

# Dell Pro 15 Essential

PV15255

Owner's Manual

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.



|                                                                            |           |
|----------------------------------------------------------------------------|-----------|
| <b>Chapter 1: Views of Dell Pro 15 Essential PV15255.....</b>              | <b>7</b>  |
| Right.....                                                                 | 7         |
| Left.....                                                                  | 7         |
| Top.....                                                                   | 8         |
| Front.....                                                                 | 9         |
| Bottom.....                                                                | 10        |
| Locate the Service Tag or Express Service Code label of your computer..... | 10        |
| Battery-status light.....                                                  | 11        |
| <b>Chapter 2: Set up your Dell Pro 15 Essential PV15255.....</b>           | <b>12</b> |
| <b>Chapter 3: Specifications of Dell Pro 15 Essential PV15255.....</b>     | <b>14</b> |
| Dimensions and weight.....                                                 | 14        |
| Processor.....                                                             | 14        |
| Chipset.....                                                               | 15        |
| Operating system.....                                                      | 15        |
| Memory.....                                                                | 15        |
| External ports and slots.....                                              | 16        |
| Internal slots.....                                                        | 16        |
| Wireless module.....                                                       | 16        |
| Audio.....                                                                 | 17        |
| Storage.....                                                               | 17        |
| Media-card reader.....                                                     | 18        |
| Keyboard.....                                                              | 18        |
| Keyboard function keys.....                                                | 18        |
| Camera.....                                                                | 20        |
| Touchpad.....                                                              | 20        |
| Power adapter.....                                                         | 20        |
| Power adapter requirements of Dell Pro 15 Essential PV15255.....           | 21        |
| Battery.....                                                               | 22        |
| Display.....                                                               | 23        |
| Fingerprint reader (optional).....                                         | 24        |
| Sensors .....                                                              | 24        |
| GPU—Integrated.....                                                        | 24        |
| External display support.....                                              | 24        |
| Hardware security.....                                                     | 25        |
| Operating and storage environment.....                                     | 25        |
| Dell support policy.....                                                   | 25        |
| ComfortView.....                                                           | 25        |
| Dell Optimizer.....                                                        | 26        |
| <b>Chapter 4: Working inside your computer.....</b>                        | <b>27</b> |
| Safety instructions.....                                                   | 27        |
| Before working inside your computer.....                                   | 27        |

|                                                                                            |           |
|--------------------------------------------------------------------------------------------|-----------|
| Safety precautions.....                                                                    | 28        |
| Electrostatic discharge—ESD protection.....                                                | 28        |
| ESD Field Service kit .....                                                                | 29        |
| Transporting sensitive components.....                                                     | 30        |
| After working inside your computer.....                                                    | 30        |
| Information on repairability for Québec - From Dell Canada Inc. - to Quebec consumers..... | 30        |
| BitLocker.....                                                                             | 30        |
| Recommended tools.....                                                                     | 30        |
| Screw list.....                                                                            | 31        |
| Major components of Dell Pro 15 Essential PV15255.....                                     | 32        |
| <b>Chapter 5: Removing and installing Customer Replaceable Units (CRUs).....</b>           | <b>35</b> |
| Secure Digital (SD) Card.....                                                              | 35        |
| Removing the Secure Digital card.....                                                      | 35        |
| Installing the Secure Digital card.....                                                    | 36        |
| Base cover.....                                                                            | 36        |
| Removing the base cover.....                                                               | 36        |
| Installing the base cover.....                                                             | 39        |
| Battery.....                                                                               | 40        |
| Rechargeable Li-ion battery precautions.....                                               | 40        |
| Removing the 3-cell battery.....                                                           | 41        |
| Installing the 3-cell battery.....                                                         | 42        |
| Removing the 4-cell battery.....                                                           | 42        |
| Installing the 4-cell battery.....                                                         | 44        |
| Disconnecting the battery cable.....                                                       | 44        |
| Connecting the battery cable.....                                                          | 45        |
| M.2 solid state drive.....                                                                 | 46        |
| Removing the M.2 2230 solid state drive.....                                               | 46        |
| Installing the M.2 2230 solid state drive.....                                             | 47        |
| Wireless card.....                                                                         | 48        |
| Removing the wireless card.....                                                            | 48        |
| Installing the wireless card.....                                                          | 49        |
| Fan.....                                                                                   | 51        |
| Removing the fan.....                                                                      | 51        |
| Installing the fan.....                                                                    | 51        |
| Speakers.....                                                                              | 52        |
| Removing the speakers.....                                                                 | 52        |
| Installing the speakers.....                                                               | 54        |
| <b>Chapter 6: Removing and installing Field Replaceable Units (FRUs).....</b>              | <b>56</b> |
| Touchpad.....                                                                              | 56        |
| Removing the touchpad.....                                                                 | 56        |
| Installing the touchpad.....                                                               | 57        |
| Heat sink.....                                                                             | 58        |
| Removing the heat sink .....                                                               | 58        |
| Installing the heat sink .....                                                             | 59        |
| I/O daughter board FFC.....                                                                | 60        |
| Removing the I/O-board cable.....                                                          | 60        |
| Installing the I/O-board cable.....                                                        | 61        |

|                                                                   |            |
|-------------------------------------------------------------------|------------|
| I/O board.....                                                    | 62         |
| Removing the Input/Output board.....                              | 62         |
| Installing the Input/Output board.....                            | 63         |
| Display assembly.....                                             | 64         |
| Removing the display assembly.....                                | 64         |
| Installing the display assembly.....                              | 67         |
| Hinge caps.....                                                   | 69         |
| Removing the hinge caps.....                                      | 69         |
| Installing the hinge caps .....                                   | 71         |
| Display bezel.....                                                | 73         |
| Removing the display bezel.....                                   | 73         |
| Installing the display bezel .....                                | 76         |
| Hinges.....                                                       | 77         |
| Removing the hinges.....                                          | 77         |
| Installing the hinges .....                                       | 78         |
| Display panel.....                                                | 80         |
| Removing the display panel.....                                   | 80         |
| Installing the display panel.....                                 | 84         |
| eDP cable.....                                                    | 87         |
| Removing the eDP cable.....                                       | 87         |
| Installing the eDP cable.....                                     | 88         |
| Camera assembly.....                                              | 89         |
| Removing the camera module.....                                   | 89         |
| Installing the camera module.....                                 | 89         |
| Display cover and antenna assembly.....                           | 90         |
| Replacement of the display cover and antenna assembly.....        | 90         |
| Power-adapter port.....                                           | 91         |
| Removing the power-adapter port.....                              | 91         |
| Installing the power-adapter port.....                            | 92         |
| Power-button board.....                                           | 93         |
| Removing the power button.....                                    | 93         |
| Installing the power button.....                                  | 94         |
| Power button with optional fingerprint reader.....                | 95         |
| Removing the power button with optional fingerprint reader.....   | 95         |
| Installing the power button with optional fingerprint reader..... | 96         |
| System board.....                                                 | 97         |
| Removing the system board.....                                    | 97         |
| Installing the system board.....                                  | 100        |
| Palm-rest and keyboard assembly.....                              | 103        |
| Removing the palm-rest and keyboard assembly.....                 | 103        |
| Installing the palm-rest and keyboard assembly.....               | 104        |
| <b>Chapter 7: Software.....</b>                                   | <b>106</b> |
| Operating system.....                                             | 106        |
| Drivers and downloads.....                                        | 106        |
| <b>Chapter 8: BIOS Setup.....</b>                                 | <b>107</b> |
| Entering BIOS Setup program.....                                  | 107        |
| Navigation keys.....                                              | 107        |

|                                                                         |            |
|-------------------------------------------------------------------------|------------|
| F12 One Time Boot menu.....                                             | 107        |
| BIOS Setup options.....                                                 | 108        |
| Updating the BIOS.....                                                  | 112        |
| Updating the BIOS in Windows.....                                       | 112        |
| Updating the BIOS using the USB drive in Windows.....                   | 112        |
| Updating the BIOS in Linux and Ubuntu.....                              | 113        |
| Updating the BIOS from the One-Time boot menu.....                      | 113        |
| System and setup password.....                                          | 113        |
| Assigning a System Setup password.....                                  | 113        |
| Deleting or changing an existing system password or setup password..... | 114        |
| Clearing system and setup passwords.....                                | 114        |
| <b>Chapter 9: Troubleshooting.....</b>                                  | <b>115</b> |
| Handling swollen rechargeable Li-ion batteries.....                     | 115        |
| Dell SupportAssist Pre-boot System Performance Check diagnostics.....   | 115        |
| Running the SupportAssist Pre-Boot System Performance Check.....        | 116        |
| Built-in self-test (BIST).....                                          | 116        |
| LCD Built-in Self-Test (LCD-BIST).....                                  | 116        |
| System-diagnostic lights.....                                           | 116        |
| Recovering the operating system.....                                    | 117        |
| Real-Time Clock (RTC Reset).....                                        | 117        |
| Backup media and recovery options.....                                  | 118        |
| Network power cycle.....                                                | 118        |
| Drain flea power (perform hard reset).....                              | 118        |
| <b>Chapter 10: Getting help and contacting Dell.....</b>                | <b>120</b> |
| <b>Chapter 11: Revision history.....</b>                                | <b>121</b> |

# Views of Dell Pro 15 Essential PV15255

## Right



Figure 1. Right view

### 1. SD-card slot

Insert an SD card to expand your storage and store photos, videos, and data from your computer. The computer supports the following card types:

- Secure Digital (SD)
- Secure Digital High Capacity (SDHC)
- Secure Digital Extended Capacity (SDXC)

### 2. USB 2.0 (480 Mbps) port

Connect devices such as external storage devices and printers. Provides data transfer speeds up to 480 Mbps.

### 3. Universal Audio port

Connect headphones or a headset (headphone and microphone combo).

## Left



Figure 2. Left view

### 1. Power-adaptor port

Connect a power adapter to provide power to your computer and charge the battery.

### 2. Battery-status light

Indicates the battery-charge status.

White light—Power adapter is connected and the battery is fully charged.

### 3. HDMI 1.4 port

Connect to a TV, external display, or another HDMI-in enabled device. Provides video and audio output.

**NOTE:** The maximum resolution supported by HDMI port is 1920 x 1080 at 60 Hz.

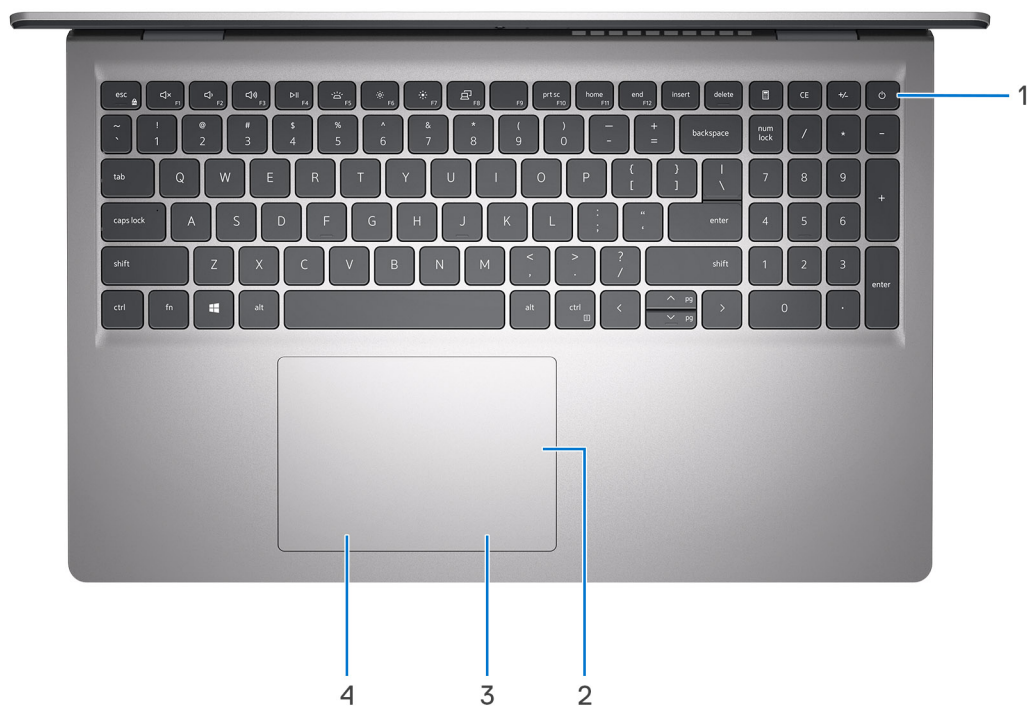
#### 4. USB 3.2 Gen 1 (5 Gbps) port

Connect devices such as external storage devices and printers. Provides data transfer speeds of up to 5 Gbps.

#### 5. USB 3.2 Gen 1 (5 Gbps) Type-C port

Connect devices such as external storage devices and printers. Provides data transfer speeds up to 5 Gbps.

## Top



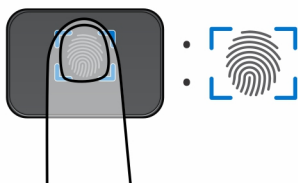
**Figure 3. Top view**

#### 1. Power button with optional fingerprint reader

Press to turn on the computer if it is turned off, in sleep state, or in hibernate state.

When the computer is turned on, press the power button to put the computer into a sleep state; press and hold the power button for 10 seconds to force shut-down the computer.

If the power button has a fingerprint reader, place your finger on the power button steadily to log in.



**NOTE:** The highlighted area indicates the actual active fingerprint reader area, and the image is for illustration purposes only.

 **NOTE:** You can customize the power-button behavior in Windows. For more information, see [Dell Support Site](#).

**2. Precision touchpad**

Move your finger on the touchpad to move the mouse pointer. Tap to left-click and two fingers tap to right-click.

**3. Touchpad right-click area**

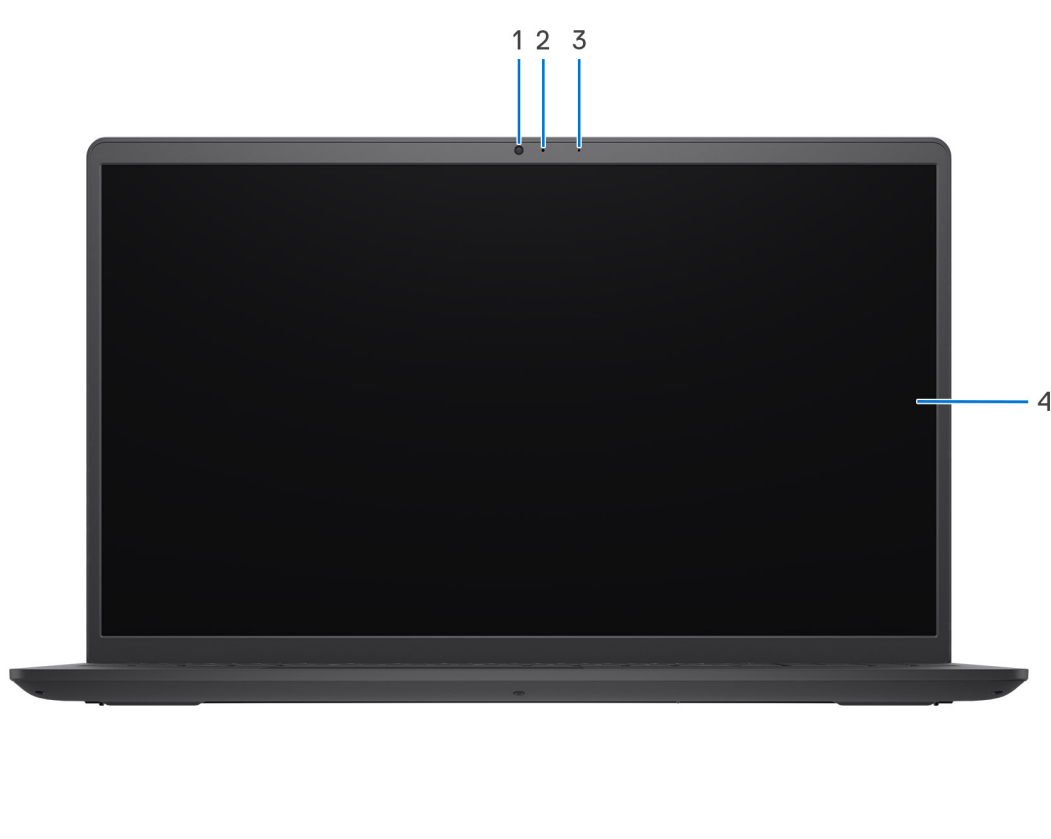
Press to right-click.

**4. Touchpad left-click area**

Press to left-click.

## Front

 **CAUTION:** The maximum operating angle for the display-panel hinge is 135 degrees.



**Figure 4. Front view**

**1. Camera**

Enables you to video chat, capture photos, and record videos.

**2. Camera-status light**

Turns on when the camera is in use.

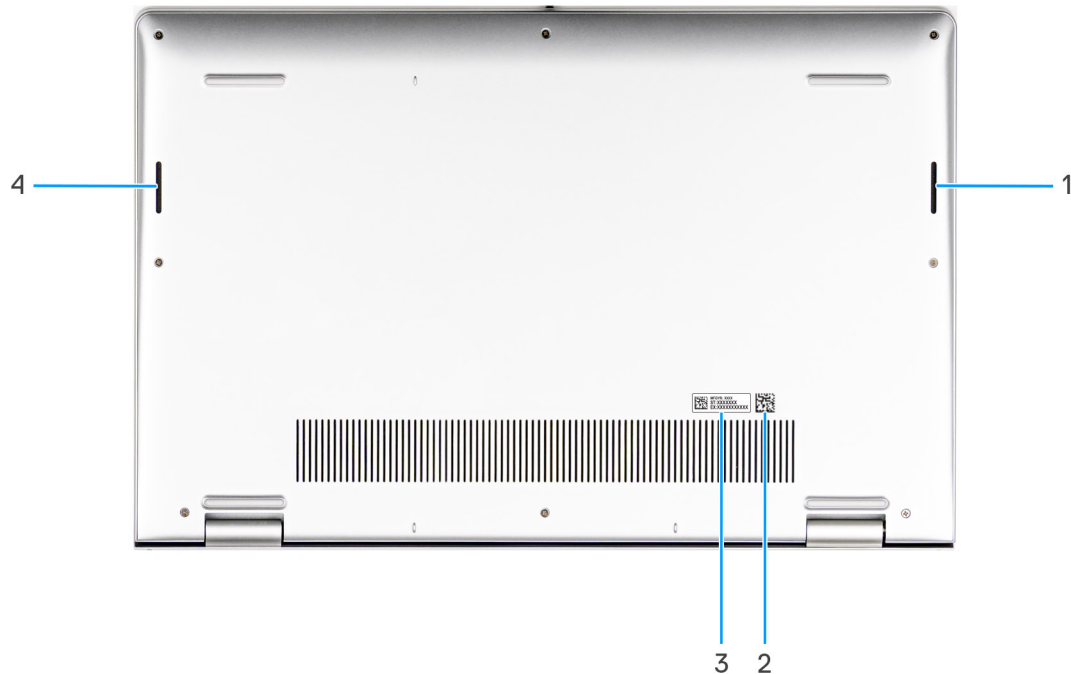
**3. Microphone**

Provides digital sound input for audio recording and voice calls.

**4. Display**

Provides visual output.

## Bottom



**Figure 5. Bottom view**

**1. Right speaker**

Provides audio output.

**2. MyDell QR code**

**MyDell** is your hub for content personalized to your Dell Pro 15 Essential PV15255, including videos, articles, manuals, and access to support.

**3. Service Tag and regulatory labels**

The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information. The regulatory label contains regulatory information of your computer.

**4. Left speaker**

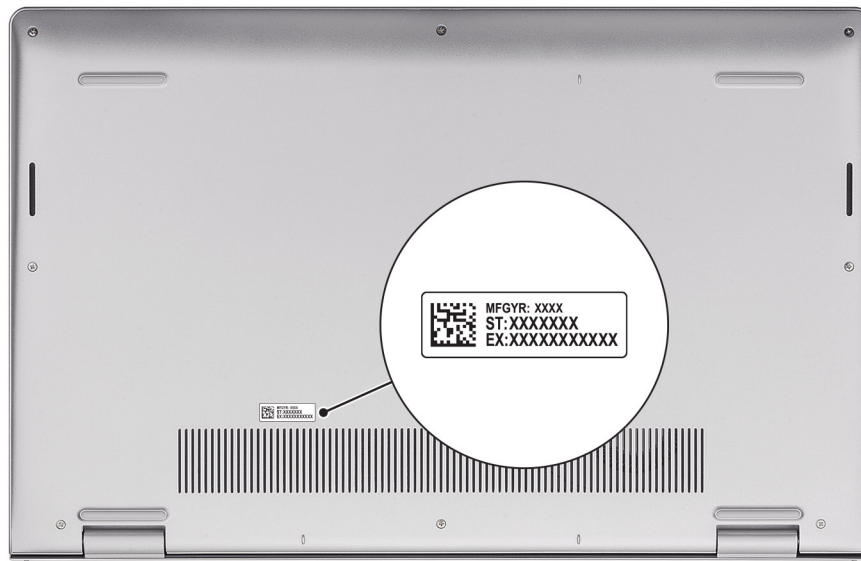
Provides audio output.

## Locate the Service Tag or Express Service Code label of your computer

The Service Tag is a unique alphanumeric identifier that allows Dell service technicians to identify the hardware components in your computer and access warranty information. The Express Service Code is a numeric version of the Service Tag.

For more information about how to find the Service Tag of your computer, search in the Knowledge Base Resource at the [Dell Support Site](#).





**Figure 6. Service Tag/Express Service Code location**

## Battery-status light

The following table lists the battery-status light of your Dell Pro 15 Essential PV15255.

**Table 1. Battery-status light behavior**

| Power source | LED behavior | System power state | Battery charge level |
|--------------|--------------|--------------------|----------------------|
| AC adapter   | Off          | S0 or S5           | 100%                 |
| AC adapter   | Solid white  | S0 or S5           | < 100%               |
| Battery      | Off          | S0 or S5           | 11-100%              |
| Battery      | Solid amber  | S0 or S5           | < 10%                |

- S0 (ON): The computer is turned on.
- S3 (Sleep): Screen is off and computer is in sleep mode.
- S4 (Hibernate): The computer consumes the least power in the Hibernate state than in the ON or OFF state. The computer is almost in the OFF state. The context data is written to a storage device, allowing you to resume from where you left after the computer is turned on.
- S5 (OFF): The computer is in a shutdown state.

# Set up your Dell Pro 15 Essential PV15255

## About this task

**NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

## Steps

1. Connect the power adapter and press the power button.



**Figure 7. Connect the power adapter and press the power button**

**NOTE:** The battery may go into power-saving mode during shipment to conserve charge on the battery. Ensure that the power adapter is connected to your computer when it is turned on for the first time.

2. Finish the operating system setup.

### For Ubuntu:

Follow the on-screen instructions to complete the setup. For more information about installing and configuring Ubuntu, search in the Knowledge Base Resource at [Dell Support Site](#).

### For Windows:

Follow the on-screen instructions to complete the setup. When setting up, it is recommended that you:

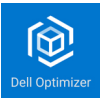
- Connect to a network for Windows updates.

**NOTE:** If connecting to a secured wireless network, enter the password for the wireless network access when prompted.

- If connected to the Internet, sign-in with an existing Microsoft account or create an account. If not connected to the Internet, create an offline account.
- On the **Support and Protection** screen, enter your contact details.

3. Locate and use Dell apps from the Windows Start menu—Recommended.

**Table 2. Locate Dell apps**

| Resources                                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Dell Optimizer is an application designed to enhance computer performance and productivity by optimizing settings for power, battery, display, collaboration touchpad, and presence detection. It also provides access to applications purchased with your new computer.</p> <p>For more information, see Dell Optimizer User's Guide at <a href="#">Dell Support Site</a>.</p>                                                                                                                                                                  |
|  | <p><b>Dell Product Registration</b></p> <p>Register your computer with Dell.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|  | <p><b>Dell Help &amp; Support</b></p> <p>Access help and support for your computer.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|  | <p><b>SupportAssist</b></p> <p>SupportAssist is a proactive and predictive technology that offers automated technical support for Dell computers. It proactively monitors both hardware and software, addressing performance issues, preventing security threats, and automating engagement with Dell Technical Support.</p> <p>For more information, see SupportAssist for Home PCs User's Guide at <a href="#">Dell Support Site</a>.</p> <p><b>NOTE:</b> In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p> |

# Specifications of Dell Pro 15 Essential PV15255

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Pro 15 Essential PV15255.

**Table 3. Dimensions and weight**

| Description                                                                                                                                                                           | Values                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Height:                                                                                                                                                                               |                       |
| Front height                                                                                                                                                                          | 16.96 mm (0.67 in.)   |
| Rear height                                                                                                                                                                           | 18.99 mm (0.75 in.)   |
| Width                                                                                                                                                                                 | 358.50 mm (14.11 in.) |
| Depth                                                                                                                                                                                 | 235.56 mm (9.27 in.)  |
| Weight<br> <b>NOTE:</b> The weight of your computer depends on the configuration that you ordered. | 1.90 kg (4.19 lb)     |

## Processor

The following table lists the details of the processors that are supported on your Dell Pro 15 Essential PV15255.

**Table 4. Processor**

| Description         | Option one                     | Option two                     |
|---------------------|--------------------------------|--------------------------------|
| Type                | AMD Ryzen 5 7520U              | AMD Ryzen 3 7320U              |
| Wattage             | 15 W                           | 15 W                           |
| Core count          | 4                              | 4                              |
| Thread count        | 8                              | 8                              |
| Speed               | Up to 4.30 GHz Max Boost Clock | Up to 4.10 GHz Max Boost Clock |
| Cache               | 4 MB                           | 4 MB                           |
| Integrated graphics | AMD Radeon Graphics            | AMD Radeon Graphics            |

# Chipset

The following table lists the details of the chipset that is supported by your Dell Pro 15 Essential PV15255.

Table 5. Chipset

| Description    | Values           |
|----------------|------------------|
| Chipset        | Integrated       |
| Processor      | AMD Ryzen series |
| DRAM bus width | 64-bit           |
| Flash EPROM    | 16 MB            |
| PCIe bus       | Up to Gen3       |

# Operating system

Your Dell Pro 15 Essential PV15255 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Education
- Windows 11 Home
- Windows 11 Home (S Mode)
- Ubuntu Linux 22.04 LTS, 64-bit

# Memory

The following table lists the memory specifications that are supported by your Dell Pro 15 Essential PV15255.

Table 6. Memory specifications

| Description                     | Values                                                                                                                                                |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memory slots                    | Onboard memory                                                                                                                                        |
| Memory type                     | LPDDR5                                                                                                                                                |
| Memory speed                    | 5500 MT/s                                                                                                                                             |
| Maximum memory configuration    | 16 GB                                                                                                                                                 |
| Minimum memory configuration    | 8 GB                                                                                                                                                  |
| Memory size per slot            | 8 GB, 16 GB                                                                                                                                           |
| Memory configurations supported | <ul style="list-style-type: none"><li>• 8 GB: 1 x 8 GB, LPDDR5, 5500 MT/s (onboard)</li><li>• 16 GB: 1 x 16 GB, LPDDR5, 5500 MT/s (onboard)</li></ul> |

## External ports and slots

The following table lists the external ports and slots on your Dell Pro 15 Essential PV15255.

**Table 7. External ports and slots**

| Description         | Values                                                                                                                                                                                     |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB ports           | <ul style="list-style-type: none"><li>One USB 3.2 Gen 1 (5 Gbps) port</li><li>One USB 3.2 Gen 1 (5 Gbps) Type-C port</li><li>One USB 2.0 (480 Mbps) port</li></ul>                         |
| Audio port          | One Universal Audio port                                                                                                                                                                   |
| Video port(s)       | One HDMI 1.4 port<br> <b>NOTE:</b> The maximum resolution supported by HDMI port is 1920 x 1080 at 60 Hz. |
| Media-card reader   | One SD-card slot                                                                                                                                                                           |
| Power-adaptor port  | One 65 W AC adapter, 4.50 mm barrel                                                                                                                                                        |
| Security-cable slot | None                                                                                                                                                                                       |

## Internal slots

The following table lists the internal slots of your Dell Pro 15 Essential PV15255.

**Table 8. Internal slots**

| Description | Values                                                                                                                                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M.2         | <ul style="list-style-type: none"><li>One M.2 2230 slot for Wi-Fi and Bluetooth combo card</li><li>One M.2 2230 slot for solid state drive</li></ul>  <b>NOTE:</b> To learn more about the features of different types of M.2 cards, search <a href="#">Dell Support Site</a> . |

## Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules that are supported on your Dell Pro 15 Essential PV15255.

**Table 9. Wireless module specifications**

| Description               | Option one                                                                                                                          | Option two                                                                                                                                                           |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model number              | Realtek RTL8821CE                                                                                                                   | Realtek RTL8852BE                                                                                                                                                    |
| Transfer rate             | Up to 433 Mbps                                                                                                                      | Up to 1201 Mbps                                                                                                                                                      |
| Frequency bands supported | 2.4 GHz/5 GHz                                                                                                                       | 2.4 GHz/5 GHz                                                                                                                                                        |
| Wireless standards        | <ul style="list-style-type: none"><li>Wi-Fi 802.11 a/b/g</li><li>Wi-Fi 4 (Wi-Fi 802.11n)</li><li>Wi-Fi 5 (Wi-Fi 802.11ac)</li></ul> | <ul style="list-style-type: none"><li>Wi-Fi 802.11 a/b/g</li><li>Wi-Fi 4 (Wi-Fi 802.11n)</li><li>Wi-Fi 5 (Wi-Fi 802.11ac)</li><li>Wi-Fi 6 (Wi-Fi 802.11ax)</li></ul> |

**Table 9. Wireless module specifications (continued)**

| Description                                                                                                                               | Option one                                                                                           | Option two                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Encryption                                                                                                                                | <ul style="list-style-type: none"> <li>64-bit/128-bit WEP</li> <li>AES-CCMP</li> <li>TKIP</li> </ul> | <ul style="list-style-type: none"> <li>64-bit/128-bit WEP</li> <li>AES-CCMP</li> <li>TKIP</li> </ul> |
| Bluetooth wireless card<br><i>i</i> <b>NOTE:</b> The functionality of the Bluetooth wireless card may vary based on the operating system. | Bluetooth 5.0                                                                                        | Bluetooth 5.3                                                                                        |

## Audio

The following table lists the audio specifications of your Dell Pro 15 Essential PV15255.

**Table 10. Audio specifications**

| Description                | Values                          |
|----------------------------|---------------------------------|
| Audio controller           | Realtek ALC3204                 |
| Stereo conversion          | Supported                       |
| Internal audio interface   | High definition audio interface |
| External audio interface   | One Universal Audio port        |
| Number of speakers         | Two                             |
| Internal-speaker amplifier | Not supported                   |
| External volume controls   | Keyboard shortcut controls      |
| Speaker output:            |                                 |
| Average                    | 2 W x 2 = 4 W                   |
| Peak                       | 2.5 W x 2 = 5 W                 |
| Microphone                 | Single-digit microphone         |

## Storage

This section lists the storage options on your Dell Pro 15 Essential PV15255.

Your Dell Pro 15 Essential PV15255 supports one of the following storage configurations: One M.2 2230 solid state drive .

*i* **NOTE:** The M.2 2230 solid state drive is the primary storage drive of your computer.

**Table 11. Storage specifications**

| Storage type               | Interface type | Capacity   |
|----------------------------|----------------|------------|
| M.2 2230 solid state drive | PCIe NVMe      | Up to 1 TB |

## Media-card reader

The following table provides the specification of media cards that are supported by your Dell Pro 15 Essential PV15255.

**Table 12. Media-card reader specifications**

| Description                                                                                                                                                                                                                        | Values                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Media-card slot type                                                                                                                                                                                                               | One SD card slot (optional)                                                                                                                                     |
| Media-cards supported                                                                                                                                                                                                              | <ul style="list-style-type: none"><li>Secure Digital (SD)</li><li>Secure Digital High Capacity (SDHC)</li><li>Secure Digital Extended Capacity (SDXC)</li></ul> |
|  <b>NOTE:</b> The maximum capacity of the media-card reader varies depending on the standard of the media card that is inserted in your computer. |                                                                                                                                                                 |

## Keyboard

The following table lists the keyboard specifications of your Dell Pro 15 Essential PV15255.

**Table 13. Keyboard specifications**

| Description                  | Values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keyboard lighting technology | <ul style="list-style-type: none"><li>Standard backlit keyboard</li><li>Standard nonbacklit keyboard</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Keyboard layout              | QWERTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Number of keys               | <ul style="list-style-type: none"><li>United States and Canada: 99 keys</li><li>United Kingdom: 100 keys</li><li>Japan: 103 keys</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Key pitch                    | X = 18.70 mm<br>Y = 18.05 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Keyboard shortcuts           | <p>Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key.</p> <p> <b>NOTE:</b> You can define the primary behavior of the function keys (F1–F12) changing <b>Function Key Behavior</b> in BIOS setup program.</p> <p>For more information, see <a href="#">Keyboard shortcuts</a>.</p> |

## Keyboard function keys

The **F1–F12** keys at the top of the keyboard are function keys. By default, these keys are used to perform specific functions defined by the software application in use.

You can run the secondary tasks that are indicated by the symbols on the function keys by pressing the function key with **Fn**, for example, **Fn** and **F1**. See the table below for the list of secondary tasks and the key combinations to run them.

 **NOTE:** Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for tasks remain the same, regardless of the keyboard language.



 **NOTE:** You can define the primary behavior of function keys in the **Function Key Behavior** menu of the BIOS setup program.

**Table 14. List of keyboard shortcuts**

| Function key | Primary behavior                     |
|--------------|--------------------------------------|
| F1           | Mute audio                           |
| F2           | Decrease volume                      |
| F3           | Increase volume                      |
| F4           | Play/Pause                           |
| F5           | Toggle keyboard backlight (optional) |
| F6           | Decrease brightness                  |
| F7           | Increase brightness                  |
| F8           | Switch to external display           |
| F10          | Print screen                         |
| F11          | Home                                 |
| F12          | End                                  |

The **Fn** key is also used with selected keys on the keyboard to invoke other secondary functions.

