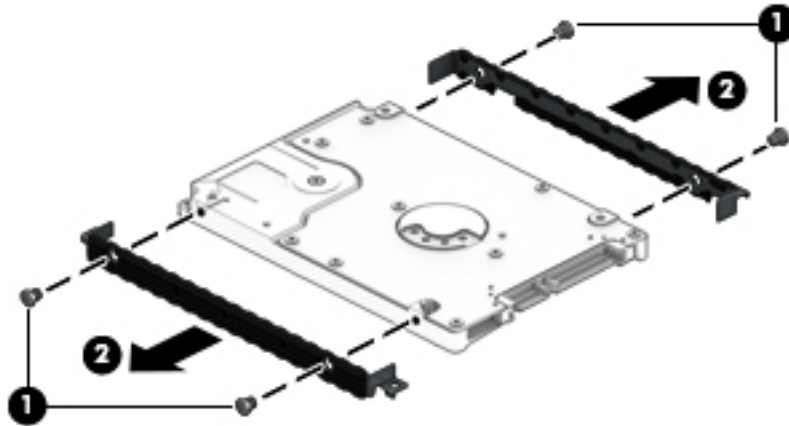
1. Remove the four Phillips PM2.0×3.0 screws **(1)** that secure the hinges to the dock.
2. Pull the hard drive away from the connector **(2)**, and then remove the hard drive from the dock **(3)**.



3. To remove the hard drive brackets, remove the four Phillips PM3.0×3.0 screws **(1)** that secure the brackets to the hard drive.

4. Pull the brackets away from the hard drive **(2)**.

Be sure to transfer the brackets from the old hard drive to the new hard drive.



Reverse this procedure to install the hard drive.

Docking board (models with a hard drive)

Description	Spare part number
Docking board (hard drive models)	902372-001

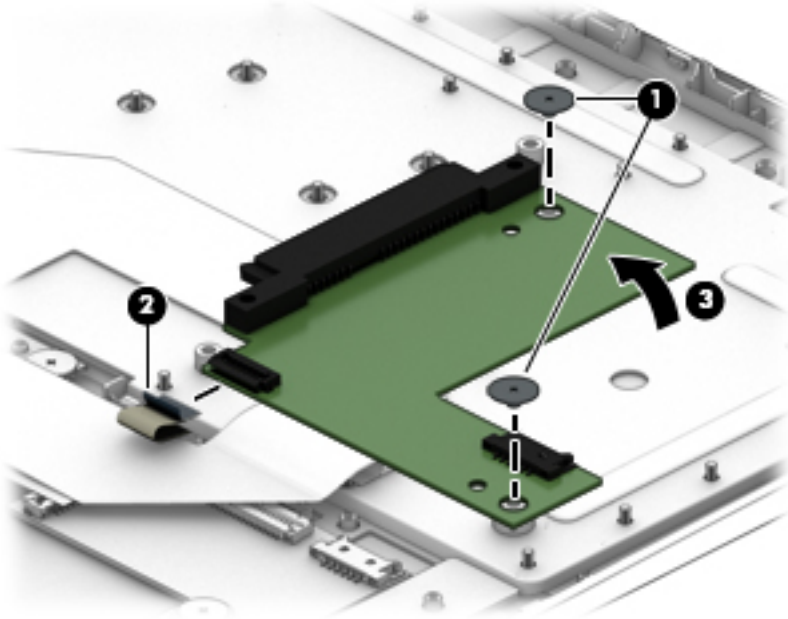
Before disassembling the dock, follow this step:

- ▲ Remove the bottom cover (see [Bottom cover on page 40](#)).

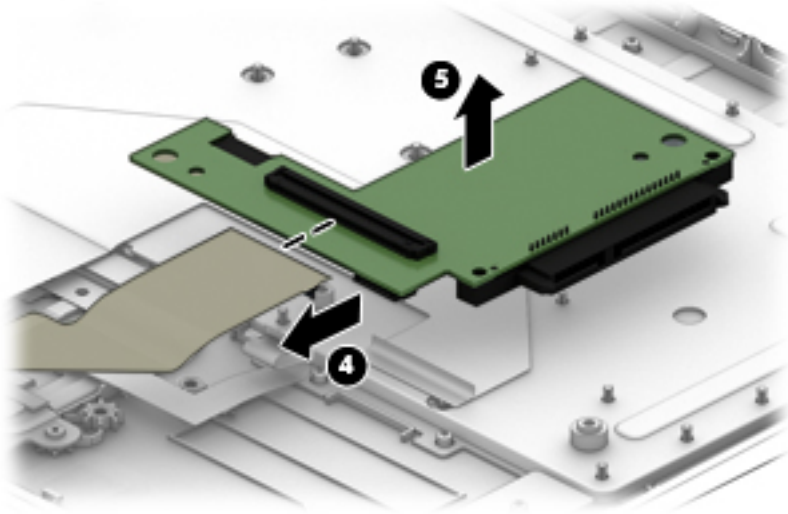
Remove the docking board:

1. Remove the two Phillips PM2.0×2.0 screws **(1)** that secure the board to the dock.
2. Disconnect the touchpad cable from the docking board **(2)**.

3. Turn the board over to access the connector on the bottom (3).



4. Disconnect the keyboard cable from the docking board (4).
5. Remove the docking board from the dock (5).



Reverse this procedure to install the docking board.

