



# HP Chromebook and HP Chromebook 11 G5

**Maintenance and Service Guide**  
**IMPORTANT! This document is intended for**  
**HP authorized service providers only.**

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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.

## Safety warning notice

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 **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).

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# Table of contents

<b>1 Product description .....</b>	<b>1</b>
<b>2 External component identification .....</b>	<b>3</b>
Right side .....	3
Left side .....	4
Display .....	5
Top .....	6
TouchPad .....	6
Button .....	7
Bottom .....	8
Labels .....	8
<b>3 Illustrated parts catalog .....</b>	<b>10</b>
Computer major components .....	11
Display assembly subcomponents .....	14
Miscellaneous parts .....	16
<b>4 Removal and replacement preliminary requirements .....</b>	<b>18</b>
Tools required .....	18
Service considerations .....	18
Plastic parts .....	18
Cables and connectors .....	18
Drive handling .....	19
Grounding guidelines .....	20
Electrostatic discharge damage .....	20
Packaging and transporting guidelines .....	21
Workstation guidelines .....	21
<b>5 Removal and replacement procedures .....</b>	<b>23</b>
Component replacement procedures .....	23
Computer feet .....	23
Keyboard/top cover .....	24
WLAN module .....	27
Hall sensor board .....	28
Connector board and cable .....	29
Battery .....	30

Speakers .....	32
System board .....	33
Heat sink .....	35
Display assembly .....	37
Power connector and cable .....	43

**6 Specifications ..... 45**

**7 Power cord set requirements ..... 46**

Requirements for all countries ..... 46

Requirements for specific countries and regions ..... 47

**8 Recycling ..... 49**

**Index ..... 50**

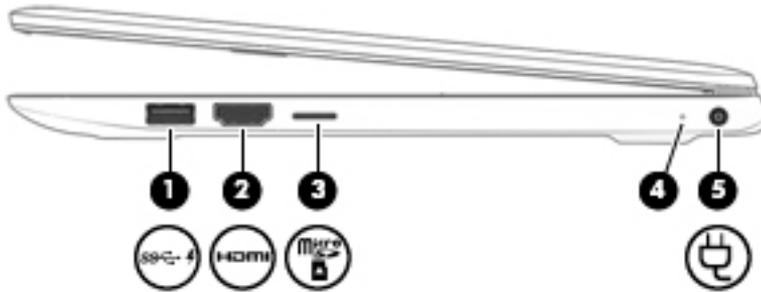
# 1 Product description

Category	Description
<b>Product Name</b>	HP Chromebook HP Chromebook 11 G5
<b>Processor</b>	Intel® Celeron® N3060 1.60 GHz (SC turbo up to 2.48 GHz) 1600 MHz/2 MB L2, Dual 6 W TDP, 4 W SDP
<b>Chipset</b>	Integrated soldered-on-circuit (SoC) integrated with processor
<b>Graphics</b>	<b>Internal Graphics:</b> Intel HD Graphics Supports HD decode, DX12, and HDMI
<b>Panel</b>	11.6 in, high-definition (HD), AntiGlare, (1366×768), SVA, white light-emitting diode (WLED), non-touch, flat (3.6 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, non-touch sku (for use with HP Chromebook models only)  11.6 in, high-definition (HD), AntiGlare, (1366×768), UWVA, white light-emitting diode (WLED), non-touch, slim (3.0 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, non-touch sku  11.6 in, HD, (1366×768), SVA, WLED, touch, flat (3.0 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, touch solution with Gorilla Glass NBT, multi-touch enabled.
<b>Memory</b>	Supports up to 4096 MB maximum on-board system memory.  LPDDR3-1600 single channel (LPDDR3-1866 downgraded to LPDDR3-1600)  2048 MB (8 GB, 128 M x 32 x 2 x 2 pcs and 4096 MB (8 GB, 128 M x 32 x 2 x 4 pcs
<b>Storage</b>	Supports 16 GB (32 GB for HP Chromebook 11 G5) embedded MultiMedia Controller (eMMC)
<b>Audio and video</b>	Dual speakers  Fixed (no tilt) integrated HP TrueVision HD camera  1280×720 by 30 frames per second with LED  Single digital microphone with appropriate echo-cancellation, noise-suppression software
<b>Security</b>	Mini-Kensington security lock  Ultraslim Kensington Security Lock (for use with HP Chromebook 11 G5 models only)
<b>Wireless</b>	Integrated wireless local area network (WLAN) options by way of wireless module.  Two built-in WLAN antennas  Supports Intel Dual Band Wireless 7265 802.11 AC 2 x 2 WiFi + Bluetooth® 4.2 Combo Adapter
<b>Ports</b>	<ul style="list-style-type: none"><li>HP Smart Plug AC adapter (4.5 mm barrel)</li></ul>

Category	Description
	<ul style="list-style-type: none"> <li>• Headphone/microphone combo jack</li> <li>• High-definition multimedia interface (HDMI) v.1.4b, supporting up to 1080b, 1920×1080 at 60 Hz</li> <li>• USB 3.0 ports (2)</li> <li>• Connector board</li> </ul>
<b>Keyboard/pointing devices</b>	<p>Full-size, textured, island-style, Google keyboard, ash gray</p> <p><b>Touchpad requirements:</b></p> <p>Clickpad with image sensor</p> <p>Multitouch gestures enabled</p> <p>Taps enabled as default</p>
<b>Power requirements</b>	<p>Supports a 2-cell, 43.7 Wh, polymer battery</p> <p>Supports a 65 W HP Smart AC adapter (non-PFC, EM, 4.5 mm) and 45 W HP Smart AC adapter (non-PFC, RC, 4.5 mm) AC adapter</p>
<b>Operating system</b>	<b>Preinstalled:</b> Google Chrome operating system
<b>Serviceability</b>	<b>End user replaceable parts:</b> AC adapter

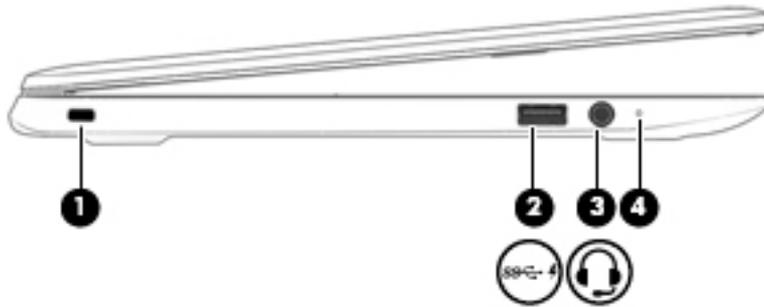
## 2 External component identification

### Right side



Component	Description
(1) 	USB 3.0 charging (powered) port Connects an optional USB device, such as a keyboard, mouse, external drive, 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.
(2) 	HDMI port Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed High-Definition Multimedia Interface (HDMI) device.
(3) 	MicroSD card reader Reads optional memory cards that store, manage, share, or access information.
(4)	AC adapter and battery light <ul style="list-style-type: none"><li>• White: The AC adapter is connected and the battery is charged.</li><li>• Amber: The AC adapter is connected and the battery is charging.</li><li>• Off: The computer is using battery power.</li></ul>
(5) 	Power connector Connects an AC adapter.

## Left side



Component	Description
(1)	<p>Security cable slot</p> <p>Attaches an optional security cable to the computer.</p> <p><b>NOTE:</b> The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.</p>
(2)	<p> USB 3.0 charging (powered) port</p> <p>Connects an optional USB device, such as a keyboard, mouse, external drive, 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.</p>
(3)	<p> Audio-out (headphone)/Audio-in (microphone) combo jack</p> <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 devices.</p> <p><b>WARNING!</b> To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset.</p> <p><b>NOTE:</b> When a device is connected to the jack, the computer speakers are disabled.</p> <p><b>NOTE:</b> Be sure that the device cable has 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).</p>
(4)	<p>Duplicate power light</p> <ul style="list-style-type: none"> <li>• White: Computer is on.</li> <li>• Pulsing white: Computer is in the sleep state.</li> <li>• Off: Computer is off.</li> </ul>

# Display



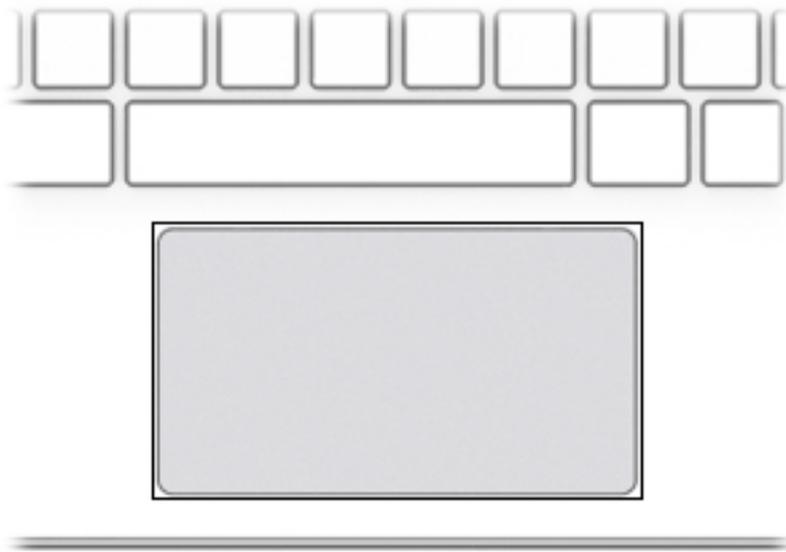
Component	Description
(1) WLAN antennas*	Send and receive wireless signals to communicate with wireless local area networks (WLANs). <b>NOTE:</b> WLAN antennas are not visible on the exterior of the device.
(2) Internal microphones**	Record sound.
(3) Camera light	On: The camera is in use.
(4) HD camera	Record video and capture still photographs in HD resolution

\*The antennas and sensors are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas and sensors free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.

\*\* The position of the internal microphones may differ, depending on the model.