**Table 15. Secondary behavior**

| Function key                 | Secondary behavior                                                      |
|------------------------------|-------------------------------------------------------------------------|
| Fn + <b>F1</b> to <b>F12</b> | Operating system or application-specific behavior                       |
| Fn + B                       | Pause/Break                                                             |
| Fn + Insert                  | Sleep                                                                   |
| Fn + S                       | Toggle scroll lock                                                      |
| Fn + H                       | Toggle between power and battery-status light/hard-drive activity light |
| Fn + R                       | System request                                                          |
| Fn + Ctrl                    | Open application menu                                                   |
| Fn + Esc                     | Toggle Fn key lock                                                      |
| Fn + PgUp                    | Page up                                                                 |
| Fn + PgDn                    | Page down                                                               |
| Fn + Home                    | F11 key                                                                 |
| Fn + End                     | F12 key                                                                 |

## Keys with alternate characters

There are other keys on your keyboard with alternate characters. The symbols that are shown at the bottom of these keys are the main characters that are displayed when the key is pressed; the symbols that are shown at the top of these keys are displayed when the key is pressed with the shift key. For example, if you press **2**, **2** is displayed; if you press **Shift** and **2**, **@** is displayed.

## Camera

The following table lists the camera specifications of your Dell Pro 15 Essential PV15255.

**Table 16. Camera specifications**

| Description            | Values                    |
|------------------------|---------------------------|
| Number of cameras      | One                       |
| Camera type            | HD RGB camera             |
| Camera location        | Front                     |
| Camera sensor type     | CMOS sensor technology    |
| Camera resolution:     |                           |
| Still image            | 0.92 megapixel            |
| Video                  | 1280 x 720 (HD) at 30 fps |
| Diagonal viewing angle | 83.50 degrees             |

## Touchpad

The following table lists the touchpad specifications of your Dell Pro 15 Essential PV15255.

**Table 17. Touchpad specifications**

| Description          | Values                                                                                                                 |
|----------------------|------------------------------------------------------------------------------------------------------------------------|
| Touchpad resolution: |                                                                                                                        |
| Horizontal           | 305 dpi                                                                                                                |
| Vertical             | 305 dpi                                                                                                                |
| Touchpad dimensions: |                                                                                                                        |
| Horizontal           | 115 mm (4.52 in.)                                                                                                      |
| Vertical             | 80 mm (3.15 in.)                                                                                                       |
| Touchpad gestures    | For more information about the touchpad gestures available on Windows, search <a href="#">Microsoft Support Site</a> . |

## Power adapter

The following table lists the power adapter specifications of your Dell Pro 15 Essential PV15255.

**Table 18. Power-adapter specifications**

| Description               | Values                                 |
|---------------------------|----------------------------------------|
| Type                      | 65 W DC-in adapter, 4.50 mm barrel, E4 |
| Power-adapter dimensions: |                                        |
| Height                    | 108 mm (4.25 in.)                      |

**Table 18. Power-adapter specifications (continued)**

| Description                                                                                                                                                                                                                                                                        | Values                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Width                                                                                                                                                                                                                                                                              | 47 mm (1.85 in.)               |
| Depth                                                                                                                                                                                                                                                                              | 28 mm (1.10 in.)               |
| Input voltage                                                                                                                                                                                                                                                                      | 100 VAC–240 VAC                |
| Input frequency                                                                                                                                                                                                                                                                    | 50 Hz–60 Hz                    |
| Input current (maximum)                                                                                                                                                                                                                                                            | 1.60 A/1.70 A                  |
| Output current (continuous)                                                                                                                                                                                                                                                        | 3.34 A                         |
| Rated output voltage                                                                                                                                                                                                                                                               | 19.50 VDC                      |
| Temperature range:                                                                                                                                                                                                                                                                 |                                |
| Operating                                                                                                                                                                                                                                                                          | 0°C to 40°C (32°F to 104°F)    |
| Storage                                                                                                                                                                                                                                                                            | -40°C to 70°C (-40°F to 158°F) |
|  <b>CAUTION:</b> Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components. |                                |

## Power adapter requirements of Dell Pro 15 Essential PV15255

 **NOTE:** If you did not purchase the Dell-branded power adapter that is recommended for your computer, ensure that the power adapter you use meets the following requirements.

The following table lists the power adapter requirements for your Dell Pro 15 Essential PV15255.

**Table 19. Power adapter requirements**

| Description                                                                                                                                                                                                                                                                                                        | Value                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power that is required from a power adapter to achieve optimal performance                                                                                                                                                                                                                                         | 60 W                                                                                                                                                                                                                               |
| Power that charges the computer at a slower speed<br> <b>NOTE:</b> A warning message may appear informing you about the use of a lower-powered adapter and slower charging speed.                                               | Less than 60 W                                                                                                                                                                                                                     |
| Minimum power that is required from a power adapter to operate the computer and charge the battery<br> <b>NOTE:</b> A warning message appears informing you about the use of a lower-powered adapter and slower charging speed. | 27 W                                                                                                                                                                                                                               |
| USB Power Delivery (PD) fast charging                                                                                                                                                                                                                                                                              | Not supported                                                                                                                                                                                                                      |
| ExpressCharge mode                                                                                                                                                                                                                                                                                                 | Supported<br> <b>NOTE:</b> Ensure that the computer with a 42 Wh battery is connected to a 65 W power adapter for this feature to be supported. |

# Battery

The following table lists the battery specifications of your Dell Pro 15 Essential PV15255.

**Table 20. Battery specifications**

| Description                                                                                                                                                                                                                                                                                                                                                                                               | Option one                                                                                                                            | Option two                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Battery type                                                                                                                                                                                                                                                                                                                                                                                              | 3-cell, 41 Wh, Lithium Ion Polymer                                                                                                    | 4-cell, 54 Wh, Lithium Ion Polymer                                                                                                    |
| Battery voltage                                                                                                                                                                                                                                                                                                                                                                                           | 11.25 VDC                                                                                                                             | 15 VDC                                                                                                                                |
| Battery weight (maximum)                                                                                                                                                                                                                                                                                                                                                                                  | 0.18 kg (0.40 lb)                                                                                                                     | 0.24 kg (0.53 lb)                                                                                                                     |
| Battery dimensions:                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |
| Height                                                                                                                                                                                                                                                                                                                                                                                                    | 5.75 mm (0.23 in.)                                                                                                                    | 5.75 mm (0.23 in.)                                                                                                                    |
| Width                                                                                                                                                                                                                                                                                                                                                                                                     | 206.40 mm (8.13 in.)                                                                                                                  | 271.90 mm (10.66 in.)                                                                                                                 |
| Depth                                                                                                                                                                                                                                                                                                                                                                                                     | 82 mm (3.22 in.)                                                                                                                      | 82 mm (3.22 in.)                                                                                                                      |
| Temperature range:                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                       |                                                                                                                                       |
| Operating                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Charge: 0°C to 45°C (32°F to 113°F)</li> <li>Discharge: 0°C to 70°C (32°F to 158°F)</li> </ul> | <ul style="list-style-type: none"> <li>Charge: 0°C to 45°C (32°F to 113°F)</li> <li>Discharge: 0°C to 70°C (32°F to 158°F)</li> </ul> |
| Storage                                                                                                                                                                                                                                                                                                                                                                                                   | -20°C to 60°C (-4°F to 140°F)                                                                                                         | -20°C to 60°C (-4°F to 140°F)                                                                                                         |
| Battery operating time                                                                                                                                                                                                                                                                                                                                                                                    | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions                        | Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions                        |
| Battery charging time (approximate)<br> <b>NOTE:</b> You can control the charging time, duration, start and end time, and so on, using the settings on the MyDell (replaced with Dell Optimizer) application (Power option). For more information about MyDell application, search <a href="#">Dell Support Site</a> . | <ul style="list-style-type: none"> <li>3 hr (Standard charge)</li> <li>2 hr (Express charge)</li> </ul>                               | <ul style="list-style-type: none"> <li>3 hr (Standard charge)</li> <li>2 hr (Express charge)</li> </ul>                               |
| Coin-cell battery                                                                                                                                                                                                                                                                                                                                                                                         | N/A                                                                                                                                   | N/A                                                                                                                                   |
|  <b>CAUTION:</b> Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.                                                                                                                      |                                                                                                                                       |                                                                                                                                       |

**Table 20. Battery specifications (continued)**

| Description                                                                                                                                                                                         | Option one | Option two |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
|  <b>CAUTION:</b> Dell Technologies recommends that you charge the battery regularly for optimal power consumption. |            |            |

## Display

The following table lists the display specifications of your Dell Pro 15 Essential PV15255.

**Table 21. Display specifications**

| Description                             | Option one                       | Option two                       |
|-----------------------------------------|----------------------------------|----------------------------------|
| Display type                            | 15.6" Full High Definition (FHD) | 15.6" Full High Definition (FHD) |
| Touch options                           | No                               | No                               |
| Display-panel technology                | In-Plane Switching (IPS)         | In-Plane Switching (IPS)         |
| Display-panel dimensions (active area): |                                  |                                  |
| Height                                  | 193.59 mm (7.62 in.)             | 193.59 mm (7.62 in.)             |
| Width                                   | 344.16 mm (13.55 in.)            | 344.16 mm (13.55 in.)            |
| Diagonal                                | 394.87 mm (15.55 in.)            | 394.87 mm (15.55 in.)            |
| Display-panel native resolution         | 1920 x 1080                      | 1920 x 1080                      |
| Luminance (typical)                     | 250 nits                         | 300 nits                         |
| Megapixels                              | 2.07                             | 2.07                             |
| Color gamut                             | 45% NTSC                         | 45% NTSC                         |
| Pixels Per Inch (PPI)                   | 141                              | 141                              |
| Contrast ratio (minimum)                | 600:1                            | 800:1                            |
| Response time (maximum)                 | 35 ms                            | 35 ms                            |
| Refresh rate                            | 120 Hz                           | 60 Hz                            |
| Horizontal view angle                   | 80 +/- degrees (minimum)         | 80 +/- degrees (minimum)         |
| Vertical view angle                     | 80 +/- degrees (minimum)         | 80 +/- degrees (minimum)         |
| Pixel pitch                             | 0.17925 mm x 0.17925 mm          | 0.17925 mm x 0.17925 mm          |
| Power consumption (maximum)             | 5.25 W                           | 5.20 W                           |
| Anti-glare vs glossy finish             | Anti-Glare                       | Anti-Glare                       |

# Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint-reader of your Dell Pro 15 Essential PV15255.

Table 22. Fingerprint reader specifications

| Description       | Values     |
|-------------------|------------|
| Sensor technology | Capacitive |
| Sensor resolution | 500 dpi    |
| Sensor pixel size | 108 x 88   |

## Sensors

The following table lists the sensors of your Dell Pro 15 Essential PV15255.

Table 23. Sensor

| Sensor support |
|----------------|
| Accelerometer  |

## GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell Pro 15 Essential PV15255.

Table 24. GPU—Integrated

| Controller          | Memory size          | Processor                           |
|---------------------|----------------------|-------------------------------------|
| AMD Radeon Graphics | Shared system memory | AMD Ryzen 3 7320U/AMD Ryzen 5 7520U |

## External display support

The following table lists the external display support for your Dell Pro 15 Essential PV15255.

Table 25. External display support

| Graphics card                                                                                                                                                                                                                                | Supported external displays with laptop display enabled | Supported external displays with laptop display disabled |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------|
| AMD Radeon Graphics                                                                                                                                                                                                                          | 1                                                       | 1                                                        |
|  <b>NOTE:</b> For more information about external display support, see the <i>External Display Connection Guide</i> on <a href="#">Dell Support Site</a> . |                                                         |                                                          |

# Hardware security

The following table lists the hardware security of your Dell Pro 15 Essential PV15255.

Table 26. Hardware security

| Hardware security                             |
|-----------------------------------------------|
| Windows Hello - Fingerprint reader (optional) |
| Trusted Platform Module (TPM) 2.0             |

# Operating and storage environment

This table lists the operating and storage specifications of your Dell Pro 15 Essential PV15255.

**Airborne contaminant level:** G1 as defined by ISA-S71.04-1985

Table 27. Computer environment

| Description                                                                                                                                                                                                                                                                          | Operating                                 | Storage                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| Temperature range                                                                                                                                                                                                                                                                    | 0°C to 35°C (32°F to 95°F)                | -40°C to 65°C (-40°F to 149°F)             |
| Relative humidity (maximum)                                                                                                                                                                                                                                                          | 10% to 90% (non-condensing)               | 0% to 95% (non-condensing)                 |
| Vibration (maximum)*                                                                                                                                                                                                                                                                 | 0.66 GRMS                                 | 1.30 GRMS                                  |
| Shock (maximum)                                                                                                                                                                                                                                                                      | 110 G†                                    | 160 G†                                     |
| Altitude range                                                                                                                                                                                                                                                                       | -15.2 m to 3048 m (-49.87 ft to 10000 ft) | -15.2 m to 10668 m (-49.87 ft to 35000 ft) |
|  <b>CAUTION:</b> Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components. |                                           |                                            |

\* Measured using a random vibration spectrum that simulates the user environment.

† Measured using a 2 ms half-sine pulse.

# Dell support policy

For information about Dell support policy, search [Dell Support Site](#).

# ComfortView

 **WARNING:** Prolonged exposure to blue light from the display may lead to long-term effects such as eye strain, eye fatigue, or damage to the eyes.

Blue light is a color in the light spectrum which has a short wavelength and high energy. Chronic exposure to blue light, particularly from digital sources, may disrupt sleep patterns and cause long-term effects such as eye strain, eye fatigue, or damage to the eyes.

Dell ComfortView software technology reduces harmful blue light emissions to make extended screen time easy on your eyes.

ComfortView mode can be enabled and configured using the Dell CinemaColor application.

ComfortView mode complies with TÜV Rheinland's requirement for low blue light displays.

To reduce the risk of eye strain, it is also recommended that you:

- Position the display at a comfortable viewing distance between 20 and 28 inches (50 cm and 70 cm) from your eyes.

- Blink frequently to moisten your eyes, wet your eyes with water, or apply suitable eye drops.
- Take an extended break for 20 minutes every two hours.
- Look away from your display, and gaze at a distant object at 20 ft (609.60 cm) away for at least 20 seconds during each break.

## Dell Optimizer

Dell Optimizer is an AI-based software application that allows you to customize your computer settings for power and battery, and more.

For Dell Pro 15 Essential PV15255 with Dell Optimizer, you can:

- Extend the battery life of your computer with Intelligent Battery Extender and Dynamic Charge.
- Tune the performance, power consumption, cooling, and fan noise with selectable thermal modes.
- Access and secure your computer depending on your physical presence.
- Download and redeem the apps that are purchased with your computer.

For more information about configuring and using these features, search for *Dell Optimizer* at the [Dell Support Site](#).



# Working inside your computer

## Safety instructions

Use the following safety guidelines to protect your computer from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure in this document assumes that you have read the safety information that shipped with your computer.

-  **WARNING:** Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see [Dell Regulatory Compliance Home Page](#).
-  **WARNING:** Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.
-  **WARNING:** For laptops, discharge the battery completely before removing it. Disconnect the AC power adapter from the computer and operate the computer solely on battery power—the battery is fully discharged when the computer no longer turns on when the power button is pressed.
-  **CAUTION:** To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.
-  **CAUTION:** You should only perform troubleshooting and repairs as authorized or directed by the Dell technical support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty.
-  **CAUTION:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity which could harm internal components.
-  **CAUTION:** To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.
-  **CAUTION:** When you disconnect a cable, pull it by its connector or its pull tab, not the cable itself. Some cables have connectors with locking tabs or thumbscrews that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending the connector pins. When connecting cables, ensure that the connector on the cable is correctly oriented and aligned with the port.
-  **CAUTION:** Press and eject any installed card from the media-card reader.
-  **CAUTION:** Exercise caution when handling rechargeable Li-ion batteries in laptops. Swollen batteries should not be used and should be replaced and disposed properly.

## Before working inside your computer

### About this task

-  **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

### Steps

1. Save and close all open files and exit all open applications.
2. Shut down your computer. For Windows operating system, click **Start** >  **Power** > **Shut down**.



**NOTE:** If you are using a different operating system, see the documentation of your operating system for shut-down instructions.

3. Turn off all the attached peripherals.
4. Disconnect your computer from the electrical outlet.
5. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.



**CAUTION:** To disconnect a network cable, unplug the cable from your computer.

6. Remove any media card and optical disc from your computer, if applicable.

## Safety precautions

This section details the primary steps to be followed before disassembling any device or component.

Observe the following safety precautions before any installation or break-fix procedures involving disassembly or reassembly:

- Turn off the computer and all attached peripherals.
- Disconnect the computer from AC power.
- Disconnect all network cables and peripherals from the computer.
- Use an ESD field service kit when working inside your computer to avoid electrostatic discharge (ESD) damage.
- Place the removed component on an anti-static mat after removing it from the computer.
- Press and hold the power button for 15 seconds to discharge the residual power in the system board.

## Bonding

Bonding is a method for connecting two or more grounding conductors to the same electrical potential. This is done by using a field service electrostatic discharge (ESD) kit. When connecting a bonding wire, ensure that it is connected to bare metal and never to a painted or nonmetal surface. Ensure that the wrist strap is secure and in full contact with your skin. Remove all jewelry, watches, bracelets, or rings before grounding yourself and the equipment.

## Electrostatic discharge—ESD protection

ESD is a major concern when you handle electronic components, especially sensitive components such as expansion cards, processors, memory modules, and system boards. A slight charge can damage circuits in ways that may not be obvious, such as intermittent problems or a shortened product life span. As the industry pushes for lower power requirements and increased density, ESD protection is an increasing concern.

Two recognized types of ESD damage are catastrophic and intermittent failures.

- **Catastrophic** – Catastrophic failures represent approximately 20 percent of ESD-related failures. The damage causes an immediate and complete loss of device functionality. An example of catastrophic failure is a memory module that has received a static shock and immediately generates a "No POST/No Video" symptom with a beep code that is emitted for missing or nonfunctional memory.
- **Intermittent** – Intermittent failures represent approximately 80 percent of ESD-related failures. The high rate of intermittent failures means that most of the time when damage occurs, it is not immediately recognizable. The memory module receives a static shock, but the tracing is merely weakened and does not immediately produce outward symptoms that are related to the damage. The weakened trace may take weeks or months to melt, and in the meantime may cause degradation of memory integrity, intermittent memory errors, and so on.

Intermittent failures that are also called latent or "walking wounded" are difficult to detect and troubleshoot.

Perform the following steps to prevent ESD damage:

- Use a wired ESD wrist strap that is properly grounded. Wireless anti-static straps do not provide adequate protection. Touching the chassis before handling parts does not ensure adequate ESD protection on parts with increased sensitivity to ESD damage.
- Handle all static-sensitive components in a static-safe area. If possible, use anti-static floor pads and workbench pads.
- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the anti-static packing material until you are ready to install the component. Before unwrapping the anti-static packaging, use the anti-static wrist strap to discharge the static electricity from your body.

**NOTE:** You can protect against ESD and discharge static electricity from your body by touching a metal-grounded object before you interact with anything electronic, for example, an unpainted metal surface on your computer's I/O panel. When connecting a peripheral (including handheld digital assistants) to your computer, you should always ground both yourself and the peripheral before connecting it to the computer. In addition, as you work inside the computer, periodically touch a metal-grounded object to remove any static charge that your body may have accumulated.

For more information about the wrist strap and ESD wrist strap tester, see [Components of an ESD Field Service Kit](#).

- Before transporting a static-sensitive component, place it in an anti-static container or packaging.

## ESD Field Service kit

The unmonitored field service kit is the most commonly used service kit. Each Field Service kit includes three main components: anti-static mat, wrist strap, and bonding wire.

**CAUTION:** It is critical to keep ESD-sensitive devices away from internal parts that are insulated and often highly charged, such as plastic heat sink casings.

## Working environment

Before the ESD Field Service kit is deployed, conduct an evaluation of the site to ensure proper setup and readiness. For example, deploying the kit for a server environment is different than for a desktop or laptop environment. Servers are typically installed in a rack within a data center; desktops or laptops are typically placed on office desks or cubicles. Always look for a large open flat work area that is free of clutter and large enough to deploy the ESD kit with additional space to accommodate the type of computer that is being repaired. The workspace should also be free of insulators that can cause an ESD event. On the work area, insulators such as styrofoam and other plastics should always be moved at least 12 inches or 30 centimeters away from sensitive parts before physically handling any hardware components.

## ESD packaging

All ESD-sensitive devices must be shipped and received in static-safe packaging. Metal, static-shielded bags are preferred. However, you should always return the damaged component using the same ESD bag and packaging that the new part arrived in. The ESD bag should be folded over and taped shut and all the same foam packing material should be used in the original box that the new part arrived in. ESD-sensitive devices should be removed from packaging only at an ESD-protected work surface, and parts should never be placed on top of the ESD bag because only the inside of the bag is shielded. Always place parts in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

## Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – If an anti-static mat is not being used, the wrist strap and bonding wire should be connected directly between your wrist and an exposed metal part of the hardware. If you are using an anti-static mat, connect the wrist strap and bonding wire to the anti-static mat to ensure protection for any hardware placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the anti-static mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.
- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored ESD kit, it is recommended to test the wrist strap regularly—ideally before each service session, and at a minimum, once per week. The most reliable method for testing is with a wrist strap tester. To perform the test, connect the bonding wire of the wrist strap to the tester while wearing the strap. Press the test button to initiate the check. A green LED indicates a successful test, while a red LED and audible alarm signal a failure.

 **NOTE:** It is recommended to always use the traditional wired ESD grounding wrist strap and protective anti-static mat when servicing Dell products. In addition, it is critical to keep sensitive parts separate from all insulator parts while servicing the computer.

## Transporting sensitive components

When transporting ESD sensitive components such as replacement parts or parts to be returned to Dell, it is critical to place these parts in anti-static bags for safe transport.

## After working inside your computer

### About this task

 **CAUTION:** Leaving stray or loose screws inside your computer may severely damage your computer.

### Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other components that you removed before working on your computer.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

## Information on repairability for Québec - From Dell Canada Inc. - to Quebec consumers

Dell does not guarantee the availability of replacement parts, repair services, or information necessary for maintenance or repair.

## BitLocker

When updating the BIOS on a computer with BitLocker enabled, consider the following precautions.

 **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key will not be recognized the next time that you reboot the computer. You are prompted to enter the recovery key to progress, and the computer displays a prompt for the recovery key on each reboot. If the recovery key is not known, this can result in data loss or an operating system reinstall. For more information, see Knowledge Article: [updating the BIOS on Dell computers with BitLocker enabled](#).

The installation of the following components triggers BitLocker:

- Hard disk drive or solid state drive
- System board

## Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Plastic scribe

# Screw list

- NOTE:** When removing screws from a component, it is recommended to note the screw type and the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.
- NOTE:** Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.
- NOTE:** Screw color may vary depending on the configuration ordered.

**Table 28. Screw list**

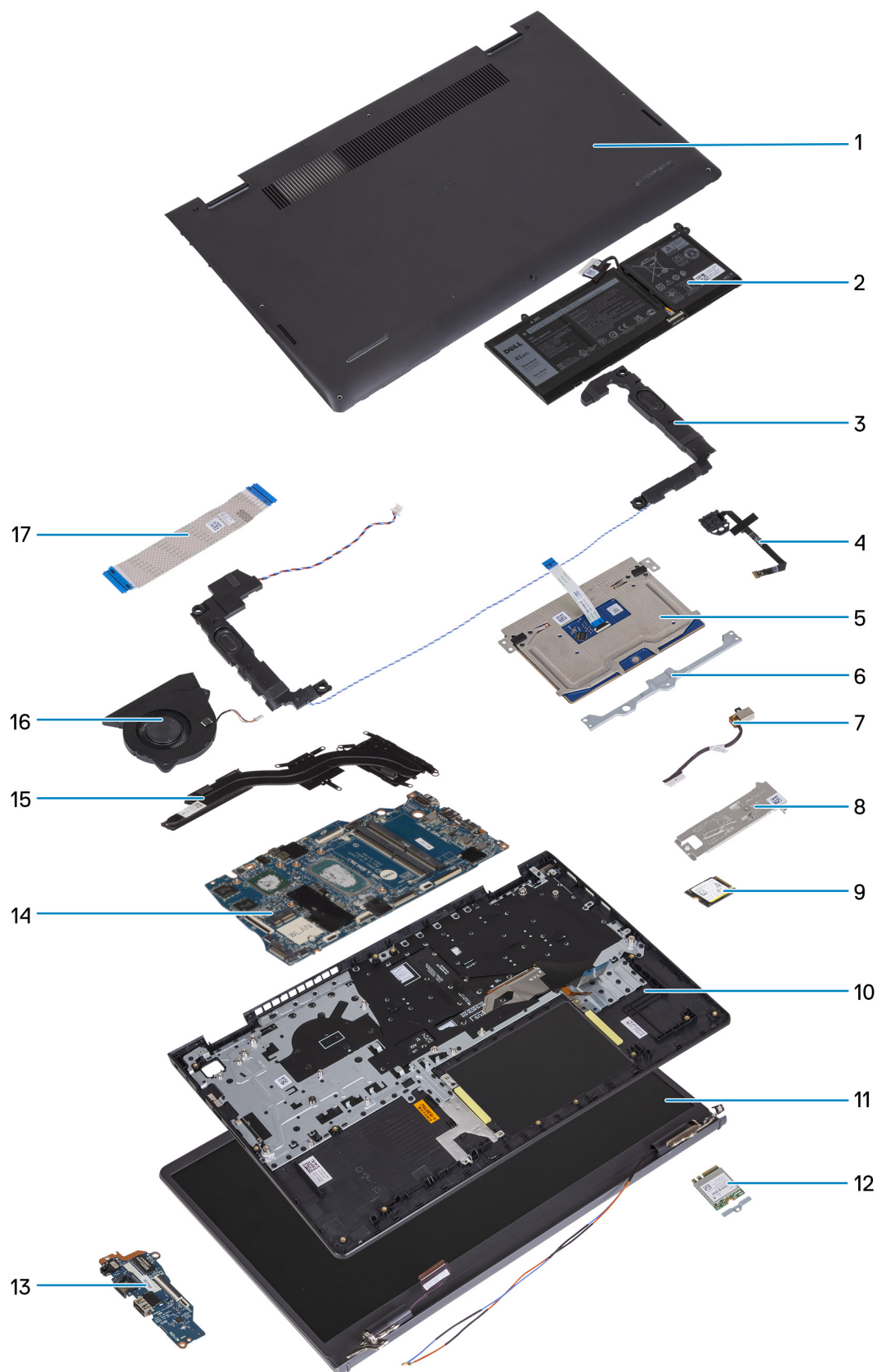
| Component                  | Screw type                                                       | Quantity                                                                                                                       | Screw image                                                                           |
|----------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Base cover                 | M2x5                                                             | 6                                                                                                                              |    |
|                            | Captive screw<br><b>NOTE:</b> Screws are part of the base cover. | 2                                                                                                                              |    |
| M.2 2230 solid state drive | M2x2                                                             | 2<br><b>NOTE:</b> There are two (M2x2) screws for systems with the following processors: AMD Ryzen3 7320U or AMD Ryzen5 7520U. |    |
| Wireless card              | M2x3.5                                                           | 1                                                                                                                              |  |
| Fan                        | M2x5                                                             | 2                                                                                                                              |  |
| 3-cell battery             | M2x3                                                             | 3                                                                                                                              |  |
| 4-cell battery             | M2x3                                                             | 4                                                                                                                              |  |
| Touchpad                   | M2x2                                                             | 2                                                                                                                              |  |
| Touchpad bracket           | M2x2                                                             | 3                                                                                                                              |  |
| Heat sink                  | Captive screws (M2x3)                                            | 4                                                                                                                              |  |

**Table 28. Screw list (continued)**

| Component                                     | Screw type                                                                                                                       | Quantity | Screw image                                                                           |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------|
|                                               |  <b>NOTE:</b> Screws are part of the heat sink. |          |                                                                                       |
| Power button                                  | M2x2                                                                                                                             | 1        |    |
| Power button with optional fingerprint reader | M2x2                                                                                                                             | 1        |    |
| I/O board                                     | M2x3.5                                                                                                                           | 3        |    |
| Display assembly                              | M2.5x5                                                                                                                           | 4        |    |
| Display hinges                                | M2.5x3.8                                                                                                                         | 6        |   |
| System board                                  | M2x3.5                                                                                                                           | 4        |  |
|                                               | M2x2 (O.D. 5 mm)                                                                                                                 | 1        |  |
| USB type-C bracket                            | M2x3.5                                                                                                                           | 1        |  |

## Major components of Dell Pro 15 Essential PV15255

The following image shows the major components of Dell Pro 15 Essential PV15255.



1. Base cover
3. Speakers
5. Touchpad
7. Power adapter port

2. Battery
4. Power button with optional fingerprint reader
6. Touchpad bracket
8. Solid state drive thermal shield

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| 9. M.2 2230 solid state drive card | 10. Palm-rest and keyboard assembly |
| 11. Display assembly               | 12. Wireless card with bracket      |
| 13. I/O board                      | 14. System board                    |
| 15. Heat sink                      | 16. Fan                             |
| 17. I/O board FFC                  |                                     |

 **NOTE:** Dell provides a list of components and their part numbers for the original system configuration purchased. These parts are available according to warranty coverages purchased by the customer. Contact your Dell sales representative for purchase options.



# Removing and installing Customer Replaceable Units (CRUs)

The replaceable components in this chapter are Customer Replaceable Units (CRUs).

**CAUTION:** Customers can replace only the Customer Replaceable Units (CRUs) following the safety precautions and replacement procedures.

**NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

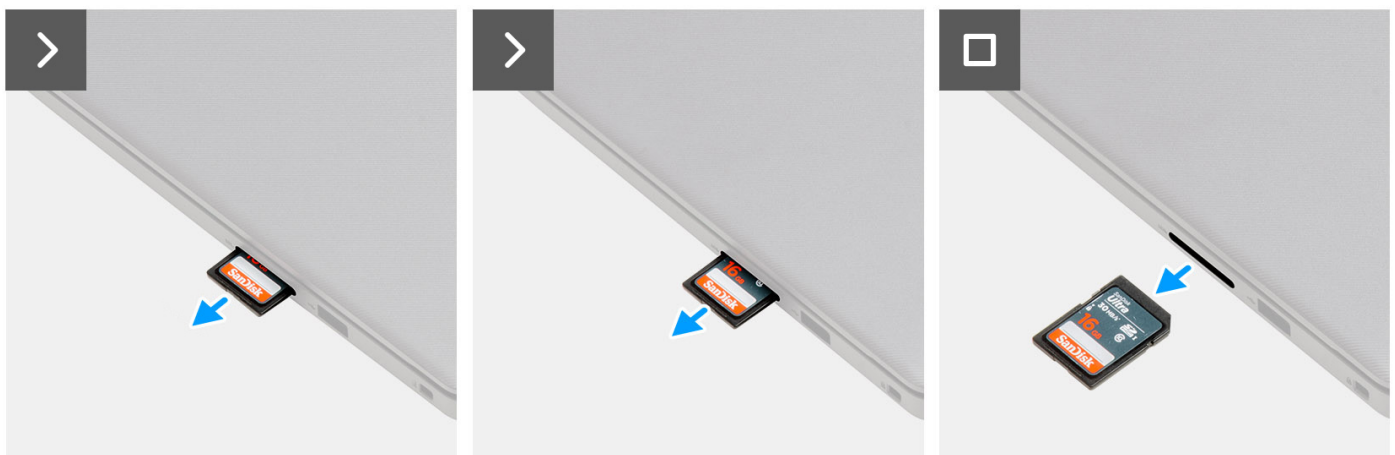
## Secure Digital (SD) Card

### Removing the Secure Digital card

#### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).

#### About this task



#### Steps

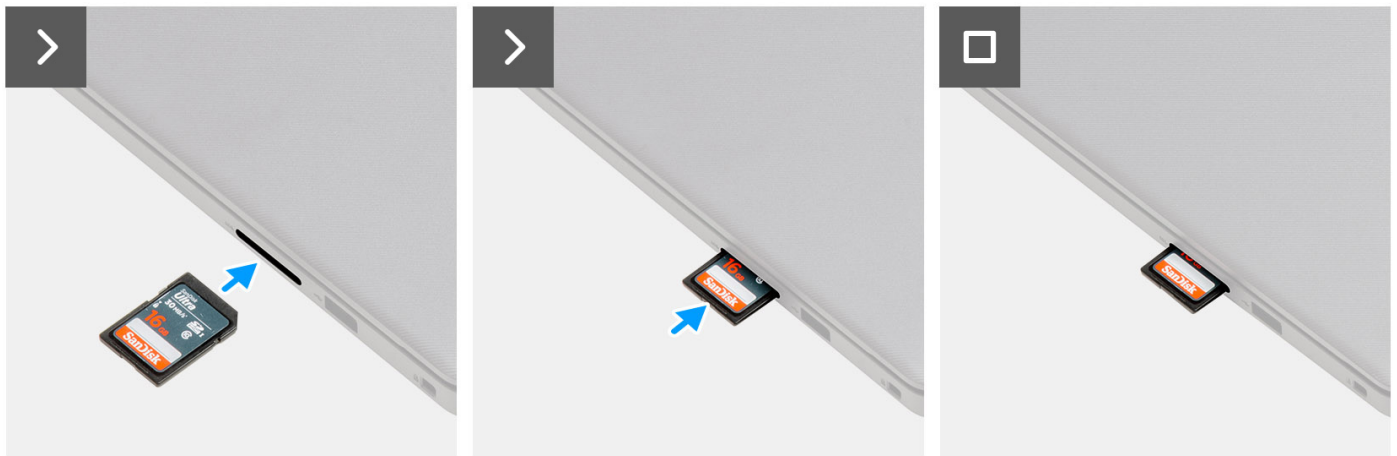
Pull the SD memory card out of its slot to remove it.

