# Maintenance and Service Guide

**SUMMARY**

This guide provides information about spare parts, removal and replacement of parts, security, backing up, and more.

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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.

To access the latest user guides, go to http://www.hp.com/support, and follow the instructions to find your product. Then select **Manuals**.

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For any further information or to request a full refund of the price of the computer, please contact your seller.

## Safety warning notice

Reduce the possibility of heat-related injuries or of overheating the computer by following the practices described.

⚠ **WARNING!** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer 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 come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by applicable safety standards.

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# 1 Product description

This table provides detailed product information.

**Table 1-1 Product components and their descriptions**

| Category | Description |
|---|---|
| **Product Name** | **HP Chromebook™ x360 13c** |
| **Processors** | **10th Generation Intel® Core™ processors** |
| | Intel Core i7-10510U (1.8 GHz [turbo up to 4.9 GHz], 4 cores, 8 MB L3 cache, 15 W) |
| | Intel Core i5-10210U (1.6 GHz [turbo up to 4.2 GHz], 4 cores, 6 MB L3 cache, 15 W) |
| | Intel Core i3-10110U (2.1 GHz [turbo up to 4.1 GHz], 2 cores, 4 MB L3 cache, 15 W) |
| **Graphics** | **Internal graphics** |
| | Intel UHD Graphics |
| | Supports HD Decode, DX12, and HDMI |
| **Display** | **34.3 cm (13.5 in), Widescreen Ultra Extended Graphics Array (WUXGA+) (1920 × 1280), UWVA, WLED, narrow bezel, touch screen** |
| | Antiglare, sRGB 100, eDP 1.4 + PSR, 1000 nits |
| | BrightView, sRGB 100, eDP 1.4 + PSR2, ultraslim, low power, 400 nits |
| **Memory** | **Soldered on board, nonupgradeable** |
| | DDR4-2666 dual-channel support |
| | Supports the following configurations: |
| | • 16 GB |
| | • 8 GB |
| **Primary storage** | **PCIe, NVMe, value, 2230, M.2 solid-state drive** |
| | 256 GB |
| **Audio and video** | HD audio |
| | Bang & Olufsen |
| | Dual speakers |
| | HD camera + fixed dual array microphones |
| | 720p by 30 frames per second |
| | Camera privacy switch |
| **Sensors** | Accelerometer |
| | Gyroscope |
| **Wireless** | **Integrated wireless options with dual antennas (M.2/PCIe)** |

**Table 1-1 Product components and their descriptions (continued)**

| Category | Description |
|---|---|
| | Intel Wi-Fi 6 AX201 + Bluetooth® 5 (non-vPro®) (802.11ax 2 × 2, MU-MIMO, supporting gigabit file transfer speeds) |
| | **Integrated WWAN options with dual antennas (M.2 30 × 42 socket PCIe) (select products only)** |
| | Intel XMM™ 7360 LTE-Advanced (LTE CAT9) |
| | Supports HSPA+/LTE/GPS/A-GPS |
| | Supports eSIM |
| **Media card reader** | Supports microSD™, SDHC™, SDXC™ up to UHS-104 |
| | Push-push insertion/removal |
| **Ports, buttons** | Audio-out (headphone)/audio-in (microphone) combo jack |
| | (2) USB 3.2 Gen 1 Type C (right and left side; support charging, power delivery, Display Port 1.2 out up to 4096 × 2304 (60 Hz) and HDMI 1.4 out through adapter) |
| | (1) USB 3.2 Gen 1 Type-A (right side) |
| **Keyboard/pointing devices** | **Google® Keyboard** |
| | Full size, textured, island style, backlit, privacy |
| | **Touchpad requirements** |
| | Multitouch gestures enabled |
| | Taps enabled as default |
| **Power requirements** | **Battery** |
| | 4 cell, 50.97 Whr, long life, HP Fast Charge |
| | **AC adapter, USB Type-C, nPFC, straight** |
| | 65 W |
| | **Power cord** |
| | C5, 1 m (3.3 ft) |
| **Security** | Nano security lock slot |
| | Fingerprint sensor |
| | H1 Secure Microcontroller |
| **Operating system** | Google Chrome™ 64 |
| **Serviceability** | **End user replaceable parts** |
| | AC adapter |

# 2 Components

Your computer features top-rated components. This chapter provides details about your components, where they are located, and how they work.

## Right

Use the illustration and table to identify the components on the right side of the computer.

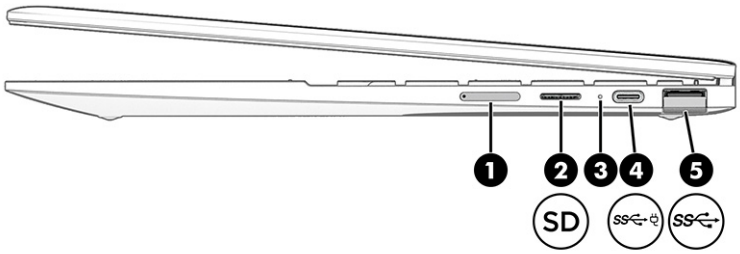



**Table 2-1 Right-side components and their descriptions**

| Component | | Description |
|---|---|---|
| **(1)** | SIM card slot | Supports a wireless subscriber identity module (SIM) card. |
| **(2)** | Memory card reader | Reads optional memory cards that store, manage, share, or access information.<br>To insert a card:<br>1. Hold the card label-side up, with the connectors facing the computer.<br>2. Insert the card into the memory card reader, and then press in on the card until it is firmly seated.<br>To remove a card:<br>▲ Press in on the card, and then remove it from the memory card reader. |
| **(3)** | AC adapter and battery light | • On, White: The AC adapter is connected and the battery is fully charged.<br>• On, Amber: The AC adapter is connected and the battery is charging.<br>• Blinking amber: The battery has an error.<br>• Off: The battery is not charging. |
| **(4)** | USB Type-C® power connector and SuperSpeed Plus port | Connects an AC adapter that has a USB Type-C connector, supplying power to the computer and, if needed, charging the computer battery.<br>– and –<br>Connects a USB device, provides high-speed data transfer, and (for select products) charges small devices when the computer is on or in Sleep mode. |

**Table 2-1 Right-side components and their descriptions (continued)**

| Component | | Description |
|---|---|---|
| | | **NOTE:** Cables, adapters, or both (purchased separately) might be required.<br><br>**NOTE:** Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device such as a smartphone. |
| **(5)** | USB SuperSpeed port | Connects a USB device, such as a cell phone, camera, activity tracker, or smartwatch, and provides high-speed data transfer.<br><br>**NOTE:** Use a standard USB Type-A charging cable or cable adapter (purchased separately) when charging a small external device such as a smartphone. |

# Left

Use the illustration and table to identify the components on the left side of the computer.

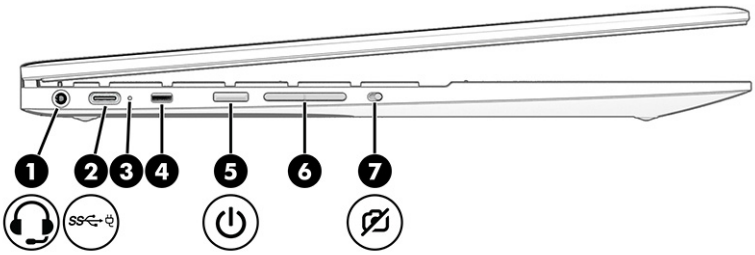



**Table 2-2 Left-side components and their descriptions**

| Component | | Description |
|---|---|---|
| **(1)** | Audio-out (headphone)/Audio-in (microphone) combo jack | Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional standalone microphones.<br><br>**WARNING!** To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety, and Environmental Notices*.<br><br>**NOTE:** When a device is connected to the jack, the computer speakers are disabled. |
| **(2)** | USB Type-C power connector and SuperSpeed Plus port | Connects an AC adapter that has a USB Type-C connector, supplying power to the computer and, if needed, charging the computer battery.<br><br>– and –<br><br>Connects a USB device, provides high-speed data transfer, and (for select products) charges small devices such as a smartphone when the computer is on or in Sleep mode.<br><br>**NOTE:** Cables, adapters, or both (purchased separately) might be required. |

**Table 2-2 Left-side components and their descriptions (continued)**

| Component | | Description |
|---|---|---|
| | | **NOTE:** Use a standard USB Type-C charging cable or cable adapter (purchased separately) when charging a small external device such as a smartphone. |
| **(3)** | AC adapter and battery light | • On, White: The AC adapter is connected and the battery is fully charged.<br>– and –<br>The camera is in use.<br>• On, Amber: The AC adapter is connected and the battery is charging.<br>– and –<br>The camera privacy switch is off.<br>• Blinking amber: The battery has an error.<br>• Off: The battery is not charging. |
| **(4)** | Security cable slot | Attaches an optional security cable to the computer.<br>**NOTE:** The security cable is designed to act as a deterrent, but it might not prevent the computer from being mishandled or stolen. |
| **(5)** | Power button | • When the computer is off, press the button briefly to turn on the computer.<br>• When the computer is on, press the button briefly to initiate Sleep.<br>• When the computer is in the Sleep state, press the button briefly to exit Sleep (select products only).<br>• When the computer is in Hibernation, press the button briefly to exit Hibernation.<br>**IMPORTANT:** Pressing and holding down the power button results in the loss of unsaved information.<br>If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power button for at least 10 seconds to turn off the computer.<br>To learn more about your power settings, see your power options. |
| **(6)** | Volume button | Controls speaker volume on the computer. |
| **(7)** | Camera privacy switch | Turns the camera on and off.<br>To turn off the camera, slide the camera privacy switch toward the display.<br>To turn on the camera, slide the camera privacy switch toward the front of the computer. |

# Display

Use the illustration and table to identify the components on the display.