# Top

## TouchPad



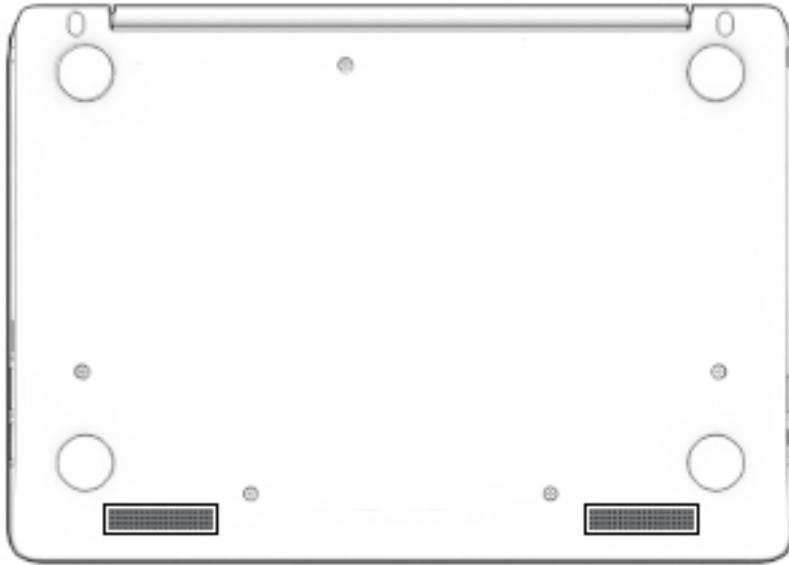
Component	Description
TouchPad	Reads your finger gestures to move the pointer or activate items on the screen.

## Button



Component	Description
 Power button	<ul style="list-style-type: none"><li>• When the computer is off, press the button to turn on the computer.</li><li>• When the computer is in the Sleep state, press the button briefly to exit Sleep.</li><li>• When the computer is on and you want to lock the screen, press the button until you see the sign-in screen appear. Pressing the power button during screen-lock mode turns off the computer.</li><li>• When the computer is on and you want to turn it off, press and hold the button to lock the screen, and then continue to press the button until the computer powers off.</li></ul>

## Bottom



Component	Description
Speakers (2)	Produce sound.

## Labels

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

 **IMPORTANT:** All labels described in this section will be affixed to the bottom of the computer.

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

Your service label will resemble one of the examples shown below. Refer to the illustration that most closely matches the service label on your computer.



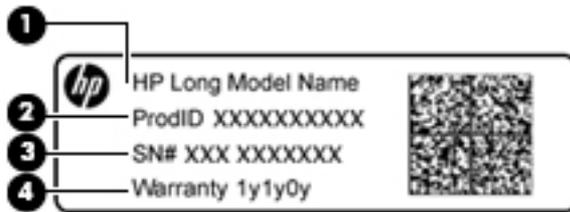
Component
(1) Serial number
(2) Product number

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**Component**

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- (3) Warranty period
  - (4) Model number (select products only)
- 



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**Component**

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- (1) Model name (select products only)
  - (2) Product number
  - (3) Serial number
  - (4) Warranty period
- 

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

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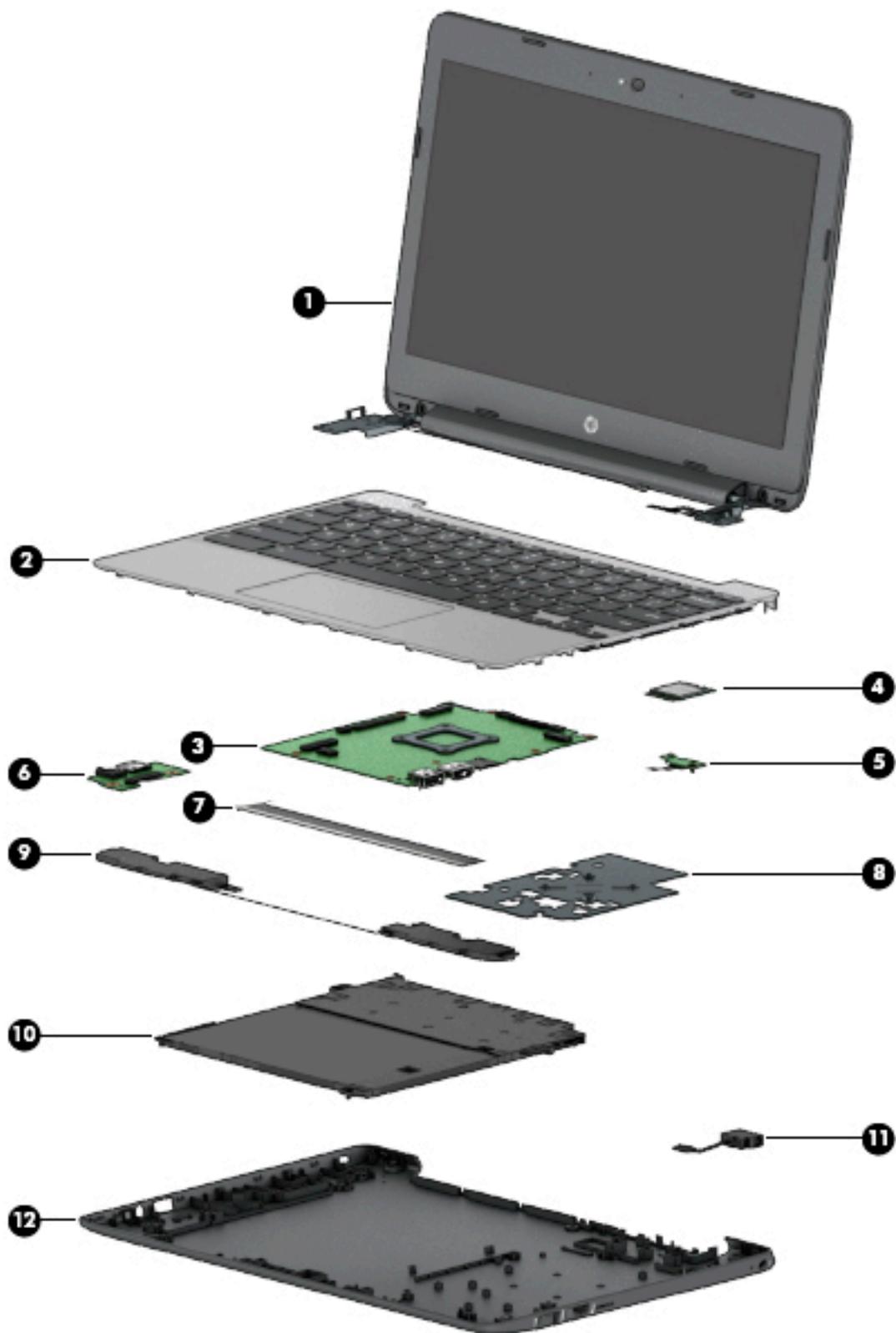
## 3 Illustrated parts catalog



**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.

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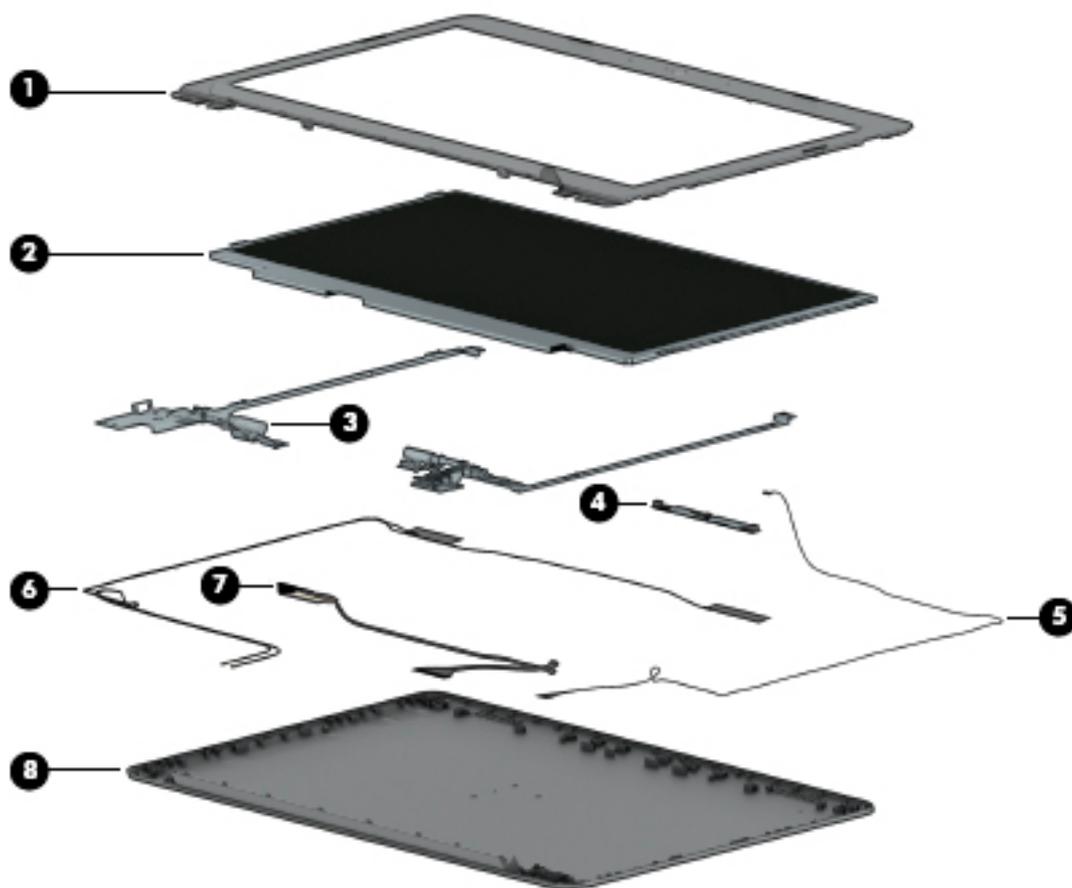
## Computer major components



