Dell 15

DC15255

Owner's Manual

Regulatory Model: P112F
Regulatory Type: P112F006/ P112F009
June 2025
Rev. A00

DELL Technologies

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.

Contents

1

Views of Dell 15 DC15255

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-adapter 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.

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 to external storage devices. Provides data transfer speeds up to 5 Gbps.

   NOTE: This port does not support video/audio streaming.

Top

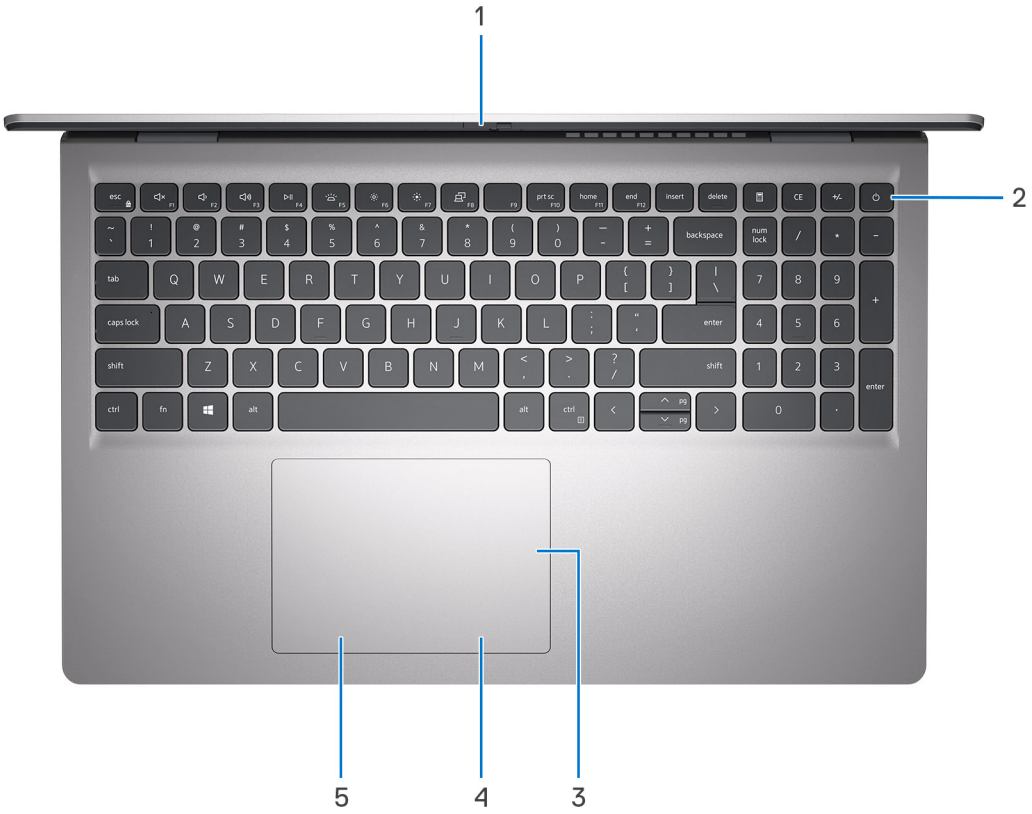


Figure 3. Top view

1. **Privacy shutter**

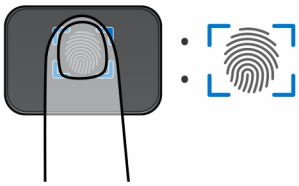
   Slide the privacy shutter to cover the camera lens and protect your privacy when the camera is not in use.

2. **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.

3. **Precision touchpad**

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

4. **Touchpad right-click area**

   Press to right-click.

5. **Touchpad left-click area**

   Press to left-click.

Front

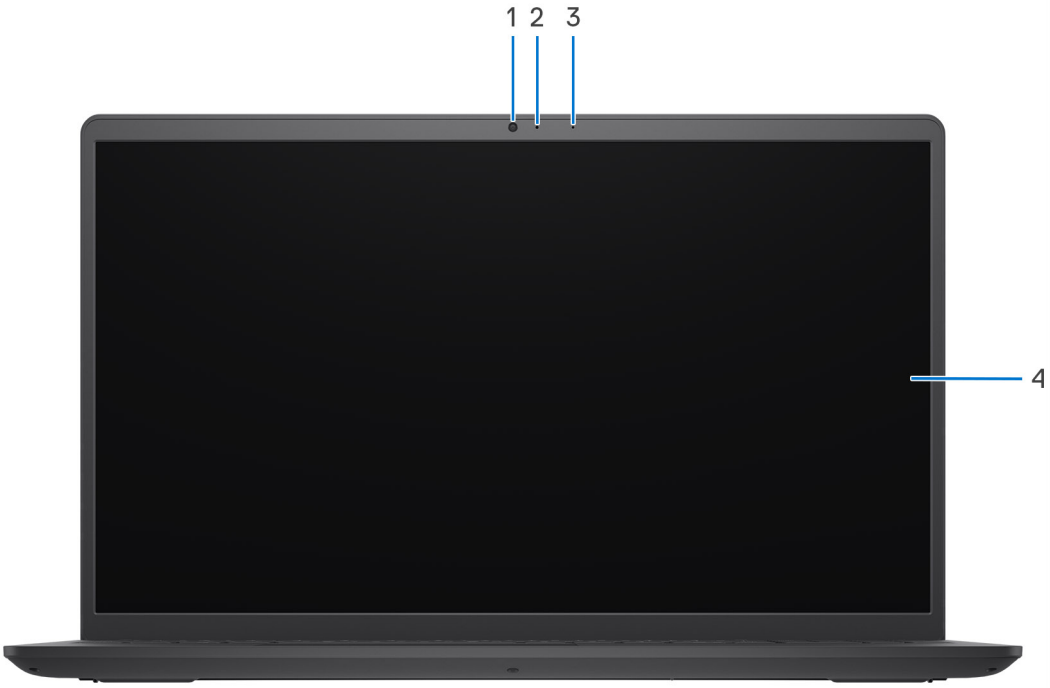


Figure 4. Front view

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

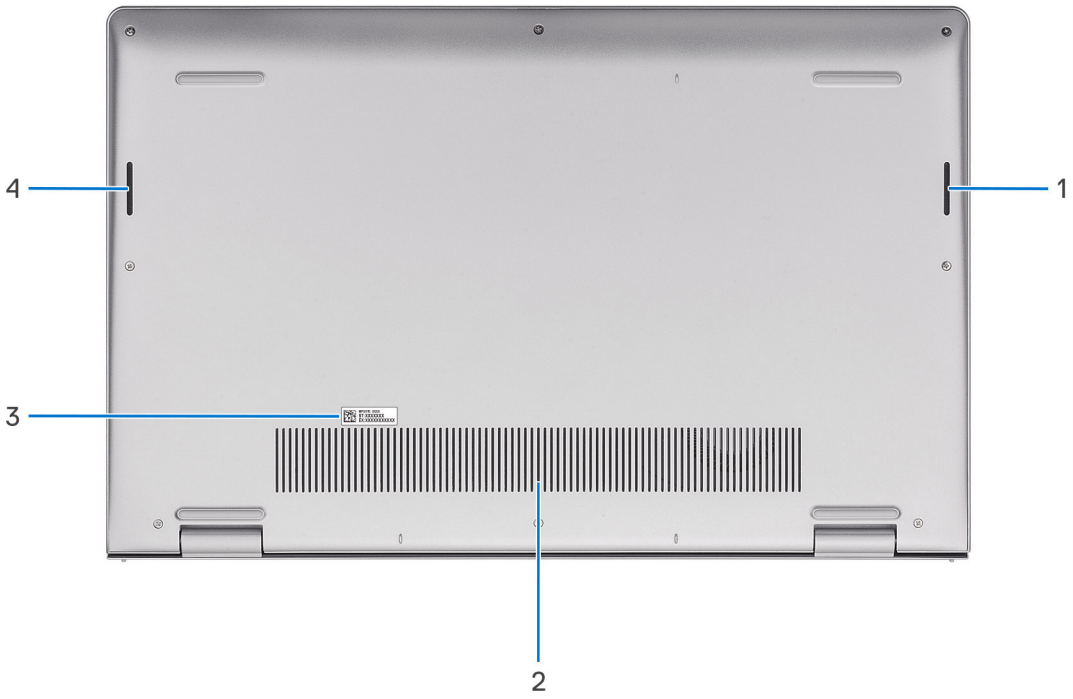


Figure 5. Bottom view

1. **Right speaker**

   Provides audio output.

2. **Air vents**

   Air vents provide ventilation for your computer. Clogged air vents can cause overheating and can affect your computer's performance and potentially cause hardware issues. Keep the air vents clear of obstructions and clean them regularly to prevent the build-up of dust and dirt. For more information about cleaning air vents, search for articles in the Knowledge Base Resource at Dell Support Site.

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.

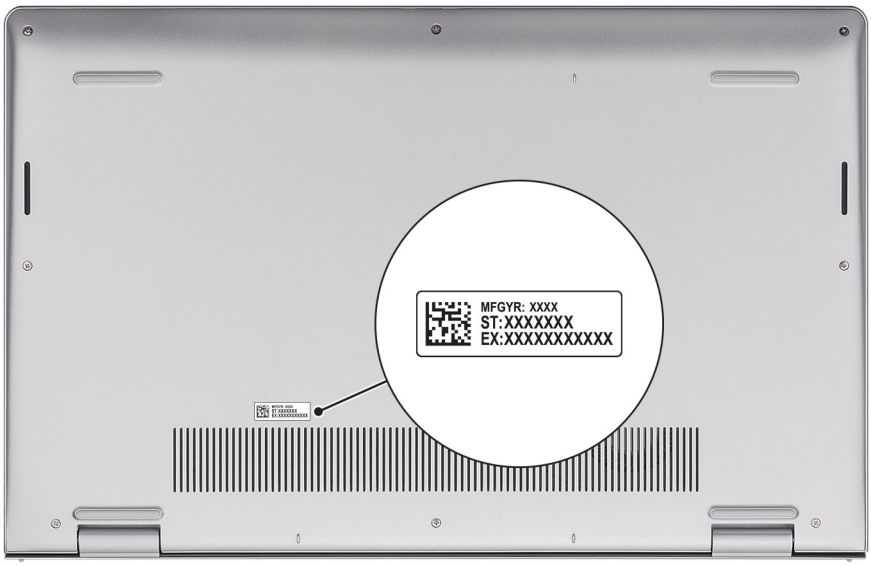


Figure 6. Service Tag/Express Service Code location

Battery-status light

The following table lists the battery-status light of your Dell 15 DC15255.

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.

2

Set up your Dell 15 DC15255

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:

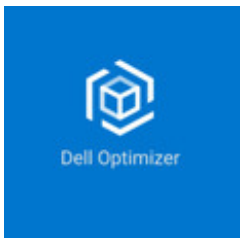
   - Connect to a network for Windows updates.

     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
	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. For more information, see Dell Optimizer User's Guide at Dell Support Site.
	**Dell Product Registration** Register your computer with Dell.
	**Dell Help & Support** Access help and support for your computer.
	**SupportAssist** 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. For more information, see SupportAssist for Home PCs User's Guide at Dell Support Site. **NOTE:** In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.

3

Specifications of Dell 15 DC15255

Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell 15 DC15255.

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 **NOTE:** 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 15 DC15255.

Table 4. Processor

Description	Option one	Option two	Option three	Option four
Type	AMD Ryzen 7 7730U	AMD Ryzen 5 7530U	AMD Ryzen 5 7520U	AMD Ryzen 3 7320U
Wattage	15 W	15 W	15 W	15 W
Core count	8	6	4	4
Thread count	16	12	8	8
Speed	Up to 4.50 GHz Max Boost Clock	Up to 4.50 GHz Max Boost Clock	Up to 4.30 GHz Max Boost Clock,	Up to 4.10 GHz Max Boost Clock
Cache	20 MB	19 MB	4 MB	4 MB
Integrated graphics	AMD Radeon Graphics	AMD Radeon Graphics	AMD Radeon Graphics	AMD Radeon Graphics

Chipset

The following table lists the details of the chipset that is supported by your Dell 15 DC15255.

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 15 DC15255 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 15 DC15255.

Table 6. Memory specifications

Description	Values
Memory slots	• SoDIMM slot (for AMD Ryzen 5 7530U/AMD Ryzen 7 7730U) • Onboard memory (for AMD Ryzen 3 7320U/AMD Ryzen 5 7520U)
Memory type	• DDR4 • LPDDR5
Memory speed	• 3200 MT/s (for DDR4) • 5500 MT/s (for LPDDR5)
Maximum memory configuration	• 8 GB (onboard) • 16 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB or 16 GB
Memory configurations supported	For AMD Ryzen 5 7530U/AMD Ryzen 7 7730U: • 8 GB: 1 x 8 GB, DDR4, 3200 MT/s, single-channel • 16 GB: 1 x 16 GB, DDR4, 3200 MT/s, single-channel

Table 6. Memory specifications (continued)

Description	Values
	For AMD Ryzen 3 7320U/AMD Ryzen 5 7520U: 8 GB: 1 x 8 GB, LPDDR5, 5500 MT/s (onboard)

External ports and slots

The following table lists the external ports and slots on your Dell 15 DC15255.

Table 7. External ports and slots

Description	Values
USB ports	• One USB 3.2 Gen 1 (5 Gbps) port • One USB 3.2 Gen 1 (5 Gbps) Type-C port • One USB 2.0 (480 Mbps) port
Audio port	One Universal Audio port
Video port(s)	One HDMI 1.4 port
Media-card reader	One SD-card slot
Power-adapter 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 15 DC15255.

Table 8. Internal slots

Description	Values
M.2	• One M.2 2230 slot for Wi-Fi and Bluetooth combo card • One M.2 2230 slot for solid state drive **NOTE:** To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at Dell Support Site.

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules that are supported on your Dell 15 DC15255.

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

Table 9. Wireless module specifications (continued)

Description	Option one	Option two
Wireless standards	• Wi-Fi 802.11 a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac)	• Wi-Fi 802.11 a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6 (WiFi 802.11ax)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP	• 64-bit/128-bit WEP • AES-CCMP • TKIP
Bluetooth wireless card **NOTE:** 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 15 DC15255.

Table 10. Audio specifications

Description		Values
Audio controller		Realtek ALC3204 **NOTE:** Realtek ALC3204 is only applicable for systems with the following processors: AMD Ryzen3 7320U or AMD Ryzen5 7520U.
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 15 DC15255.

Your Dell 15 DC15255 supports one of the following storage configurations: One M.2 2230 solid state drive .

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 15 DC15255.

Table 12. Media-card reader specifications

Description	Values
Media-card slot type	One SD card slot (optional)
Media-cards supported	• Secure Digital (SD) • Secure Digital High Capacity (SDHC) • Secure Digital Extended Capacity (SDXC)
NOTE: 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 15 DC15255.

Table 13. Keyboard specifications

Description	Values
Keyboard lighting technology	• Standard backlit keyboard • Standard nonbacklit keyboard
Keyboard layout	QWERTY
Number of keys	• United States and Canada: 99 keys • United Kingdom: 100 keys • Japan: 103 keys
Key pitch	X = 18.70 mm Y = 18.05 mm
Keyboard shortcuts	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. **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in BIOS setup program. For more information, see Keyboard shortcuts.

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 + F1	Operating system and application specific F1 behavior
Fn + F2	Operating system and application specific F2 behavior
Fn + F3	Operating system and application specific F3 behavior
Fn + F4	Operating system and application specific F4 behavior
Fn + F5	Operating system and application specific F5 behavior
Fn + F6	Operating system and application specific F6 behavior
Fn + F8	Operating system and application specific F8 behavior
Fn + F9	Operating system and application specific F9 behavior
Fn + F10	Operating system and application specific F10 behavior
Fn + F11	Operating system and application specific F11 behavior
Fn + F12	Operating system and application specific F12 behavior
Fn + PrtScr	Turn off/on wireless
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

Table 15. Secondary behavior (continued)

Function key	Secondary behavior
Fn + Ctrl	Open application menu
Fn + Esc	Toggle Fn-key lock
Fn + PgUp	Page up
Fn + PgDn	Page down
Fn + Home	Home
Fn + End	End

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 15 DC15255.

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		74.90 degrees

Touchpad

The following table lists the touchpad specifications of your Dell 15 DC15255.

Table 17. Touchpad specifications

Description		Values
Touchpad resolution:		
	Horizontal	305 dpi
	Vertical	305 dpi
Touchpad dimensions:		

Table 17. Touchpad specifications (continued)

Description		Values
	Horizontal	115 mm (4.52 in.)
	Vertical	80 mm (3.15 in.)
Touchpad gestures		For more information about the touchpad gestures available on Windows, see the Microsoft Knowledge Base article at Microsoft Support Site.

Power adapter

The following table lists the power adapter specifications of your Dell 15 DC15255.

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.)
	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)		1.70 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)

CAUTION: 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 15 DC15255

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 15 DC15255.

Table 19. Power adapter requirements

Description	Value
Power that is required from a power adapter to achieve optimal performance	60 W

Table 19. Power adapter requirements (continued)

Description	Value
Power that charges the computer at a slower speed **NOTE:** 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 **NOTE:** 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	Supported
ExpressCharge mode	Supported **NOTE:** 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 15 DC15255.

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	• Charge: 0°C to 45°C (32°F to 113°F) • Discharge: 0°C to 70°C (32°F to 158°F)	• Charge: 0°C to 45°C (32°F to 113°F) • Discharge: 0°C to 70°C (32°F to 158°F)
	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) **NOTE:** You can control the charging time, duration, start and end time, and so on, using the settings on the MyDell application (Power option).		• 3 hr (Standard charge) • 2 hr (Express charge)	• 3 hr (Standard charge) • 2 hr (Express charge)

Table 20. Battery specifications (continued)

Description	Option one	Option two
For more information about MyDell application, search in the Knowledge Base Resource at Dell Support Site.		
Coin-cell battery	N/A	N/A

CAUTION: 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.

CAUTION: Dell Technologies recommends that you charge the battery regularly for optimal power consumption.

Display

The following table lists the display specifications of your Dell 15 DC15255.

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	Yes
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	220 nits
Megapixels		2.07	2.07
Color gamut		45% NTSC	45% NTSC
Pixels Per Inch (PPI)		141	141
Contrast ratio (minimum)		600:1	700:1
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	4.10 W

Table 21. Display specifications (continued)

Description	Option one	Option two
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 15 DC15255.

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 15 DC15255.

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 15 DC15255.

Table 24. GPU—Integrated

Controller	Memory size	Processor
AMD Radeon Graphics	Shared system memory	AMD Ryzen 3 7320U/AMD Ryzen 5 7520U/AMD Ryzen 5 7530U/AMD Ryzen 7 7730U

External display support

The following table lists the external display support for your Dell 15 DC15255.

Table 25. External display support

Graphics card	Supported external displays with laptop display enabled	Supported external displays with laptop display disabled
AMD Radeon Graphics	2	2

NOTE: For more information about external display support, see the *External Display Connection Guide* on Dell Support Site.

Hardware security

The following table lists the hardware security of your Dell 15 DC15255.

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 15 DC15255.

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)
CAUTION: 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 in the Knowledge Base Resource at 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 15 DC15255 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.

4

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 laptop computers, 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 and all attached devices from their 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.

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

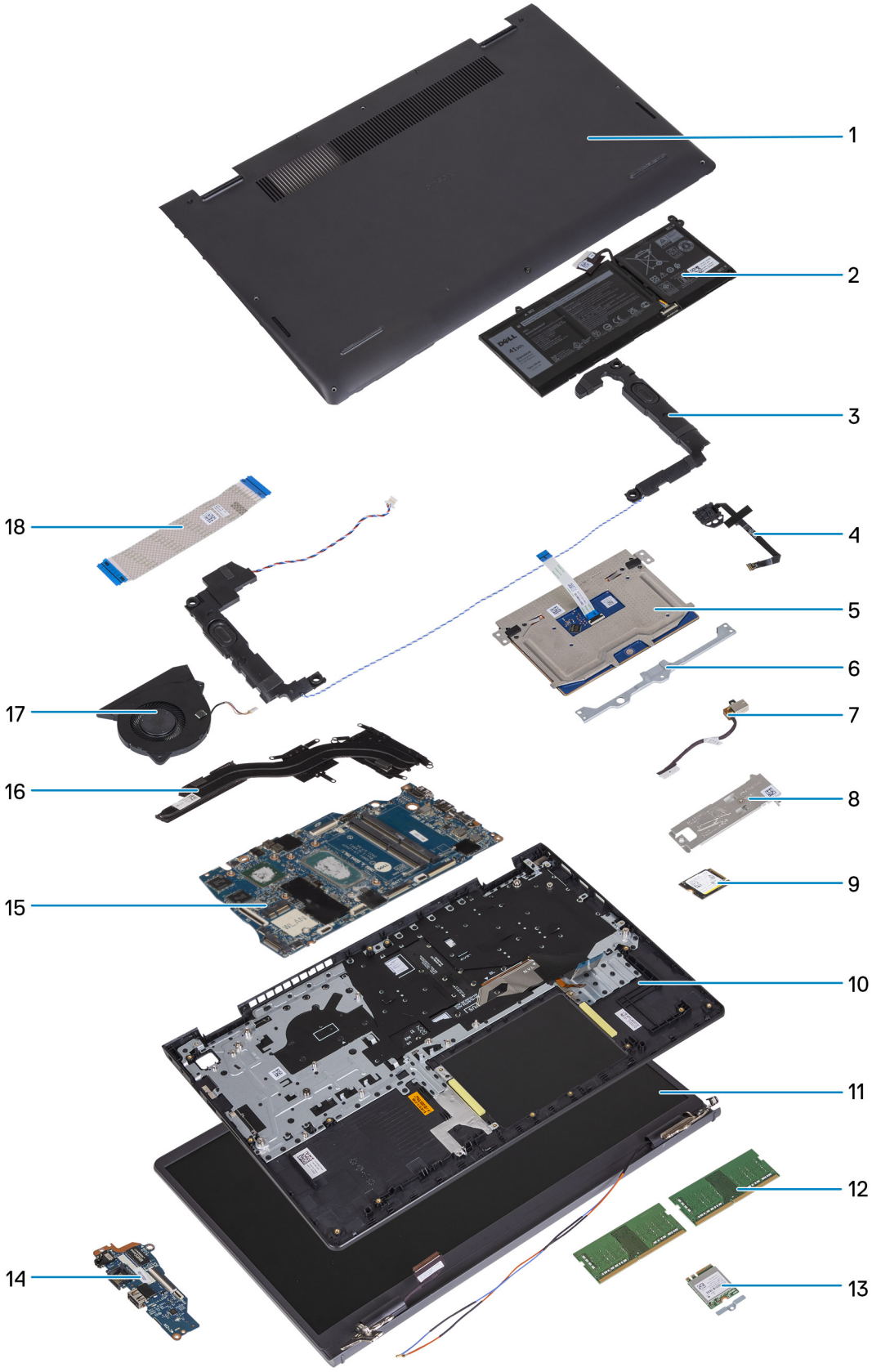
Component	Screw type	Quantity	Screw image
Base cover	M2x5	6	
	Captive screw - M2x5	2	
M.2 2230 solid state drive	M2x2	1 **NOTE:** Applicable for systems with the following processors: AMD Ryzen 5 7530U, or AMD Ryzen 7 7730U. 2 **NOTE:** Applicable for systems with the following processors: AMD Ryzen3 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) **NOTE:** Screws are part of the heat sink.	4	

Table 28. Screw list (continued)

Component	Screw type	Quantity	Screw image
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 15 DC15255

The following image shows the major components of Dell 15 DC15255.



1. Base cover
2. Battery
3. Speakers
4. Power button with optional fingerprint reader
5. Touchpad
6. Touchpad bracket
7. Power adapter port
8. Solid state drive thermal shield

9. M.2 2230 solid state drive card
10. Palm-rest and keyboard assembly
11. Display assembly
12. Memory modules
13. Wireless card with bracket
14. I/O board
15. System board
16. Heat sink
17. Fan
18. 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.

5

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.