Docking board (models without a hard drive)

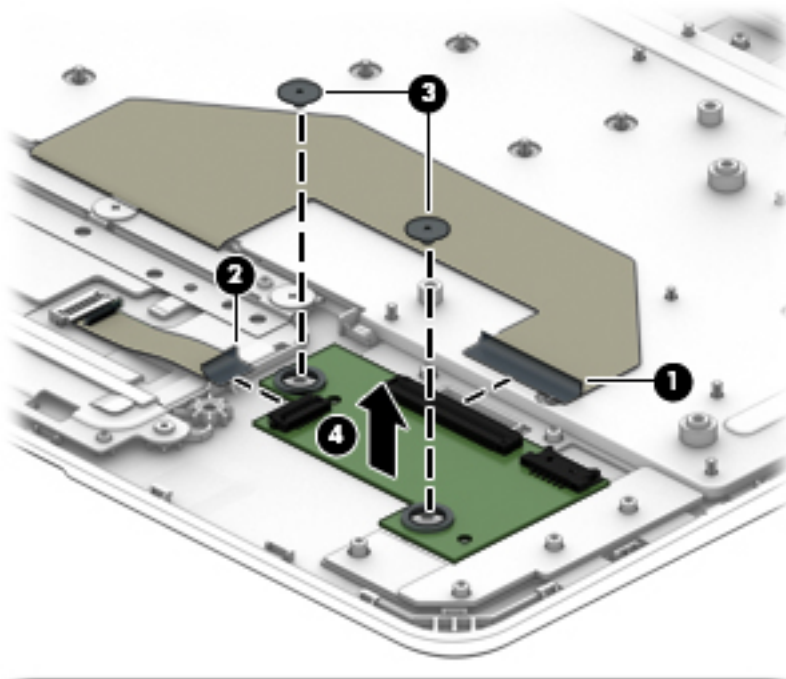
Description	Spare part number
Docking board (models without a hard drive)	902371-001

Before disassembling the dock, follow this step:

- ▲ Remove the bottom cover (see [Bottom cover on page 40](#)).

Remove the docking board:

1. Disconnect the keyboard cable from the docking board **(1)**.
2. Disconnect the touchpad cable from the docking board **(2)**.
3. Remove the two Phillips PM2.0×2.0 screws **(3)** that secure the board to the dock.
4. Remove the docking board from the dock **(4)**.



Reverse this procedure to install the docking board.

TouchPad board

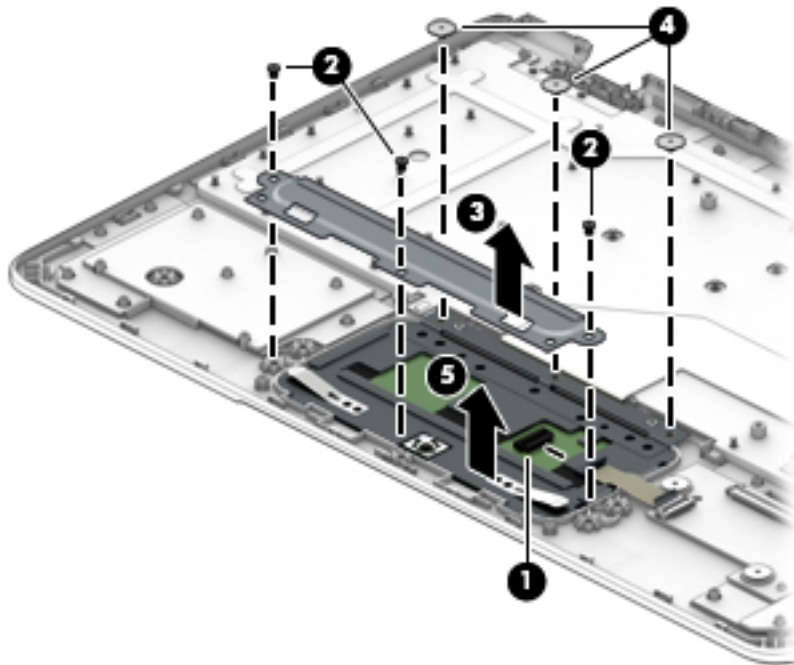
Description	Spare part number
TouchPad board for use in silver models	902373-001
TouchPad board for use in white models	907508-001
TouchPad board for use in red models	907509-001
TouchPad board cable (for use in HP x2 and HP x2 210 G2 models without a hard drive)	902357-001
TouchPad board cable (for use in HP x2 models with a hard drive)	902358-001

Before removing the TouchPad board, follow this step:

- ▲ Remove the bottom cover (see [Bottom cover on page 40](#)).

Remove the TouchPad board:

1. Disconnect the cable from the TouchPad **(1)**.
2. Remove the three black Phillips PM2.0×2.0 screws **(2)**.
3. Lift the bracket off the board **(3)**.
4. Remove the three broadhead silver Phillips PM2.0×2.0 screws **(4)**.
5. Remove TouchPad board from the dock **(5)**.



Reverse this procedure to install the TouchPad board.

