Inspiron 16 Plus 7630

Owner's Manual- NVIDIA GeForce RTX 4060

Regulatory Model: P125F
Regulatory Type: P125F004
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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 Inspiron 16 Plus 7630

Right

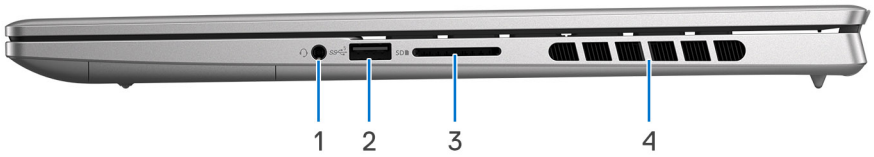


Figure 1. For systems shipped with LPDDR5/LDPPR5x memory

1. **Universal audio jack**

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

2. **USB 3.2 Gen 1 port**

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

3. **SD-card slot**

   Reads from and writes to the SD card. The computer supports the following card types:

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

4. **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 build-up of dust and dirt. For more information about cleaning air vents, search for articles in Knowledge Base Resource at Dell Support Site.

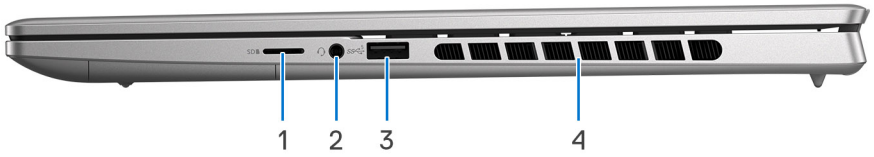


Figure 2. For systems shipped with DDR5 memory

1. 1. **microSD-card slot**

   Reads from and writes to the microSD-card. The computer supports the following card types:

   - Micro Secure Digital (mSD)
   - Micro Secure Digital High Capacity (mSDHC)
   - Micro Secure Digital Extended Capacity (mSDXC)

2. **Universal audio jack**

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

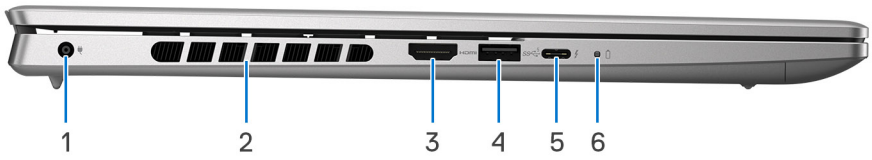
3. **USB 3.2 Gen 1 port**

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

4. **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 build-up of dust and dirt. For more information about cleaning air vents, search for articles in Knowledge Base Resource at Dell Support Site.

Left



1. **Power-adapter port**

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

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 build-up of dust and dirt. For more information about cleaning air vents, search for articles in Knowledge Base Resource at Dell Support Site.

3. **HDMI port**

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

4. **USB 3.2 Gen 1 port**

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

5. **Thunderbolt 4.0 port with Power Delivery and DisplayPort**

   Supports USB4, DisplayPort 1.4, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides data transfer rates of up to 40 Gbps for USB4 and Thunderbolt 4.

   NOTE: You can connect a Dell Docking Station to the Thunderbolt 4 ports. For more information, search in the Knowledge Base Resource at Dell Support Site.

   NOTE: A USB Type-C to DisplayPort adapter (sold separately) is required to connect a DisplayPort device.

   NOTE: USB4 is backward compatible with USB 3.2, USB 2.0, and Thunderbolt 3.

   NOTE: Thunderbolt 4 supports two 4K displays or one 8K display.

6. **Power and battery-status light**

   Indicates the power state and battery state of the computer.

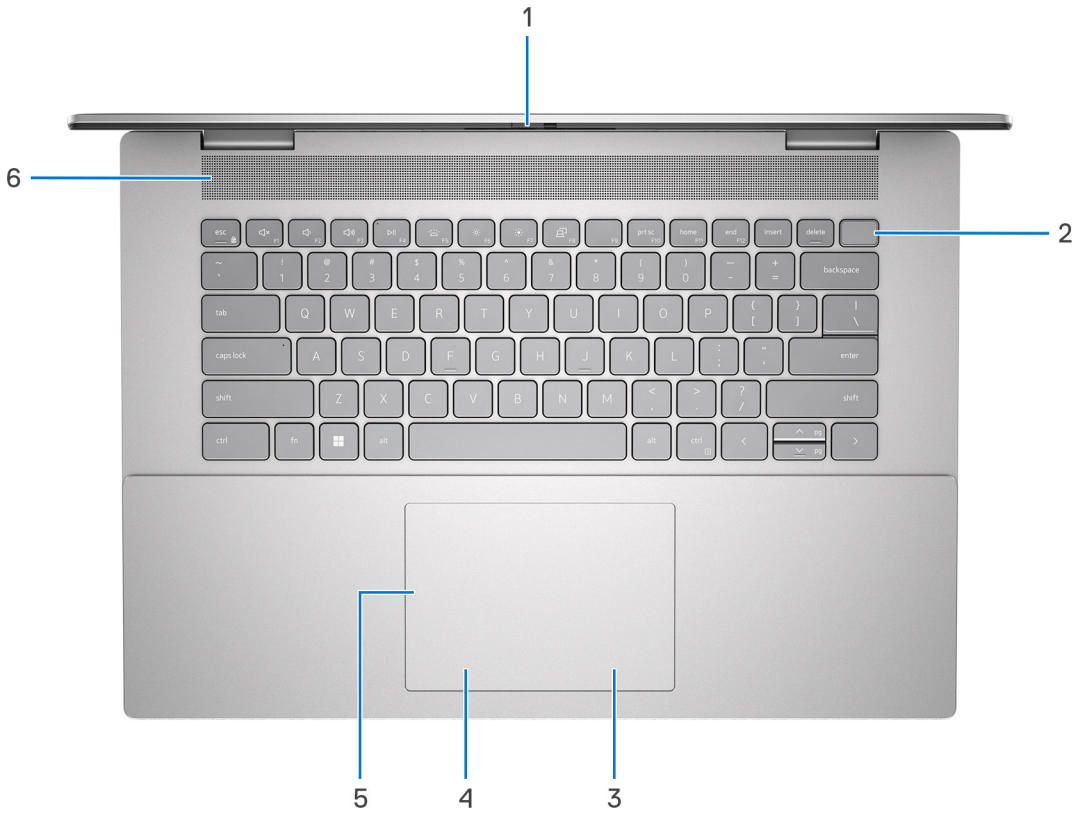
   Solid white—Power adapter is connected and the battery is charging.

   Solid amber—Battery charge is low or critical.

   Off—Battery is fully charged.

   NOTE: On certain computer models, the power and battery-status light are also used for diagnostics. For more information, see the *Troubleshooting* section in your computer's *Service Manual*.

Top



1. **Privacy shutter**

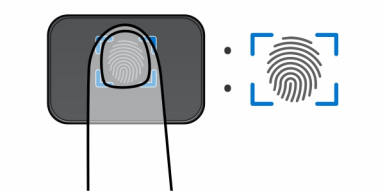
   Slide the privacy shutter to cover the camera lens and protect your privacy when the camera is not in use.

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 sleep state; press and hold the power button for four seconds to force shut-down the computer.

   If the power button has a fingerprint reader, place your finger on the power button 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 power-button behavior in Windows. For more information, see *Me and My Dell* at Dell Support Site.

3. **Right-click area**

   Press to right-click.

   NOTE: The right-click area is enabled when you touch the touchpad.

4. **Left-click area**

Press to left-click.

NOTE: The left-click area is enabled when you touch the touchpad.

5. **Precision touchpad**

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

6. **Speaker (tweeter)**

   Provides audio output.

Front

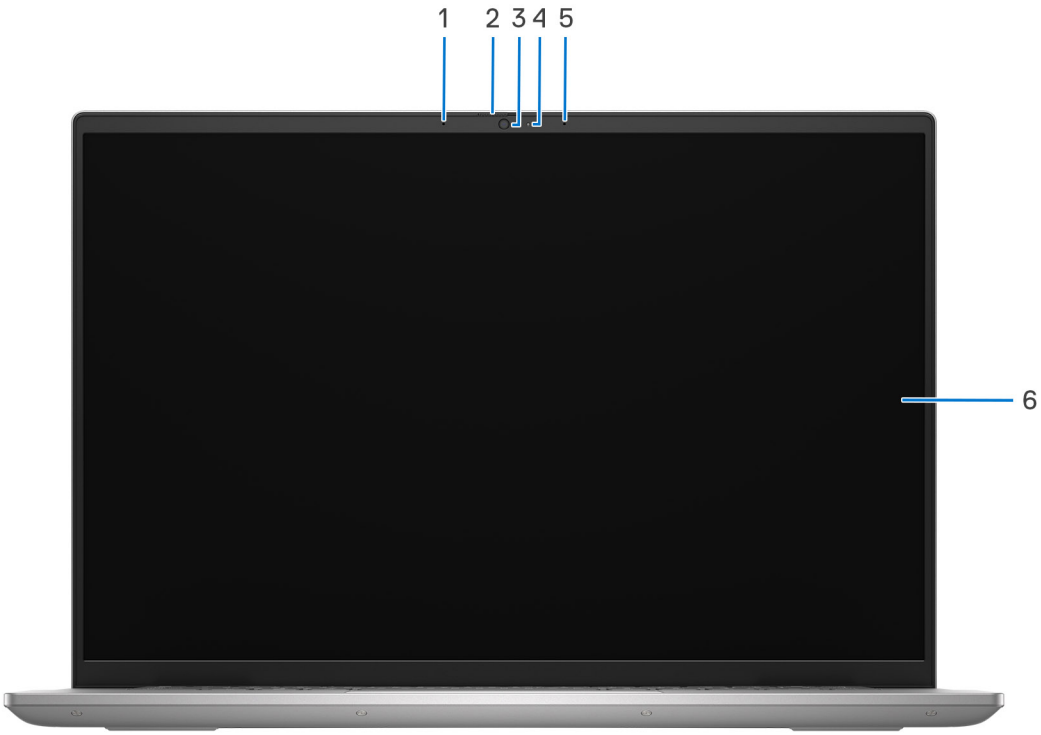


Figure 3. Front view with FHD camera

1. **Left microphone**

   Provides digital sound input for audio recording and voice calls.

2. **Privacy shutter**

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

3. **Camera**

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

4. **Camera-status light**

   Turns on when the camera is in use.

5. **Right microphone**

   Provides digital sound input for audio recording and voice calls.

6. **Display panel**

Provides visual output to the user.

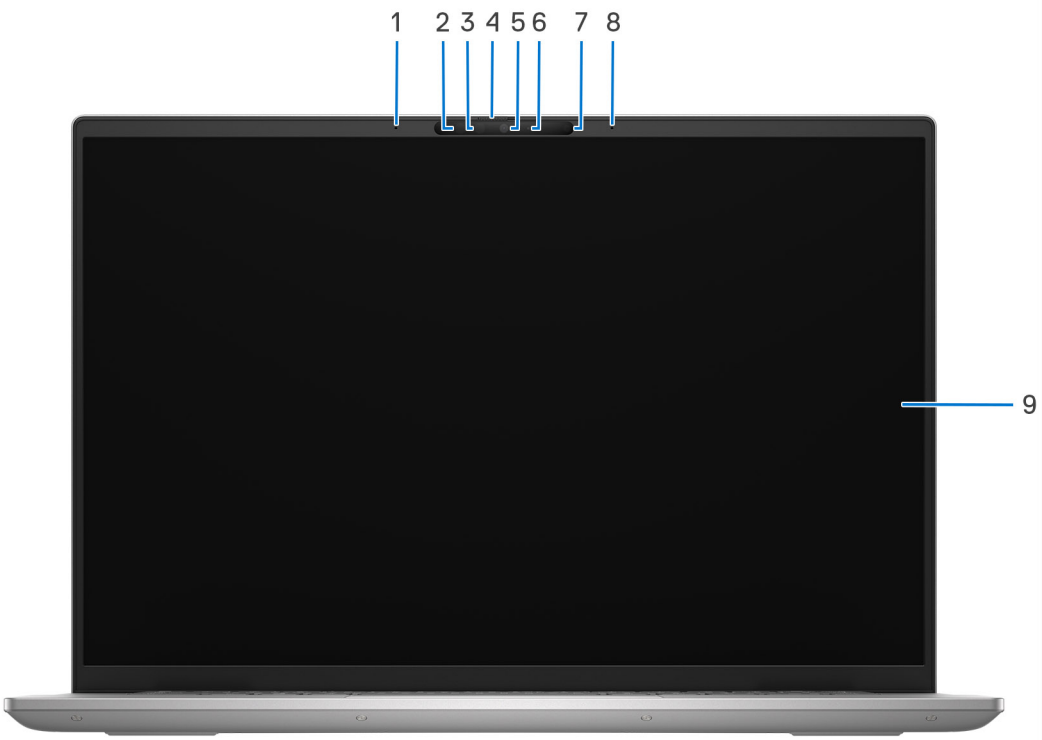


Figure 4. Front view with FHD RGB+IR camera

1. **Left microphone**

   Provides digital sound input for audio recording and voice calls.

2. **Infrared emitter**

   Emits infrared light, which enables the infrared camera to sense and track motion.

3. **Infrared camera**

   Enhances security when paired with Windows Hello face authentication.

4. **Privacy shutter**

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

5. **Camera**

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

6. **Camera-status light**

   Turns on when the camera is in use.

7. **Ambient-light sensor**

   The sensor detects the ambient light and automatically adjusts the keyboard backlight and display brightness.

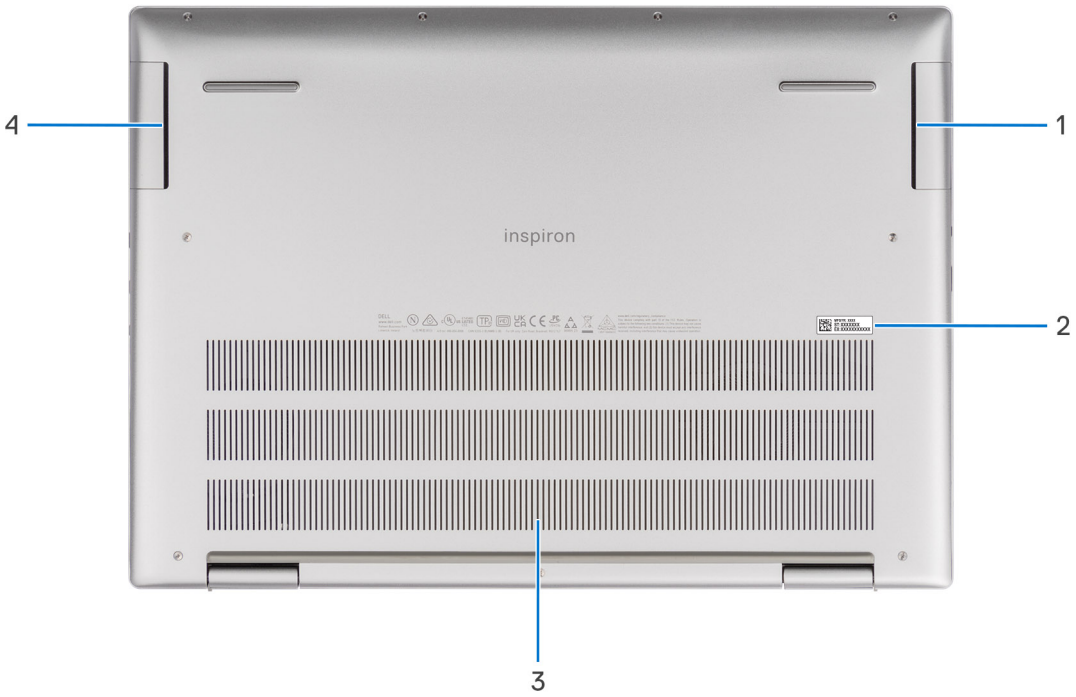
8. **Right microphone**

   Provides digital sound input for audio recording and voice calls.

9. **Display panel**

   Provides visual output to the user.

Bottom



1. **Right speaker (woofer)**

   Enhances low-frequency audio output.

2. **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.

3. **Air vents**

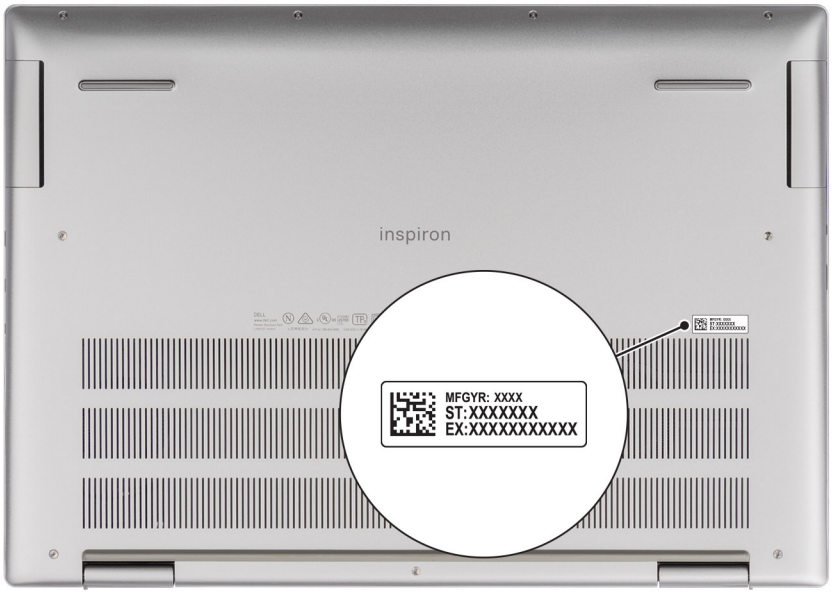
   Air vents provide ventilation for your computer. Clogged air vents can cause overheating and can affect your computer's performance and potentially cause hardware issues. Keep the air vents clear of obstructions and clean them regularly to prevent build-up of dust and dirt. For more information about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

4. **Left speaker (woofer)**

   Enhances low-frequency audio output.

Service Tag

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.



Battery charge and status light

The following table lists the battery charge and status light behavior of your Inspiron 16 Plus 7630.

Table 1. Battery charge and status light behavior

Power Source	LED Behavior	System Power State	Battery Charge Level
AC Adapter	Off	S0 - S5	Fully Charged
AC Adapter	Solid White	S0 - S5	< Fully Charged
Battery	Off	S0 - S5	11-100%
Battery	Solid Amber (590+/-3 nm)	S0 - S5	< 10%

- S0 (ON) - System is turned on.
- S4 (Hibernate) - The system consumes the least power compared to all other sleep states. The system is almost at an OFF state, except for a trickle power. The context data is written to a hard drive.
- S5 (OFF) - The system is in a shutdown state.

2

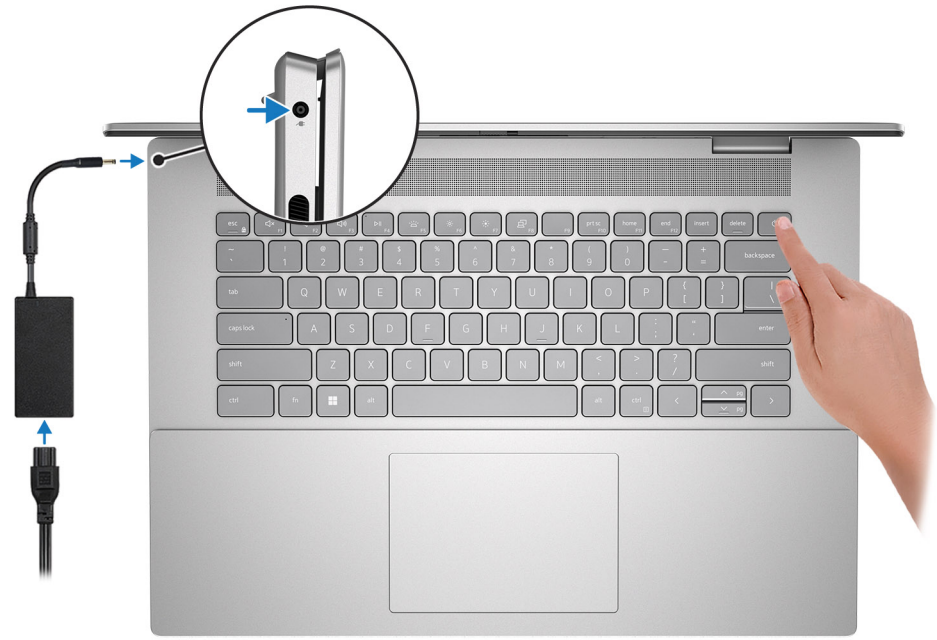
Set up your Inspiron 16 Plus 7630

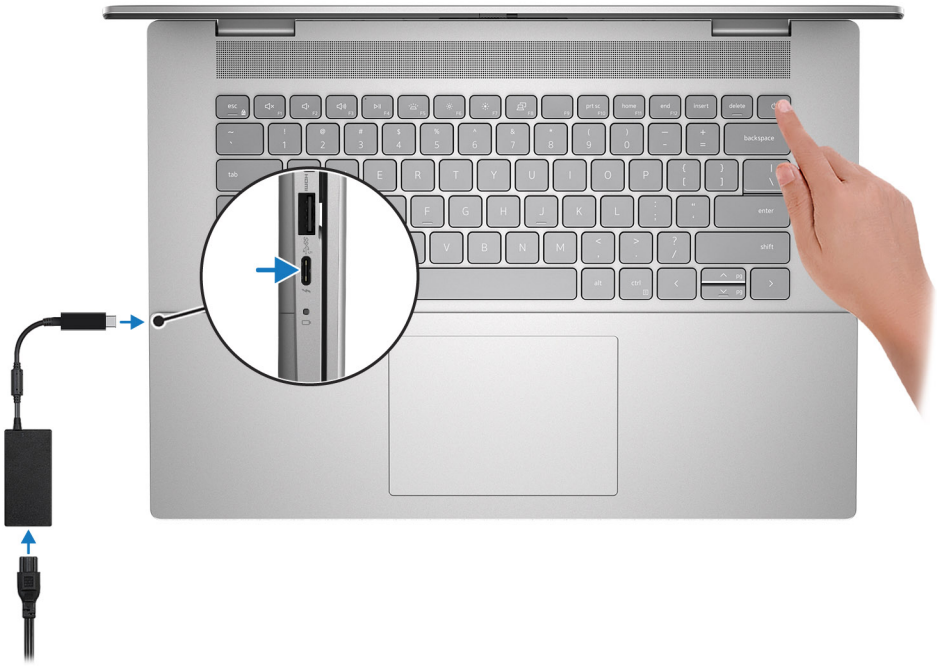
About this task

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.





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 Windows setup.