Item	Component	Spare part number
<b>(1)</b>	<p><b>Display assembly:</b> Non-touch display assemblies are spared at the subcomponent level only. For display assembly spare part information, see <a href="#">Display assembly subcomponents on page 14</a>.</p> <p>The HP Chromebook 11 G5 model touch displays are only spared as full hinge-ups. Individual components are not spared for these touch screen displays.</p>	901252-001
<b>(2)</b>	<p><b>Keyboard/top cover</b> (includes keyboard cable):</p> <p><b>NOTE:</b> Keyboard/top cover is spared with the TouchPad under spare part kits with spare part numbers 900818-xxx. The TouchPad cable spare part number is 900814-001.</p> <p><b>For use with HP Chromebook and HP Chromebook 11 G5 models</b></p>	
	For use in Belgium	900818-A41
	For use in Canada	900818-DB1
	For use in Denmark, Finland, and Norway	900818-DH1
	For use in France	900818-051
	For use in Germany	900818-041
	For use in Italy	900818-061
	For use in the Netherlands	900818-B31
	For use in Russia	900818-251
	For use in Romania	900818-271
	For use in Spain	900818-071
	For use in Switzerland	900818-BG1
	For use in the United Kingdom	900818-031
	For use in the United States	900818-001
	<b>For use with HP Chromebook 11 G5 models only</b>	
	For use in the Czech Republic and Slovenia	900818-FL1
	For use in Israel	900818-BB1
	For use in Japan	900818-291
	For use in Saudi Arabia	900818-171
	For use in Taiwan	900818-AB1
	For use in Thailand	900818-281
<b>(3)</b>	<p><b>System board</b> (includes replacement thermal material):</p>	
	Intel Celeron N3060 2.16 GHz, 2.0 GB of system memory, and 16 GB of eMMC system storage	900041-001
	Intel Celeron N2840 2.16 GHz, 4.0 GB of system memory, and 16 GB of eMMC system storage	900042-001
	Intel Celeron N2840 2.16 GHz, 4.0 GB of system memory, and 32 GB of eMMC system storage (for use with HP Chromebook 11 G5 models only)	901250-001
<b>(4)</b>	<b>WLAN module:</b>	

Item	Component	Spare part number
	Intel Dual Band Wireless-AC 7265 802.11 ac 2 × 2 WiFi + Bluetooth 4.0 Combo Adapter (for use with HP Chromebook models only)	901299-855
	Intel Dual Band Wireless-AC 7265 802.11 ac 2 × 2 WiFi + Bluetooth 4.0 Combo Adapter (for use with HP Chromebook 11 G5 models only)	860883-001
<b>(5)</b>	<b>Hall sensor board</b> (with Hall sensor board cable, spare part number 900810-001)	900815-001
<b>(6)</b>	<b>Connector board</b>	900816-001
<b>(7)</b>	<b>Connector board cable</b>	900811-001
<b>(8)</b>	<b>Heat sink</b> (includes replacement thermal material)	900040-001
<b>(9)</b>	<b>Speaker Kit</b> (includes left and right speakers and cables)	900817-001
<b>(10)</b>	<b>Battery:</b> 2-cell, 43.7 Wh, long life; includes cable (for use with HP Chromebook 11 G5 models only)	855701-001
	2-cell, 43.7 Wh, 5.68ah LI DRO2043XL-PL includes cable	859357-855
<b>(11)</b>	<b>Power connector with cable</b>	808155-013
<b>(12)</b>	<b>Base enclosure:</b>	
	For use with HP Chromebook 11 G5 models only	901284-001
	For use with HP Chromebook models only	900807-001
	<b>Rubber Kit:</b> Not illustrated, includes 2 display bezel screw covers, 4 rubber feet, and 2 rubber screw covers	
	For use with HP Chromebook 11 G5 models only	901282-001
	For use with HP Chromebook models only	900802-001

## Display assembly subcomponents



Item	Component	Spare part number
<b>(1)</b>	<b>Display Bezel:</b>	
	For use with HP Chromebook 11 G5 models only	902764-001
	For use with HP Chromebook models only	900799-001
<b>(2)</b>	<b>Display panel:</b>	
	11.6 in, high-definition (HD), AntiGlare, (1366×768), SVA, white light-emitting diode (WLED), non-touch, flat (3.6 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, non-touch, (for use with HP Chromebook models only)	762229-007
	11.6 in, high-definition (HD), (1366×768), UWVA, white light-emitting diode (WLED), HU, slim, (3.6 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, touch, (for use with HP Chromebook 11 G5 models only)	901252-001
	11.6 in, HD, (1366×768), UWVA, WLED, touch, flat (3.0 mm); 16:9 aspect ratio; typical brightness: 220 nits, eDP, touch solution with Gorilla® Glass NBT, multi-touch enabled, (for use with HP Chromebook models only)	906629-001
<b>(3)</b>	<b>Display Hinge Kit:</b> (includes left and right display hinges)	900845-001
	Non-touch screen	
	<b>Display Hinge Kit</b> (touch screen)	901604-001
<b>(4)</b>	<b>Camera/microphone module</b> (includes double-sided adhesive)	756761-037

<b>Item</b>	<b>Component</b>	<b>Spare part number</b>
<b>(5)</b>	<b>Camera/microphone module cable</b>	900813-001
<b>(6)</b>	<b>WLAN antenna</b> (includes left and right WLAN cables and transceivers)	900806-001
<b>(7)</b>	<b>Display panel cable</b>	900812-001
	<b>Display panel cable (touch screen)</b> for use with HP Chromebook models only	906717-001
<b>(8)</b>	<b>Display enclosure:</b> (includes rubber padding and shielding)	
	For use with HP Chromebook 11 G5 non-touch screen models only	901788-001
	For use with HP Chromebook non-touch screen models only	900796-001
	For use with HP Chromebook touch screen models only	906716-001

## Miscellaneous parts

Component	Spare part number
<b>AC adapter:</b>	
65 W HP Smart AC adapter (3-pin, PFC, EM, 4.5 mm, DT6U). For use with HP Chromebook 11 G5 models only	859925-007
45 W HP Smart AC adapter (non-PFC, SB, 4.5 mm, DT). For use with HP Chromebook 11 G5 models only	854844-001
45 W HP Smart AC adapter (non-PFC, SMART RC, 4.5 mm). For use with HP Chromebook 11 G5 models only	720987-800
45 W HP Smart AC adapter (non-PFC, SMART RC, 4.5 mm). For use with HP Chromebook models only	741727-001
<b>HP HDMI-to-VGA adapter</b>	701943-001
<b>HP USB-to-Gigabit RJ45 adapter (for use with HP Chromebook models only)</b>	829941-001
<b>HP SMART AC adapter dongle (for use with HP Chromebook 11 G5 models only)</b>	734734-001
<b>Power cord:</b> Some cords are offered in different lengths. The 1.8 m (5 ft 10 inch), cord part numbers end with -001. The 1.0 m (3 ft 3 inch) cord part numbers end with whichever number is designated for that country.	
<b>For use with HP Chromebook and HP Chromebook 11 G5 models</b>	
For use in Australia	213356-001
	213356-008
For use in Denmark	213353-008
For use in Europe	213350-001
	213350-009
For use in Switzerland	213354-001
	213354-008
For use in the United Kingdom	213351-001
	213351-008
For use in North America	213349-009
<b>For use with HP Chromebook 11 G5 models only</b>	
For use in Dominican Republic	213349-001
For use in India	404827-001
	404827-003
For use in Israel	398063-001
	398063-003
For use in Thailand	285096-006
For use in Taiwan	393313-001
	393313-003
For use in Italy	213352-001
	213352-008
For use in Japan	349756-001

Component	Spare part number
	349756-002
<b>Rubber Kit:</b> (includes 2 display bezel screw covers, 4 rubber feet, and 2 rubber screw covers)	
For use with HP Chromebook 11 G5 models only	901282-001
For use with HP Chromebook models only	900802-001
<b>Screw Kit:</b>	
For use with HP Chromebook 11 G5 models only	901283-001
For use with HP Chromebook models only	900805-001

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# 4 Removal and replacement preliminary requirements

## Tools required

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

- Flat-bladed screw driver
- Magnetic screw driver
- Phillips P0 screw driver

## Service considerations

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



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**NOTE:** As you remove each subassembly from the computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

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## Plastic parts



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**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.

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## Cables and connectors



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**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.

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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

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 **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 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 drive, place it in a static-proof bag.

Avoid exposing a 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."

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# Grounding guidelines

## Electrostatic discharge damage

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

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

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

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

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

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

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

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

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

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

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

## Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

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

## Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, 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 computerop 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

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

**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

There are as many as 54 screws that must be removed, replaced, and/or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

### Computer feet

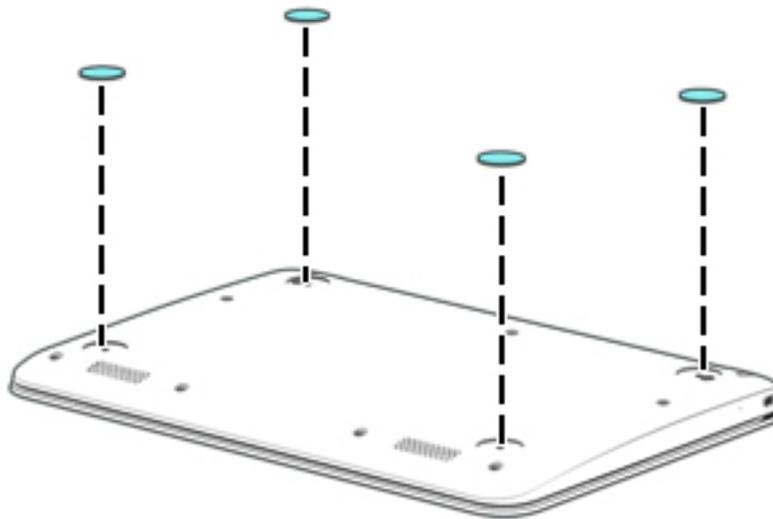
The computer feet are included in the Rubber Kit, available using spare part number 901292-001 for HP Chromebook 11 G5 models and 900802-001 for HP Chromebook models.

Before replacing the computer feet, 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 computer feet:

1. Close the computer.
2. Turn the computer upside down with the front toward you.
3. Remove the 4 rubber feet.



To install the rubber feet, remove the protective backing from the rubber feet and install them in the locations indicated in the above illustration.