Hinge assembly

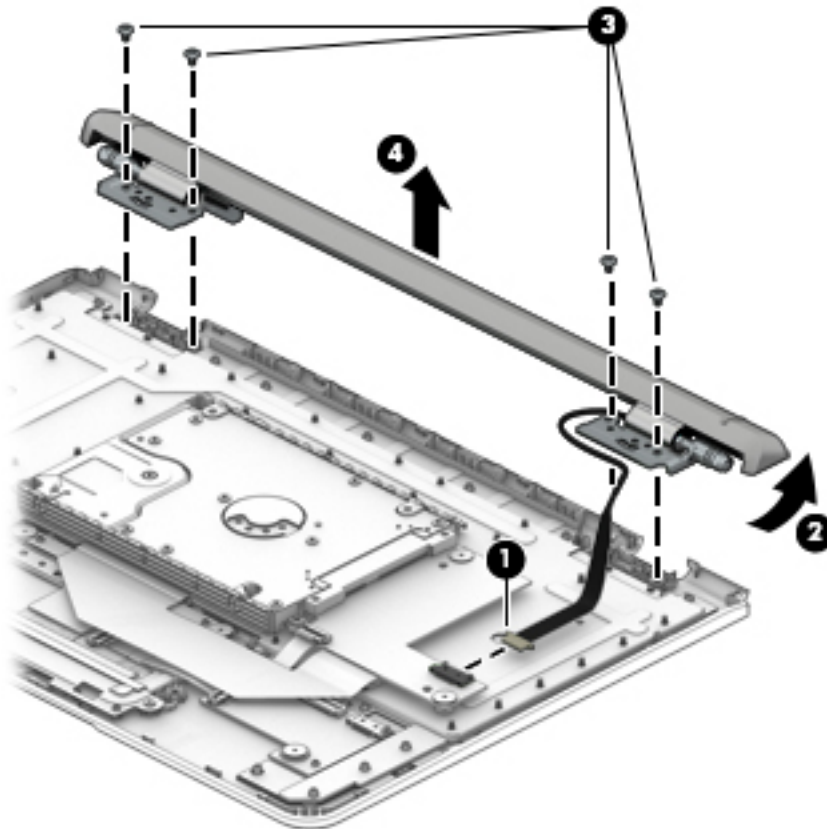
Description	Spare part number
Hinge assembly	not spared
NOTE: The hinge assembly is not spared as a whole unit. For more information about replacing hinge subcomponents, see Hinge components on page 48 .	

Before disassembling the hinge assembly, follow this step:

- ▲ Remove the bottom cover (see [Bottom cover on page 40](#)).

Remove the hinge assembly:

1. Disconnect the cable from the system board (1).
2. Rotate the hinge assembly up to a 45 degree angle (2).
3. Remove the four Phillips PM2.0×3.0 screws (3) that secure the hinge assembly to the dock.
4. Remove the hinge assembly from the dock (4).



Reverse this procedure to install the hinge assembly.

Hinge components

Before disassembling the hinge assembly, follow these steps:

1. Remove the bottom cover (see [Bottom cover on page 40](#)).
2. Remove the hinge assembly (see [Hinge assembly on page 47](#)).

Disassemble the hinge assembly:

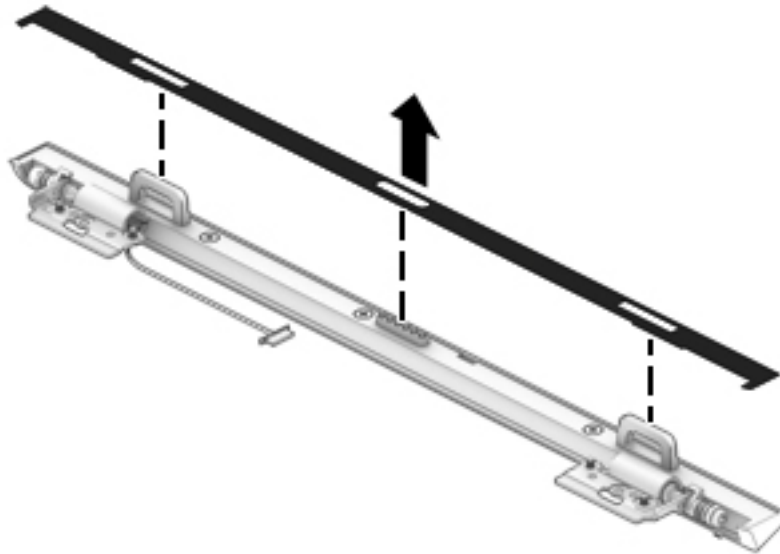
1. Peel the Mylar from the hinge assembly. A tool such as tweezers may be required to grasp the Mylar. The Mylar is secured with adhesive and is reusable.

The Mylar is available in the hinge bezel kit using the following spare part numbers:

Silver HP x2 and HP x2 210 G2 models: 902377-001

White HP x2 models: 902378-001

Red HP x2 models: 902379-001



2. To remove the hinge bezel, remove the two silver outer Phillips PM2.0×6.0 screws **(1)**.
3. Remove the black middle Phillips PM2.0×5.0 screw **(2)**.
4. Use a tool to pry in the gap near the docking connector to pry the bezel loose **(3)**.