   Follow the on-screen instructions to complete the setup. When setting up, Dell recommends 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 or create a Microsoft 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
	**My Dell** Centralized location for key Dell applications, help articles, and other important information about your computer. It also notifies you about the warranty status, recommended accessories, and software updates if available.
	**SupportAssist** SupportAssist proactively and predictively identifies hardware and software issues on your computer and automates the engagement process with Dell Technical support. It addresses performance and stabilization issues, prevents security threats, monitors, and detects hardware failures. For more information, see *SupportAssist for Home PCs User's Guide* at Serviceability Tools at the Dell Support Site. Click **SupportAssist** and then, click **SupportAssist for Home PCs**. **NOTE:** In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.
	**Dell Update** Updates your computer with critical fixes and latest device drivers as they become available. For more information on using Dell Update, search in the Knowledge Base Resource at Dell Support Site.
	**Dell Digital Delivery** Download software applications, which are purchased but not preinstalled on your computer. For more information on using Dell Digital Delivery, search in the Knowledge Base Resource at Dell Support Site.

3

Specifications of Inspiron 16 Plus 7630

Dimensions and weight

The following table lists the height, width, depth, and weight of your Inspiron 16 Plus 7630.

Table 3. Dimensions and weight

Description	Values
Height:	
Front height	17.11 mm (0.67 in.)
Rear height	17.91 mm (0.70 in.)
Width	356.78 mm (14.05 in.)
Depth	251.70 mm (9.90 in.)
Weight (maximum)	• 2.13 kg (4.69 lb) only applicable for computers shipped with LPDDR5/LPDDR5x memory • 2.22 kg (4.89 lb)only applicable for computers shipped with DDR5 memory **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.

Processor

The following table lists the details of the processors supported by your Inspiron 16 Plus 7630.

Table 4. Processor

Description	Option one	Option two	Option three	Option four
Processor type	13 th Generation Intel Core i7-13700H	13 th Generation Intel Core i7-13620H	13th Generation Intel Core i5-13500H	13th Generation Intel Core i5-13420H
Processor wattage	45 W	45 W	45 W	45 W
Processor total core count	14	10	12	8
Performance-cores	6	6	4	4
Efficient-cores	8	4	8	4
Processor total thread counts **NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores.	20	16	16	12

Table 4. Processor (continued)

Description	Option one	Option two	Option three	Option four
Processor speed	Up to 5 GHz	Up to 4.90 GHz	Up to 4.70 GHz	Up to 4.60 GHz
Performance-cores frequency				
Processor base frequency	2.40 GHz	2.40 GHz	2.60 GHz	2.10 GHz
Maximum turbo frequency	5 GHz	4.90 GHz	4.70 GHz	4.60 GHZ
Efficient-cores frequency				
Processor base frequency	1.80 GHz	1.80 GHz	1.90 GHz	1.50 GHz
Maximum turbo frequency	3.70 GHz	3.60 GHz	3.50 GHz	3.40 GHz
Processor cache	24 MB	24 MB	18 MB	12 MB
Integrated graphics	• Intel UHD Graphics (only applicable for computers shipped with a single-channel memory configuration) • Intel Iris Xe Graphics (only applicable for computers shipped with a dual-channel memory configuration)	Intel UHD Graphics	• Intel UHD Graphics (only applicable only applicable for computers shipped with a single-channel memory configuration) • Intel Iris Xe Graphics (only applicable only applicable for computers shipped with a dual-channel memory configuration)	Intel UHD Graphics

Chipset

The following table lists the details of the chipset that is supported for your Inspiron 16 Plus 7630.

Table 5. Chipset

Description	Values
Chipset	Integrated in the processor
Processor	13th Generation Intel Core i5/i7
DRAM bus width	128-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen4

Operating system

Your Inspiron 16 Plus 7630 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Academic

- Windows 11 Home

Memory

The following table lists the memory specifications of your Inspiron 16 Plus 7630.

Table 6. Memory specifications

Description	Values
Memory slots	• Two DIMM slots (only applicable for computers shipped with DDR5 memory) • Integrated on the system board. (only applicable for computers shipped with LPDDR5/LPDDR5x)
Memory type	• DDR5 • LPDDR5x • LPDDR5
Memory speed	4800 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB, 16 GB and 32 GB
Memory configurations supported	• 8 GB, 1 x 8 GB, DDR5, 4800 MT/s • 16 GB, 2 x 8 GB, DDR5, 4800 MT/s, dual-channel • 24 GB, 1 x 16 GB + 1 x 8 GB, DDR5, 4800 MT/s, dual-channel • 32 GB, 2 x 16 GB, DDR5, 4800 MT/s, dual-channel • 64 GB, 2 x 32 GB, DDR5, 4800 MT/s, dual-channel • 16 GB, 2 x 8 GB, LPDDR5x, 4800 MT/s, integrated, dual-channel • 32 GB, 2 x 16 GB, LPDDR5x, 4800 MT/s, integrated, dual-channel • 16 GB, 2 x 8 GB, LPDDR5, 4800 MT/s, integrated, dual-channel • 32 GB, 2 x 16 GB, LPDDR5, 4800 MT/s, integrated, dual-channel

External ports

The following table lists the external ports on your Inspiron 16 Plus 7630.

Table 7. External ports

Description	Values
USB ports	• Two USB 3.2 Gen 1 ports • One Thunderbolt 4 port with DisplayPort and Power Delivery
Audio port	One universal headset jack
Video port/ports	• One HDMI 2.0 port

Table 7. External ports (continued)

Description	Values
	• One Thunderbolt 4 port with DisplayPort and Power Delivery **NOTE:** A USB Type-C to DisplayPort adapter (sold separately) is required to connect to a DisplayPort device.
Media-card reader	• One SD-card 3.0 slot (only applicable for computers shippedwith LPDDR5/LPDDR5x memory) • One microSD-card slot (only applicable for computers shippedwith DDR5 memory)
Power-adapter port	• One 4.50 mm x 2.90 mm DC-in port • One Thunderbolt 4 port with DisplayPort and Power Delivery
Security-cable slot	Not supported

Internal slots

The following table lists the internal slots of your Inspiron 16 Plus 7630.

Table 8. Internal slots

Description	Values
M.2	• One M.2 2230 / 2280 slot for PCIe solid-state drive • One M.2 2230 slot for WiFi and Bluetooth combo card **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 supported on your Inspiron 16 Plus 7630.

Table 9. Wireless module specifications

Description	Option one	Option two
Model number	Intel AX201	Intel AX211
Transfer rate	Up to 2400 Mbps	Up to 2400 Mbps
Frequency bands supported	2.40 GHz/5 GHz	2.40 GHz/5 GHz/6 GHz
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6 (WiFi 802.11ax)	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP	• 64-bit/128-bit WEP • AES-CCMP • TKIP

Table 9. Wireless module specifications (continued)

Description	Option one	Option two
Bluetooth wireless card	Bluetooth 5.2 wireless card **NOTE:** Particular versions of Microsoft Windows may not support the full Bluetooth wireless card functionality.	Bluetooth 5.3 wireless card **NOTE:** Particular versions of Microsoft Windows may not support the full Bluetooth wireless card functionality.

Audio

The following table lists the audio specifications of your Inspiron 16 Plus 7630.

Table 10. Audio specifications

Description		Values
Audio controller		Waves MaxxAudio Pro and Dolby Atmos Core
Stereo conversion		Supported
Internal audio interface		High definition audio interface
External audio interface		• One universal Audio Jack • One HDMI 2.0 port
Number of speakers		4
Internal-speaker amplifier		Supported
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	2 W x 4 = 8
	Peak speaker output	2.5 W x 4 = 10
Subwoofer output		Supported
Microphone		Digital-array microphones in camera assembly

Storage

This section lists the storage options on your Inspiron 16 Plus 7630.

Your Inspiron 16 Plus 7630 supports

- One M.2 2230/2280 solid-state drive

The M.2 2230/2280 solid-state drive is the primary drive of your computer.

Table 11. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 QLC, solid-state drive	PCIe NVMe Gen4 x4, up to 64 Gbps	Up to 1 TB
M.2 2230, solid-state drive	PCIe NVMe Gen3 x4, up to 32 Gbps	Up to 1 TB
M.2 2230, solid state drive	PCIe NVMe Gen4 x4, up to 64 Gbps	Up to 1 TB

Table 11. Storage specifications (continued)

Storage type	Interface type	Capacity
M.2 2280, solid-state drive	PCIe NVMe Gen4 x4, up to 64 Gbps	Up to 2 TB

Media-card reader

The following table lists the media cards that are supported on your Inspiron 16 Plus 7630.

Table 12. Media-card reader specifications

Description	Values
Media-card type	• One SD-card 3.0 slot (only applicable for computers shipped with LPDDR5/LPDDR5x memory) • One microSD-card slot (only applicable for computers shipped with DDR5 memory)
Media-cards supported	**For computers with LPDDR5/LPDDR5x:** • Secure Digital (SD) • Secure Digital High Capacity (SDHC) • Secure Digital Extended Capacity (SDXC) **For computers with DDR5:** • Micro Secure Digital (mSD) • Micro Secure Digital High Capacity (mSDHC) • Micro Secure Digital Extended Capacity (mSDXC)
NOTE: The maximum capacity that is supported by the media-card reader varies depending on the standard of the media card that is installed on your computer.	

Keyboard shortcuts of Inspiron 16 Plus 7630

NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys used for shortcuts remain the same across all language configurations.

Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. The symbol shown on the lower part of the key refers to the character that is typed out when the key is pressed. If you press shift and the key, the symbol shown on the upper part of the key is typed out. For example, if you press **2**, **2** is typed out; if you press **Shift** + **2**, **@** is typed out.

The keys F1-F12 at the top row of the keyboard are function keys for multi-media control, as indicated by the icon at the bottom of the key. Press the function key to invoke the task represented by the icon. For example, pressing F1 mutes the audio (refer to the table below).

However, if the function keys F1-F12 are needed for specific software applications, multi-media functionality can be disabled by pressing **Fn** + **Esc**. Subsequently, multi-media control can be invoked by pressing **Fn** and the respective function key. For example, mute audio by pressing **Fn** + **F1**.

NOTE: You can also define the primary behavior of the function keys (F1–F12) by changing **Function Key Behavior** in BIOS setup program.

Table 13. List of keyboard shortcuts

Function key	Primary behavior
F1	Mute audio
F2	Decrease volume
F3	Increase volume

Table 13. List of keyboard shortcuts (continued)

Function key	Primary behavior
F4	Play/Pause
F5	Keyboard-backlight **NOTE:** Toggle to cycle the keyboard backlight status through off, low-backlight, and high-backlight
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 14. Secondary behavior

Function key	Behavior
Fn + B	Pause/Break
Fn + S	Toggle scroll lock
Fn + R	System request
Fn + T	Toggle Ultra performance mode
Fn + Right Ctrl	Open application menu
Fn + / **NOTE:** Brazilian keyboard only	Open application menu
Fn + Space bar	Open Emoji menu
Fn + esc	Toggle fn-key lock
Fn + Left arrow	Home
Fn + Right arrow	End

Camera

The following table lists the camera specifications of your Inspiron 16 Plus 7630.

Table 15. Camera specifications

Description	Option one	Option two
Number of cameras	One	Two
Camera type	FHD RGB camera	• FHD RGB camera • IR camera
Camera location	Front camera	Front camera
Camera sensor type	CMOS sensor technology	CMOS sensor technology
Camera resolution:		

Table 15. Camera specifications (continued)

Description		Option one	Option two
	Still image	2.07 megapixel	2.07 megapixel
	Video	1920 x 1080 (FHD) at 30 fps	1920 x 1080 (FHD) at 30 fps
Infrared camera resolution:			
	Still image	Not supported	0.23 megapixel
	Video	Not supported	640 x 360 at 15 fps
Diagonal viewing angle:			
	Camera	82.0 degrees	80 degrees
	Infrared camera	Not supported	86.60 degrees

Touchpad

The following table lists the touchpad specifications of your Inspiron 16 Plus 7630.

Table 16. Touchpad specifications

Description		Values
Touchpad resolution:		>300 dpi
Touchpad dimensions:		
	Horizontal	115 mm (4.53 in.)
	Vertical	80 mm (3.15 in.)
Touchpad gestures		For more information about 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 Inspiron 16 Plus 7630.

Table 17. Power adapter specifications

Description		Option one	Option two	Option three
Type		90 W AC	130 W AC, ExpressCharge Boost	130 W AC (typical), ExpressCharge Boost
Connector dimensions:				
	External diameter	4.50 mm (0.17 in.)	4.50 mm (0.17 in.)	Not applicable
	Internal diameter	2.90 mm (0.11 in.)	2.90 mm (0.11 in.)	Not applicable
Power-adapter dimensions:				
	Height	32 mm (1.25 in.)	25.40 mm (1 in.)	22 mm (0.86 in.)
	Width	52 mm (2.04 in.)	76.20 mm (3 in.)	66 mm (2.59 in.)

Table 17. Power adapter specifications (continued)

Description	Option one	Option two	Option three
Depth	128 mm (5.03 in.)	154.70 mm (6.09 in.)	143 mm (5.62 in.)
Input voltage	100 VAC–240 VAC	100 VAC–240 VAC	100 VAC–240 VAC
Input frequency	50 Hz–60 Hz	50 Hz–60 Hz	50 Hz–60 Hz
Input current (maximum)	1.50 A	1.80 A	1.80 A
Output current (continuous)	4.62 A (continuous)	6.67 A (continuous)	6.50 A (continuous)
Rated output voltage	19.5 VDC	19.5 VDC	20 VDC
Temperature range:			
Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)	-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.

Battery

The following table lists the battery specifications of your Inspiron 16 Plus 7630.

Table 18. Battery specifications

Description	Values
Battery type	6-cell, 86 Wh polymer
Battery voltage	11.40 VDC
Battery weight (maximum)	0.34 kg (0.75 lb)
Battery dimensions:	
Height	7.56 mm (0.30 in.)
Width	294.90 mm (11.31 in.)
Depth	77.50 (3.05 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)
Storage	-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.
Battery charging time (approximate) **NOTE:** Control the charging time, duration, start and end time, and so on, using the Dell Power Manager	• 0°C to 15°C: 4 hours • 16°C to 50°C: 3 hours (when the system is turned off)

Table 18. Battery specifications (continued)

Description	Values
application. For more information about Dell Power Manager, search in the Knowledge Base Resource at Dell Support Site.	
Coin-cell battery	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. If your battery charge is depleted, connect the power adapter, turn on your computer, and then restart your computer to reduce the power consumption.

Display

The following table lists the display specifications of your Inspiron 16 Plus 7630.

Table 19. Display specifications

Description		Option one	Option two
Display type		16-inch, 2.5K with Dolby Vision	16-inch, Full High Definition Plus (FHD+)
Touch options		Not supported	Not supported
Display-panel technology		Wide View Angle (WVA)	Wide view Angle (WVA)
Display-panel dimensions (active area):			
	Height	344.68 mm (13.57 in.)	344.68 mm (13.57 in.)
	Width	215.42 mm (8.48 in.)	215.42 mm (8.48 in.)
	Diagonal	406.46 mm (16 in.)	406.46 mm (16 in.)
Display-panel native resolution		2560 x 1600	1920 x 1200
Luminance (typical)		300 nits	300 nits
Megapixels		4.09 M	2.30 M
Color gamut		100% sRGB typical	100% sRGB typical
Pixels Per Inch (PPI)		189	141
Contrast ratio (minimum)		1000:1 minimum (1200:1 typical)	1000:1 minimum (1200:1 typical)
Response time (maximum)		35 ms	35 ms
Refresh rate		120 Hz	60 Hz
Horizontal view angle		• +/- 80 degrees (minimum) • +/- 85 degrees (typical)	• +/- 80 degrees (minimum) • +/- 85 degrees (typical)
Vertical view angle		• +/- 80 degrees (minimum) • +/- 85 degrees (typical)	• +/- 80 degrees (minimum) • +/- 85 degrees (typical)

Table 19. Display specifications (continued)

Description	Option one	Option two
Pixel pitch	0.134 mm	0.18 mm
Power consumption (maximum)	4 W	4.40 W
Anti-glare vs glossy finish	Anti-glare	Anti-glare

Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint reader of your Inspiron 16 Plus 7630.

NOTE: The fingerprint reader is located on the power button.

Table 20. Fingerprint reader specifications

Description	Values
Fingerprint-reader sensor technology	Trans-capacitive sensing
Fingerprint-reader sensor resolution	500 dpi
Fingerprint-reader sensor pixel size	108 x 88 pixel

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Inspiron 16 Plus 7630.

Table 21. GPU—Integrated

Controller	Memory size	Processor
Intel UHD Graphics	Shares system memory	13th Generation Intel Core i5/i7
Intel Iris Xᵉ Graphics	Shares system memory	13th Generation Intel Core i5/i7

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Inspiron 16 Plus 7630.

Table 22. GPU—Discrete

Controller	Memory size	Memory type
NVIDIA GeForce RTX 3050 (only applicable for computers shipped with LPDDR5/LPDDR5x memory)	6 GB	GDDR6
NVIDIA GeForce RTX 4050 (only applicable for computers shipped with LPDDR5/LPDDR5x memory)	6 GB	GDDR6

Table 22. GPU—Discrete (continued)

Controller	Memory size	Memory type
NVIDIA GeForce RTX 4060 (only applicable for computers shipped with DDR5 memory)	8 GB	GDDR6

Multiple display support matrix

The following table lists the multiple display support matrix for your Inspiron 16 Plus 7630.

Table 23. Multiple display support matrix

Graphics Card	Direct Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel UHD Graphics (only applicable for computers shipped with a single-channel memory configuration)	Not supported	3	3
Intel Iris Xᵉ Graphics (only applicable for computers shipped with a dual-channel memory configuration)	Not supported	3	3
NVIDIA GeForce RTX 3050 (only applicable for computers shipped with LPDDR5 memory)	Supported by HDMI port	3	3
NVIDIA GeForce RTX 4050 (only applicable for computers shipped with LPDDR5 memory)	Supported by HDMI port	3	3
NVIDIA GeForce RTX 4060 (only applicable for computers shipped with DDR5 memory)	Supported by HDMI port and Type-C	3	3

Operating and storage environment

This table lists the operating and storage specifications of your Inspiron 16 Plus 7630.

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

Table 24. 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

Table 24. Computer environment (continued)

Description	Operating	Storage
Shock (maximum)	110 G†	160 G†
Altitude range	0 m to 3048 m (0 ft to 10000 ft)	0 m to 10668 m (0 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 Plus

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.

The display on this computer is designed to minimize blue light and complies with TÜV Rheinland's requirement for low blue light displays.

Low blue light mode is enabled at the factory, so no further configuration is necessary.

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.
- 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.
- Take an extended break for 20 minutes every two hours.

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 the Regulatory Compliance home page at 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.

CAUTION: To avoid damaging the computer, ensure that the work surface is flat, dry, and clean.

CAUTION: To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.

CAUTION: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that is shipped with the product or at Dell Regulatory Compliance Home Page.

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: 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 ports and the connectors are correctly oriented and aligned.

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.

NOTE: The color of your computer and certain components may differ from what is shown in this document.

Before working inside your computer

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. Disconnect your computer and all attached devices from their electrical outlets.
4. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.

5. Remove any media card and optical disk from your computer, if applicable.
6. Enter the service mode, if you are able to power on your computer.

Service Mode

Service Mode is used to cut-off power, without disconnecting battery cable from system board prior conducting repairs in the computer.

CAUTION: If you are unable to turn on the computer to put it into Service Mode or the computer does not support Service Mode then proceed to disconnect the battery cable. To disconnect the battery cable, follow the steps in Removing the battery.

NOTE: Ensure that your computer is shut down and the AC adapter is disconnected.

a. Hold **<B>** key on the keyboard and press the power button for 3 seconds or until the Dell logo appears on the screen.
b. Press any key to continue.
c. If the AC adapter is not disconnected, a message prompting you to remove the AC adapter appears on the screen. Remove the AC adapter and then press any key to continue the **Service Mode** procedure. The **Service Mode** procedure automatically skips the following step if the **Owner Tag** of the computer is not set up in advance by the user.
d. When the ready-to-proceed message appears on the screen, press any key to proceed. The computer emits three short beeps and shuts down immediately.
e. Once the computer shuts down, it has successfully entered Service Mode.

NOTE: If you are unable to power on your computer or unable to enter service mode skip this process.

Safety precautions

The safety precautions chapter details the primary steps to be taken before performing any disassembly instructions.

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

- Turn off the computer and all attached peripherals.
- Disconnect the computer and all attached peripherals from AC power.
- Disconnect all network cables, telephone, and telecommunications lines from the computer.
- Use an ESD field service kit when working inside any notebook to avoid electrostatic discharge (ESD) damage.
- After removing any computer component, carefully place the removed component on an anti-static mat.
- Wear shoes with non-conductive rubber soles to reduce the chance of getting electrocuted.
- Unplugging, pressing, and holding the power button for 15 seconds should discharge residual power in the system board.

Standby power

Dell products with standby power must be unplugged before you open the case. Systems that incorporate standby power are powered while turned off. The internal power enables the computer to be remotely turned on (Wake-on-LAN) and suspended into a sleep mode and has other advanced power management features.

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. The wrist strap should be secure and in full contact with your skin, and ensure that you remove all jewelry such as watches, bracelets, or rings prior to bonding 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. Slight charges 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.

Due to the increased density of semiconductors used in recent Dell products, the sensitivity to static damage is now higher than in previous Dell products. For this reason, some previously approved methods of handling parts are no longer applicable.

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 DIMM 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 DIMM 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.

The more difficult type of damage to recognize and troubleshoot is the intermittent (also called latent or "walking wounded") failure.

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, ensure that you discharge static electricity from your body.
- 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.

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 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 mat. ESD-sensitive items are safe in your hand, on the ESD mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – The wrist strap and bonding wire can be either directly connected between your wrist and bare metal on the hardware if the ESD mat is not required, or connected to the anti-static mat to protect hardware that is temporarily placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the ESD mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, mat, and bonding wire. Never use wireless wrist straps. Always be aware 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 kit, it is a best practice to regularly test the strap prior to each service call, and at a minimum, test once per week. A wrist strap tester is the best method for doing this test. If you do not have your own wrist strap tester, check with your regional office to find out if they have one. To perform the test, plug the bonding-wire of wrist-strap into the tester while it is strapped to your wrist and push the button to test. A green LED is lit if the test is successful; a red LED is lit and an alarm sounds if the test fails.
- **Insulator Elements** – It is critical to keep ESD sensitive devices, such as plastic heat sink casings, away from internal parts that are insulators and often highly charged.
- **Working Environment** – Before deploying the ESD Field Service kit, assess the situation at the customer location. 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 part 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 ESD mat, in the computer, or inside an anti-static bag.
- **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.

ESD protection summary

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 performing service and use anti-static bags for transporting sensitive components.

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 parts 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

CAUTION: If BitLocker is not suspended before updating the BIOS, the next time you reboot the system it will not recognize the BitLocker key. You will then be prompted to enter the recovery key to progress, and the system will ask for the recovery key on each reboot. If the recovery key is not known, this can result in data loss or an unnecessary operating system reinstall. For more information about this subject, see Knowledge Article: updating the BIOS on Dell systems 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
- Phillips screwdriver #1
- 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.