## Keyboard/top cover

 **NOTE:** Keyboard/top cover spare part kits with spare part numbers 900818-xxx are spared with the TouchPad board.

Description	Spare part number	Description	Spare part number
<b>For use with HP Chromebook and HP Chromebook 11 G5 models</b>			
For use in Belgium	900818-A41	For use in the Netherlands	900818-B31
For use in Canada	900818-DB1	For use in Russia	900818-251
For use in Germany	900818-041	For use in Spain	900818-071
For use in France	900818-051	For use in Switzerland	900818-BG1
For use in Italy	900818-061	For use in the United Kingdom	900818-031
For use in the United States	900818-001	For use in Romania	900818-271
For use in Denmark, Finland, and Norway	900818-DH1		
<b>For use with HP Chromebook 11 G5 models only</b>			
For use in the Czech Republic and Slovenia	900818-FL1	For use in Israel	900818-BB1
For use in Japan	900818-291	For use in Saudi Arabia	900818-171
For use in Thailand	900818-281	For use in Taiwan	900818-AB1

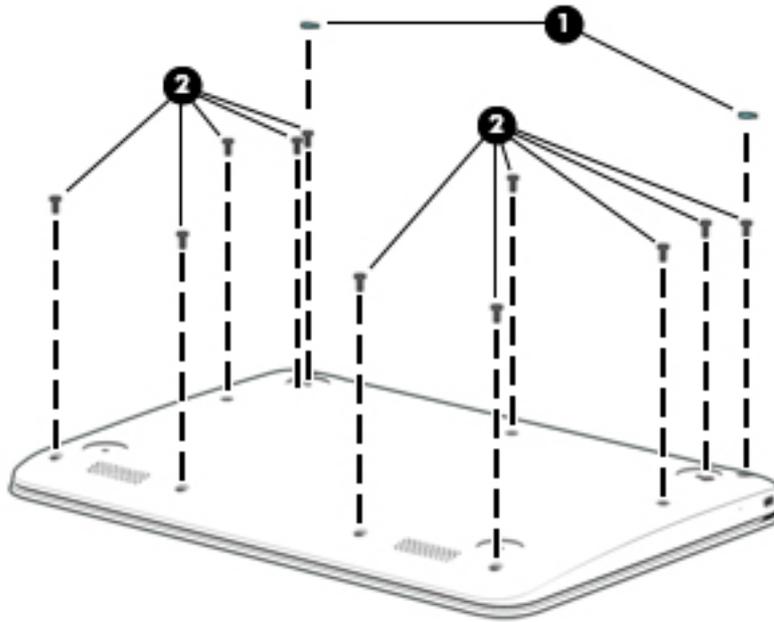
Before removing the keyboard/top cover, follow these steps:

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.

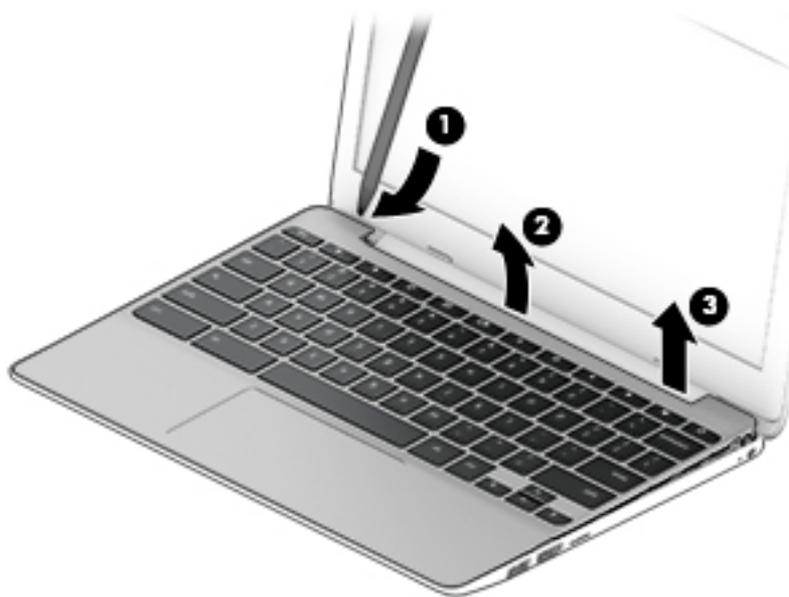
Remove the keyboard/top cover:

1. Remove the two rubber screw covers (1).

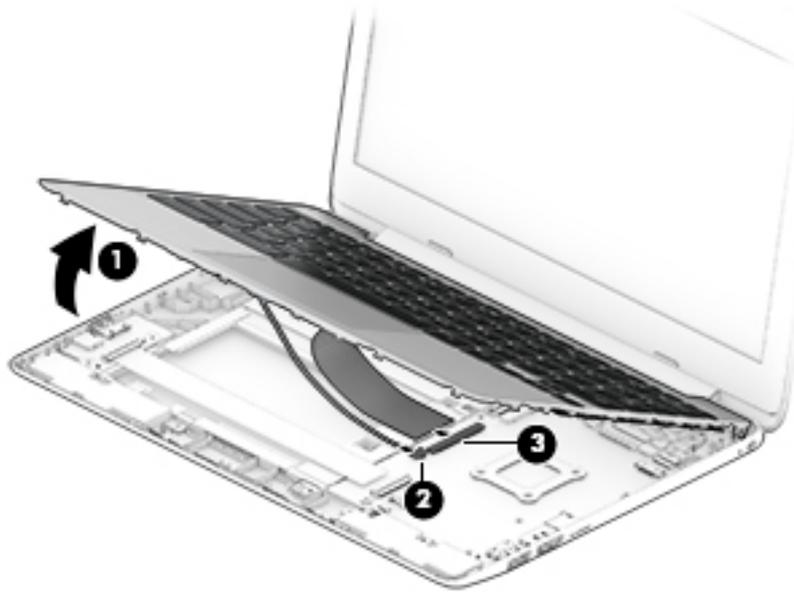
2. Remove the eleven Phillips PM1.9×6.7 screws (2) that secure the keyboard/top cover to the base enclosure.



3. Turn the computer right side up with the front toward you.
4. Open the computer as far as it will open.
5. Use a prying tool to disengage the top cover and base plastic. Start from the rear (1) of the keyboard/top cover until it separates from the back edge of the base enclosure.
6. Lift the middle (2) and right sides of the keyboard/top cover until they separate from the base enclosure.
7. Lift the keyboard/top cover (3) until the battery, TouchPad, and keyboard cables are accessible.

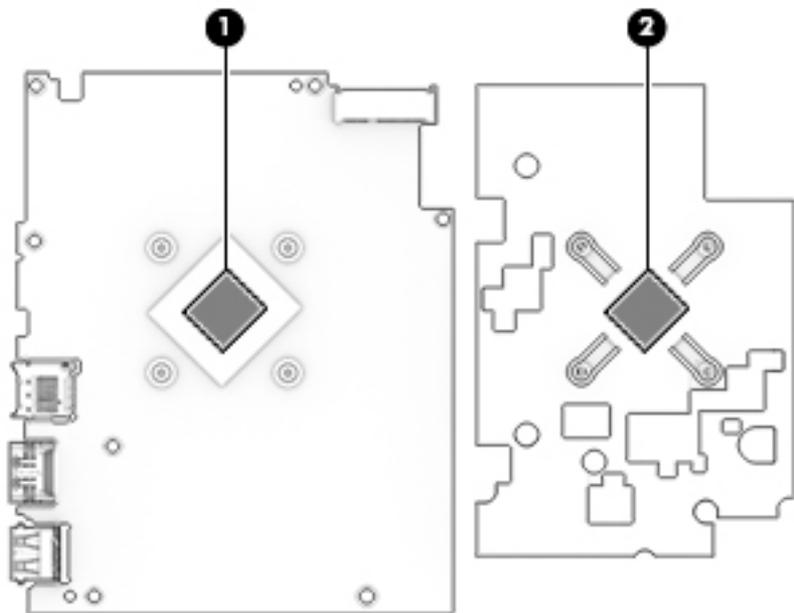


8. Lift the front of the keyboard/top cover to access the TouchPad and keyboard cables (1). Disconnect the TouchPad cable from the connector (2) on the system board. Disconnect the keyboard cable (3) from the system board.



9. Remove the keyboard/top cover.

 **NOTE:** The thermal material must be thoroughly cleaned from the surfaces of the heat sink and the system board components each time the keyboard/top cover is removed. Thermal paste is used on the processor (1) and the heat sink section (2) that services it.



Reverse this procedure to install the keyboard/top cover.

## WLAN module

Description	Spare part number
Intel Dual Band Wireless-AC 7265 802.11 ac 2×2 WiFi + Bluetooth 4.0 Combo Adapter (for use with HP Chromebook models only)	901229-001
Intel Dual Band Wireless-N 7260AN 802.11 a/b/g/n 2×2 WiFi + Bluetooth 4.0 Combo Adapter (for use with HP Chromebook 11 G5 models only)	860883-001

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

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).

Remove the WLAN module:

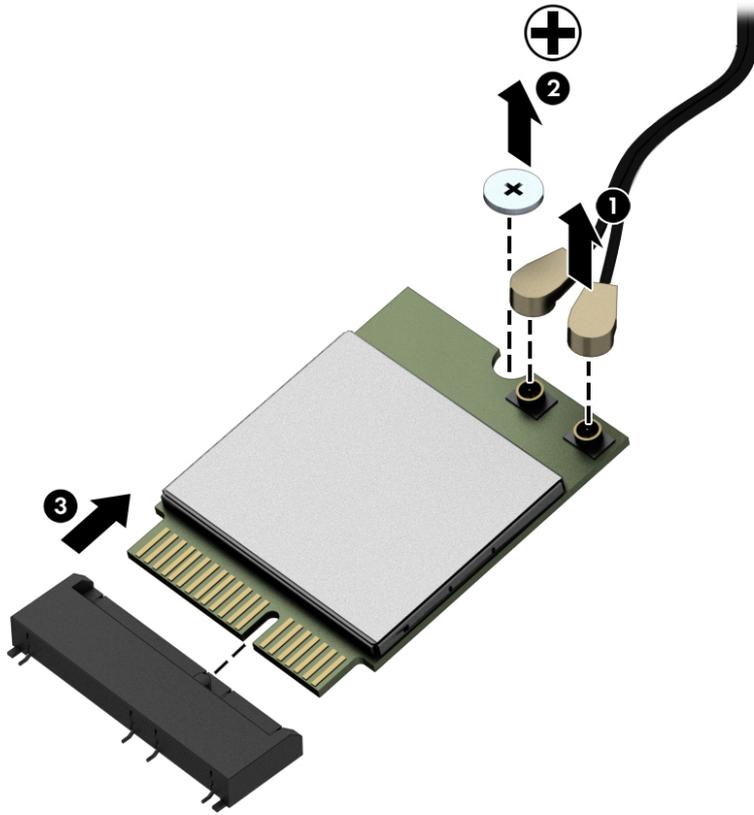
1. Disconnect the WLAN antenna cables **(1)** from the terminals on the WLAN module.