# Installing the Secure Digital card

## Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

## About this task



## Steps

Push the SD memory card out into its slot to insert it.

## Next steps

1. Follow the procedure in [After working inside your computer](#).

# Base cover

## Removing the base cover

## Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).

## About this task

**NOTE:** Before removing the base cover, ensure that there is no SD card installed in the SD card slot on your computer.

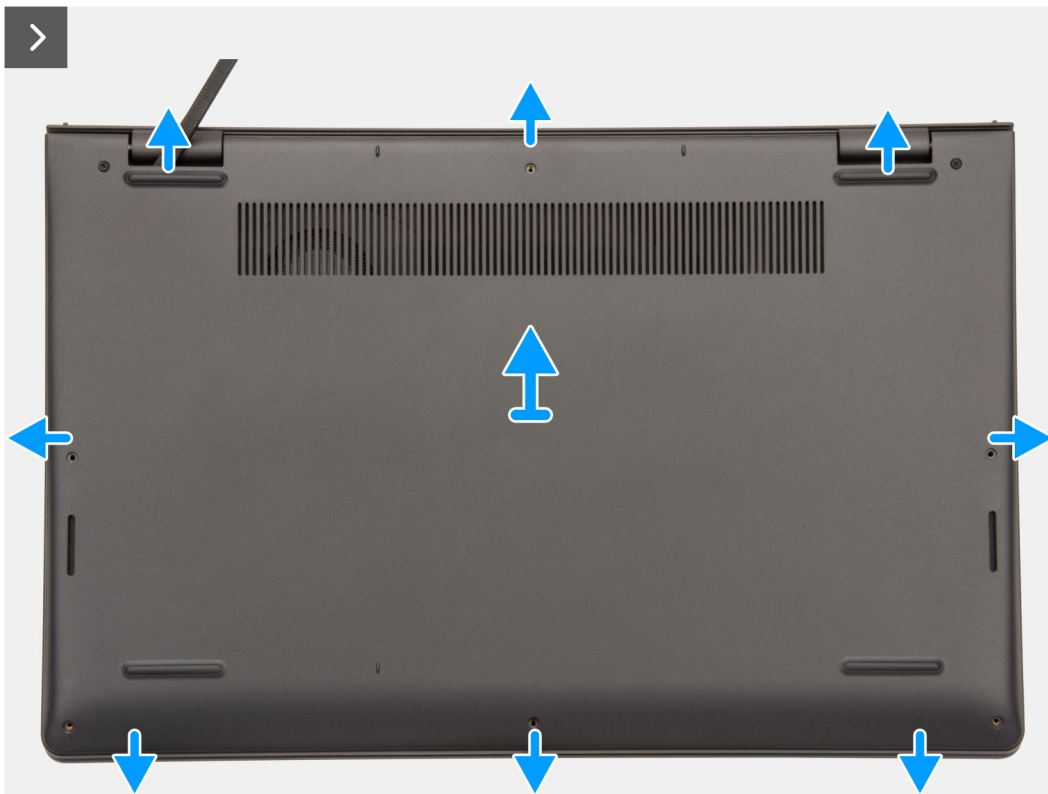
The following images indicate the location of the base cover and provide a visual representation of the removal procedure.

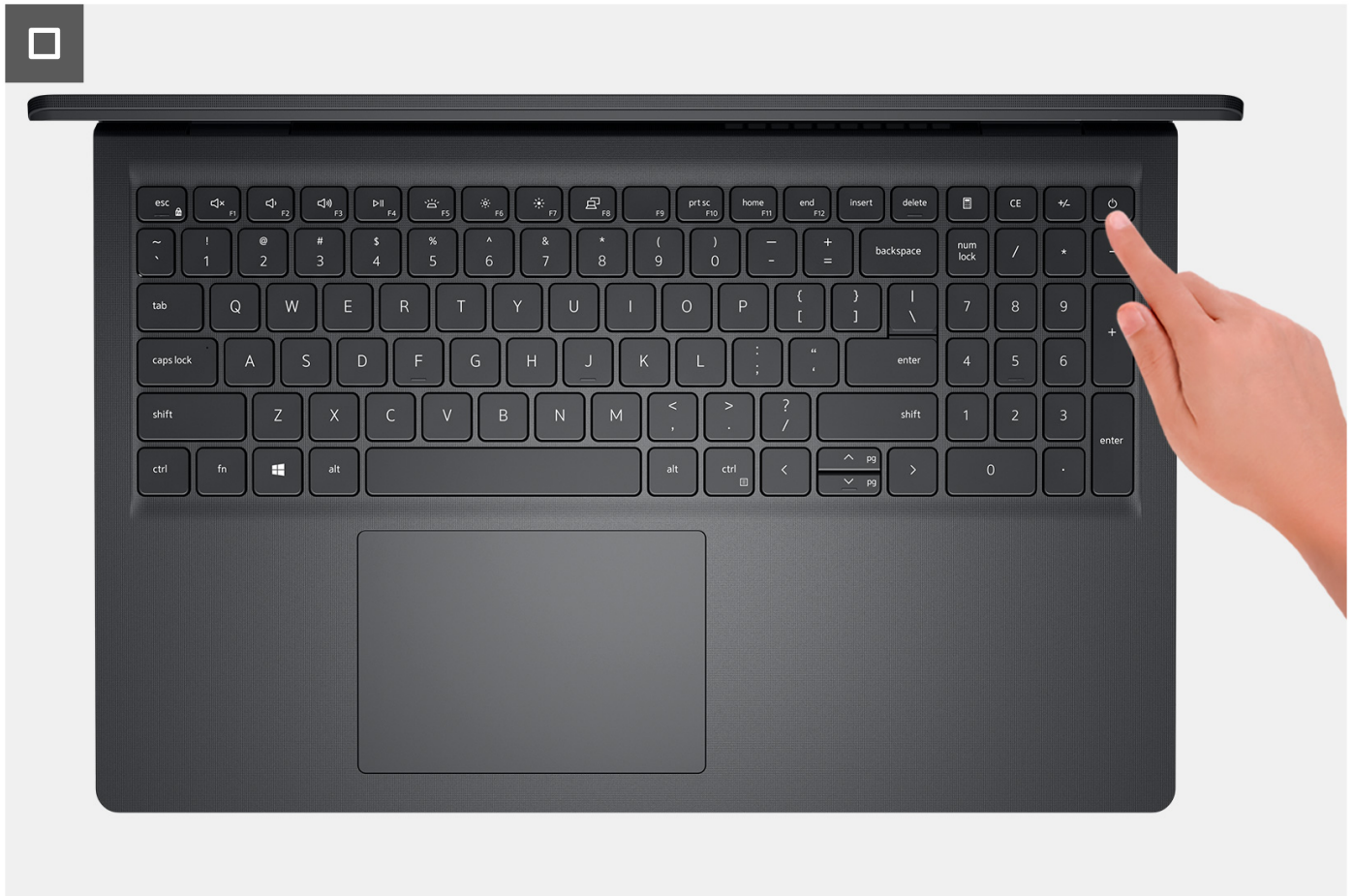
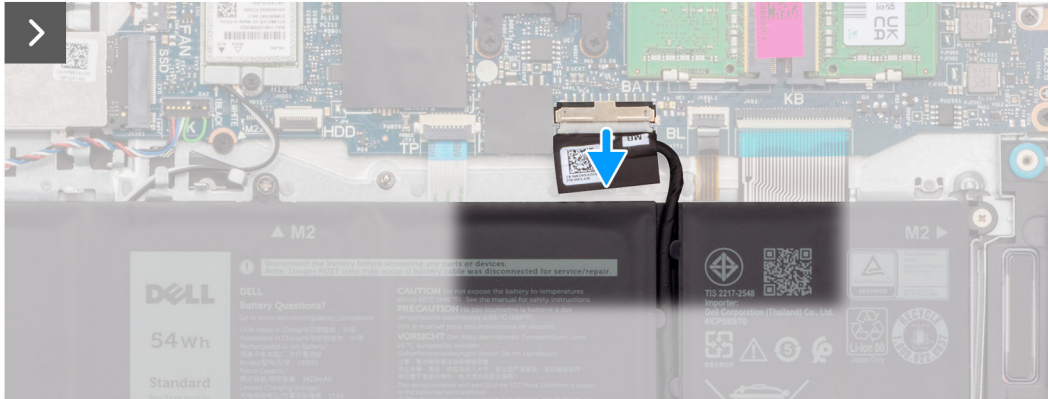
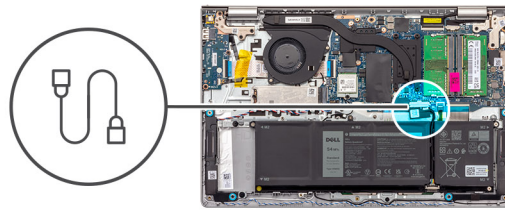


6x  
M2x5



2x





## Steps

1. Remove the six screws (M2x5) that secure the base cover to the palm-rest and keyboard assembly.
2. Loosen the two captive screws that secure the base cover to the palm-rest and keyboard assembly.
3. Using a plastic scribe, pry open the base cover from the recesses that are located in the U-shaped indents at the top edge of the base cover near the hinges.
4. Lift and remove the base cover off the palm-rest and keyboard assembly.



5. Disconnect the battery cable from the system board.
6. Press and hold the power button for five seconds to ground the computer and drain the flea power.

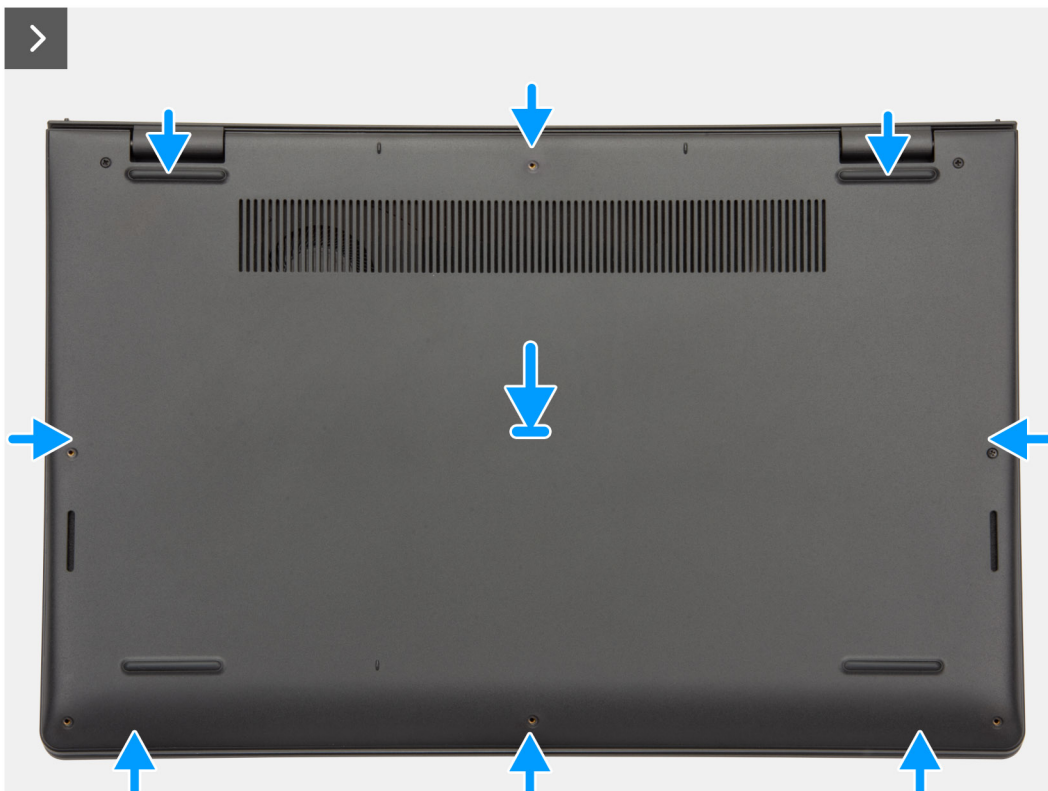
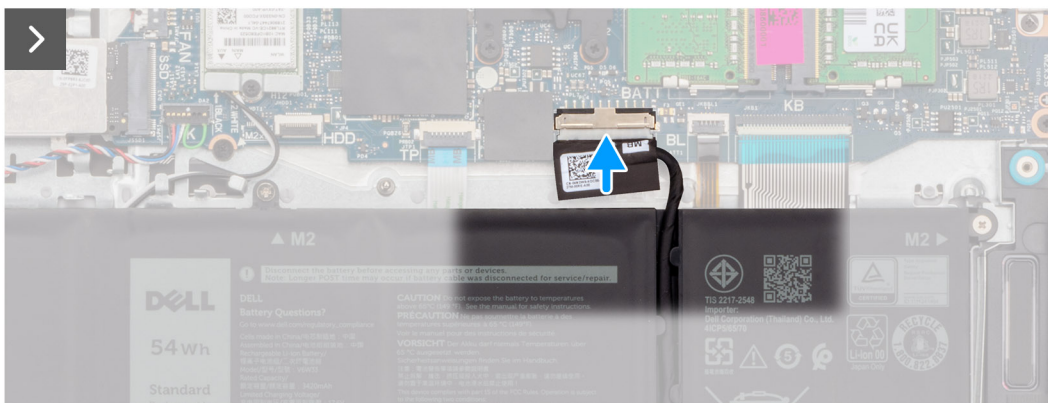
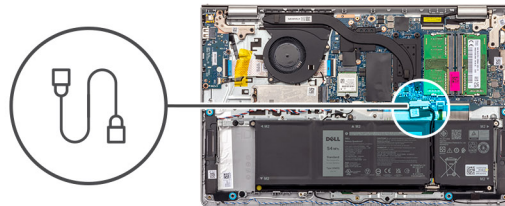
## Installing the base cover

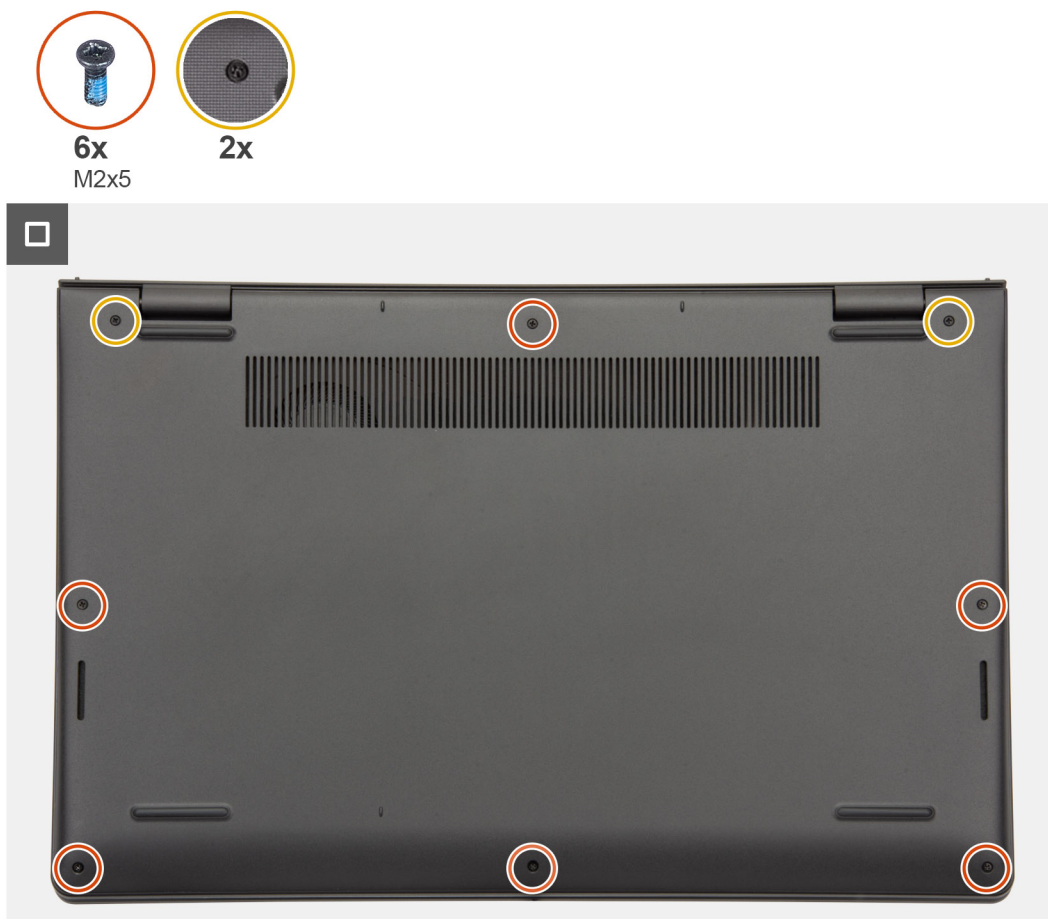
### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the base cover and provide a visual representation of the installation procedure.





### Steps

1. Connect the battery cable to the connector on the system board.
2. Place the base cover on the palm-rest and keyboard assembly.
3. Align the screw holes on the base cover with the screw holes on the palm-rest and keyboard assembly, and then snap the base cover into place.
4. Tighten the two captive screws that secure the base cover to the palm-rest and keyboard assembly.
5. Replace the six screws (M2x5) that secure the base cover to the palm-rest and keyboard assembly.

### Next steps

1. Install the [SD card](#).
2. Follow the procedure in [After working inside your computer](#).

## Battery

### Rechargeable Li-ion battery precautions



#### WARNING:

- Exercise caution when handling rechargeable Li-ion batteries.
- Discharge the battery completely before removing it. Disconnect the AC power adapter from the computer and operate the computer solely on battery power—the battery is fully discharged when the computer no longer turns on when the power button is pressed.
- Do not crush, drop, mutilate, or penetrate the battery with foreign objects.
- Do not expose the battery to high temperatures, or disassemble battery packs and cells.

- Do not apply pressure to the surface of the battery.
- Do not bend the battery.
- Do not use tools of any kind to pry on or against the battery.
- To prevent accidental puncture or damage to the battery and other components, ensure that no screws are lost or misplaced during the servicing of the computer.
- Always purchase genuine batteries from [Dell Site](#) or authorized Dell partners and resellers.
- Swollen batteries should not be used and should be replaced and disposed properly. For guidelines on how to handle and replace swollen rechargeable Li-ion batteries, see [Handling swollen rechargeable Li-ion batteries](#).

## Removing the 3-cell battery

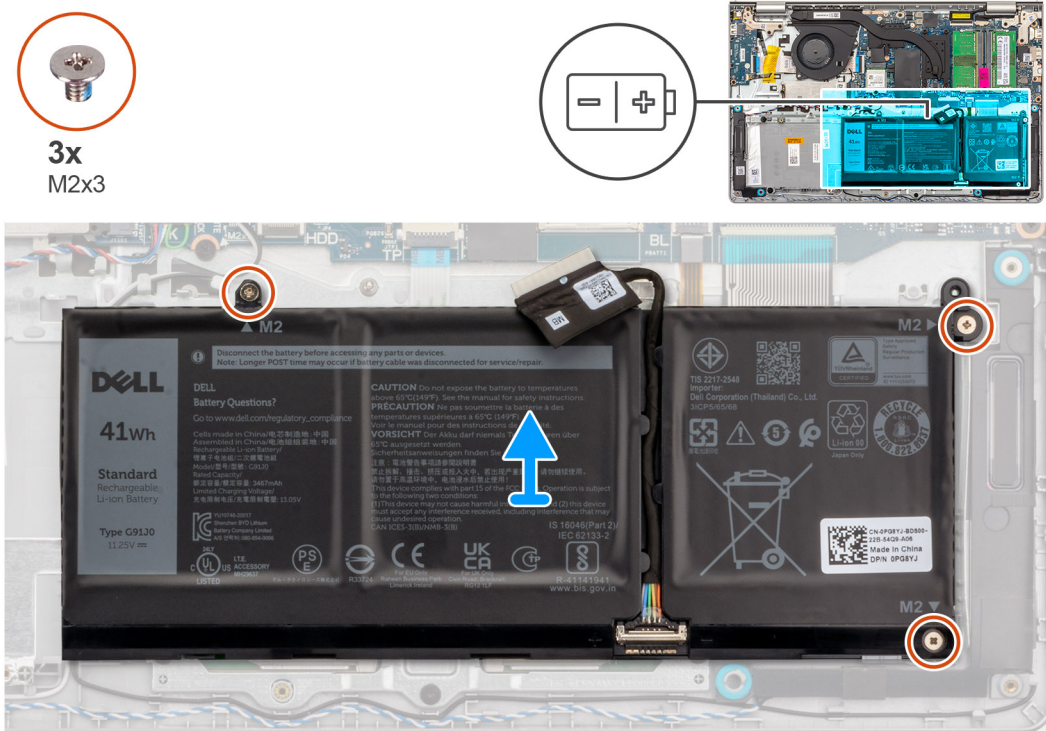
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

### About this task

The following image indicates the location of the 3-cell battery and provides a visual representation of the removal procedure.



### Steps

1. Disconnect the battery cable from the system board, if applicable.
2. Remove the three (M2x3) screws that secure the battery to the palm-rest and keyboard assembly.
3. Remove the battery from the palm-rest and keyboard assembly.

## Installing the 3-cell battery

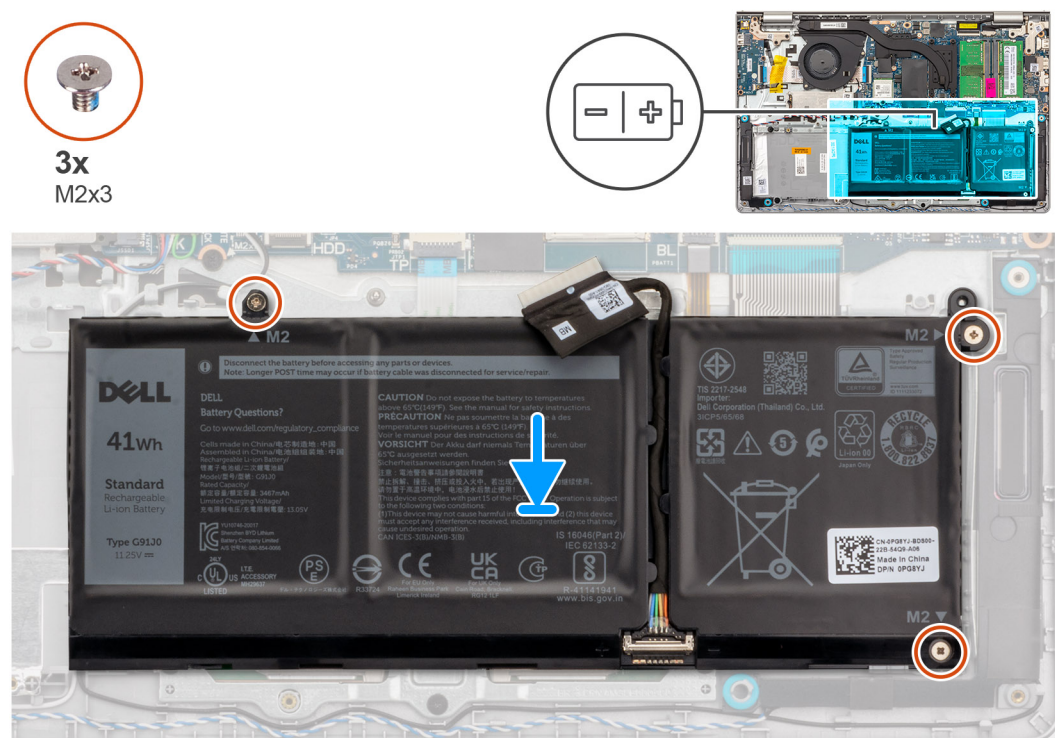
 **CAUTION:** The information in this section is intended for authorized service technicians only.

## Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following image indicates the location of the 3-cell battery and provides a visual representation of the installation procedure.



## Steps

1. Place the battery on the palm-rest and keyboard assembly.
2. Align the screw holes on the battery to the screw holes on the palm-rest and keyboard assembly.
3. Replace the three (M2x3) screws that secure the battery to the palm-rest and keyboard assembly.
4. Connect the battery cable to the connector on the system board.

## Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## Removing the 4-cell battery

 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

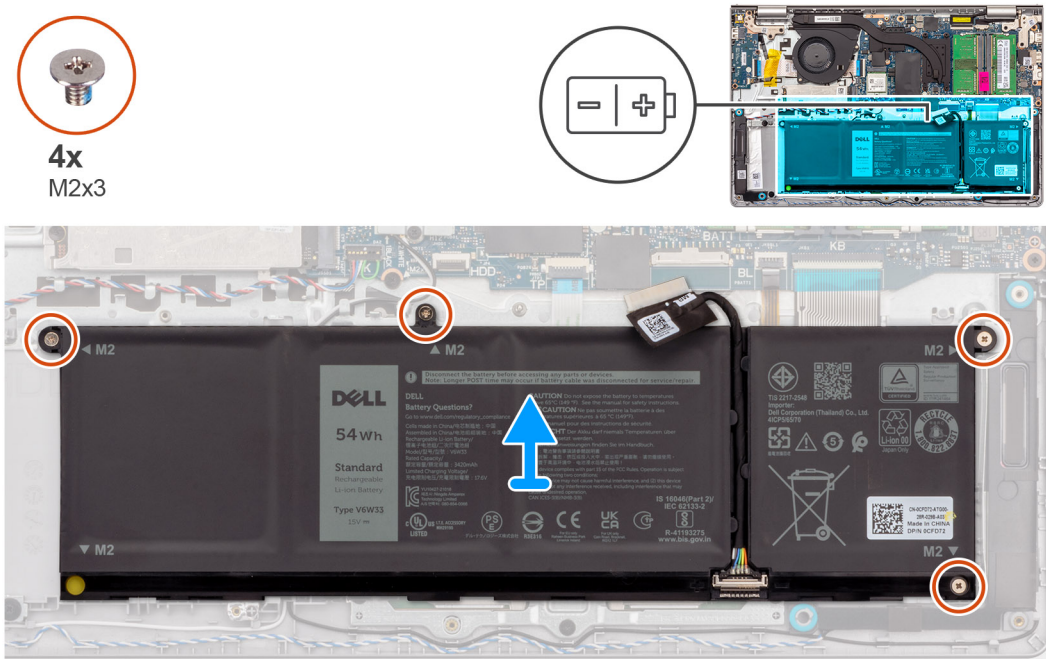
1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).



3. Remove the [base cover](#).

### About this task

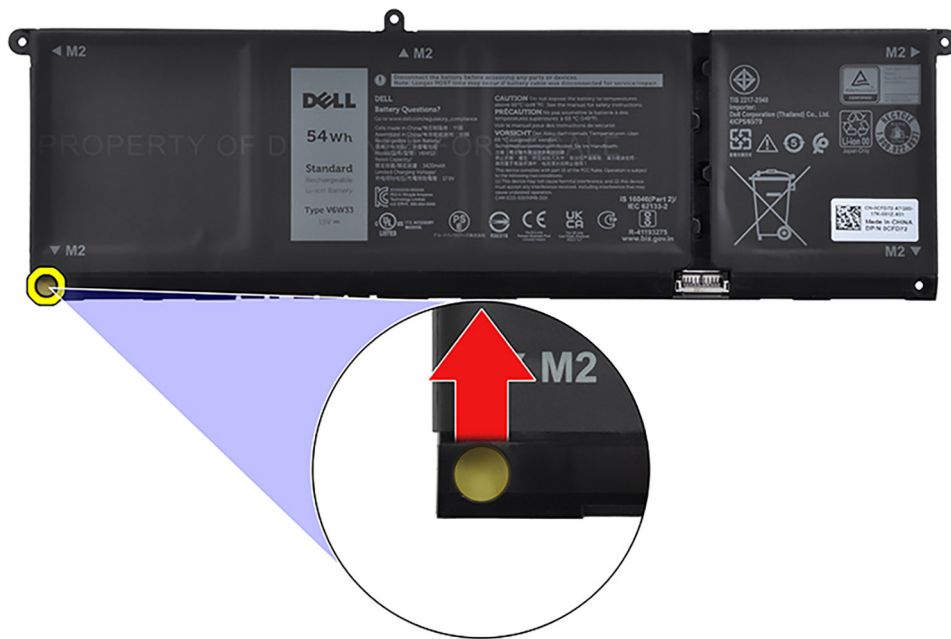
The following image indicates the location of the 4-cell battery and provides a visual representation of the removal procedure.



### Steps

1. Disconnect the battery cable from the system board, if applicable.
2. Remove the four (M2x3) screws that secure the battery to the palm-rest and keyboard assembly.
3. Remove the battery from the palm-rest and keyboard assembly.

**NOTE:** When replacing the 4-cell battery, use a scribe push upward through the bottom-left screw hole to remove the battery rubber stopper and transfer it to the new replacement 4-cell battery.



## Installing the 4-cell battery

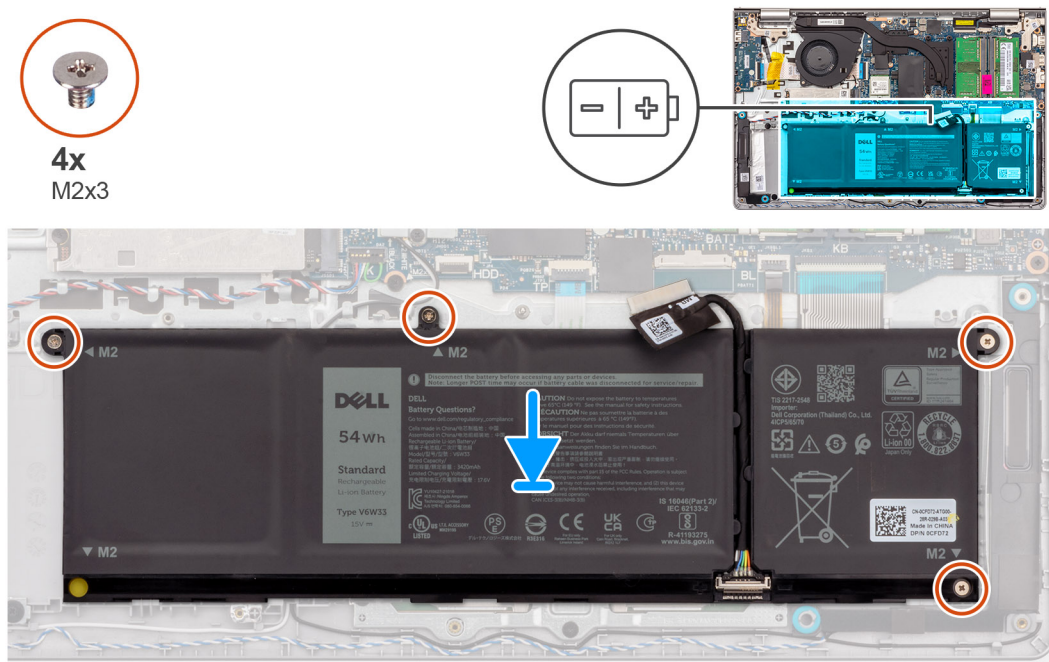
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following image indicates the location of the 4-cell battery and provides a visual representation of the installation procedure.



### Steps

1. Place the battery on the palm-rest and keyboard assembly.
2. Align the screw holes on the battery to the screw holes on the palm-rest and keyboard assembly.
3. Replace the four (M2x3) screws that secure the battery to the palm-rest and keyboard assembly.
4. Connect the battery cable to the connector on the system board.

**NOTE:** When replacing the 4-cell battery, use a scribe push upward through the bottom-left screw hole to remove the battery rubber stopper and transfer it to the new replacement 4-cell battery.

### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## Disconnecting the battery cable

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).

2. Remove the [SD card](#).
3. Remove the [base cover](#).

### About this task

The following images indicate the location of the battery cable and provide a visual representation of the removal procedure.



### Steps

1. Lift the latch on the battery cable.
2. Disconnect the battery cable from the connector on the battery.

## Connecting the battery cable

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the battery cable and provide a visual representation of the installation procedure.



## Steps

1. Connect the battery cable to the connector on the battery.
2. Close the latch on the battery cable connector to secure it to the battery.

## Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

# M.2 solid state drive

## Removing the M.2 2230 solid state drive

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

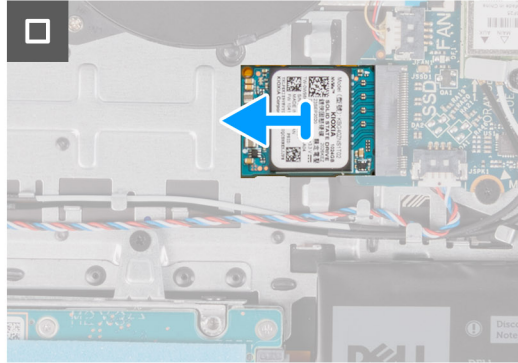
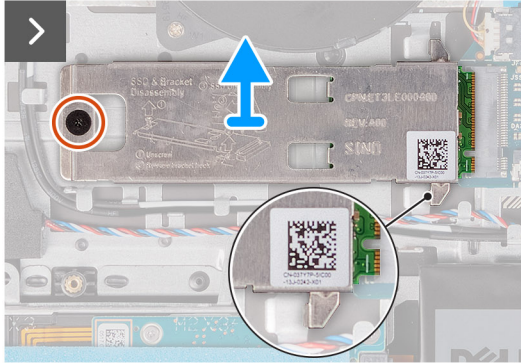
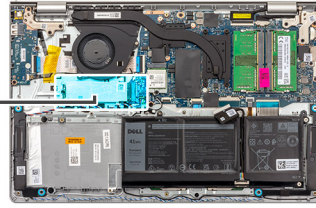
### About this task

**NOTE:** The M.2 2230 solid state drive is the primary storage drive of your computer.

The following images indicate the location of the M.2 2230 solid state drive and provide a visual representation of the removal procedure.