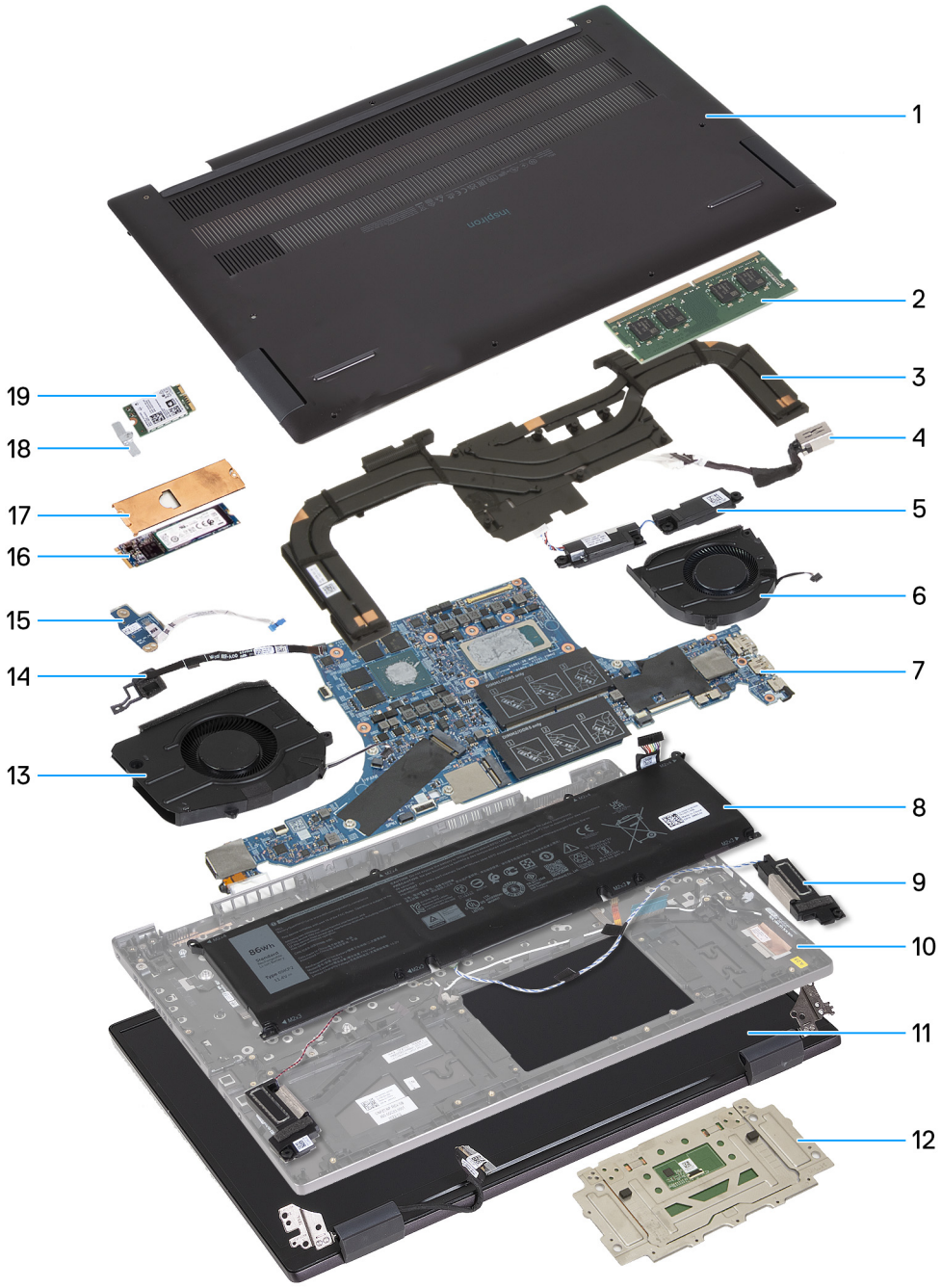
NOTE: Screw color may vary with the configuration ordered.

Table 25. Screw list

Component	Screw type	Quantity	Screw image
Base cover	M2x4	5	
Base cover	Captive screws	2	
Battery	M2x3	5	
M.2 2280 solid-state drive + M.2 thermal shield	M2x3	1	
M.2 2230 mounting bracket + M.2 thermal shield	M2x3	1	
M.2 2230 solid-state drive + M.2 mounting bracket	M2x2	1	
Left fan	M2x5	2	
Right fan	M2x5	2	
Wireless-card bracket	M2x3	1	
Power-button board	M2x3	1	
Power-button with optional fingerprint reader	M2x3	1	
Type-C port bracket	M2x4	2	
Display assembly	M2.5x5.5	4	
System board	M2x2	3	
Touchpad	M2x2	4	
Touchpad	M1.6x2.5	5	

Major components of Inspiron 16 Plus 7630

The following image shows the major components of Inspiron 16 Plus 7630.



1. Base cover
2. Memory module
3. Heat sink
4. Power-adapter cable
5. Speakers (tweeters)
6. Right fan
7. System board
8. Battery
9. Speakers (woofers)
10. Palm-rest and keyboard assembly
11. Display assembly
12. Touchpad with touchpad bracket
13. Left fan
14. Power-button with optional fingerprint-reader cable
15. Power-button board
16. M.2 2280 solid-state drive
17. M.2 solid-state drive thermal shield
18. M.2 wireless card
19. M.2 wireless card bracket

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.

Base cover

Removing the base cover

Prerequisites

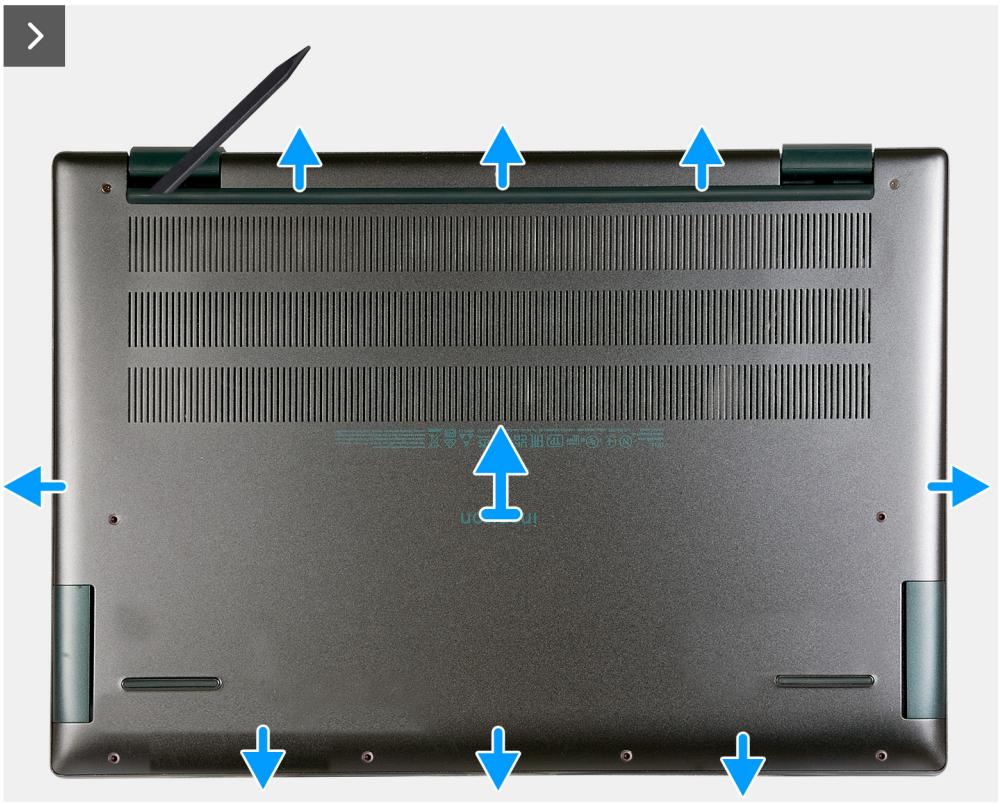
1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.

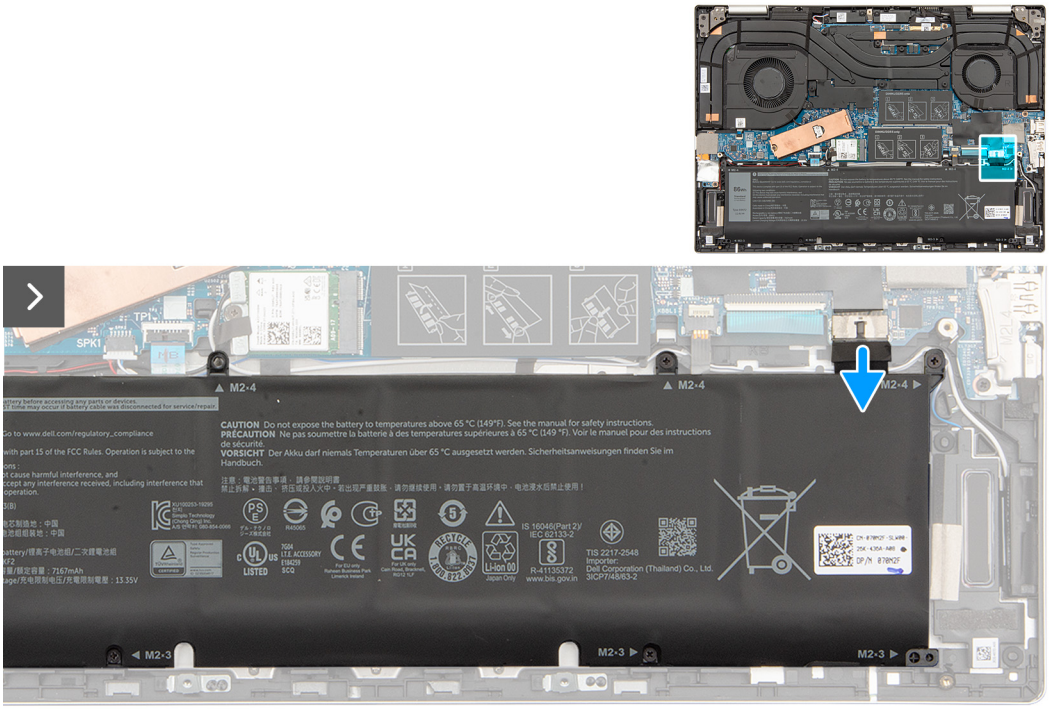
About this task

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

The following image(s) shows the base cover and provides a visual representation of the removal procedure.


2x
7x
M2x4





Steps

1. Remove the seven screws (M2x4) 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 the base cover from the hinge area and continue prying on all its sides to loosen the base cover.
4. Lift the base cover off the palm-rest and keyboard assembly.
5. Disconnect the battery cable from its connector on the system board.

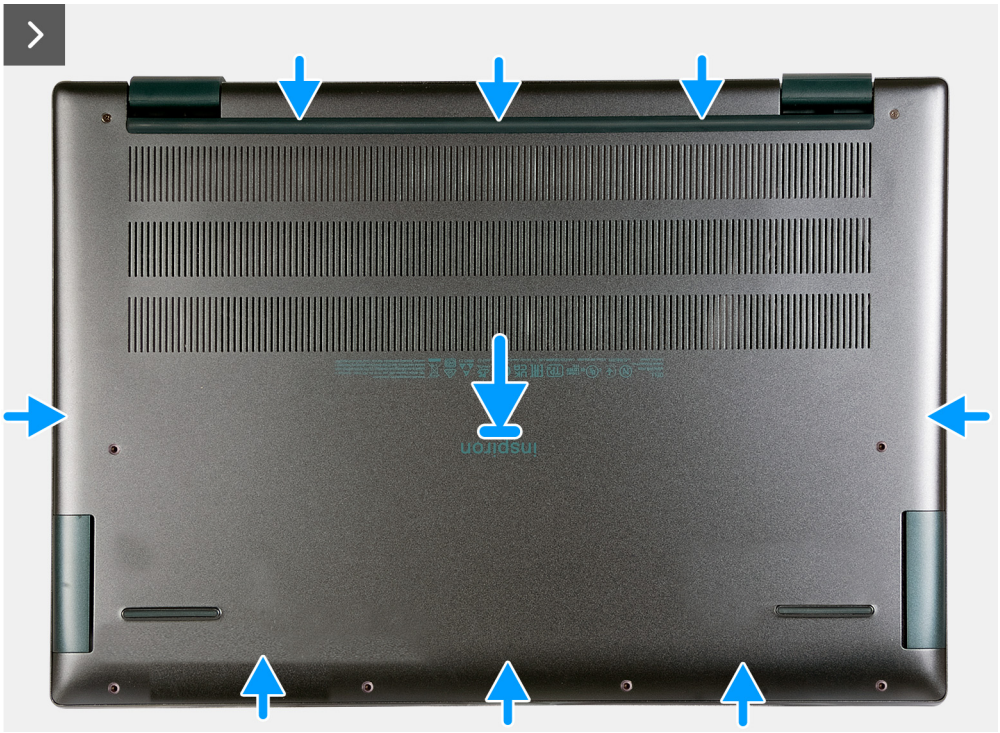
Installing the base cover

Prerequisites

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

About this task

The following image(s) shows the base cover and provides a visual representation of the installation procedure.



Steps

1. Connect the battery cable to its connector on the system board.
2. Place the base cover on the palm-rest and keyboard assembly.
3. Press on the sides of the base cover to snap it into place.
4. Tighten the two captive screws that secure the base cover to the palm-rest and keyboard assembly.
5. Replace the seven screws (M2x4) that secure the base cover to the palm-rest and keyboard assembly.

Next steps

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

Solid-state drive

Removing the M.2 2230 solid-state drive

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

NOTE: This procedure applies only to computers shipped with an M.2 2230 solid-state drive installed.

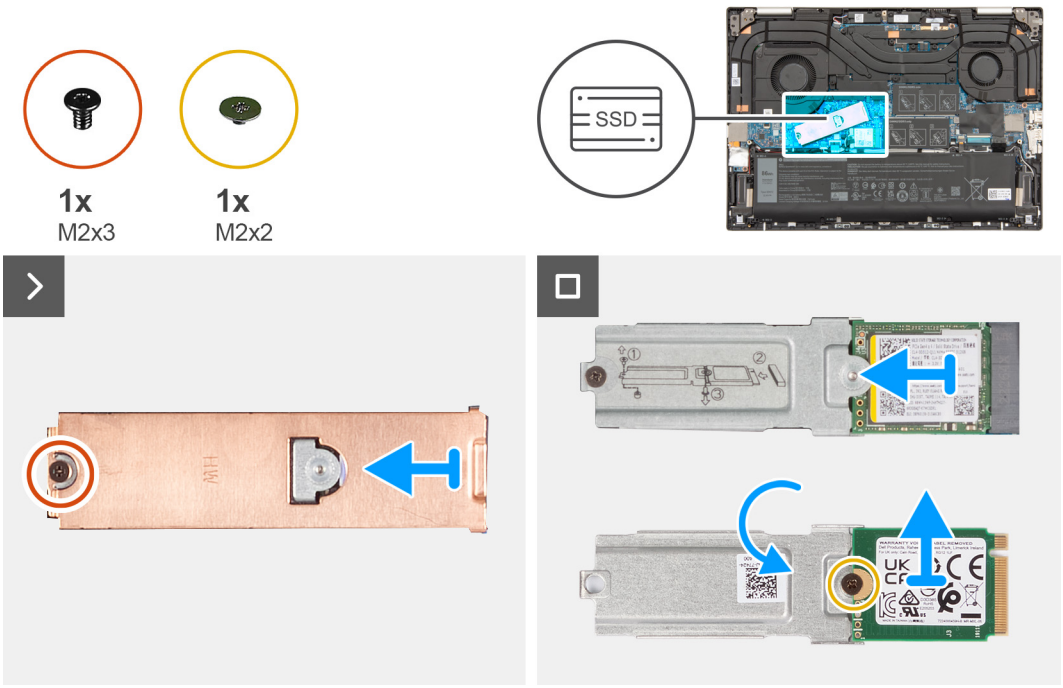
NOTE: A mounting bracket for the M.2 2230 solid-state drive is required. The mounting bracket is provided if the M.2 2230 solid-state is shipped with the computer.

NOTE: The M.2 solid-state drive installed on your computer depends on the configuration ordered. The M.2 slot supports one of the following solid-state drives:

- M.2 2230 solid-state drive

If you are replacing the M.2 2230 solid-state drive with a new M.2 2230 solid-state drive, use the existing mounting bracket to install the latter.

- M.2 2280 solid-state drive



Steps

1. Remove the screw (M2x3) that secures the M.2 thermal shield to the system board.
2. Lift at at angle and remove the M.2 thermal shield along with the M.2 2230 solid-state drive assembly from the M.2 solid-state drive slot on the system board.
3. Lift the M.2 thermal shield off the M.2 2230 solid-state drive assembly.
4. Flip over the M.2 2230 solid-state drive assembly.
5. Remove the screw (M2x2) that secures the M.2 2230 solid-state drive to the M.2 2230 solid-state drive bracket.
6. Remove the M.2 2230 solid-state drive off the M.2 2230 solid-state drive mounting bracket.

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

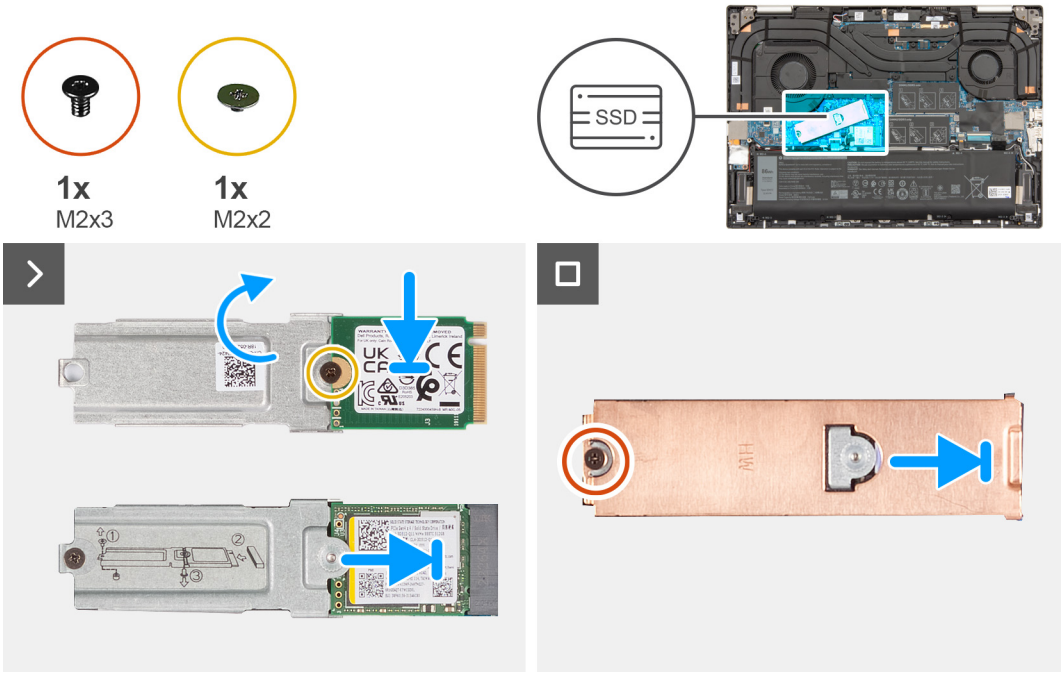
NOTE: This procedure applies if you are installing an M.2 2230 solid-state drive.

NOTE: If you are replacing the M.2 2230 solid-state drive with a new M.2 2230 solid-state drive, use the existing mounting bracket to install the latter. If you are replacing the M.2 2280 solid-state drive (shipped with the computer) with an M.2 2230 solid-state drive, a mounting bracket for the M.2 2230 solid-state drive is required. Please contact Dell support to purchase the mounting bracket for the M.2 2230 solid-state drive.

NOTE: The M.2 slot supports the installation of one of the following solid-state drives:

- M.2 2230 solid-state drive
- M.2 2280 solid-state drive

The following image(s) indicate the location of the M.2 2230 solid-state drive and provides a visual representation of the installation procedure.



Steps

1. Align the screw hole on the M.2 2230 solid-state drive with the screw hole on the M.2 solid-state drive mounting bracket.
2. Replace the screw (M2x2) that secures the M.2 2230 solid-state drive to the M.2 solid-state drive mounting bracket.
3. Flip over the M.2 2230 solid-state drive assembly.
4. Align the notch on the M.2 2230 solid-state drive with the tab on the solid-state drive slot.
5. Slide the M.2 2230 solid-state drive into the M.2 solid-state drive slot on the system board.
6. Place the M.2 thermal shield on the M.2 2230 solid-state drive.
7. Replace the screw (M2x3) that secures the M.2 2230 solid-state drive and thermal shield to the system board.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Removing the M.2 2280 solid-state drive

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

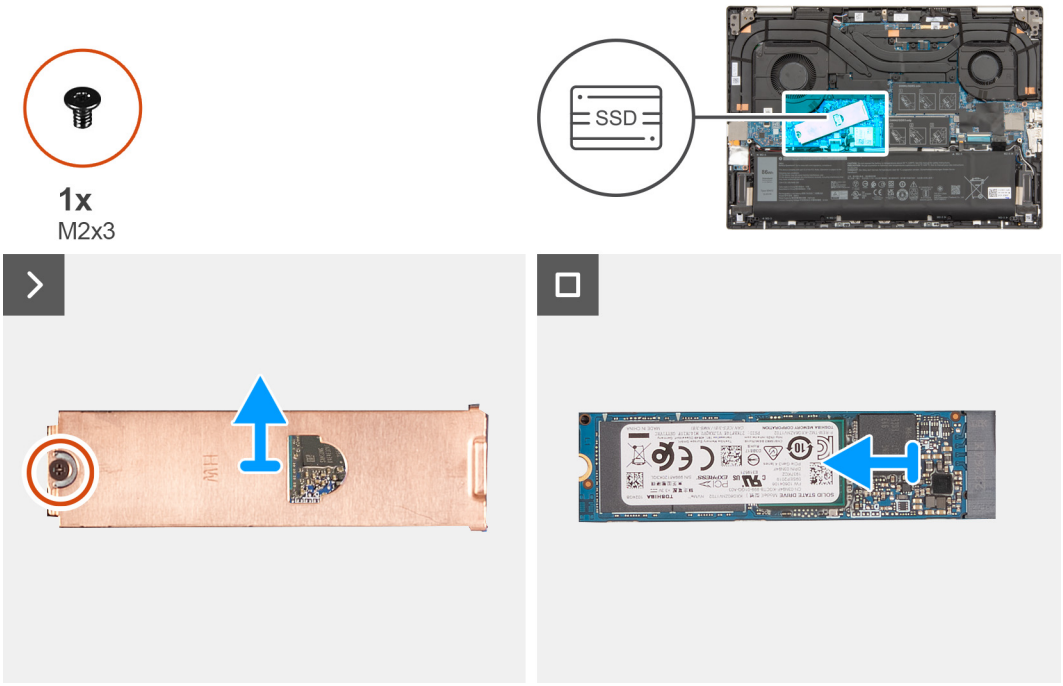
About this task

NOTE: This procedure applies only to computers shipped with an M.2 2280 solid-state drive installed.