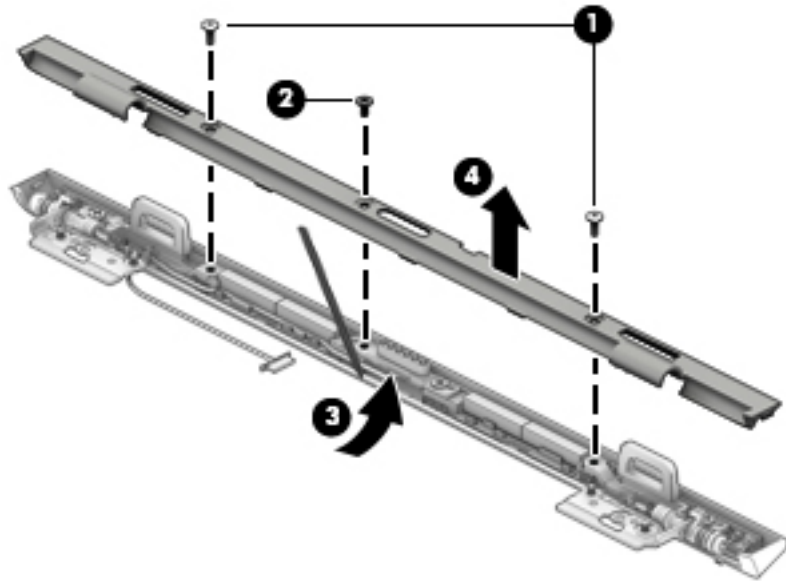
5. Pry up and down along the seam to disengage the bezel from the hinge, and then separate the bezel from the hinge **(4)**.

The bezel is available in the hinge bezel kit using the following spare part numbers:

Silver HP x2 and HP x2 210 G2 models: 902377-001

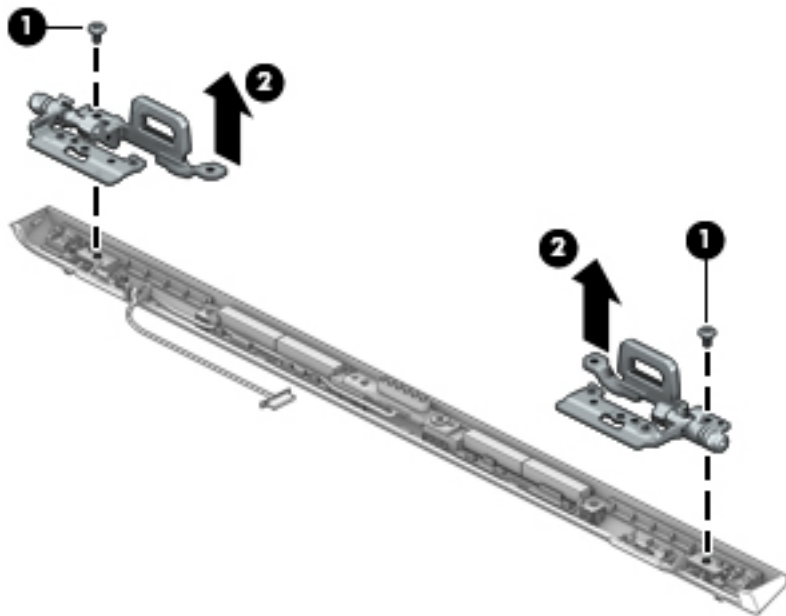
White HP x2 models: 902378-001

Red HP x2 models: 902379-001



6. Remove the Phillips PM2.0×4.0 screw from each bracket **(1)**.
7. Lift the brackets away from each hinge **(2)**.

Left and right hinge brackets are available using spare part number 902364-001.



8. Remove the Phillips PM2.0×5.0 screw **(1)** from the docking connector.

9. Remove the cable from its routing path **(2)**.
10. Lift the connector and cable away from the hinge **(3)**.

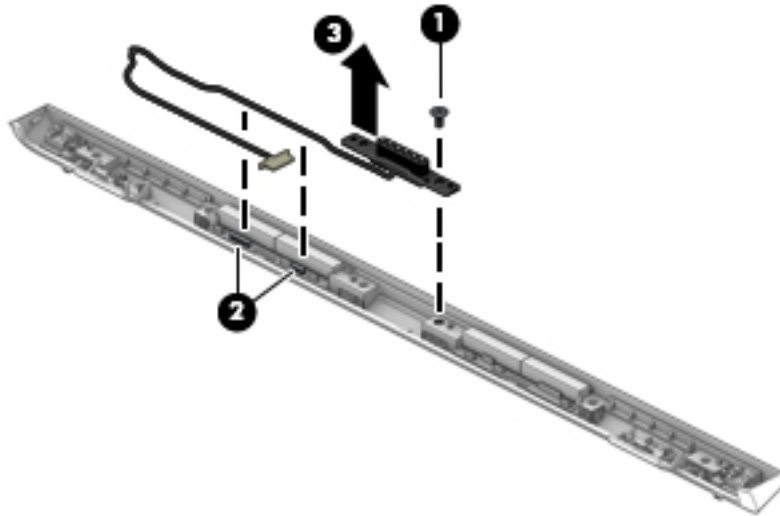
The POGO cable is available using spare part number 902359-001 for HP x2 and HP x2 210 G2 models without a hard drive and 902360-001 for HP x2 models with a hard drive.