1x  
M2x2



### Steps

1. Remove the (M2x2) screw that secures the M.2 thermal plate to the palm-rest and keyboard assembly.  
 **NOTE:** There are two (M2x2) screws for systems with the following processors: AMD Ryzen3 7320U or AMD Ryzen5 7520U.
2. Slide and lift the solid state drive thermal plate off the solid state drive.
3. Slide and remove the M.2 2230 solid state drive from the M.2 card slot on the system board.

## Installing the M.2 2230 solid state drive

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

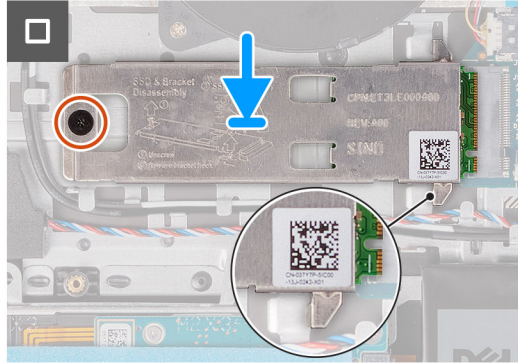
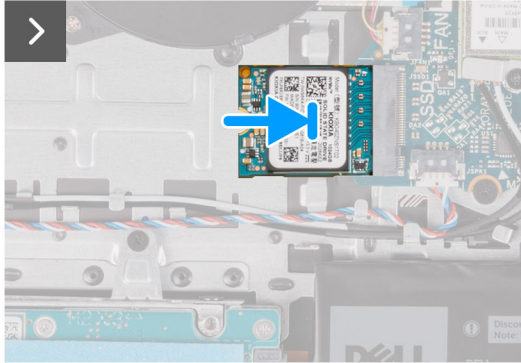
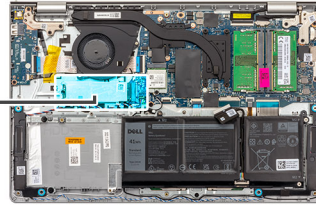
 **NOTE:** The M.2 2230 solid state drive is the primary storage drive of your computer.

The following images indicate the location of the M.2 2230 solid state drive and provide a visual representation of the installation procedure.





1x  
M2x2



### Steps

1. Align the notch on the M.2 2230 solid state drive with the tab on the M.2 card slot on the system board.
2. Slide the M.2 2230 solid state drive into the M.2 card slot on the system board .
3. Place the M.2 thermal plate on the M.2 2230 solid state drive.
4. Align the screw holes on the M.2 thermal plate with the screw holes on the palm-rest and keyboard assembly.
5. Replace the (M2x2) screw that secures the M.2 thermal plate to the palm-rest and keyboard assembly.

### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## Wireless card

### Removing the wireless card

#### Prerequisites

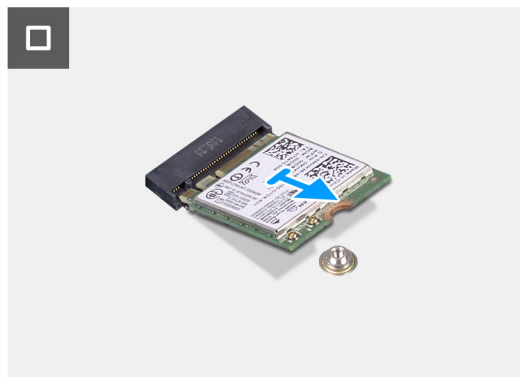
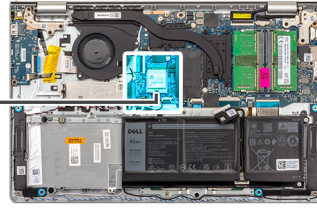
1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

#### About this task

The following images indicate the location of the wireless card and provide a visual representation of the removal procedure.



1x  
M2x3.5



### Steps

1. Remove the screw (M2x3.5) that secures the wireless-card bracket to the system board.
2. Lift the wireless-card bracket from the wireless card.
3. Disconnect the antenna cables from the wireless card.
4. Slide and remove the wireless card from the WLAN slot on the system board.

## Installing the wireless card

### Prerequisites

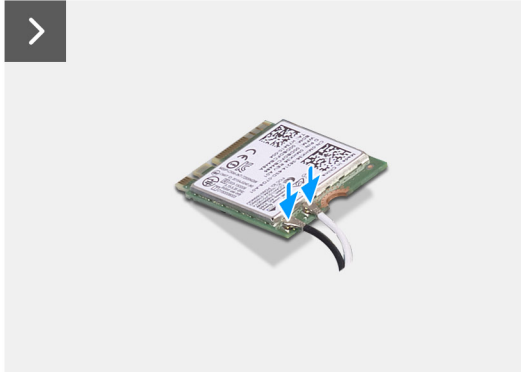
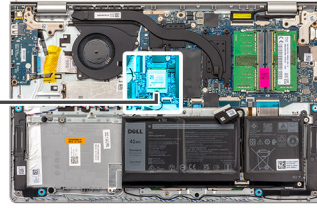
If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the wireless card and provide a visual representation of the installation procedure.



1x  
M2x3.5



## Steps

1. Connect the antenna cables to the wireless card.

The following table provides the antenna-cable color scheme for the wireless card supported by your computer.

**Table 29. Antenna-cable color scheme**

| Connector on the wireless card | Antenna-cable color | Silkscreen marking |                    |
|--------------------------------|---------------------|--------------------|--------------------|
| Main                           | White               | MAIN               | △ (white triangle) |
| Auxiliary                      | Black               | AUX                | ▲ (black triangle) |

2. Slide the wireless card into the WLAN slot on the system board.
3. Place the wireless-card bracket on the wireless card.
4. Replace the screw (M2x3.5) that secures the wireless-card bracket to the system board.

## Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).



# Fan

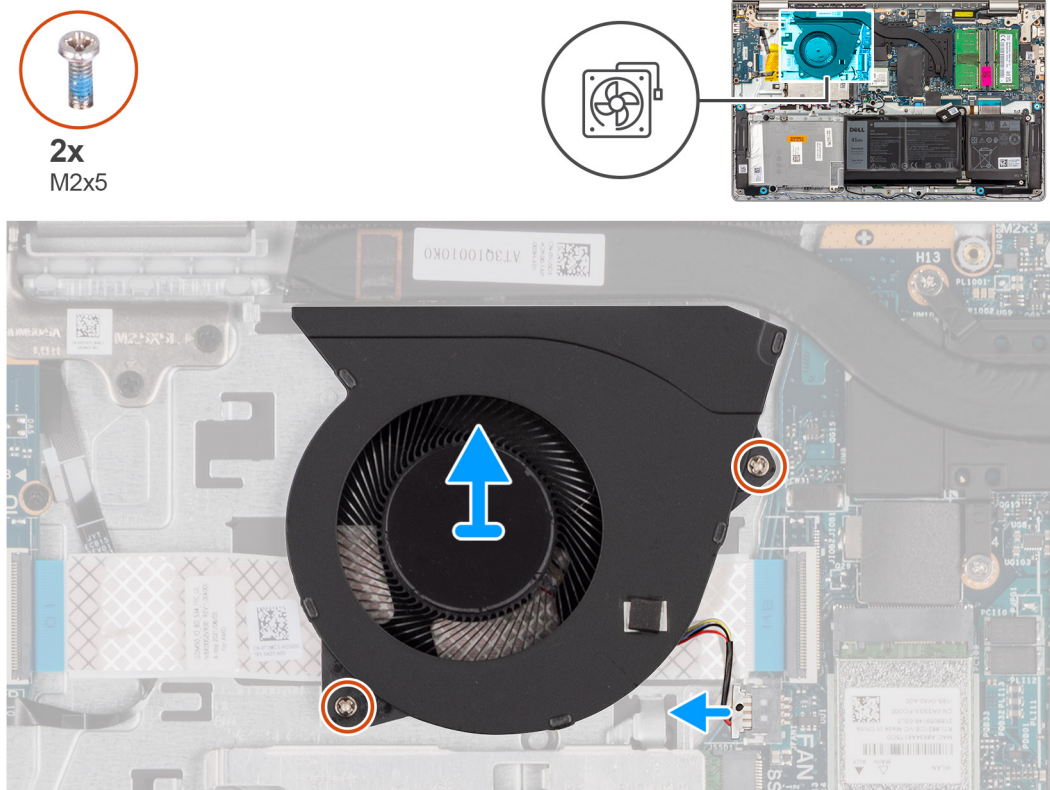
## Removing the fan

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

### About this task

The following images indicate the location of the fan and provide a visual representation of the removal procedure.



### Steps

1. Disconnect the fan cable from the system board.
2. Remove the two (M2x5) screws that secure the fan to the palm-rest and keyboard assembly.
3. Lift the fan from the palm-rest and keyboard assembly.

## Installing the fan

### Prerequisites

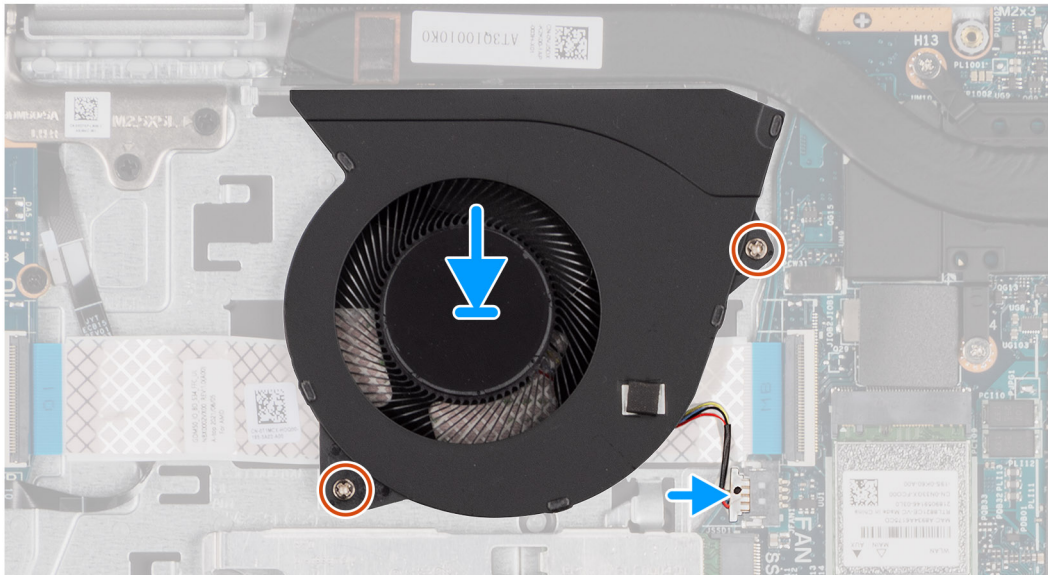
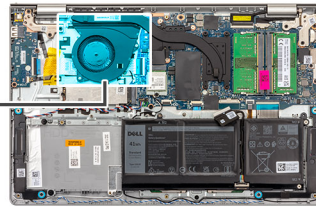
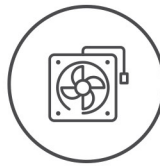
If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the fan and provide a visual representation of the installation procedure.



2x  
M2x5



### Steps

1. Place the fan on the palm-rest and keyboard assembly.
2. Align the screw holes on the fan to the screw holes on the palm-rest and keyboard assembly.
3. Replace the two (M2x5) screws that secure the fan to the palm-rest and keyboard assembly.
4. Connect the fan cable to the connector on the system board.

### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## Speakers

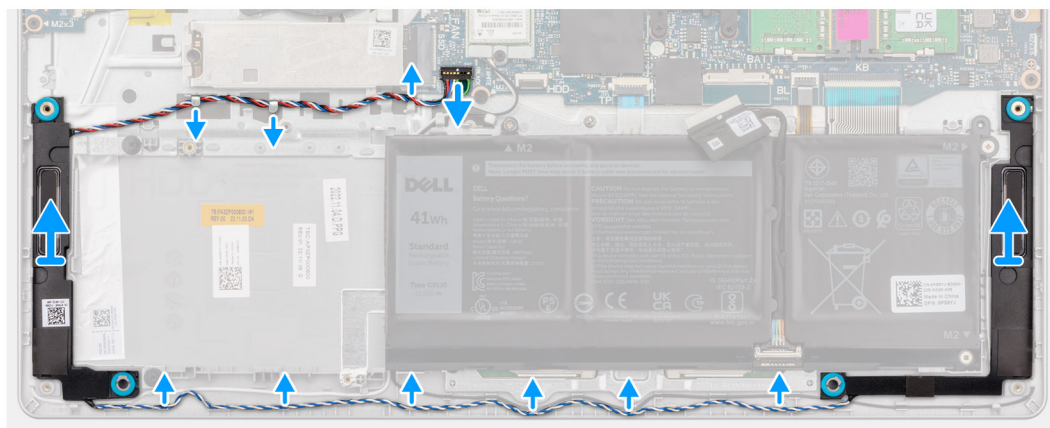
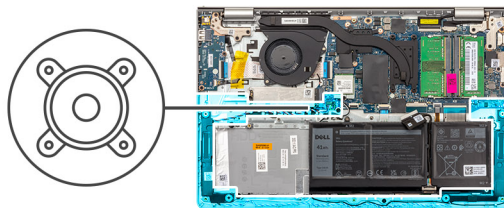
### Removing the speakers

#### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

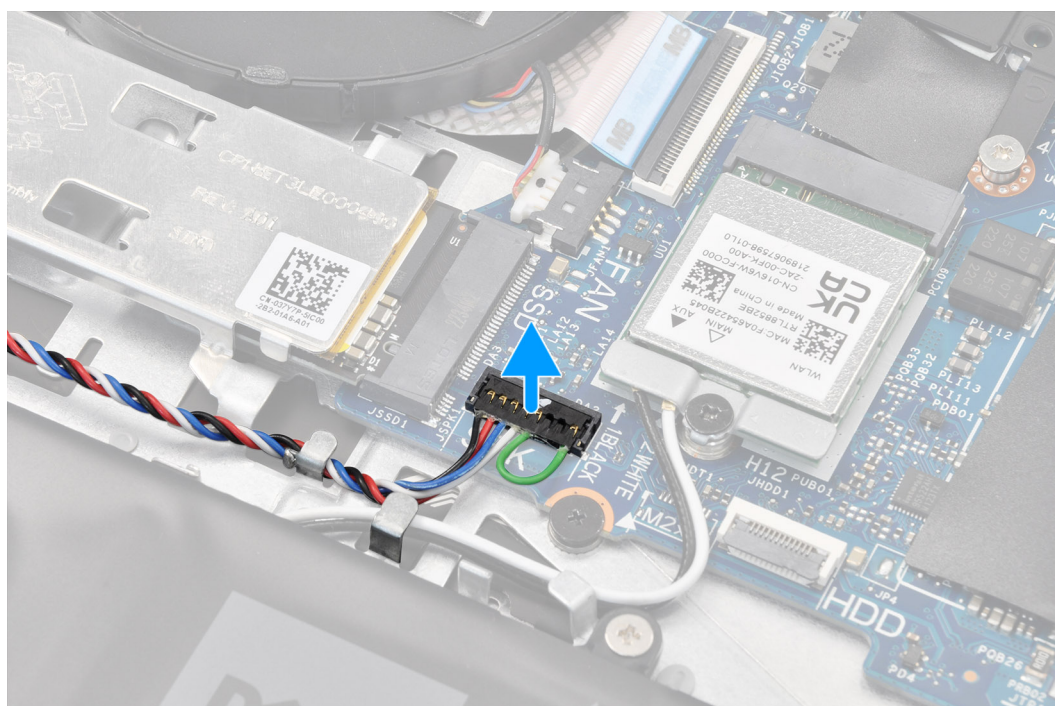
#### About this task

The following images indicate the location of the speakers and provide a visual representation of the removal procedure.



## Steps

1. Disconnect the speaker cable from the system board.
2. Unroute the speaker cable from the routing guides on the palm-rest and keyboard assembly.



**NOTE:** For models shipped with a speaker cable featuring an eight-pin connector, to disconnect the speaker cable from the system board, pry up the bottom side of the cable connector's head first and then pull it away from the connector.

3. Lift the speakers along with its cable from the palm-rest and keyboard assembly.



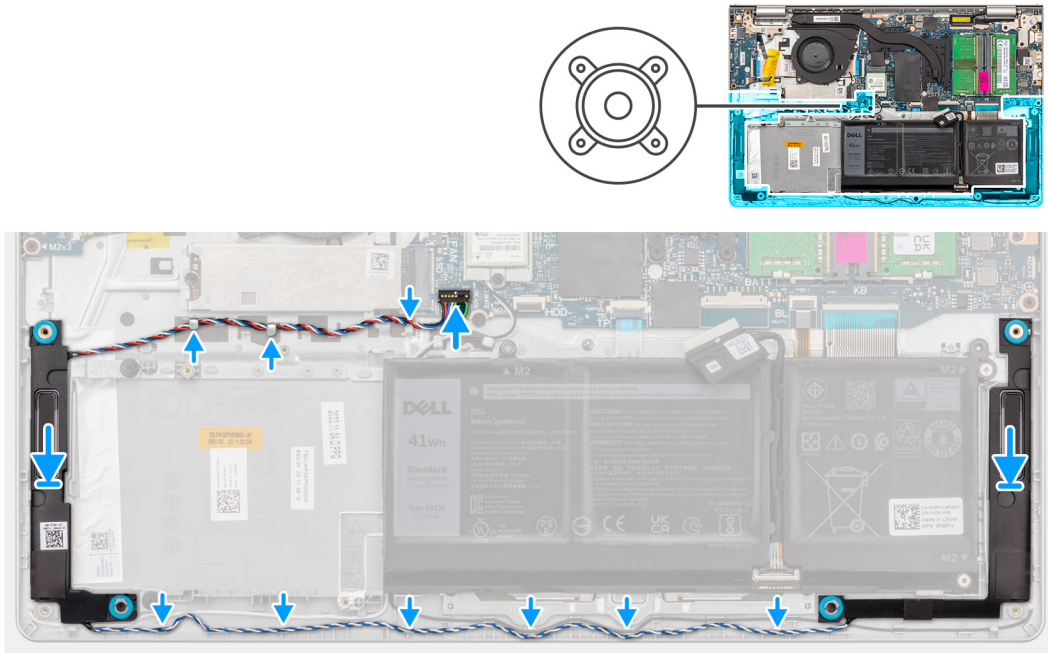
# Installing the speakers

## Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

## About this task

The following images indicate the location of the speakers and provide a visual representation of the installation procedure.



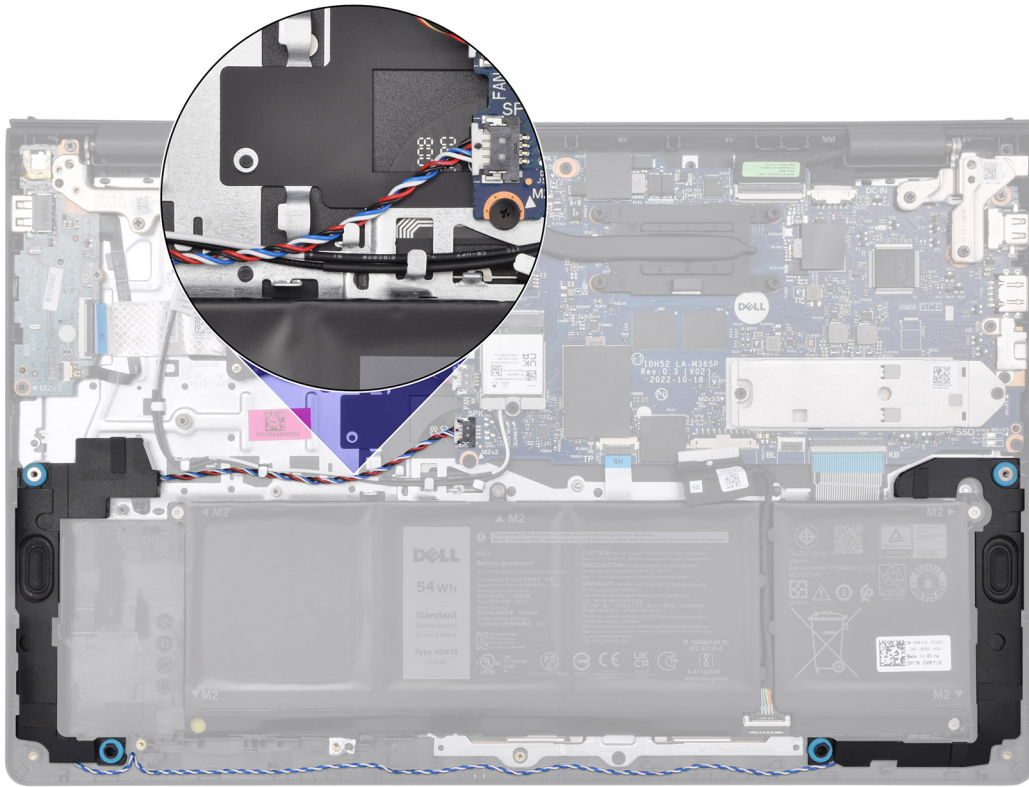
## Steps

1. Using the alignment posts, place the speakers on the palm-rest and keyboard assembly.

**i** **NOTE:** Ensure that the alignment posts are threaded through the rubber grommets on the speaker.

2. Route the speaker cable through the routing guides on the palm-rest and keyboard assembly.

**i** **NOTE:** Route the speaker cable along the bottom side of the palm rest, over the WLAN antenna cables (for models shipped with WLAN antennas in the display assembly), and then secure the cable through the routing guides on the palm-rest.



3. Connect the speaker cable to the system board.

#### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

# Removing and installing Field Replaceable Units (FRUs)

The replaceable components in this chapter are Field Replaceable Units (FRUs).

 **CAUTION:** The information in this removing and installing FRUs section is intended for authorized service technicians only.

 **CAUTION:** To avoid any potential damage to the component or loss of data, Dell Technologies recommends that an authorized service technician replaces the Field Replaceable Units (FRUs).

 **CAUTION:** Your warranty does not cover damages that may occur during FRU repairs that are not authorized by Dell Technologies.

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

## Touchpad

### Removing the touchpad

 **CAUTION:** The information in this section is intended for authorized service technicians only.

#### Prerequisites

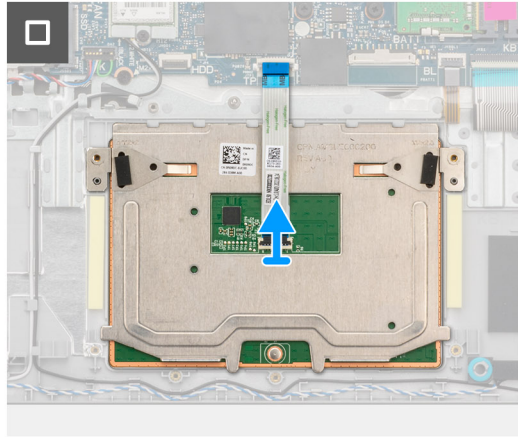
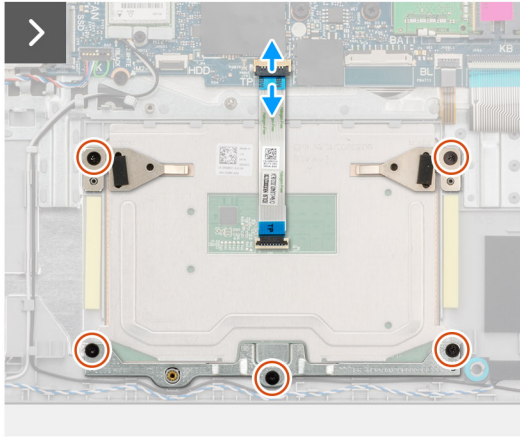
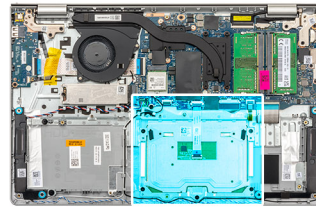
1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [3-cell battery](#) or [4-cell battery](#) (whichever applicable).

#### About this task

The following images indicate the location of the touchpad and provide a visual representation of the removal procedure.



5x  
M2x2



### Steps

1. Remove the three (M2x2) screws that secure the touchpad bracket to the palm-rest and keyboard assembly.
2. Lift the touchpad bracket off the touchpad.
3. Open the latch and disconnect the touchpad Flexible Flat cable from the connector on the system board.
4. Remove the two screws (M2x2) that secure the touchpad to the palm-rest and keyboard assembly.
5. Lift the touchpad from the palm-rest and keyboard assembly along with the touchpad cable.

## Installing the touchpad

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

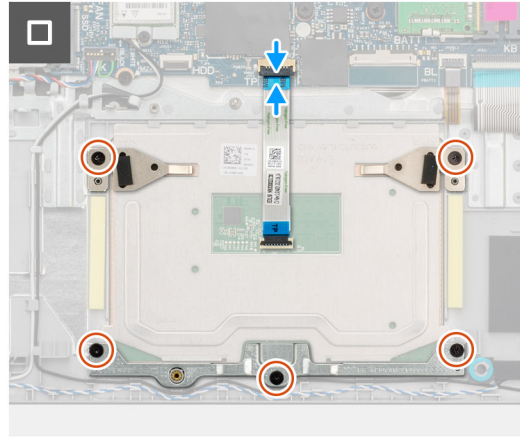
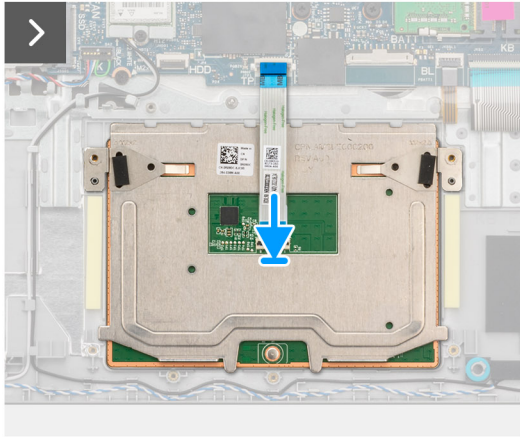
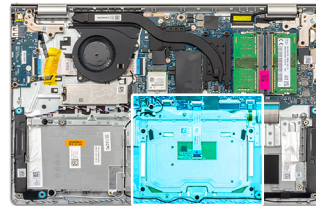
If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the touchpad and provide a visual representation of the installation procedure.



5x  
M2x2



### Steps

1. Place the touchpad into its slot on the palm-rest and keyboard assembly along with touchpad cable.
2. Align the screw holes on the touchpad to the screw holes on the palm-rest and keyboard assembly.
3. Replace the two (M2x2) screws that secure the touchpad to the palm-rest and keyboard assembly.
4. Connect the touchpad Flexible Flat cable to the connector on the system board and close the latch.
5. Place the touchpad bracket on the touchpad.
6. Align the screw holes on the touchpad bracket to the screw holes on the palm-rest and keyboard assembly.
7. Replace the three (M2x2) screws that secure the touchpad bracket to the palm-rest and keyboard assembly.

### Next steps

1. Install the [3-cell battery](#) or [4-cell battery](#) (whichever applicable).
2. Install the [base cover](#).
3. Install the [SD card](#).
4. Follow the procedure in [After working inside your computer](#).

## Heat sink

### Removing the heat sink

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

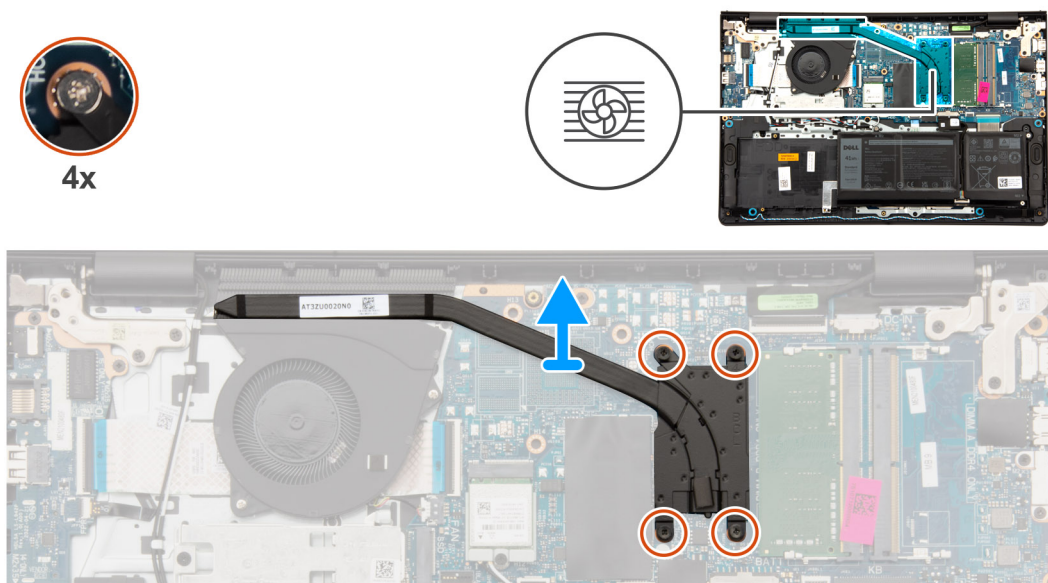
### About this task

**NOTE:** The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.



**NOTE:** For maximum cooling of the processor, do not touch the heat-transfer areas on the heat sink. The oils in your skin can reduce the heat-transfer capability of the thermal grease.

The following images indicate the location of the heat sink and provide a visual representation of the removal procedure.



### Steps

1. Loosen the four captive screws that secure the heat sink to the system board.

**NOTE:** Loosen the captive screws in the reverse sequential order mentioned on the heat sink [4 > 3 > 2 > 1].

**NOTE:** The number of screws varies depending on the configuration ordered.

2. Lift the heat sink from the system board.

## Installing the heat sink

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

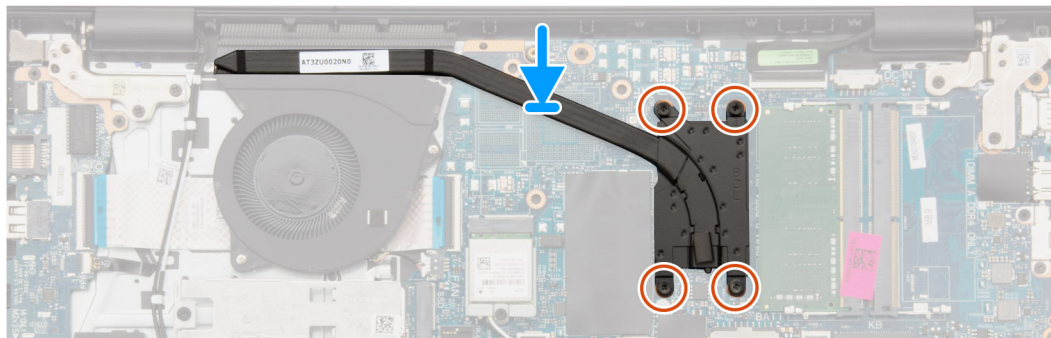
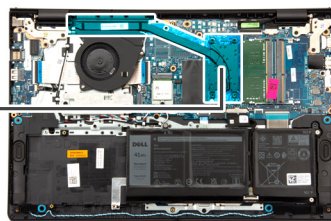
### About this task

**NOTE:** If either the system board or the heat sink is replaced, use the thermal grease provided in the kit to ensure that thermal conductivity is achieved.

The following images indicate the location of the heat sink and provide a visual representation of the installation procedure.



4x



### Steps

1. Place the heat sink on the system board.
2. Tighten the four captive screws that secure the heat sink to the system board.
  -  **NOTE:** Tighten the captive screws in the sequential order mentioned on the heat sink [1 > 2 > 3 > 4].
  -  **NOTE:** The number of screws varies depending on the configuration ordered.

### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## I/O daughter board FFC

### Removing the I/O-board cable

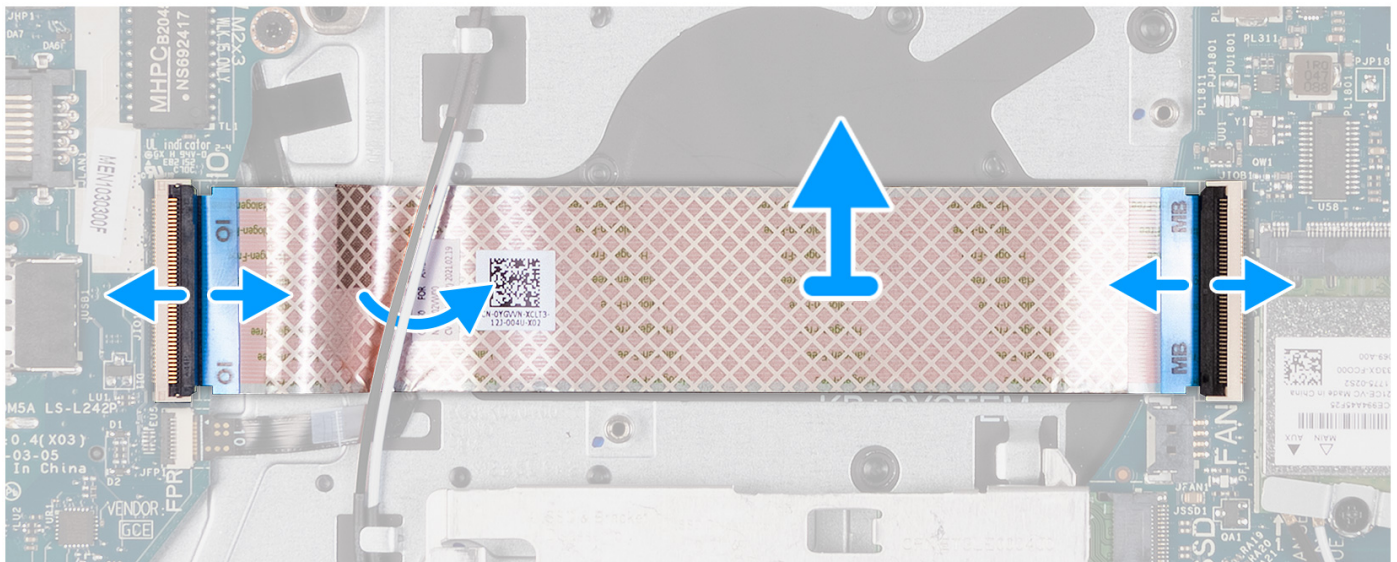
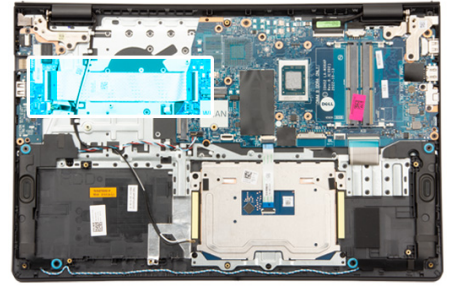
 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [fan](#).