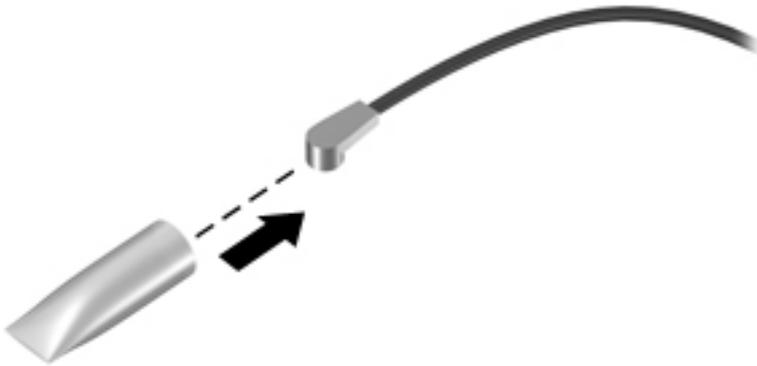
**NOTE:** The #1/white WLAN antenna cable connects to the WLAN module #1/Main terminal. The #2/black WLAN antenna cable connects to the WLAN module #1/Aux terminal.

2. Remove the Phillips PM1.9×4.2 screw **(2)** that secures 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:** If the WLAN antenna is not connected to the terminal on the WLAN module, a protective sleeve must be installed on the antenna connector, as shown in the following illustration.



Reverse this procedure to install the WLAN module.

## Hall sensor board

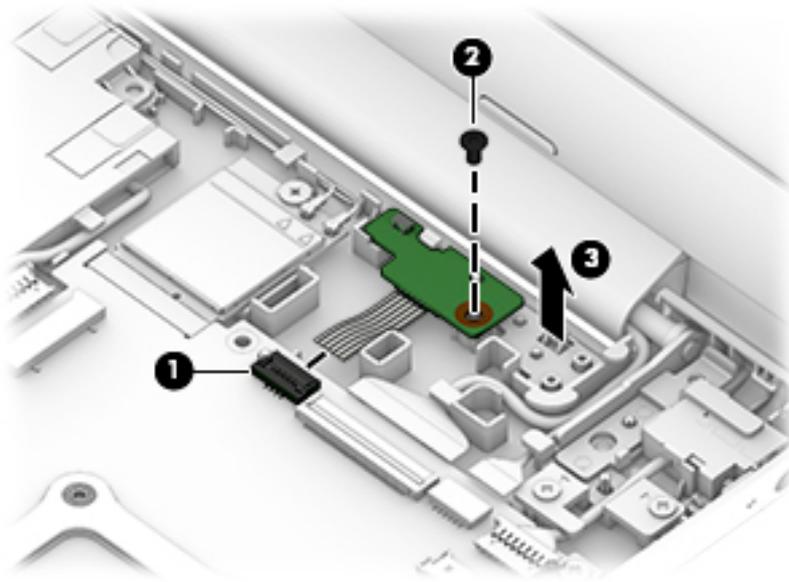
Description	Spare part number
Hall sensor board	900815-001

Before removing the Hall sensor board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).

Remove the Hall sensor board:

1. Disconnect the Hall sensor board **(1)** cable from the system board.
2. Remove the screw holding the Hall sensor board **(2)** to the base enclosure.
3. Lift the Hall sensor board and cable **(3)** from the base enclosure.



4. Remove the Hall sensor board.

Reverse this procedure to install the Hall sensor board.

## Connector board and cable

Description	Spare part number
Connector board (includes SD card reader and SIM slot)	900816-001
Connector board cable	900811-001

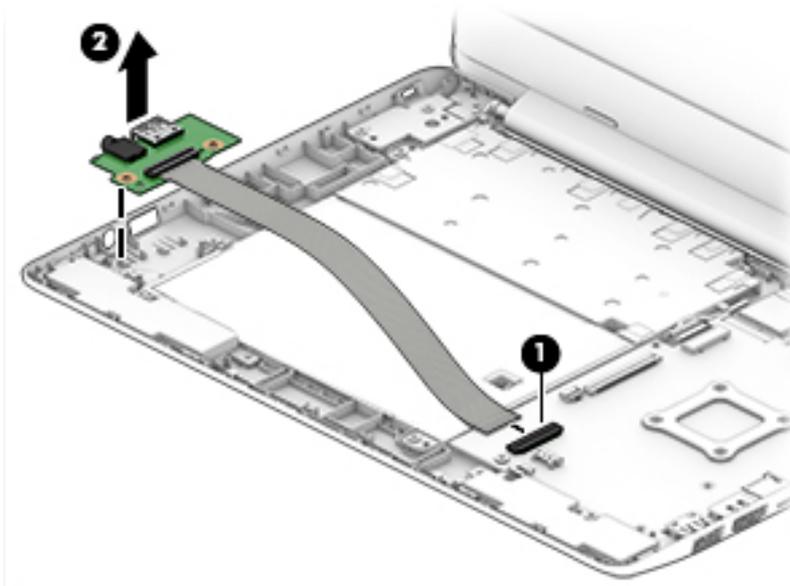
Before removing the connector board and cable, follow these steps:

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

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).

Remove the connector board and cable:

1. Release the ZIF connector **(1)** to which the connector board cable is attached, and then disconnect the cable from the system board.
2. Remove the connector board and cable **(2)**.



Reverse this procedure to install the connector board and cable.

## Battery

Description	Spare part number
Battery (2-cell, 43 Wh, 3.25 AHr, Li-ion, LongLife-PL; includes cable) for use with HP Chromebook 11 G5 models only	855710-001
Battery (2-cell, 43 Wh, 5.68 AHr, Li-ion, DR02043XL-PL, non-touch; includes cable) For use with HP Chromebook models only	859357-855

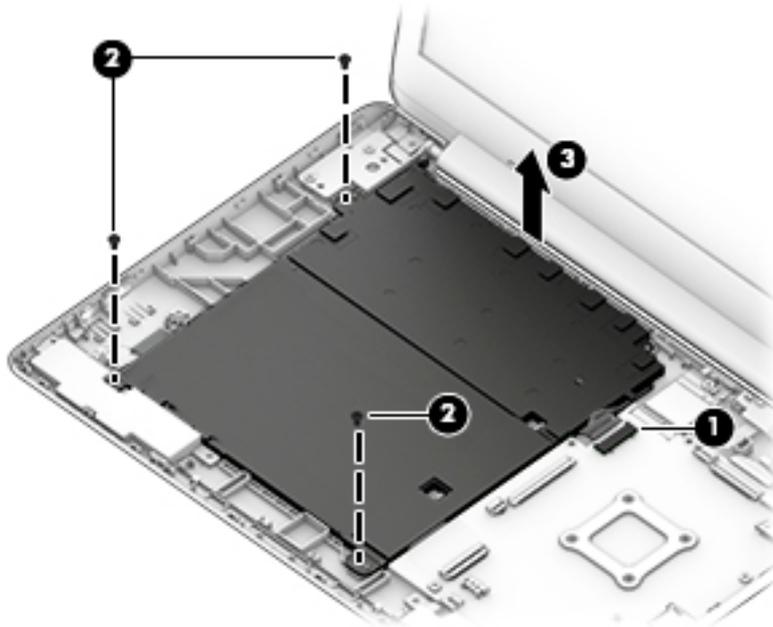
Before removing the battery, follow these steps:

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 computer feet (see [Computer feet on page 23](#)).

5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).

Remove the battery:

1. Release the battery cable ZIF connector from the system board **(1)**.
2. Remove the three Phillips screws **(2)** that secure the battery to the base enclosure.
3. Remove the battery **(3)**.



Reverse this procedure to install the battery.

## Speakers

Description	Spare part number
Speaker Kit (includes left and right speakers and cables)	900817-001

Before removing the speakers, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).
9. Remove the battery (see [Battery on page 30](#)).

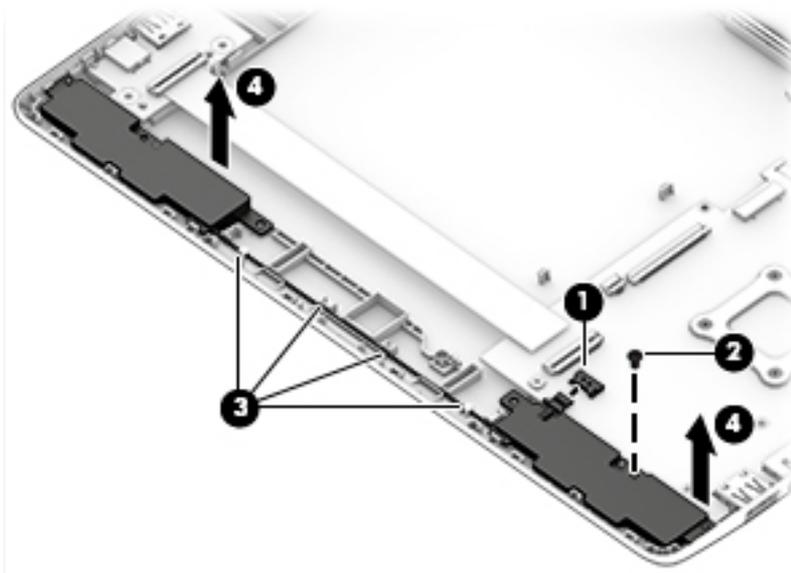
Remove the speakers:

1. Disconnect the speaker ZIF connector from the system board **(1)**.
2. Remove the Phillips screw securing the speakers to the base enclosure **(2)**.



**NOTE:** The Phillips screw holding the left speaker was removed when the battery was removed.

3. Release the speaker cables from the routing clips and channels built into the base enclosure **(3)**.
4. Remove the speakers **(4)**.



Reverse this procedure to install the speakers.

## System board



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

Description	Spare part number
Intel Celeron N3060 2.16 GHz, 2.0 GB of system memory and 16 GB of eMMC system storage	900041-001
Intel Celeron N2840 2.16 GHz, 4.0 GB of system memory and 16 GB of eMMC system storage	900042-001
Intel Celeron N2840 2.16 GHz, 4.0 GB of system memory and 32 GB of eMMC system storage (for use with HP Chromebook 11 G5 models only)	901250-001

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 computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).
9. Remove the battery (see [Battery on page 30](#)).
10. Remove the speakers (see [Speakers on page 32](#)).