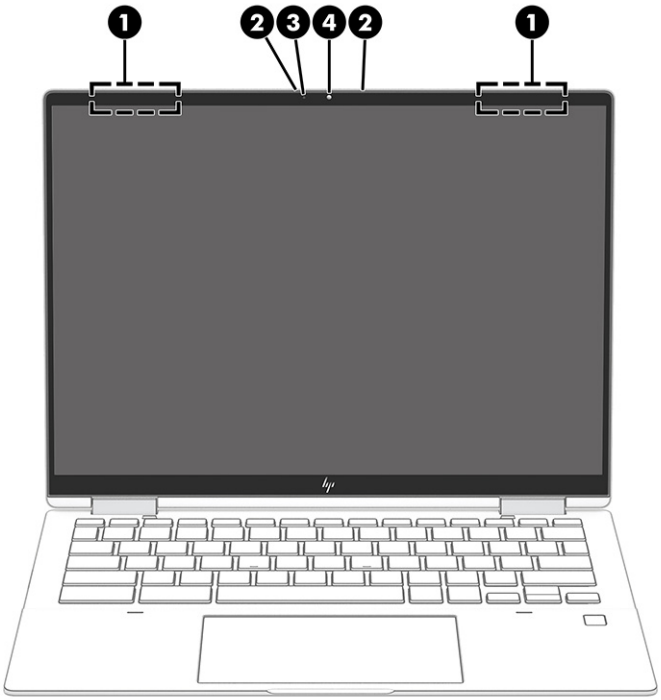



**Table 2-3 Display components and their descriptions**

| Component | | Description |
|---|---|---|
| **(1)** | WLAN antennas* | Send and receive wireless signals to communicate with wireless local area networks (WLANs). |
| **(2)** | Internal microphones | Record sound. |
| **(3)** | Camera light | On (white): The camera is in use.<br>On (amber): The camera is turned off by the switch.<br>Off: The camera is turned off by the software. |
| **(4)** | Camera | Allows you to video chat, record video, and record still images.<br>**NOTE:** Camera functions vary depending on the camera hardware and software installed on your product. |

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

For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.

# Keyboard area

Keyboards can vary by language.

## Touchpad

The touchpad settings and components are described here.

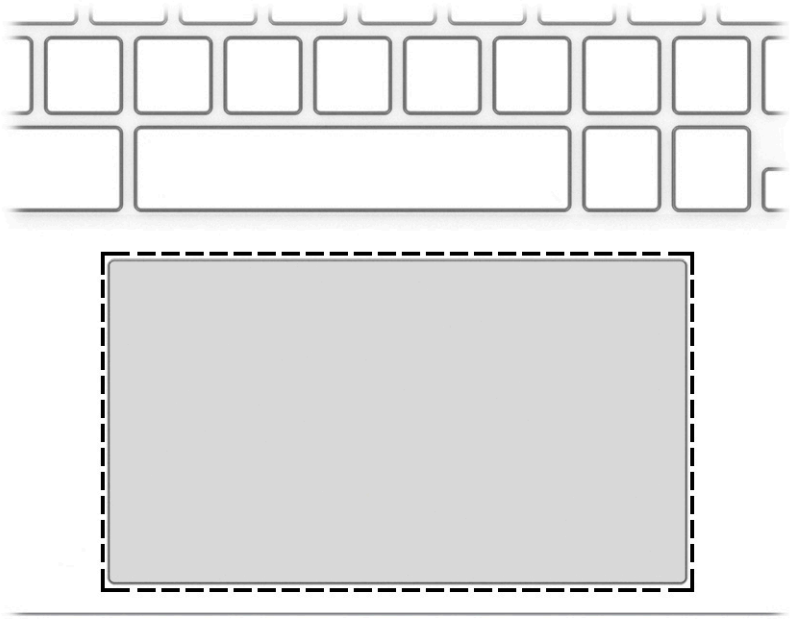


**Table 2-4 Touchpad component and description**

| Component | Description |
|---|---|
| Touchpad zone | Reads your finger gestures to move the pointer or activate items on the screen. |

## Fingerprint reader

Fingerprint readers can be located on the touchpad, on a side panel of the computer, or on the top cover below the keyboard.

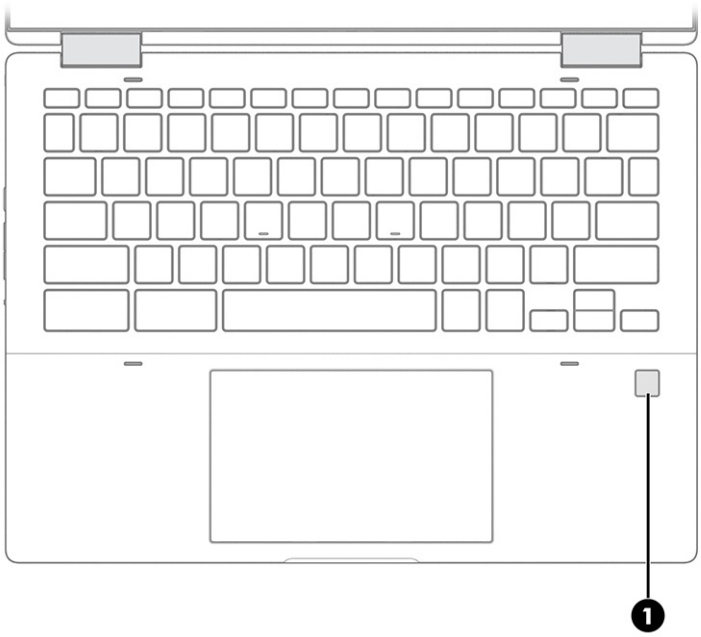


**Table 2-5 Fingerprint reader and its description**

| Component | | Description |
|---|---|---|
| **(1)** | Fingerprint reader (select products only) | Allows a fingerprint to unlock the computer screen or to resume computer operations. The reader does not function as a login device.<br>▲ Swipe down across the fingerprint reader.<br>**IMPORTANT:** To prevent fingerprint logon issues, be sure when you register your fingerprint that all sides of your finger are registered by the fingerprint reader. |

## Special keys

Use the illustration and table to locate the special keys.

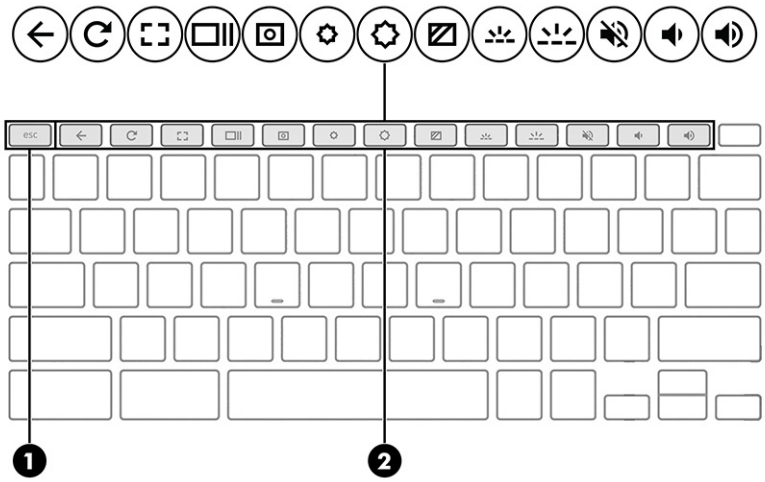



**Table 2-6 Special keys and their descriptions**

| Component | | Description |
|---|---|---|
| **(1)** | esc key | Activates certain computer functions when pressed in combination with other keys, such as tab or shift. |
| **(2)** | Action keys | Execute frequently used system functions. |

# Bottom

Use the illustration and table to identify the bottom components.

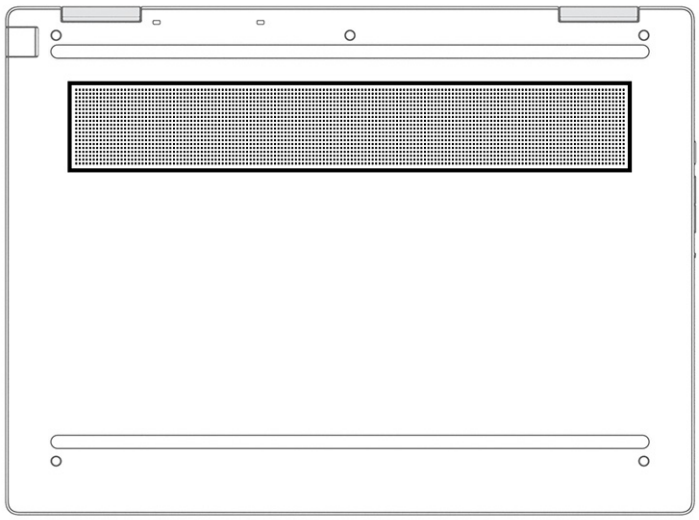


**Table 2-7 Bottom component and description**

| Components | Description |
|---|---|
| Vent | Enables airflow to cool internal components.<br><br>**NOTE:** The computer fan starts automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation. |

# Labels

The labels affixed to the computer provide information that you might need when you troubleshoot system problems or travel internationally with the computer. Labels can be in paper form or imprinted on the product.

**IMPORTANT:** Check the following locations for the labels described in this section: the bottom of the computer, inside the battery bay, under the service door, on the back of the display, or on the bottom of a tablet kickstand.

- Service label—Provides important information to identify your computer. When contacting support, you may be asked for the serial number, the product number, or the model number. Locate this information before you contact support.

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

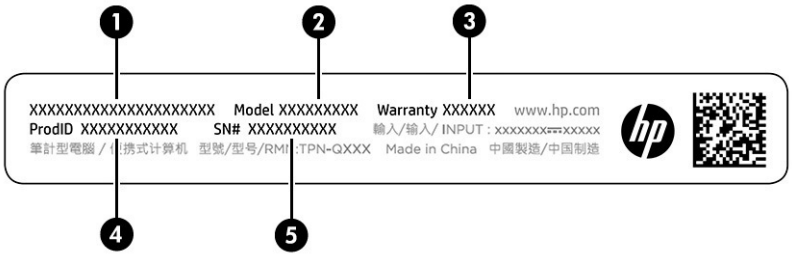


**Table 2-8 Service label components**

| Component | |
|---|---|
| **(1)** | HP product name |
| **(2)** | Model number |
| **(3)** | Warranty period |
| **(4)** | Product ID |
| **(5)** | Serial number |

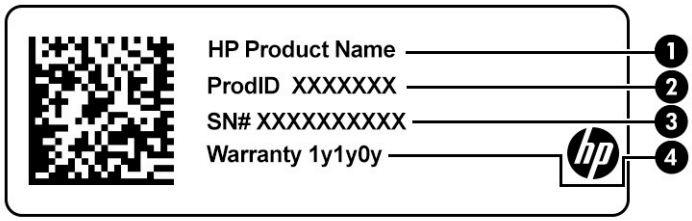



**Table 2-9 Service label components**

| Component | |
|---|---|
| **(1)** | HP product name |
| **(2)** | Product ID |
| **(3)** | Serial number |
| **(4)** | Warranty period |

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

# 3 Illustrated parts catalog

Use this table to determine the spare parts that are available for the computer.

## Computer major components

To identify the computer major components, use this illustration and table.