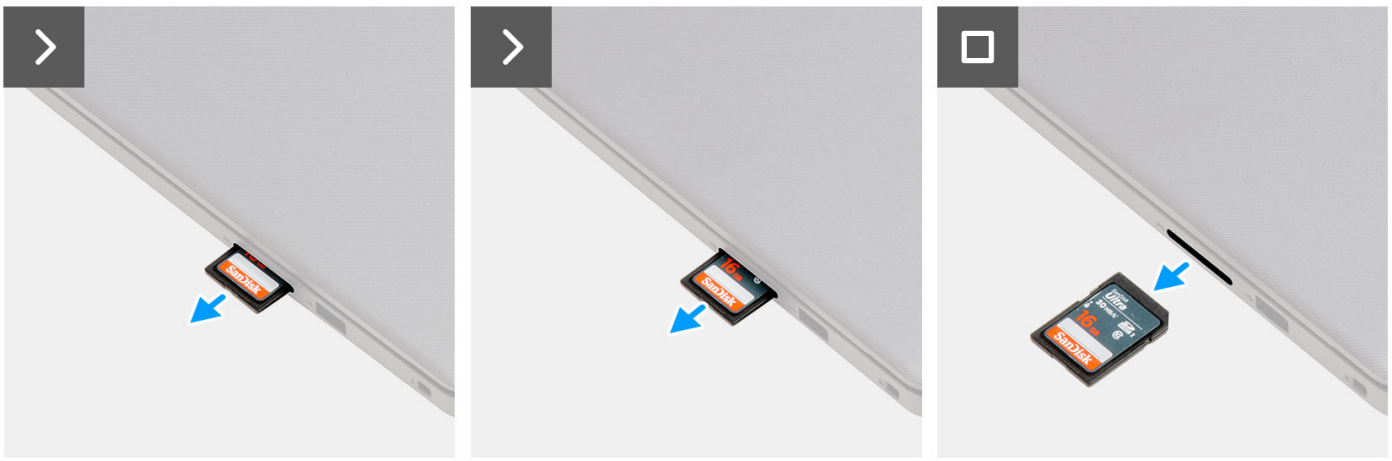
Secure Digital (SD) Card

Removing the Secure Digital card

Prerequisites

1. Follow the procedure in Before working inside your computer.

About this task



Steps

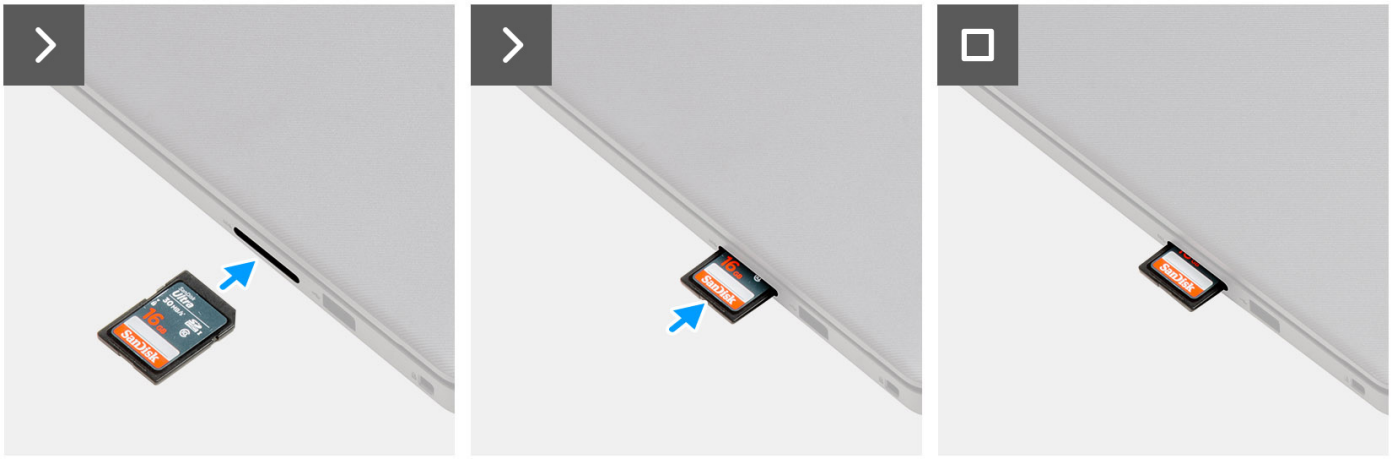
Pull the SD memory card out of its slot to remove it.

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

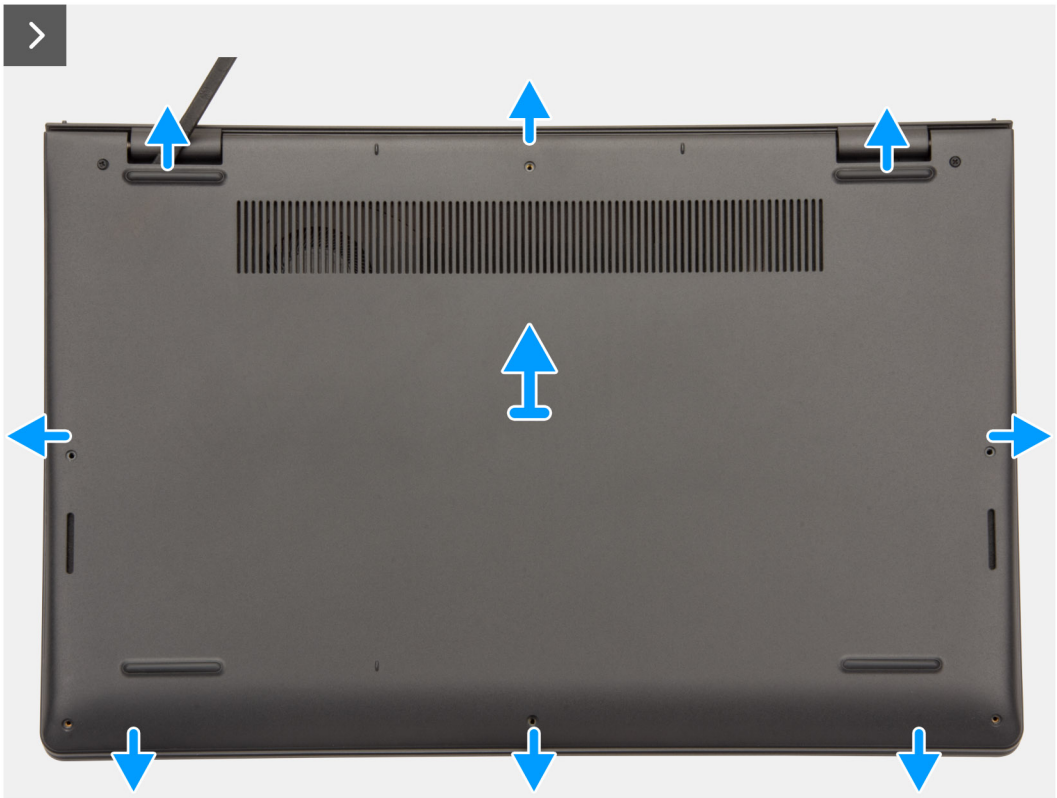
1. Follow the procedure in Before working inside your computer.
2. Remove the SD card.

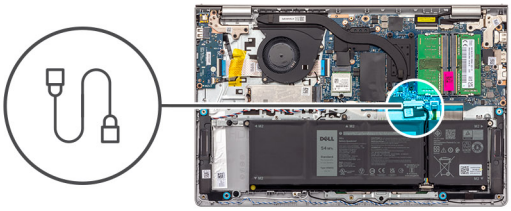
About this task

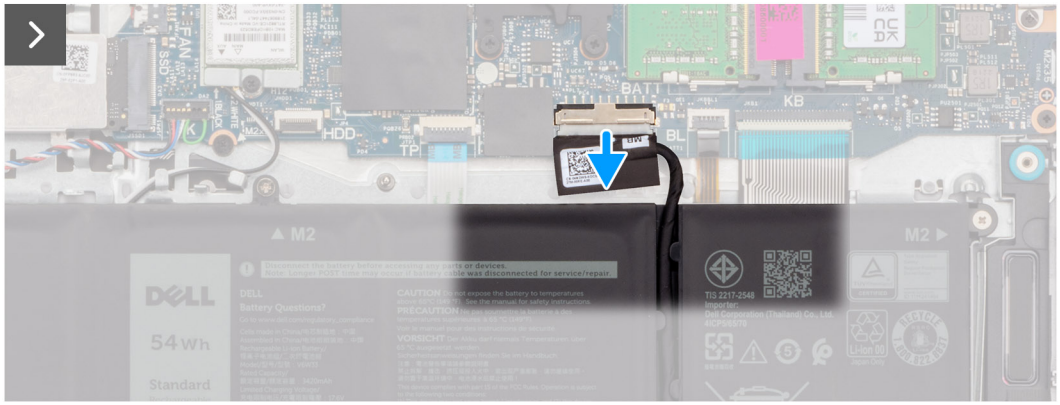
NOTE: Before removing the base cover, ensure that there is no SD card installed in the SD card slot on your computer.

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.

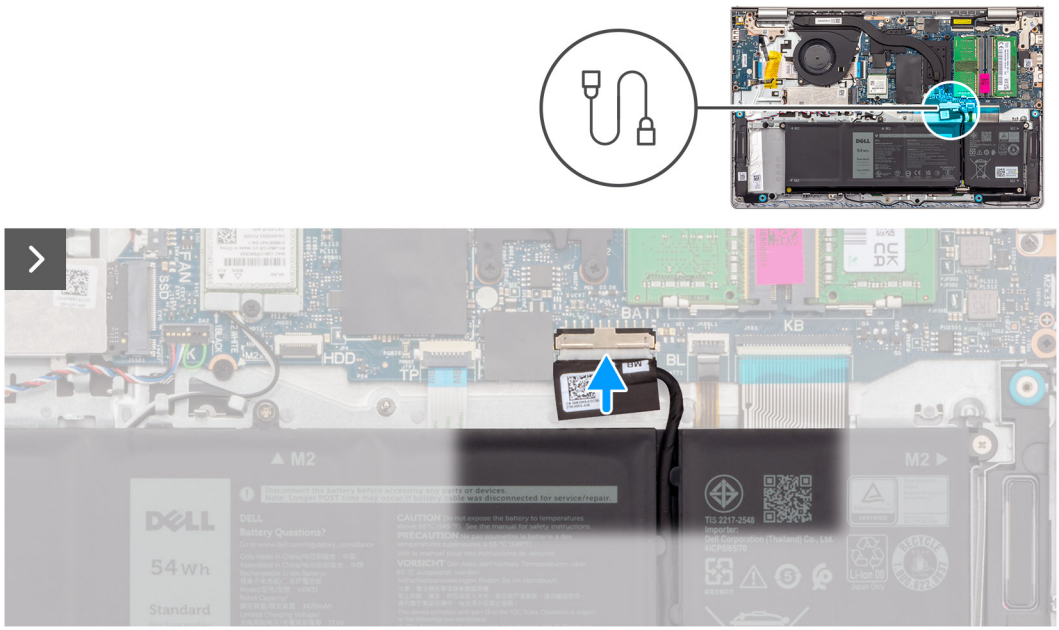
Installing the base cover

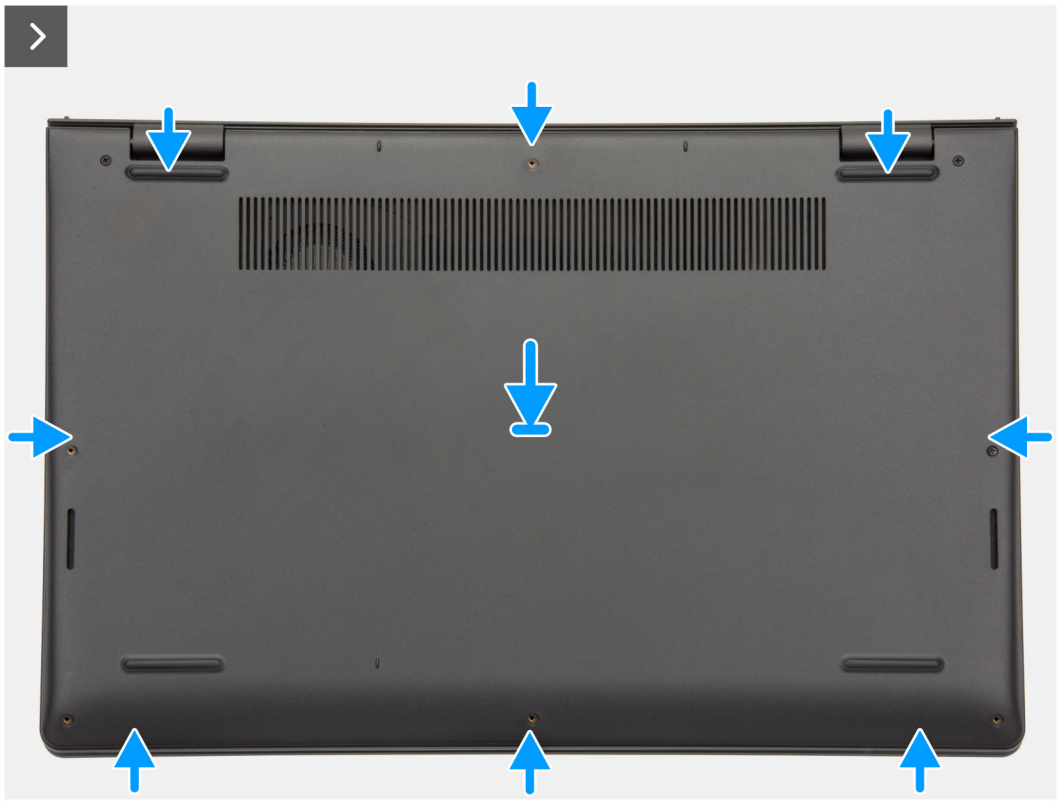
Prerequisites

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.

Memory module

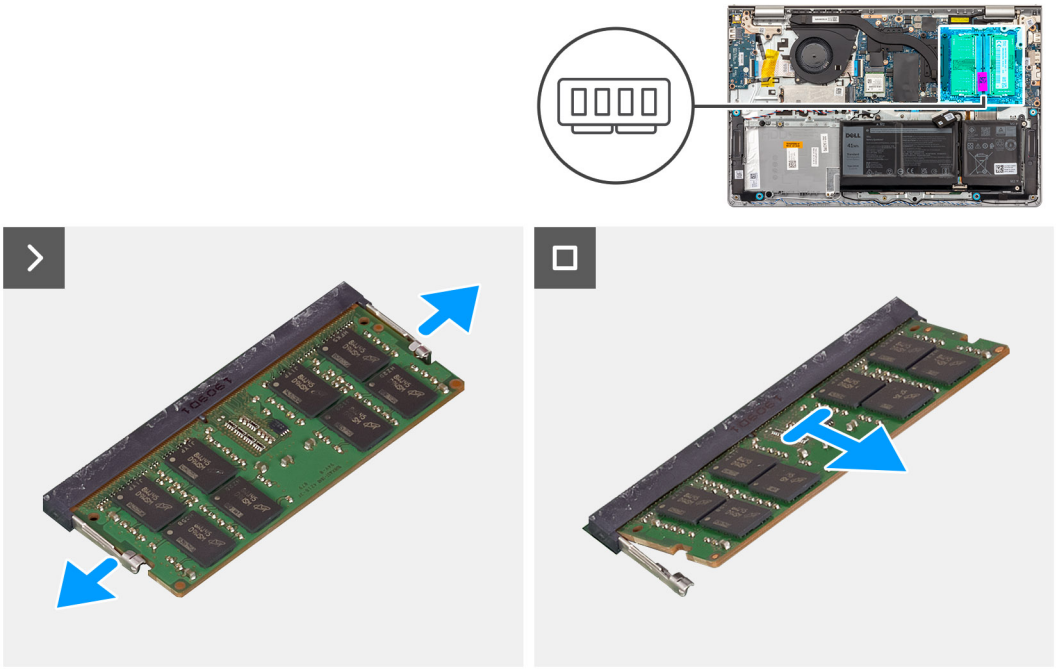
Removing the memory modules

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 memory modules and provide a visual representation of the removal procedure.



Steps

1. Using your fingertips, carefully spread apart the securing-clips on each end of the memory-module slot until the memory module pops-up.
2. Remove the memory module from the memory-module slot on the system board.

   NOTE: Your computer may have up to two memory modules installed. Repeat steps 1 to 2 if there is a second memory module installed.

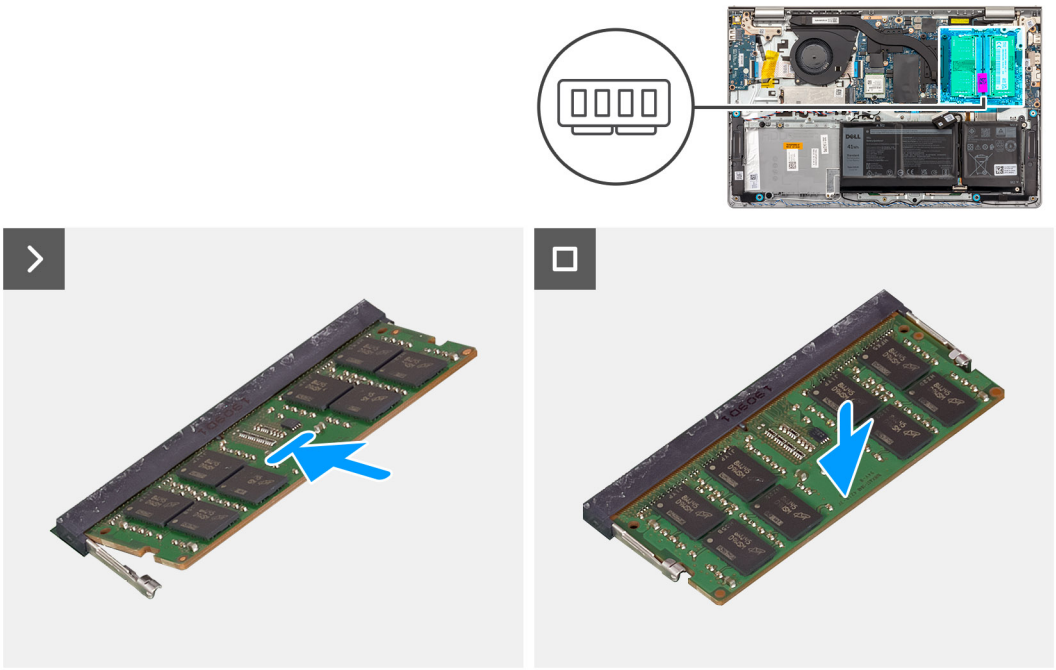
Installing the memory modules

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 memory modules and provide a visual representation of the installation procedure.



Steps

1. Align the notch on the memory module with the tab on the memory-module slot on the system board.
2. Slide the memory module into the memory-module slot on the system board.
3. Press down on the memory module until the securing clips click, locking the memory module in place.

NOTE: Repeat steps 1 to 3 if there is a second memory module to be installed into your computer.

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

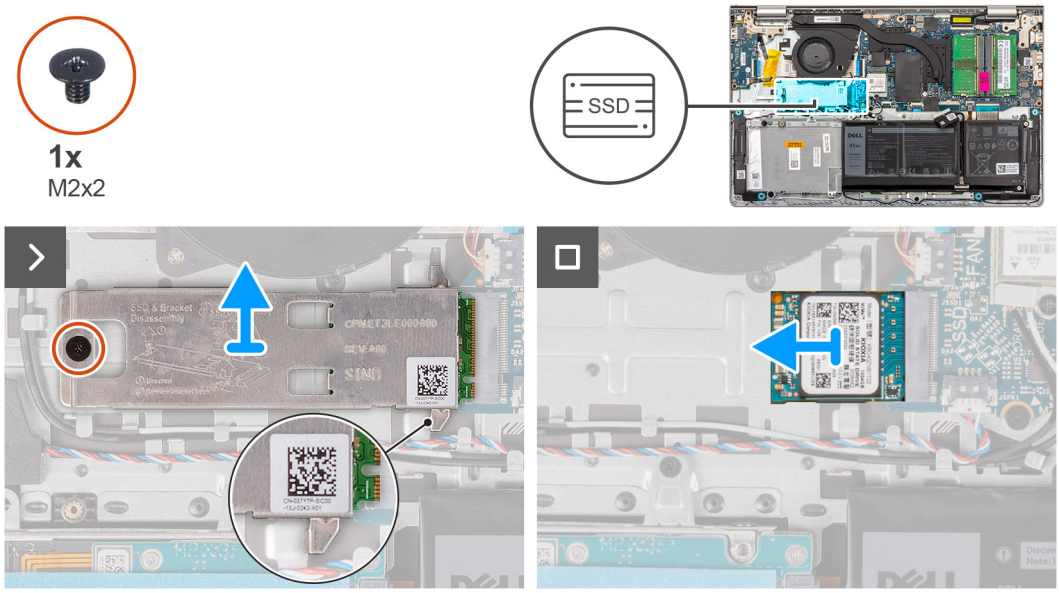
Prerequisites

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.



Steps

1. Remove the (M2x2) screw that secures the M.2 thermal plate to the palm-rest and keyboard assembly.

   NOTE: There is one (M2x2) screw for systems with the following processors: AMD Ryzen3 7330U, AMD Ryzen5 7530U, or AMD Ryzen7 7730U.

   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

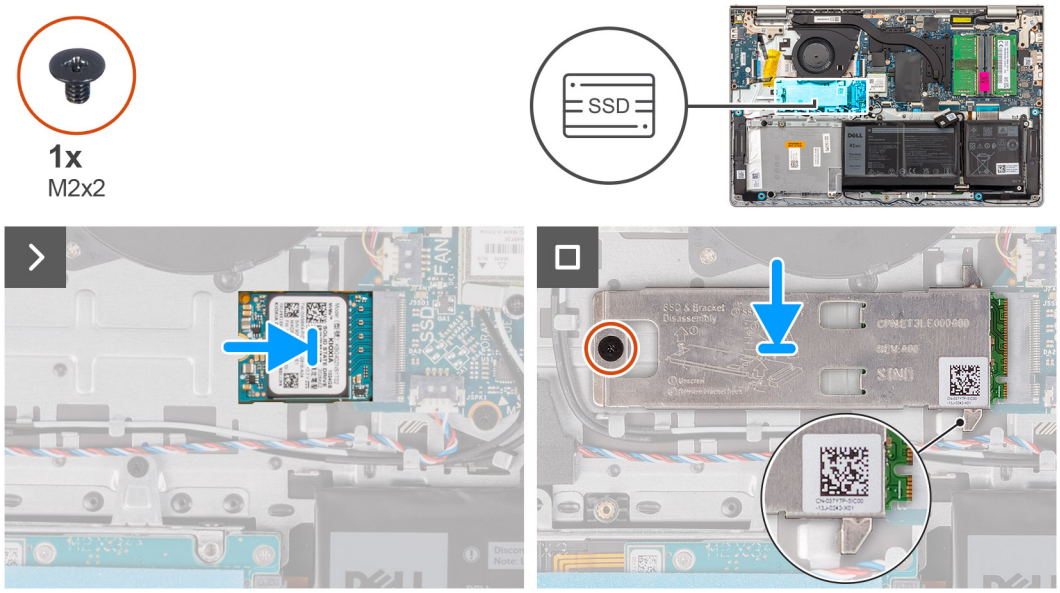
Prerequisites

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.



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

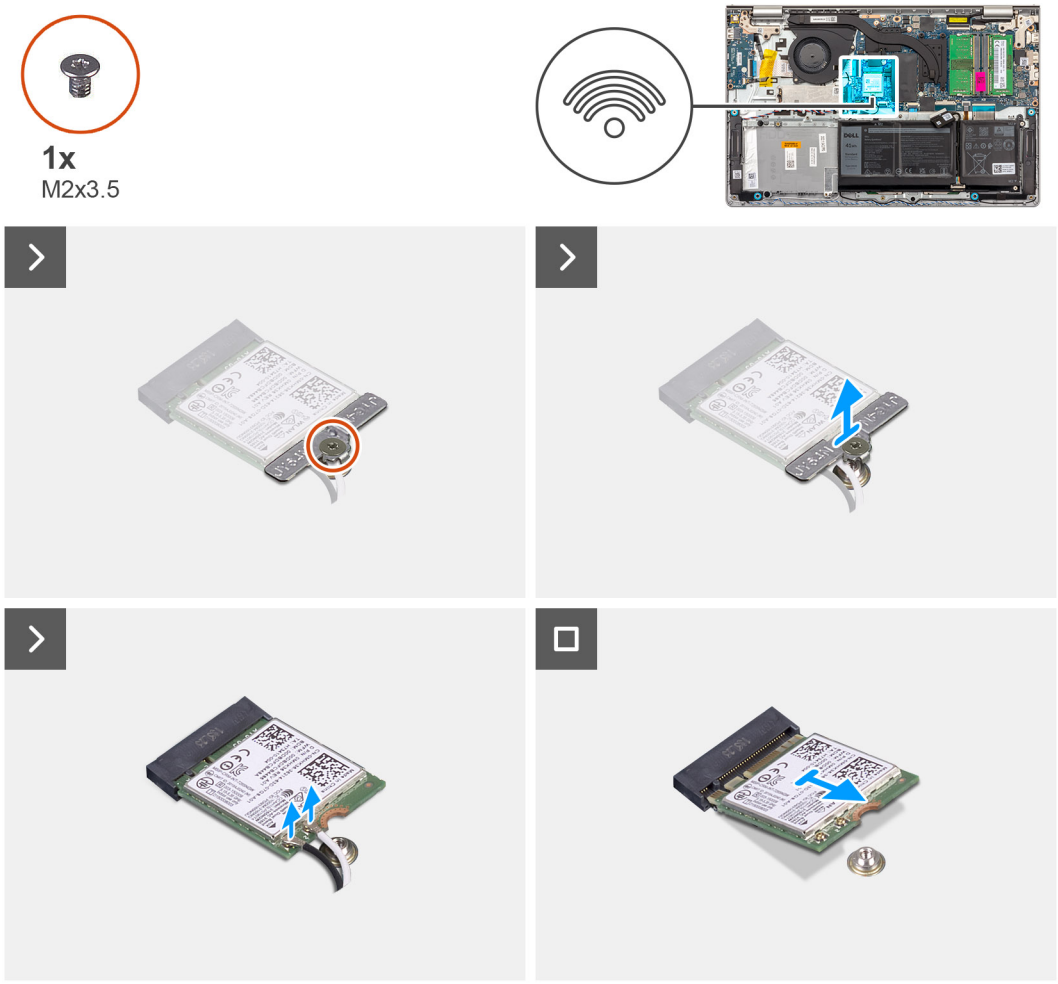
Removing the wireless card

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.