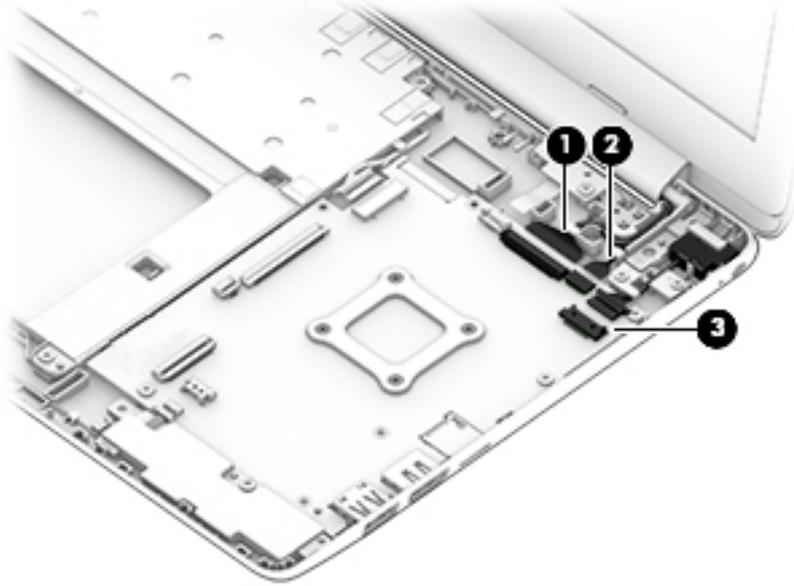
Remove the system board:



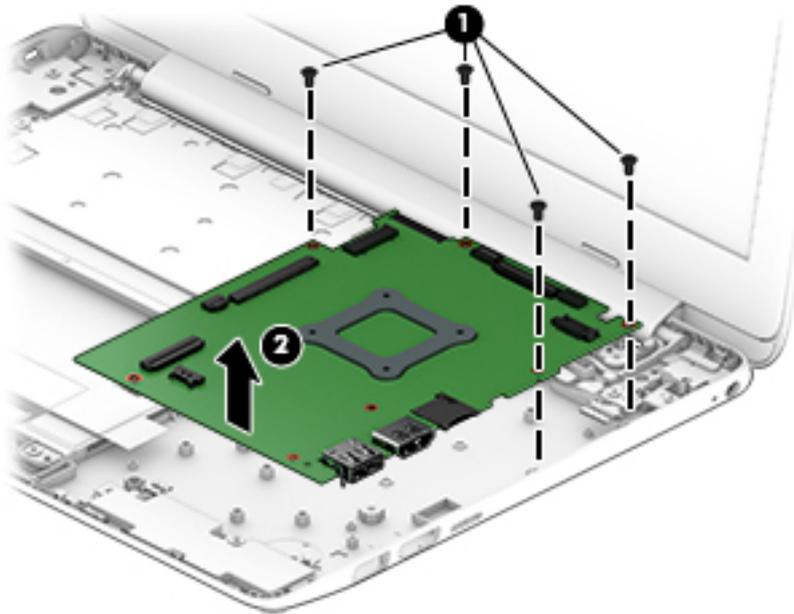
**NOTE:** The connector board cable and the Hall sensor board cable should have been removed when the connector board and Hall sensor board were removed.

1. Release the ZIF connector **(1)** to which the display cable is attached, and then disconnect the display cable from the system board.
2. Disconnect the camera cable **(2)** from the system board.

3. Disconnect the power connector cable **(3)** from the system board.



4. Remove the four Phillips screws **(1)** that secure the system board to the base enclosure.
5. Remove the system board **(2)**.



Reverse this procedure to install the system board.

## Heat sink

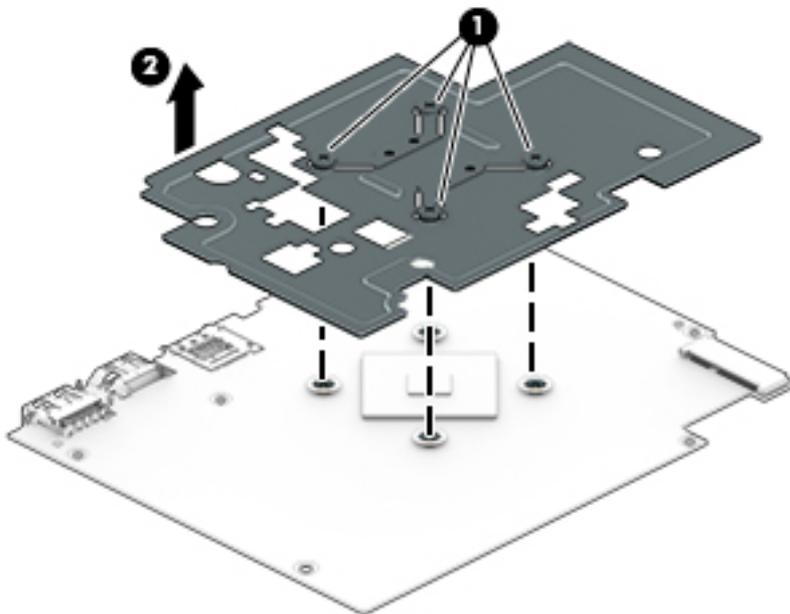
Description	Spare part number
Heat sink (includes replacement thermal material)	900040-001

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 computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).
9. Remove the battery (see [Battery on page 30](#)).
10. Remove the speakers (see [Speakers on page 32](#)).
11. Remove the system board (see [System board on page 33](#)).

Remove the heat sink:

1. Turn the system board over to show the heat sink.
2. Remove the four Phillips screws **(1)** that secure the heat sink to the system board.
3. Remove the heat sink **(2)**.



Reverse this procedure to install the heat sink.

## Display assembly

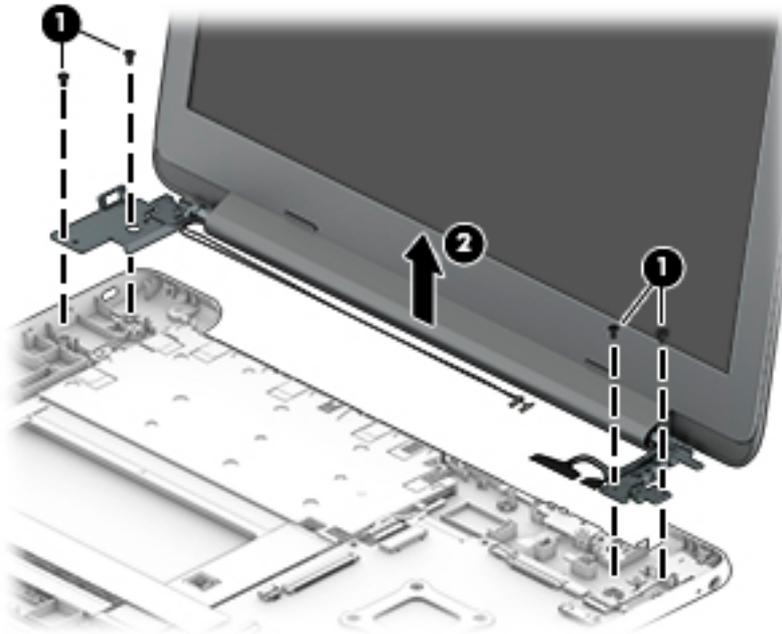
 **NOTE:** The HP Chromebook 11 G5 model touch displays, spare part number 901252-001, are only spared as full hinge-ups.

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 computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).
9. Remove the battery (see [Battery on page 30](#)).
10. Remove the speakers (see [Speakers on page 32](#)).

Remove the display assembly:

1. Remove the two Phillips PM2.4×5.7 screws (1) that secure the display assembly to the base enclosure.
2. Remove the display assembly (2).

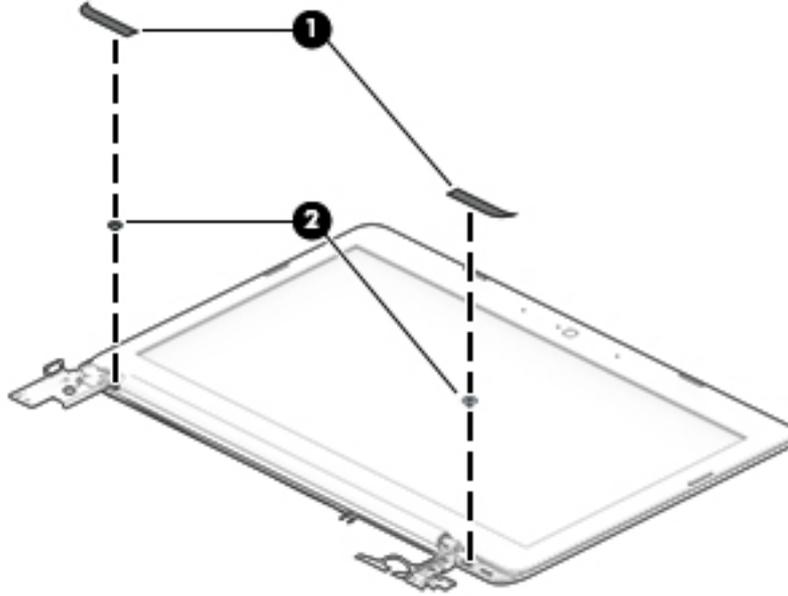


3. If it is necessary to replace the display bezel or any of the display assembly subcomponents:

- a. Remove the two display bezel screw covers (1).

The display bezel screw covers are included in the Rubber Kit, spare part number 901282-001 for the HP Chromebook 11 G5 non-touch screen models and 900802-001 for the HP Chromebook models.

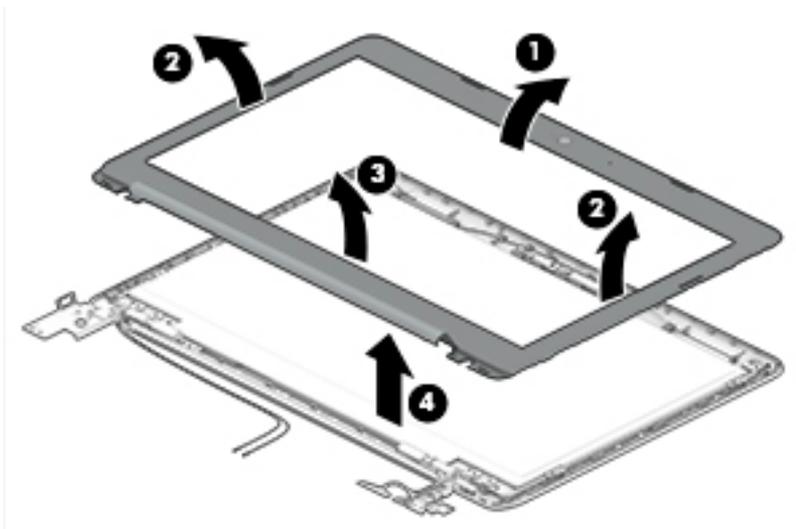
- b. Remove the two Phillips screws (2) that secure the display bezel to the display assembly.