NOTE: The M.2 solid-state drive installed on your computer depends on the configuration ordered. The M.2 slot supports one of the following solid-state drives:

- M.2 2230 solid-state drive
- M.2 2280 solid-state drive

The following image(s) indicate the location of the M.2 2280 solid-state drive and provides a visual representation of the removal procedure.



Steps

1. Remove the screw (M2x3) that secures the M.2 thermal shield to the system board.
2. Slide and lift the M.2 thermal shield off the M.2 2280 solid-state drive.
3. Lift at an angle and remove the M.2 2280 solid-state drive from the M.2 solid-state drive slot on the system board.

Installing the M.2 2280 solid-state drive

Prerequisites

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

About this task

NOTE: This procedure applies if you are installing an M.2 2280 solid-state drive.

NOTE: The M.2 solid-state drive installed on your computer depends on the configuration ordered. The M.2 slot supports one of the following solid-state drives:

- M.2 2230 solid-state drive

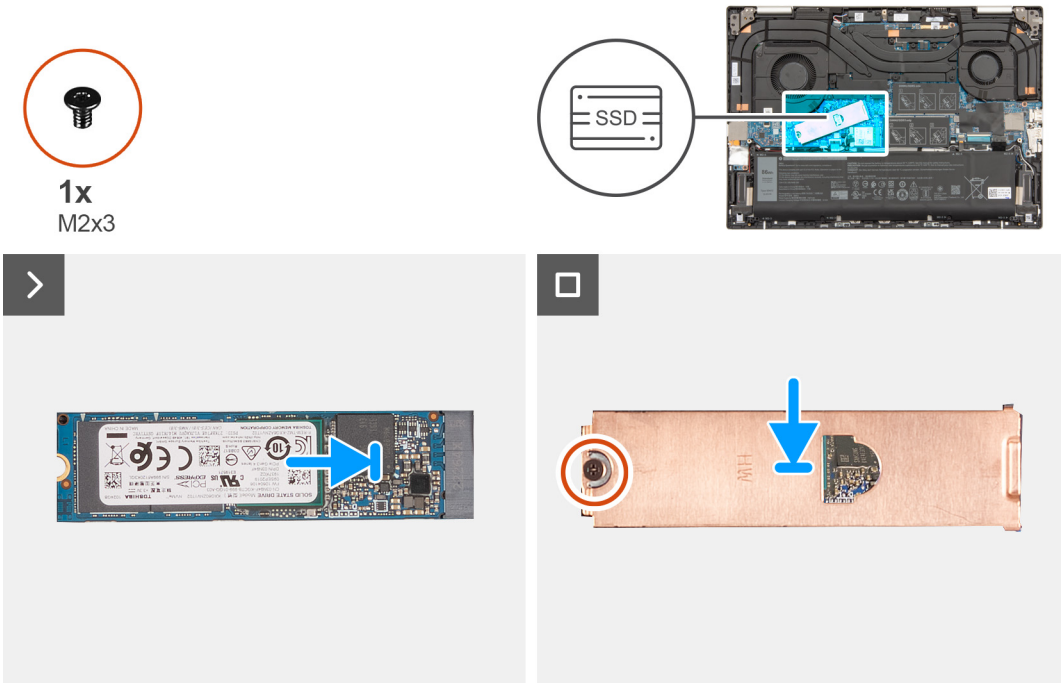
  A mounting bracket for the M.2 2230 solid-state drive is required. The mounting bracket is provided if the M.2 2230 solid-state drive is shipped with the computer.

  If you are replacing the M.2 2230 solid-state drive with a new M.2 2230 solid-state drive, use the existing mounting bracket to install the latter.

- M.2 2280 solid-state drive

  If you are replacing the M.2 2280 solid-state drive (shipped with the computer) with an M.2 2230 solid-state drive, a mounting bracket for the M.2 2230 solid-state drive is required. Please contact Dell support to purchase the mounting bracket for the M.2 2230 solid-state drive.

The following image(s) indicate the location of the M.2 2280 solid-state drive and provides a visual representation of the installation procedure.



Steps

1. Align the notch on the M.2 2280 solid-state drive with the tab on the M.2 solid-state drive slot on the system board.
2. Slide the M.2 2280 solid-state drive into the M.2 solid-state drive slot on the system board.
3. Place the M.2 thermal shield on the M.2 2280 solid-state drive.
4. Replace the screw (M2x3) that secures the M.2 2280 solid-state drive and thermal shield to the system board.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Wireless card

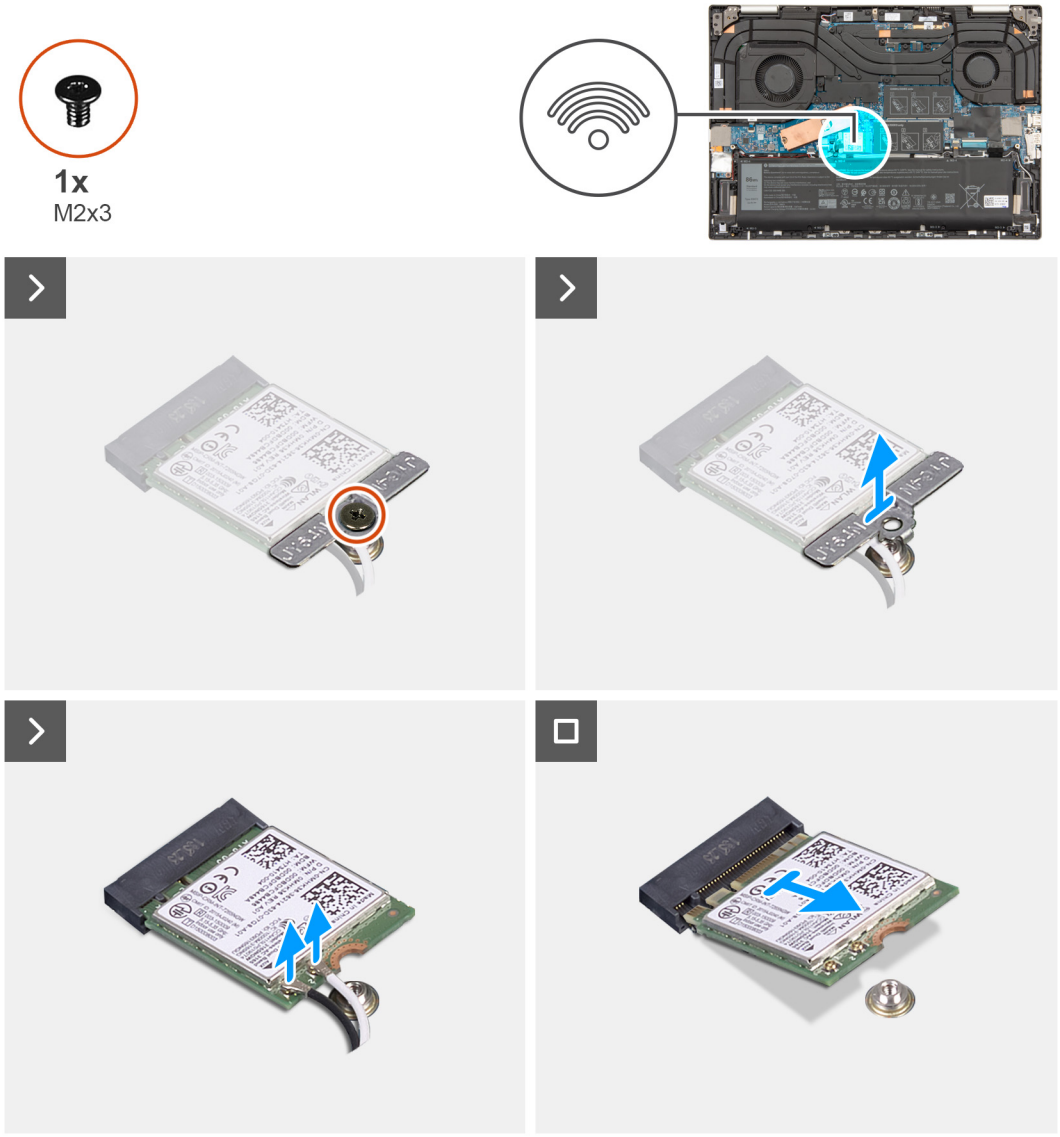
Removing the wireless card

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the wireless card and provides a visual representation of the removal procedure.



Steps

1. Remove the screw (M2x3) that secures the wireless-card bracket to the system board.
2. Lift the wireless-card bracket off the wireless card.
3. Disconnect the antenna cables from the wireless card.
4. Lift at an angle and remove the wireless card from the M.2 wireless card slot on the system board.

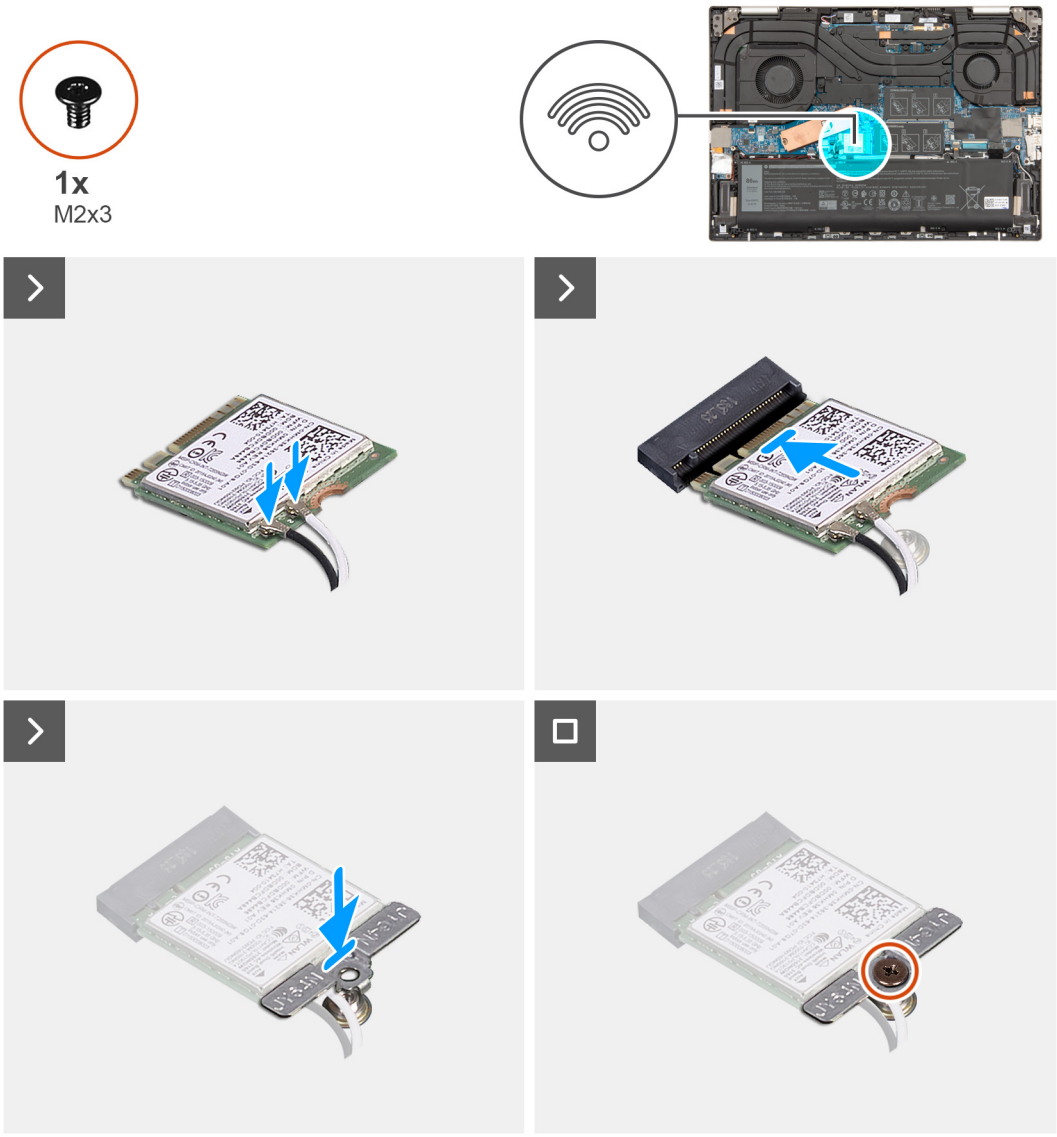
Installing the wireless card

Prerequisites

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

About this task

The following image(s) indicate the location of the wireless card and provides a visual representation of the installation procedure.



Steps

1. Connect the antenna cables to the wireless card.

Table 26. 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. Align the notch on the wireless card with the tab on the M.2 wireless-card slot on the system board.
3. Slide the wireless card into M.2 wireless-card slot on the system board.
4. Place the wireless-card bracket on the M.2 wireless card.
5. Align the screw hole on the wirelss-card bracket to the screw mount on the system board.
6. Replace the screw (M2x3) that secures the wireless-card bracket to the system board.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Memory module

Removing the memory module

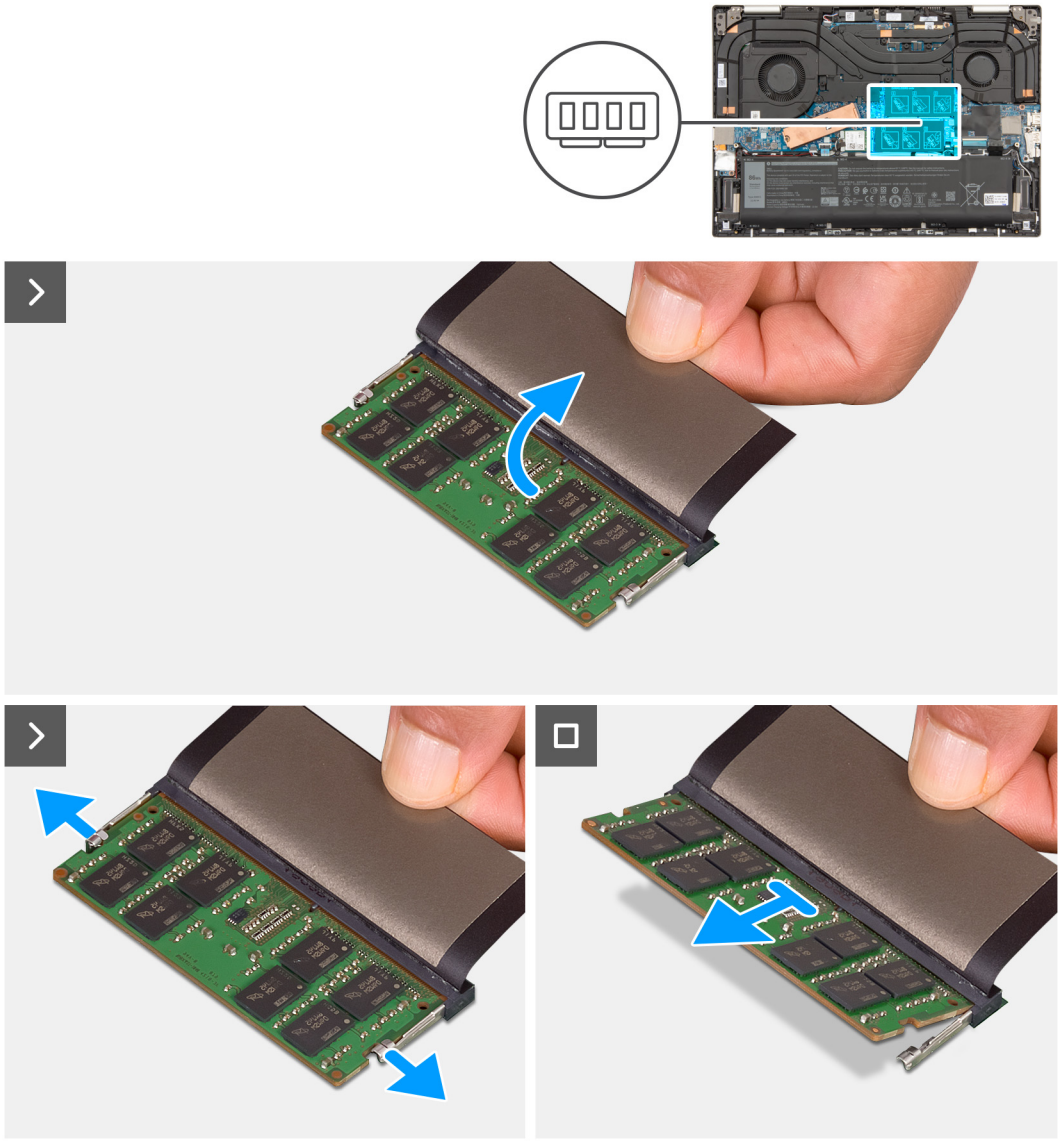
CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components or the metallic contacts on the memory module as electrostatic discharge (ESD) can inflict severe damage on the components. To read more about ESD protection, see ESD protection.

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the memory module and provides a visual representation of the removal procedure.



Steps

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

   NOTE: If your computer has two memory modules installed, repeat steps 1 to 3 for the memory module installed in the second memory slot.

Installing the memory module

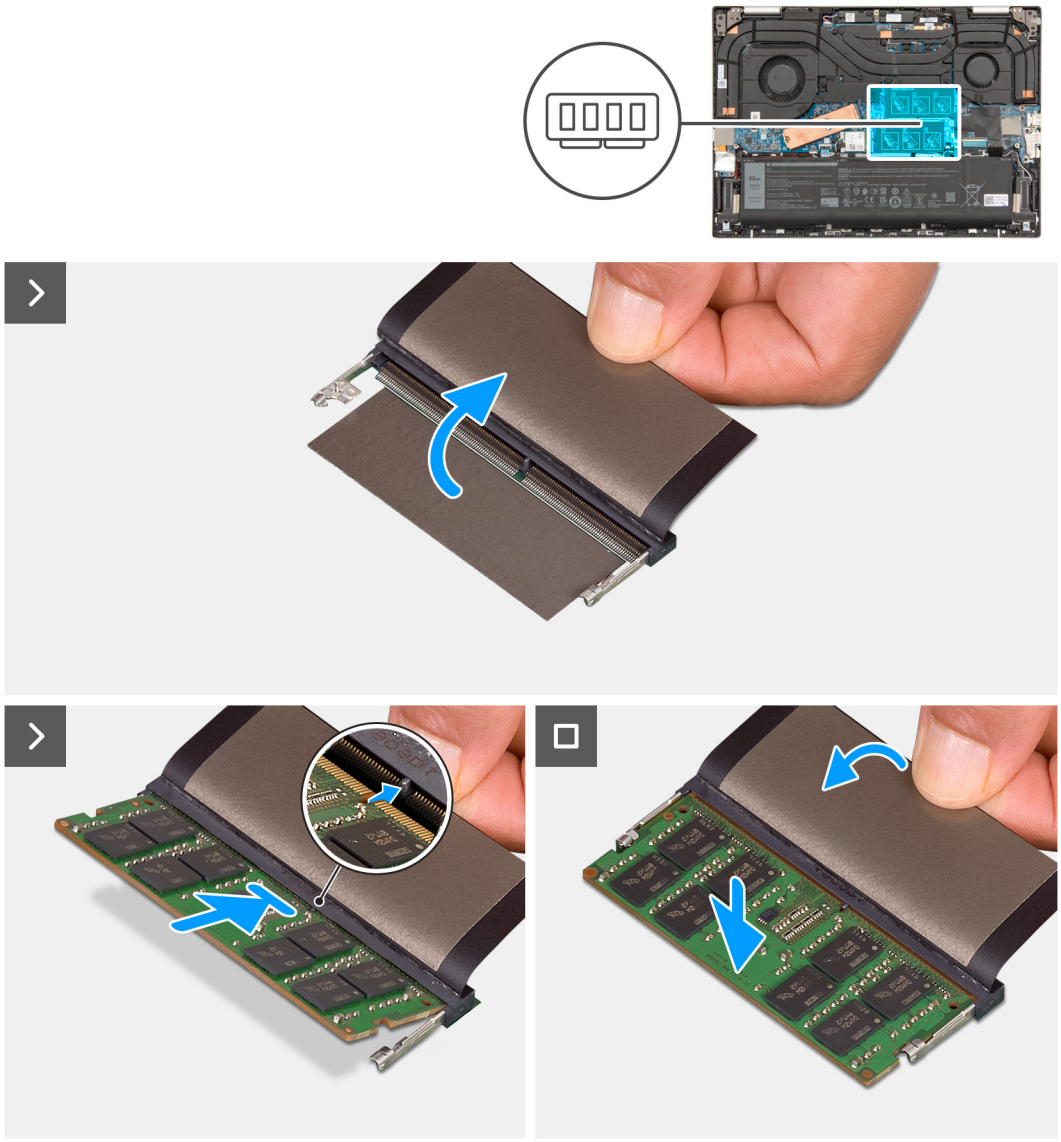
CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components or the metallic contacts on the memory module as electrostatic discharge (ESD) can inflict severe damage on the components. To read more about ESD protection, see ESD protection.

Prerequisites

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

About this task

The following image(s) indicate the location of the memory module and provides a visual representation of the installation procedure.



Steps

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

NOTE: Repeat steps 1 to 4 for the second memory module being installed into your computer.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Fans

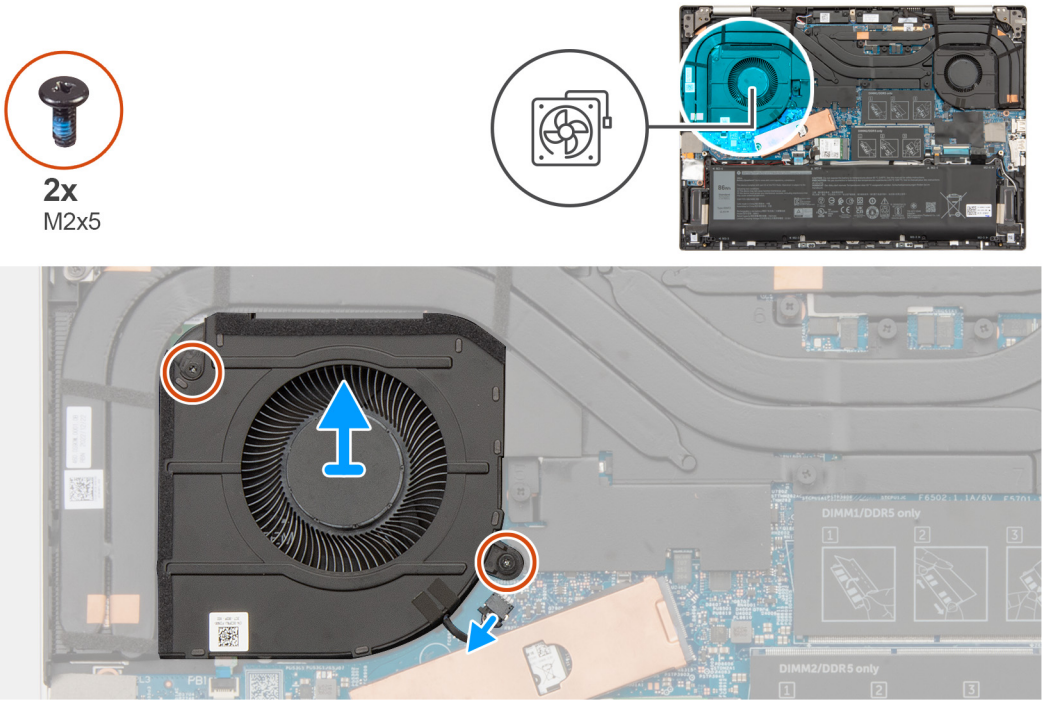
Removing the left fan

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the left fan and provides a visual representation of the removal procedure.