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.

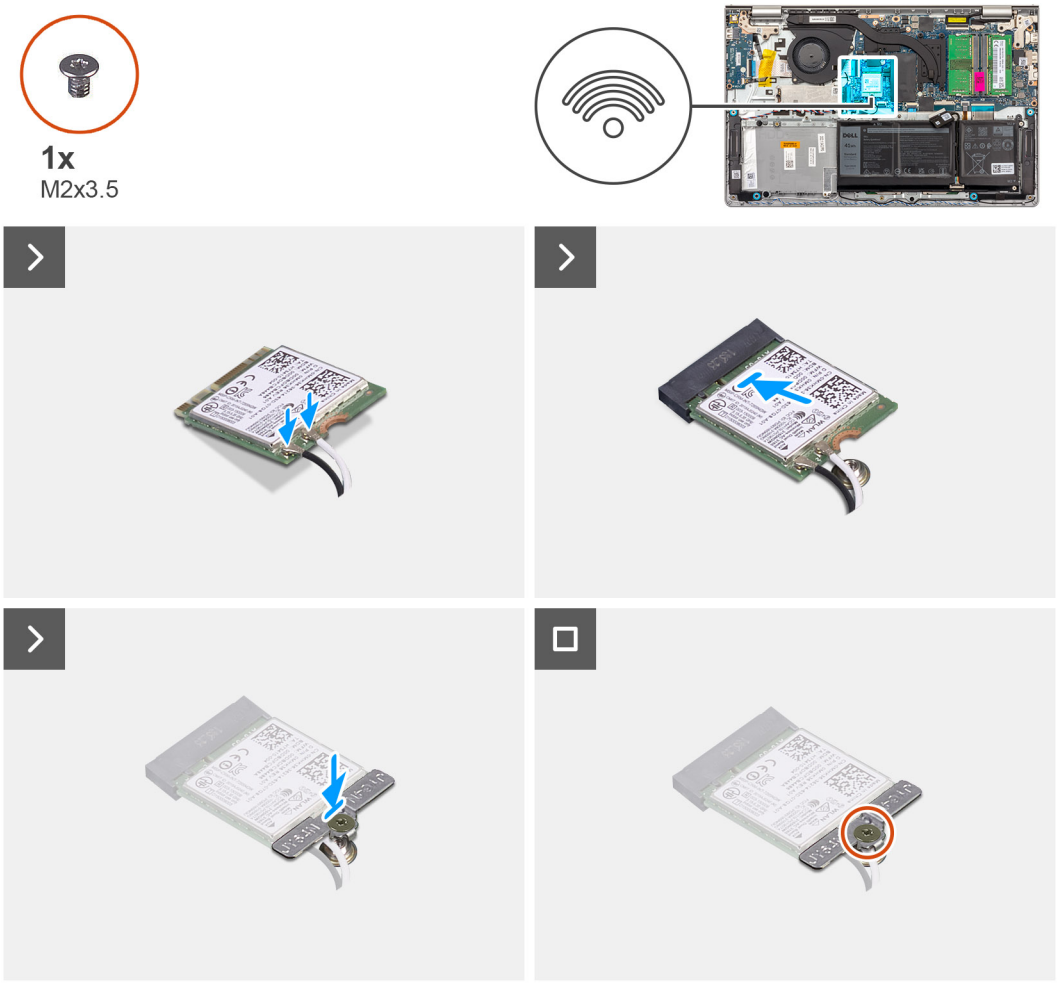
Installing the wireless card

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.



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

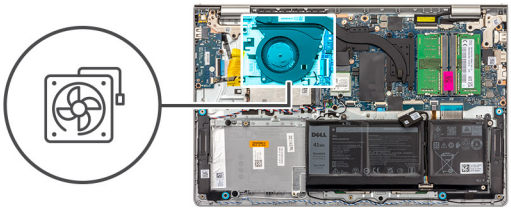
Removing the fan

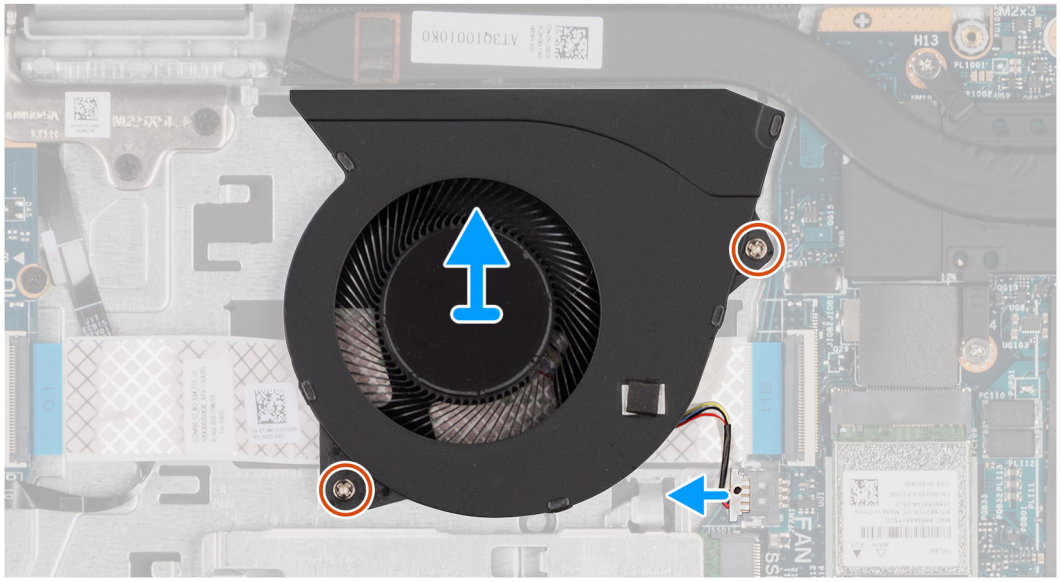
Prerequisites

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.

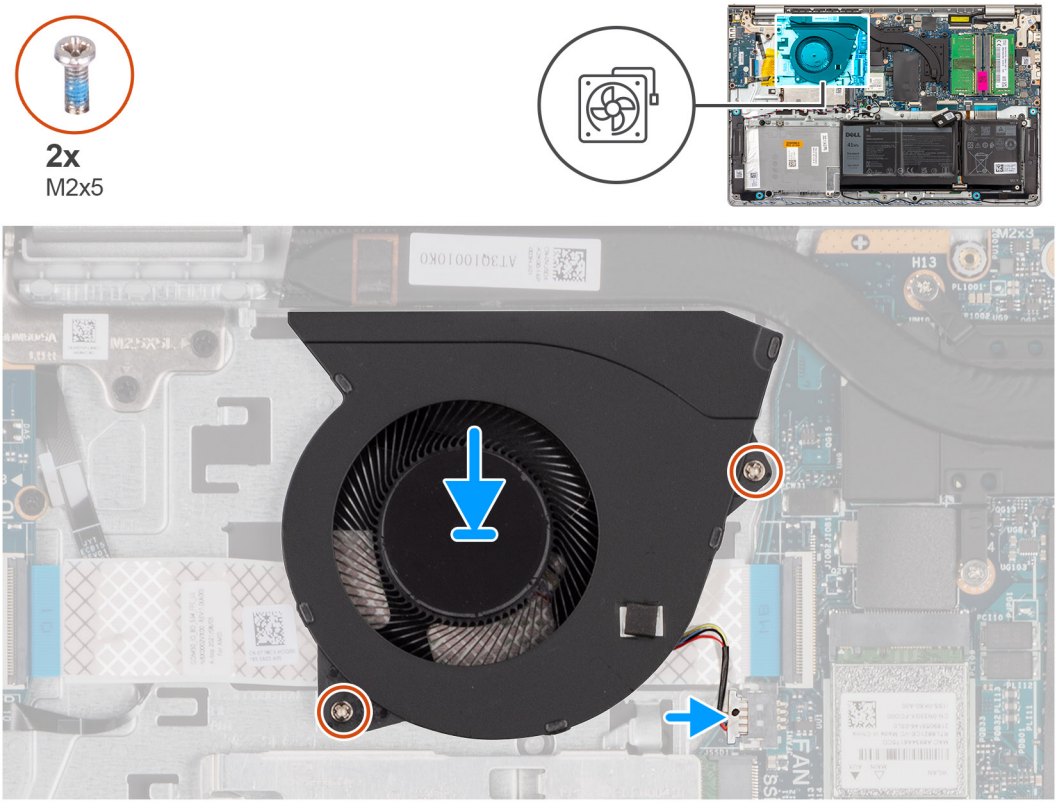
Installing the fan

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.



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

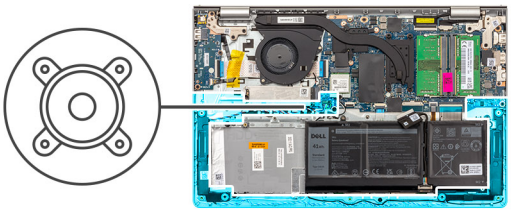
Removing the speakers

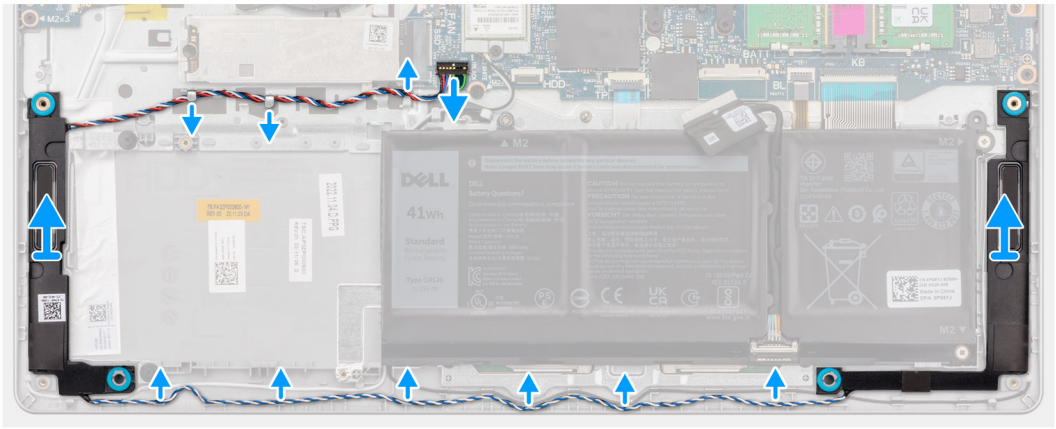
Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the SD card.
3. Remove the base cover.

About this task

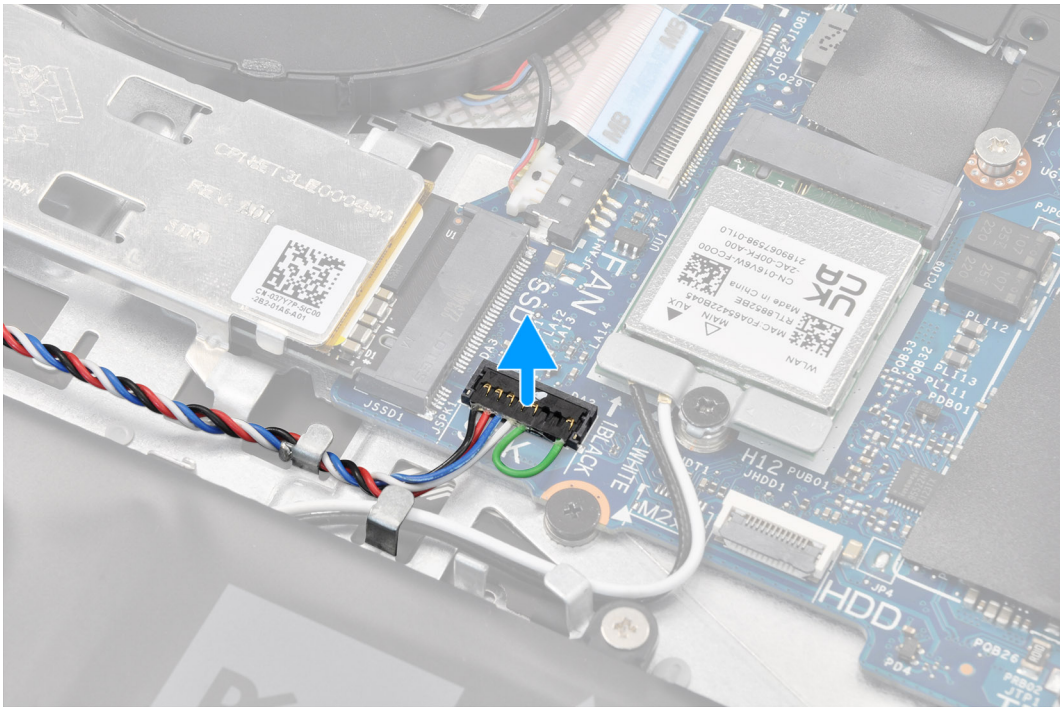
The following images indicate the location of the speakers and provide a visual representation of the removal procedure.





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.

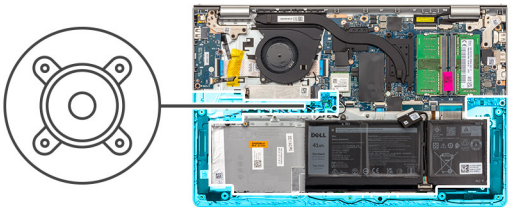
Installing the speakers

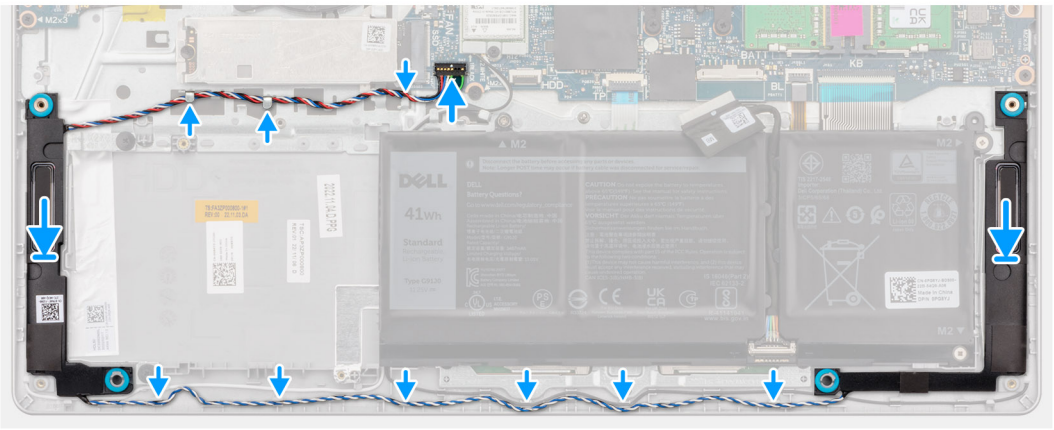
Prerequisites

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.





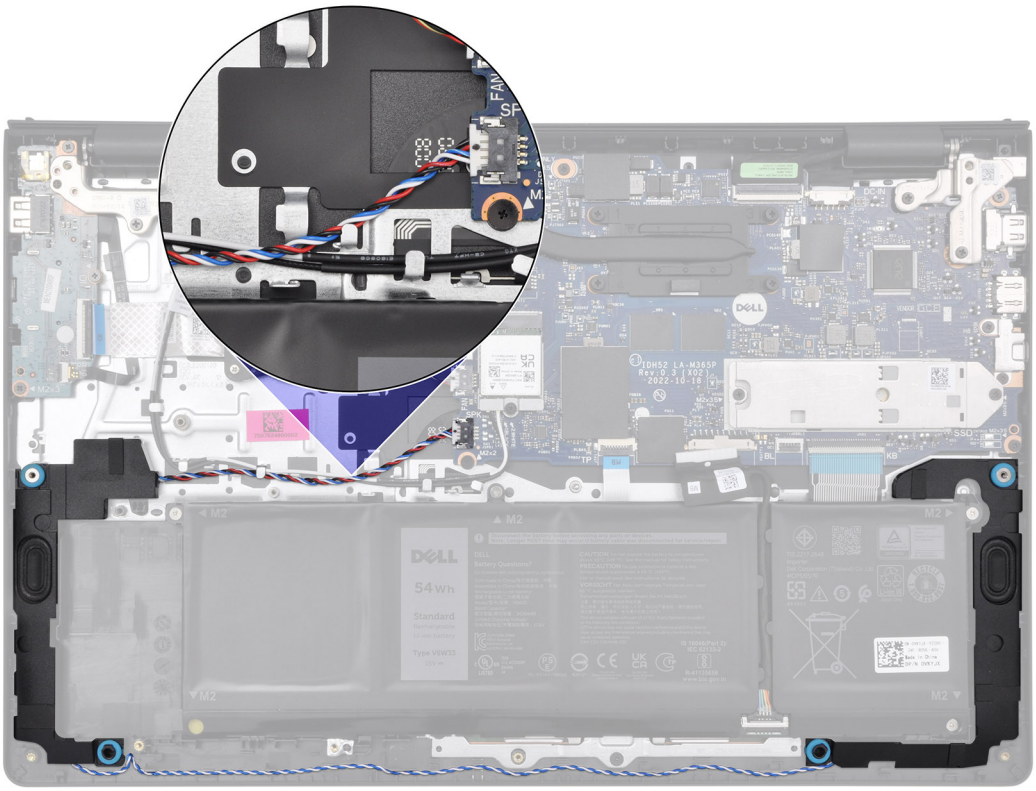
Steps

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

   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.

   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.

6

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.

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

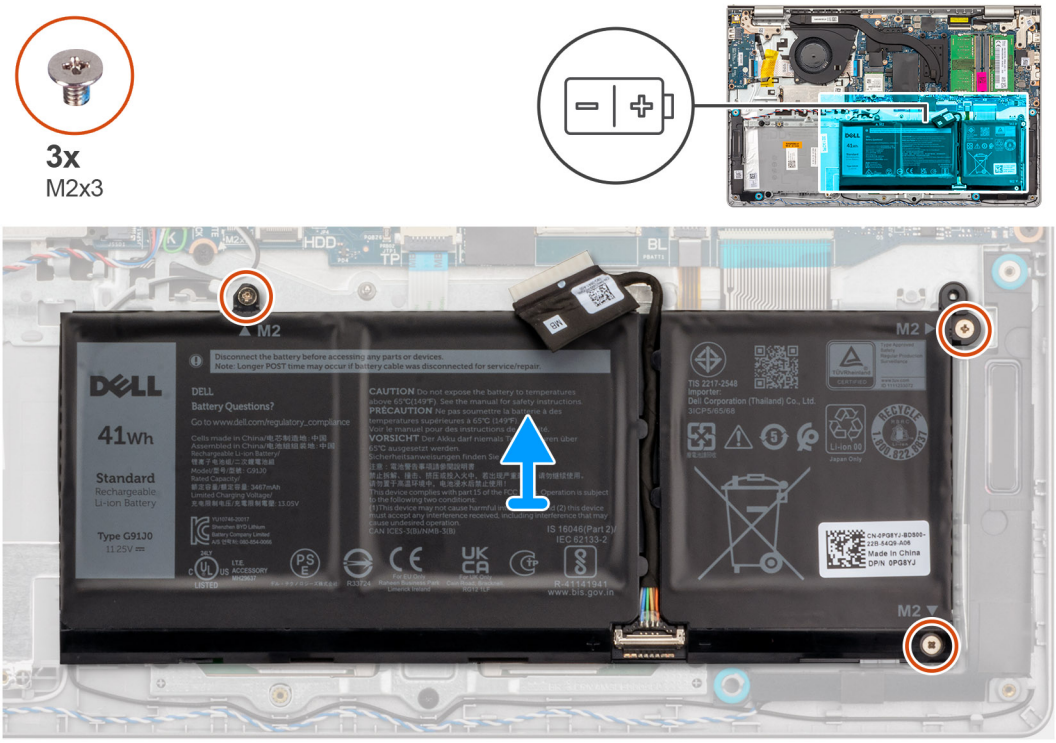
CAUTION: The information in this section is intended for authorized service technicians only.

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

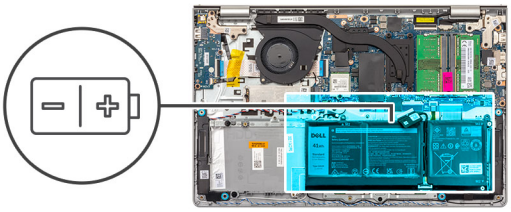
CAUTION: The information in this section is intended for authorized service technicians only.

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.

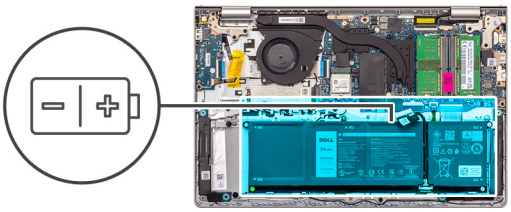
Prerequisites

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.

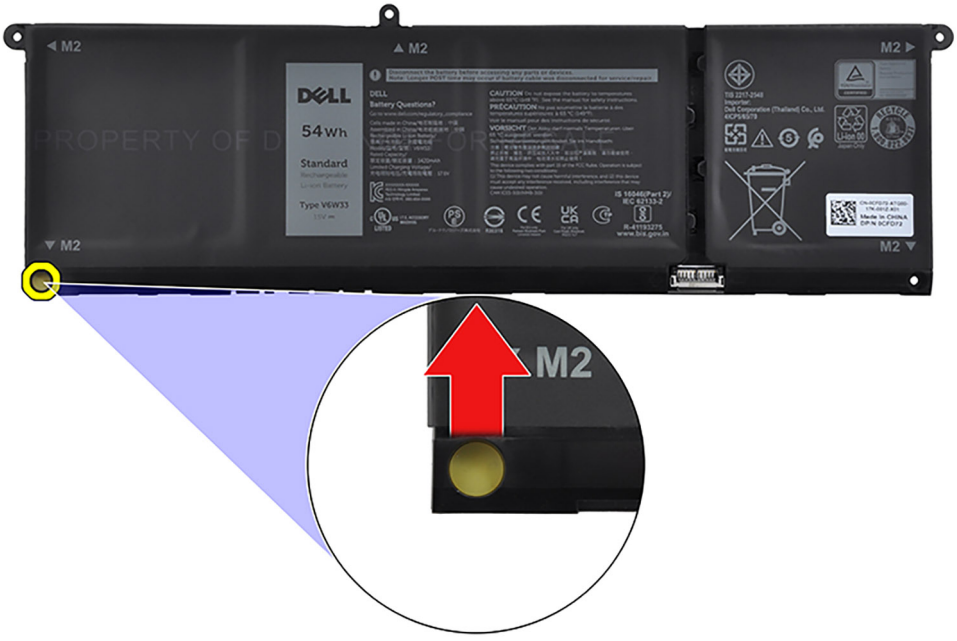
4x
M2x3



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

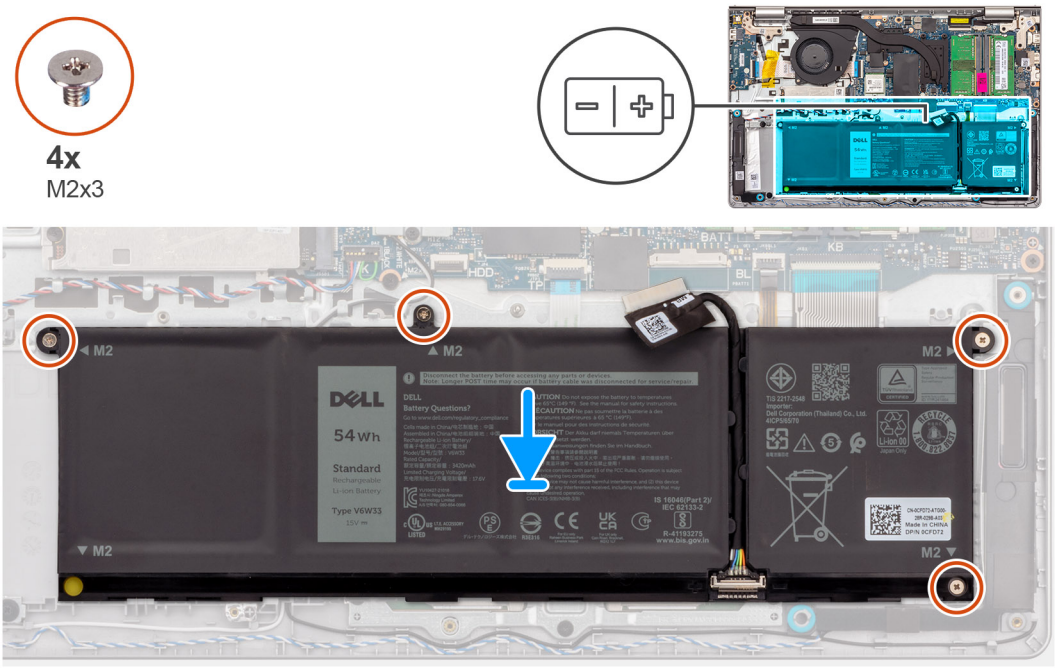
CAUTION: The information in this section is intended for authorized service technicians only.