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

**NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer.

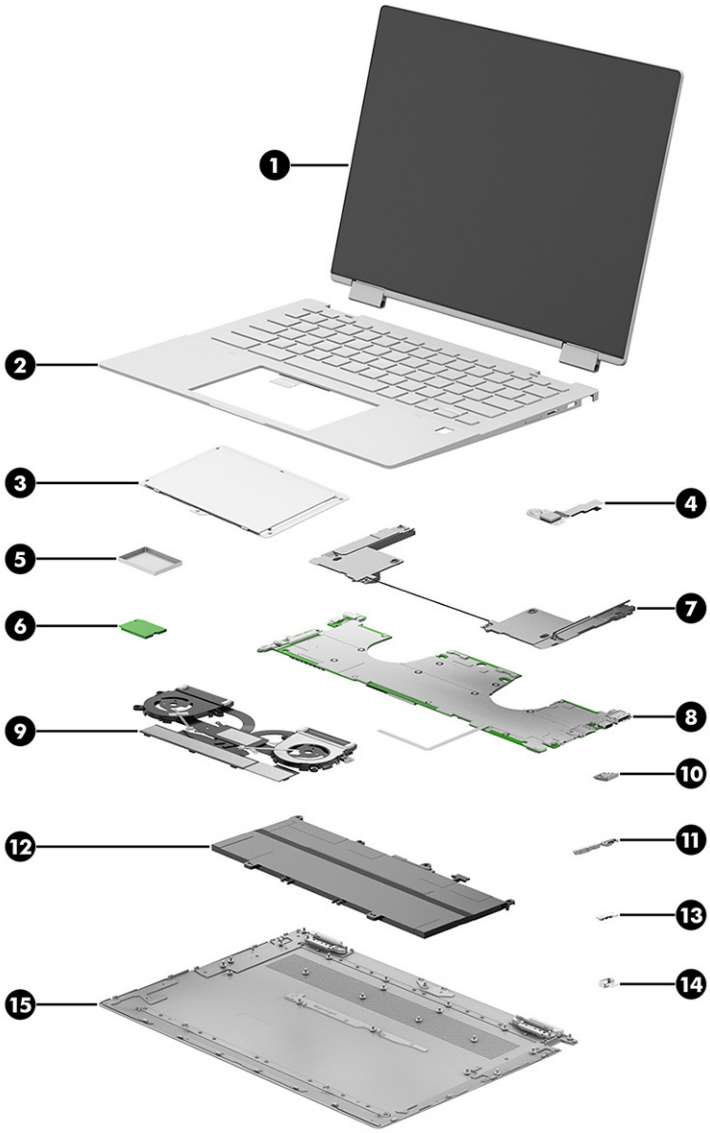


**Table 3-1 Computer major component descriptions and part numbers**

| Item | Component | Spare part number |
|---|---|---|
| **(1)** | **Display assembly**<br>**NOTE:** Only complete hinge-up display assemblies are offered as spare parts. | |
| | BrightView, UWVA, 400 nits | M11037-001 |
| | Antiglare, SVA, 1000 nits, privacy | M11038-001 |
| **(2)** | **Top cover with keyboard** (for use in Japan) | M16754-291 |
| **(3)** | **Touchpad** (includes protective tape)<br>**NOTE:** The touchpad cable is available in the Cable Kit as spare part number M10736-001. | M10725-001 |
| **(4)** | **Fingerprint sensor board**<br>**NOTE:** The fingerprint sensor bracket is available in the Bracket Kit as spare part number M16097-001. | M10726-001 |
| **(5)** | **Solid-state drive cover** (included in the Miscellaneous Kit) | M10735-001 |
| **(6)** | **Solid-state drive, 256 GB** (2230, PCIe, NVMe) | M11042-002 |
| * | **WWAN module** (not illustrated) | L98230-002 |
| **(7)** | **Speaker Kit** | M10723-001 |
| **(8)** | **System board** (includes integrated processor and system memory; includes replacement thermal material) | |
| | Intel Core i7-10510U processor and 16 GB of system memory | M21791-001 |
| | Intel Core i5-10210U processor and 8 GB of system memory | M21790-001 |
| | Intel Core i3-10110U processor and 8 GB of system memory | M21789-001 |
| **(9)** | **Heat sink with fans** | M10734-001 |
| **(10)** | **USB door** (available in the Miscellaneous Kit) | M10735-001 |
| **(11)** | **Volume button** (available in the Button Kit) | M11033-001 |
| **(12)** | **Battery** (4 cell, 50 Whr) | L93559-002 |
| **(13)** | **Kill-switch button** (available in the Button Kit) | M11033-001 |
| **(14)** | **Lock bracket** (available in the Bracket Kit) | M16097-001 |
| | **Power button** (available in the Button Kit; not illustrated) | M11033-001 |
| **(15)** | **Bottom cover** | M10728-001 |
| | **Sensor (IR) board** (not illustrated)<br>**NOTE:** The sensor board cable is available in the Cable Kit as spare part number M10736-001. | M10722-001 |

# Miscellaneous parts

To identify the miscellaneous parts, use this table.

**Table 3-2 Miscellaneous part descriptions and part numbers**

| Component | Spare part number |
|---|---|
| **AC adapter, 65 W, USB Type-C** (nPFC, 1.8 m [6 ft]) | L67440-001 |
| **Thermal pad** | M27330-001 |
| **Cable Kit** (includes sensor board cable and touchpad cable) | M10736-001 |
| **Bracket Kit** (includes fingerprint sensor bracket and lock bracket) | M16097-001 |
| **Miscellaneous Kit** (includes fan connector protective tape, WWAN protective tape,WLAN protective tape, touchpad protective tape, solid-state drive shielding, RMA shielding, solid-state drive absorber, SIM tray, and USB door) | M10735-001 |
| **Screw Kit** | M21369-001 |
| **HVAR USI Active Pen** | L73384-001 |
| **Power cord** (C5, 1.0 m [3.3 ft], for use in Japan) | L19365-001 |

# 4 Removal and replacement procedures preliminary requirements

Use this information to properly prepare to disassemble and reassemble the computer.

## Tools required

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

- Tweezers
- Nonconductive, nonmarking pry tool
- Magnetic Phillips P1 screwdriver
- Torx T5 screwdriver

## Service considerations

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

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

### Plastic parts

Using excessive force during disassembly and reassembly can damage plastic parts.

### Cables and connectors

Handle cables with extreme care to avoid damage.

**IMPORTANT:** 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.

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 so that they cannot be caught or snagged as you remove or replace parts. Handle flex cables with extreme care; these cables tear easily.

### Drive handling

Note the following guidelines when handling drives.

**IMPORTANT:** Drives are fragile components. Handle them with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

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

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

Before removing an optical drive, be sure that a disc is not in the drive, and be sure that the optical drive tray is closed.

Handle drives on surfaces covered with at least 2.54 cm (1 inch) of shock-proof foam.

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

### 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 polystyrene foam.
- 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.

## Electrostatic discharge information

A sudden discharge of static electricity from your finger or other conductor can destroy static-sensitive devices or microcircuitry. Often the spark is neither felt nor heard, but damage occurs. An electronic device exposed to electrostatic discharge (ESD) might not appear to be affected at all and can work perfectly throughout a normal cycle. The device might function normally for a while, but it has been degraded in the internal layers, reducing its life expectancy.

Networks built into many integrated circuits provide some protection, but in many cases, the discharge contains enough power to alter device parameters or melt silicon junctions.

**IMPORTANT:** To prevent damage to the device when you remove or install 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 Personal grounding methods and equipment on page 17.

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.

## Generating static electricity

Follow these static electricity guidelines.

- Different activities generate different amounts of static electricity.
- Static electricity increases as humidity decreases.

**Table 4-1 Static electricity occurrence based on activity and humidity**

| | Relative humidity | | |
|---|---|---|---|
| **Event** | **55%** | **40%** | **10%** |
| Walking across carpet | 7,500 V | 15,000 V | 35,000 V |
| Walking across vinyl floor | 3,000 V | 5,000 V | 12,000 V |
| Motions of bench worker | 400 V | 800 V | 6,000 V |
| Removing DIPs (dual in-line packages) from plastic tube | 400 V | 700 V | 2,000 V |
| Removing DIPs from vinyl tray | 2,000 V | 4,000 V | 11,500 V |
| Removing DIPs from polystyrene foam | 3,500 V | 5,000 V | 14,500 V |
| Removing bubble pack from PCB (printed circuit board) | 7,000 V | 20,000 V | 26,500 V |
| Packing PCBs in foam-lined box | 5,000 V | 11,000 V | 21,000 V |
| Multiple electric components can be packaged together in plastic tubes, trays, or polystyrene foam. | | | |

**NOTE:** As little as 700 V can degrade a product.

## Preventing electrostatic damage to equipment

Many electronic components are sensitive to ESD. Circuitry design and structure determine the degree of sensitivity. The following packaging and grounding precautions are necessary to prevent static electricity damage to electronic components.

- To avoid hand contact, transport products in static-safe containers such as tubes, bags, or boxes.
- Protect all electrostatic parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free stations.
- Place items on a grounded surface before removing them from their container.
- Always be properly grounded when touching a sensitive component or assembly.

- Avoid contact with pins, leads, or circuitry.
- Place reusable electrostatic-sensitive parts from assemblies in protective packaging or conductive foam.

## Personal grounding methods and equipment

Using certain equipment can prevent static electricity damage to electronic components.

- **Wrist straps** are flexible straps with a maximum of 1 MΩ ±10% resistance in the ground cords. To provide proper ground, a strap must be worn snug against bare skin. The ground cord must be connected and fit snugly into the banana plug connector on the grounding mat or workstation.
- **Heel straps/Toe straps/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 them on both feet with a maximum of 1 MΩ ±10% resistance between the operator and ground.

**Table 4-2 Static shielding protection levels**

| Static shielding protection levels | |
|---|---|
| **Method** | **Voltage** |
| Antistatic plastic | 1,500 |
| Carbon-loaded plastic | 7,500 |
| Metallized laminate | 15,000 |

## Grounding the work area

To prevent static damage at the work area, follow these precautions.

- Cover the work surface with approved static-dissipative material. Provide a wrist strap connected to the work surface and properly grounded tools and equipment.
- Use static-dissipative mats, foot straps, or air ionizers to give added protection.
- Handle electrostatic sensitive components, parts, and assemblies by the case or PCB laminate. Handle them only at static-free work areas.
- Turn off power and input signals before inserting and removing connectors or test equipment.
- Use fixtures made of static-safe materials when fixtures must directly contact dissipative surfaces.
- Keep work area free of nonconductive materials such as ordinary plastic assembly aids and polystyrene foam.
- Use field service tools, such as cutters, screwdrivers, and vacuums, that are conductive.