### About this task

The following image indicates the location of the I/O-board cable and provides a visual representation of the removal procedure.



## Steps

1. Open the latch and disconnect the I/O-board cable from the I/O board.
2. Open the latch and disconnect the I/O-board cable from the system board.
3. Slide the I/O-board cable underneath the wireless card antenna cables and lift off the palm-rest and keyboard assembly.

## Installing the I/O-board cable

**CAUTION:** The information in this section is intended for authorized service technicians only.

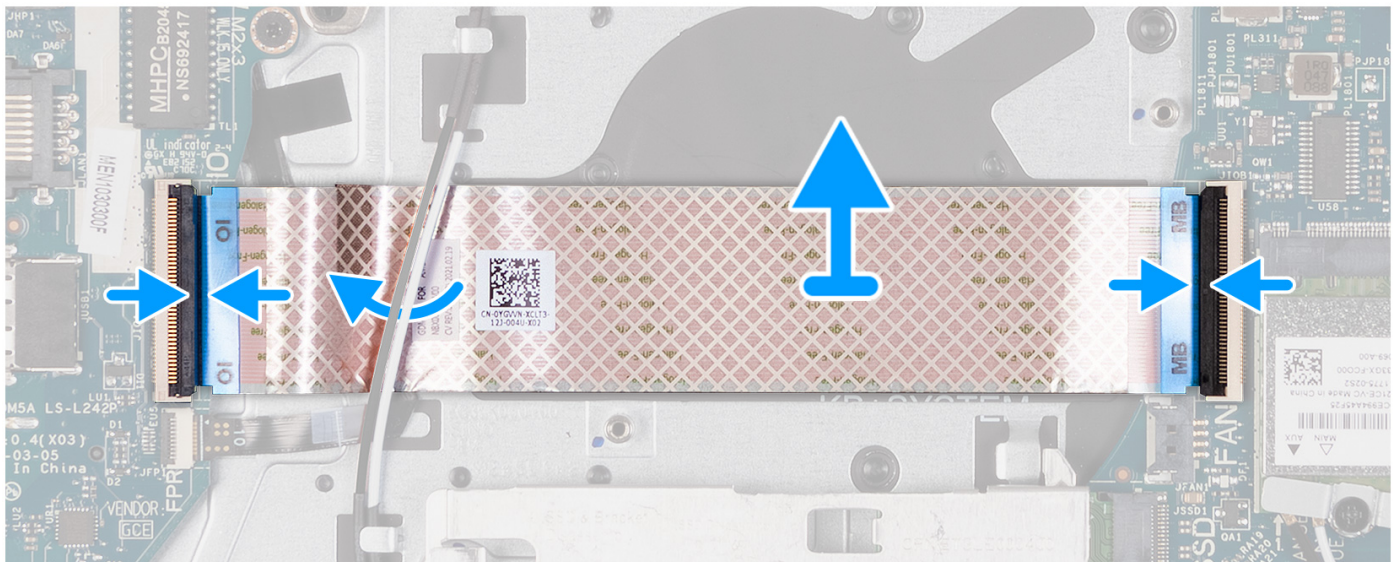
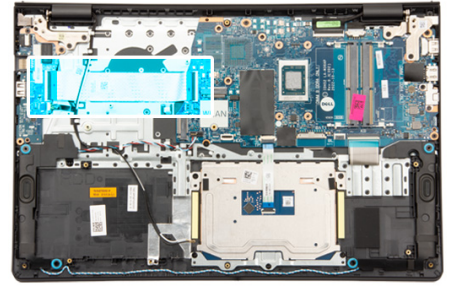
### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following image indicates the location of the I/O board FFC and provides a visual representation of the installation procedure.





## Steps

1. Slide the I/O-board cable under the wireless card antenna cables on the palm-rest and keyboard assembly.
2. Connect the I/O-board cable to the connector on the I/O board.
3. Connect the I/O-board cable to the connector on the system board.

## Next steps

1. Install the [fan](#).
2. Install the [base cover](#).
3. Install the [SD card](#).
4. Follow the procedure in [After working inside your computer](#).

# I/O board

## Removing the Input/Output board

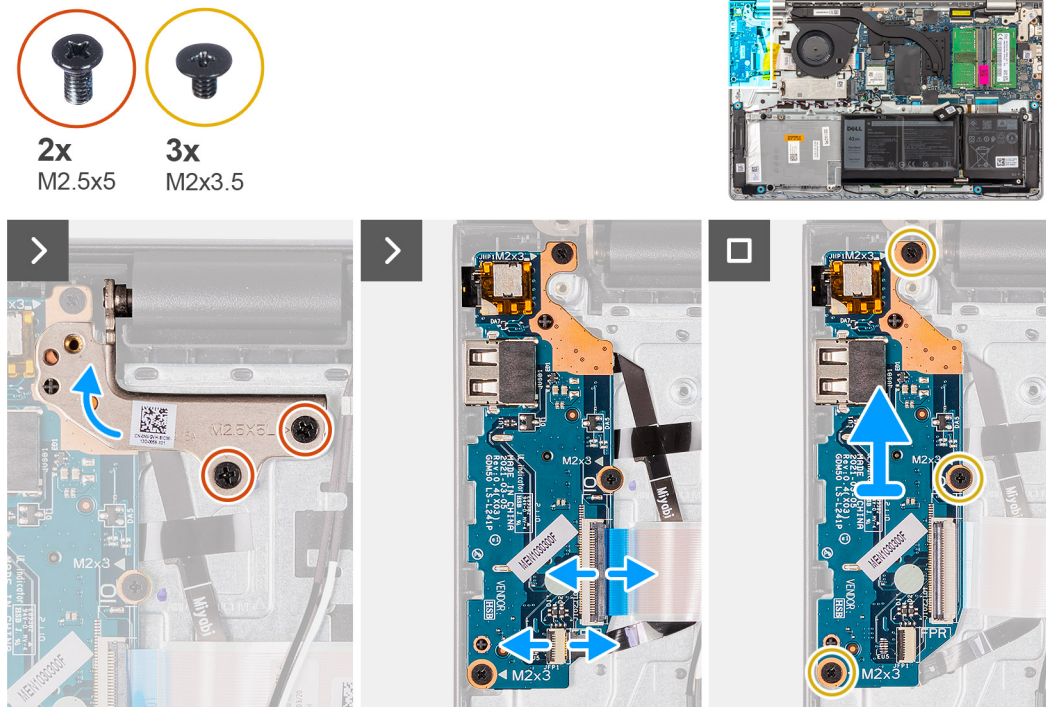
**CAUTION:** The information in this section is intended for authorized service technicians only.

## Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

### About this task

The following images indicate the location of the Input/Output board and provide a visual representation of the removal procedure.



### Steps

1. Remove the two (M2.5x5) screws that secure the display hinge to the palm-rest and keyboard assembly.
2. Lift the hinge up to access the I/O board.
3. Open the latch and disconnect the I/O board cable from the I/O board.
4. Open the latch and disconnect the fingerprint-reader board cable from the I/O board (if applicable).
5. Remove the three (M2x3.5) screws that secure the I/O board to the palm-rest and keyboard assembly.
6. Lift the I/O board off the palm-rest and keyboard assembly.

## Installing the Input/Output board

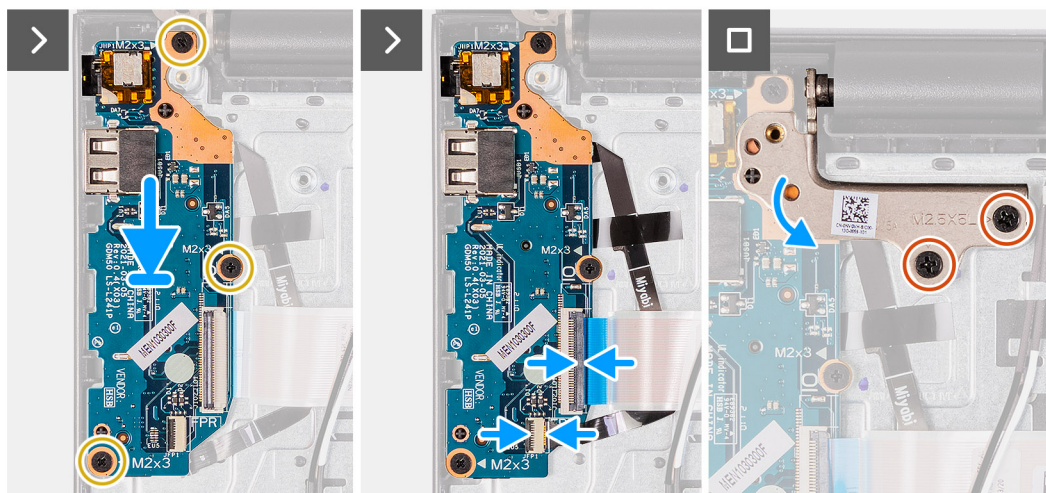
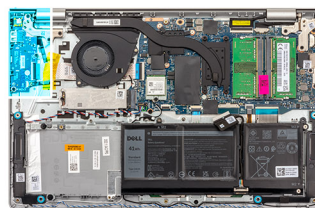
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the I/O board and provide a visual representation of the installation procedure.



## Steps

1. Place the I/O board on the palm-rest and keyboard assembly.
2. Align the screw holes on the I/O board to the screw holes on the palm-rest and keyboard assembly.
3. Replace the three (M2x3.5) screws that secure the I/O board to the palm-rest and keyboard assembly.
4. Connect the fingerprint-reader board cable to the connector on the I/O board and close the latch (if applicable).
5. Connect the I/O board power cable to the connector on the I/O board and close the latch.
6. Close the hinge and replace the two (M2.5x5) screws that secure the display hinge to the palm-rest and keyboard assembly.

## Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

# Display assembly

## Removing the display assembly

**CAUTION:** The information in this section is intended for authorized service technicians only.

**CAUTION:** The maximum operating angle for the display-panel hinge is 135 degrees.

## Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).

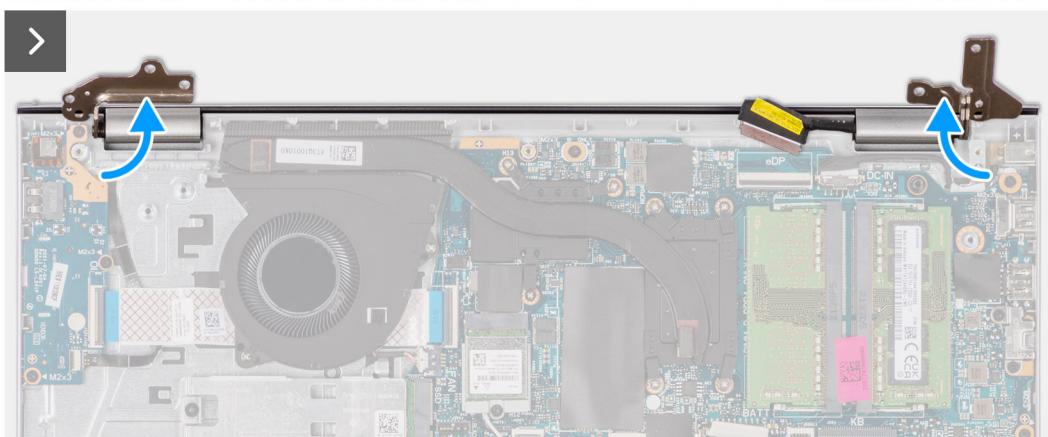
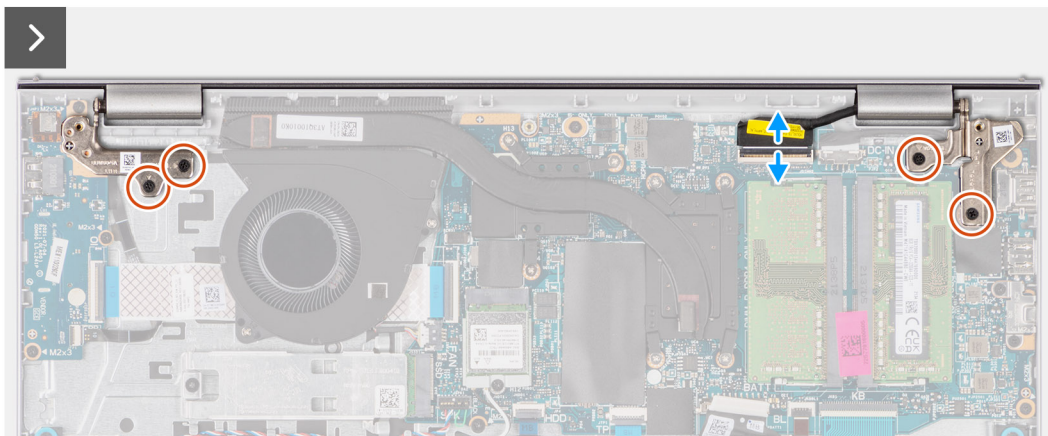
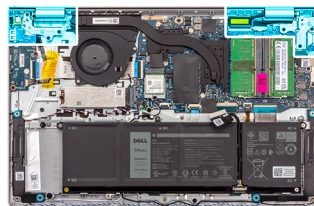


## About this task

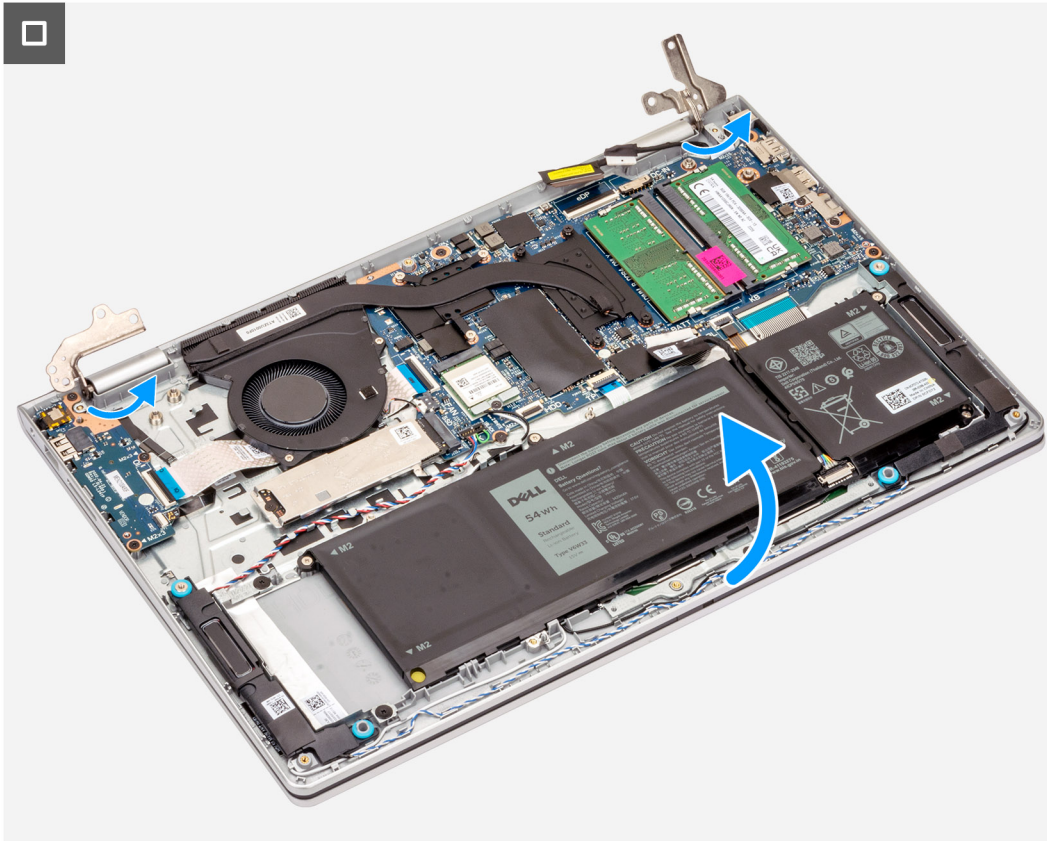
The following images indicate the location of the display assembly and provide a visual representation of the removal procedure.



4x  
M2.5x5







### Steps

1. Remove the four screws (M2.5x5) that secure the display hinges to the palm-rest and keyboard assembly.
2. Disconnect the display cable and the speaker cable from the system board.
3. Unroute the speaker cable from the routing guides on the palm-rest and keyboard assembly.
4. Unroute the WLAN antenna cables from the routing guides on the palm-rest and keyboard assembly.

5. Open the display hinges at an angle of 90 degrees, and place the system on a flat surface.
6. Remove the display assembly from the palm-rest and keyboard assembly.

## Installing the display assembly

 **CAUTION:** The information in this section is intended for authorized service technicians only.

 **CAUTION:** The maximum operating angle for the display-panel hinge is 135 degrees.

### Prerequisites

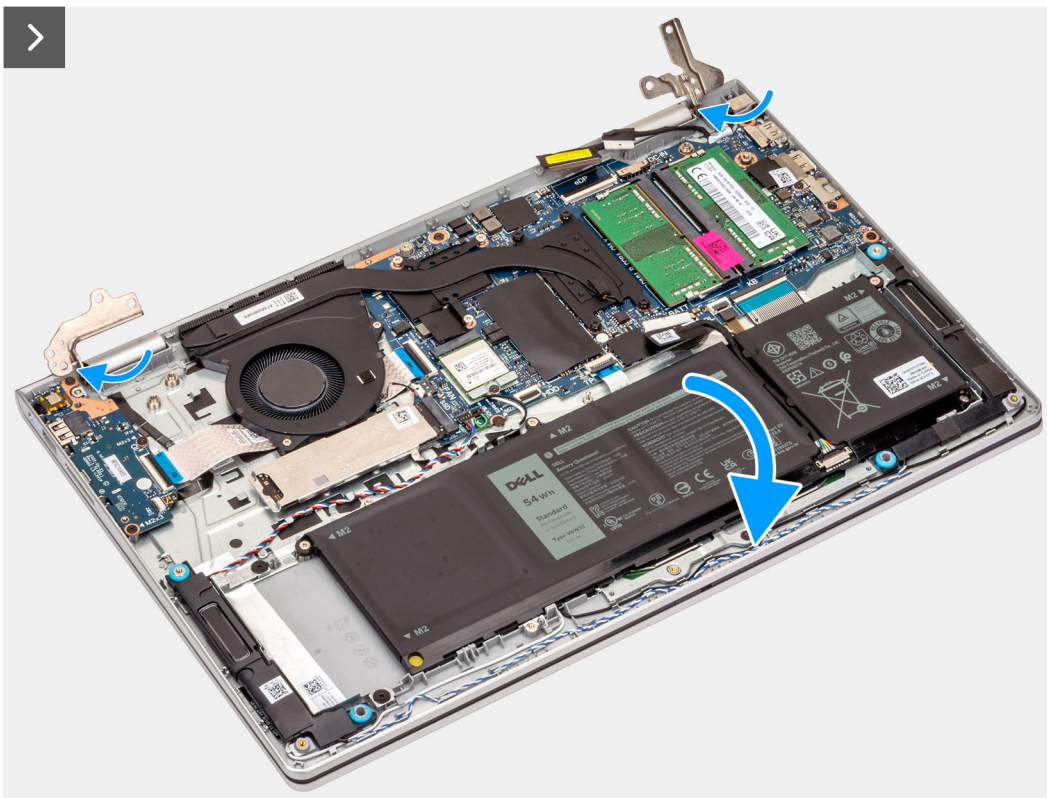
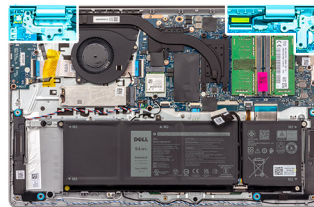
If you are replacing a component, remove the existing component before performing the installation process.

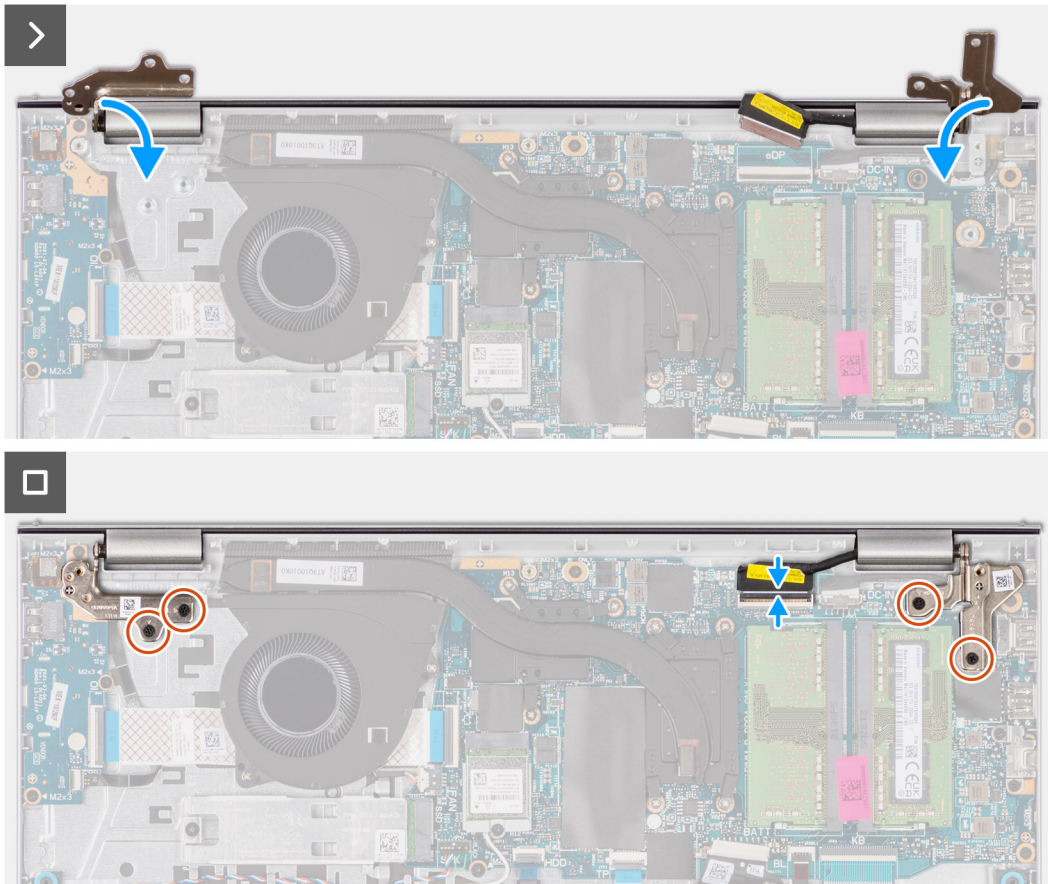
### About this task

The following images indicate the location of the display assembly and provide a visual representation of the installation procedure.



4x  
M2.5x5

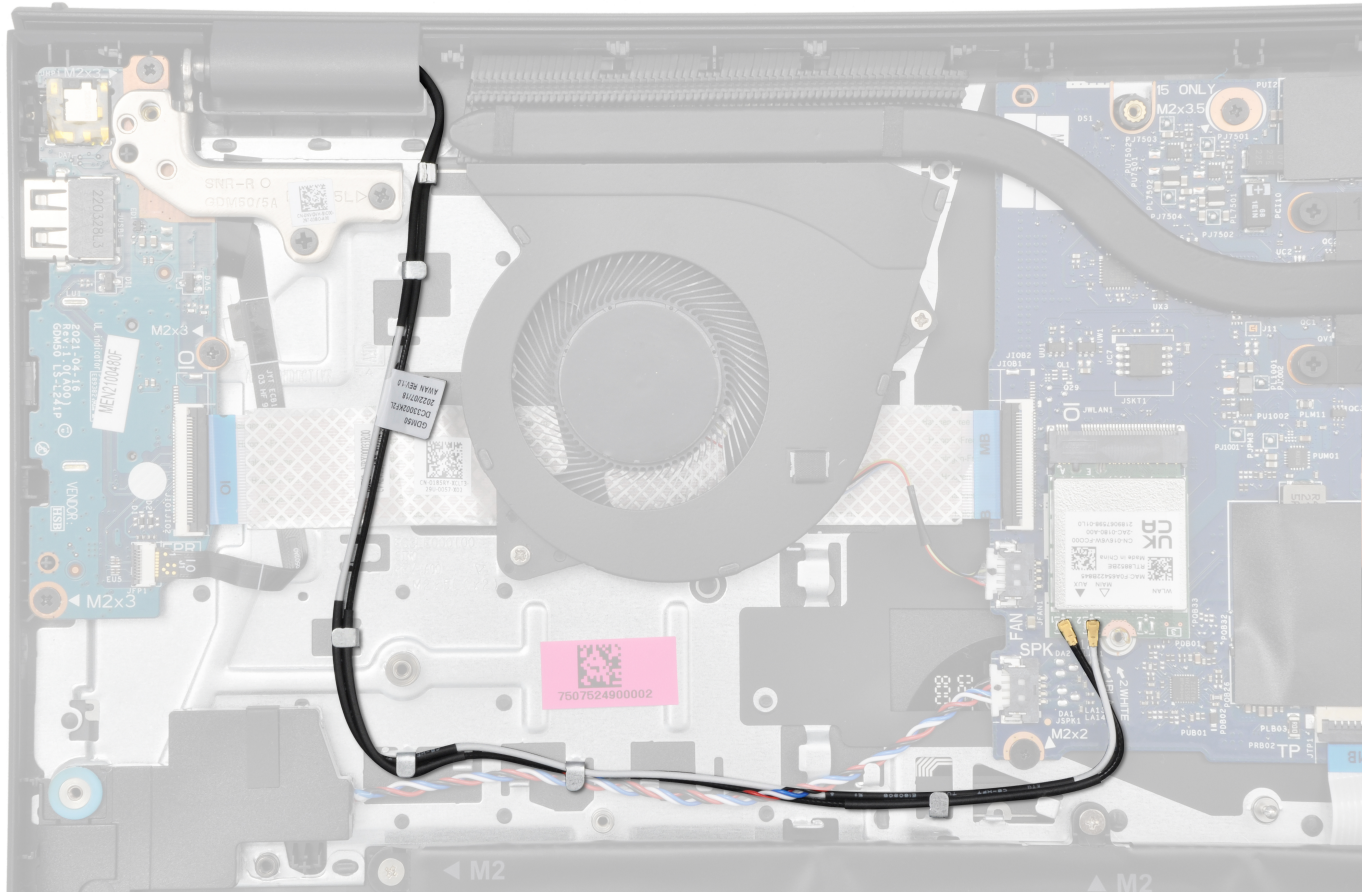




## Steps

1. Slide the display assembly at an angle, and place the display assembly on the palm-rest and keyboard assembly.
2. Gently press down on the display hinges to align the screw holes on the display hinges with the screw holes on the palm-rest and keyboard assembly.
3. Replace the four (M2.5x5) screws that secure the display hinges to the palm-rest and keyboard assembly.
4. Route the WLAN antenna cables through the routing guides on the palm rest and under the speaker cable.





5. Route the speaker cable through the routing guides on the palm-rest and keyboard assembly.

**NOTE:** Ensure to route the speaker cable over the WLAN antenna cables.

6. Connect the display cable to the connector on the system board.

### Next steps

1. Install the [wireless card](#).
2. Install the [base cover](#).
3. Install the [SD card](#).
4. Follow the procedure in [After working inside your computer](#).

## Hinge caps

### Removing the hinge caps

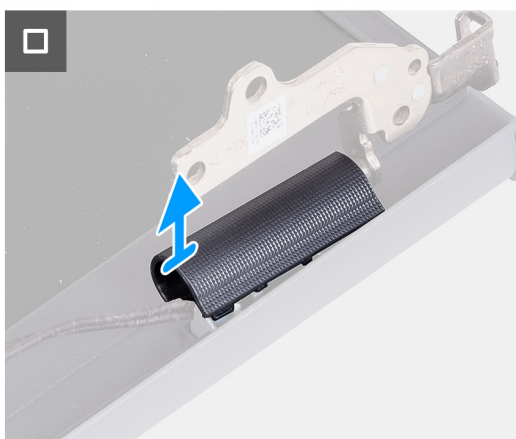
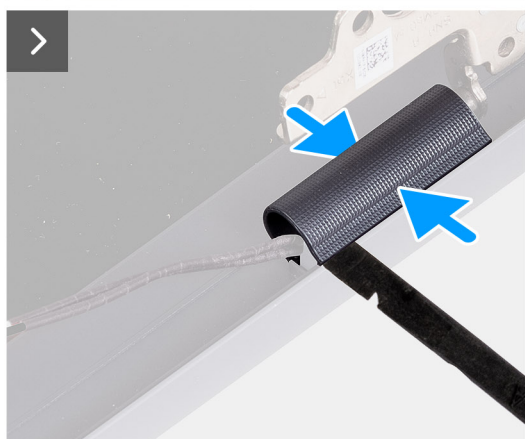
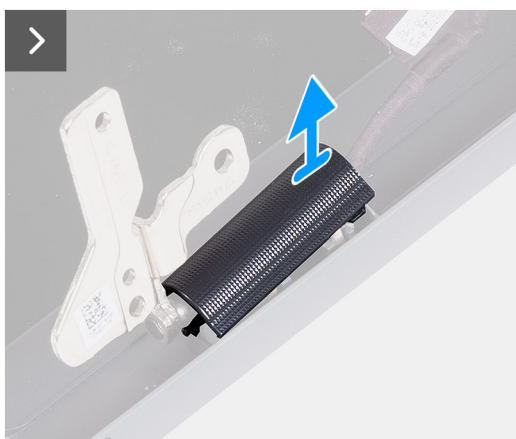
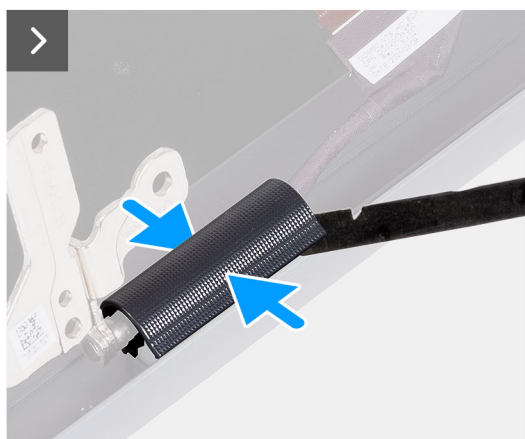
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).

### About this task

The following images indicate the location of the hinge caps and provide a visual representation of the removal procedure.



### Steps

1. Place the display assembly on a clean, flat surface and gently open the display hinges to at least 90 degrees.



2. Using a plastic scribe, pry open the left display-hinge cap from its right side and remove it from the left display hinge.
3. Using a plastic scribe, pry open the right display-hinge cap from its left side and remove it from the right display hinge.



## Installing the hinge caps

 **CAUTION:** The information in this section is intended for authorized service technicians only.

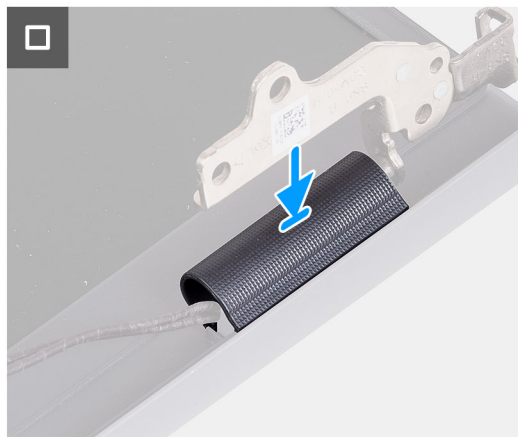
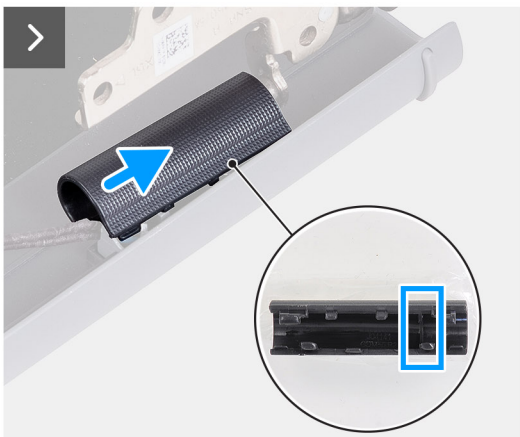
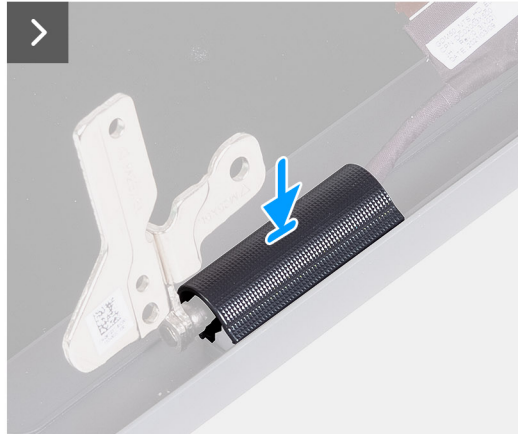
### Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

### About this task

The following images indicate the location of the hinge caps and provide a visual representation of the installation procedure.





### Steps

1. Align the rib inside the left and right hinge caps to the outer sides.
2. Push the right and left hinge caps down until it clicks in place.



#### Next steps

1. Install the [display assembly](#).
2. Install the [wireless card](#).
3. Install the [base cover](#).
4. Install the [SD card](#).
5. Follow the procedure in [After working inside your computer](#).