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

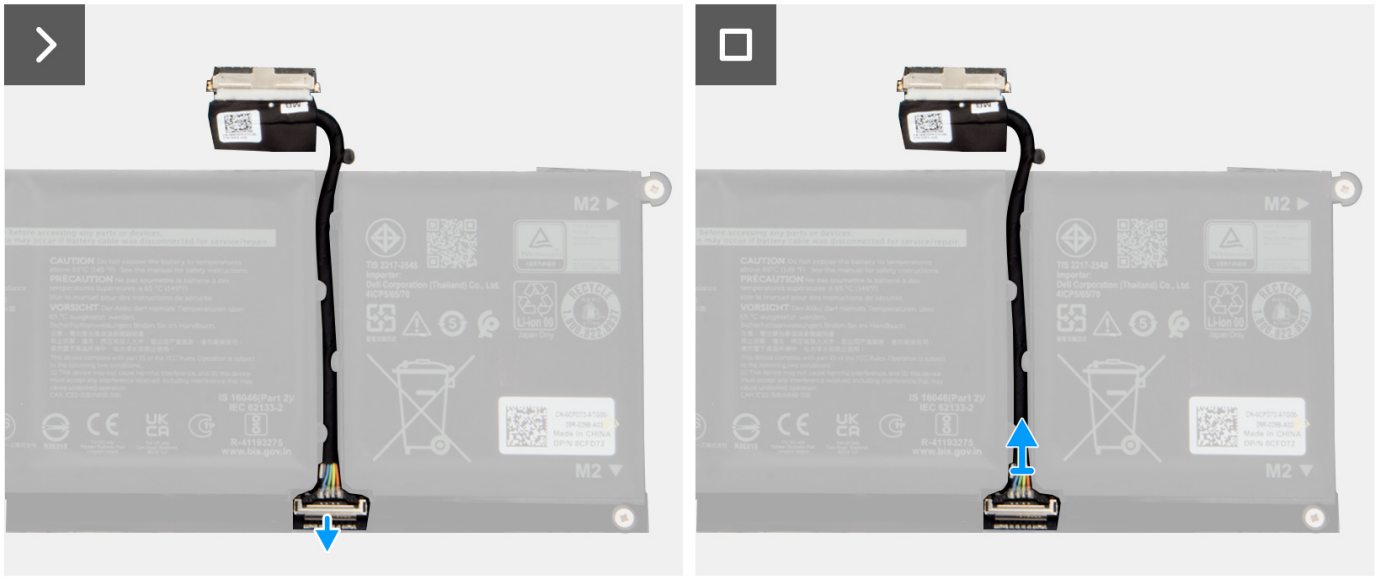
CAUTION: The information in this section is intended for authorized service technicians only.

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

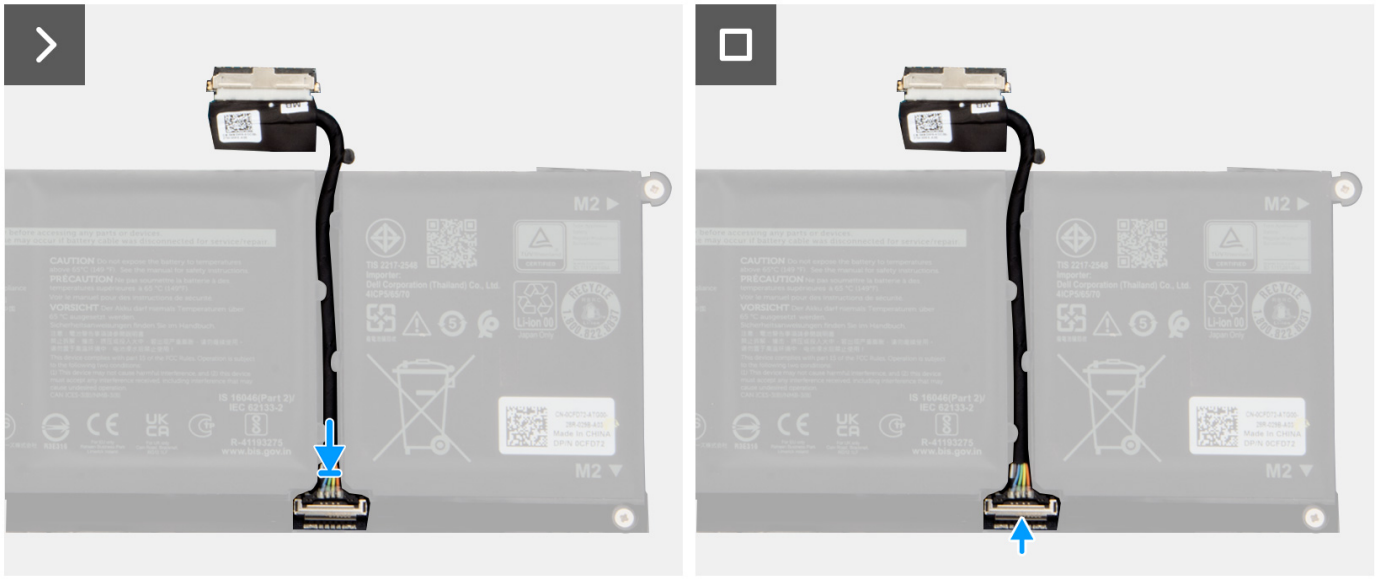
CAUTION: The information in this section is intended for authorized service technicians only.

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.

Touchpad

Removing the touchpad

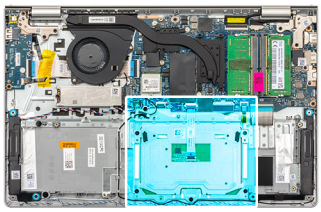
CAUTION: The information in this section is intended for authorized service technicians only.

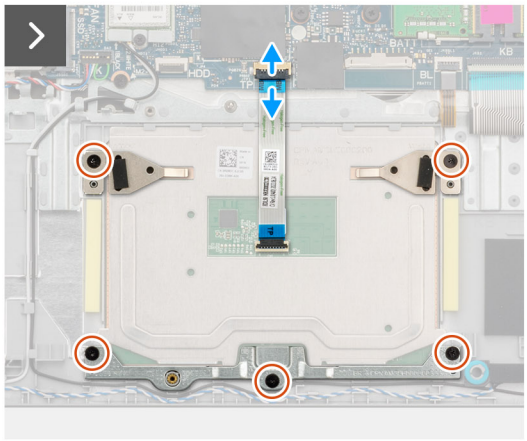
Prerequisites

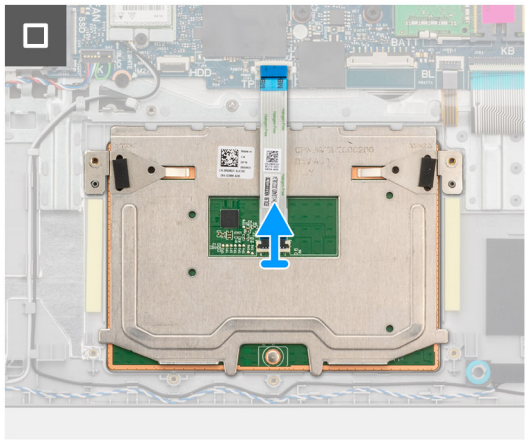
1. Follow the procedure in Before working inside your computer.
2. Remove the SD card.
3. Remove the base cover.
4. Remove the 3-cell battery or 4-cell battery (whichever applicable).

About this task

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







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

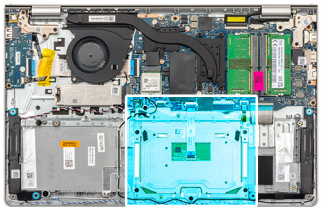
CAUTION: The information in this section is intended for authorized service technicians only.

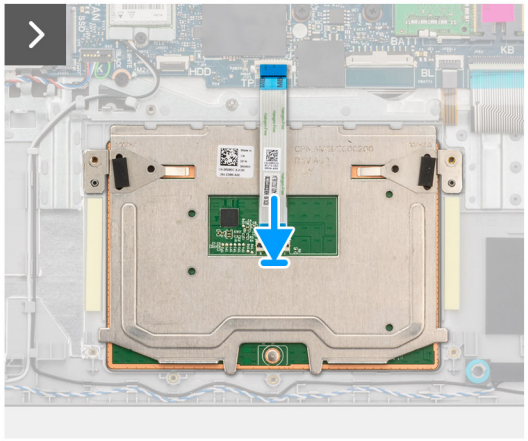
Prerequisites

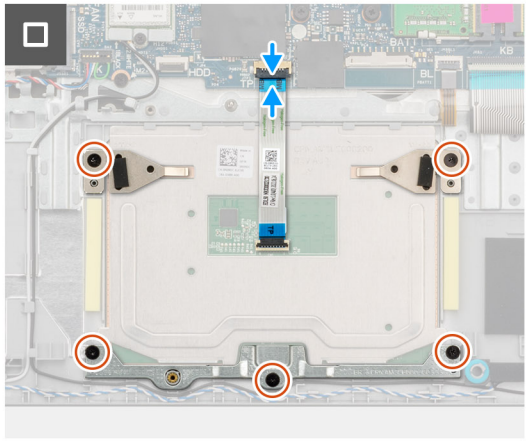
If you are replacing a component, remove the existing component before performing the installation process.

About this task

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







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

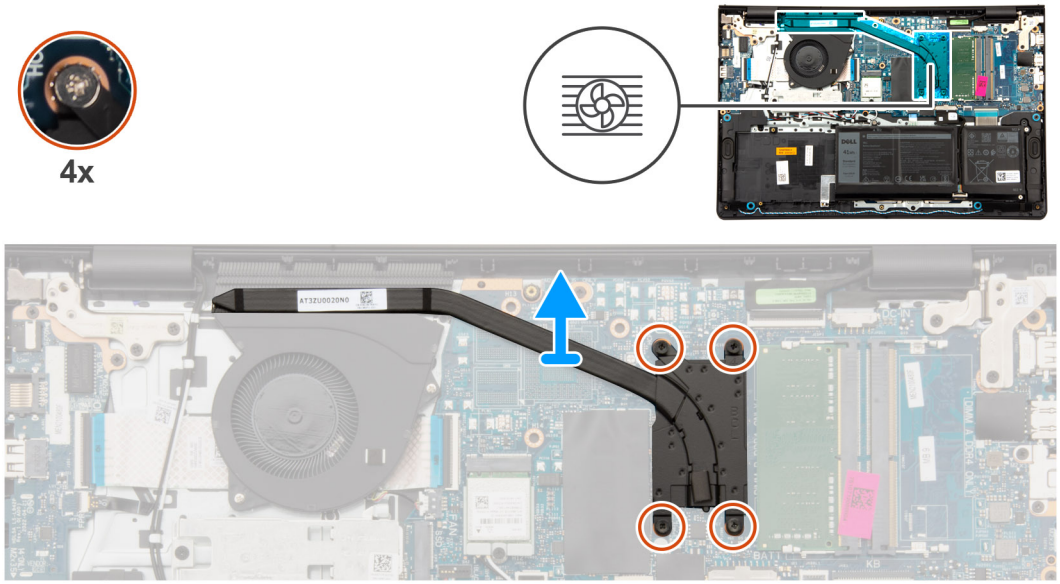
1. Follow the procedure in Before working inside your computer.
2. Remove the SD card.
3. Remove the base cover.

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.

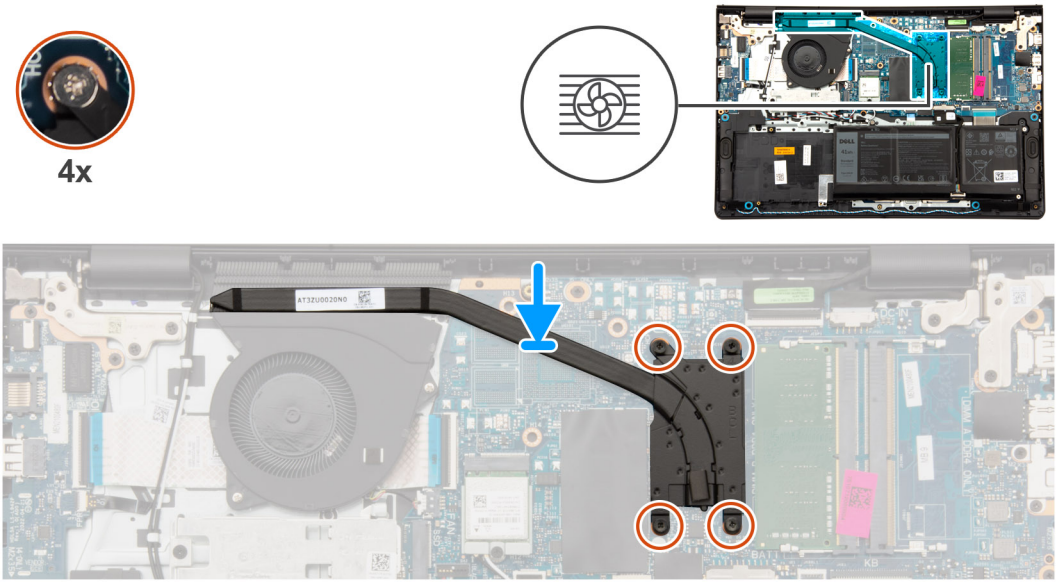
Prerequisites

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.



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

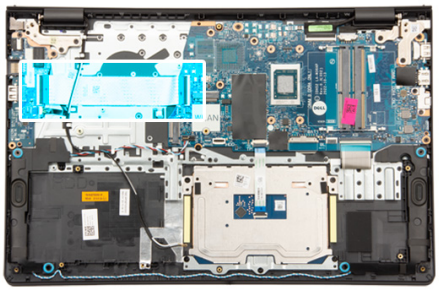
CAUTION: The information in this section is intended for authorized service technicians only.

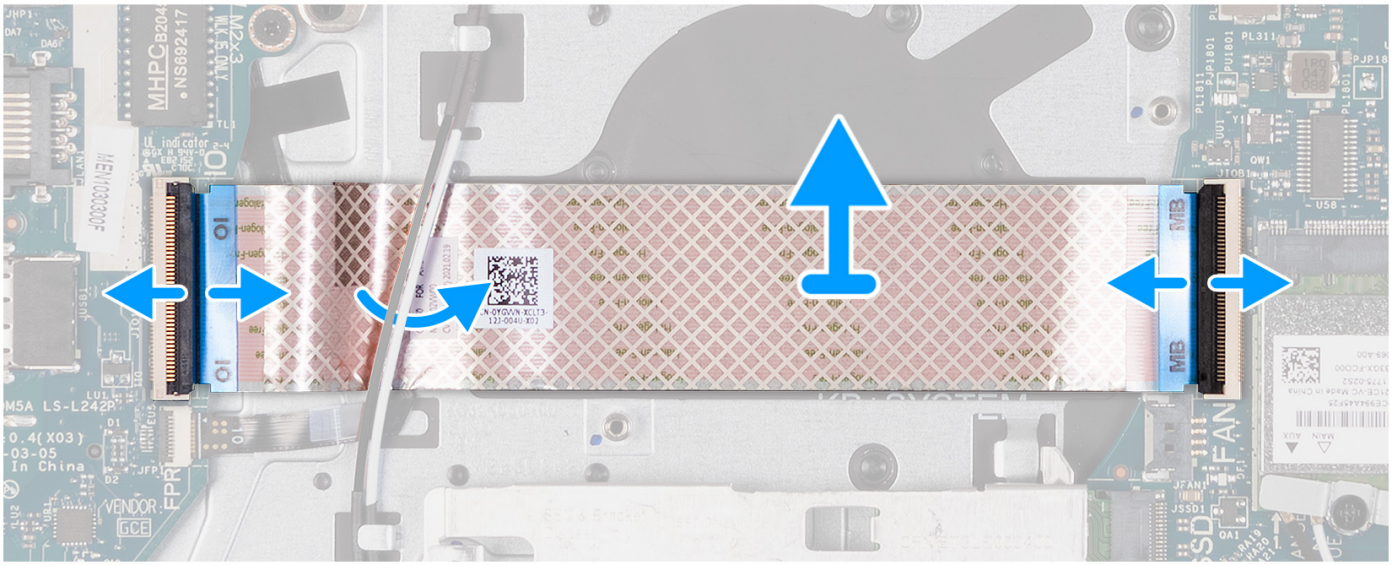
Prerequisites

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

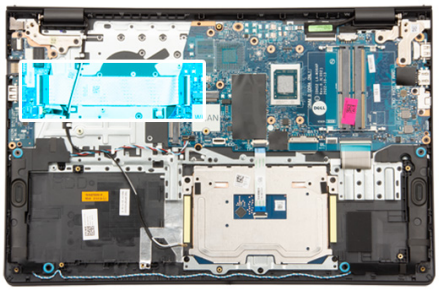
CAUTION: The information in this section is intended for authorized service technicians only.

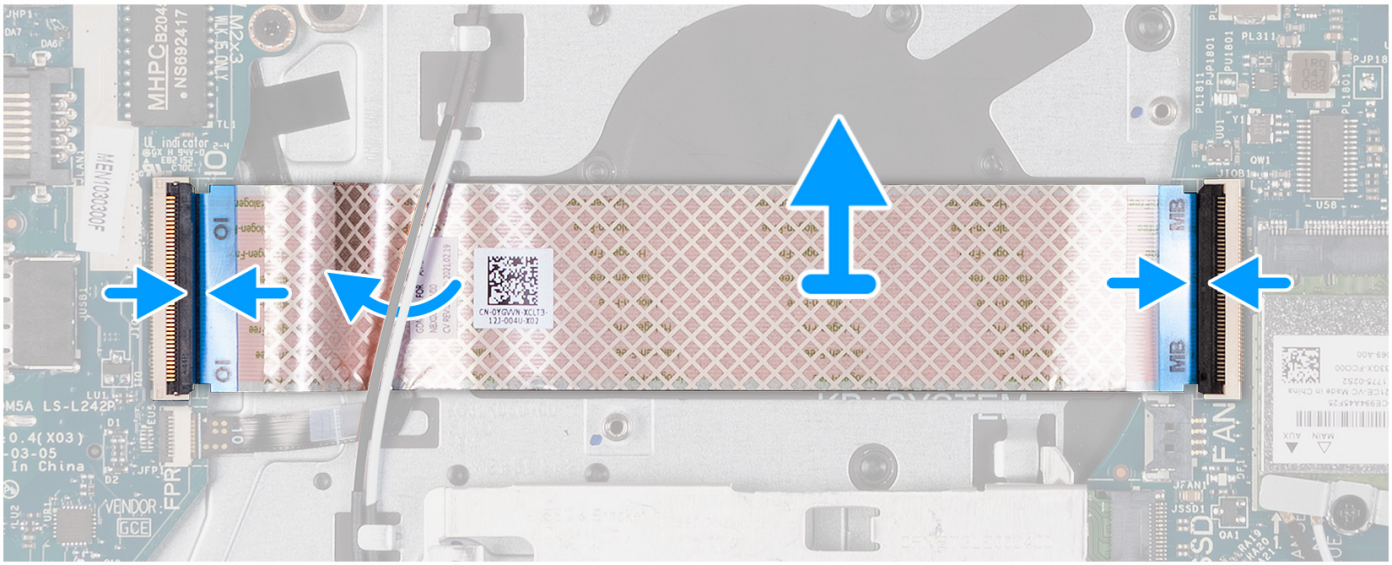
Prerequisites

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

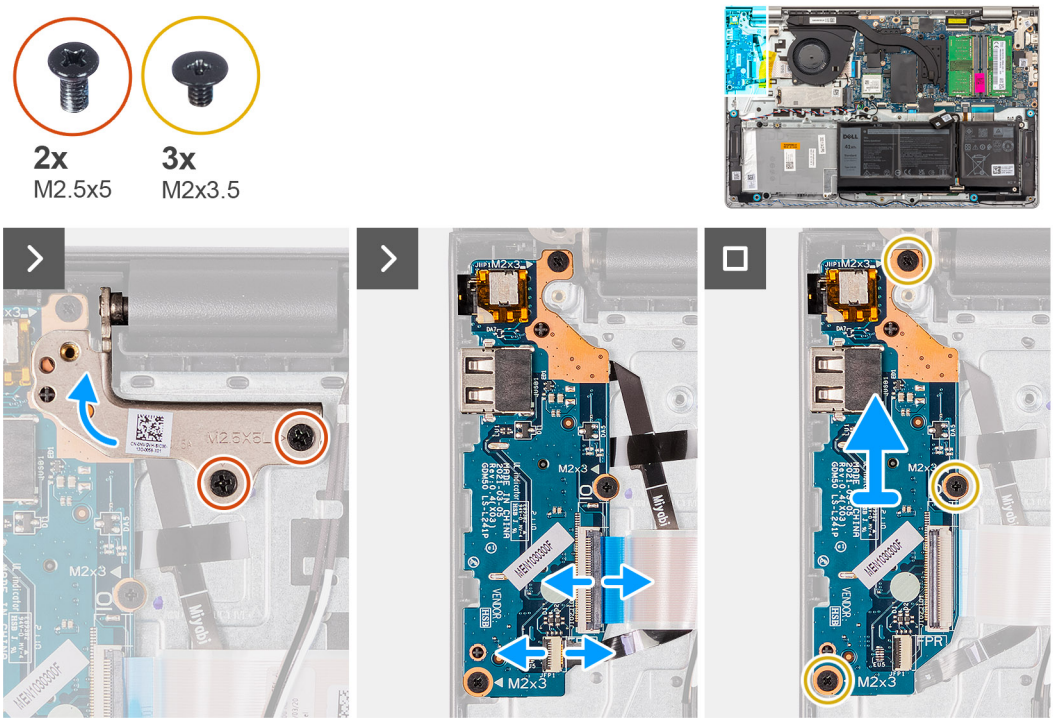
CAUTION: The information in this section is intended for authorized service technicians only.

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

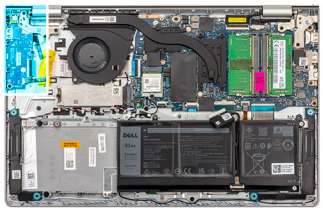
CAUTION: The information in this section is intended for authorized service technicians only.

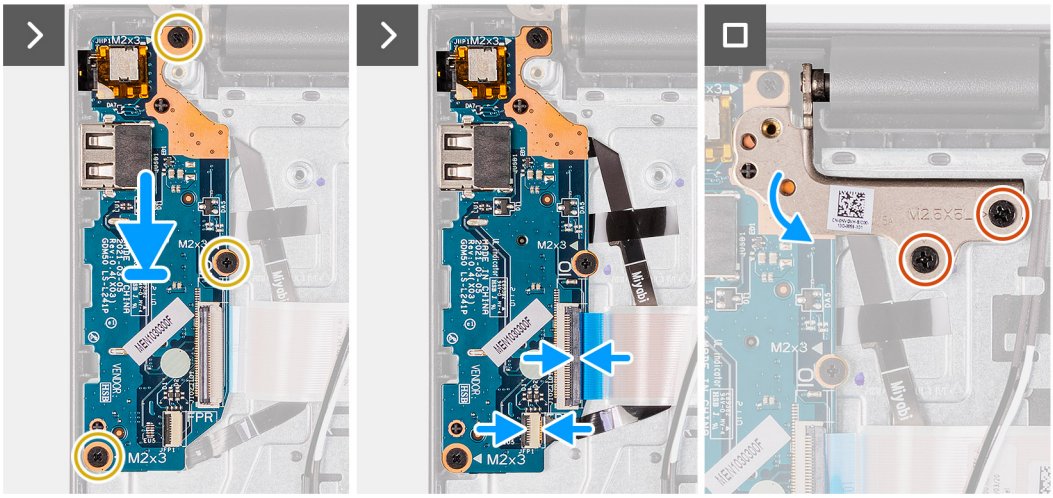
Prerequisites

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.

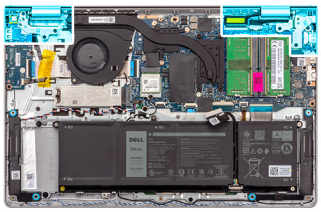
Prerequisites

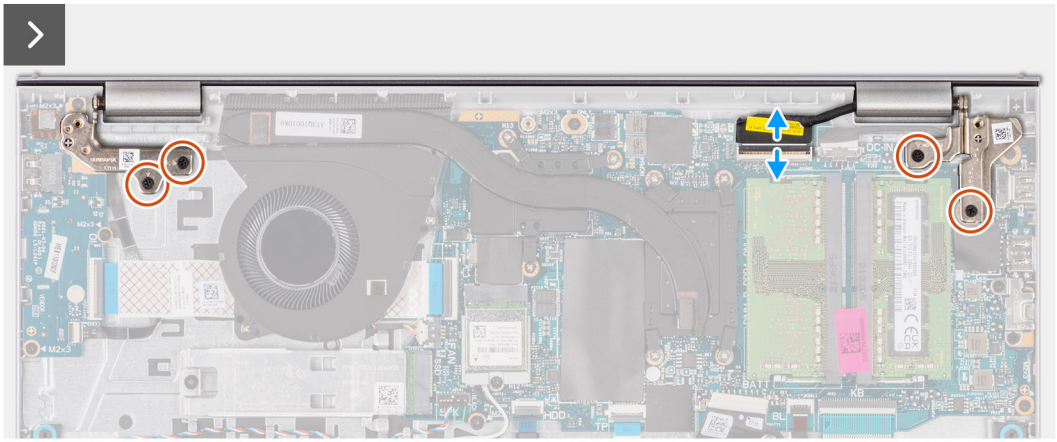
1. Follow the procedure in Before working inside your computer.
2. Remove the SD card.
3. Remove the base cover.
4. Remove the wireless card.