## Recommended materials and equipment

HP recommends certain materials and equipment to prevent static electricity.

- Antistatic tape
- Antistatic smocks, aprons, or sleeve protectors
- Conductive bins and other assembly or soldering aids
- Conductive foam
- Conductive tabletop workstations with ground cord of 1 MΩ ±10% resistance

- Static-dissipative table or floor mats with hard tie to ground
- Field service kits
- Static awareness labels
- Wrist straps and footwear straps providing 1 MΩ ±10% resistance
- Material handling packages
- Conductive plastic bags
- Conductive plastic tubes
- Conductive tote boxes
- Opaque shielding bags
- Transparent metallized shielding bags
- Transparent shielding tubes

## 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.

# 5 Removal and replacement procedures for authorized service provider parts

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

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

**NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer.

## Component replacement procedures

To remove and replace computer components, use these procedures.

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

You must remove, replace, or loosen as many as 50 screws when you service the parts described in this chapter. Make special note of each screw size and location during removal and replacement.

### Preparation for disassembly

To remove and replace computer components, use these procedures.

See Removal and replacement procedures preliminary requirements on page 14 for initial safety procedures.

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.

### Bottom cover

To remove the bottom cover, use this procedure and illustration.

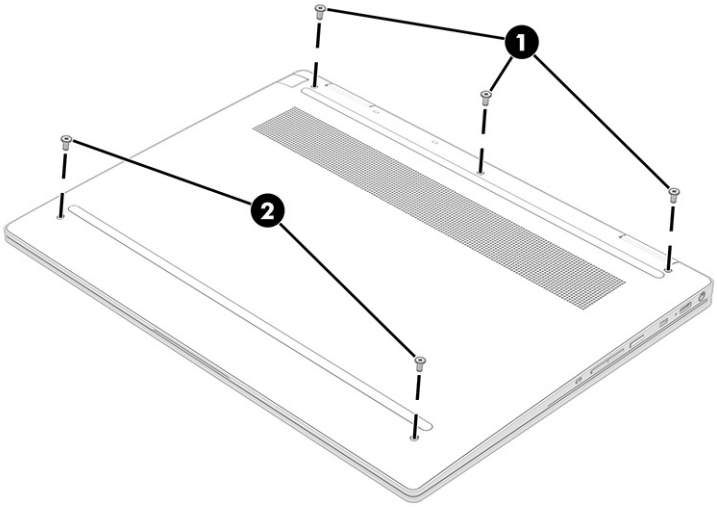
**Table 5-1 Bottom cover description and part number**

| Description | Spare part number |
|---|---|
| Bottom cover | M10728-001 |

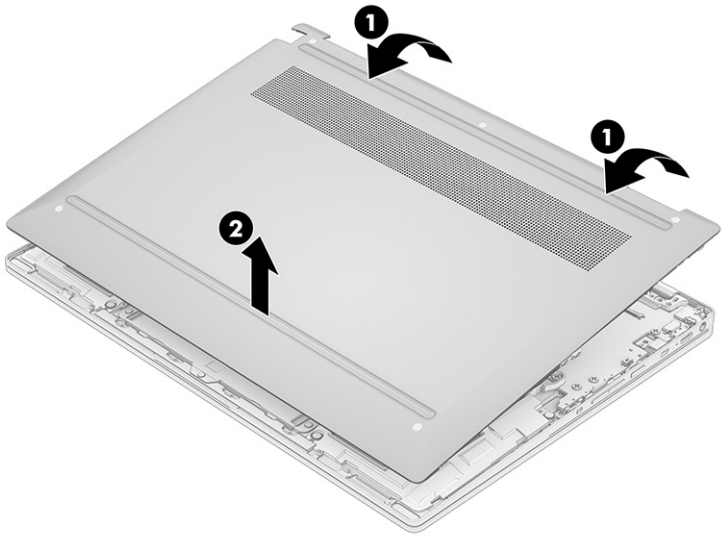
Before removing the bottom cover, prepare the computer for disassembly (Preparation for disassembly on page 19).

Remove the bottom cover:

1. Remove the three Torx T5 2.0 × 7.0 screws **(1)** and the two Torx T5 M2.0 × 4.0 screws **(2)** that secure the bottom cover to the computer.




2. Use a nonmarking, nonconductive tool to release the top of the cover from the computer **(1)**.
3. Remove the bottom cover from the computer **(2)**.




To replace the bottom cover, reverse the removal procedures.

## Battery

To remove the battery, use this procedure and illustration.

**Table 5-2 Battery description and part number**

| Description | Spare part number |
|---|---|
| Battery (4 cell, 50 Whr) | L93559-002 |

**WARNING!** To avoid personal injury and damage to the product:

- Do *not* puncture, twist, or crack the battery.
- Do *not* cause an external puncture or rupture to the battery. They can cause a short inside the battery, which can result in battery thermal runaway.
- Do *not* handle or touch the battery enclosure with sharp objects such as tweezers or pliers, which might puncture the battery.
- Do *not* compress or squeeze the battery case with tools or heavy objects stacked on top of the case. These actions can apply undue force on the battery.
- Do *not* touch the connectors with any metallic surface or object, such as metal tools, screws, or coins, which can cause shorting across the connectors.

Before removing the battery, follow these steps:

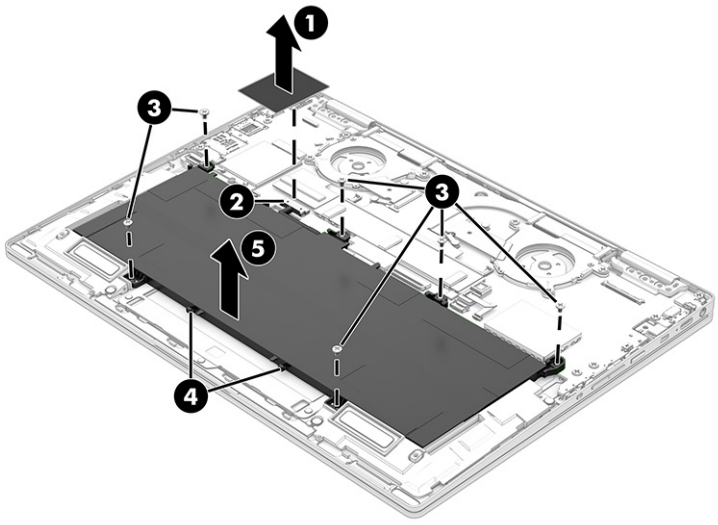
1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).

**WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.

**IMPORTANT:** Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work or shut down the computer through the operating system before you remove the battery.

Remove the battery:

1. Remove the tape from the top of the battery **(1)**.
2. Disconnect the battery cable from the system board **(2)**.
3. Remove the six Phillips M2.0 × 3.0 screws **(3)** that secure the battery to the computer.
4. Remove speaker cable from clips on bottom of battery **(4)**.
5. Remove the battery from the computer **(5)**.




To insert the battery, reverse the removal procedures.

## Solid-state drive

To remove the M.2 solid-state drive, use this procedure and illustration.

**Table 5-3 Solid-state drive description and part number**

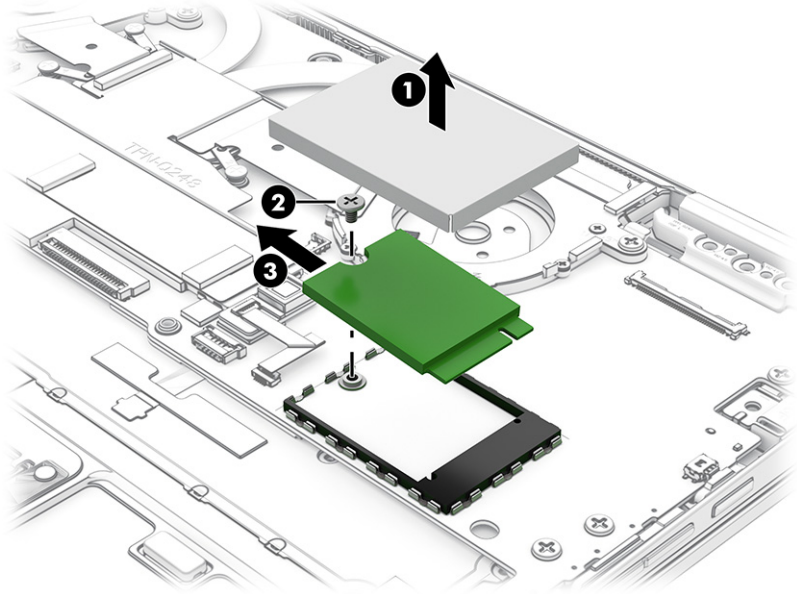
| Description | Spare part number |
|---|---|
| 256 GB, PCIe | M11042-002 |
| Solid-state drive cover (included in the Miscellaneous Kit) | M10735-001 |

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

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Disconnect the battery cable from the system board (see Battery on page 20).

Remove the solid-state drive:

1. Use a thin tool to remove the cover from the solid-state drive **(1)**.
2. Remove the Phillips M2.0 × 3.0 screw **(2)** that secures the drive to the computer.
3. Pull the drive away from the socket to remove it **(3)**.




To install the solid-state drive, reverse the removal procedures.

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

Replace the cover by inserting the edges of the cover into the clips on the system board near the sides of the solid-state drive.

## WWAN module

To remove the WWAN module, use this procedure and illustration.