## Display bezel

### Removing the display bezel

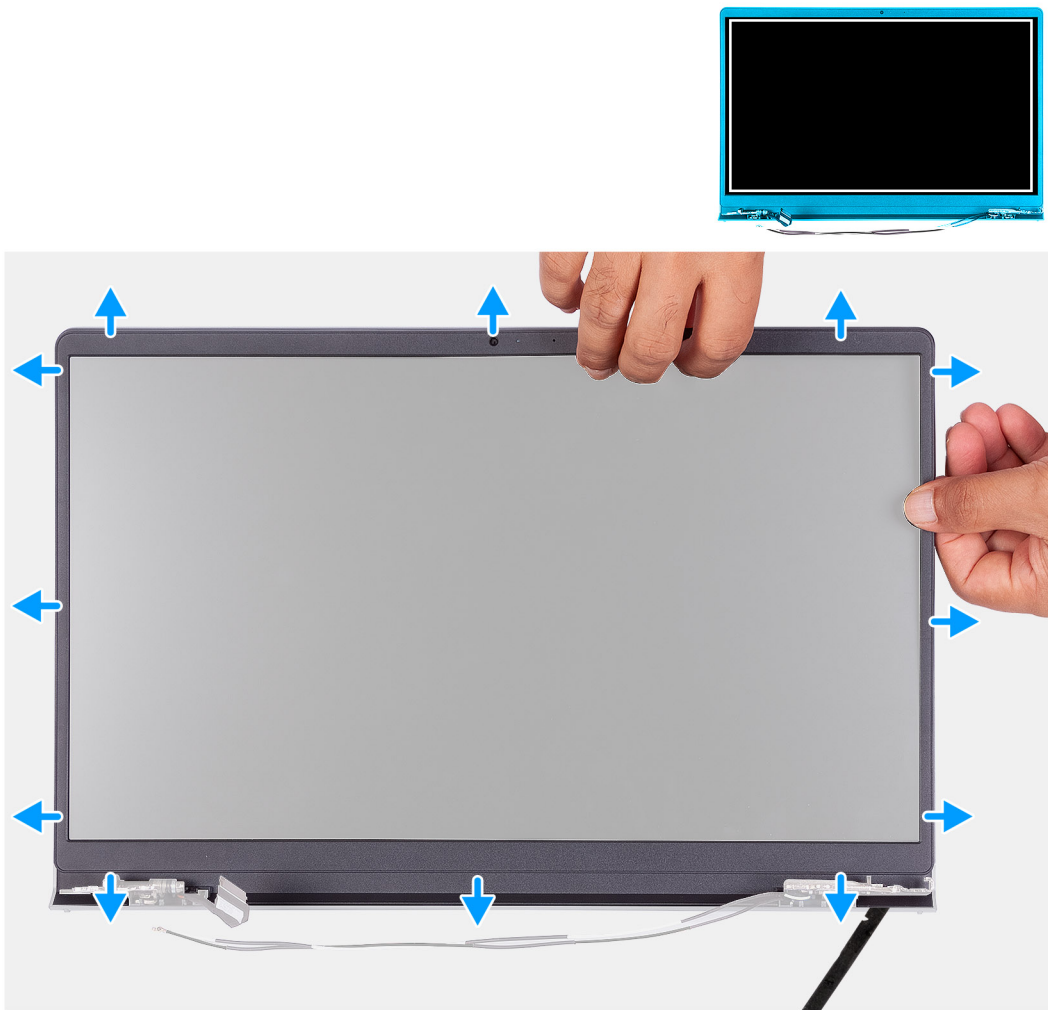
 **CAUTION:** The information in this section is intended for authorized service technicians only.

#### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).
6. Remove the [hinge caps](#).

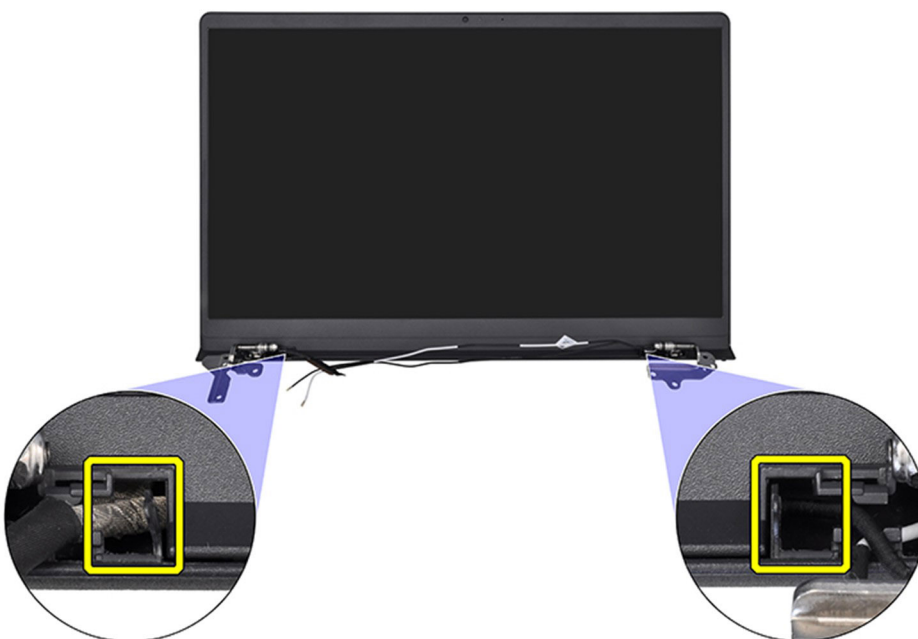
#### About this task

The following image indicates the location of the display bezel and provides a visual representation of the removal procedure.



### Steps

1. Using a plastic scribe, pry open the display bezel from the outer edge of the openings at the bottom side of the display assembly, near the display hinges.



2. Pry open the display bezel from the inner edge at the top side of the display assembly.
3. Continue to pry open the outer edge of the bottom side of the display bezel.
4. Pry open the display bezel from the inner edge at the bottom side of the display assembly.



5. Lift and remove the display bezel from the display assembly.

**NOTE:** Do not use a scribe or any other objects to pry up the display bezel as shown in the images as the pressure applied on the display panel by the scribe can damage the display panel.





## Installing the display bezel

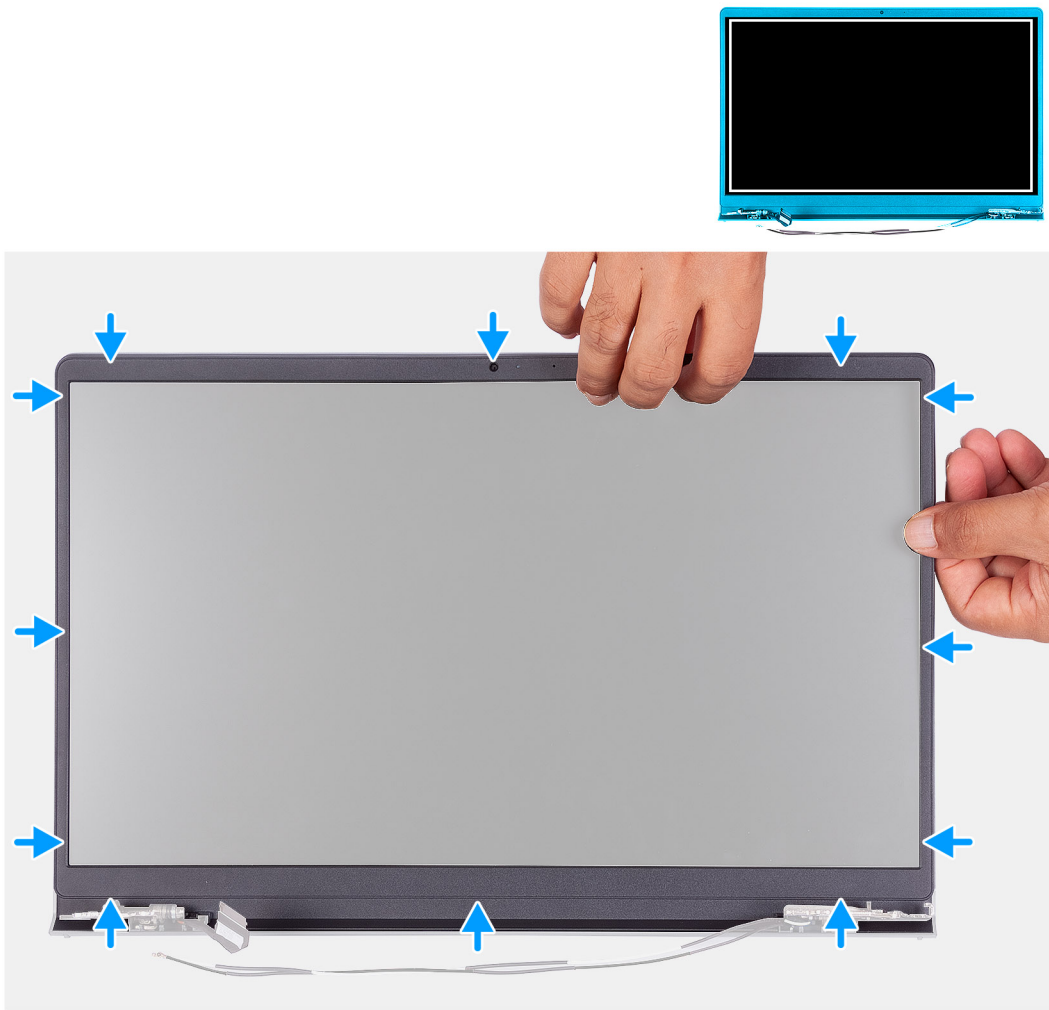
 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation procedure.

### About this task

The following image indicates the location of the display bezel and provides a visual representation of the installation procedure.



### Steps

Align the display bezel with the display back-cover and antenna assembly, and then gently snap the display bezel into place.

### Next steps

1. Install the [hinge caps](#).
2. Install the [display assembly](#).
3. Install the [wireless card](#).
4. Install the [base cover](#).
5. Install the [SD card](#).
6. Follow the procedure in [After working inside your computer](#).

## Hinges

### Removing the hinges

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).



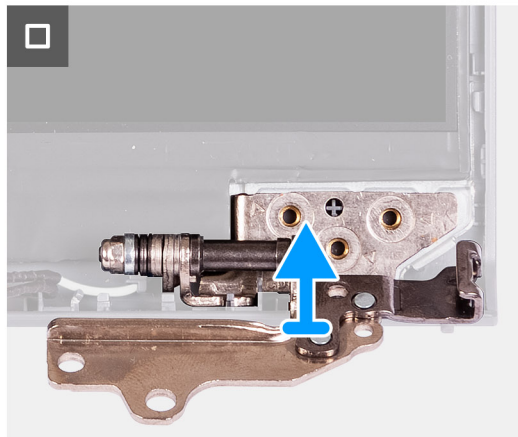
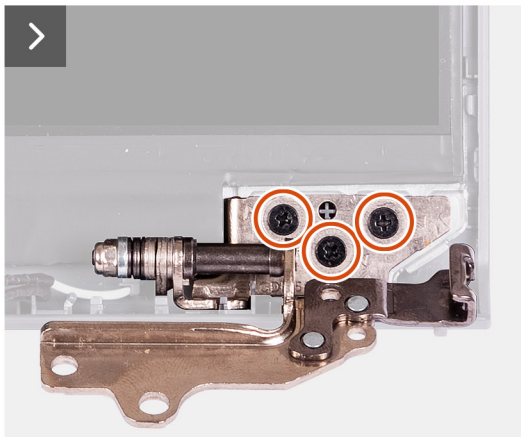
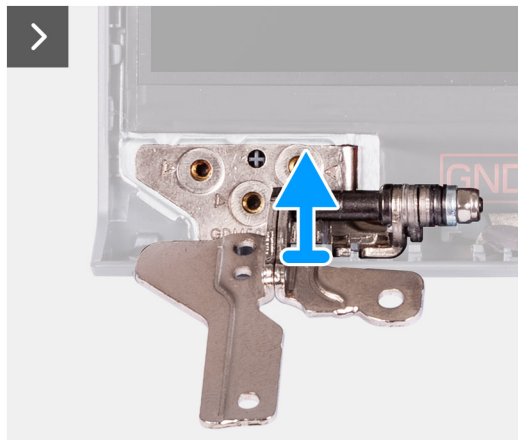
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).
6. Remove the [hinge caps](#).
7. Remove the [display bezel](#).

#### About this task

The following images indicate the location of the hinges and provide a visual representation of the removal procedure.



**6x**  
M2.5x3.8



#### Steps

1. Remove the three (M2.5x3.8) screws from the left hinge.
2. Lift and remove the left hinge from the display assembly.
3. Remove the three (M2.5x3.8) screws from the right hinge.
4. Lift and remove the right hinge from the display assembly.

## Installing the hinges

 **CAUTION:** The information in this section is intended for authorized service technicians only.

## Prerequisites

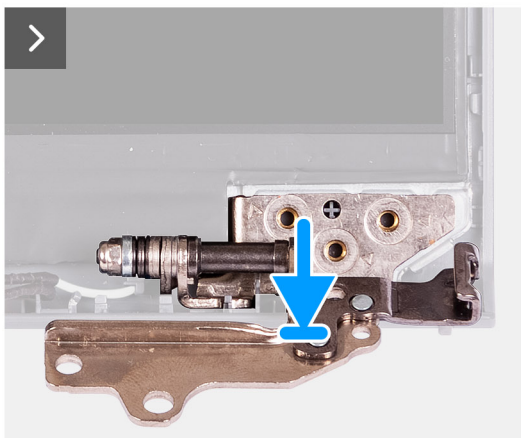
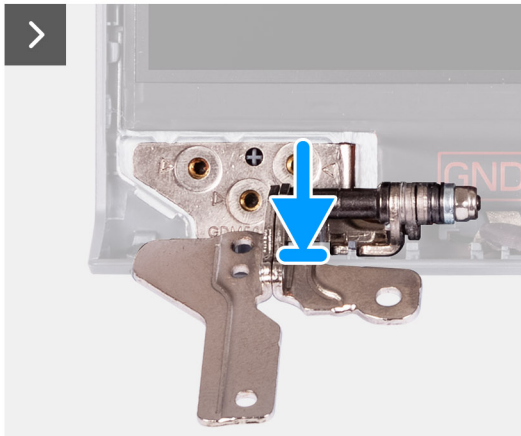
If you are replacing a component, remove the existing component before performing the installation procedure.

## About this task

The following images indicate the location of the hinges and provide a visual representation of the installation procedure.



**6x**  
M2.5x3.8



## Steps

1. Align and place the left hinge on the display assembly.
2. Install the three (M2.5x3.8) screws to secure the hinge to the display panel and back cover.
3. Align and place the right hinge on the display assembly.
4. Install the three (M2.5x3.8) screws to secure the hinge to the display panel and back cover.

## Next steps

1. Install the [display bezel](#).
2. Install the [hinge caps](#).
3. Install the [display assembly](#).
4. Install the [wireless card](#).
5. Install the [base cover](#).
6. Install the [SD card](#).

7. Follow the procedure in [After working inside your computer](#).

## Display panel

### Removing the display panel

 **CAUTION:** The information in this section is intended for authorized service technicians only.

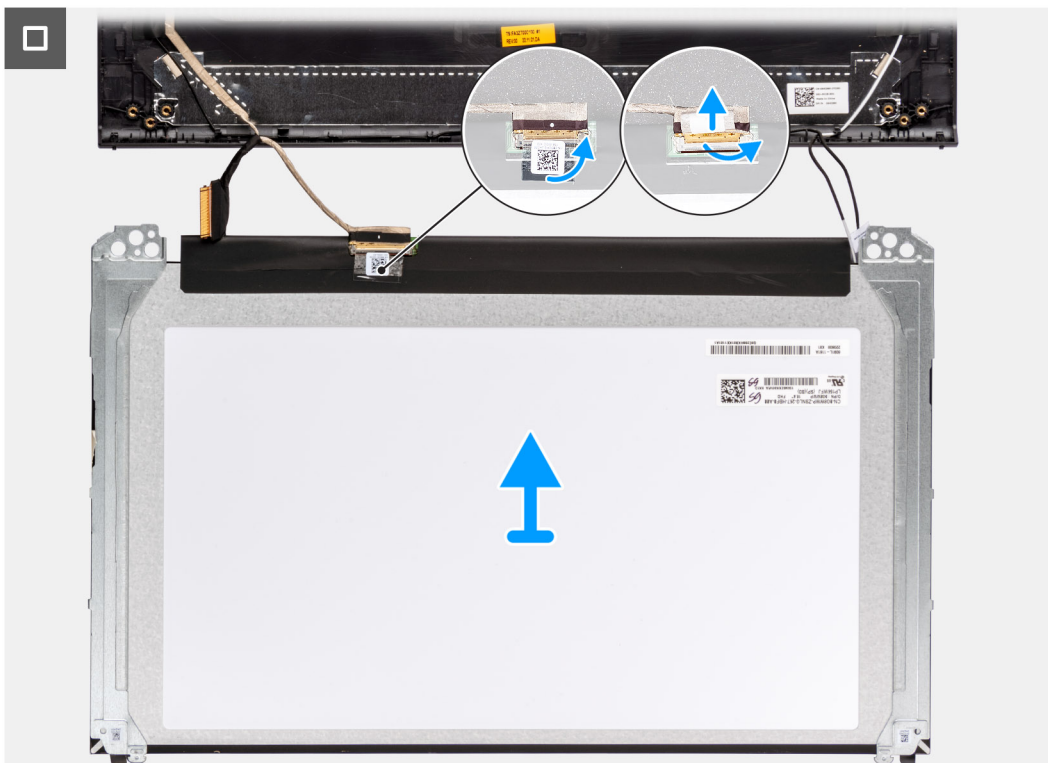
#### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).
6. Remove the [hinge caps](#).
7. Remove the [display bezel](#).
8. Remove the [hinges](#).

#### About this task

The following images indicate the location of the display panel and provide a visual representation of the removal procedure.



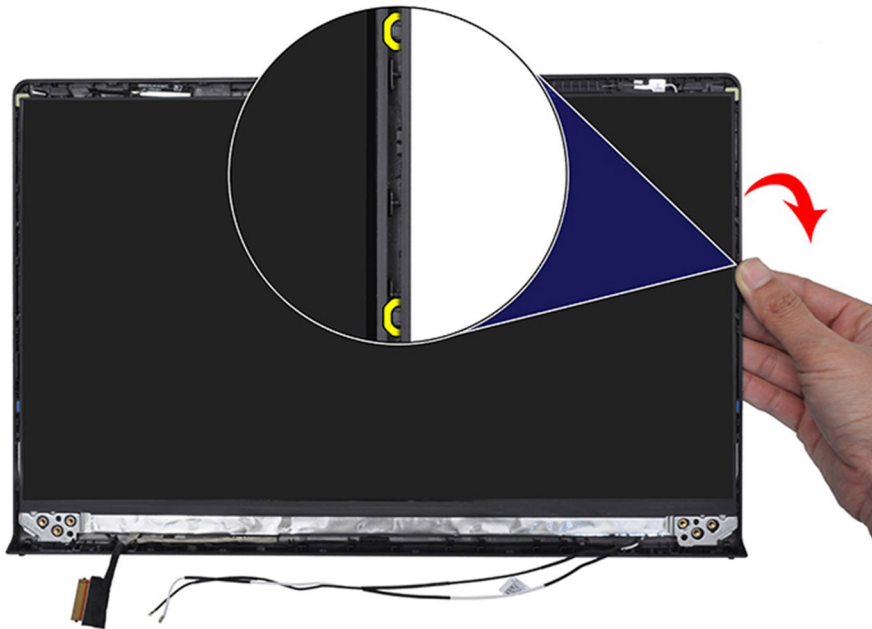


### Steps

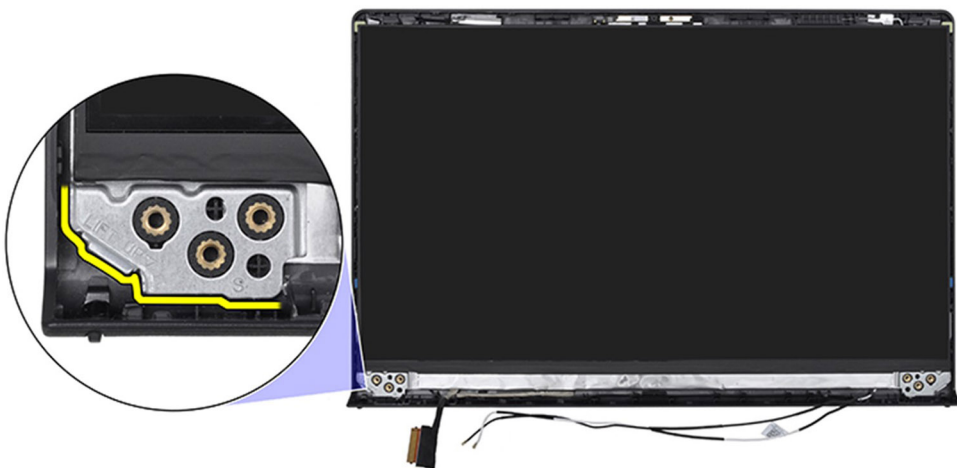
1. Use a plastic scribe to pry the display panel from the bottom-right corner.



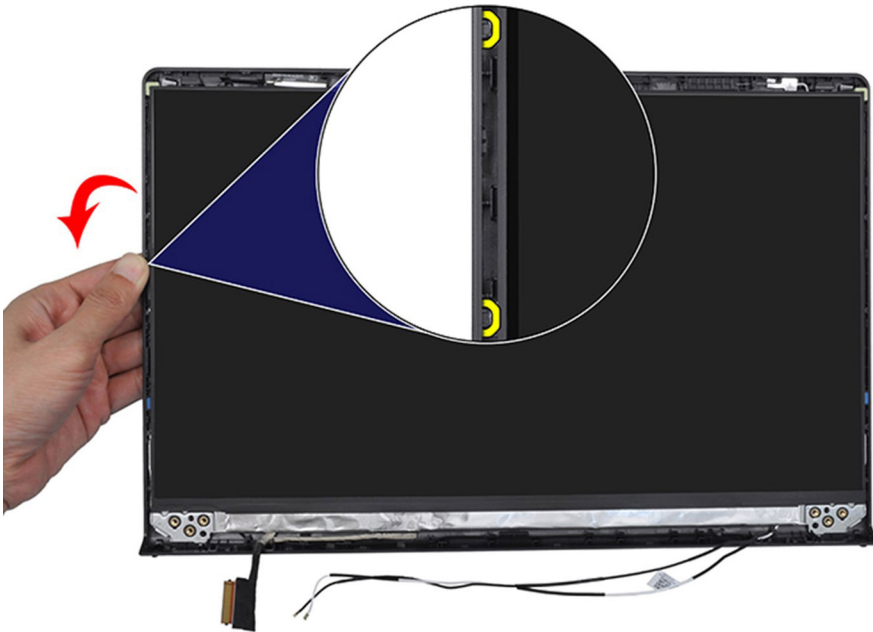
2. Gently start prying the display panel along the right side of the display back-cover using your hand.



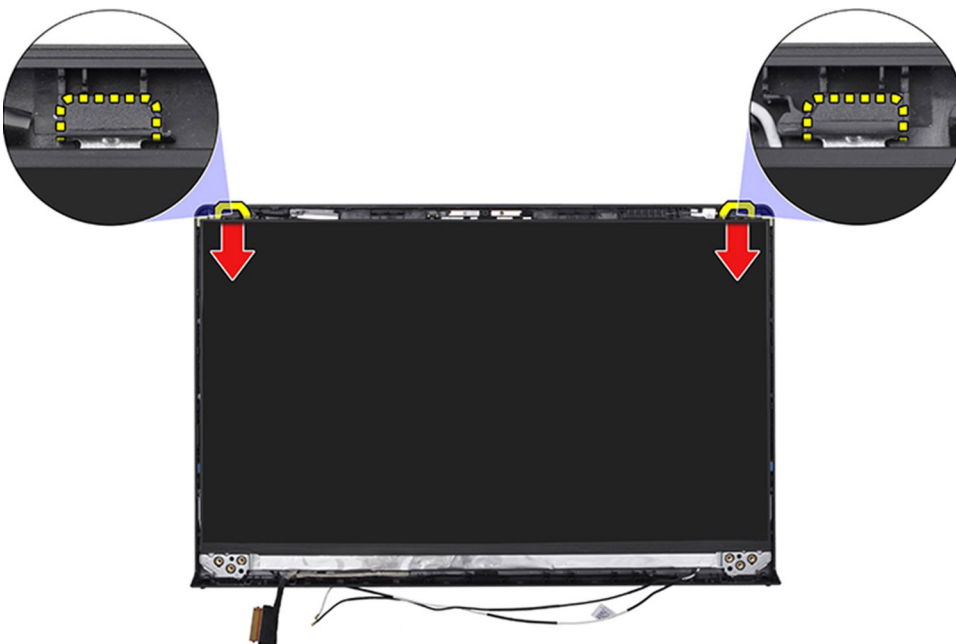
3. Repeat step 1 and 2 for the left side of the display panel assembly.







4. Lift the bottom side of the display panel and slide it downward to release the display brackets from the slots at the top side of the display cover.



5. Gently flip the display panel assembly forward, peel back the Mylar tape securing the display cable on the rear of the display panel.

**NOTE:** Ensure that the panel has a clean and smooth surface to rest on to prevent damage.

6. Disconnect the display cable from the display panel assembly and lift the display panel away from the computer.

**NOTE:** The display panel is assembled with the display brackets as a single service part. Do not pull the two pieces of elastic tape and separate the brackets from the panel.





## Installing the display panel

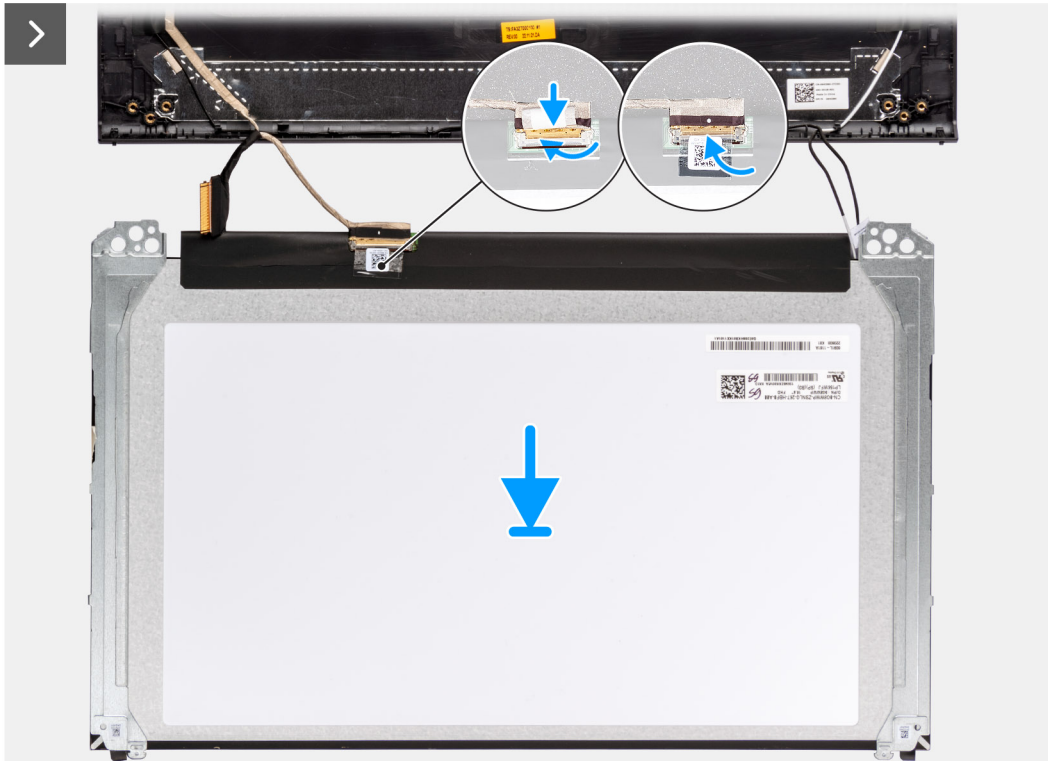
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the display panel and provide a visual representation of the installation procedure.





### Steps

1. Place the display panel and display assembly on a clean and flat surface.
2. Connect the display cable to the connector on the display panel and close the latch.
3. Adhere the tape to secure the display-cable connector latch to the display panel.
4. Lift and rotate the display panel, and then place the display panel on the display assembly.
5. Place the display bezel on the display assembly.
6. Align the tabs on the display bezel to the slots on the display assembly.
7. Press down on the display bezel and snap the display bezel in place.

### Next steps

1. Install the [hinges](#).
2. Install the [display bezel](#).
3. Install the [hinge caps](#).
4. Install the [display assembly](#).
5. Install the [wireless card](#).
6. Install the [base cover](#).
7. Install the [SD card](#).
8. Follow the procedure in [After working inside your computer](#).

# eDP cable

## Removing the eDP cable

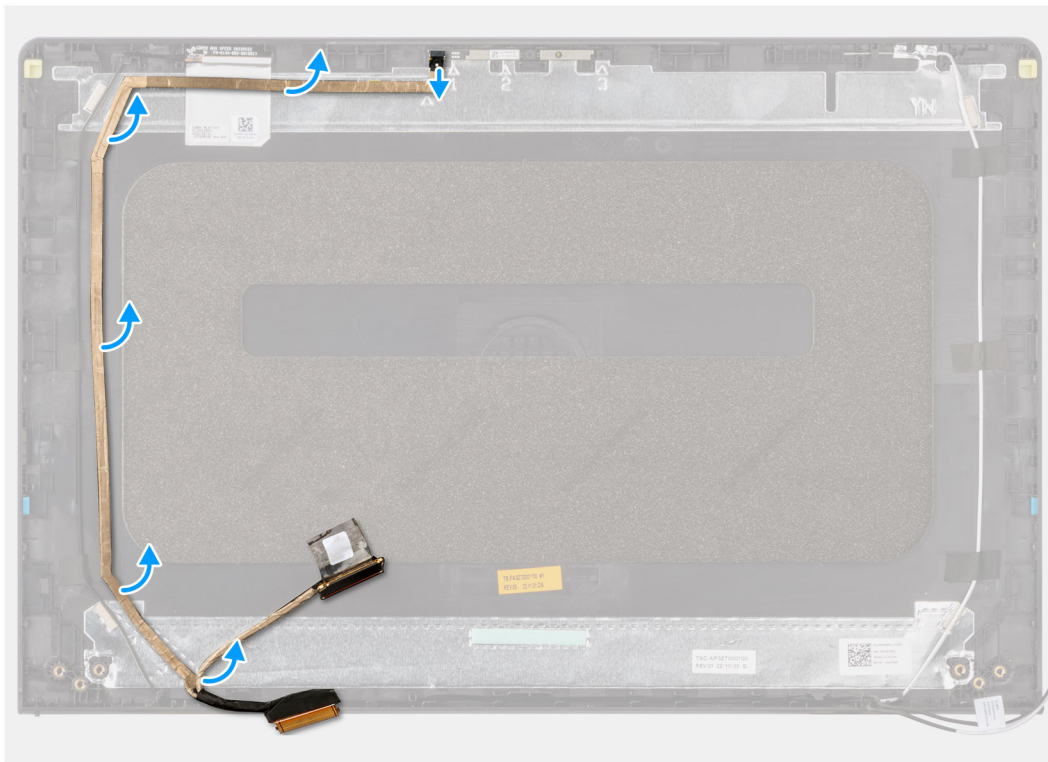
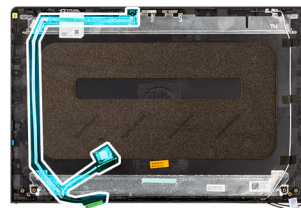
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).
6. Remove the [hinge caps](#).
7. Remove the [display bezel](#).
8. Remove the [hinges](#).
9. Remove the [display panel](#).

### About this task

The following image indicates the location of the eDP cable and provides a visual representation of the removal procedure.



### Steps

1. Disconnect the eDP cable from the camera.

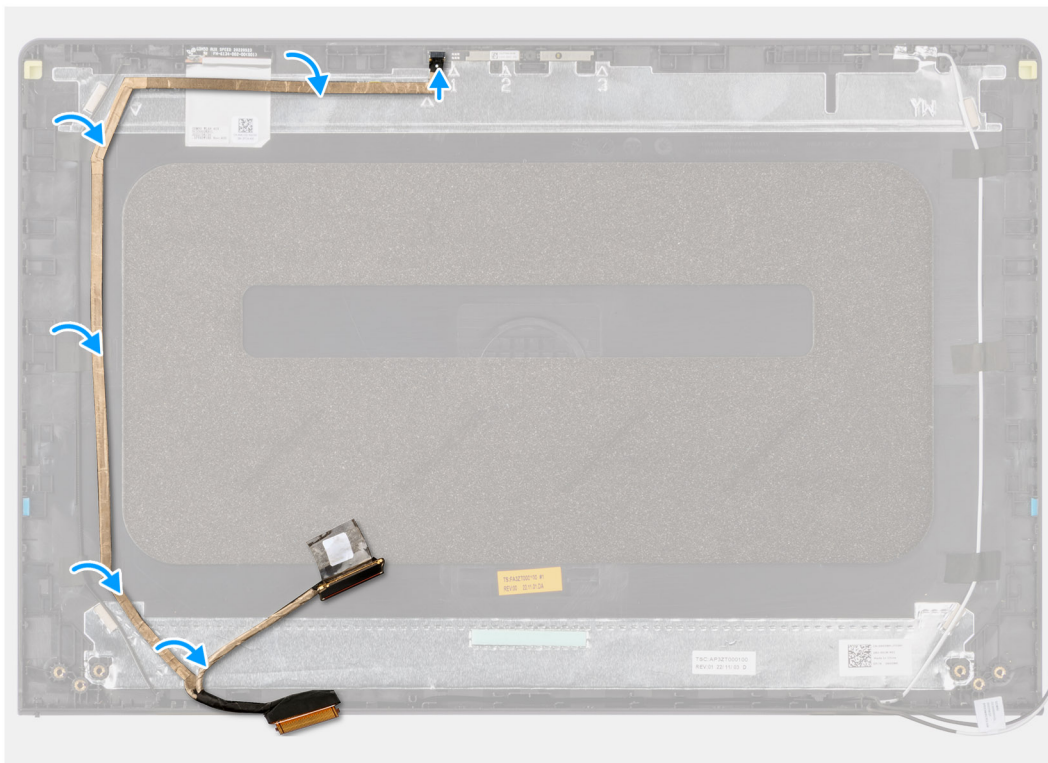
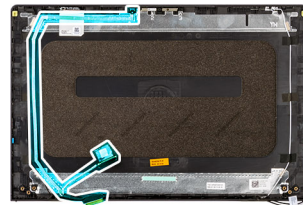
2. Peel and remove the eDP cable from the display cover.