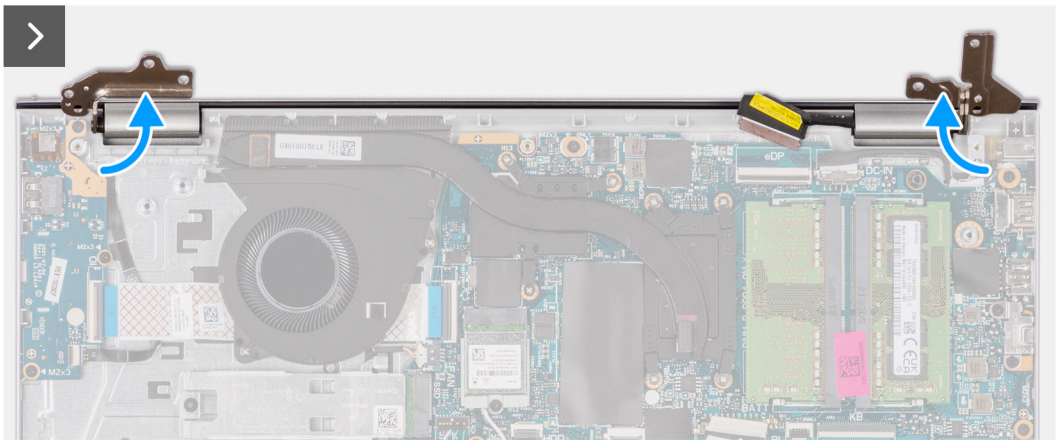
About this task

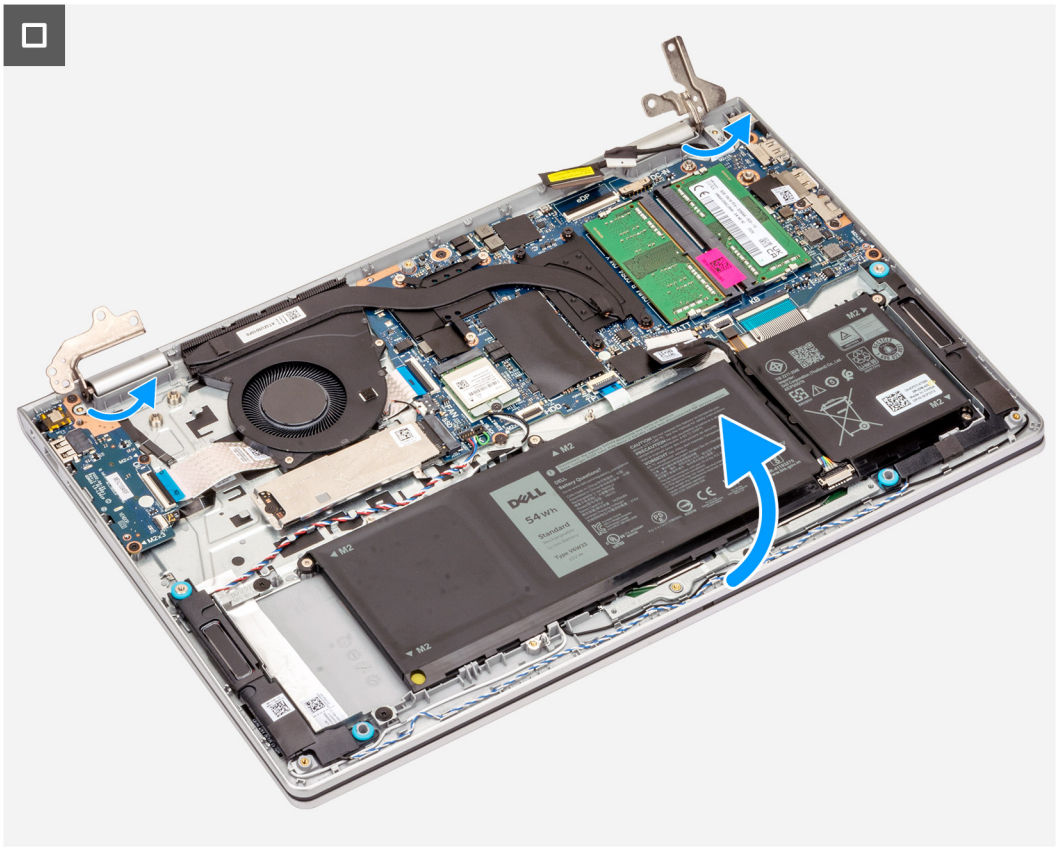
The following images indicate the location of the display assembly and provide a visual representation of the removal procedure.

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.

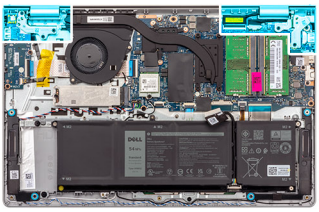
Prerequisites

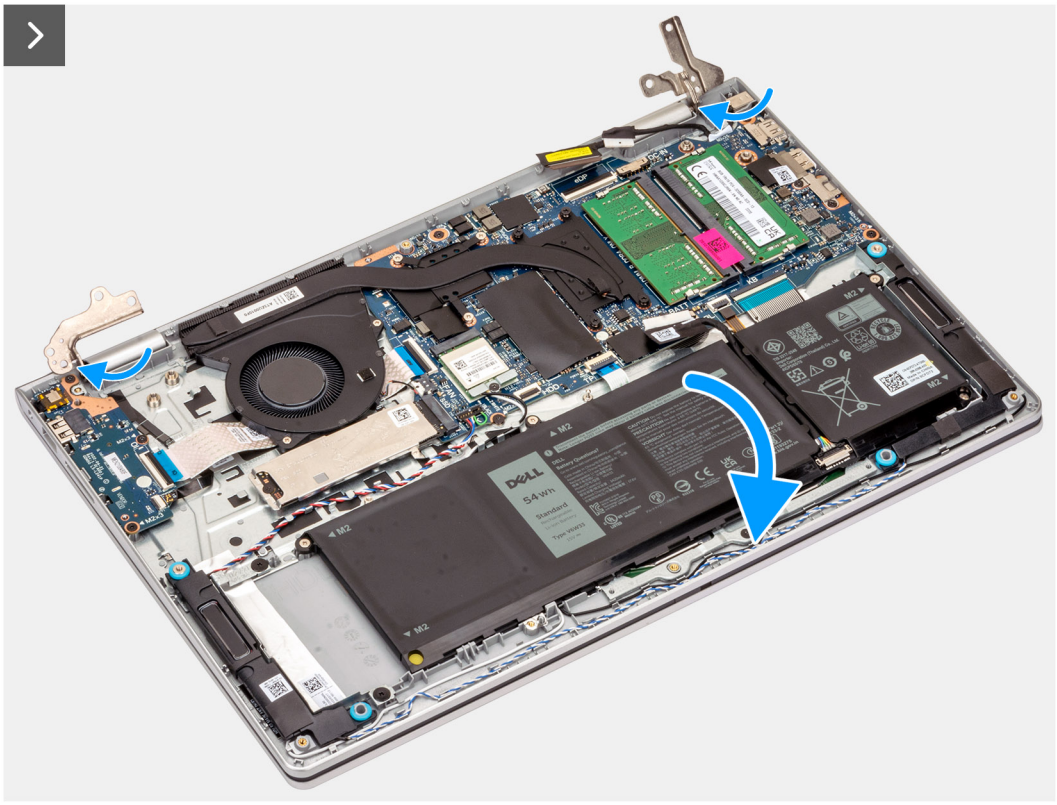
If you are replacing a component, remove the existing component before performing the installation process.

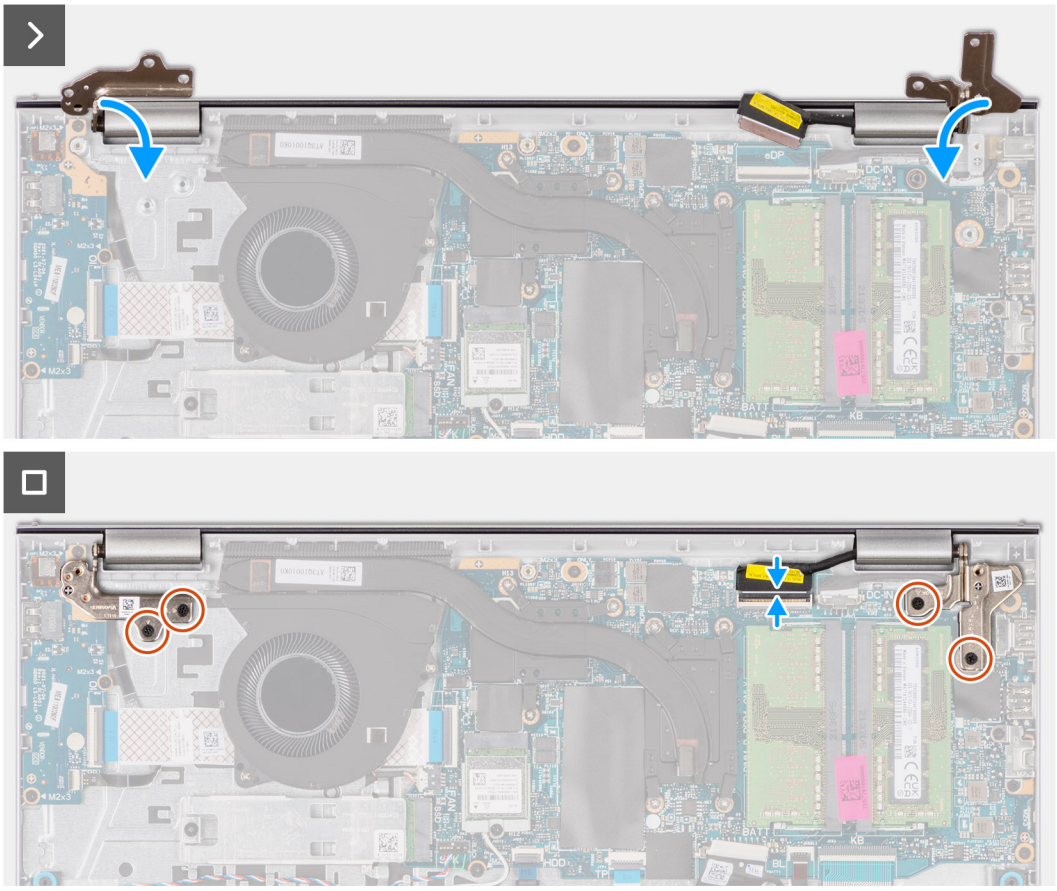
About this task

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

4x
M2.5x5

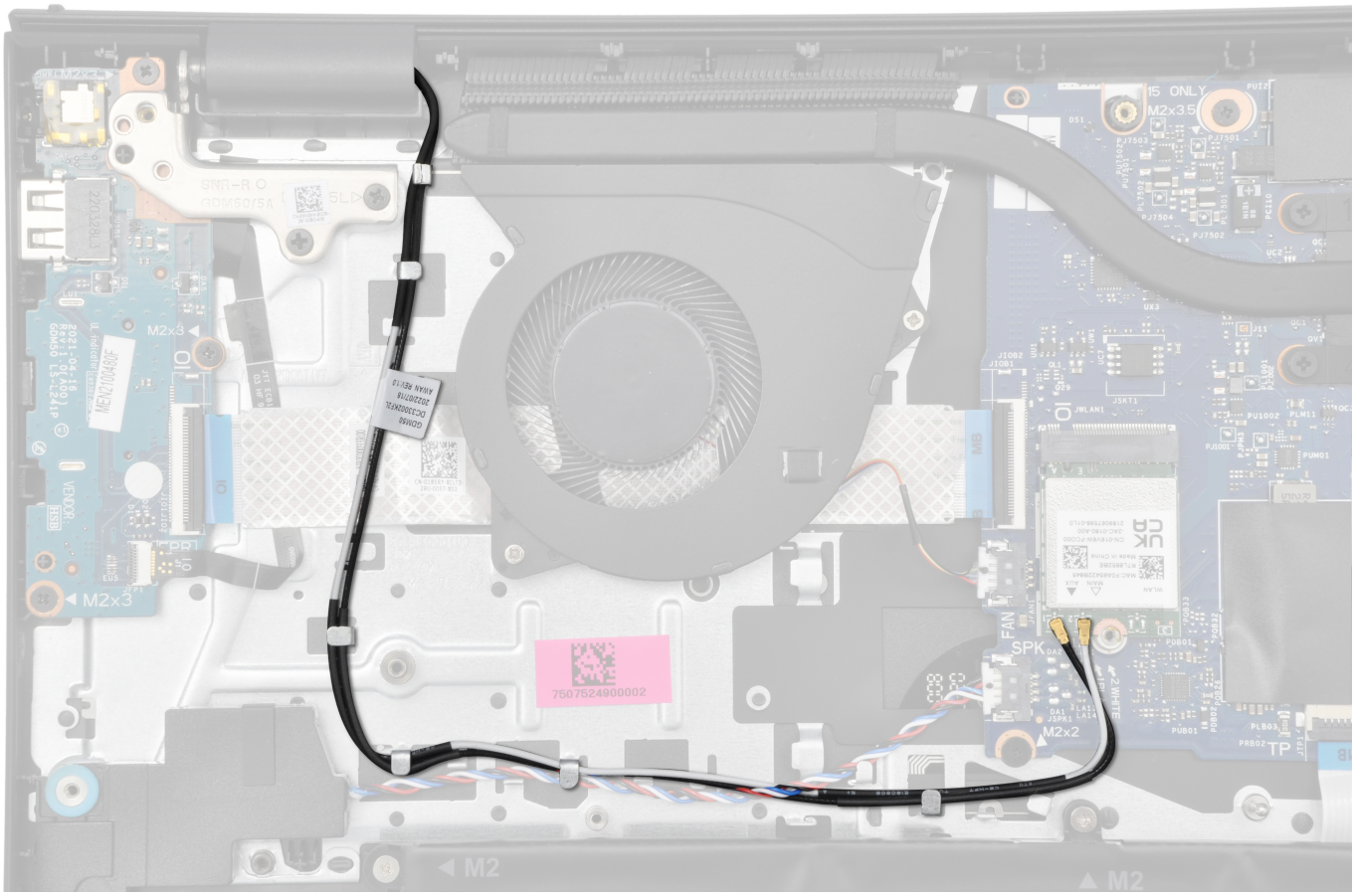






Steps

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

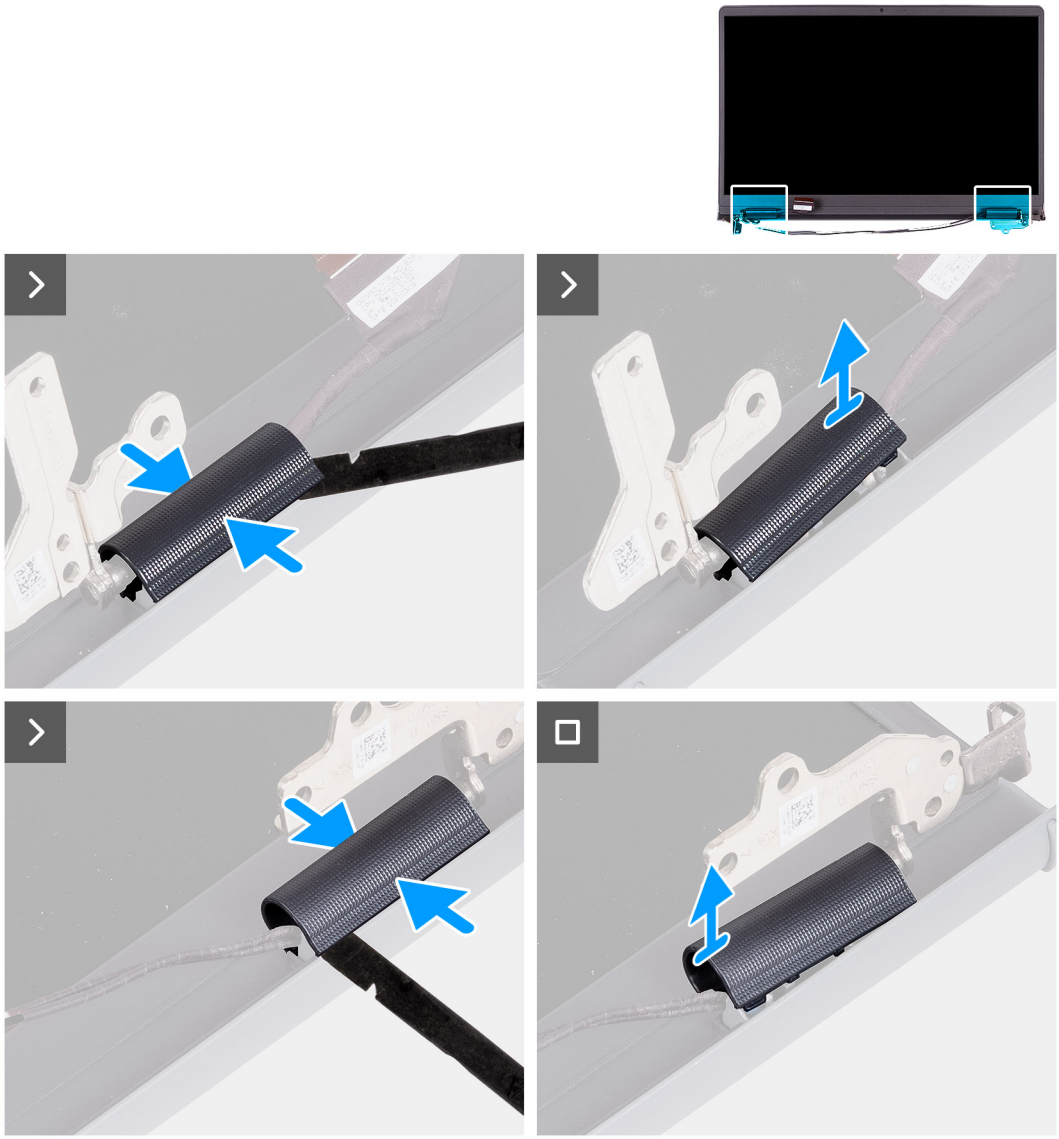
CAUTION: The information in this section is intended for authorized service technicians only.

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

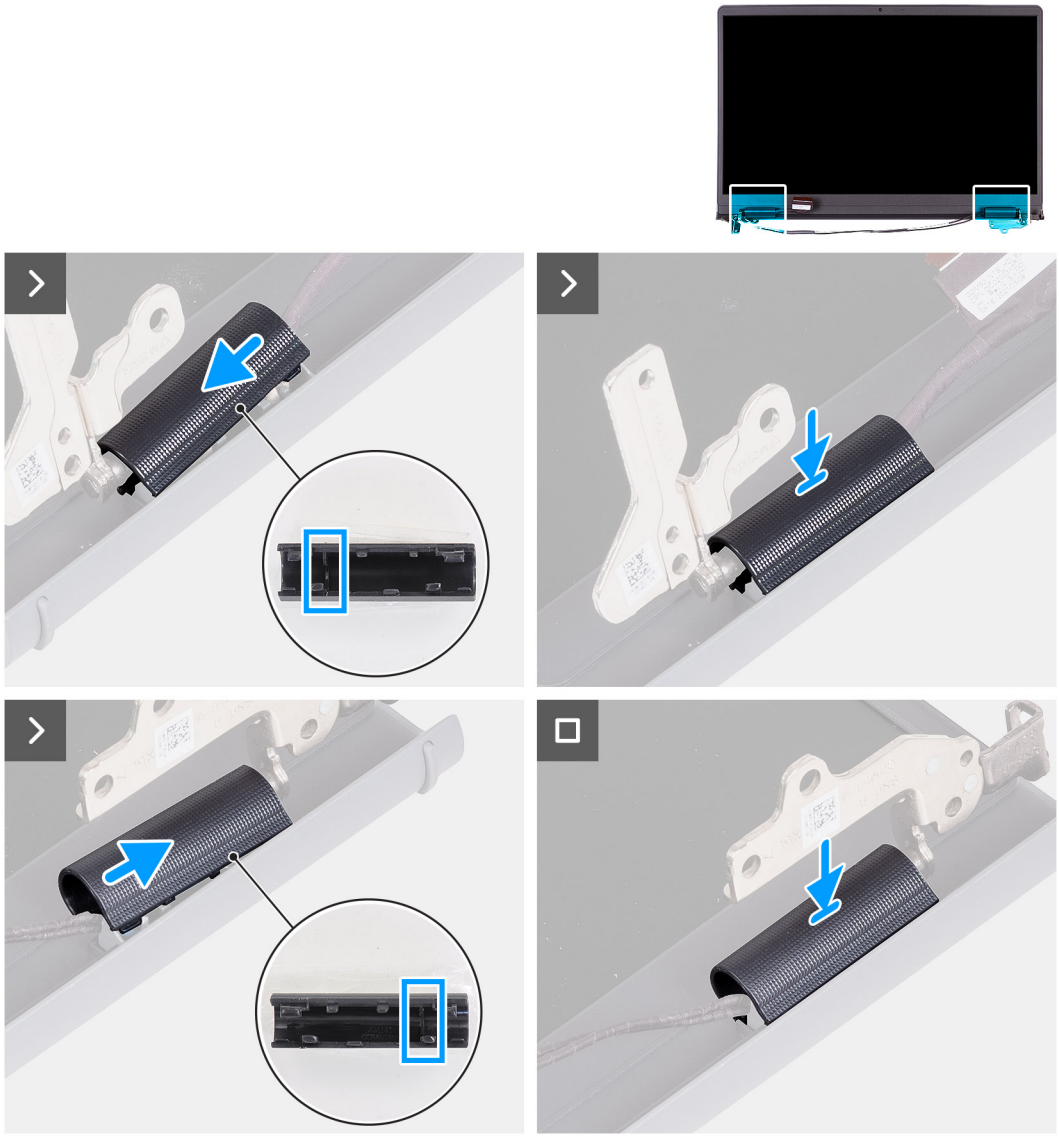
CAUTION: The information in this section is intended for authorized service technicians only.

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

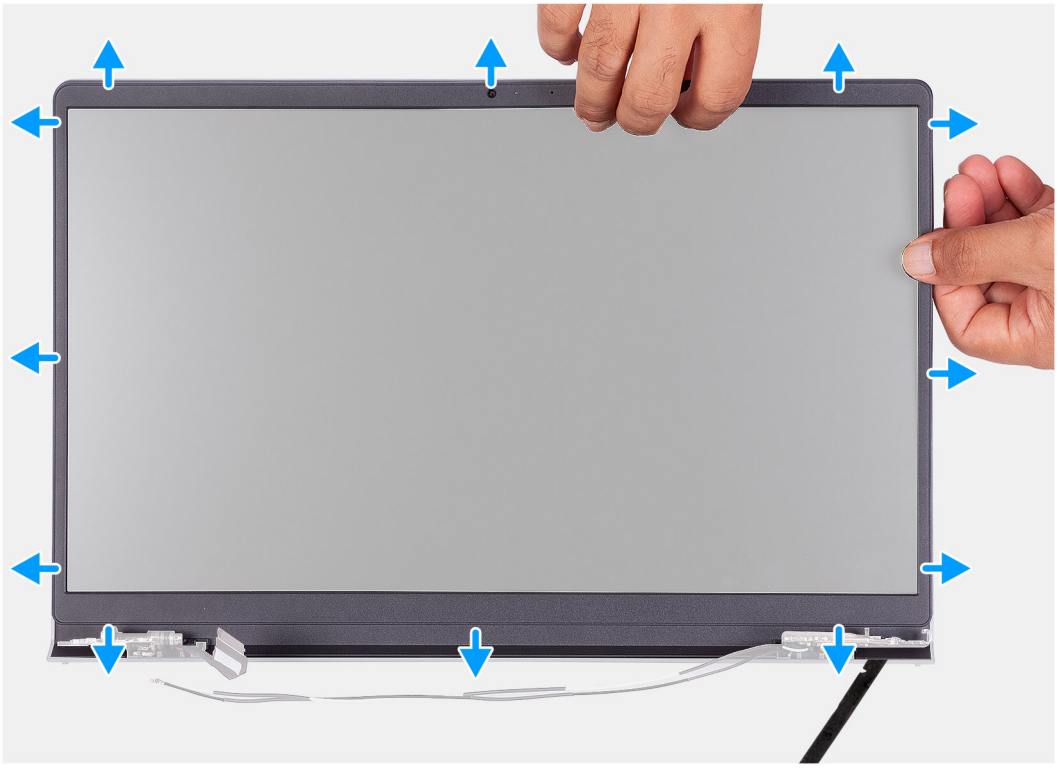
CAUTION: The information in this section is intended for authorized service technicians only.

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.