**Table 5-4 WWAN module descriptions and part numbers**

| Description | Spare part number |
|---|---|
| Intel XMM 7360 LTE-Advanced (Cat 9) | L98230-002 |

**IMPORTANT:** 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 WWAN module, follow these steps:

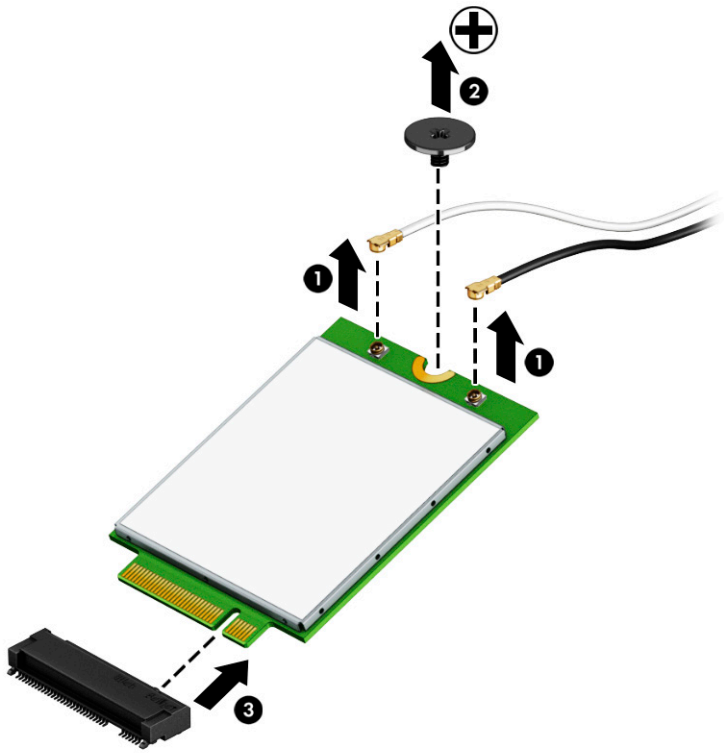
1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Disconnect the battery cable from the system board (see Battery on page 20).

Remove the WWAN module:

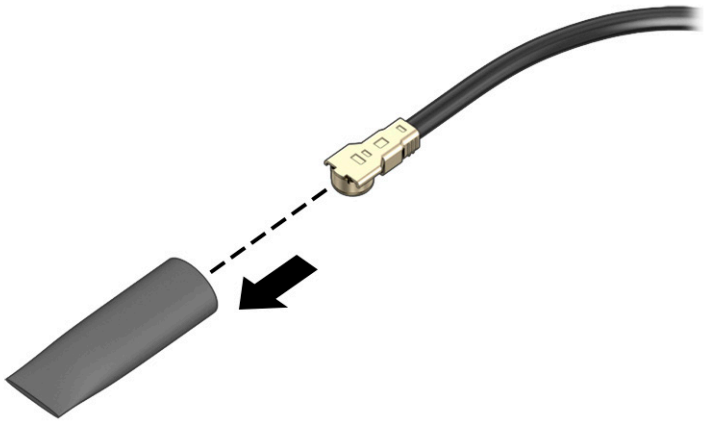
1. Disconnect the WWAN antenna cables **(1)** from the terminals on the WWAN module.

   The number of antennas can vary.
2. Remove the Phillips M2.0 × 2.0 screw **(2)** that secures the WWAN module to the bottom cover. (The WWAN module tilts up.)
3. Remove the WWAN module **(3)** by pulling the module away from the slot at an angle.

**NOTE:** When viewed with the antenna terminals at the top of the module, the white WWAN antenna cables connects to the terminal to the left of the black WWAN antenna cables.



4. If the WWAN antenna is not connected to the terminal on the WWAN module, a protective sleeve must be installed on the antenna connector, as shown in the following illustration.



Reverse this procedure to install the WWAN module.

## Touchpad

To remove the touchpad, use this procedure and illustration.

**Table 5-5 Touchpad description and part number**

| Description | Spare part number |
|---|---|
| Touchpad | M10725-001 |
| Touchpad cable (included in Cable Kit) | M10736-001 |

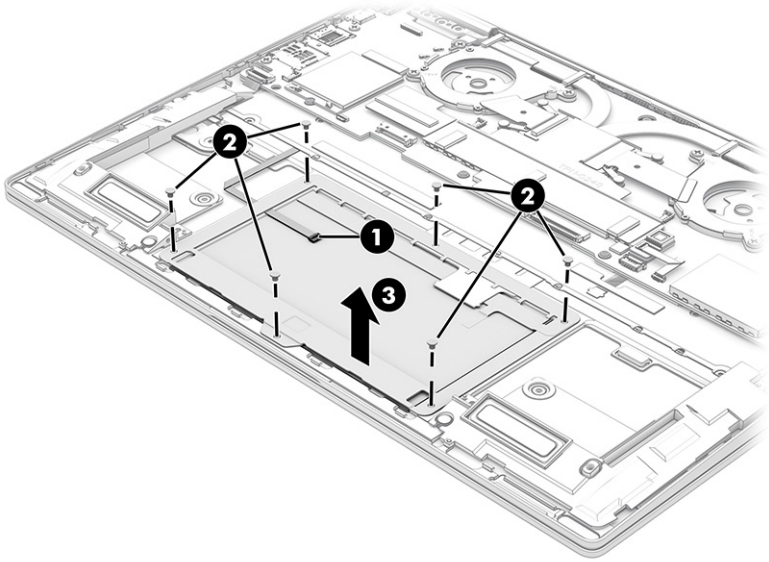
Before removing the touchpad, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).

Remove the touchpad:

1. Disconnect the cable from the ZIF connector on the touchpad **(1)**.
2. Remove the protective shielding from the top of the touchpad.
3. Remove the six Phillips M2.0 × 2.0 screws **(2)** that secure the touchpad to the computer.

4. Remove the touchpad from the computer **(3)**.




Reverse this procedure to install the touchpad.

## Speakers

To remove the speakers, use this procedure and illustration.

**Table 5-6 Speaker description and part number**

| Description | Spare part number |
|---|---|
| Speaker Kit | M10723-001 |

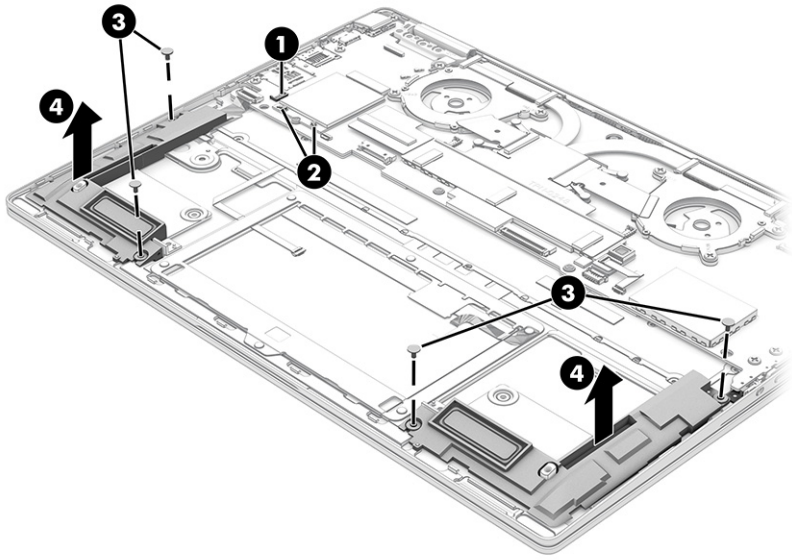
Before removing the speakers, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).

Remove the speakers:

1. Disconnect the speaker cable from the system board **(1)**.
2. Disconnect the antenna cables from the WWAN module **(2)**.
3. Remove the four Phillips M1.6 × 3.2 screws **(3)** that secure the speakers to the computer.

4. Remove the speakers from the computer **(4)** .




Reverse this procedure to install the speakers.

## Fingerprint sensor board

To remove the fingerprint sensor board, use this procedure and illustration.

**Table 5-7 Fingerprint sensor board description and part number**

| Description | Spare part number |
|---|---|
| Fingerprint sensor board | M10726-001 |
| Fingerprint sensor bracket (available in the Bracket Kit) | M16097-001 |

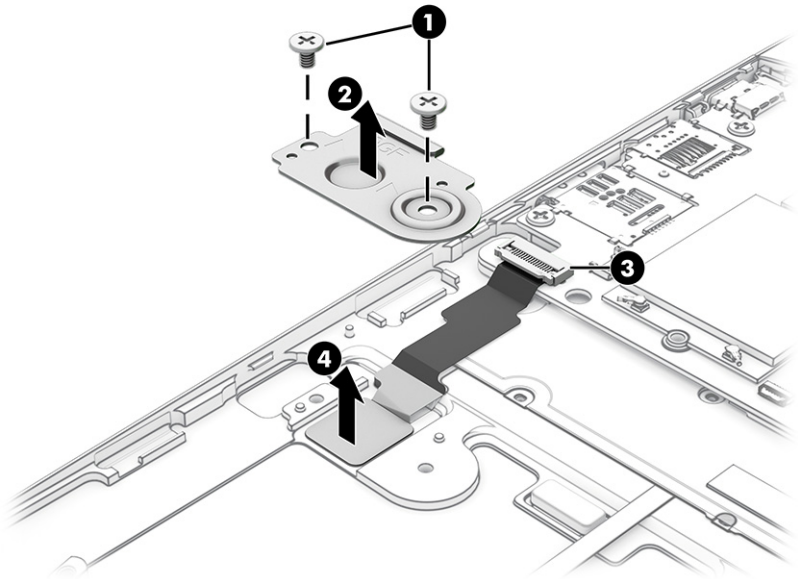
Before removing the fingerprint sensor board, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the speaker (see Speakers on page 25).

Remove the fingerprint sensor board:

1. Remove the two Phillips M2.0 × 2.0 screws **(1)** that secure the fingerprint sensor bracket, and then remove the bracket **(2)**.
2. Disconnect the cable from the ZIF connector on the system board **(3)**.

3. Remove the fingerprint sensor board from the computer **(4)**.




Reverse this procedure to install the fingerprint sensor board.

## Heat sink with fans

To remove the heat sink with fans, use these procedures and illustrations.

**Table 5-8 Heat sink with fans descriptions and part numbers**

| Description | Spare part number |
|---|---|
| Heat sink with fans | M10734-001 |

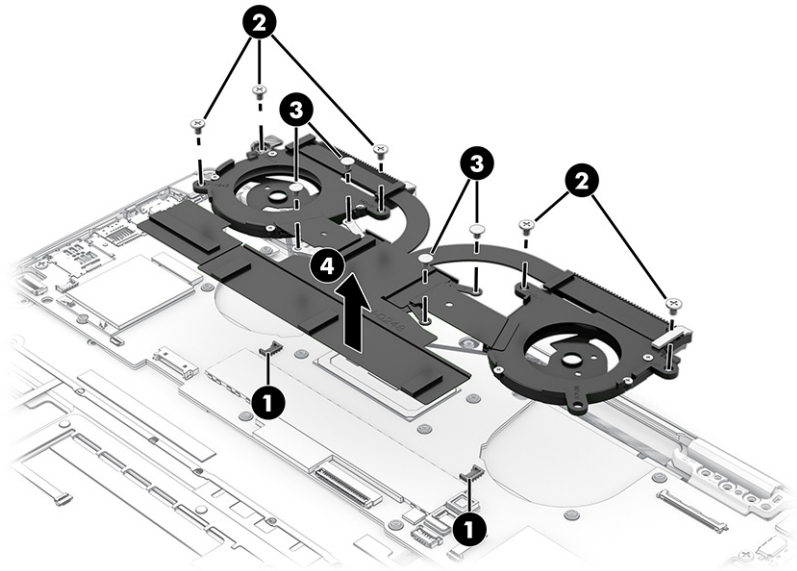
Before removing the heat sink with fans, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).