## Installing the eDP cable

**CAUTION:** The information in this section is intended for authorized service technicians only.

### About this task

The following image indicates the location of the eDP cable and provides a visual representation of the installation procedure.



### Steps

1. Adhere the tape to secure the eDP cable to the display back cover.
2. Connect the eDP cable to the camera.

### Next steps

1. Install the [display panel](#).
2. Install the [hinges](#).
3. Install the [display bezel](#).
4. Install the [hinge caps](#).
5. Install the [display assembly](#).
6. Install the [wireless card](#).
7. Install the [base cover](#).
8. Install the [SD card](#).
9. Follow the procedure in [After working inside your computer](#).



# Camera assembly

## Removing the camera module

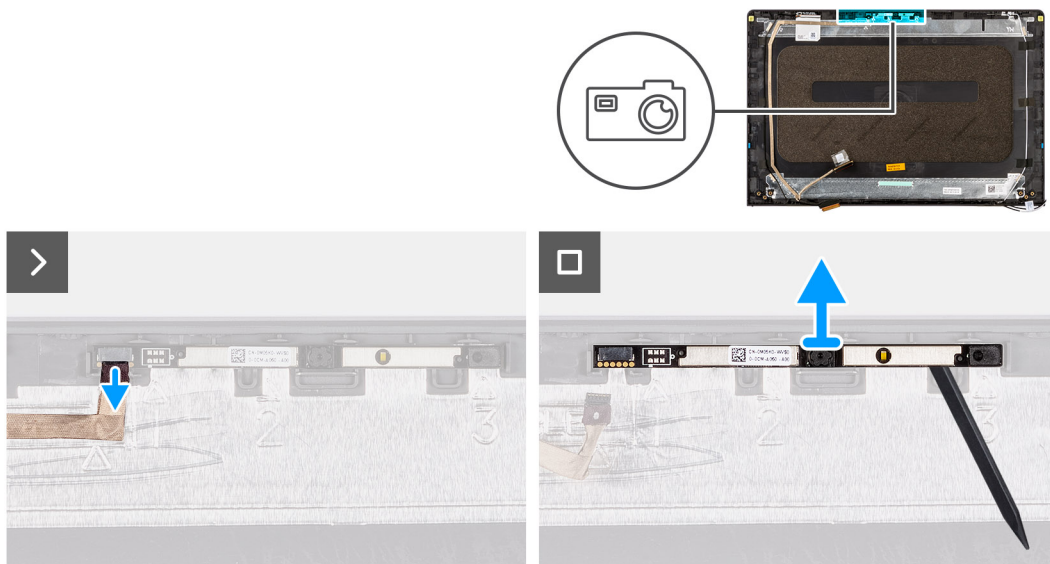
 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).
6. Remove the [hinge caps](#).
7. Remove the [display bezel](#).
8. Remove the [hinges](#).
9. Remove the [display panel](#).

### About this task

The following images indicate the location of the camera module and provide a visual representation of the removal procedure.



### Steps

1. Using the pull tab, disconnect the camera cable from the camera module.
2. Using a plastic scribe, pry the camera module from the display assembly.  
 **NOTE:** Start prying the camera module in a sequential order 1>2>3 as indicated on the display back cover.
3. Lift the camera module from the display assembly.

## Installing the camera module

 **CAUTION:** The information in this section is intended for authorized service technicians only.

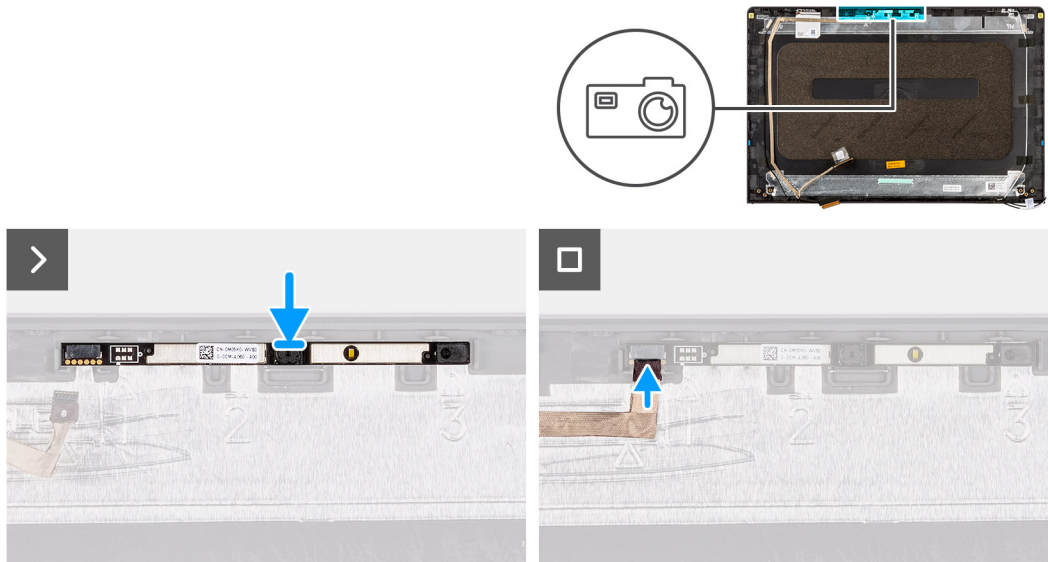


## Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

## About this task

The following images indicate the location of the camera module and provide a visual representation of the installation procedure.



## Steps

1. Adhere the camera module in its slot on the display assembly.
2. Connect the camera cable to the camera module.

## Next steps

1. Install the [display panel](#).
2. Install the [hinges](#).
3. Install the [display bezel](#).
4. Install the [hinge caps](#).
5. Install the [display assembly](#).
6. Install the [wireless card](#).
7. Install the [base cover](#).
8. Install the [SD card](#).
9. Follow the procedure in [After working inside your computer](#).

# Display cover and antenna assembly

## Replacement of the display cover and antenna assembly

 **CAUTION:** The information in this section is intended for authorized service technicians only.

## Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [display assembly](#).

6. Remove the [hinge caps](#).
7. Remove the [display bezel](#).
8. Remove the [hinges](#).
9. Remove the [display panel](#).
10. Remove the [camera module](#).
11. Remove the [eDP cable](#).

**NOTE:** The display cover and antenna assembly cannot be further disassembled. If the wireless antennas are malfunctioning and needs replacement, replace the entire display cover and antenna assembly.

#### About this task

The following image indicates the location of the display cover and antenna assembly and provides a visual representation of the removal procedure.



#### Steps

After performing the pre-requisites, you are left with the display cover and antenna assembly.

## Power-adapter port

### Removing the power-adapter port

**CAUTION:** The information in this section is intended for authorized service technicians only.

#### Prerequisites

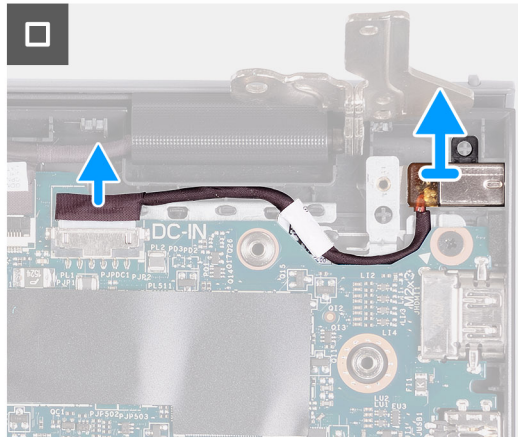
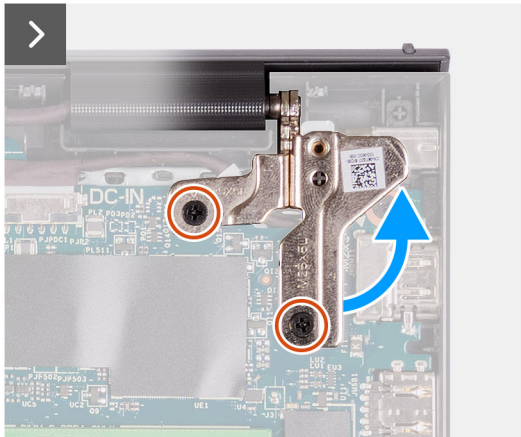
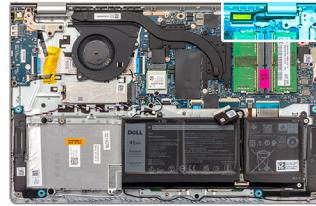
1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).

### About this task

The following images indicate the location of the power-adaptor port and provide a visual representation of the removal procedure.



2x  
M2.5x5



### Steps

1. Remove the two (M2.5x5) screws that secure the right hinge to the palm-rest and keyboard assembly.
2. Disconnect the power-adaptor cable from the connector on the system board.
3. Lift the power-adaptor port from its slot on the palm-rest and keyboard assembly.

## Installing the power-adaptor port

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

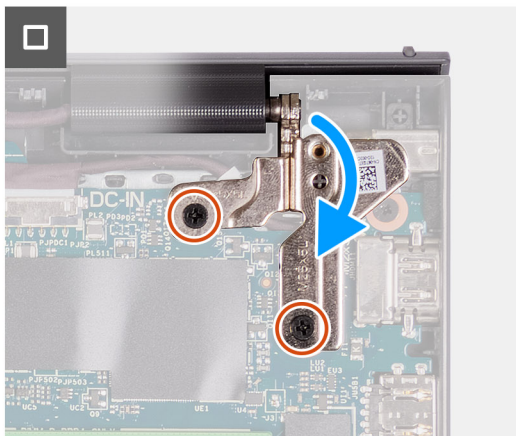
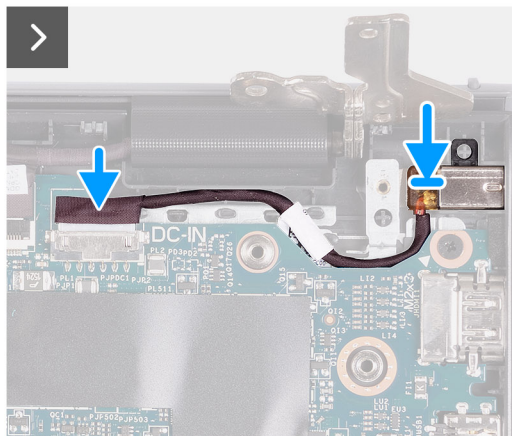
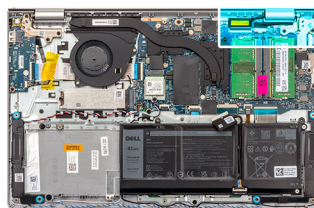
If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following images indicate the location of the power-adaptor port and provide a visual representation of the installation procedure.



**2x**  
M2.5x5



### Steps

1. Using the alignment post, place the power-adaptor port into its slot on the palm-rest and keyboard assembly.
2. Connect the power-adaptor port cable to the connector on the system board.
3. Fold the right hinge down and install the two (M2.5x5) screws to secure it to the palm-rest and keyboard assembly.

### Next steps

1. Install the [base cover](#).
2. Install the [SD card](#).
3. Follow the procedure in [After working inside your computer](#).

## Power-button board

### Removing the power button

**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [I/O board](#).

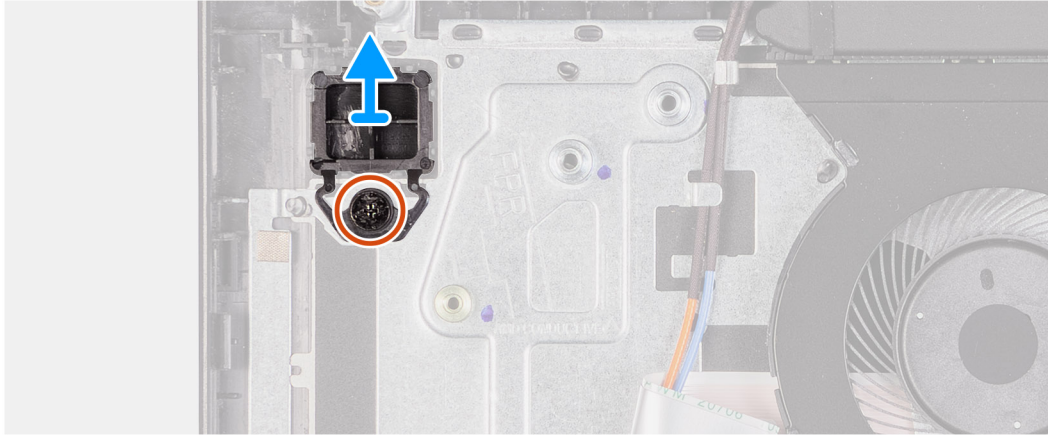
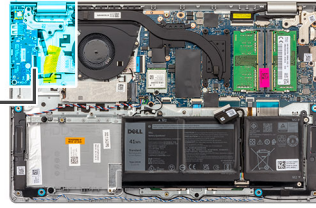
### About this task

The following image indicates the location of the power button and provides a visual representation of the removal procedure.





1x  
M2x2



### Steps

1. Remove the single (M2x2) screw securing the power button to the palm-rest and keyboard assembly.
2. Remove the power button from the computer.

## Installing the power button

 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

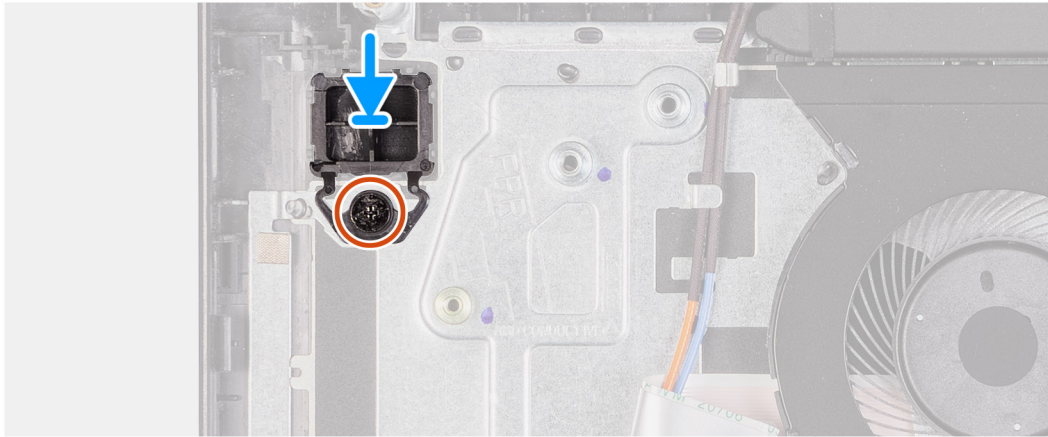
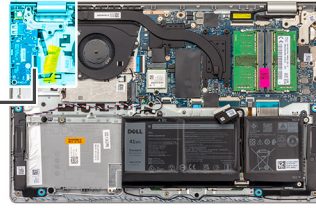
If you are replacing a component, remove the existing component before performing the installation procedure.

### About this task

The following image indicates the location of the power button and provides a visual representation of the installation procedure.



1x  
M2x2



### Steps

1. Place the power-button board into the slot on the palm-rest and keyboard assembly.
2. Install the single (M2x2) screw to secure the power button to the palm-rest and keyboard assembly.

### Next steps

1. Install the [wireless card](#).
2. Install the [I/O board](#).
3. Install the [base cover](#).
4. Install the [SD card](#).
5. Follow the procedure in [After working inside your computer](#).

## Power button with optional fingerprint reader

### Removing the power button with optional fingerprint reader

 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [wireless card](#).
5. Remove the [I/O board](#).

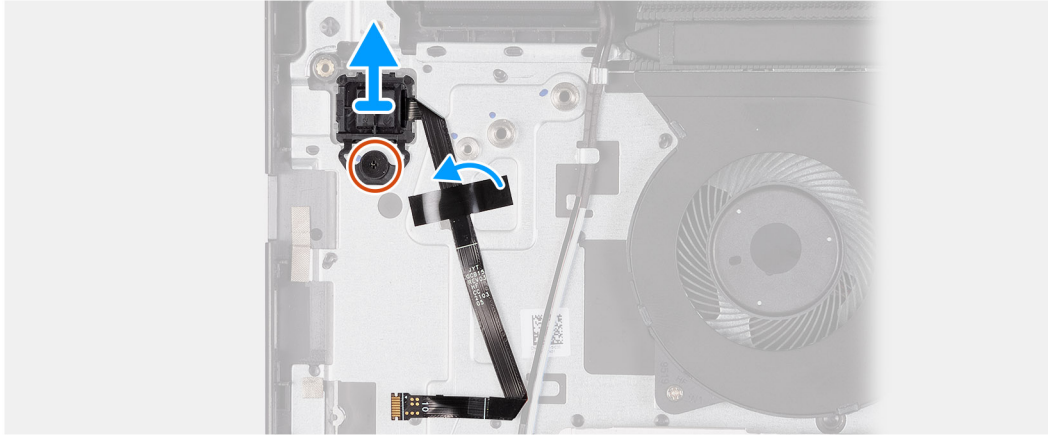
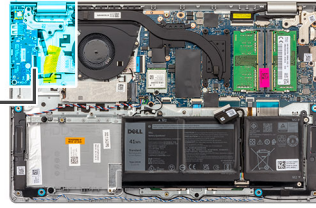
### About this task

The following image indicates the location of the power button with the optional fingerprint reader and provides a visual representation of the removal procedure.





1x  
M2x2



### Steps

1. Remove the (M2x2) screw that secures the power button to the palm-rest and keyboard assembly.
2. Peel the tape securing the fingerprint reader Flexible Flat cable to the palm-rest and keyboard assembly.
3. Lift the power button with the fingerprint reader, along with its cable, off the palm-rest and keyboard assembly.

## Installing the power button with optional fingerprint reader

 **CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

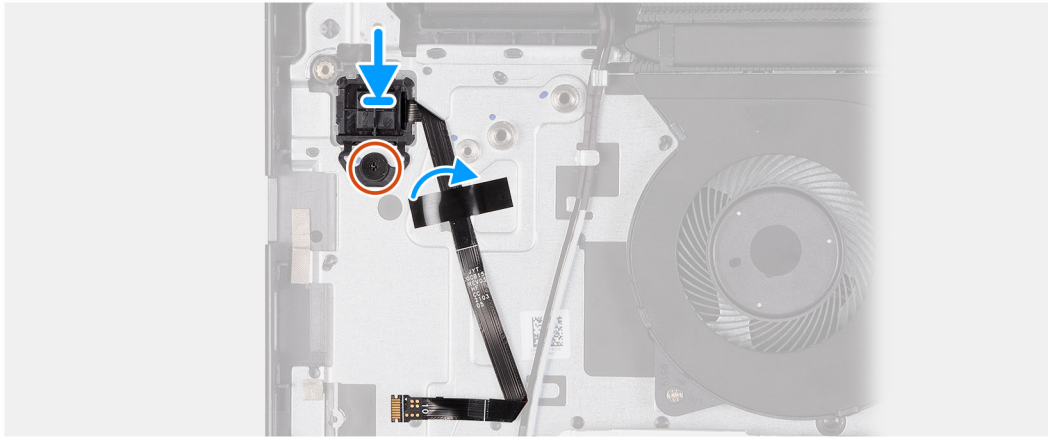
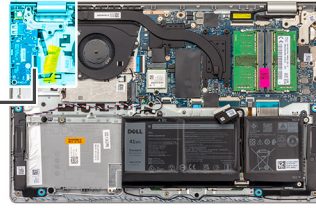
If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following image indicates the location of the power button with the optional fingerprint reader and provides a visual representation of the installation procedure.



1x  
M2x2



### Steps

1. Using the alignment posts, place the power button with fingerprint reader into its slot on the palm-rest and keyboard assembly.
2. Replace the (M2x2) screw that secures the power button with the fingerprint reader to the palm-rest and keyboard assembly.
3. Adhere the tape to secure fingerprint reader Flexible Flat cable to the palm-rest and keyboard assembly.  
 **NOTE:** Fold and align the fingerprint reader Flexible Flat cable to the mark at the right of the power button, and align the white line on the Flexible Flat cable to the mark on the palm-rest and keyboard assembly.

### Next steps

1. Install the [I/O board](#).
2. Install the [wireless card](#).
3. Install the [base cover](#).
4. Install the [SD card](#).
5. Follow the procedure in [After working inside your computer](#).

## System board

### Removing the system board

 **CAUTION:** The information in this section is intended for authorized service technicians only.

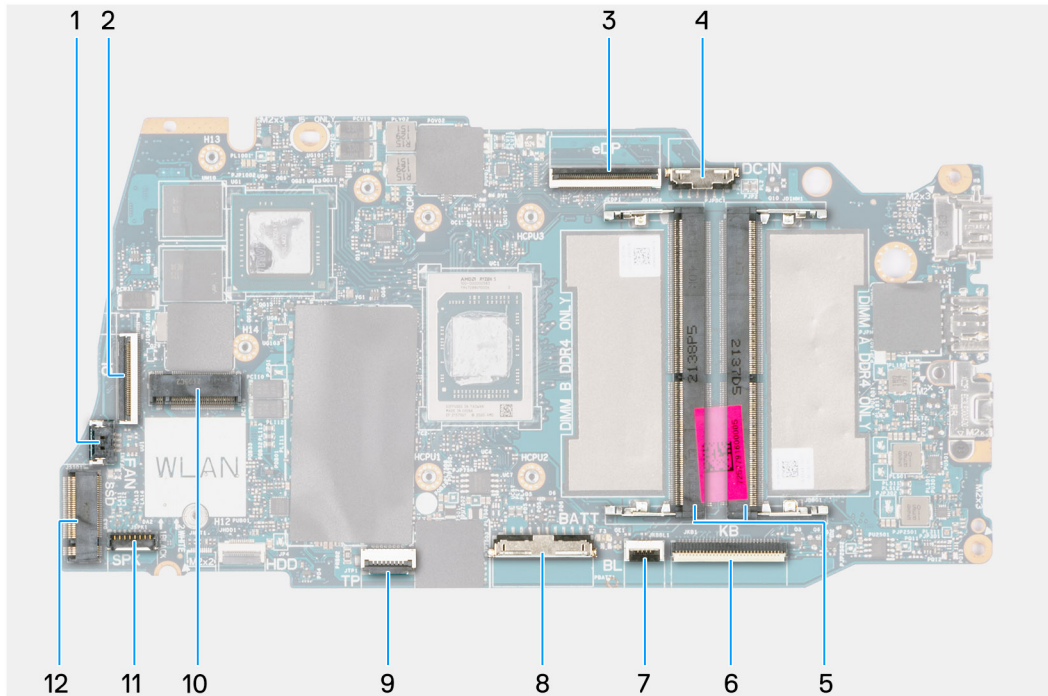
### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [3-cell battery](#) or [4-cell battery](#) (whichever applicable).
5. Remove the [M.2 2230 solid state drive](#).
6. Remove the [wireless card](#).
7. Remove the [fan](#).

8. Remove the [heat sink](#).
9. Remove the [display assembly](#).

### About this task

The following image indicates the connectors on your system board.



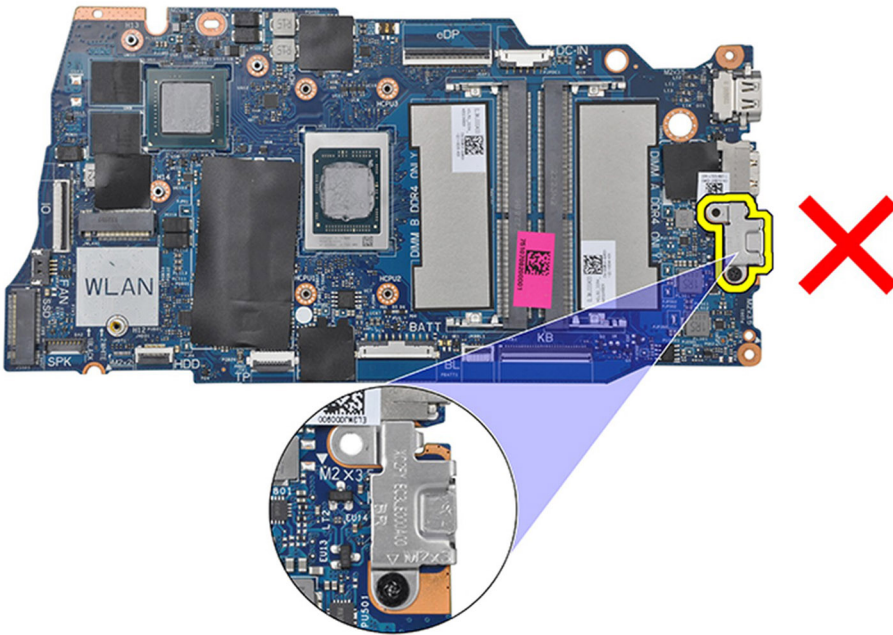
- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 1. Fan connector                    | 2. I/O board FFC connector      |
| 3. eDP connector                    | 4. DC-in port connector         |
| 5. N/A                              | 6. Keyboard FFC connector       |
| 7. Keyboard-backlight FFC connector | 8. Battery connector            |
| 9. Touchpad FFC connector           | 10. Wireless connector          |
| 11. Speaker cable connector         | 12. Solid state drive connector |

The following images indicate the location of the system board and provide a visual representation of the removal procedure.





**NOTE:** For computers shipped with a USB Type-C port, do not remove the type-C bracket that is secured to the system board.



7. Carefully lift the system board away from the chassis.

## Installing the system board

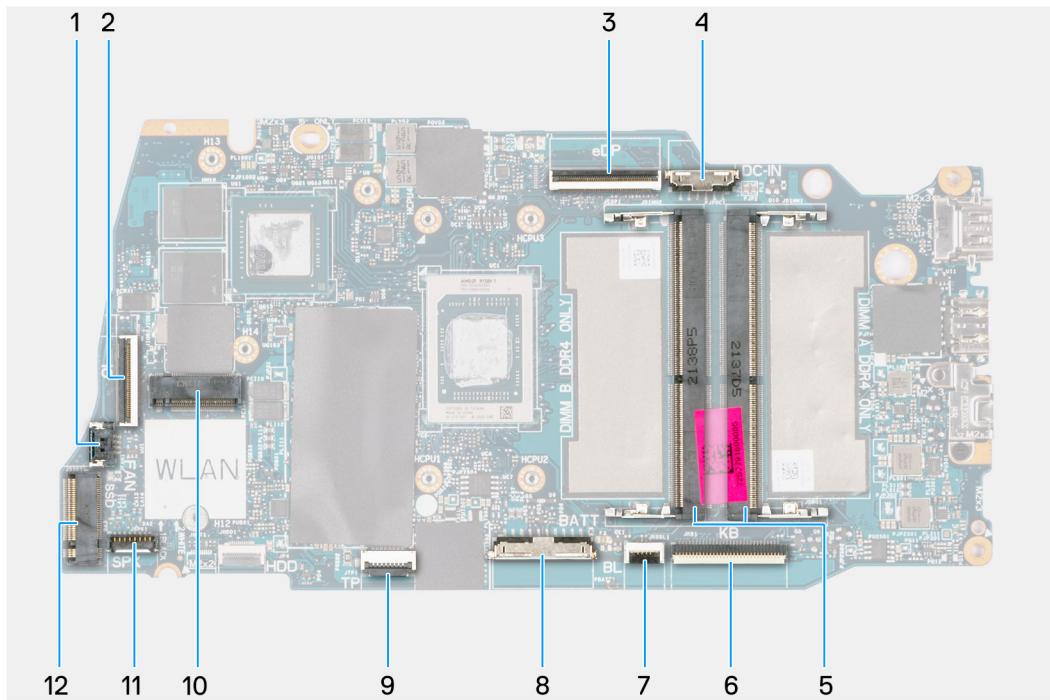
**CAUTION:** The information in this section is intended for authorized service technicians only.

### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

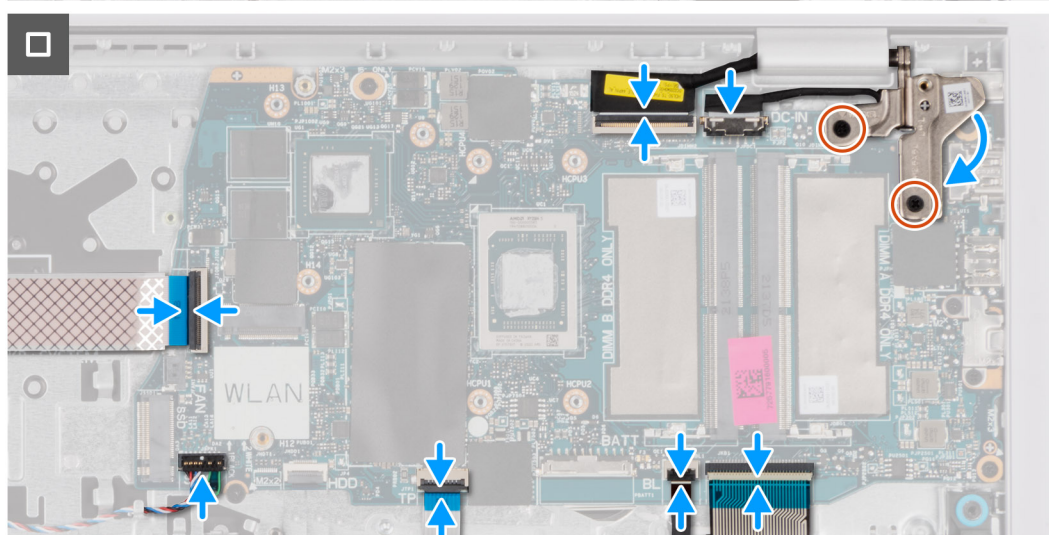
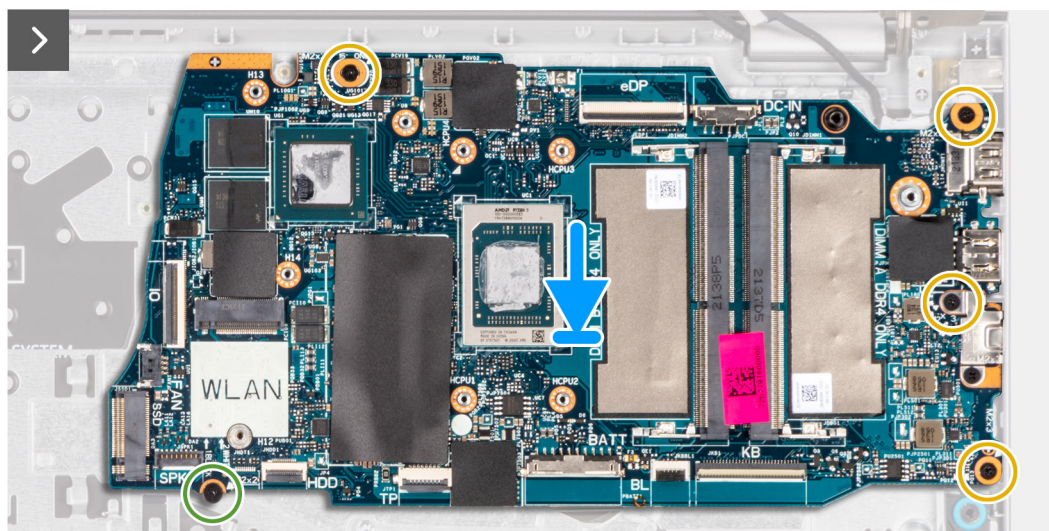
The following image indicates the connectors on your system board.



- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 1. Fan connector                    | 2. I/O board FFC connector      |
| 3. eDP connector                    | 4. DC-in port connector         |
| 5. N/A                              | 6. Keyboard FFC connector       |
| 7. Keyboard-backlight FFC connector | 8. Battery connector            |
| 9. Touchpad FFC connector           | 10. Wireless connector          |
| 11. Speaker cable connector         | 12. Solid state drive connector |

The following images indicate the location of the system board and provide a visual representation of the installation procedure.





## Steps

1. Place the system board on the palm-rest and keyboard assembly.
2. Align the screw holes on the system board with the screw holes on the palm-rest assembly.
3. Replace the single (M2x2) screw that secures the system board to the palm-rest assembly.
4. Replace the four (M2x3.5) screws that secure the system board to the palm-rest assembly.
5. Connect the following cables to the system board:
  - a. I/O board Flexible Flat cable
  - b. Speaker cable
  - c. Touchpad Flexible Flat cable
  - d. Keyboard backlight Flexible Printed cable (for computers with backlit keyboard)
  - e. Keyboard Flexible Printed cable
  - f. Power adapter port cable
  - g. eDP cable
6. Close the right-display hinge and align the screw holes on the right-display hinge with the screw holes on the system board.

7. Replace the two (M2.5x5) screws to secure it to the palm-rest assembly.

### Next steps

1. Install the [display assembly](#).
2. Install the [heat sink](#).
3. Install the [fan](#).
4. Install the [wireless card](#).
5. Install the [M.2 2230 solid state drive](#).
6. Install the [3-cell battery](#) or [4-cell battery](#) (whichever applicable).
7. Install the [base cover](#).
8. Install the [SD card](#).
9. Follow the procedure in [After working inside your computer](#).