Steps

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

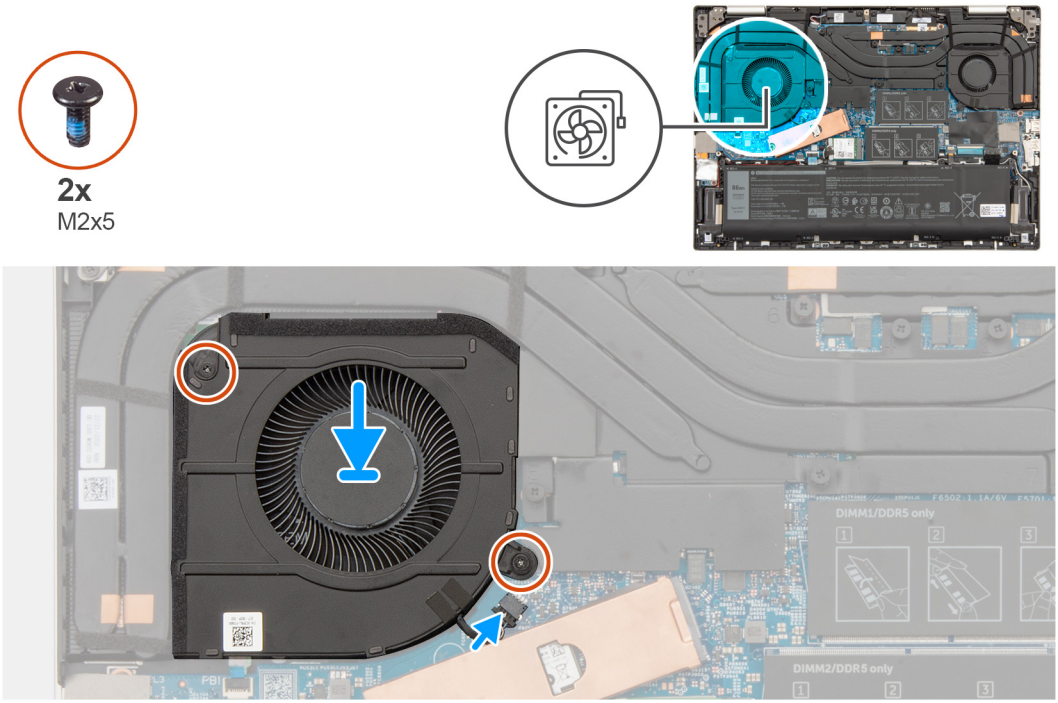
Installing the left fan

Prerequisites

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

About this task

The following image(s) indicate the location of the left fan and provides a visual representation of the installation procedure.



Steps

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

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

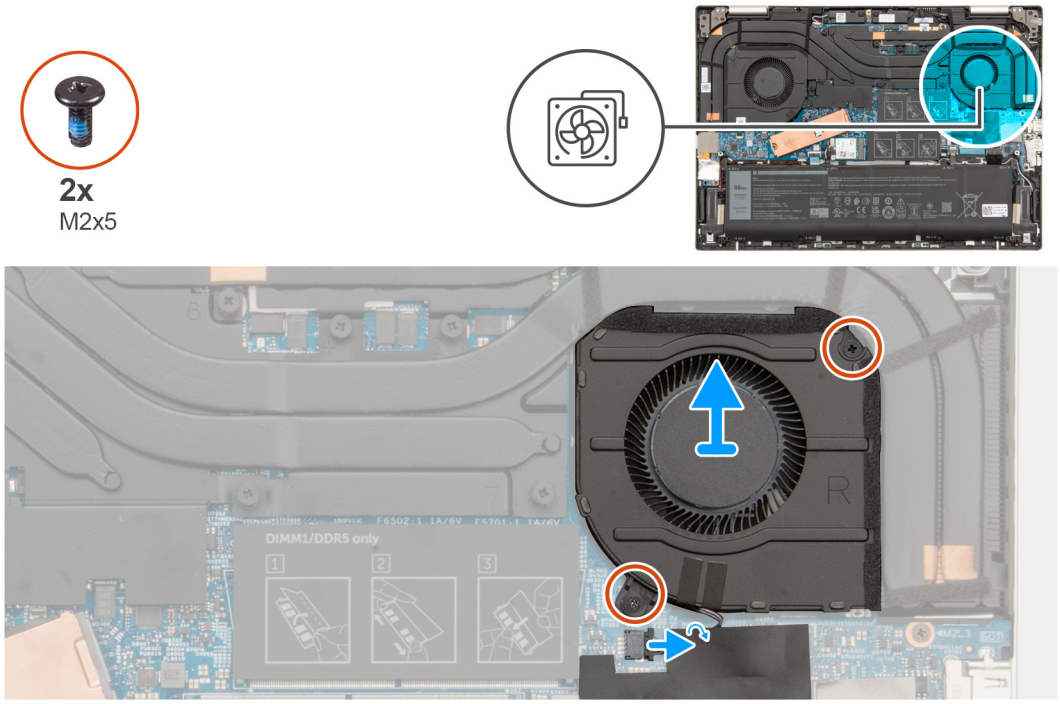
Removing the right fan

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the right fan and provides a visual representation of the removal procedure.



Steps

1. Peel back the Mylar covering the right fan cable.
2. Disconnect the right-fan cable from the its connector on the system board.
3. Remove the two screws (M2x5) that secure the right fan to the palm-rest and keyboard assembly.
4. Lift the right fan off the palm-rest and keyboard assembly.

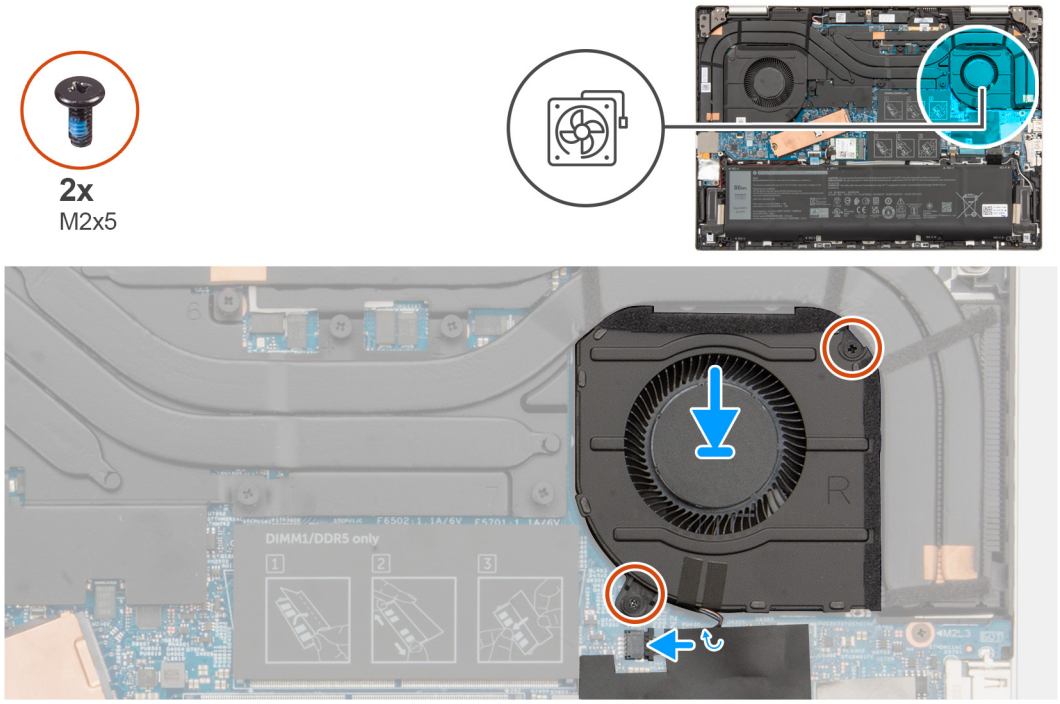
Installing the right fan

Prerequisites

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

About this task

The following image(s) indicate the location of the right fan and provides a visual representation of the installation procedure.



Steps

1. Place the fan and align the screw holes of the right fan with the screw holes on the palm-rest and keyboard assembly.
2. Replace the two screws (M2x5) that secure the right fan to the palm-rest and keyboard assembly.
3. Connect the right-fan cable to the system board.
4. Adhere the Mylar over the right-fan cable.

Next steps

1. Install the base cover.
2. 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 FRU's section is intended for authorized service technicians only.

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

CAUTION: Dell Technologies recommends that this set of repairs, if needed, to be conducted by trained technical repair specialists.

CAUTION: As a reminder, 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

CAUTION:

- **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.**
- **Ensure any screws during the servicing of this product are not lost or misplaced, to prevent accidental puncture or damage to the battery and other computer components.**
- **If the battery gets stuck inside your computer as a result of swelling, do not try to release it as puncturing, bending, or crushing a rechargeable Li-ion battery can be dangerous. In such an instance, contact Dell technical support for assistance. See Contact Support at Dell Support Site.**
- **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 battery

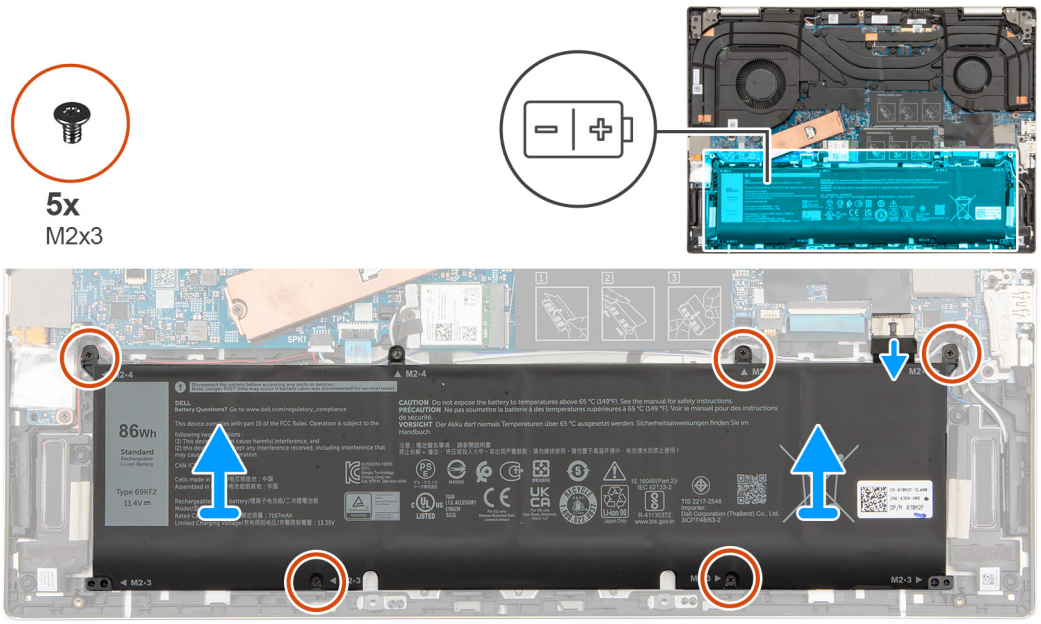
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the battery and provides a visual representation of the removal procedure.



Steps

1. Disconnect the battery cable from its connector on the system board.
2. Remove the five screws (M2x3) that secure the battery to the palm-rest and keyboard assembly.
3. Lift the battery off the palm-rest and keyboard assembly.

Installing the battery

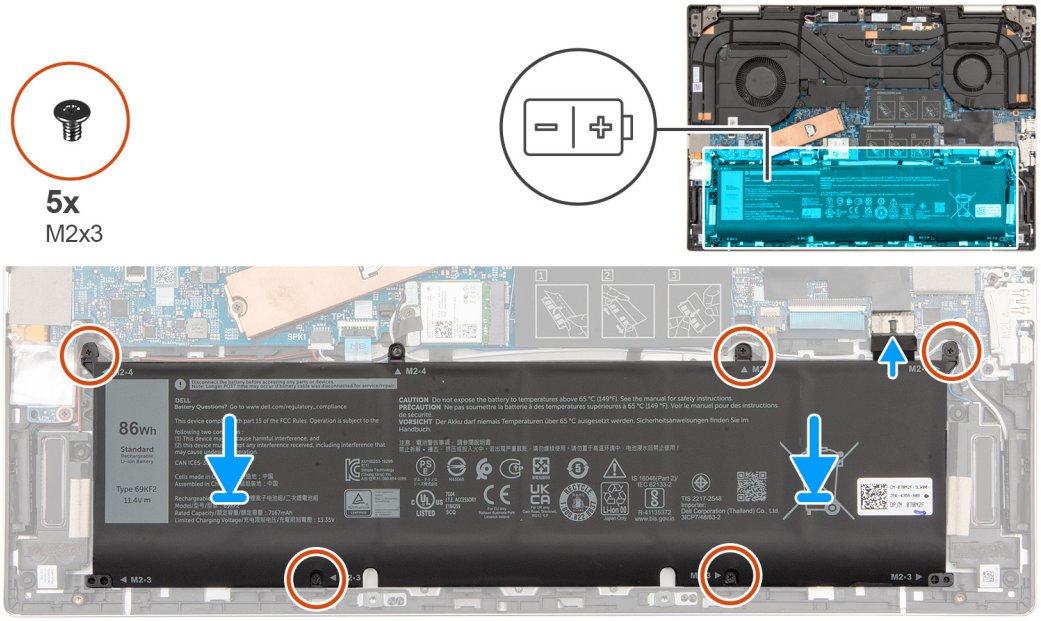
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

About this task

The following image(s) indicate the location of the battery and provides a visual representation of the installation procedure.



Steps

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

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Battery cable

Removing the battery cable

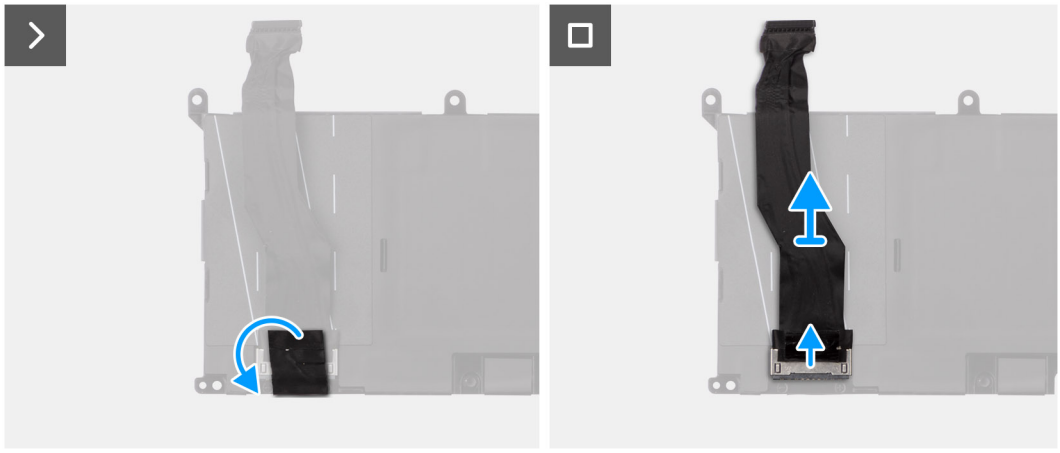
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.

About this task

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



Steps

1. Flip over the battery.
2. Peel the adhesive tape that secures the battery cable to the connector on the battery.
3. Disconnect the battery cable from its connector on the battery.
4. Peel the battery cable away from the battery.

Installing the battery cable

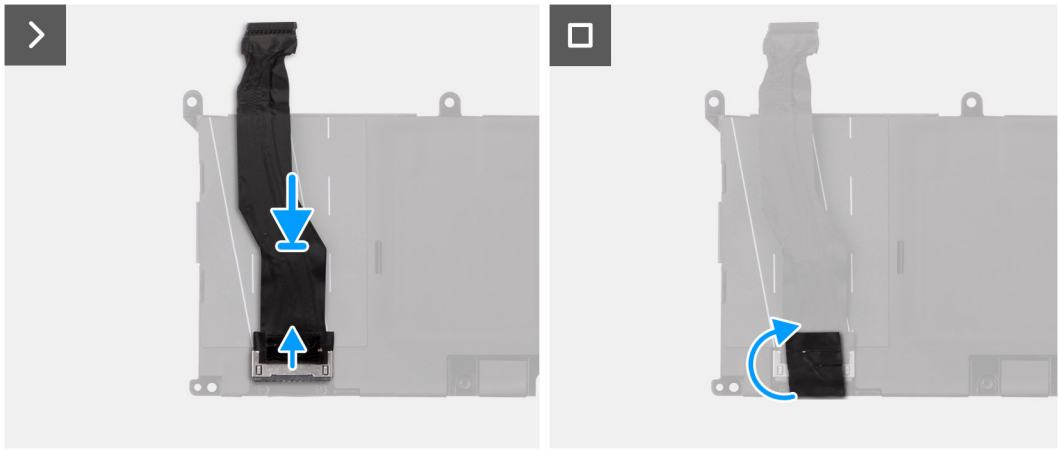
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

About this task

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



Installing the battery cable

Steps

1. Connect the battery cable to its connector on the battery.
2. Using the markings on the battery, adhere the battery cable to the battery.
3. Adhere the tape that secures the battery cable to its connector on the battery.

Next steps

1. Install the battery.

2. Install the base cover.
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.

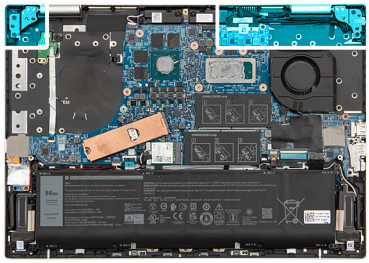
Prerequisites

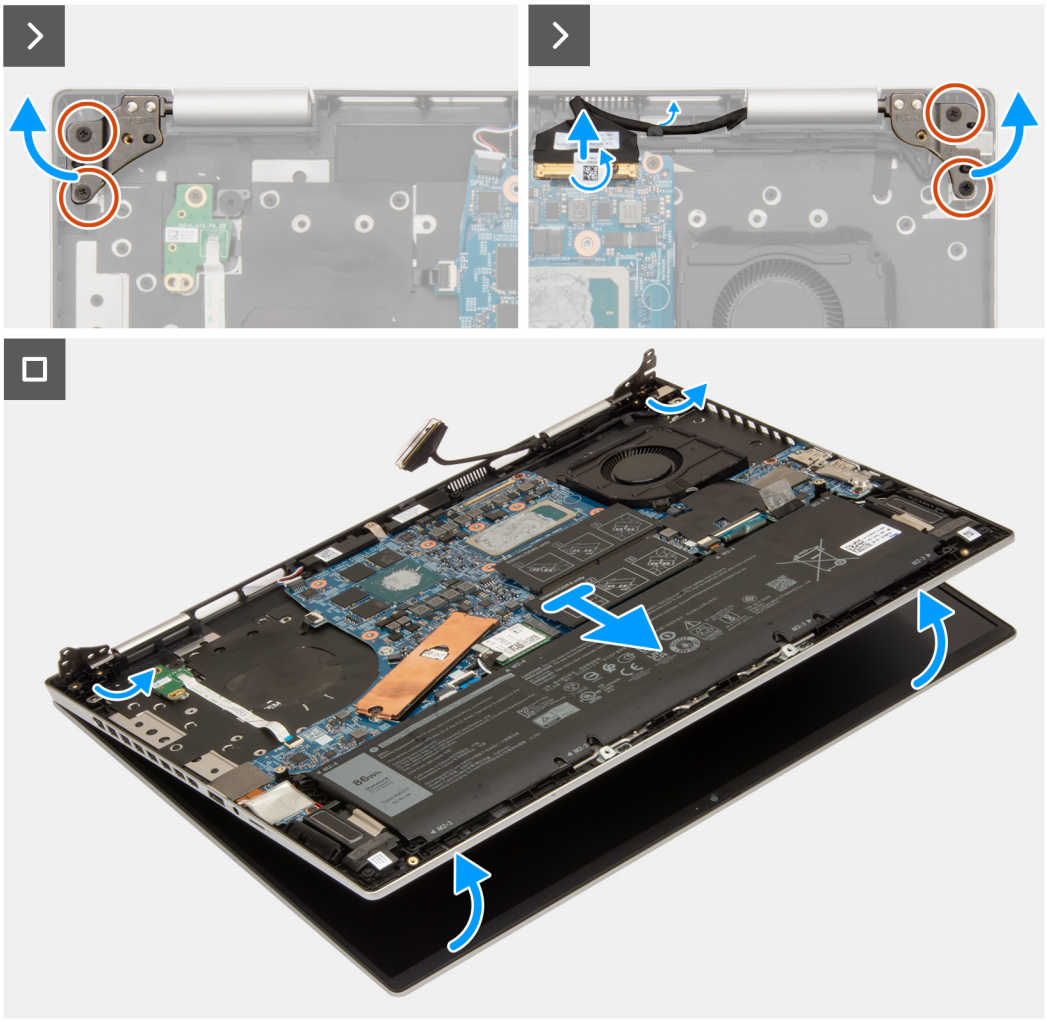
1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the display assembly and provides a visual representation of the removal procedure.

4x
M2.5x5.5





Steps

1. Remove the two screws (M2.5x5.5) that secure the left display-assembly hinge to the system board.
2. Pry open the left display-assembly hinge at an angle of 90 degrees.
3. Peel the tape that secures the display-cable latch to its connector.
4. Pry open the latch and disconnect the display-assembly cable from its connector on the system board.
5. Remove the two screws (M2.5x5.5) that secure the right display-assembly hinge to the system board.
6. Open the right display-assembly hinge at an angle of 90 degrees.
7. At an angle, gently lift the palm-rest and keyboard assembly off the display assembly.