The hinge cover is available using the following spare part numbers:

Silver HP x2 and HP x2 210 G2 models: 902374-001

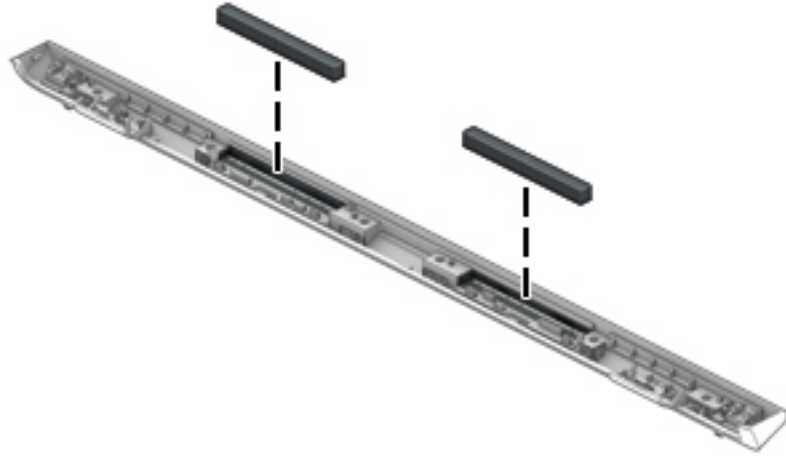
White HP x2 models: 902375-001

Red HP x2 models: 902376-001

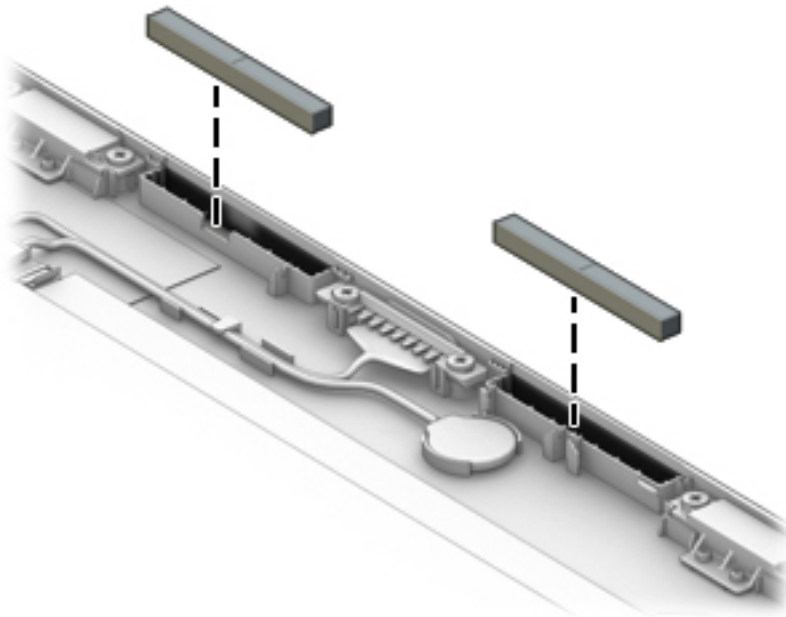


11. Use the images to proper installation location for the magnets.

Hinge assembly magnet installation locations



Display assembly magnet installation locations



Reverse this procedure to install the wireless antenna.

Top cover/keyboard

The top cover/keyboard spare part remains after all other spare parts have been removed.

In this section, the first table provides the main spare part number for the keyboard. The second table provides the country codes.




NOTE: All top cover/keyboard spare part kits include TouchPad.

Description	Spare part number
HP x2 and HP x2 210 G2 models without a hard drive	
Silver models	902365-xx1
HP x2 models without a hard drive	
White models	902366-xx1
Red models	902367-xx1
HP x2 models with a hard drive	
Silver models	902680-xx1
White models	902681-xx1
Red models	902682-xx1

For use in country or region	Spare part number	For use in country or region	Spare part number	For use in country or region	Spare part number
Belgium	-A41	Israel	-BB1	Slovenia	-BA1
Bulgaria	-261	Italy	-061	South Korea	-AD1
Canada	-DB1	Japan	-291	Spain	-071
Czech Republic and Slovakia	-FL1	Latin America	-161	Switzerland	-BG1
Denmark, Finland, and Norway	-DH1	The Netherlands	-B31	Taiwan	-AB1
France	-051	Portugal	-131	Thailand	-281
Germany	-041	Romania	-271	Turkey	-141
Greece	-151	Russia	-251	United Kingdom	-031
Hungary	-211	Saudi Arabia	-171	United States	-001

6 Using Setup Utility (BIOS)

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

 **NOTE:** To start Setup Utility on convertible computers, your computer must be in notebook mode and you must use the keyboard attached to your notebook.

Starting Setup Utility (BIOS)

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

- Computers or tablets with keyboards:
 - ▲ Turn on or restart the computer, quickly press **esc**, and then press **f10**.
- Tablets without keyboards:
 1. Turn on or restart the tablet, and then quickly hold down the volume up button.
 - or -
 - Turn on or restart the tablet, and then quickly hold down the volume down button.
 - or -
 - Turn on or restart the tablet, and then quickly hold down the Windows button.
 2. Tap **f10**.

Updating Setup Utility (BIOS)

Updated versions of Setup Utility (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 decide whether you need to update Setup Utility (BIOS), first determine the BIOS version on your computer.

To reveal the BIOS version information (also known as *ROM date* and *System BIOS*), use one of these options.


- HP Support Assistant
 1. Type `support` in the taskbar search box, and then select the **HP Support Assistant** app.
 - or -

Click the question mark icon in the taskbar.


2. Select **My PC**, and then select **Specifications**.
- Setup Utility (BIOS)
 1. Start Setup Utility (BIOS) (see [Starting Setup Utility \(BIOS\) on page 53](#)).
 2. Select **Main**, select **System Information**, and then make note of the BIOS version.
 3. Select **Exit**, select **No**, and then follow the on-screen instructions.