Remove the heat sink with fans:

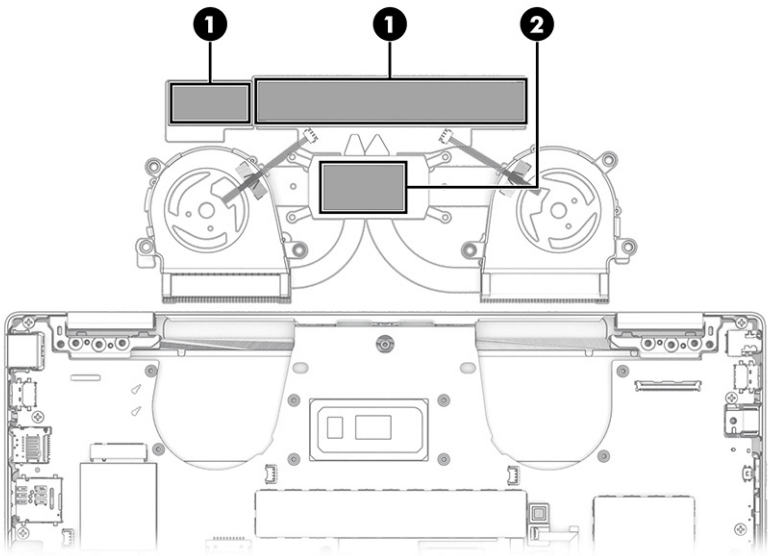
1. Disconnect the fan cables from the system board **(1)**.
2. Remove the five Phillips M2.0 × 2.0 screws **(2)** that secure the fans to the system board.

3. In the order indicated on the heat sink, remove the four Phillips M2.0 × 2.0 screws **(3)**, and then remove the heat sink from the computer **(4)**.




4. Thoroughly clean the thermal material from the surfaces of the heat sink and the system board components each time the heat sink is removed. Replacement thermal material is included with the heat sink and system board spare part kits. The following illustration shows the replacement thermal material locations.

   Thermal pads **(1)** and thermal paste **(2)** are used on the heat sink.




Reverse this procedure to install the heat sink with fans.

## Sensor (IR) board

To remove the sensor board, use this procedure and illustration.

**Table 5-9 Sensor board description and part number**

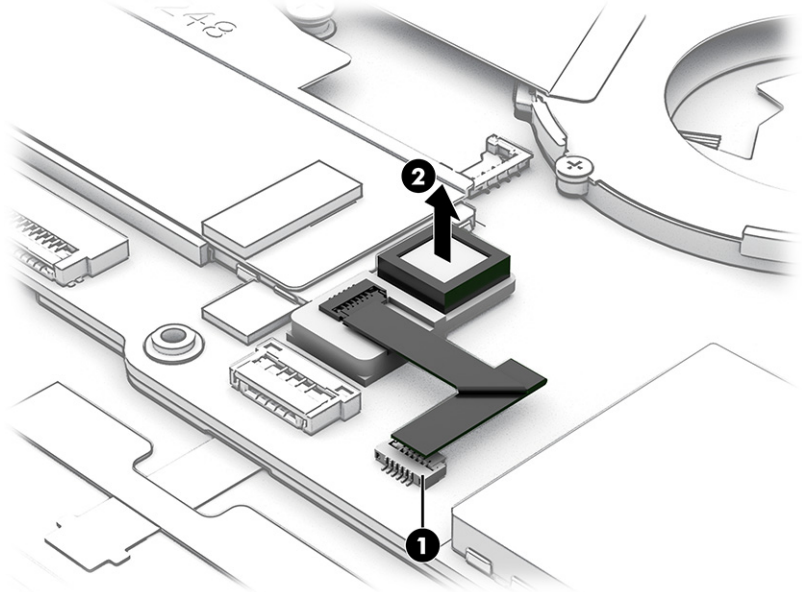
| Description | Spare part number |
|---|---|
| Sensor (IR) board | M10722-001 |
| Sensor board cable (included in Cable Kit) | M10736-001 |

Before removing the sensor board, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Disconnect the battery cable from the system board (see Battery on page 20).

Remove the sensor board:

1. Disconnect the sensor board cable from the ZIF connector on the system board **(1)**.
2. Remove the sensor board from the computer **(2)**.




Reverse this procedure to install the sensor board.

## System board

To remove the system board, use these procedures and illustrations.

**Table 5-10 System board descriptions and part numbers**

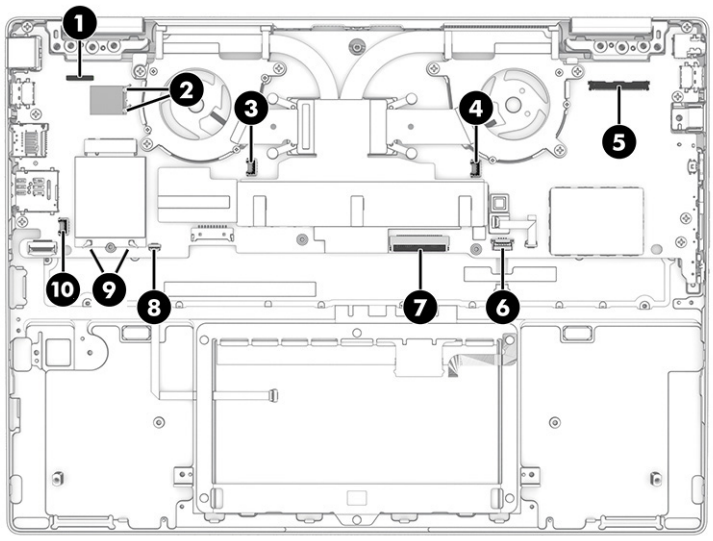
| Description | Spare part number |
|---|---|
| Intel Core i7-10510U processor and 16 GB of system memory | M21791-001 |
| Intel Core i5-10210U processor and 8 GB of system memory | M21790-001 |
| Intel Core i3-10110U processor and 8 GB of system memory | M21789-001 |

Before removing the system board, follow these steps:

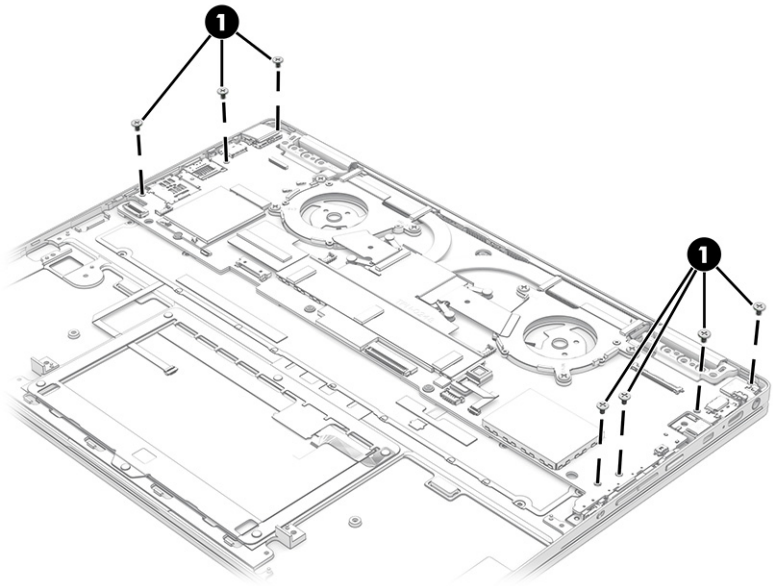
1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).

Remove the system board:

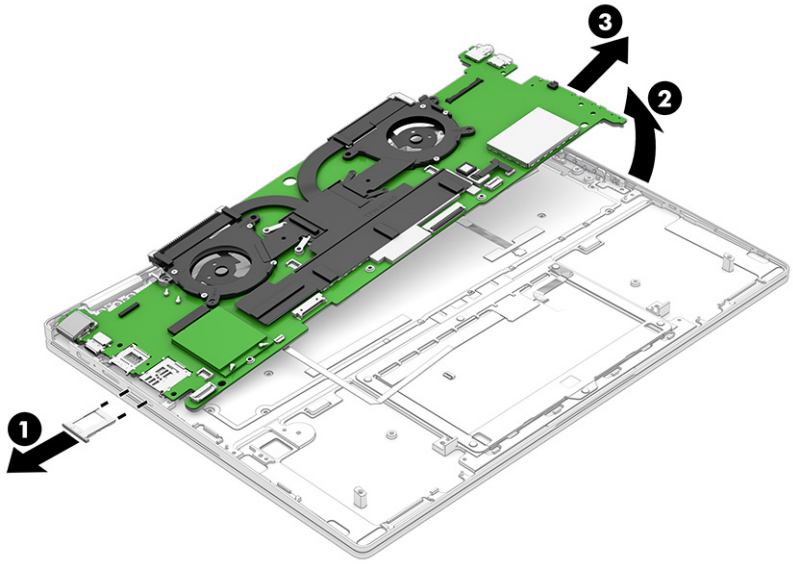
1. Disconnect the following cables from the system board:
   - Display cable **(1)**
   - Antenna cables from integrated WLAN module **(2)**
   - Fan cable **(3)**
   - Fan cable **(4)**
   - Display cable (ZIF) **(5)**
   - Keyboard backlight cable (ZIF) **(6)** (select products only)
   - Keyboard cable (ZIF) **(7)**
   - Touchpad cable (ZIF) **(8)**
   - Antenna cables from WWAN module **(9)**
   - Speaker cable **(10)**



2. Remove the seven Phillips M2.0 × 2.0 screws that secure the system board to the computer.




3. Remove the insert from the SIM card slot **(1)**.
4. Lift the front and right side of the system board **(2)**, and then pull the board up and to the right away from the connectors to remove it **(3)**.




Reverse this procedure to install the system board.

## Display assembly

To remove and disassemble the display assembly, use these procedures and illustrations.