Installing the display assembly

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

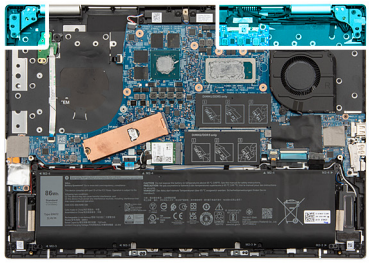
Prerequisites

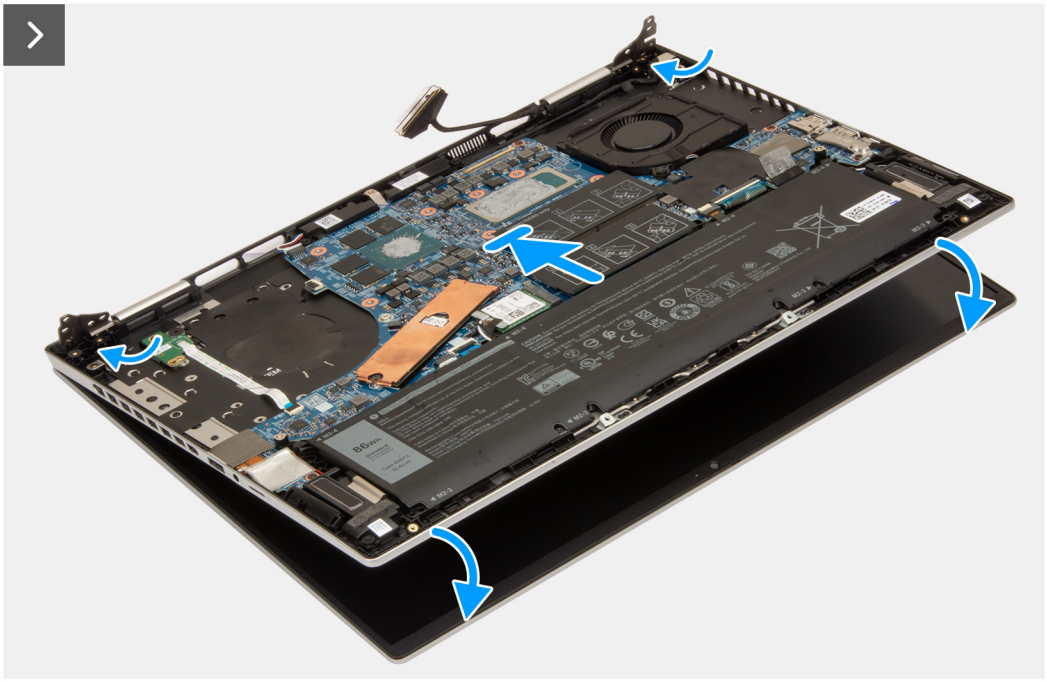
If you are replacing a component, remove the existing component before performing the installation process.

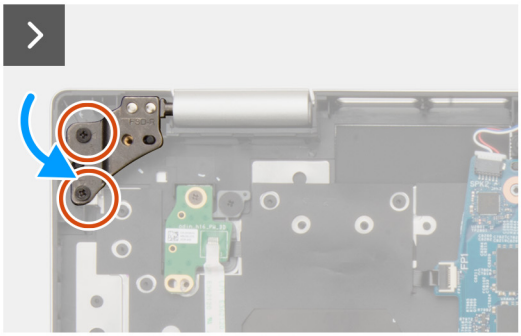
About this task

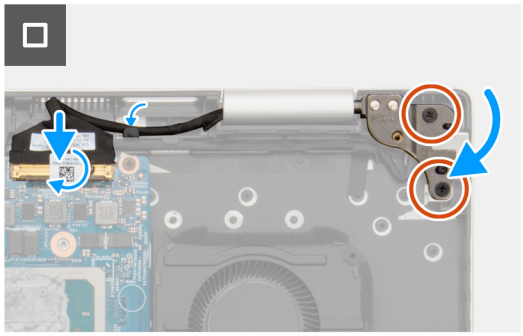
The following image(s) indicate the location of the display assembly and provides a visual representation of the installation procedure.

4x
M2.5x5.5









Steps

1. Place the display assembly on a clean and flat surface with the display panel facing up.
2. Gently place the palm-rest and keyboard assembly on the display assembly.
3. Close the left display-assembly hinge and align its screw holes with the screw holes on the palm-rest and keyboard assembly.
4. Close the right display-assembly hinge and align its screw holes with the screw holes on the palm-rest and keyboard assembly.
5. Replace the two screws (M2.5x5.5) that secure the left display-assembly hinge to the palm-rest and keyboard assembly.
6. Replace the two screws (M2.5x5.5) that secure the right display-assembly hinge to the palm-rest and keyboard assembly.
7. Connect the display-assembly cable to its connector on the system board and close the latch.
8. Adhere the tape to secure the display-cable latch to its connector to the system board.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Speakers

Removing the speakers (woofers)

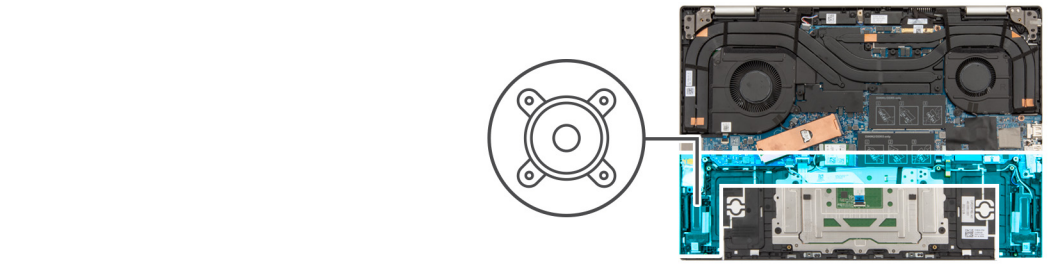
CAUTION: The information in this section is intended for authorized service technicians only.

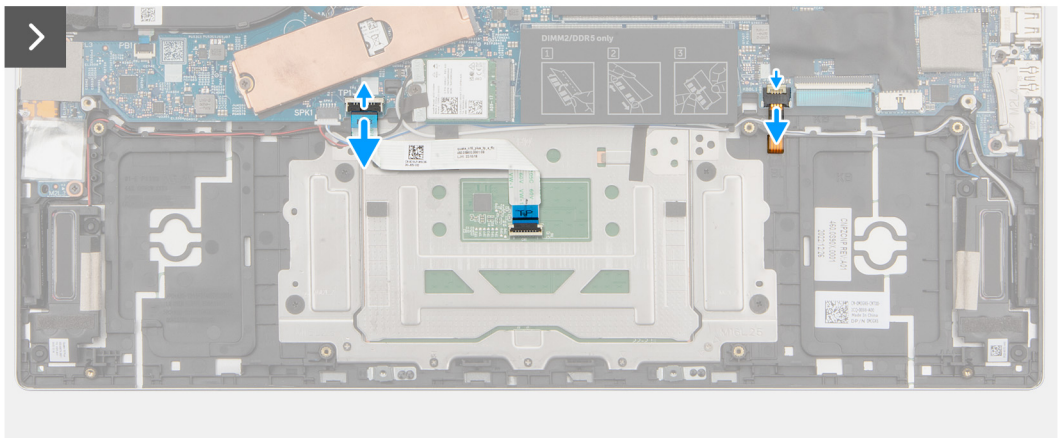
Prerequisites

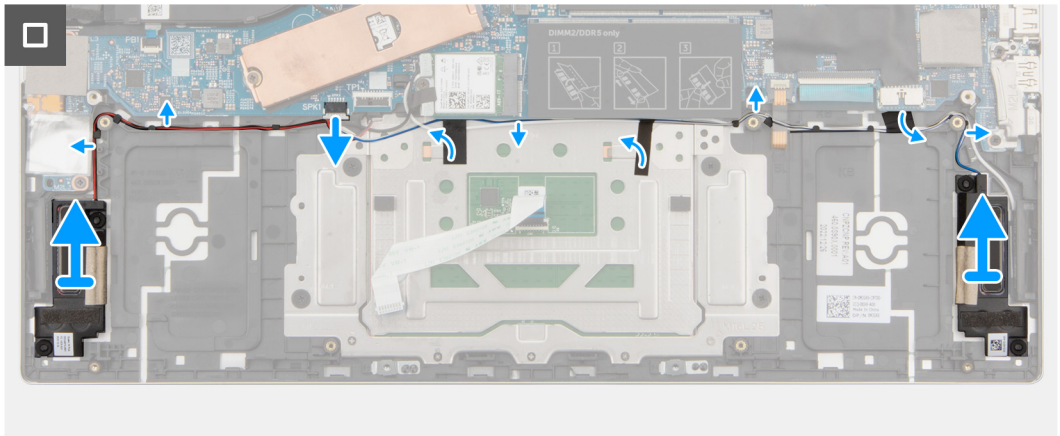
1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the memory module.

About this task

The following image(s) indicate the location of the speakers (woofers) and provides a visual representation of the installation procedure.







Steps

1. Open the latch and disconnect the touchpad cable from its connector on the system board.
2. Open the latch and disconnect the keyboard-backlight cable from its connector on the system board.
3. Move the touchpad cable off the speaker cable.
4. Peel the tapes that secure the antenna cables to the system board and move the antenna cables off the speaker (woofer) cables.
5. Disconnect the speakers (woofers) cable from its connector on the system board.
6. Peel the tapes that secure the speakers (woofers) cable to the system board.
7. Remove the speakers (woofers) cables from the routing guides on the palm-rest and keyboard assembly.
8. Lift the speakers (woofers) along with its cables off the palm-rest and keyboard assembly.

Installing the speakers (woofers)

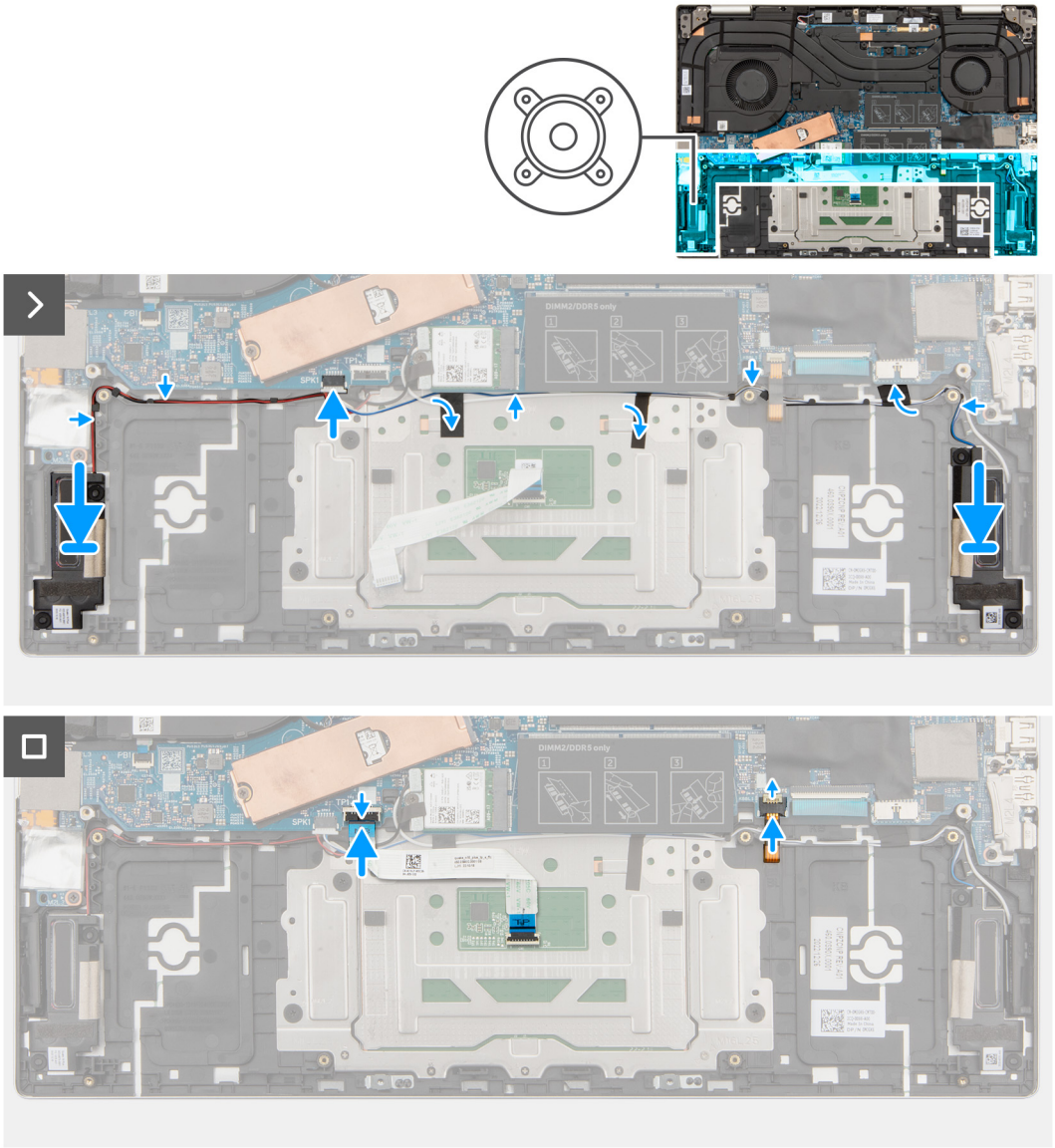
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

About this task

The following image(s) indicate the location of the speakers (woofers) and provides a visual representation of the installation procedure.



Steps

1. Using the alignment posts, place the speakers (woofers) 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 speakers (woofers) cable through the routing guides on the palm-rest and keyboard assembly.
3. Adhere the tapes that secure the speakers (woofers) cable to the system board.
4. Connect the speakers (woofers) cable to its connector on the system board.
5. Connect the keyboard-backlight cable to its connector on the system board.
6. Connect the touchpad cable to its connector on the system board and close the latch.

Next steps

1. Install the memory module.
2. Install the battery
3. Install the base cover.
4. Follow the procedure in After working inside your computer.

Removing the speakers (tweeters)

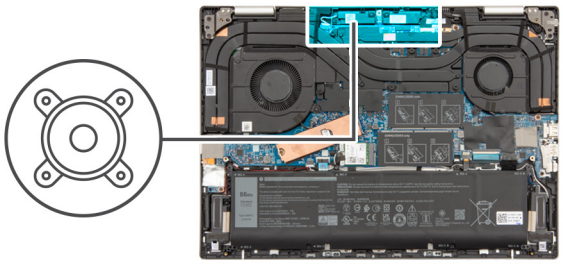
CAUTION: The information in this section is intended for authorized service technicians only.

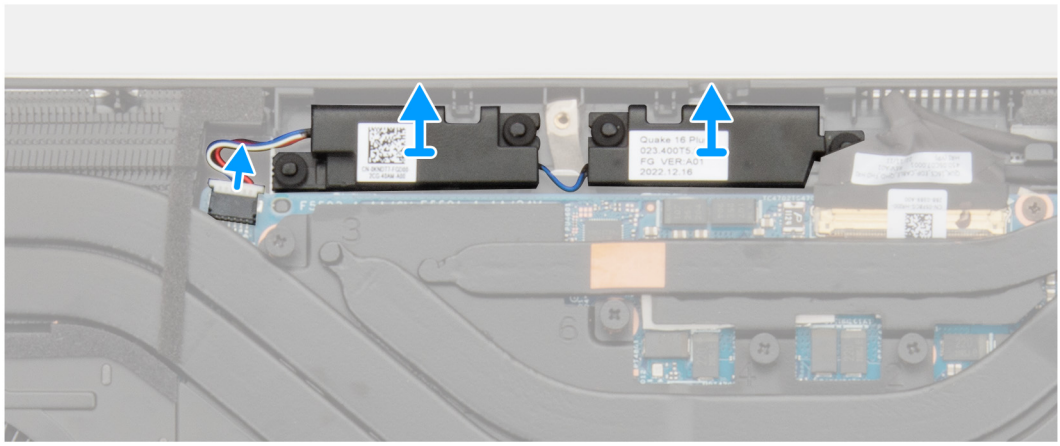
Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

About this task

The following image(s) indicate the location of the speakers (tweeters) and provides a visual representation of the installation procedure.





Steps

1. Disconnect the speakers (tweeters) cable from its connector on the system board.
2. Lift the speakers (tweeters) and their cables off the palm-rest and keyboard assembly.

Installing the speakers (tweeters)

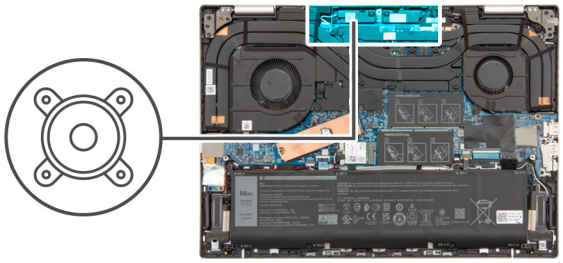
CAUTION: The information in this section is intended for authorized service technicians only.

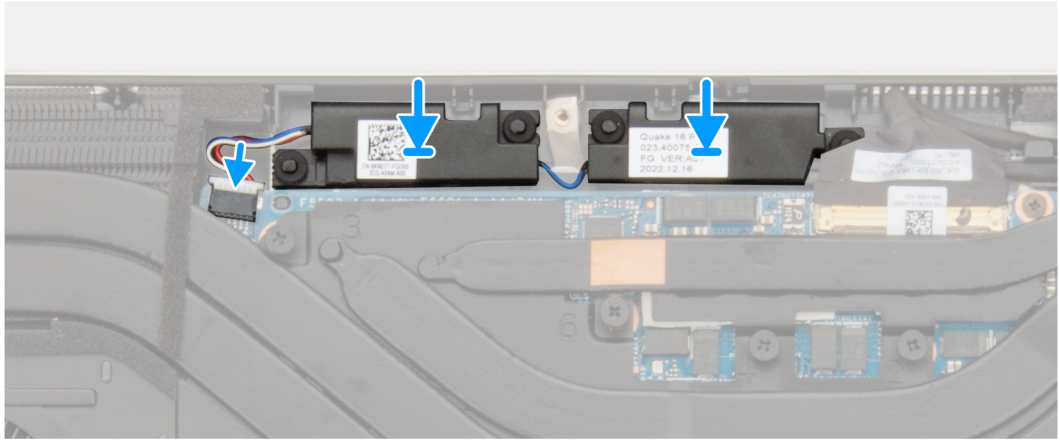
Prerequisites

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

About this task

The following image(s) indicate the location of the speakers (tweeters) and provides a visual representation of the installation procedure.





Steps

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

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

2. Connect the speaker (tweeters) cable to the system board.

Next steps

1. Install the base cover.
2. 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.

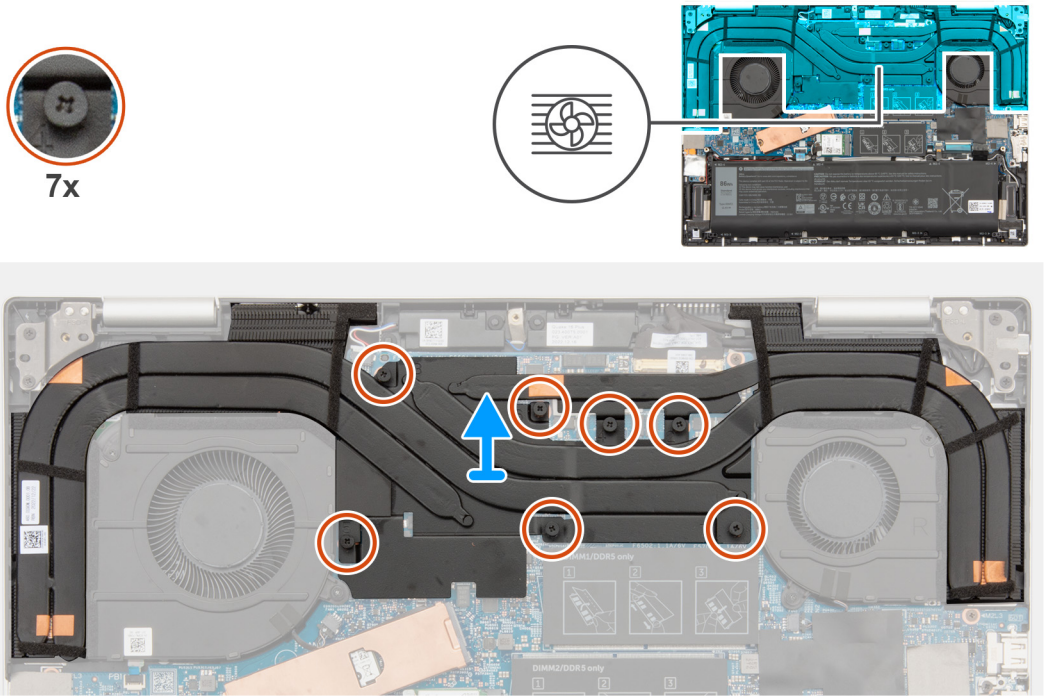
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.

2. 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.

The following image(s) indicate the location of the heat sink and provides a visual representation of the removal procedure.



Steps

1. In reverse sequential order (7>6>5>4>3>2>1), loosen the seven captive screws that secure the heat sink to the system board.
2. Lift the heat sink off the system board.

Installing the heat sink

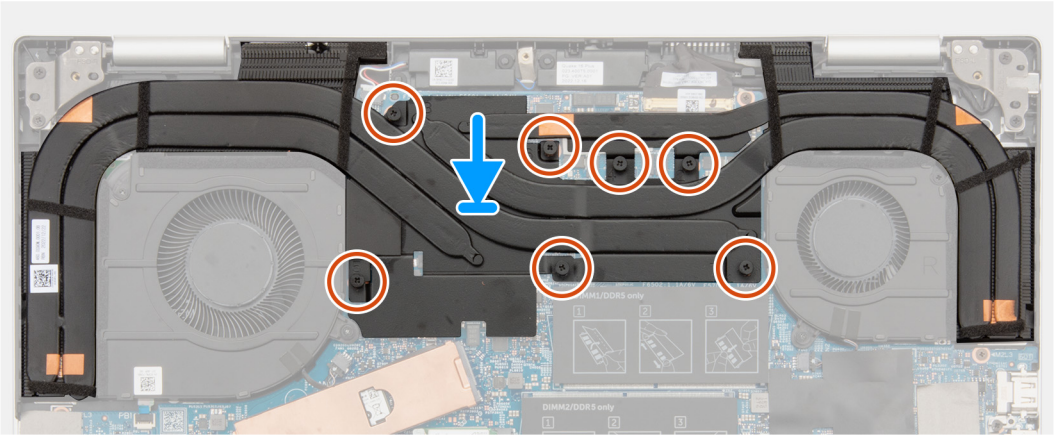
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

About this task

The following image(s) indicate the location of the heat sink and provides a visual representation of the installation procedure.



Steps

1. Align the captive screws on the heat sink to the screw holes on the system board.
2. In sequential order (1>2>3>4>5>6>7), tighten the seven captive screws that secure the heat sink to the system board.