To check for later BIOS versions, see [Downloading a BIOS update on page 54](#).

Downloading a BIOS update

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

- Do not disconnect power from the computer by unplugging the power cord from the AC outlet.
- Do not shut down the computer or initiate Sleep.
- Do not insert, remove, connect, or disconnect any device, cable, or cord.

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

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

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

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

1. Type `file` in the taskbar search box, 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 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.

7 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.

When HP PC Hardware Diagnostics UEFI detects a failure that requires hardware replacement, a 24-digit Failure ID code is generated. This ID code can then be provided to support to help determine how to correct the problem.

To start HP PC Hardware Diagnostics (UEFI), follow these steps:


1. Start BIOS.
 - Tablets with keyboards
 - ▲ Turn on or restart the computer, quickly press **esc**.
 - Tablets without keyboards
 - ▲ Turn on or restart the tablet, and then quickly hold down the volume up button.
2. Press or tap **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 56](#).
 - b. Hard drive
 - c. BIOS
3. When the diagnostic tool opens, select the type of diagnostic test you want to run, and then follow the on-screen instructions.

 **NOTE:** To stop a test, press the button you used to access UEFI.

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

 **NOTE:** The HP PC Hardware Diagnostics (UEFI) download instructions are provided in English only, and you must use a Windows computer to download and create the HP UEFI support environment because only .exe files are offered.

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

Download the latest UEFI version

1. Go to <http://www.hp.com/go/techcenter/pcdiags>. The HP PC Diagnostics home page is displayed.
2. In the HP PC Hardware Diagnostics section, select the **Download** link, and then select **Run**.

Download any version of UEFI for a specific product

1. Go to <http://www.hp.com/support>.
2. Select **Get Software and drivers**.
3. Enter the product name or number.

– or –

Select **Identify now** to let HP automatically detect your product.

4. Select your computer, and then select your operating system.
5. In the **Diagnostic** section, follow the on-screen instructions to select and download the UEFI version you want.

8 Specifications

	Metric	U.S.
Dimensions (landscape orientation)		
Width	26.50 cm	10.4 in
Depth (display)	17.30 cm	6.81 in
Depth (dock)	18.30 cm	7.21 in
Height (display)	0.92 cm	0.36 in
Height (display+ dock with no HDD; front - rear)	1.62 - 1.84 cm	0.64 - 0.72 in
Height (display+ dock with HDD; front - rear)	1.62 - 2.35 cm	0.64 - 0.93 in
Weight (display)	582 g	1.28 lb
Weight (display + dock)	1190 g	2.62 lb
Input power	5 V dc @ 3A - 15W	
NOTE: This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.		
NOTE: The tablet operating voltage and current can be found on the system regulatory label.		
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 (non-condensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating	15 m to 3,048 m	750 ft to 10,000 ft
Nonoperating	15 m to 12,192 m	750 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 Backing up, restoring, and recovering

This chapter provides information about the following processes. The information in the chapter is standard procedure for most products.


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

For additional information, refer to the HP support assistant app.

▲ Type `support` in the taskbar search box, and then select the **HP Support Assistant** app.

– or –

Click the question mark icon in the taskbar.

 **IMPORTANT:** If you will be performing recovery procedures on a tablet, the tablet battery must be at least 70% charged before you start the recovery process.

IMPORTANT: For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning any recovery process.

Creating recovery media and backups

The following methods of creating recovery media and backups are available on select products only. Choose the available method according to your computer model.

- Use HP Recovery Manager to create HP Recovery media after you successfully set up the computer. This step creates a backup of the HP Recovery partition on the computer. The backup can be used to reinstall the original operating system in cases where the hard drive is corrupted or has been replaced. For information on creating recovery media, see [Creating HP Recovery media \(select products only\) on page 59](#). For information on the recovery options that are available using the recovery media, see [Using Windows tools on page 60](#).
- Use Windows tools to create system restore points and create backups of personal information.

For more information, see [Recovering using HP Recovery Manager on page 61](#).

 **NOTE:** If storage is 32 GB or less, Microsoft System Restore is disabled by default.

Creating HP Recovery media (select products only)

If possible, check for the presence of the Recovery partition and the Windows partition. From the **Start** menu, select **File Explorer**, and then select **This PC**.

- If your computer does not list the Windows partition and the Recovery partition, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information on the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.

You can use Windows tools to create system restore points and create backups of personal information, see [Using Windows tools on page 60](#).

- If your computer does list the Recovery partition and the Windows partition, you can use HP Recovery Manager to create recovery media after you successfully set up the computer. HP Recovery media can be used to perform system recovery if the hard drive becomes corrupted. System recovery reinstalls the original operating system and software programs that were installed at the factory and then configures the settings for the programs. HP Recovery media can also be used to customize the system or restore the factory image if you replace the hard drive.
 - Only one set of recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
 - HP Recovery Manager examines the computer and determines the required storage capacity for the media that will be required.
 - To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, or DVD+R DL discs. Do not use rewritable discs such as CD±RW, DVD±RW, double-layer DVD±RW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or, instead, you can use a high-quality blank USB flash drive.
 - If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub. If you cannot create DVD media yourself, you can obtain recovery discs for your computer from HP. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information on the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.
 - Be sure that the computer is connected to AC power before you begin creating the recovery media.
 - The creation process can take an hour or more. Do not interrupt the creation process.
 - If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue.