## Palm-rest and keyboard assembly

### Removing the palm-rest and keyboard assembly

 **CAUTION:** The information in this section is intended for authorized service technicians only.

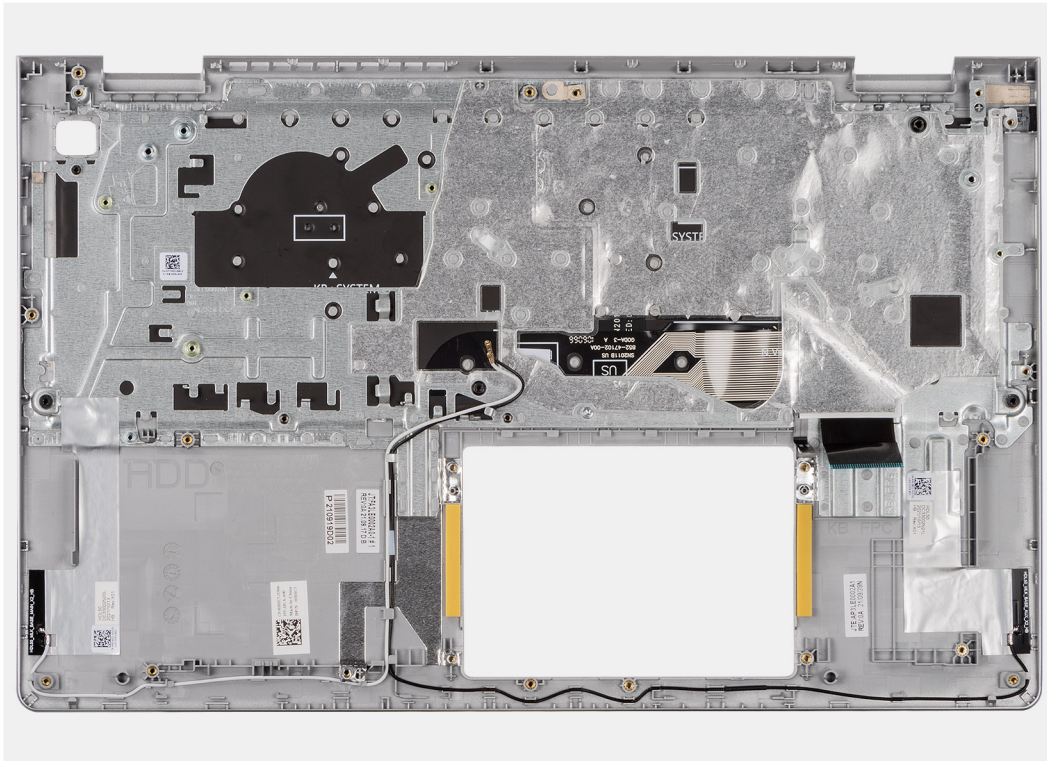
#### Prerequisites

1. Follow the procedure in [Before working inside your computer](#).
2. Remove the [SD card](#).
3. Remove the [base cover](#).
4. Remove the [3-cell battery](#) or [4-cell battery](#) (whichever is applicable).
5. Remove the [M.2 2230 solid state drive](#).
6. Remove the [wireless card](#).
7. Remove the [fan](#).
8. Remove the [speakers](#).
9. Remove the [touchpad](#).
10. Remove the [heat sink](#).
11. Remove the [I/O-board cable](#).
12. Remove the [I/O board](#).
13. Remove the [display assembly](#).
14. Remove the [power-adaptor port](#).
15. Remove the [power button](#) or [power button with optional fingerprint reader](#) (whichever is applicable).
16. Remove the [system board](#).

 **NOTE:** The system board can be removed with the heat sink attached to it in order to simplify the procedure and preserve the thermal bond between the system board and heat sink.

#### About this task

The image below shows the palm-rest and keyboard assembly after the **Prerequisites** have been performed.



## Steps

After performing the **Prerequisites**, you are left with the palm-rest and keyboard assembly.

## Installing the palm-rest and keyboard assembly

**CAUTION:** The information in this section is intended for authorized service technicians only.

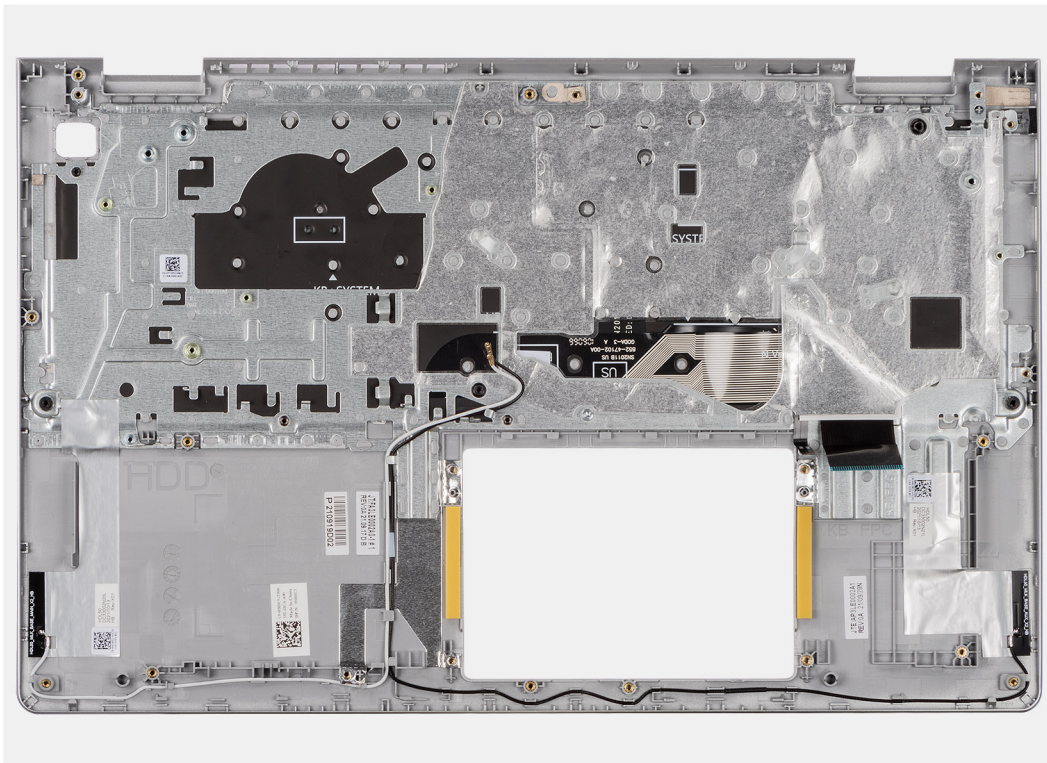
### Prerequisites

If you are replacing a component, remove the existing component before performing the installation process.

### About this task

The following image indicates the location of the palm-rest and keyboard assembly and provides a visual representation of the installation procedure.





## Steps

Place the palm-rest and keyboard assembly on a flat surface and install the components that are listed in **Next steps** to complete the palm-rest and keyboard assembly installation.

## Next steps

1. Install the [system board](#).
2. Install the [power button](#) or [power button with optional fingerprint reader](#) (whichever is applicable).
3. Install the [power-adapter port](#).
4. Install the [display assembly](#).
5. Install the [I/O board](#).
6. Install the [I/O-board cable](#).
7. Install the [heat sink](#).
8. Install the [touchpad](#).
9. Install the [speakers](#).
10. Install the [fan](#).
11. Install the [wireless card](#).
12. Install the [M.2 2230 solid state drive](#).
13. Install the [3-cell battery](#) or [4-cell battery](#) (whichever is applicable).
14. Install the [base cover](#).
15. Install the [SD card](#).
16. Follow the procedure in [After working inside your computer](#).

# Software

This chapter details the supported operating systems along with instructions on how to install the drivers.

## Operating system

Your Dell Pro 15 Essential PV15255 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Education
- Windows 11 Home
- Windows 11 Home (S Mode)
- Ubuntu Linux 22.04 LTS, 64-bit

## Drivers and downloads

When troubleshooting, downloading, or installing drivers, it is recommended that you read the [Dell Knowledge Base article Drivers and Downloads FAQs](#).

# BIOS Setup

 **CAUTION:** Certain changes can make your computer work incorrectly. Before you change the settings in BIOS Setup, it is recommended that you note down the original settings for future reference.

 **NOTE:** Depending on the computer and the installed devices, the options that are listed in this section may differ.

Use BIOS Setup for the following purposes:

- Get information about the hardware installed in your computer, such as the amount of RAM and the capacity of the storage device.
- Change the system configuration information.
- Set or change user-selectable options such as the user password, enabling or disabling base devices, and configuring hard drive settings.

## Entering BIOS Setup program

Turn on or restart your computer and press F2 immediately.

## Navigation keys

 **NOTE:** For most of the BIOS Setup options, changes that you make are recorded but do not take effect until you restart the computer.

**Table 30. Navigation keys**

| Keys       | Navigation                                                                                                                                                                           |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Up arrow   | Moves to the previous field.                                                                                                                                                         |
| Down arrow | Moves to the next field.                                                                                                                                                             |
| Enter      | Selects a value in the selected field (if applicable) or follows the link in the field.                                                                                              |
| Spacebar   | Expands or collapses a drop-down list, if applicable.                                                                                                                                |
| Tab        | Moves to the next focus area.                                                                                                                                                        |
| Esc        | Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restart the computer. |

## F12 One Time Boot menu

To enter the One Time Boot menu, turn on or restart your computer, and then press F12 immediately.

 **NOTE:** If you are unable to enter the One Time Boot menu, repeat the above action.

The One Time Boot menu displays the devices that you can boot from and also display the options to start diagnostics. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive (if available)



 **NOTE:** XXXX denotes the SATA drive number.

- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

The One Time Boot menu screen also displays the option to access BIOS Setup.

## BIOS Setup options

 **NOTE:** Depending on your computer and its installed devices, the items that are listed in this section may or may not be displayed.

**Table 31. BIOS Setup options—Main menu**

| Main                                 | Description                                                  |
|--------------------------------------|--------------------------------------------------------------|
| <b>Dell Pro 15 Essential PV15255</b> |                                                              |
| System Time                          | Displays the current time in hh:mm:ss format.                |
| System Date                          | Displays the current date in mm/dd/yyyy format.              |
| BIOS Version                         | Displays the BIOS version number.                            |
| Product Name                         | Displays the model number of your computer.                  |
| Service Tag                          | Displays the Service Tag of the computer.                    |
| Asset Tag                            | Displays the Asset Tag of the computer.                      |
| CPU Type                             | Displays the processor type.                                 |
| CPU Speed                            | Displays the processor speed.                                |
| CPU ID                               | Displays the processor identification code.                  |
| <b>CPU Cache</b>                     |                                                              |
| L1 Cache                             | Displays the processor L1 cache size.                        |
| L2 Cache                             | Displays the processor L2 cache size.                        |
| L3 Cache                             | Displays the processor L3 cache size.                        |
| M.2 PCIe SSD                         | Displays the PCIe SSD information connected to the M.2 slot. |
| AC Adapter Type                      | Displays the type of AC adapter.                             |
| System Memory                        | Displays the size of memory installed.                       |
| Memory Speed                         | Displays the speed of memory.                                |
| Keyboard Type                        | Displays the type of keyboard installed on the computer.     |

**Table 32. BIOS Setup options—Advanced menu**

| Advanced                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB Emulation            | Enables or disables the USB emulation feature. This feature defines how the BIOS, in the absence of a USB-aware operating system, handles USB devices. USB emulation is always enabled during POST.<br> <b>NOTE:</b> You cannot boot any type of USB device (floppy, hard drive, or memory key) when this option is off.<br>Default: Enabled |
| SATA/NVMe Operation mode | Allows you to configure the operating mode of the integrated SATA hard drive controller.                                                                                                                                                                                                                                                                                                                                        |

**Table 32. BIOS Setup options—Advanced menu (continued)**

| <b>Advanced</b>                       | <b>Description</b>                                                                                                                                         |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | Default: AHCI /NVMe                                                                                                                                        |
| Adapter Warnings                      | Allows you to choose if the computer should display warning messages when you use AC adapters that are not supported by your computer.<br>Default: Enabled |
| Function Key Behavior                 | Allows you to set a function key or multimedia key as the default function key behavior.<br>Default: Multimedia key                                        |
| Keyboard Illumination                 | Selects the operating mode of the keyboard illumination feature.<br>Default: Disabled                                                                      |
| Keyboard Backlight with AC            | Selects the timeout value for the keyboard backlight when an AC adapter is plugged into the computer.<br>Default: 1 minute                                 |
| Keyboard Backlight with Battery       | Selects the timeout value for the keyboard backlight when the computer is running on battery power.<br>Default: 1 minute                                   |
| Battery Health                        | Displays the battery health.                                                                                                                               |
| External USB Ports                    | Allows you to enable or disable the external USB ports.<br>Default: Enabled                                                                                |
| Enable Audio                          | Allows you to enable or disable the audio.<br>Default: Enabled                                                                                             |
| Microphone                            | Allows you to enable or disable the microphone.<br>Default: Enabled                                                                                        |
| Camera                                | Enables or disables the camera.<br>Default: Enabled                                                                                                        |
| Secure Digital (SD) card              | Enables or disables the SD card.<br>Default: Enabled                                                                                                       |
| Battery Charge Configuration          | Set the battery charge settings with a preselected custom charge start and stop.<br>Default: Adaptive                                                      |
| Advanced Battery Charge Configuration | Enable Advanced Battery Charge Configuration from the beginning of the day to a specified work period.<br>Default: Disabled                                |
| IPv4 HTTP Support                     | Default: Disabled                                                                                                                                          |
| IPv6 HTTP Support                     | Default: Disabled                                                                                                                                          |
| <b>Maintenance</b>                    |                                                                                                                                                            |
| Data Wipe on next boot                | Enables or disables data wipe on the next boot.<br>Default: Disabled                                                                                       |

**Table 32. BIOS Setup options—Advanced menu (continued)**

| <b>Advanced</b>                        | <b>Description</b>                                                                                                                                                   |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIOS Recovery from Hard Drive          | Enables the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive or an external USB drive.<br>Default: Enabled |
| BIOS Auto-Recovery                     | Enables BIOS to automatically recover BIOS without user actions.<br>Default: Disabled                                                                                |
| <b>SupportAssist System Resolution</b> |                                                                                                                                                                      |
| Auto OS Recovery Threshold             | Controls the automatic boot flow for SupportAssist System Resolution Console and for the Dell OS Recovery tool.<br>Default: 2                                        |
| SupportAssist OS Recovery              | Enables or disables the boot flow for the SupportAssist OS Recovery tool in the even of certain system errors.<br>Default: Enabled                                   |

**Table 33. BIOS Setup options—Security menu**

| <b>Security</b>                               | <b>Description</b>                                                                                                                                                                                                       |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Admin Password Status                         | Displays if the administrator password is clear or set.<br>Default: Not Set                                                                                                                                              |
| System Password Status                        | Displays if the system password is clear or set.<br>Default: Not Set                                                                                                                                                     |
| Asset Tag                                     | Allows the user to let the system's Asset Tag.                                                                                                                                                                           |
| Admin Password                                | Allows you to set the administrator password. The administrator password controls access to the system setup utility.                                                                                                    |
| System Password                               | Allows you to set the system password. The system password controls access to the computer at boot.                                                                                                                      |
| Password Change                               | Allows you to permit or deny system password or hard drive password changes.<br>Default: Permitted                                                                                                                       |
| Absolute®                                     | Allows you to track your computer<br>Default: Enabled                                                                                                                                                                    |
| Absolute® Status                              | Allows you to activate or deactivate the Absolute® feature Displays if the system password is clear or set.<br>Default: Deactivate                                                                                       |
| WINDOWS SMM SECURITY MITIGATIONS TABLE (WSMT) | Enables or disables configuration of platform features on Dell Client Systems with WSMT-enabled BIOS.<br>Default: Enabled                                                                                                |
| Firmware TPM                                  | Enable or disable the firmware TPM.<br>Default: Enabled                                                                                                                                                                  |
| PPI Bypass for Clear Command                  | Allows you to control the TPM Physical Presence Interface (PPI). When enabled, this setting allows the OS to skip BIOS PPI user prompts when issuing the Clear command. Changes to this setting take effect immediately. |

**Table 33. BIOS Setup options—Security menu (continued)**

| Security                      | Description                                                                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | Default: Disabled                                                                                                                                                   |
| TPM Security                  | TPM 2.0 Security options.                                                                                                                                           |
| Enable Pre-Boot DMA support   | Enable or disable the pre-boot DMA support.<br>Default: Enabled                                                                                                     |
| Enable OS kernel DMA support  | Enable or disable the OS kernel DMA support.<br>Default: Enabled                                                                                                    |
| UEFI Firmware Capsule Updates | Enables or disables BIOS updates through UEFI capsule update packages.<br>Default: Enabled                                                                          |
| <b>Secure Boot</b>            |                                                                                                                                                                     |
| System Status:                |                                                                                                                                                                     |
| Secure Boot Database          | A security standard that ensures the device boots using only software that is trusted by the Original Equipment Manufacturer (OEM)<br>Default: Installed and Locked |
| Secure Boot Status            | Ensure that only trusted software can be run on the system.<br>Default: Disabled                                                                                    |
| Secure Boot Mode              | Prevents any malicious software from loading when the computer starts up.<br>Default: Deployed Mode                                                                 |
| User Customized Security      | Default: No                                                                                                                                                         |
| Secure Boot                   | Enables or disables Secure Boot.<br>Default: Disabled                                                                                                               |
| Select Secure Mode            | Default: Deployed Mode                                                                                                                                              |
| Expert Key Management         | Allows you to manipulate the security key databases only if the system is in Custom Mode.                                                                           |
| Custom Mode                   | Default: Disabled                                                                                                                                                   |
| Enable Microsoft UEFI CA      | Default: Enabled                                                                                                                                                    |

**Table 34. BIOS Setup options—Boot menu**

| Boot                         | Description                     |
|------------------------------|---------------------------------|
| File Browser Add Boot Option | Allows you to add boot options. |

**Table 35. BIOS Setup options—Exit menu**

| Exit                     | Description                                                        |
|--------------------------|--------------------------------------------------------------------|
| Exit Saving Changes      | Allows you to exit system setup and save your changes.             |
| Save Change Without Exit | Allows you to save your changes without exiting the BIOS setup.    |
| Exit Discarding Changes  | Allows you to exit the BIOS setup without saving the changes.      |
| Load Optimal Defaults    | Allows you to restore default values for all system setup options. |
| Discard Changes          | Allows you to load previous values for all system setup options.   |

# Updating the BIOS

## Updating the BIOS in Windows

### About this task

-  **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, see the Knowledge Base Resource [Updating the BIOS on Dell systems with BitLocker enabled](#).
-  **CAUTION:** Do not turn off the computer during the BIOS flash update process. The computer may not boot if you turn off your computer.

### Steps

1. Go to [Dell Support Site](#).
2. Go to **Identify your product or ask support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.  
 **NOTE:** If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.
3. Click **Drivers & Downloads**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. After the download is complete, navigate to the folder where the BIOS update file has been saved.
8. Double-click the BIOS update file and follow the on-screen instructions.  
For more information, search in the Knowledge Base Resource at [Dell Support Site](#).

## Updating the BIOS using the USB drive in Windows

### About this task

-  **CAUTION:** If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, see the Knowledge Base Resource [Updating the BIOS on Dell systems with BitLocker enabled](#).
-  **CAUTION:** Do not turn off the computer during the BIOS flash update process. The computer may not boot if you turn off your computer.

### Steps

1. Go to [Dell Support Site](#).
2. Go to **Identify your product or ask support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.  
 **NOTE:** If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.
3. Click **Drivers & Downloads**.

4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. Create a bootable USB drive. For more information, search the Knowledge Base Resource at [Dell Support Site](#).
8. Copy the BIOS Setup program file to the bootable USB drive.
9. Connect the bootable USB drive to the computer that needs the BIOS update.
10. Restart the computer and press **F12**.
11. Select the USB drive from the **One Time Boot Menu**.
12. Type the BIOS Setup program filename and press **Enter**.  
The **BIOS Update Utility** appears.
13. Follow the on-screen instructions to complete the BIOS update.

## Updating the BIOS in Linux and Ubuntu

To update the system BIOS on a computer that is installed with Linux or Ubuntu, see [How to Update the Dell BIOS in the Ubuntu or Linux Environment](#) at [Dell Support Site](#).

## Updating the BIOS from the One-Time boot menu

To update the BIOS from the One-Time boot menu, see Knowledge base article [000128928](#) at [Dell Support Site](#).

## System and setup password

 **CAUTION:** The password features provide a basic level of security for the data on your computer.

 **CAUTION:** Ensure that your computer is locked when it is not in use. Anyone can access the data that is stored on your computer, when left unattended.

**Table 36. System and setup password**

| Password type   | Description                                                                           |
|-----------------|---------------------------------------------------------------------------------------|
| System password | Password that you must enter to boot to your operating system.                        |
| Setup password  | Password that you must enter to access and change the BIOS settings of your computer. |

You can create a system password and a setup password to secure your computer.

 **NOTE:** The System and setup password feature is disabled by default.

## Assigning a System Setup password

### Prerequisites

You can assign a new System or Admin Password only when the status is set to **Not Set**. To enter BIOS System Setup, press F2 immediately after a power-on or reboot.

### Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.  
The **Security** screen is displayed.
3. Select **System/Admin Password** and create a password in the **Enter the new password** field.  
Use the following guidelines to create the system password:



- Password can be up to 32 characters.
  - Password must contain at least one special character: "( ! " # \$ % & ' \* + , - . / : ; < = > ? @ [ \ ] ^ \_ ` { | } )"
  - The password can contain numbers from 0 to 9.
  - The password can contain alphabets A to Z and a to z.
4. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
  5. Press Y to save the changes.  
The computer restarts.

## Deleting or changing an existing system password or setup password

### Prerequisites

Ensure that the **Password Status** is Unlocked in the System Setup before attempting to delete or change the existing system password and/or setup password. You cannot delete or change an existing system password or setup password if the **Password Status** is Locked. To enter the System Setup, press F2 immediately after a power-on or reboot.

### Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.  
The **System Security** screen is displayed.
3. In the **System Security** screen, verify that the **Password Status** is Unlocked.
4. Select **System Password**. Update or delete the existing system password, and press Enter or Tab.
5. Select **Setup Password**. Update or delete the existing setup password, and press Enter or Tab.  
 **NOTE:** If you change the system password and/or setup password, reenter the new password when prompted. If you delete the system password and/or setup password, confirm the deletion when prompted.
6. Press Esc. A message prompts you to save the changes.
7. Press Y to save the changes and exit from **System Setup**.  
The computer restarts.

## Clearing system and setup passwords

### About this task

To clear the system or setup passwords, contact Dell technical support as described at [Contact Support](#).

-  **NOTE:** For information about how to reset Windows or application passwords, see the documentation accompanying Windows or your application.

# Troubleshooting

## Handling swollen rechargeable Li-ion batteries

Like most laptops, Dell laptops use Lithium-ion batteries. One type of Lithium-ion battery is the rechargeable Li-ion battery. Rechargeable Li-ion batteries have increased in popularity in recent years and have become a standard in the electronics industry due to customer preferences for a slim form factor (especially with newer ultra-thin laptops) and long battery life. Inherent to rechargeable Li-ion battery technology is the potential for swelling of the battery cells.

A swollen battery may impact the performance of the laptop. To prevent possible further damage to the device enclosure or internal components leading to malfunction, discontinue the use of the laptop and discharge it by disconnecting the AC adapter and letting the battery drain.

Swollen batteries should not be used and must be replaced and disposed of properly. We recommend contacting Dell Support for options to replace a swollen battery under the terms of the applicable warranty or service contract, including options for replacement by a Dell authorized service technician.

The guidelines for handling and replacing rechargeable Li-ion batteries are as follows:

- Exercise caution when handling rechargeable Li-ion batteries.
- Discharge the battery before removing it from the laptop. To discharge the battery, unplug the AC adapter from the computer and operate the computer only on battery power. The battery is fully discharged when the computer no longer turns on when the power button is pressed.
- Do not crush, drop, mutilate, or penetrate the battery with foreign objects.
- Do not expose the battery to high temperatures, or disassemble battery packs and cells.
- Do not apply pressure to the surface of the battery.
- Do not bend the battery.
- Do not use tools of any type to pry on or against the battery.
- If a battery gets stuck in a device as a result of swelling, do not try to free it as puncturing, bending, or crushing a battery can be dangerous.
- Do not attempt to reassemble a damaged or swollen battery into a laptop.
- Swollen batteries that are covered under warranty should be returned to Dell in an approved shipping container (provided by Dell)—this is to comply with transportation regulations. Swollen batteries that are not covered under warranty should be disposed of at an approved recycling center. Contact Dell Support at [Dell Support Site](#) for assistance and further instructions.
- Using a non-Dell or incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell that is designed to work with your Dell computer. Do not use a battery from other computers with your computer. Always purchase genuine batteries from [Dell Site](#) or otherwise directly from Dell.

Rechargeable Li-ion batteries can swell for various reasons such as age, number of charge cycles, or exposure to high heat. For more information about how to improve the performance and lifespan of the laptop battery and to minimize the possibility of occurrence of the issue, search Dell laptop battery at [Dell Support Site](#).

## Dell SupportAssist Pre-boot System Performance Check diagnostics

### About this task

SupportAssist diagnostics (also known as system diagnostics) performs a complete check of your hardware. The Dell SupportAssist Pre-boot System Performance Check diagnostics is embedded within the BIOS and launched by the BIOS internally. The embedded system diagnostics provides options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode.
- Repeat the tests.
- Display or save test results.
- Run thorough tests to add more options and obtain details about any failed devices.

- View status messages that inform you when the tests are completed successfully.
- View error messages that inform you of problems encountered during testing.

**i NOTE:** Some tests for specific devices require user interaction. Always ensure that you are present at the computer when the diagnostic tests are performed.

For more information, see [How to Run Dell Preboot Diagnostics and Hardware Tests on Your Dell Computer](#).

## Running the SupportAssist Pre-Boot System Performance Check

### Steps

1. Turn on your computer.
2. As the computer boots, press the F12 key.
3. On the boot menu screen, select **Diagnostics**.  
The diagnostic quick test begins.  
**i NOTE:** For more information about running the SupportAssist Pre-Boot System Performance Check on a specific device, see [Dell Support Site](#).
4. If there are any issues, error codes are displayed.  
Note the error code and validation number and contact Dell.

## Built-in self-test (BIST)

### LCD Built-in Self-Test (LCD-BIST)

Dell laptops have a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with the LCD (screen) of the Dell laptop or with the video card (GPU) and computer settings.

When you notice screen abnormalities like flickering, distortion, clarity issues, fuzzy or blurry image, horizontal or vertical lines, color fade, it is always a good practice to isolate the LCD (screen) by running the LCD-BIST.

### How to invoke the LCD-BIST

1. Turn off your computer.
2. Disconnect any peripherals that are connected to the computer. Connect only the AC adapter (charger) to the computer.
3. Ensure that the LCD (screen) is clean (no dust particles on the surface of the screen).
4. Press and hold the **D** key and press the power button to enter LCD-BIST mode. Continue to hold the **D** key until the computer boots up.
5. The screen displays solid colors and changes colors on the entire screen to white, black, red, green, and blue twice.
6. Then it displays the colors white, black, and red.
7. Carefully inspect the screen for abnormalities (any lines, fuzzy color, or distortion on the screen).
8. At the end of the last solid color (red), the computer shuts down.

**i NOTE:** Dell SupportAssist Preboot diagnostics upon launch initiates an LCD-BIST first, expecting a user intervention to confirm functionality of the LCD.

## System-diagnostic lights

This section lists the system-diagnostic lights of your Dell Pro 15 Essential PV15255.

The following table shows different Service LED blinking patterns and associated problems. The diagnostic light codes consist of a two-digit number, and the digits are separated by a comma. The number stands for a blinking pattern; the first digit shows the number of blinks in amber color, and the second digit shows the number of blinks in white color. The Service LED blinks in the following manner:

- The Service LED blinks the number of times equal to value of the first digit and turns off with a short pause.
- After that, the Service LED blinks the number of times equal to the value of the second digit.
- The Service LED turns off again with a longer pause.

- After the second pause, the blinking pattern will be repeated.

**Table 37. System-diagnostic lights**

| Blinking pattern |       | Problem description                                  |
|------------------|-------|------------------------------------------------------|
| Amber            | White |                                                      |
| 2                | 1     | CPU configuration or CPU failure                     |
| 2                | 2     | System board: BIOS or Read-Only Memory (ROM) failure |
| 2                | 3     | No memory or Random-Access Memory (RAM) detected     |
| 2                | 4     | Memory or Random-Access Memory (RAM) failure         |
| 2                | 5     | Invalid memory installed                             |
| 2                | 6     | System board/Chipset Error                           |
| 2                | 7     | LCD failure (SBIOS message)                          |
| 2                | 8     | Display power-rail failure on the system board       |
| 3                | 1     | CMOS battery failure                                 |
| 3                | 2     | PCI or Video card/chip failure                       |
| 3                | 3     | Recovery image not found                             |
| 3                | 4     | Recovery image found but invalid                     |
| 3                | 5     | EC power-rail error                                  |
| 3                | 6     | Flash corruption detected by SBIOS                   |

## Recovering the operating system

When your computer is unable to boot to the operating system even after repeated attempts, it automatically starts Dell SupportAssist OS Recovery.

Dell SupportAssist OS Recovery is a stand-alone tool that is preinstalled on Dell computers running the Windows operating system. It consists of tools to diagnose and troubleshoot issues that may occur before your computer boots to the operating system. It enables you to diagnose hardware issues, repair your computer, back up your files, and restore your computer to its factory state.

You can also download it from the Dell Support website to troubleshoot and fix your computer when it fails to boot into the primary operating system due to software or hardware failures.

For more information about the Dell SupportAssist OS Recovery, see *Dell SupportAssist OS Recovery User's Guide* at [Serviceability Tools at the Dell Support Site](#). Click **SupportAssist** and then click **SupportAssist OS Recovery**.

 **NOTE:** Windows 11 IoT Enterprise LTSC 2024 and Dell ThinOS 10 do not support Dell SupportAssist. For more information about recovering ThinOS 10, see [Recovery mode using R-Key](#).

## Real-Time Clock (RTC Reset)

The Real-Time Clock (RTC) reset function enables you or the service technician to recover Dell computers from No POST/No Power/No Boot situations.

Start the RTC reset with the computer powered off and connected to AC power. Press and hold the power button for thirty seconds. The computer RTC Reset occurs after you release the power button.

# Backup media and recovery options

It is recommended to create a recovery drive to troubleshoot and fix problems that may occur with Windows. Dell provides multiple options for recovering the Windows operating system on your Dell computer. For more information, see [Dell Windows Backup Media and Recovery Options](#).

## Network power cycle

### About this task

If your computer is unable to access the Internet due to network connectivity issues, reset your network devices by performing the following steps:

### Steps

1. Turn off the computer.
2. Turn off the modem.  
 **NOTE:** Some Internet service providers (ISPs) provide a modem and router combo device.
3. Turn off the wireless router.
4. Wait for 30 seconds.
5. Turn on the wireless router.
6. Turn on the modem.
7. Turn on the computer.

## Drain flea power (perform hard reset)

### About this task

Flea power is the residual static electricity that remains in the computer even after it has been powered off and the battery is removed.

For your safety, and to protect the sensitive electronic components in your computer, you must drain residual flea power before removing or replacing any components in your computer.

Draining flea power, also known as performing a "hard reset," is also a common troubleshooting step if your computer does not turn on or boot into the operating system.

Perform the following steps to drain the flea power:

### Steps

1. Turn off the computer.
2. Disconnect the power adapter from the computer.
3. Remove the base cover.
4. Remove the battery.  
 **CAUTION:** The battery is a Field Replaceable Unit (FRU) and the removal and installation procedures are intended for authorized service technicians only.
5. Press and hold the power button for 20 seconds to drain the flea power.
6. Install the battery.
7. Install the base cover.
8. Connect the power adapter to the computer.
9. Turn on the computer.

 **NOTE:** For more information about performing a hard reset, go to [Dell Support Site](#). On the menu bar at the top of the Support page, select Support > Support Library. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.



# Getting help and contacting Dell

## Self-help resources

You can get information and help on Dell products and services using these self-help resources:

**Table 38. Self-help resources**

| Self-help resources                                                                                                                  | Resource location                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information about Dell products and services                                                                                         | <a href="#">Dell Site</a>                                                                                                                                                                                                                                                                                                                                                             |
| Contact Support                                                                                                                      | In Windows search, type <code>Contact Support</code> , and press Enter.                                                                                                                                                                                                                                                                                                               |
| Online help for operating system                                                                                                     | <a href="#">Windows Support Site</a><br><a href="#">Linux Support Site</a>                                                                                                                                                                                                                                                                                                            |
| Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents. | Your Dell computer is uniquely identified using a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at <a href="#">Dell Support Site</a> .<br><br>For more information about how to find the Service Tag for your computer, see <a href="#">Locate the Service Tag on your computer</a> . |
| Dell knowledge base articles                                                                                                         | <ol style="list-style-type: none"> <li>1. Go to <a href="#">Dell Support Site</a>.</li> <li>2. On the menu bar at the top of the Support page, select <b>Support &gt; Support Library</b>.</li> <li>3. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.</li> </ol>      |

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [Dell Support Site](#).

 **NOTE:** Availability of the services may vary depending on the country or region, and product.

 **NOTE:** If you do not have an active Internet connection, you can find contact information in your purchase invoice, packing slip, bill, or Dell product catalog.

## Revision history

Tracks all updates that are made to the document. It typically includes the date of change, version number, and a brief description of the modification. This log helps maintain transparency, accountability, and a clear timeline of progress.

**Table 39. Revision history**

| Revision | Date          | Description                                                                                                                                                   |
|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A02      | May 2026      | Added a new display panel in display specifications topic.                                                                                                    |
| A01      | November 2025 | <ul style="list-style-type: none"><li>• Updated battery as CRU component.</li><li>• Added power requirements for battery in specifications section.</li></ul> |
| A00      | August 2025   | Original publish date.                                                                                                                                        |