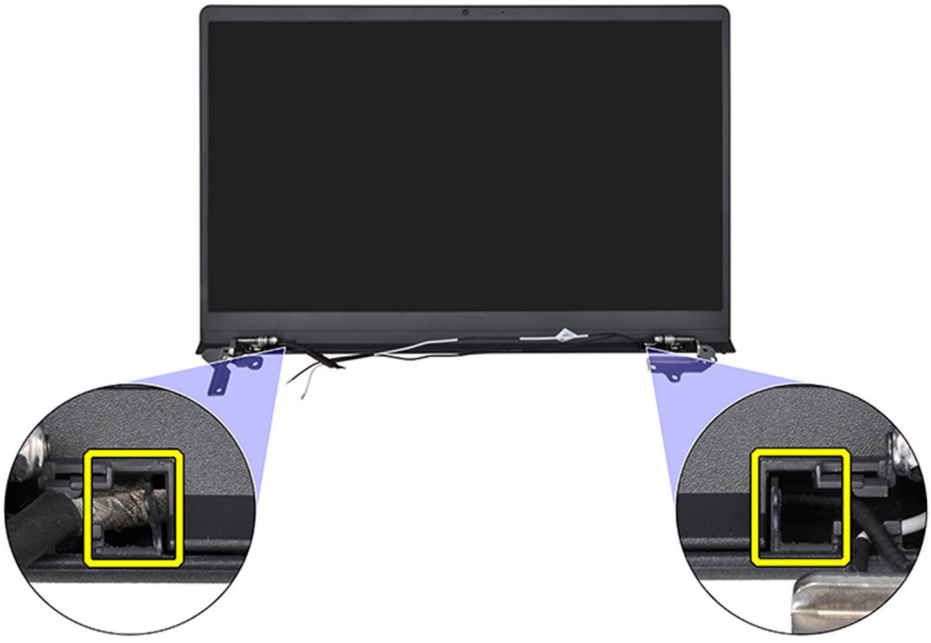
About this task

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



Steps

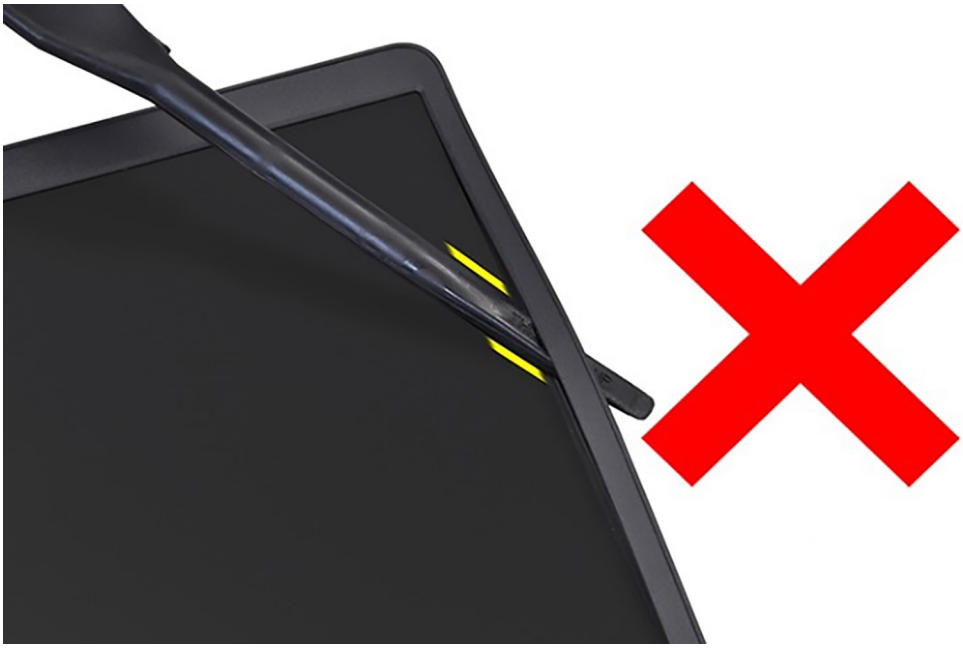
1. Using a plastic scribe, pry open the display bezel from the outer edge of the openings at the bottom side of the display assembly, near the display hinges.



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

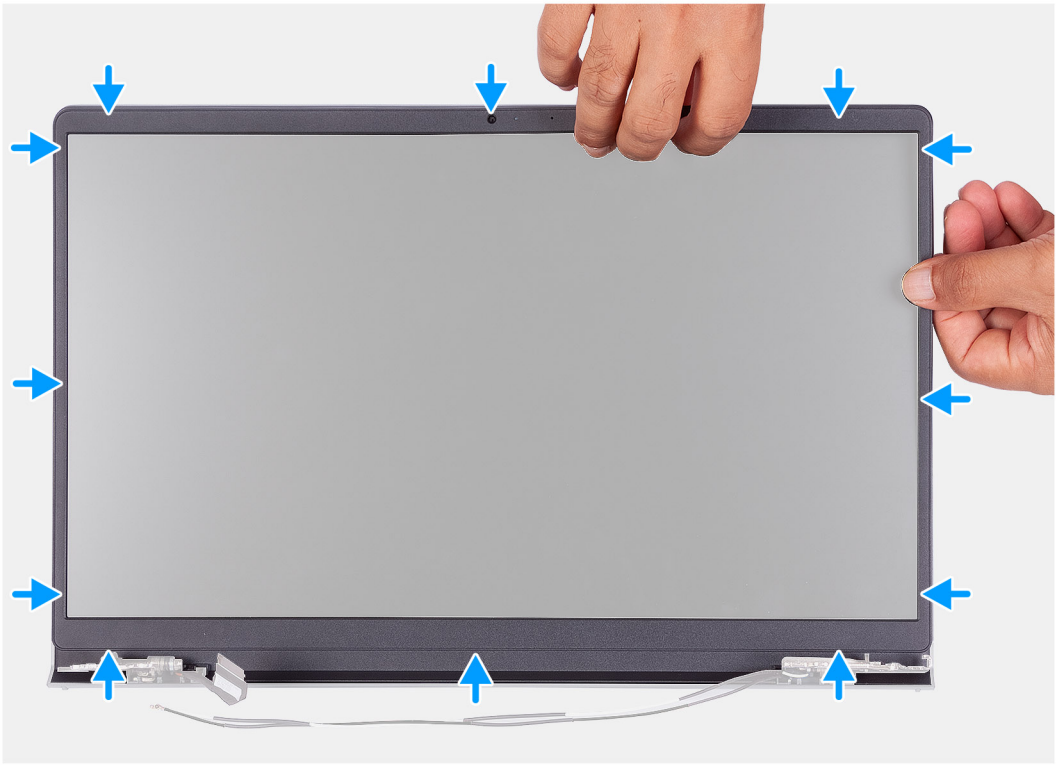
CAUTION: The information in this section is intended for authorized service technicians only.

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.

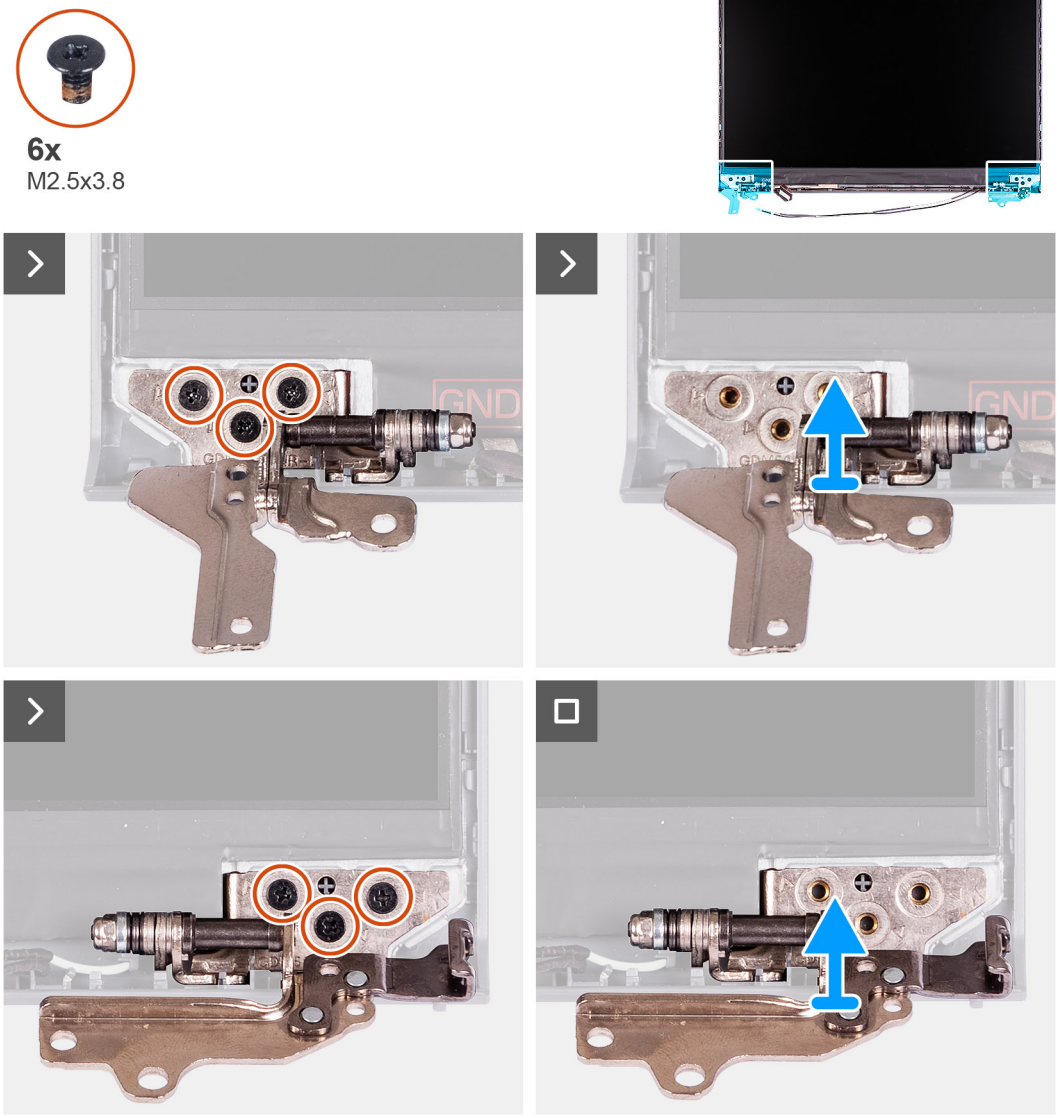
Prerequisites

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.



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

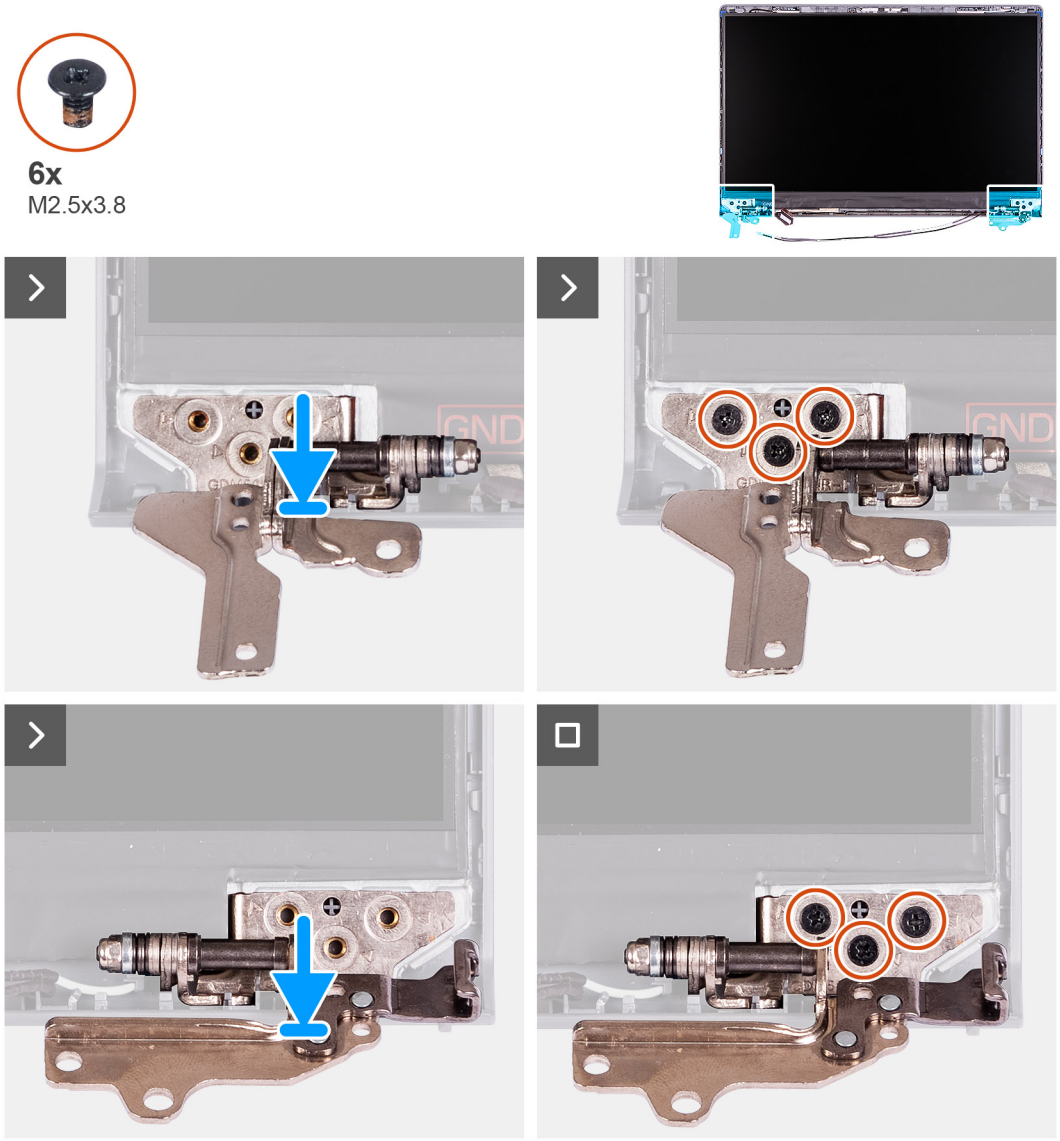
CAUTION: The information in this section is intended for authorized service technicians only.

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.



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

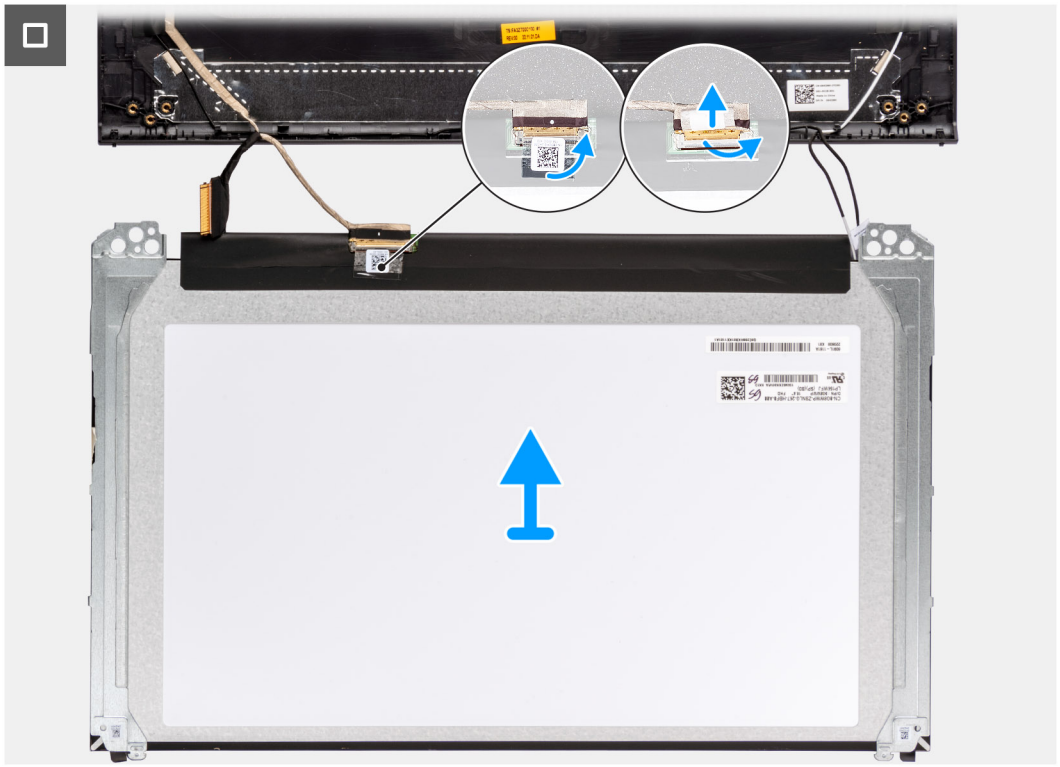
CAUTION: The information in this section is intended for authorized service technicians only.

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

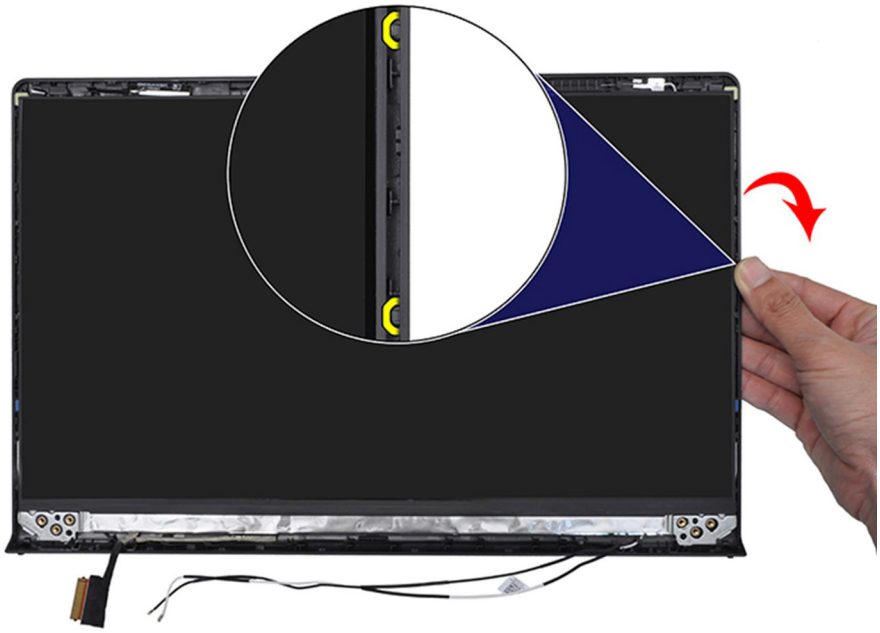
The following images indicate the location of the display panel and provide a visual representation of the removal procedure.



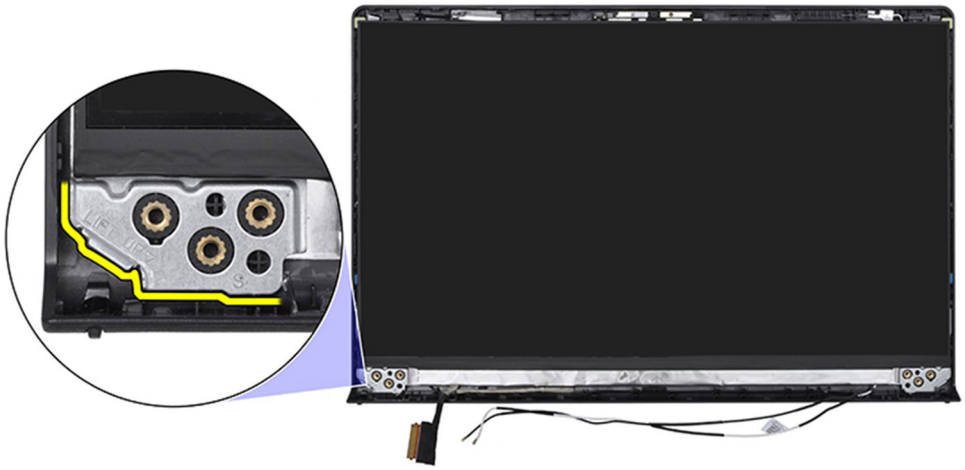
Steps

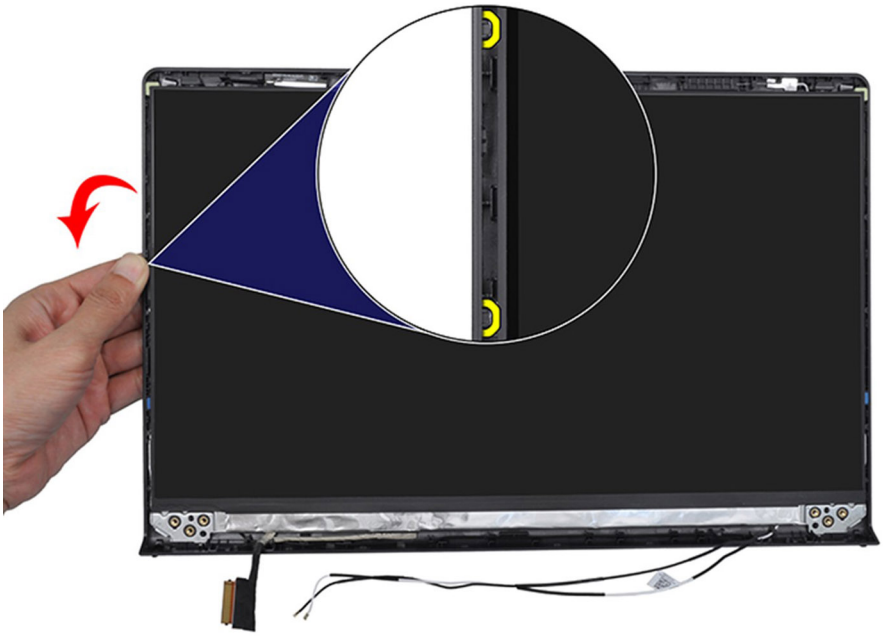
1. Use a plastic scribe to pry the display panel from the bottom-right corner.

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

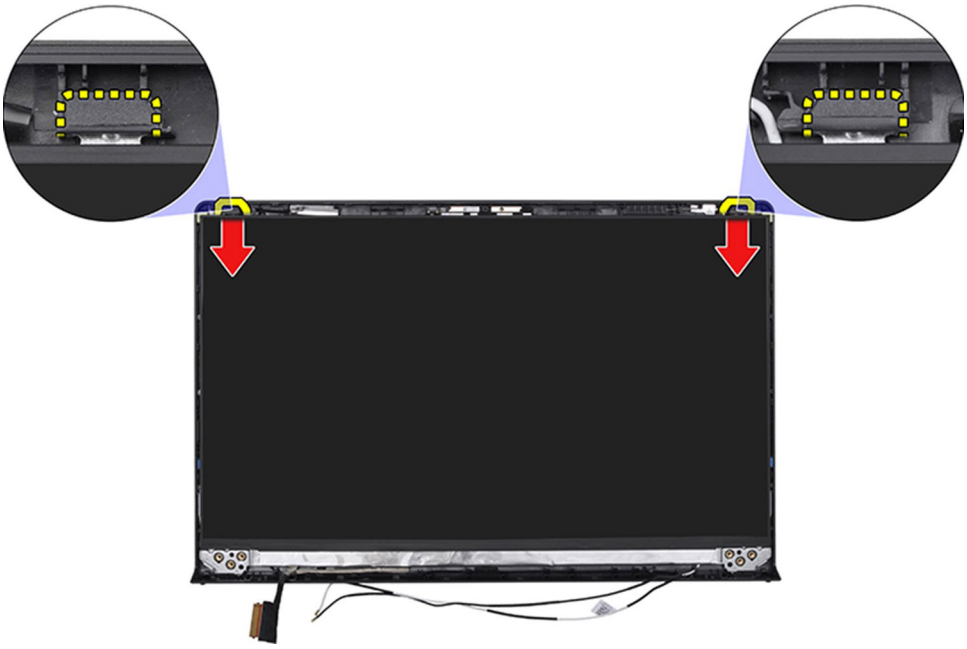


3. Repeat step 1 and 2 for the left side of the display panel assembly.





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

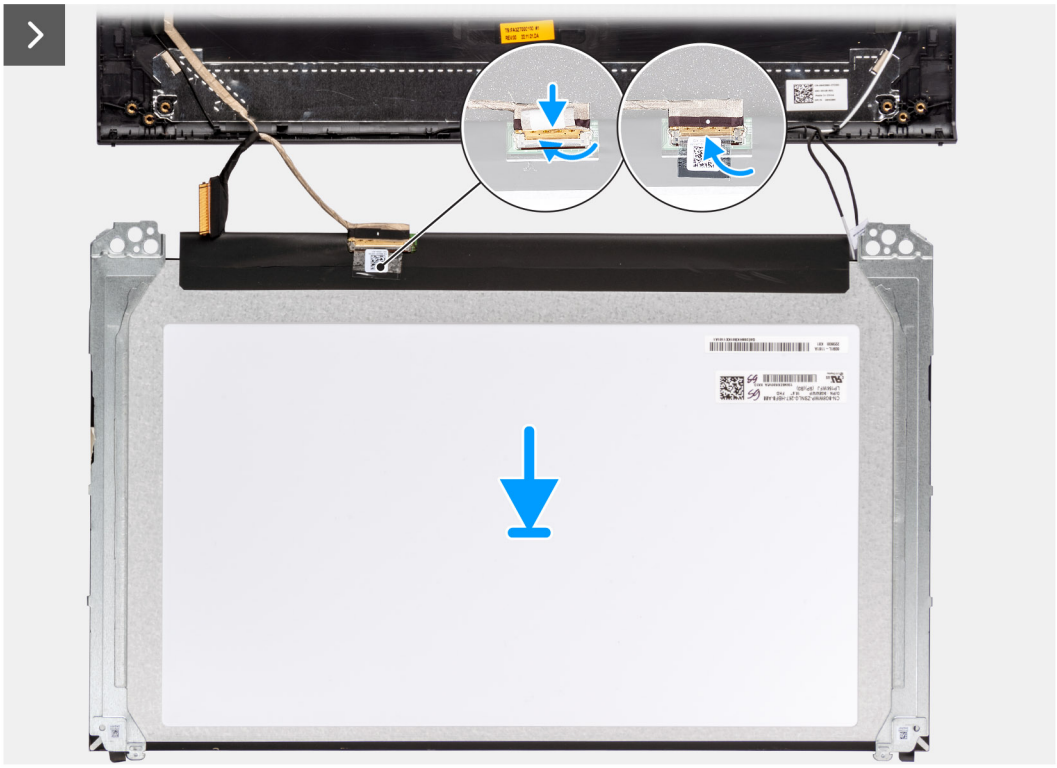
CAUTION: The information in this section is intended for authorized service technicians only.