To create HP Recovery media:



IMPORTANT: For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps.

1. Type `recovery` in the taskbar search box, and then select **HP Recovery Manager**.
2. Select **Create recovery media**, and then follow the on-screen instructions.

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 61](#).

Using Windows tools

You can create recovery media, system restore points, and backups of personal information using Windows tools.




NOTE: If storage is 32 GB or less, Microsoft System Restore is disabled by default.

For more information and steps, see the Get started app.

- ▲ Select the **Start** button, and then select the **Get started** app.

Restore and recovery

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

 **IMPORTANT:** Not all methods are available on all products.

- Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state. For more information see the Get started app.
 - ▲ Select the **Start** button, and then select the **Get started** app.
- If you need to correct a problem with a preinstalled application or driver, use the Reinstall drivers and/or applications option (select products only) of HP Recovery Manager to reinstall the individual application or driver.
 - ▲ Type `recovery` in the taskbar search box, select **HP Recovery Manager**, select **Reinstall drivers and/or applications**, and then follow the on-screen instructions.
- If you want to recover the Windows partition to original factory content, you can choose the System Recovery option from the HP Recovery partition (select products only) or use the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 61](#). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 59](#).
- On select products, if you want to recover the computer's original factory partition and content, or if you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 61](#).
- On select products, if you want to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.


For more information, see [Removing the HP Recovery partition \(select products only\) on page 64](#).

Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state by using the HP Recovery media that you either created or that you obtained from HP, or by using the HP Recovery partition (select products only). If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 59](#).


What you need to know before you get started

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


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

- HP Recovery media must be used if the computer hard drive fails. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 59](#).
- To use the Factory Reset option (select products only), you must use HP Recovery media. If you have not already created recovery media, see [Creating HP Recovery media \(select products only\) on page 59](#).
- If your computer does not allow the creation of HP Recovery media or if the HP Recovery media does not work, you can obtain recovery media for your system from 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.

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

Using HP Recovery media, you can choose from one of the following recovery options:

 **NOTE:** Only the options available for your computer display when you start the recovery process.


- **System Recovery**—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.
- **Factory Reset**—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

The HP Recovery partition (select products only) allows System Recovery only.

Using the HP Recovery partition (select products only)

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

To start HP Recovery Manager from the HP Recovery partition:

 **IMPORTANT:** For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps (select products only).

1. Type `recovery` in the taskbar search box, select **Recovery Manager**, and then select **HP Recovery Environment**.
- or -
For computers or tablets with keyboards attached, press **f11** while the computer boots, or press and hold **f11** as you press the power button.
For tablets without keyboards:
Turn on or restart the tablet, and then quickly hold down the volume up button; then select **f11**.
- or -
Turn on or restart the tablet, and then quickly hold down the volume down button; then select **f11**.
- or -
Turn on or restart the tablet, and then quickly hold down the Windows button; then select **f11**.
2. Select **Troubleshoot** from the boot options menu.
3. Select **Recovery Manager**, and then follow the on-screen instructions.

Using HP Recovery media to recover

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

1. If possible, back up all personal files.
2. Insert the HP Recovery media, and then restart the computer.



NOTE: If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 63](#).

3. Follow the on-screen instructions.

Changing the computer boot order

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

To change the boot order:



IMPORTANT: For a tablet with a detachable keyboard, connect the keyboard to the keyboard dock before beginning these steps.

1. Insert the HP Recovery media.
2. Access the system **Startup** menu.

For computers or tablets with keyboards attached:

- ▲ Turn on or restart the computer or tablet, quickly press **esc**, and then press **f9** for boot options.

For tablets without keyboards:

- ▲ Turn on or restart the tablet, and then quickly hold down the volume up button; then select **f9**.

- or -

Turn on or restart the tablet, and then quickly hold down the volume down button; then select **f9**.

- or -

Turn on or restart the tablet, and then quickly hold down the Windows button; then select **f9**.

3. Select the optical drive or USB flash drive from which you want to boot.
4. Follow the on-screen instructions.

Removing the HP Recovery partition (select products only)

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



IMPORTANT: After you remove the HP Recovery partition, you will not be able to perform System Recovery or create HP recovery media from the HP Recovery partition. So before you remove the Recovery partition, create HP Recovery media; see [Creating HP Recovery media \(select products only\) on page 59](#).



NOTE: The Remove Recovery Partition option is only available on products that support this function.

Follow these steps to remove the HP Recovery partition:

1. Type `recovery` in the taskbar search box, and then select **HP Recovery Manager**.
2. Select **Remove Recovery Partition**, and then follow the on-screen instructions.

10 Power cord set requirements

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

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

Power cord sets for use in other countries and regions must meet the requirements of the country or region where the tablet 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 amps and a nominal voltage rating of 125 or 250 V AC, as required by the power system of each country or region.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the tablet.

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	COC	5
South Korea	EK	4

Country/region	Accredited agency	Applicable note number
Sweden	CEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type H05VV-F, 3-conductor, 1.0-mm conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a T mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm 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.

11 Recycling

When a non-rechargeable or rechargeable battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for battery disposal.