- c. Flex the inside edges of the top 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.

- d. Remove the display bezel (4).

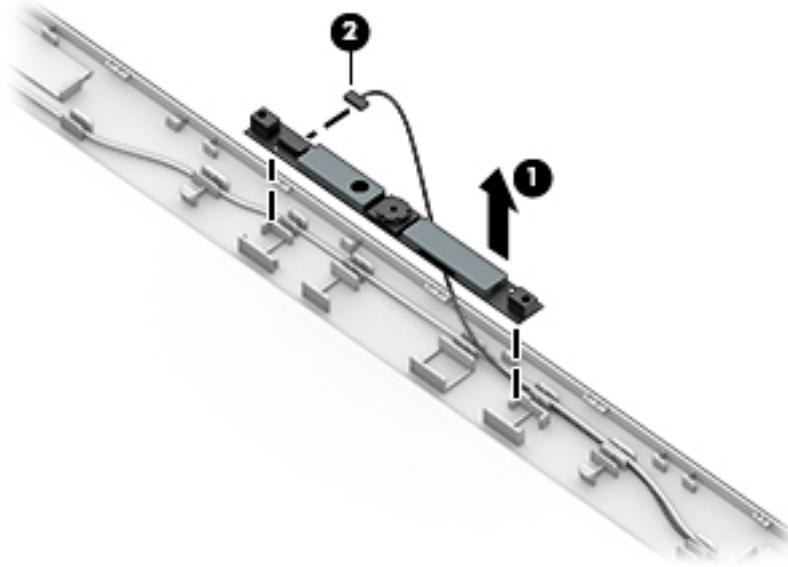
The display bezel is available using spare part number 902764-001 for the HP Chromebook 11 G5 models and 900799-001 for the HP Chromebook models.



 **NOTE:** The camera/microphone module can be removed at any time during the display assembly removal process.

4. If it is necessary to replace the camera/microphone module:

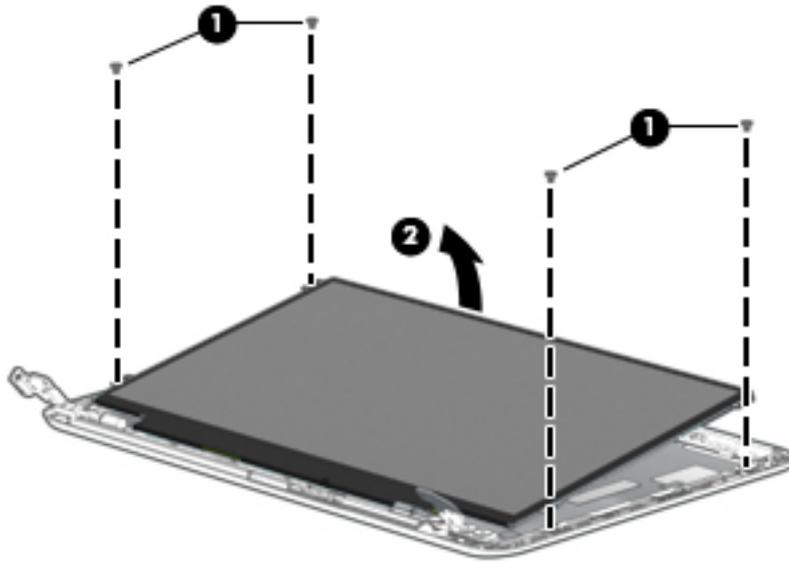
- a. Detach the camera/microphone module **(1)** from the display enclosure. (The camera/microphone module is attached to the display enclosure with double-sided adhesive at two locations.)
- b. Disconnect the camera/microphone module cable **(2)** from the camera/microphone module.
- c. Remove the camera/microphone module **(3)**.



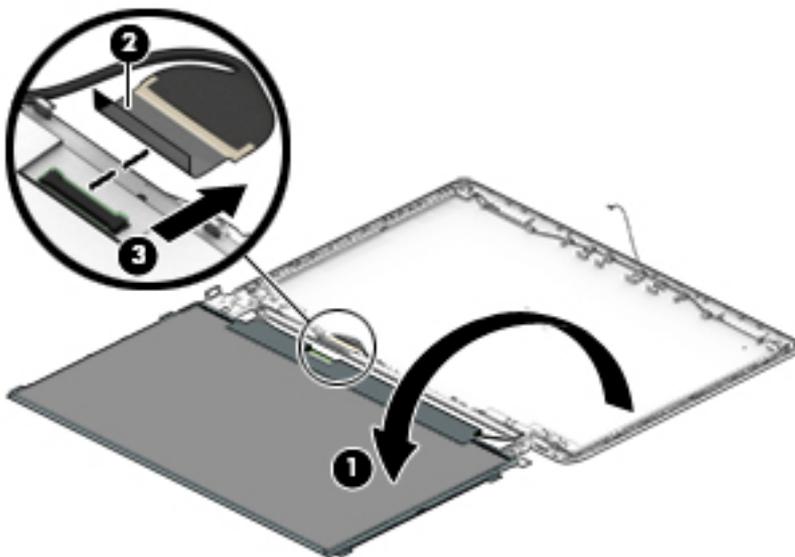
- d. Remove the camera/microphone module.  
The camera/microphone module is available using spare part number 756761-037.
5. If it is necessary to replace the display panel:
- a. Remove the four Phillips screws **(1)** that secure the display panel to the display enclosure.

**⚠ CAUTION:** Before turning the display panel 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.

- b. Lift the top edge of the display panel (2) and swing it up and forward until it rests upside down in front of the display enclosure.



- c. Disconnect the display panel cable (2) from the display panel (3).



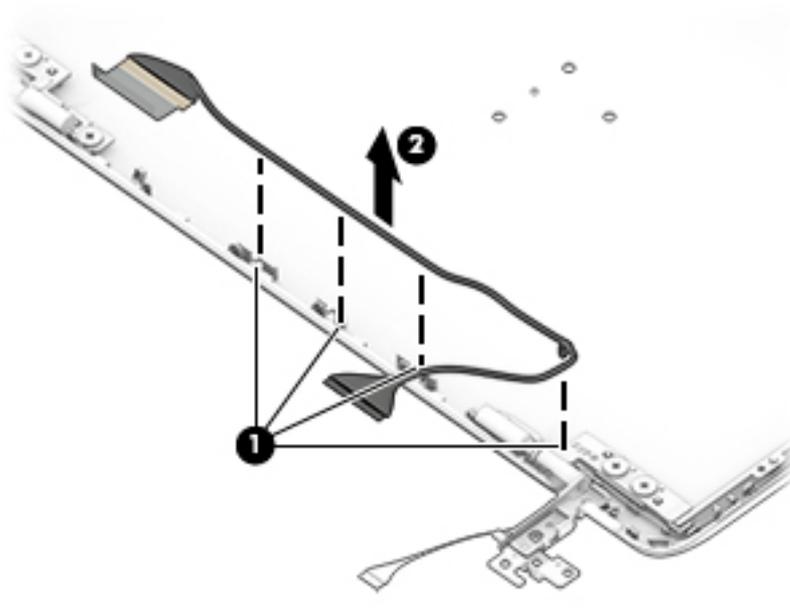
- d. Remove the display panel.

The display panel is available using spare part numbers 762229-007 (11.6 in, HD, AntiGlare, (1366×768), SVA, LED, flat [3.0 mm]), 901252-001 (11.6 in, HD, (1366×768), UWVA, LCD, Touch [3.6 mm]), and 90662-001, 11.6 in, HD, (1366×768), SVA, WLED, touch, flat (3.0 mm).

6. If it is necessary to replace the display panel cable:

- a. Release the grounding tape (1) that secures the display panel cable to the display enclosure.

- b. Remove the display panel cable (2).

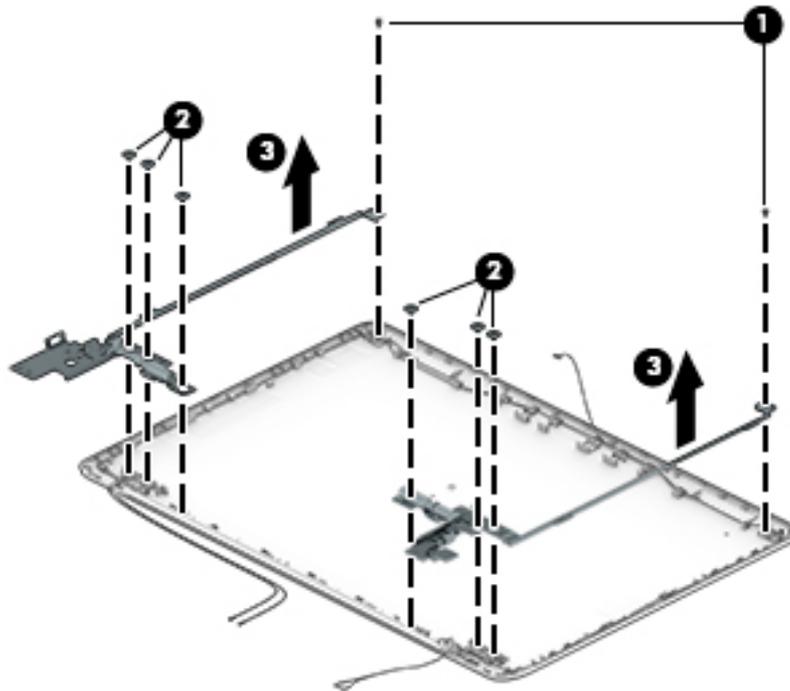


- c. The display panel cable is available using spare part number 900812-001.