Next steps

1. Install the base cover.
2. Follow the procedure in After working inside your computer.

Power-button board

Removing the power-button board

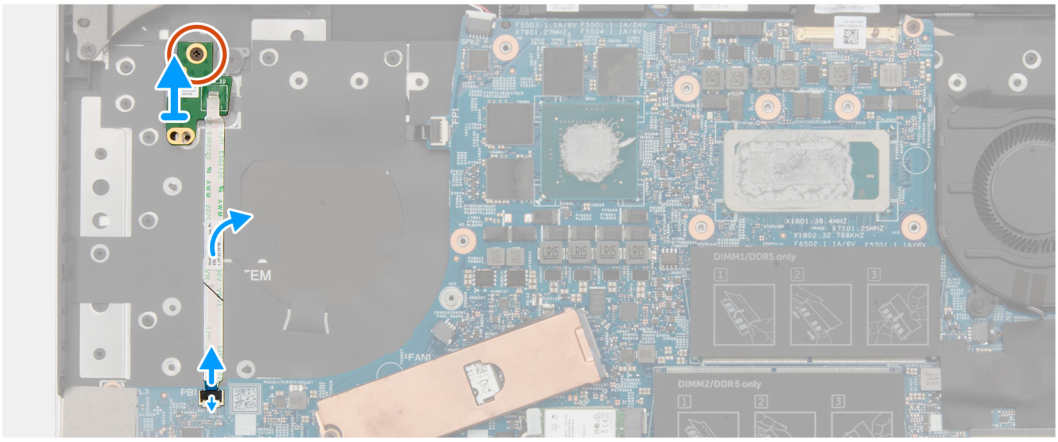
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the left fan
4. Remove the heat sink.

About this task

The following image(s) indicate the location of the power-button board and provides a visual representation of the removal procedure.



Steps

1. Open the latch and disconnect the power-button board cable from its connector on the system board.
2. Remove the screw (M2x3) that secures the power-button board to the palm-rest and keyboard assembly.
3. Peel the power-button board cable off the palm-rest and keyboard assembly.
4. Lift the power-button board and its cable off the palm-rest and keyboard assembly.

Installing the power-button board

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

Prerequisites

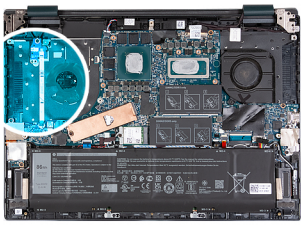
If you are replacing a component, remove the existing component before performing the installation process.

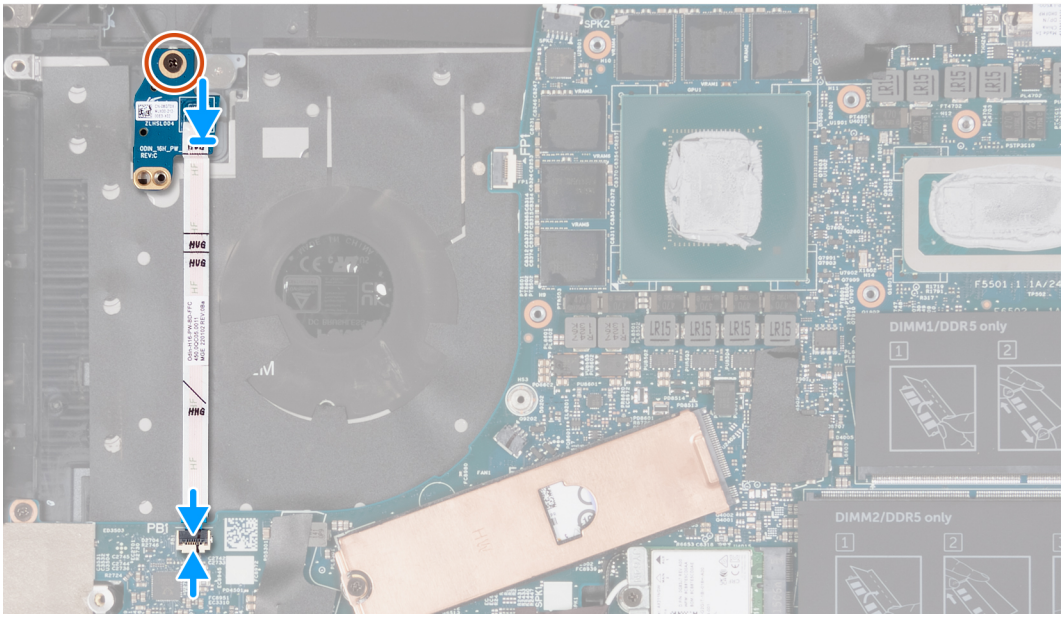
About this task

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 image(s) indicate the location of the power-button board and provides a visual representation of the installation procedure.

1x
M2x3





Steps

1. Place the power-button board on the palm-rest and keyboard assembly.
2. Align the screw holes of the power-button board with the screw holes on the palm-rest and keyboard assembly.
3. Replace the screw (M2x3) that secures the power-button board to the palm-rest and keyboard assembly.
4. Connect the power-button board cable to its connector on the system board and close the latch.
5. Adhere the power-button cable to the palm-rest and keyboard assembly.

Next steps

1. Install the heat sink.
2. Install the left fan
3. Install the base cover.
4. 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.

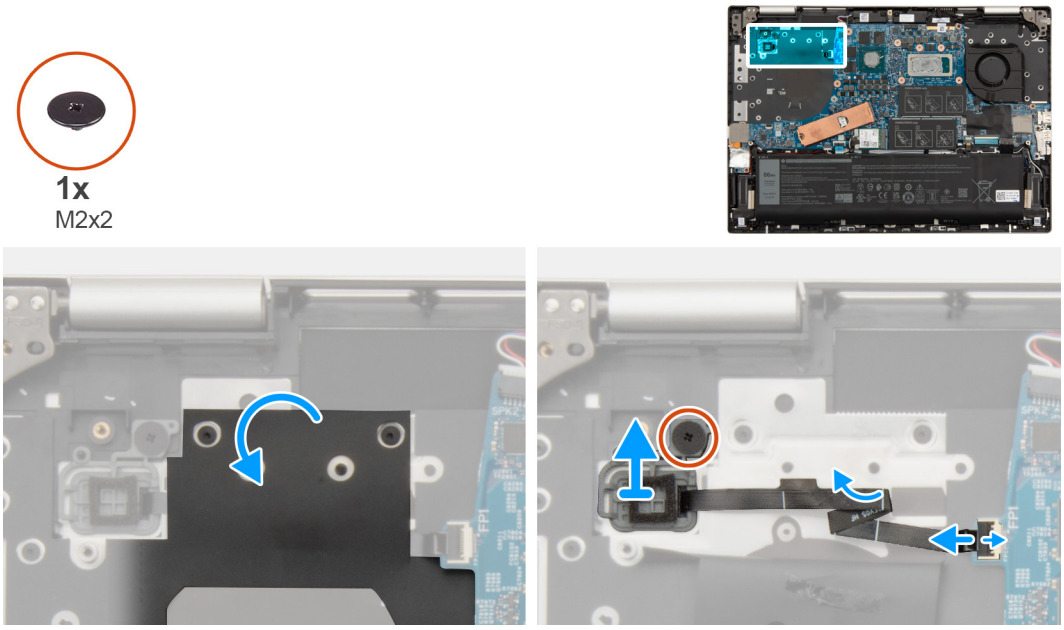
Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.

3. Remove the left fan.
4. Remove the heat sink.
5. Remove the power-button board.

About this task

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



Steps

1. Peel the Mylar that covers the fingerprint-reader cable.
2. Remove the screw (M2x2) that secures the power button with optional fingerprint reader to the palm-rest and keyboard assembly.
3. Open the latch and disconnect the fingerprint-reader cable from its connector on the system board.

   NOTE: Steps 1, 3 and 4 are only applicable for systems shipped with a fingerprint reader

4. Peel the fingerprint-reader cable off the palm-rest and keyboard assembly.
5. Lift the power button with optional fingerprint reader 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.

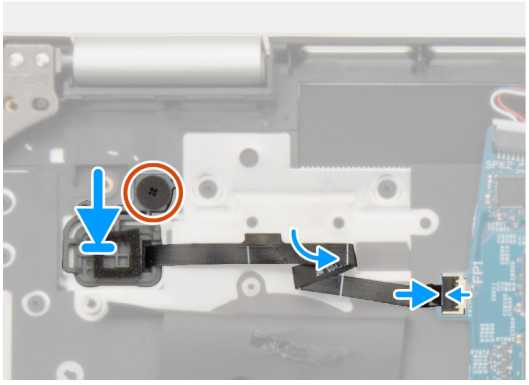
Prerequisites

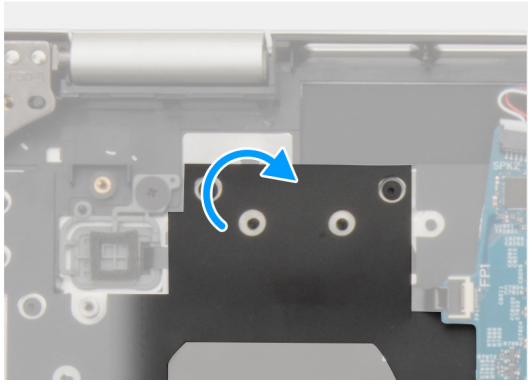
If you are replacing a component, remove the existing component before performing the installation process.

About this task

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 image(s) indicate the location of the power button with optional fingerprint reader and provides a visual representation of the installation procedure.





Steps

1. Place the power button with optional fingerprint reader on the palm-rest and keyboard assembly.
2. Align the screw hole on the power button with optional fingerprint reader with the screw hole on the palm-rest and keyboard assembly.
3. Replace the screw (M2x2) that secures the power button with optional fingerprint reader to the palm-rest and keyboard assembly.
4. Connect the fingerprint-reader cable to its connector on the I/O board and close the latch.

   NOTE: Steps 4, 5 and 6 are only applicable for systems shipped with a fingerprint reader.

5. Adhere the fingerprint-reader cable to the palm-rest and keyboard assembly.
6. Replace the Mylar over the fingerprint-reader cable.

Next steps

1. Install the power-button board.
2. Install the heat sink.
3. Install the left fan.
4. Install the base cover.
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.

   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the memory module.
4. Remove the M.2 2230 solid-state drive or M.2 2280 solid-state drive, whichever applicable.

5. Remove the wireless card
6. Remove the heat sink.
7. Remove the left fan.
8. Remove the right fan.

About this task

The following image indicates the connectors on your system board.

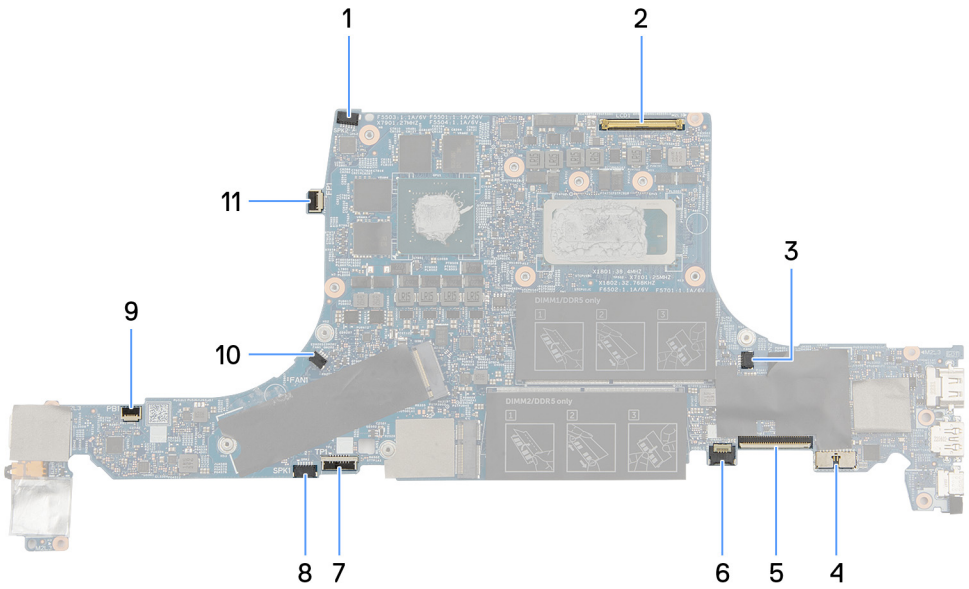


Figure 5. System board (front)

1. Speaker (tweeters) cable connector
2. Display cable connector
3. Right-fan cable connector
4. Battery cable connector
5. Keyboard cable connector
6. Keyboard-backlight cable connector
7. Touchpad-cable connector
8. Speakers (woofers) cable connector
9. Power button board cable connector
10. Left-fan cable connector
11. Fingerprint-reader cable connector

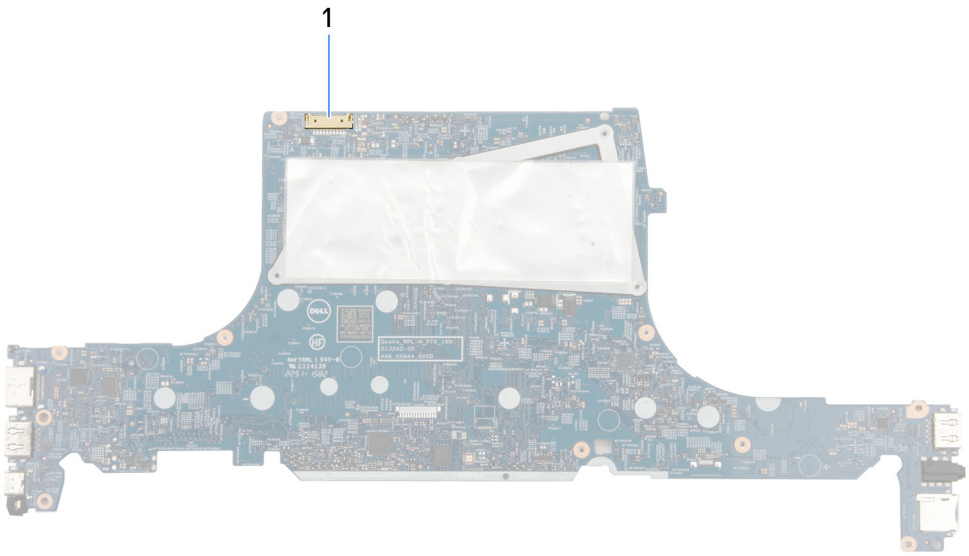
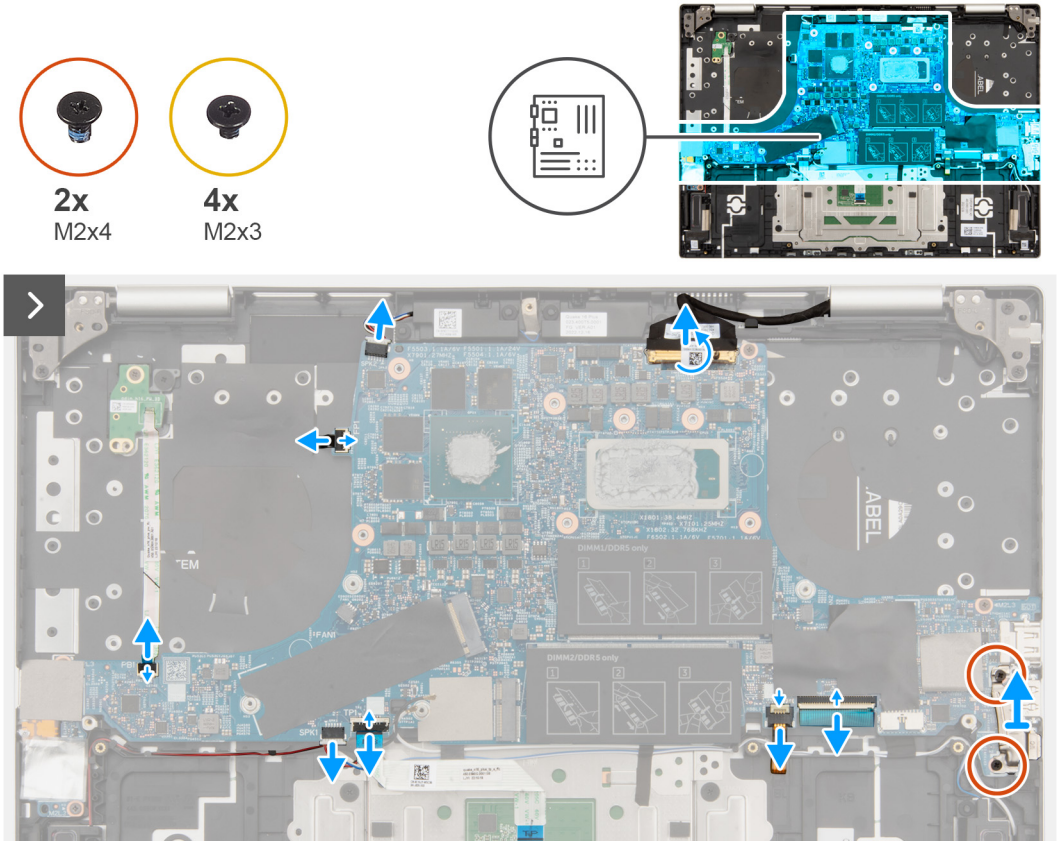
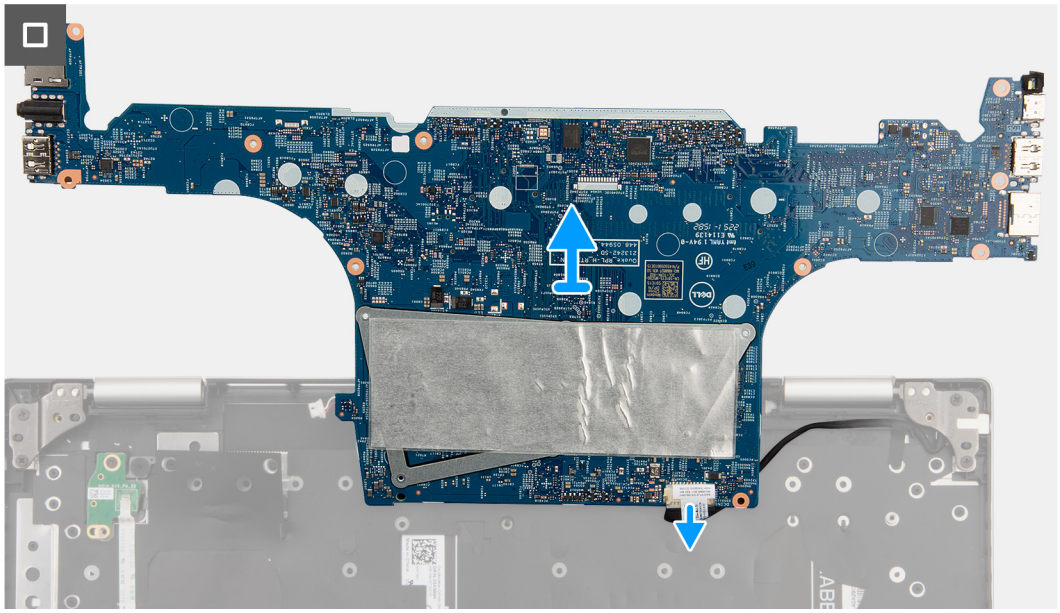


Figure 6. System board (back)

1. Power-adapter port cable connector

The following image(s) indicate the location of the system board and provides a visual representation of the removal procedure.





Steps

1. Open the latch and disconnect the power-button board cable from its connector on the system board.
2. Open the latch and disconnect the fingerprint-reader cable from its connector on the system board.
3. Disconnect the speaker (tweeter) cable from its connector on the system board.
4. Disconnect the speaker (woofer) cable from its connector on the system board.
5. Open the latch and disconnect the touchpad cable from its connector on the system board.
6. Peel the clear adhesive tape off the display-cable connector.
7. Open the latch and disconnect the display-assembly cable from its connector on the system board.
8. Open the latch and disconnect the keyboard cable from its connector on the system board.
9. Open the latch and disconnect the keyboard-backlight cable from its connector on the system board.
10. Remove the two screws (M2x5) that secure the Type-C port bracket to the system board.
11. Lift the Type-C port-bracket off the system board.
12. Remove the four screws (M2x3) that secure the system board to the palm-rest and keyboard assembly.
13. Gently lift the system board off the palm-rest and keyboard assembly and turn over the system board to access the power-adapter port cable.
14. Peel off the adhesive tape that secures the power-adapter port cable to the system board.
15. Disconnect the power-adapter port cable from its connector on the system board.

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.