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

Index

- A**
 - AC adapter, spare part number 17
 - AC adapter/battery 6
 - antenna
 - removal 27
 - spare part number 27
 - audio board
 - removal 32
 - spare part number 10, 32
 - audio board cable
 - spare part number 10
 - audio, product description 2
 - audio-out (headphone)/audio-in (microphone) combo jack, identifying 7
- B**
 - back cover
 - removal 22
 - spare part number 11, 22
 - back cover, spare part number 22
 - backups 59
 - battery
 - removal 29
 - spare part number 10, 29
 - BIOS
 - determining version 53
 - downloading an update 54
 - starting the Setup Utility 53
 - updating 53
 - boot order
 - changing 63
 - Bottom cover
 - spare part number 12
 - bottom cover
 - removal 40
 - spare part number 40
 - buttons
 - power 5
- C**
 - cables 15
 - cables, service considerations 18
 - camera
 - identifying 4
 - camera light, identifying 4
 - components
 - bottom edge 7
 - display 4
 - left side 7
 - right side 6
 - top edge 5
 - connectors, service considerations 18
- D**
 - display cable, spare part number 10, 22
 - display panel, product description 1
 - display panel, spare part number 10, 22
 - dock
 - major components 12
 - docking board
 - spare part number 13
 - docking board (hard drive models)
 - removal 43
 - spare part number 43
 - docking board (no hard drive models)
 - removal 45
 - spare part number 45
 - docking connector
 - removal 24
 - spare part number 24
 - docking port, identifying 7
- E**
 - electrostatic discharge 19
 - equipment guidelines 21
 - external expansion, product description 2
 - external optical drive, spare part number 17
- F**
 - front webcam cable
 - spare part number 10
 - front webcam module
 - removal 26
 - spare part number 10, 26
- G**
 - graphics, product description 1
 - grounding guidelines 19
 - guidelines
 - equipment 21
 - grounding 19
 - packaging 20
 - transporting 20
 - workstation 20
- H**
 - hard drive
 - removal 42
 - spare part number 13, 42
 - Hard Drive Hardware Kit
 - spare part number 13
 - HDMI port
 - identifying 6
 - hinge assembly
 - removal 47
 - spare part number 47
 - hinge components 14
 - hinge cover
 - removal 48
 - spare part number 48
 - HP PC Hardware Diagnostics (UEFI)
 - Failure ID code 56
 - using 56
 - HP Recovery Manager
 - correcting boot problems 63
 - starting 62
 - HP Recovery media
 - creating 59
 - recovery 62
 - HP Recovery partition
 - recovery 62
 - removing 64
- I**
 - internal microphone, identifying 5
- J**
 - jacks
 - audio-out (headphone)/audio-in (microphone) combo 7

K

keyboard
product description 2
spare part numbers 13

L

LCD shield
removal 28
spare part number 28
LCD shielding
spare part number 10
lights
AC adapter and battery 6

M

magnetic latches, identifying 7
mass storage device, product
description 1
memory card reader, identifying 6
memory module, product
description 1
micro-HDMI port
identifying 6
microphone
product description 1
microSD memory card reader,
identifying 6
minimized image recovery 62
minimized image, creating 61
model name 1

O

operating system, product
description 3
optical drive, spare part number 17
original system recovery 61

P

packaging guidelines 20
plastic parts, service
considerations 18
Pogo docking connector
spare part number 14
ports
micro-HDMI 6
product description 2
USB 3.0 6
USB Type-C power connector 6
power button board
removal 33
spare part number 10, 33

power button board cable
spare part number 10
power button, identifying 5
power cord
spare part numbers 17
power cord, set requirements 65
power requirements, product
description 2
processor, product description 1
product description
audio 2
display panel 1
external expansion 2
graphics 1
keyboard 2
mass storage 1
memory module 1
microphone 1
operating system 3
ports 2
power requirements 2
processors 1
product name 1
sensor 2
serviceability 3
webcam 1
wireless networking 2
product name 1

R

rear camera, identifying 4
rear webcam module
removal 36
spare part number 36
recover
options 61
recovery
discs 60, 62
HP Recovery Manager 61
media 62
starting 62
supported discs 60
system 61
USB flash drive 62
using HP Recovery media 60
recovery media
creating 59
creating using HP Recovery
Manager 60

recovery partition
removing 64
RTC battery
removal 25
spare part number 25
RTCV battery
spare part number 10
Rubber Kit 16

S

Screw Kit, spare part number 17
sensor, product description 2
service considerations
cables 18
connectors 18
plastic parts 18
serviceability, product description 3
slots
microSD memory card reader 6
Speaker Kit, spare part number 10,
30
speakers
removal 30
spare part number 10, 30
speakers, identifying 4
supported discs, recovery 60
system board
removal 38
spare part numbers 10, 38
system recovery 61
system restore point
creating 60
system restore point, creating 59

T

tablet
major components 9
specifications 58
tools required 18
top cover/keyboard
removing 52
TouchPad board
removal 46
spare part number 13, 46
TouchPad board cable
spare part number 13
transporting guidelines 20

U

USB 3.0 port, identifying 6

USB Type-C power connector port,
identifying 6

V

volume board
removal 35
spare part number 10, 35
volume board cable
spare part number 10

W

webcam
product description 1
webcam (front)
removal 26
spare part number 26
webcam (rear) module
removal 36
spare part number 36
Windows
system restore point 59, 60
Windows tools
using 60
wireless networking, product
description 2
workstation guidelines 20