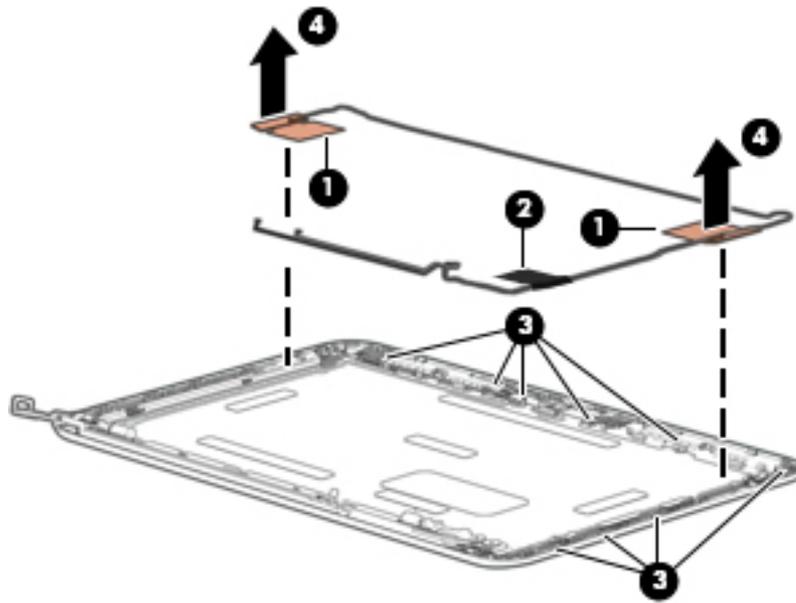
7. If it is necessary to replace the display hinges:

- a. Remove the four Phillips broad head screws (1) and the four Phillips screws (2) that secure the display hinges to the display enclosure.
- b. Remove the display hinges (3).

The display hinges are included in the Display Hinge Kit, spare part number 900845-001 and spare part number 901604-001 for touch screen.



8. If it is necessary to replace the WLAN antenna cables and transceivers:
  - a. Detach the WLAN antenna transceivers **(1)** from the display enclosure. (The WLAN antenna transceivers are attached to the display enclosure with double-sided adhesive.)
  - b. Release the grounding tape **(2)** that secures the wireless antenna cable to the display enclosure near the right hinge.
  - c. Release the WLAN antenna cables from the clips **(3)** and routing channel built into the top edge of the display enclosure.
  - d. Remove the WLAN antenna cables and transceivers **(4)**.



The WLAN antenna cables and transceivers are available using spare part number 900806-001.

Reverse this procedure to reassemble install the display assembly.

## Power connector and cable

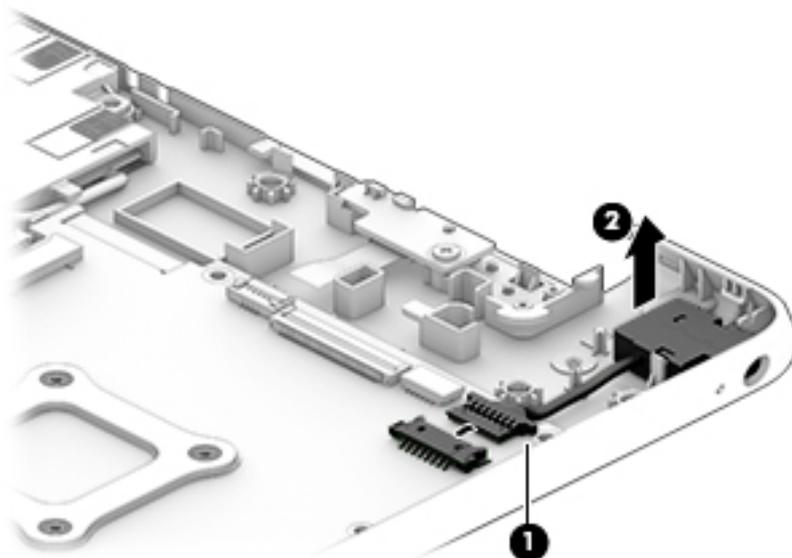
Description	Spare part number
Power connector and cable	808155-013

Before removing the power connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the computer feet (see [Computer feet on page 23](#)).
5. Remove the keyboard/top cover (see [Keyboard/top cover on page 24](#)).
6. Remove the WLAN module (see [WLAN module on page 27](#)).
7. Remove the Hall sensor board (see [Hall sensor board on page 28](#)).
8. Remove the connector board and cable (see [Connector board and cable on page 29](#)).
9. Remove the battery (see [Battery on page 30](#)).
10. Remove the speakers (see [Speakers on page 32](#)).
11. Remove the system board (see [System board on page 33](#)).
12. Remove the heat sink (see [Heat sink on page 35](#)).
13. Remove the display assembly (see [Display assembly on page 37](#)).

Remove the power connector cable:

1. Disconnect the power connector cable **(1)** from the system board.
2. Remove the power connector and cable **(2)**.



Reverse this procedure to install the power connector cable.

## 6 Specifications

	Metric	U.S.
<b>Computer dimensions</b>		
Width	20.5 cm	8.07 in
Depth	28.6 cm	11.25 in
Height	1.82 cm	0.72 in
Weight	1.2 kg	2.63 lbs
<b>Temperature</b>		
Operating	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
<b>Relative humidity</b> (noncondensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
<b>Maximum altitude</b> (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.

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## 7 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
The United States	UL	2

1. The flexible cord must be Type H05VV-F, 3-conductor, 0.75 mm<sup>2</sup> 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.

Country/region	Accredited agency	Applicable note number
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 VCR, 3-conductor, 0.75 mm <sup>2</sup> or 1.25 mm <sup>2</sup> conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard c/o (7 A, 125 V ac) configuration.	
4.	The flexible cord must be Type REV, 3-conductor, 0.75 mm <sup>2</sup> 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 mm <sup>2</sup> 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 mm <sup>2</sup> 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 mm <sup>2</sup> or 1.00 mm <sup>2</sup> conductor size, with plug BS 1363/A with BSI or ASTA marks.	

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## 8 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 dongle, spare part number 16
  - AC adapter light
    - identifying 3, 4
  - AC adapter, spare part numbers 16
  - antenna
    - removal 42
    - spare part number 42
    - spare part numbers 15
  - audio, product description 1
  - audio-in (microphone) jack, identifying 4
  - audio-out (headphone) jack, identifying 4
- B**
  - base enclosure, spare part numbers 13
  - battery
    - removal 30
    - spare part number 13, 30
  - Bluetooth label 9
  - bottom 9
  - buttons
    - power 7
- C**
  - cable
    - spare part number 13
  - cables, service considerations 18
  - camera cable
    - spare part numbers 15
  - camera/microphone module
    - removal 38
    - spare part number 14
  - card reader
    - removal 29
    - spare part numbers 29
  - chipset, product description 1
  - components
    - bottom 8
    - display 5
    - left side 4
    - right side 3
    - top 6
  - computer major components 11
  - connector board
    - spare part numbers 13
  - connector, power 3
  - connectors, service considerations 18
- D**
  - display assembly
    - removal 37
    - subcomponents 14
  - display bezel
    - removal 37
    - spare part numbers 14, 38
  - display cable
    - spare part numbers 15
  - display enclosure, spare part number 15
  - Display Hinge Kit, spare part number 14, 41
  - display panel
    - product description 1
    - removal 39
    - spare part numbers 14, 40
  - display panel cable
    - removal 40
    - spare part numbers 41
  - drives
    - precautions 19
    - preventing damage 19
- E**
  - electrostatic discharge 20
  - equipment guidelines 22
- F**
  - feet
    - removal 23
    - spare part numbers 23
- G**
  - graphics, product description 1
  - grounding guidelines 20
  - guidelines
    - equipment 22
    - grounding 20
    - packaging 21
    - transporting 21
    - workstation 21
- H**
  - hall sensor
    - spare part number 13
  - hall sensor board 28
  - HDMI-to-VGA adapter, spare part number 16
  - headphone (audio-out) jack 4
  - heat sink
    - removal 35
    - spare part number 13, 35
  - hinge
    - removal 41
    - spare part number 14, 41
- I**
  - integrated webcam light, identifying 5
  - internal microphones, identifying 5
- J**
  - jacks
    - audio-in (microphone) 4
    - audio-out (headphone) 4
- K**
  - keyboard/top cover
    - removal 24
    - spare part numbers 12, 24
- L**
  - labels
    - Bluetooth 9
    - regulatory 9
    - serial number 8
    - service 8
    - wireless certification 9
    - WLAN 9

- lights 4
  - AC adapter 3
  - webcam 5
- M**
- memory, product description 1
- microphone
  - product description 1
- microphone (audio-in) jack,
  - identifying 4
- model name 1
- O**
- operating system, product
  - description 2
- P**
- packaging guidelines 21
- plastic parts, service
  - considerations 18
- ports
  - HDMI 3
  - product description 1
  - USB 3.0 charging (powered) 3, 4
- ports; card reader 3
- power button, identifying 7
- power connector cable
  - removal 43
  - spare part number 13, 43
- power connector, identifying 3
- power cord
  - requirements for all countries 46
  - requirements for specific countries and regions 47
  - set requirements 46
- power requirements, product
  - description 2
- processor, product description 1
- product description
  - audio 1
  - chipset 1
  - display panel 1
  - graphics 1
  - memory 1
  - microphone 1
  - operating system 2
  - ports 1
  - power requirements 2
  - processors 1
  - product name 1
  - sensors 1
  - serviceability 2
  - storage 1
  - video 1
  - wireless 1
- product name 1
- product name and number,
  - computer 8
- R**
- regulatory information
  - regulatory label 9
  - wireless certification labels 9
- removal/replacement procedures 23
- Rubber Kit, spare part numbers 13, 17, 23, 38
- S**
- Screw Kit, spare part number 17
- security cable slot, identifying 4
- sensors, product description 1
- serial number 8
- serial number, computer 8
- service considerations
  - cables 18
  - connectors 18
  - plastic parts 18
- service labels, locating 8
- serviceability, product description 2
- slots
  - security cable 4
- Speaker Kit, spare part number 13, 32
- speakers
  - removal 32
  - spare part number 13, 32
- speakers, identifying 8
- storage, product description 1
- system board
  - removal 33
  - spare part numbers 12, 33
- T**
- tools required 18
- TouchPad zone, identifying 6
- transporting guidelines 21
- traveling with the computer 9
- U**
- USB 3.0 charging (powered) port,
  - identifying 3, 4
- V**
- video, product description 1
- W**
- webcam light, identifying 5
- webcam, identifying 5
- webcam/microphone module
  - spare part number 39
- wireless antenna
  - removal 42
  - spare part number 42
  - spare part numbers 15
- wireless certification label 9
- wireless, product description 1
- WLAN antenna
  - removal 42
  - spare part number 15, 42
- WLAN antennas, identifying 5
- WLAN device 9
- WLAN label 9
- WLAN module
  - removal 27
  - spare part numbers 12, 27
- workstation guidelines 21