**Table 5-11 Display assembly descriptions and part numbers**

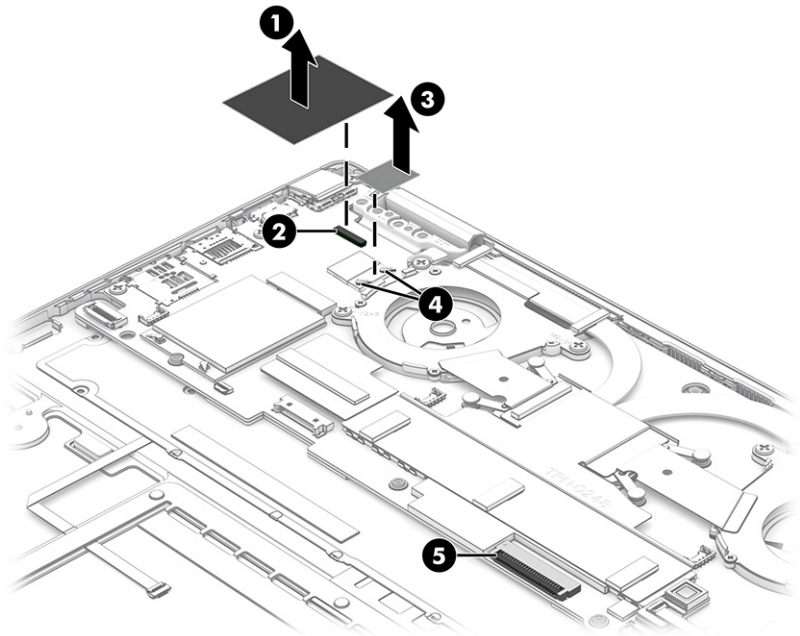
| Description | Spare part number |
|---|---|
| Display assembly, BrightView, UWVA, 400 nits | M11037-001 |
| Display assembly, antiglare, SVA, 1000 nits, privacy | M11038-001 |

Before removing the display panel, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Disconnect the battery cable from the system board (see Battery on page 20).

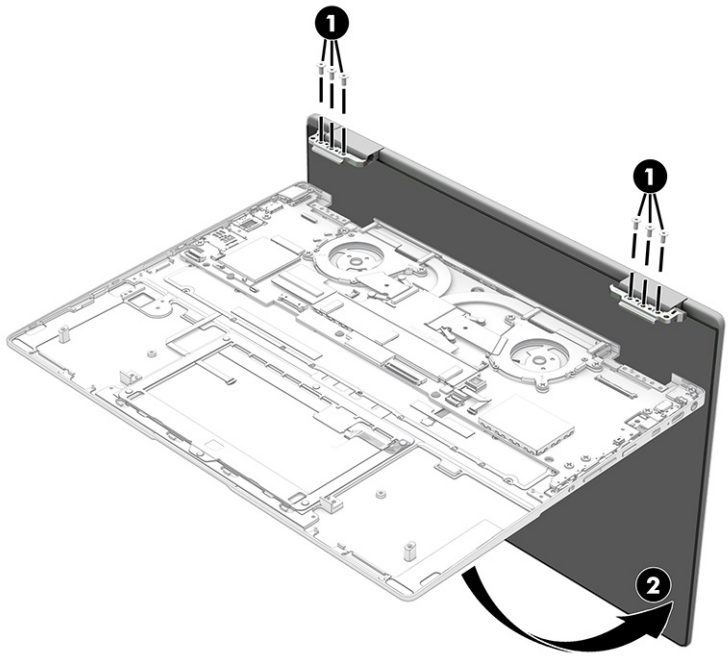
Remove the display assembly:

1. Lift the square protective cover off the left display cable and integrated WLAN module **(1)**.
2. Disconnect the left display cable from the system board **(2)**.
3. Lift the small clear plastic square protective cover from the top of the integrated WLAN module **(3)**.
4. Disconnect the antenna cables from the WLAN module **(4)**.
5. Lift the tape and disconnect the right display cable from the system board **(5)**.




6. Remove the six Phillips M2.0 × 4.5 screws **(1)** that secure the display to the computer.

7. Open the computer to open the hinges, and then separate the computer from the display **(2)**.




Reverse this procedure to replace the display assembly.

## USB door

To remove the USB door, use this procedure and illustration.

**Table 5-12 USB door description and part number**

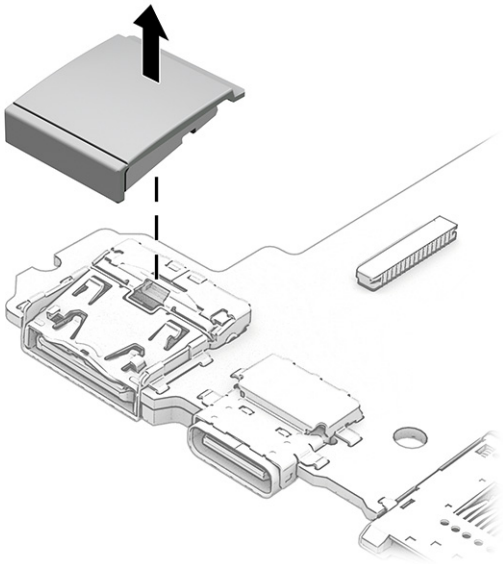
| Description | Spare part number |
|---|---|
| USB door, left | M00444-001 |
| USB door, right | M00445-001 |

Before removing the USB door, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the system board (see System board on page 29).

Remove the USB door:

▲ Use a flat tool to lift and release the USB door from the system board.



To replace USB door, place the door on top of the connector and press down until it snaps into place.

## Volume button

To remove the volume button, use this procedure and illustration.

**Table 5-13 Volume button description and part number**

| Description | Spare part number |
|---|---|
| Volume button (included in the Button Kit) | M11033-001 |

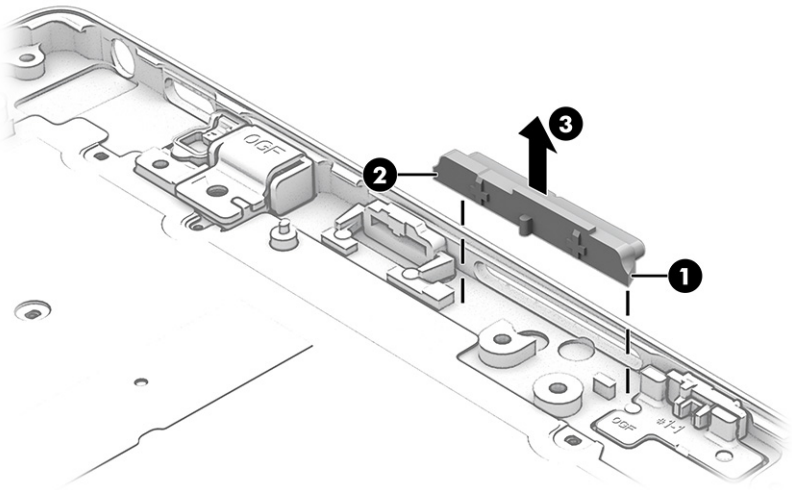
Before removing the volume button, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the system board (see System board on page 29).

Remove the volume button:

1. Use tweezers to release the right **(1)** and left **(2)** sides of the button.

2. Remove the volume button from the computer **(3)**.




Reverse this procedure to install the volume button.

## Power button

To remove the power button, use this procedure and illustration.

**Table 5-14 Power button description and part number**

| Description | Spare part number |
|---|---|
| Power button (included in the Button Kit) | M11033-001 |

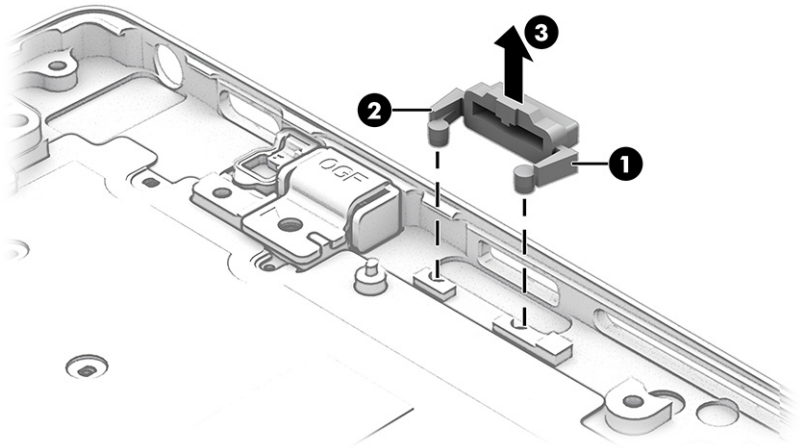
Before removing the power button, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the system board (see System board on page 29).

Remove the power button:

1. Use tweezers to release the right **(1)** and left **(2)** sides of the button.

2. Remove the power button from the computer **(3)**.




Reverse this procedure to install the power button.

## Lock bracket

To remove the lock bracket, use this procedure and illustration.

**Table 5-15 Lock bracket description and part number**

| Description | Spare part number |
|---|---|
| Lock bracket (available in the Bracket Kit) | M16097-001 |

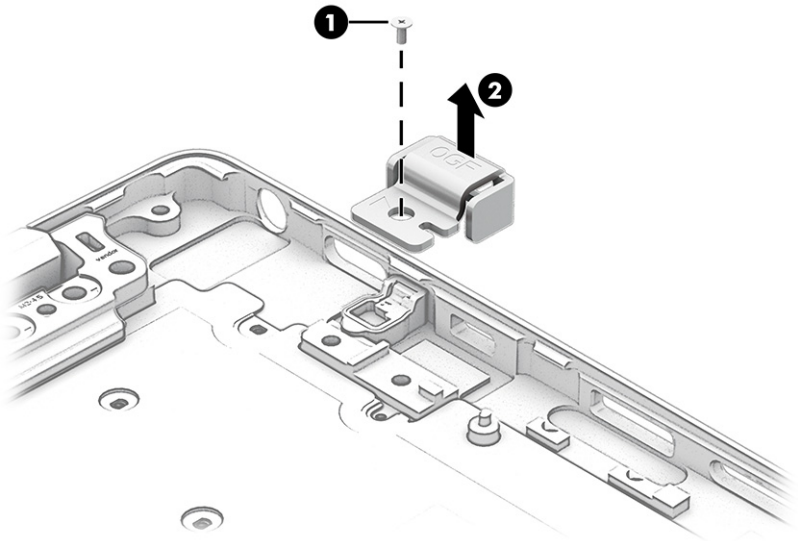
Before removing the lock bracket, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the system board (see System board on page 29).

Remove the lock bracket:

1. Remove the Phillips M2.0 × 3.0 screw that secures the bracket to the computer **(1)**.

2. Remove the lock bracket from the computer **(2)**.



Reverse this procedure to install the lock bracket.