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

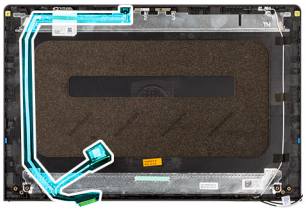
CAUTION: The information in this section is intended for authorized service technicians only.

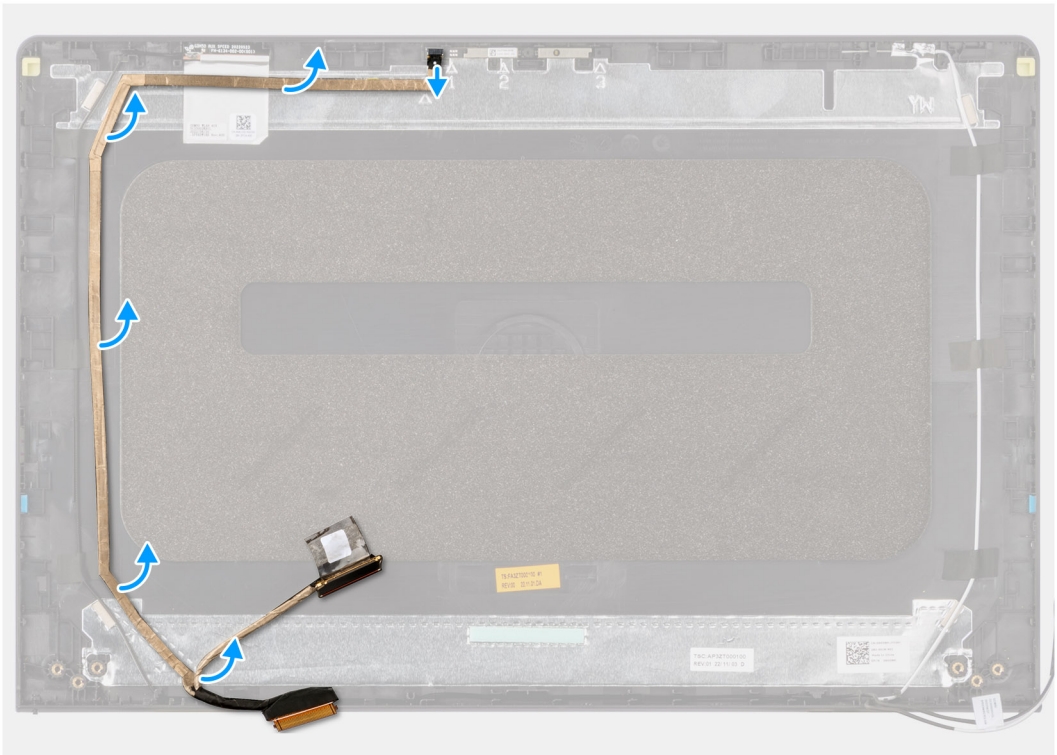
Prerequisites

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.

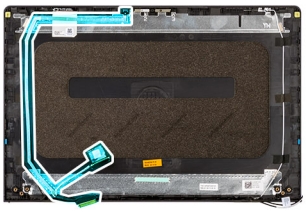
2. Peel and remove the eDP cable from the display cover.

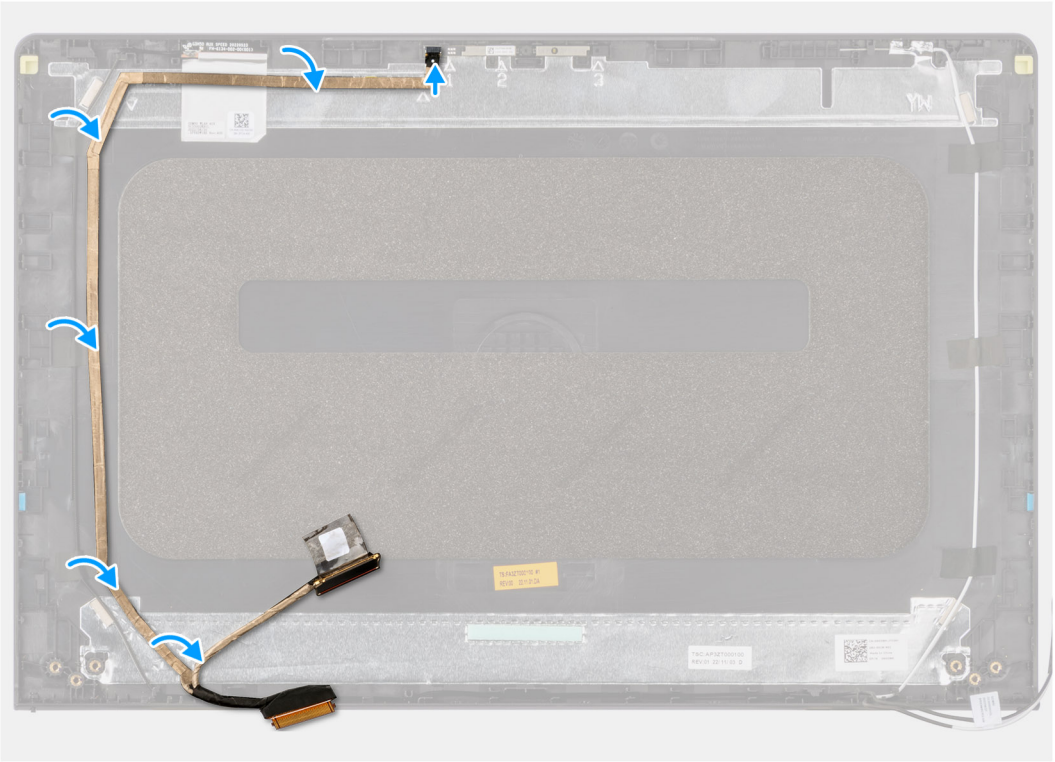
Installing the eDP cable

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

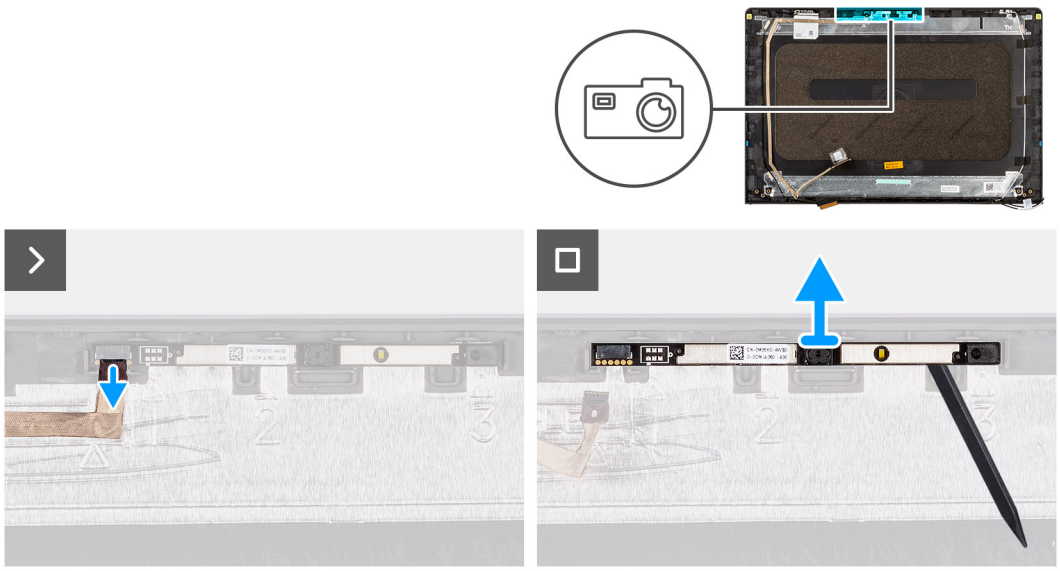
CAUTION: The information in this section is intended for authorized service technicians only.

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

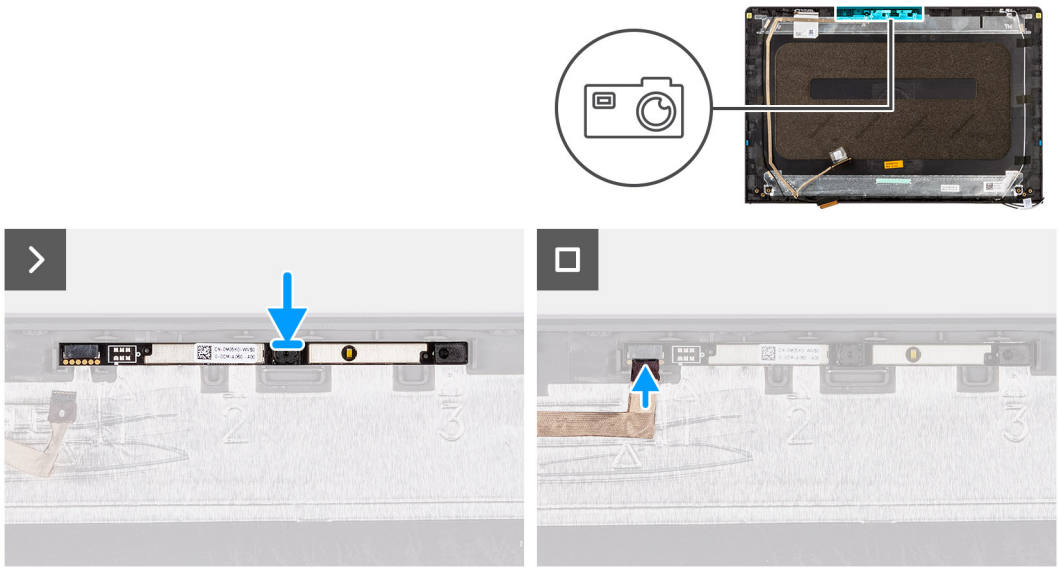
CAUTION: The information in this section is intended for authorized service technicians only.

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

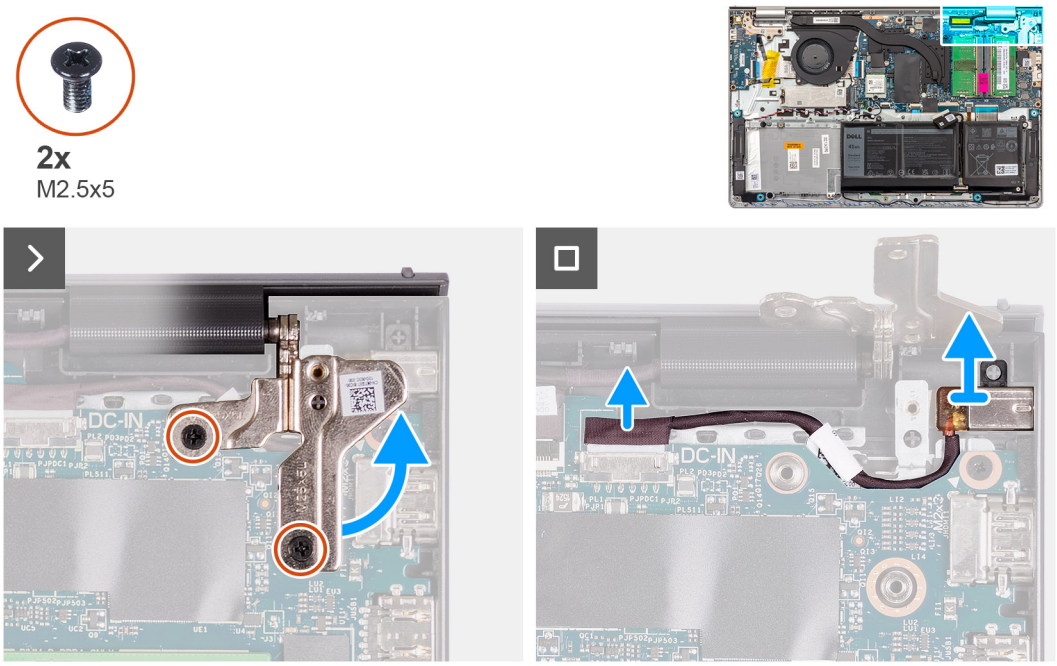
CAUTION: The information in this section is intended for authorized service technicians only.

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-adapter port and provide a visual representation of the removal procedure.



Steps

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

Installing the power-adapter port

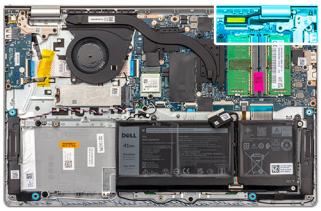
CAUTION: The information in this section is intended for authorized service technicians only.

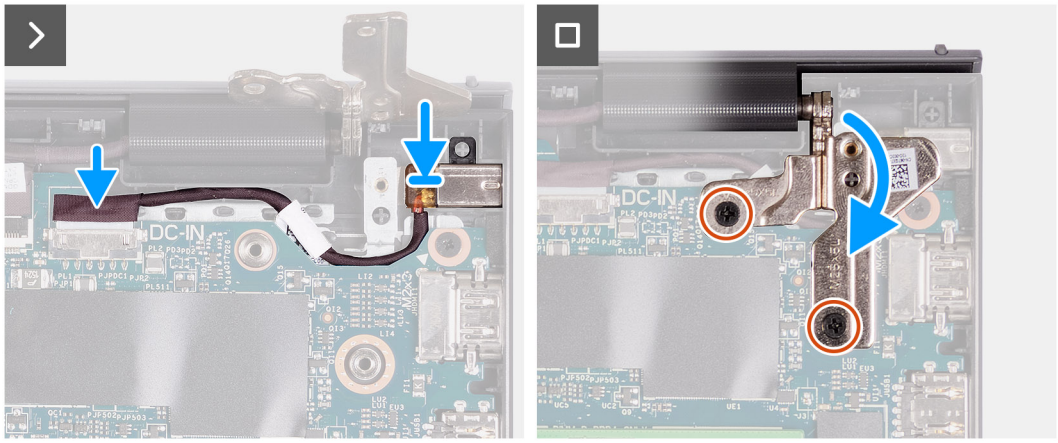
Prerequisites

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-adapter port and provide a visual representation of the installation procedure.





Steps

1. Using the alignment post, place the power-adapter port into its slot on the palm-rest and keyboard assembly.
2. Connect the power-adapter 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

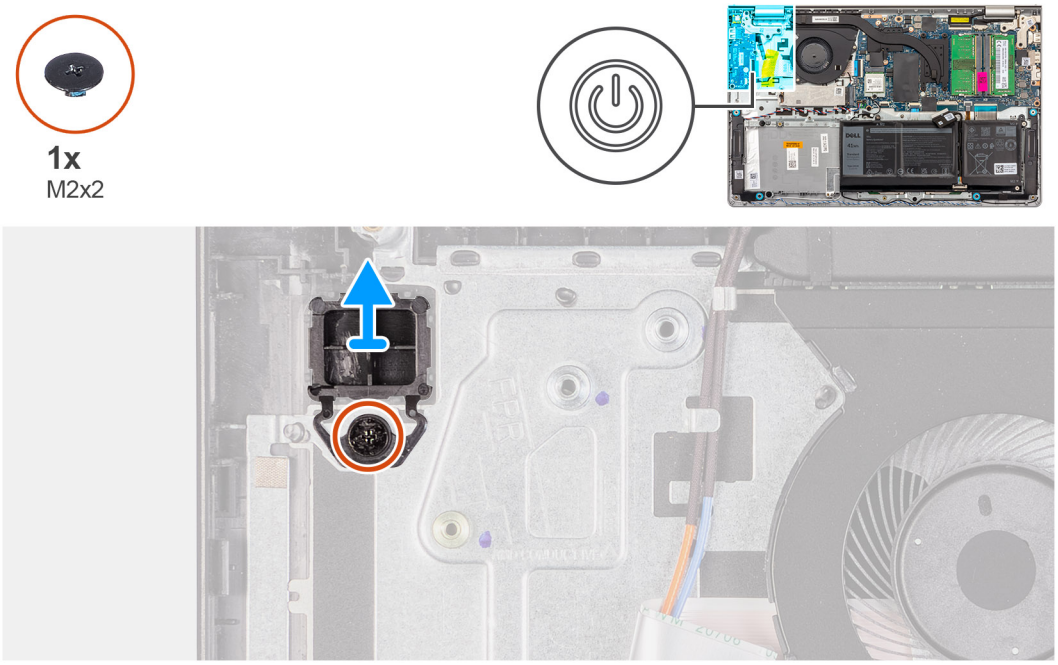
CAUTION: The information in this section is intended for authorized service technicians only.

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.



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

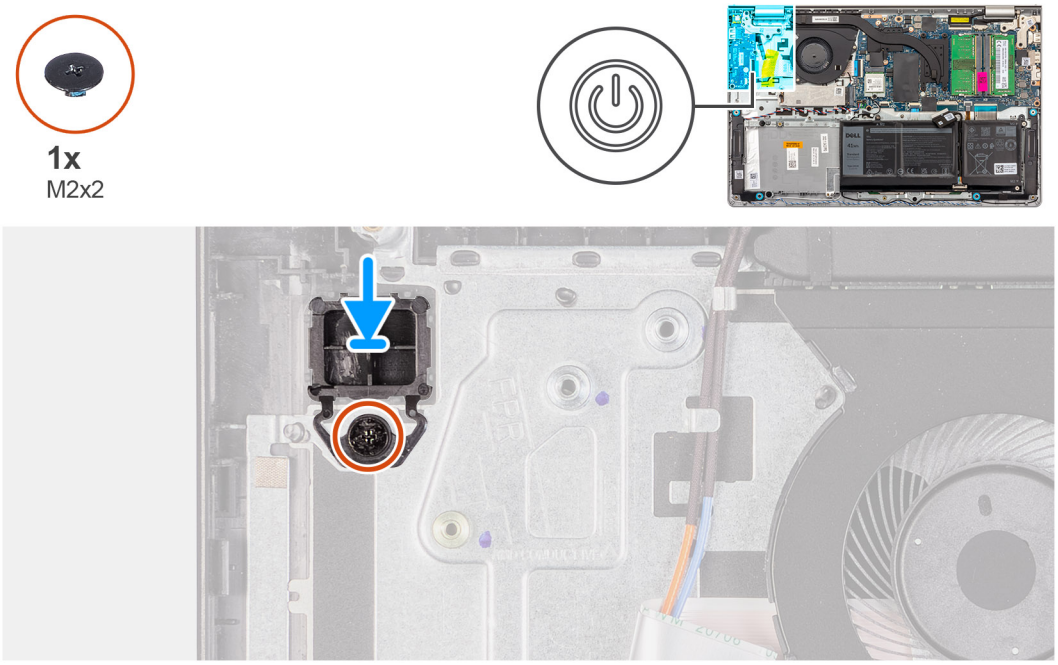
CAUTION: The information in this section is intended for authorized service technicians only.

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.



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

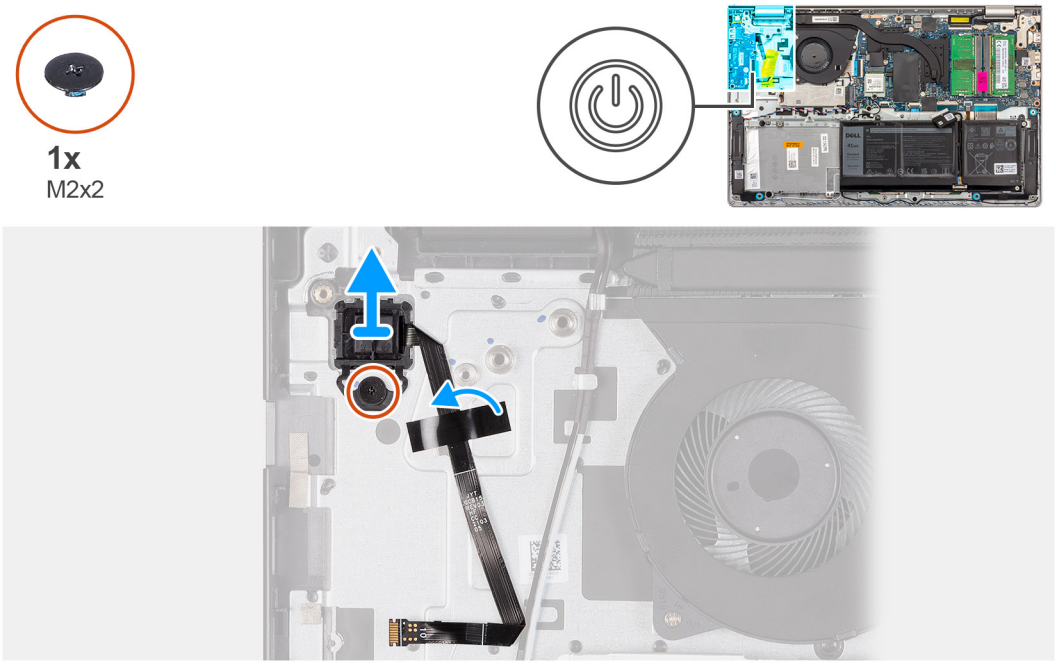
CAUTION: The information in this section is intended for authorized service technicians only.

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.



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

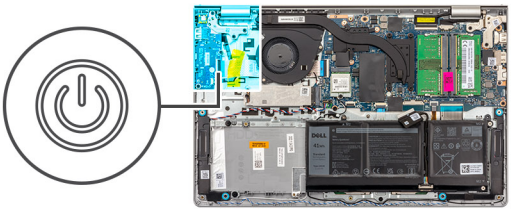
CAUTION: The information in this section is intended for authorized service technicians only.

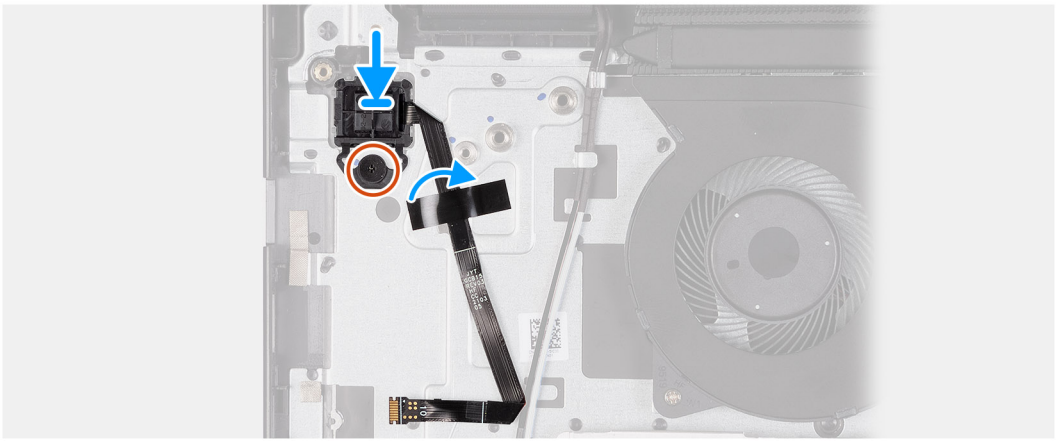
Prerequisites

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.





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.