## Kill-switch button

To remove the kill-switch button, use this procedure and illustration.

**Table 5-16 Kill-switch button description and part number**

| Description | Spare part number |
|---|---|
| Kill-switch button (available in the Button Kit) | M11033-001 |

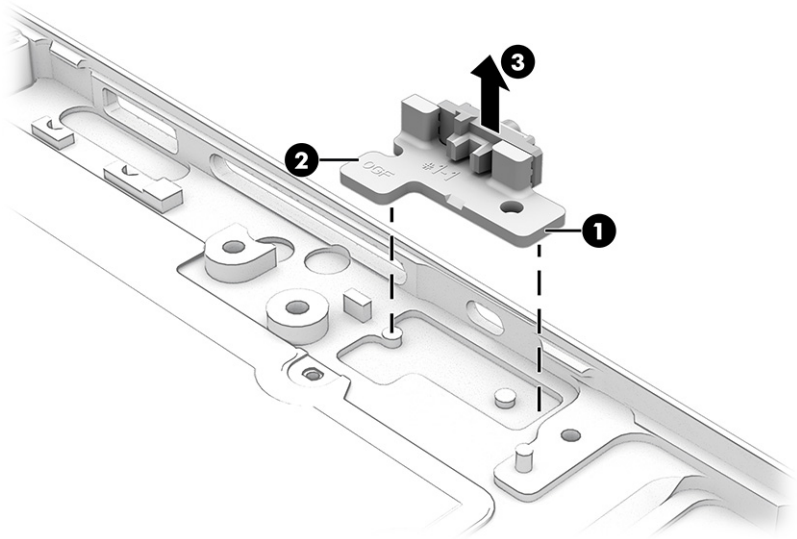
Before removing the kill-switch button, follow these steps:

1. Prepare the computer for disassembly (Preparation for disassembly on page 19).
2. Remove the bottom cover (Bottom cover on page 19).
3. Remove the battery (see Battery on page 20).
4. Remove the system board (see System board on page 29).

Remove the kill-switch button:

1. Use tweezers to release the right **(1)** and left **(2)** sides of the button.

2. Remove the button from the computer **(3)**.




Reverse this procedure to install the kill-switch button.

## Top cover with keyboard

The top cover with keyboard remains after removing all other spare parts from the computer.

**Table 5-17 Top cover with keybord description and part number**

| Description | Spare part number |
|---|---|
| Top cover with keyboard, for use in models with WWAN, privacy, for use in Japan | M16754-291 |

# 6 Backing up, resetting, and recovering

This chapter provides information about the standard procedures of backing up your personal data, resetting your computer to original factory conditions, and recovering your operating system with the Chromebook Recovery Utility.

## Backing up

You can back up your data to an optional USB flash drive or SD memory card or through Google Drive™.

For detailed information about creating a backup, go to http://www.support.google.com

## Resetting

A factory reset erases the information on your computer hard drive, including files in the Downloads folder. Before you reset, back up your files to an optional USB flash drive, to an SD memory card, or through Google Drive. The factory reset will not delete your files at these locations.

You might want to reset your computer in the following circumstances:

- You see the message "Reset this Chrome device."
- You are having problems with your user profile or settings.
- You restarted your computer, and it still doesn't work properly.
- You want to change the owner of your computer.

To reset your computer:

1. Under the **Settings** menu, select **Advanced**.
2. In the **Powerwash** section, select **Powerwash**.
3. Select **Restart**.
4. In the window that appears, select **Powerwash**, and then select **Continue**.
5. Follow the on-screen instructions to reset your computer, and sign in with your Google Account.

**NOTE:** The account you sign in with after you reset your computer is recognized as the owner account.

6. After you complete the reset, you can set up your computer and check to see whether the problem is fixed.

## Recovering

When your Chrome OS™ doesn't work properly, you can perform a recovery. A recovery reinstalls the operating system, software programs, and original factory settings. It deletes locally saved files and saved networks for all accounts. A system recovery does not affect Google Accounts and data synced to Google Drive.

**IMPORTANT:** Recovery permanently erases everything on your computer hard drive, including your downloaded files. If possible, back up your files before you recover your computer.

**NOTE:** For more information about performing a system recovery on your computer, go to http://www.support.google.com.

Before you begin the recovery process, you need the following prerequisites:

- A USB flash drive or SD memory card with a capacity of 4 GB or greater. All data is erased from this storage device when the recovery media is created, so back up all files from the device before you begin.
- A computer with internet access. You must also have administrative rights to the computer.
- Computer AC adapter. The computer must be plugged into AC power during recovery.
- The “Chrome OS is missing or damaged” screen displaying on your computer. If this message is not already displayed:
  - Turn on the computer, press and hold the esc+f3 keys, and then press the power button. The computer restarts, and the screen shows the “Chrome OS is missing or damaged” screen.

## Installing the Chromebook Recovery Utility

The Chromebook™ Recovery Utility recovers the original operating system and software programs that were installed at the factory. You can install this utility from the Chrome Web Store on any computer.

To install the Chromebook Recovery Utility:

▲ Open the Chrome Web Store, search for `chrome recovery`, select **Chromebook Recovery Utility** from the Apps list, and follow the on-screen instructions.

## Creating recovery media

You can use recovery media to recover the original operating system and software programs that were installed at the factory.

To create recovery media:

1. Turn on a computer that has internet access.

**NOTE:** You must have administrative rights to the computer.

2. Select the **Launcher** icon, and then select **All Apps**.
3. In the Apps window, select **Recovery**, and then select **Get started**.
4. Follow the on-screen instructions to create the recovery media.

**NOTE:** All data and partitions on your recovery media will be deleted. Do not remove the USB flash drive or SD memory card until the process is complete.

## Recovering the Chrome operating system

Use these instructions to recover the Chrome operating system on your computer using the recovery media that you created.

1. Disconnect any external devices connected to your computer, plug in the power cord, and then turn on the computer.
2. To enter recovery mode, press and hold esc+f3, and then press the power button. When the “Chrome OS is missing or damaged” screen appears, insert the recovery media into your computer. The recovery process begins immediately.
3. Wait while Chrome verifies the integrity of the recovery media.

**NOTE:** If you need to cancel the recovery during the verification process, press and hold the power button until the computer turns off. Do not disrupt the system recovery process after the verification step is complete.

**NOTE:** If an error message is displayed, you might need to run the Chrome Recovery Utility again or use a different USB flash drive or SD memory card.

4. When the “System Recovery is complete” message appears, remove the recovery media.

   The computer restarts with Chrome OS reinstalled.

# Setting up your computer after a reset or recovery

After a reset or recovery is complete, perform the initial setup process.

For details about setting up the computer, go to http://www.support.google.com.

# Erasing and reformatting the recovery media

When you create recovery media, the USB flash drive or SD memory card is formatted as a recovery tool. After recovery, you must erase the recovery media to reuse your storage device. Follow these steps to use the Chromebook Recovery Utility to erase the recovery media.

1. Select the **Launcher** icon, and then select **All Apps**.
2. In the apps window, select **Recovery**.
3. Select the **Settings** icon, and then select **Erase recovery media**.
4. Select the USB flash drive or SD memory card that you inserted, select **Continue**, and then select **Erase now**.
5. After the recovery media is erased, select **Done** to close the Chromebook Recovery Utility, and then remove the USB flash drive or SD memory card.

   The media is ready to be formatted using a formatting tool provided by your operating system.

# 7 Specifications

This chapter provides specifications for your computer.

## Computer specifications

This section provides specifications for your computer. When traveling with your computer, the computer dimensions and weights, as well as input power ratings and operating specifications, provide helpful information.

**Table 7-1 Computer specifications**

| | Metric | U.S. |
|---|---|---|
| **Dimensions** | | |
| Width | **294.5 mm** | 11.6 in |
| Depth | **217.0 mm** | 8.54 in |
| Height | **16.7 mm** | 0.66 in |
| **Weight** | **1360 g** | 2.99 lb |
| **Input power** | | |
| Operating voltage and current | 19.5 V dc @ 3.33 A – 65 W<br>19.5 V dc @ 2.31 A – 45 W | |
| **Temperature** | | |
| Operating | **5°C to 35°C** | 41°F to 95°F |
| Nonoperating | **–20°C to 60°C** | –4°F to 140°F |
| **Relative humidity** (noncondensing) | | |
| Operating | 10% to 90% | |
| Nonoperating | 5% to 95% | |
| **Maximum altitude** (unpressurized) | | |
| Operating | **–15 m to 3,048 m** | –50 ft to 10,000 ft |
| Nonoperating | **–15 m to 12,192 m** | –50 ft to 40,000 ft |

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

## 34.3 cm (13.5 in) display specifications

This section provides specifications for your display.

**Table 7-2 Display specifications**

| | Metric | U.S. |
|---|---|---|
| Active diagonal size | **34.3 cm** | 13.5 in |
| Resolution | 1920 × 1200 | |
| Surface treatment | Antiglare<br>BrightView | |
| Brightness | 1000 nits (privacy panels)<br>400 nits (nonprivacy panels) | |
| Viewing angle | UWVA | |
| Backlight | WLED | |
| Display panel interface | eDP | |

# 8 Power cord set requirements

This chapter provides power cord requirements for countries and regions.

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

These power cord 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 V ac 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

To determine power cord requirements for specific countries and regions, use this table.

**Table 8-1 Power cord 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 |

**Table 8-1 Power cord requirements for specific countries and regions (continued)**

| Country/region | Accredited agency | Applicable note number |
|---|---|---|
| India | BIS | 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 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SVT/SJT or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V ac) or NEMA 6-15P (15 A, 250 V ac) configuration. CSA or C-UL mark. UL file number must be on each element.
3. The appliance coupler, flexible cord, and wall plug must bear a T mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCTF, 3-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V ac) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the CCC certification mark.
5. The flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² conductor size. KTL logo and individual approval number must be on each element. Approval number and logo must be printed on a flag label.
6. The flexible cord must be Type HVCTF 3-conductor, 1.25 mm² conductor size. Power cord set fittings (appliance coupler, cable, and wall plug) must bear the BSMI certification mark.
7. For 127 V ac, the flexible cord must be Type SVT or SJT 3-conductor, 18 AWG, with plug NEMA 5-15P (15 A, 125 V ac), with UL and CSA or C-UL marks. For 240 V ac, the flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² or 1.00 mm² conductor size, with plug BS 1363/A with BSI or ASTA marks.

# 9 Recycling

When a nonrechargeable 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 website at http://www.hp.com/recycle.

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