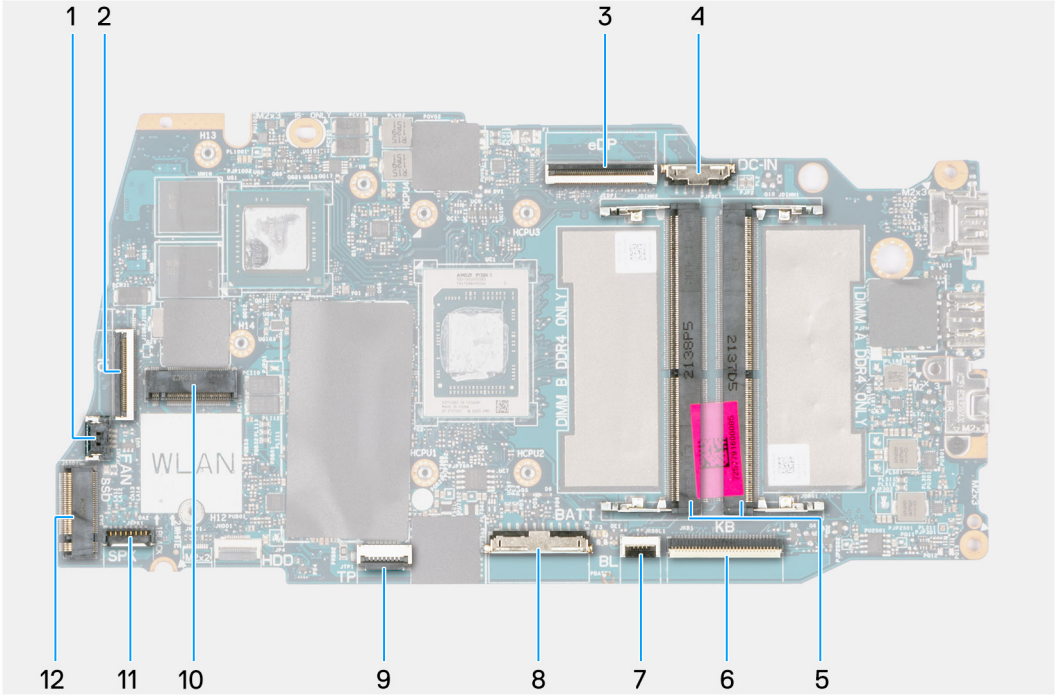
Prerequisites

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 memory modules.
7. Remove the wireless card.

8. Remove the fan.
9. Remove the heat sink.
10. Remove the display assembly.

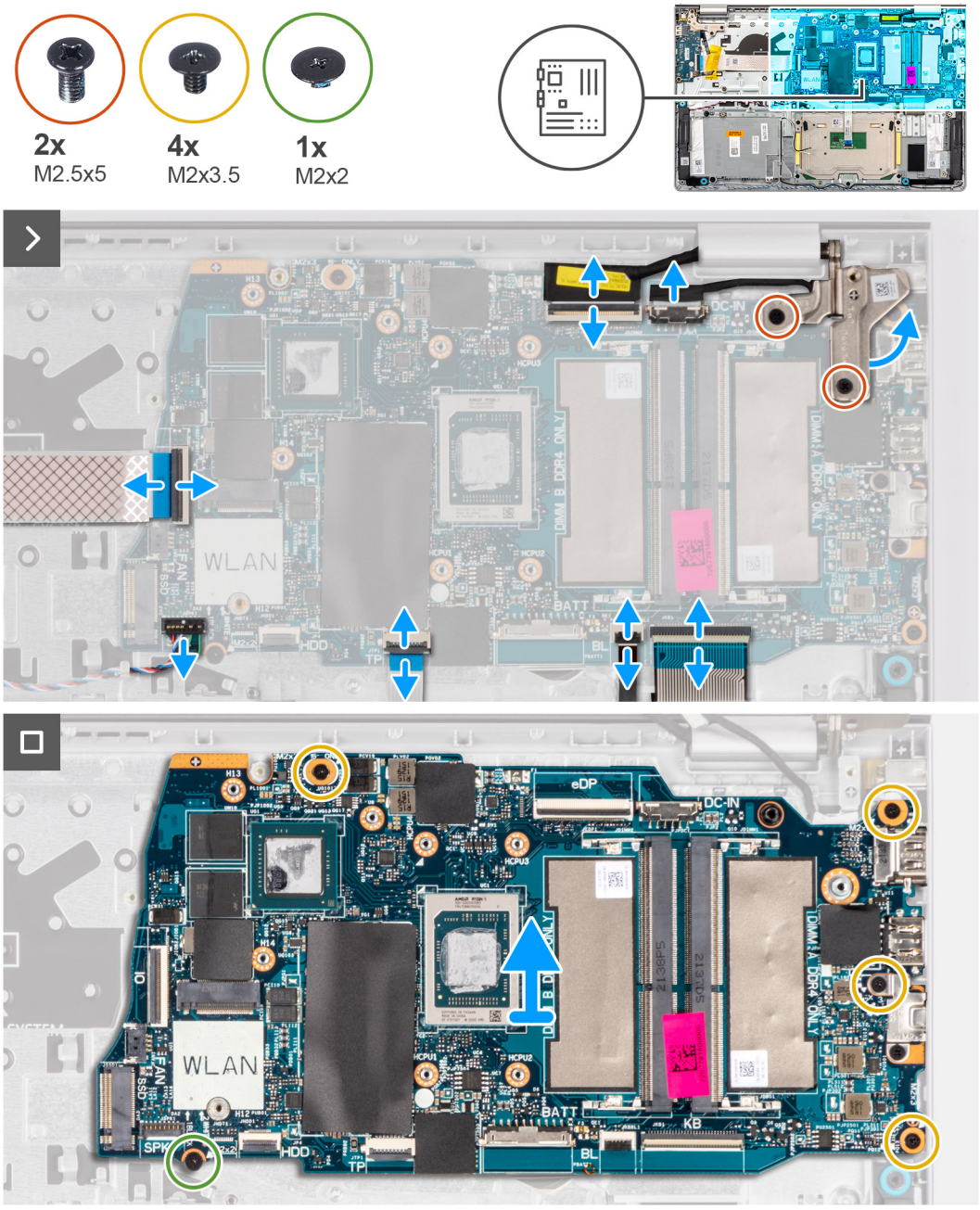
About this task

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. Memory modules
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

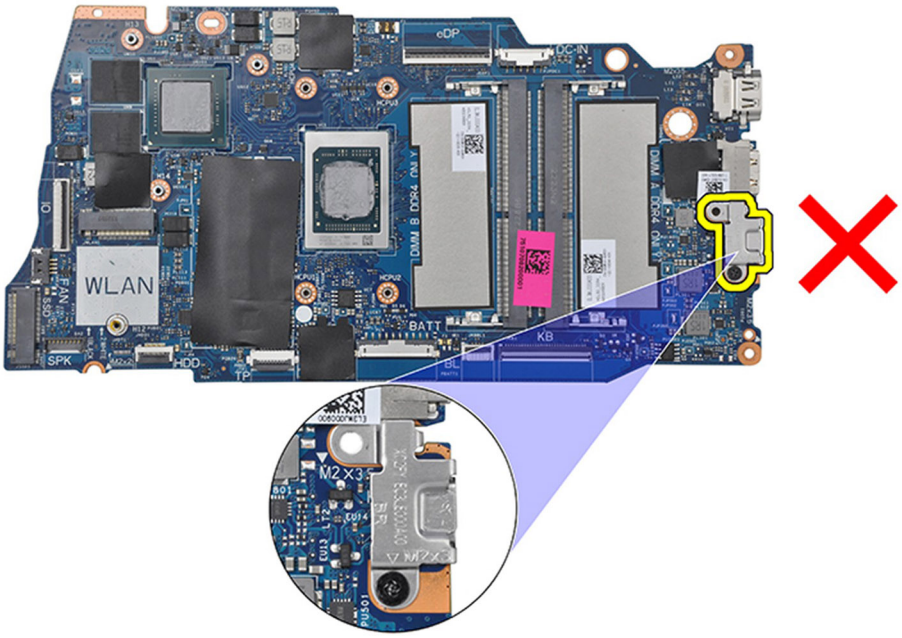
The following images indicate the location of the system board and provide a visual representation of the removal procedure.



Steps

1. Remove the two (M2.5x5) screws from the right hinge.
2. Pry open the right-display hinge at an angle of 90 degrees.
3. Disconnect the following cables from 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
4. Remove the four (M2x3.5) screws that secure the system board to the palm-rest assembly.
5. Remove the single (M2x2) screw that secures the system board to the palm-rest assembly.
6.

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

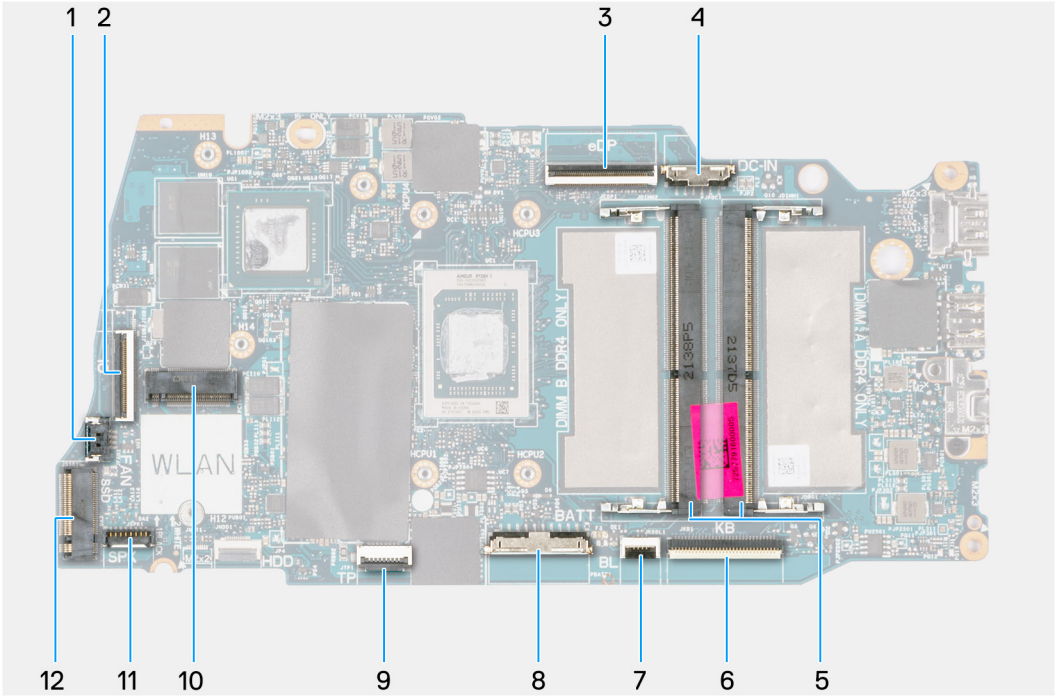
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

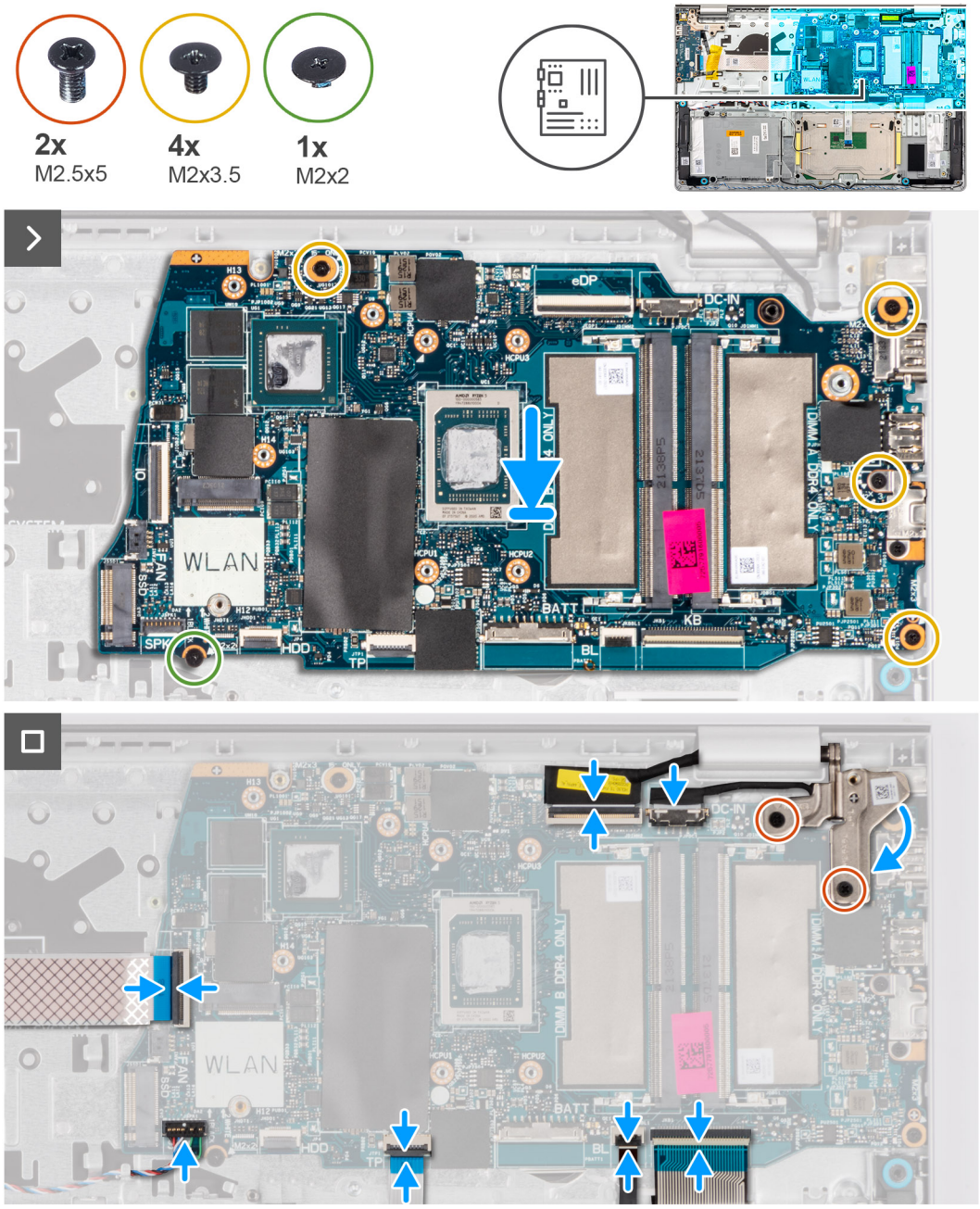
About this task

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. Memory modules
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 memory modules.
6. Install the M.2 2230 solid state drive.
7. Install the 3-cell battery or 4-cell battery (whichever applicable).
8. Install the base cover.
9. Install the SD card.
10. 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.

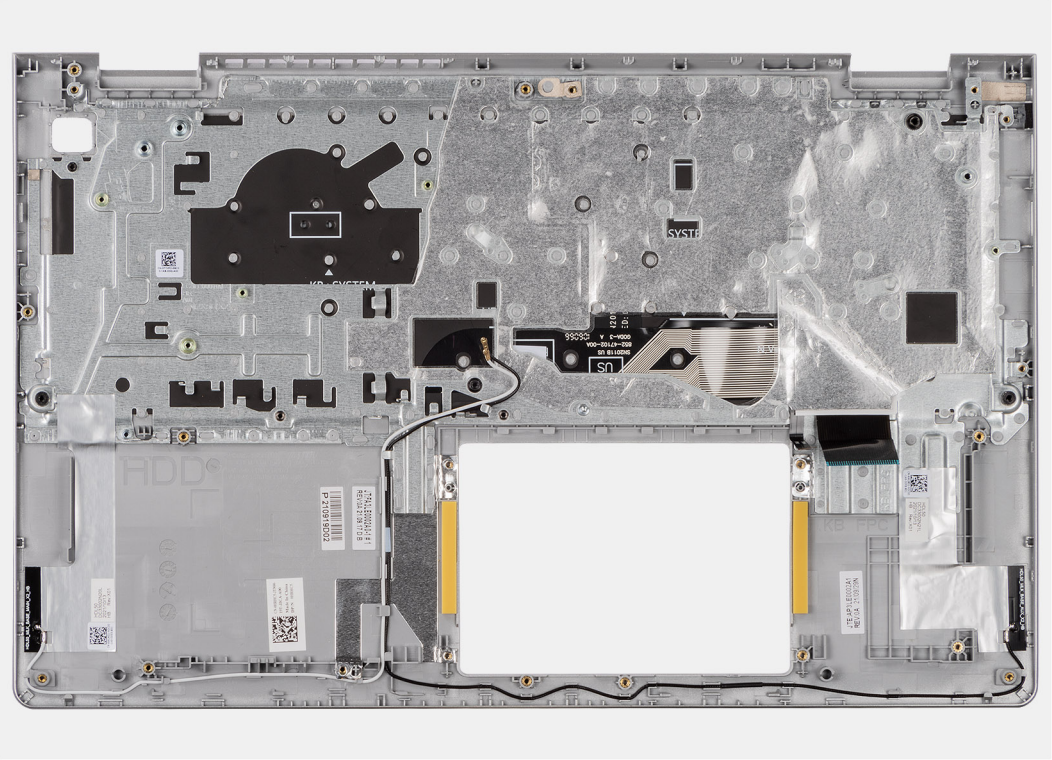
Prerequisites

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 memory modules.
6. Remove the M.2 2230 solid state drive.
7. Remove the wireless card.
8. Remove the fan.
9. Remove the speakers.
10. Remove the touchpad.
11. Remove the heat sink.
12. Remove the I/O-board cable.
13. Remove the I/O board.
14. Remove the display assembly.
15. Remove the power-adapter port.
16. Remove the power button or power button with optional fingerprint reader (whichever is applicable).
17. 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

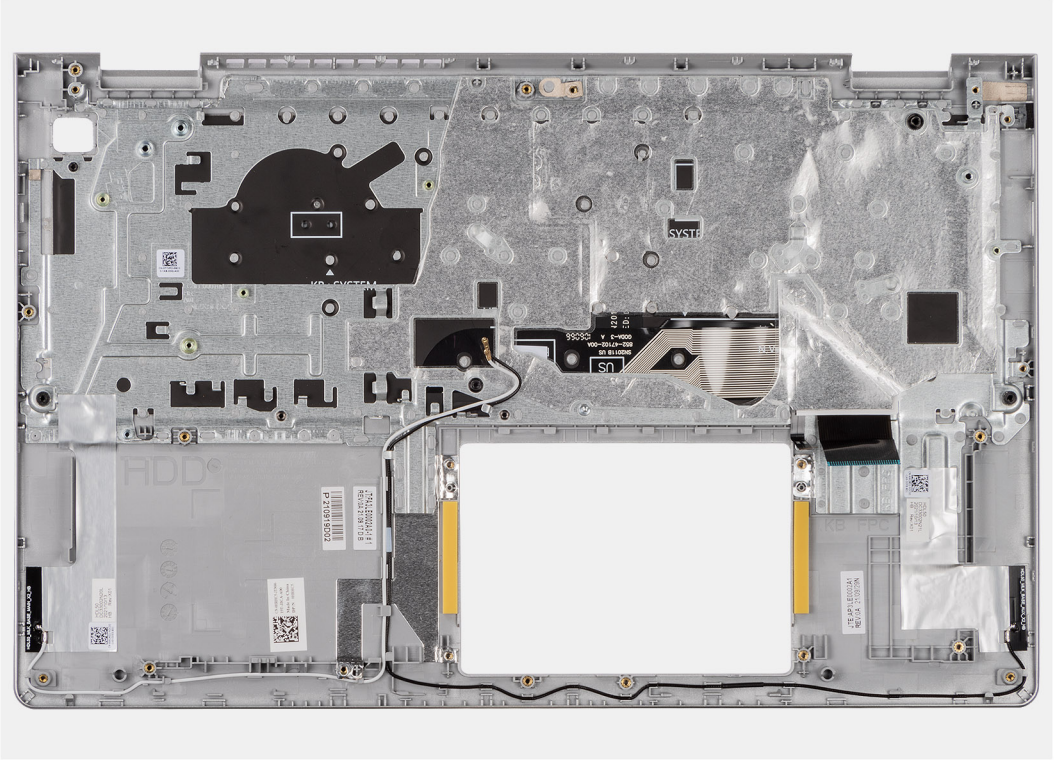
CAUTION: The information in this section is intended for authorized service technicians only.

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 memory modules.
14. Install the 3-cell battery or 4-cell battery (whichever is applicable).
15. Install the base cover.
16. Install the SD card.
17. Follow the procedure in After working inside your computer.

7

Software

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

Operating system

Your Dell 15 DC15255 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 000123347.

8

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: XXX 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
Dell 15 DC15255	
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.
CPU Cache	
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. **NOTE:** You cannot boot any type of USB device (floppy, hard drive, or memory key) when this option is off. 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)

Advanced	Description
	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. Default: Enabled
Function Key Behavior	Allows you to set a function key or multimedia key as the default function key behavior. Default: Multimedia key
Keyboard Illumination	Selects the operating mode of the keyboard illumination feature. Default: Disabled
Keyboard Backlight with AC	Selects the timeout value for the keyboard backlight when an AC adapter is plugged into the computer. Default: 1 minute
Keyboard Backlight with Battery	Selects the timeout value for the keyboard backlight when the computer is running on battery power. Default: 1 minute
Battery Health	Displays the battery health.
External USB Ports	Allows you to enable or disable the external USB ports. Default: Enabled
Enable Audio	Allows you to enable or disable the audio. Default: Enabled
Microphone	Allows you to enable or disable the microphone. Default: Enabled
Camera	Enables or disables the camera. Default: Enabled
Secure Digital (SD) card	Enables or disables the SD card. Default: Enabled
Battery Charge Configuration	Set the battery charge settings with a preselected custom charge start and stop. Default: Adaptive
Advanced Battery Charge Configuration	Enable Advanced Battery Charge Configuration from the beginning of the day to a specified work period. Default: Disabled
IPv4 HTTP Support	Default: Disabled
IPv6 HTTP Support	Default: Disabled
Maintenance	
Data Wipe on next boot	Enables or disables data wipe on the next boot. Default: Disabled

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

Advanced	Description
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. Default: Enabled
BIOS Auto-Recovery	Enables BIOS to automatically recover BIOS without user actions. Default: Disabled
SupportAssist System Resolution	
Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for the Dell OS Recovery tool. Default: 2
SupportAssist OS Recovery	Enables or disables the boot flow for the SupportAssist OS Recovery tool in the even of certain system errors. Default: Enabled

Table 33. BIOS Setup options—Security menu

Security	Description
Admin Password Status	Displays if the administrator password is clear or set. Default: Not Set
System Password Status	Displays if the system password is clear or set. 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. Default: Permitted
Absolute®	Allows you to track your computer Default: Enabled
Absolute® Status	Allows you to activate or deactivate the Absolute® feature Displays if the system password is clear or set. Default: Deactivate
WINDOWS SMM SECURITY MITIGATIONS TABLE (WSMT)	Enables or disables configuration of platform features on Dell Client Systems with WSMT-enabled BIOS. Default: Enabled
Firmware TPM	Enable or disable the firmware TPM. 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. Default: Enabled
Enable OS kernel DMA support	Enable or disable the OS kernel DMA support. Default: Enabled
UEFI Firmware Capsule Updates	Enables or disables BIOS updates through UEFI capsule update packages. Default: Enabled
Secure Boot	
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) Default: Installed and Locked
Secure Boot Status	Ensure that only trusted software can be run on the system. Default: Disabled
Secure Boot Mode	Prevents any malicious software from loading when the computer starts up. Default: Deployed Mode
User Customized Security	Default: No
Secure Boot	Enables or disables Secure Boot. 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 the knowledge base article 000131486 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. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
   The **Security** screen is displayed.
2. 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.

3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. 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. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that the **Password Status** is Unlocked.
3. Select **System Password**. Update or delete the existing system password, and press Enter or Tab.
4. 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.

5. Press Esc. A message prompts you to save the changes.
6. 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.

9

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 in the Knowledge Base Resource 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.

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 the knowledge base article 000181163.

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.
   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)

Motherboard Built-In Self-Test (M-BIST)

M-BIST is the system board onboard self-test diagnostics tool that improves the diagnostics accuracy of system board Embedded Controller (EC) failures.

NOTE: M-BIST can be manually initiated before Power On Self-Test (POST).

How to run M-BIST

NOTE: Before initiating M-BIST, ensure that the computer is in a power-off state.

1. Press and hold both the **M** key and the power button to initiate M-BIST.
2. The battery-status light may exhibit two states:
   - Off: No fault was detected.
   - Amber and White: Indicates a problem with the system board.
3. If there is a failure with the system board, the battery-status light flashes one of the following error codes for 30 seconds:

Table 37. LED error codes

Blinking Pattern		Possible Problem
Amber	**White**	
2	1	CPU Failure
2	8	LCD Power Rail Failure
1	1	TPM Detection Failure
2	4	Memory/RAM failure

4. If there is no failure with the system board, the LCD cycles through the solid color screens (that are described in the LCD-BIST) for 30 seconds and then turn off.

Logic Built-in Self-test (L-BIST)

L-BIST is an enhancement to the single LED error code diagnostics and is automatically initiated during POST. L-BIST will check the LCD power rail. If there is no power being supplied to the LCD (that is if the L-BIST circuit fails), the battery status LED flashes either an error code [2,8] or an error code [2,7].

NOTE: If L-BIST fails, LCD-BIST cannot function as no power will be supplied to the LCD.

How to invoke the L-BIST

1. Turn on your computer.
2. If the computer does not start up normally, look at the battery status LED:
   - If the battery status LED flashes an error code [2,7], the display cable may not be connected properly.
   - If the battery status LED flashes an error code [2,8], there is a failure on the LCD power rail of the system board, hence there is no power that is supplied to the LCD.
3. For cases, when a [2,7] error code is shown, check to see if the display cable is properly connected.
4. For cases when a [2,8] error code is shown, replace the system board.

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.

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 15 DC15255.

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 38. 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 twenty-five 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 a 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.

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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 39. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	Dell Site
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	Windows Support Site Linux Support Site
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 Dell Support Site. For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles	1. Go to Dell Support Site. 2. On the menu bar at the top of the Support page, select **Support** > **Support Library**. 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.

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.