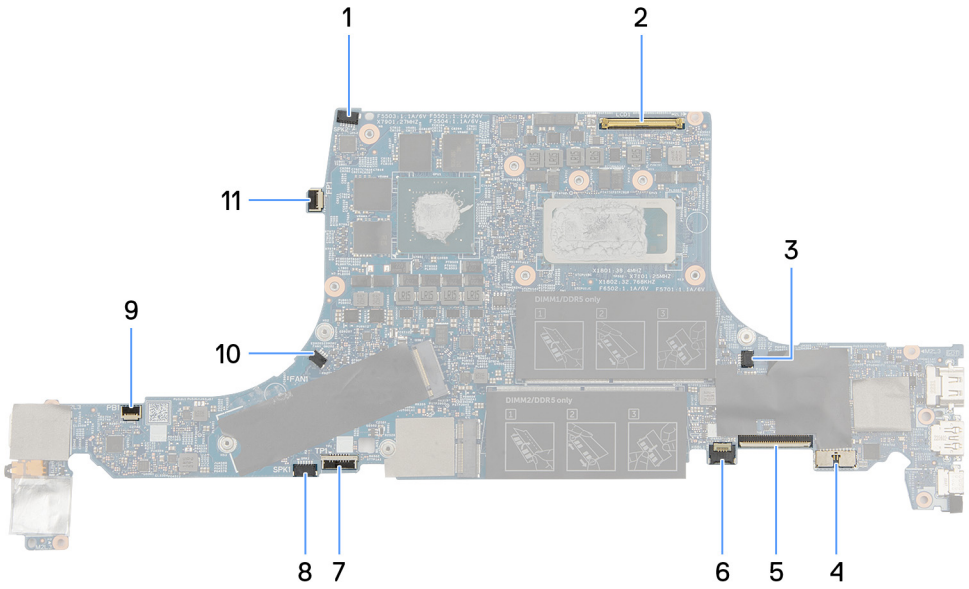


Figure 7. System board (front)

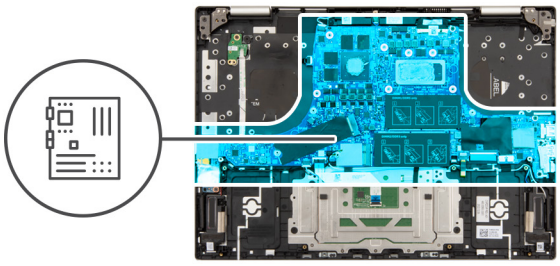
1. Speaker (tweeters) cable connector
2. Display cable connector
3. Right-fan cable connector
4. Battery cable connector
5. Keyboard cable connector
6. Keyboard-backlight cable connector
7. Touchpad-cable connector
8. Speakers (woofers) cable connector
9. Power button board cable connector
10. Left-fan cable connector
11. Fingerprint-reader cable connector

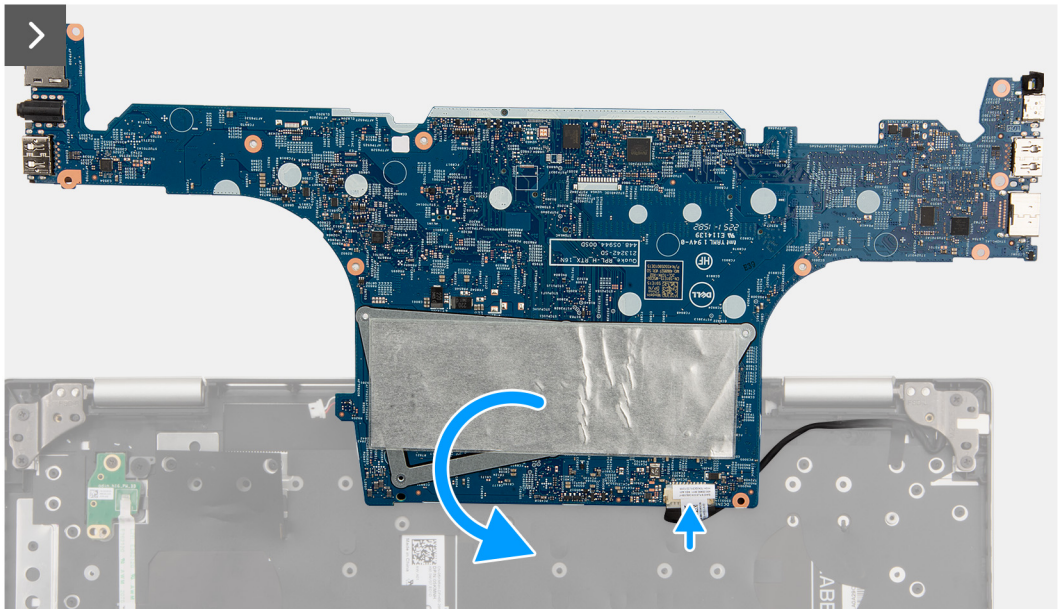
Figure 8. System board (back)

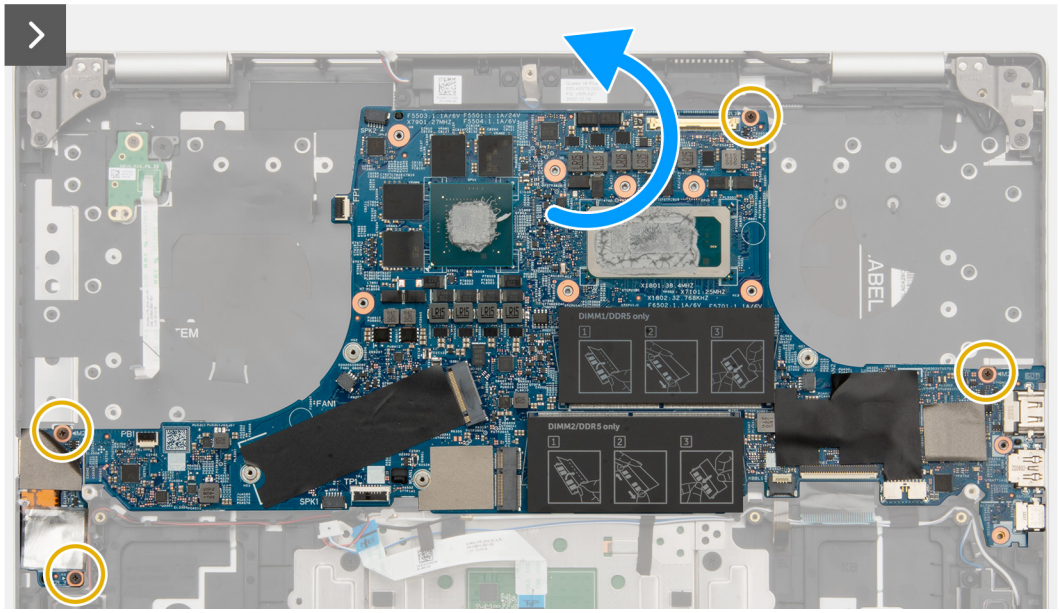
1. Power-adapter port cable connector

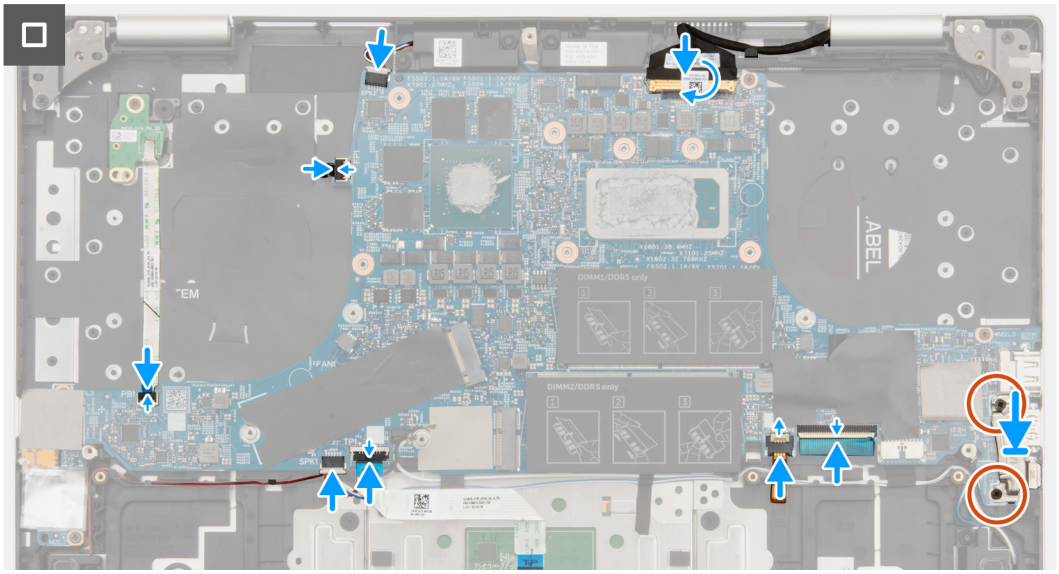
The following image(s) indicate the location of the system board and provides a visual representation of the installation procedure.


2x
M2x4
4x
M2x3






DIMM1/DDR5 only
DIMM2/DDR5 only



Steps

1. Connect the power-adapter port cable to its connector the system board.
2. Adhere the tape that secures the power-adapter port to its connector on the system board.
3. Gently turn over the system board and place the system board on the palm-rest and keyboard assembly.
4. Align the screw holes on the system board with the screw holes on the palm-rest and keyboard assembly.
5. Replace the four screws (M2x3) that secure the system board to the palm-rest and keyboard assembly.
6. Connect the power-button board cable to its connector on the system board and close the latch.
7. Connect the optional fingerprint-reader cable to its connector on the system board and close the latch.
8. Connect the speaker (woofer) cable to its connector on the system board.
9. Connect the touchpad cable to system board and close the latch.
10. Connect the speaker (tweeter) cable to its connector on the system board.
11. Connect the display-assembly cable to its connector on the system board and close the latch.
12. Adhere the tape that secures the display-assembly cable latch to its connector on the system board.
13. Connect the keyboard cable to its connector on the system board and close the latch.
14. Connect the keyboard-backlight cable to system board and close the latch.
15. Align the screw holes of the Type-C port-bracket with the screw holes of the system board.
16. Place the Type-C port-bracket on the system board.
17. Replace the two screws (M2x5) that secure the Type-C port-bracket to its connector on the system board.

Next steps

1. Install the right fan.
2. Install the left fan.
3. Install the heat sink.
4. Install the wireless card.
5. Install the M.2 2230 solid-state drive or M.2 2280 solid-state drive, whichever applicable.
6. Install the memory module.
7. Install the base cover.
8. Follow the procedure in After working inside your computer.

Power-adapter port

Removing the power-adapter port

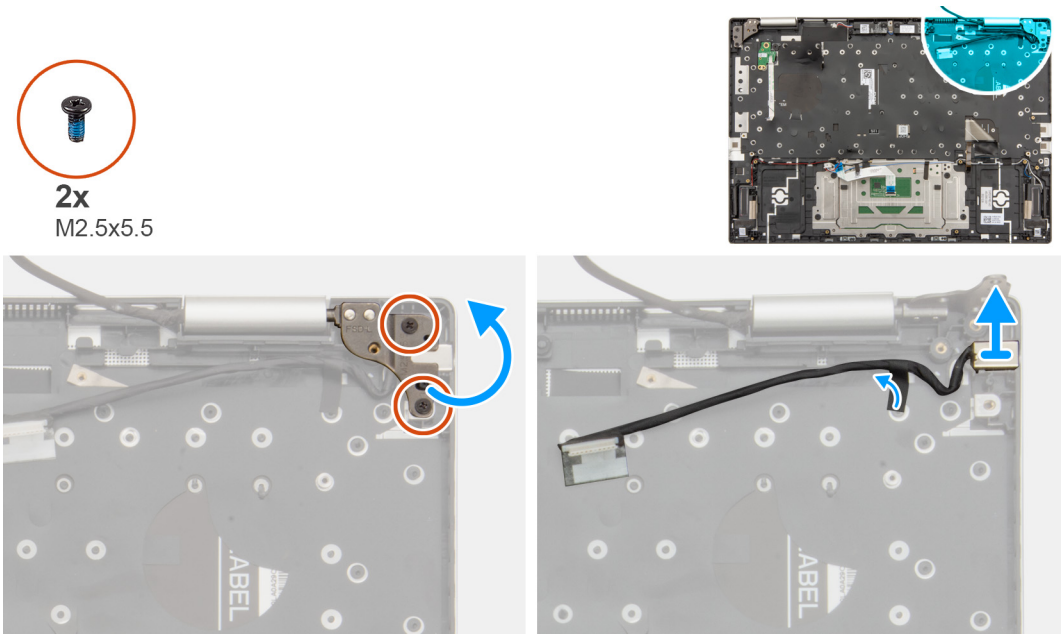
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the system board.
   NOTE: The system board can be removed and installed with the M.2 solid-state drive, memory module, and heat sink attached.

About this task

The following image(s) indicate the location of the power-adapter port and provides a visual representation of the removal procedure.



Steps

1. Remove the two screws (M2.5x5.5) that secure the right display-assembly hinge to the system board.
2. Open the right display-assembly hinge at an angle of 90 degrees.
3. Lift the power-adapter port and its cable off the palm-rest and keyboard assembly.

Installing the power-adapter port

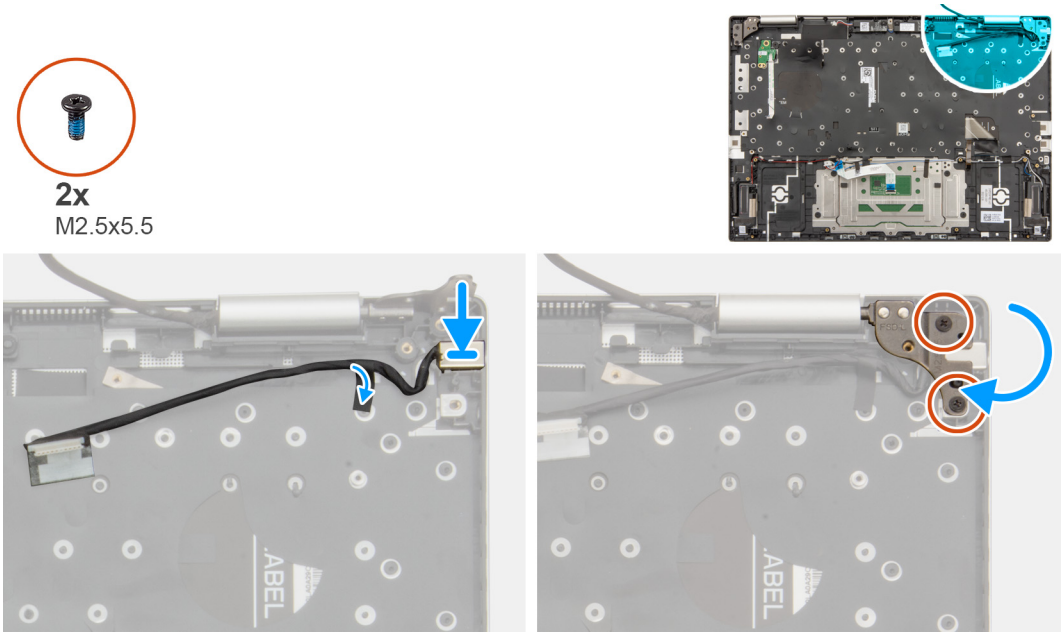
CAUTION: The information in this section is intended for authorized service technicians only.

Prerequisites

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

About this task

The following image(s) indicate the location of the power-adapter port and provides a visual representation of the installation procedure.



Steps

1. Place the power-adapter port into the slot on the palm-rest and keyboard assembly.
2. Adhere the tape that secures the power-adapter cable to the palm-rest and keyboard assembly.
3. Close the right display-assembly hinge.
4. Align the screw holes on the right display-assembly hinge with the screw holes on the system board.
5. Replace the two screws (M2.5x5.5) that secure the right display-assembly hinge to the system board.

Next steps

1. Install the system board.
   NOTE: The system board can be removed and installed with the M.2 solid-state drive, memory module, and heat sink attached.
2. Install the base cover.
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.

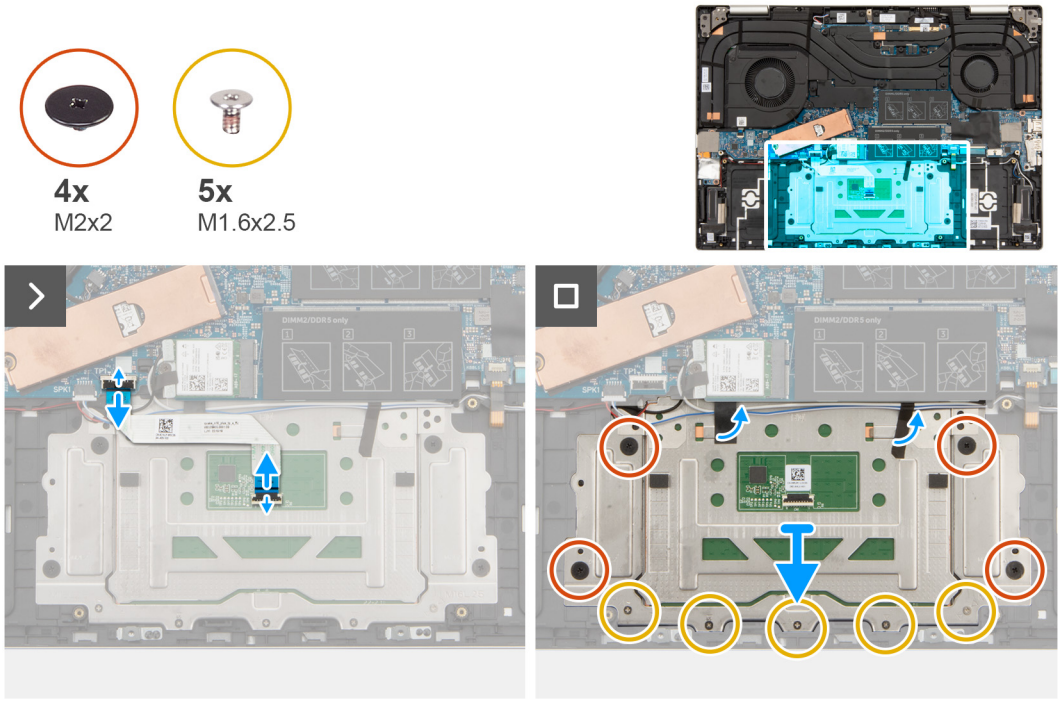
Prerequisites

1. Follow the procedure in Before working inside your computer.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.

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 image(s) indicate the location of the touchpad and provides a visual representation of the removal procedure.



Steps

1. Open the latch and disconnect the touchpad cable from its connector on the touchpad.
2. Open the latch and disconnect the touchpad cable from its connector on the system board.
3. Peel the adhesive tape that secures the speakers (woofers) and antenna cables onto the touchpad.
4. Remove the four screws (M2x2) and the five screws (M1.6x2.5) that secure the touchpad bracket to the palm-rest and keyboard assembly.
5. Lift the touchpad bracket off the palm-rest and keyboard assembly.
6. Lift the touchpad off the palm-rest and keyboard assembly.

Installing the touchpad

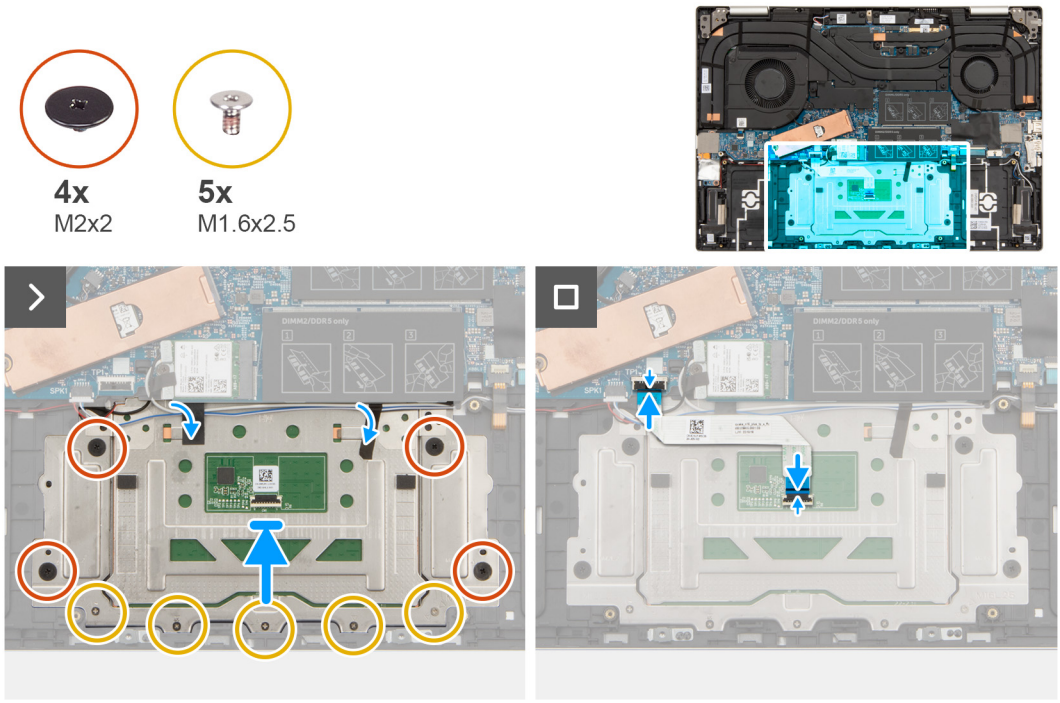
Prerequisites

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

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

About this task

The following image(s) indicate the location of the touchpad and provides a visual representation of the installation procedure.



Steps

1. Place the touchpad onto the palm-rest and keyboard assembly.
2. Place the touchpad bracket onto the touchpad and align the screw holes on the touchpad bracket to the screw holes on the palm-rest and keyboard assembly.
3. Replace the five screws (M2x2) and seven screws (M2x1.8) that secure the touchpad bracket to the palm-rest and keyboard assembly.
4. Adhere the tapes to secure the speakers (woofers) and antenna cables onto the touchpad.
5. Place the touchpad cable on the palm-rest and keyboard assembly.
6. Connect the touchpad cable to its connector on the touchpad and close the latch.
7. Connect the touchpad cable to its connector on the system board and close the latch.

Next steps

1. Install the battery.
2. Install the base cover.
3. 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.
   NOTE: Ensure that your computer is in Service Mode. For more information see, step 6 in Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the wireless card.

5. Remove the display assembly.
6. Remove the left fan and the right fan.
7. Remove the speakers (woofers).
8. Remove the speakers (tweeters).
9. Remove the system board.

   NOTE: The system board can be removed and installed with the M.2 solid-state drive, memory module, and heat sink attached.
10. Remove the power-adapter port.
11. Remove the power-button board.
12. Remove the power button with optional fingerprint reader.
13. Remove the touchpad.

About this task

The following image(s) indicate the location of the palm-rest and keyboard assembly and provides a visual representation of the removal procedure.

Steps

After performing the pre-requisites, you are left with the palm-rest and keyboard assembly.

NOTE: The palm-rest and keyboard assembly consists of the following components:

- Palm rest
- Keyboard
- Wireless antenna (2)

Installing the palm-rest and keyboard assembly

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

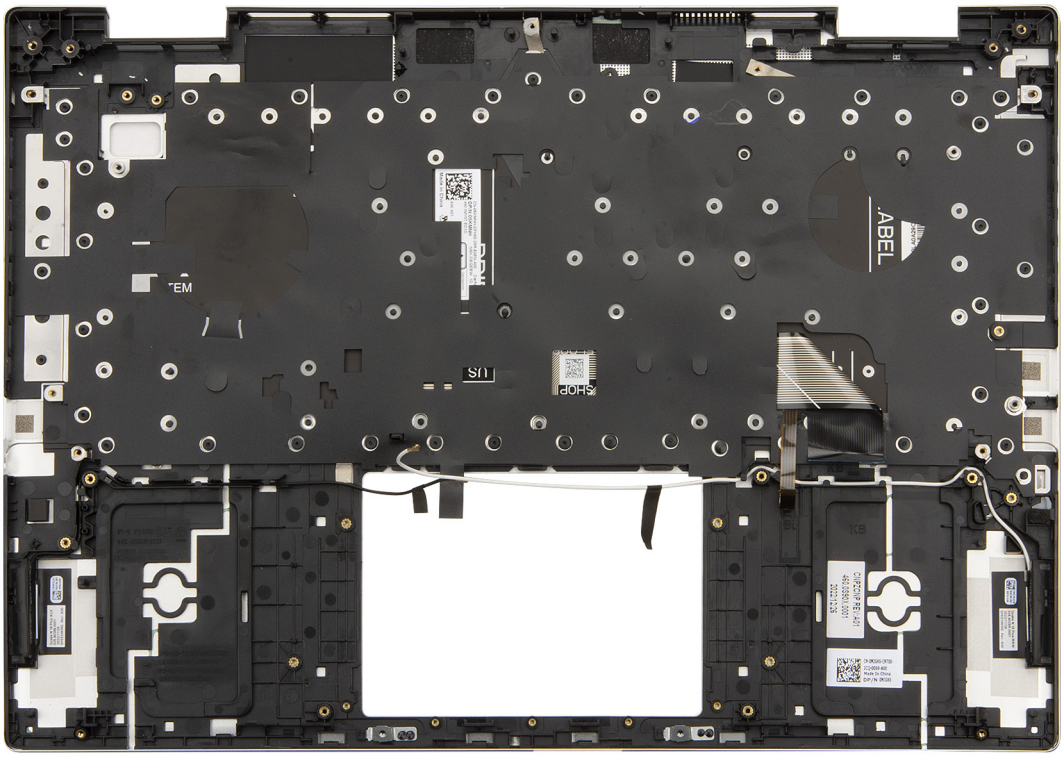
Prerequisites

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

About this task

The following image(s) indicate the location of the palm-rest and keyboard assembly and provides a visual representation of the installation procedure.

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.



Steps

Place the palm-rest and keyboard assembly on a flat and clean surface and perform the post-requisites to install the palm-rest and keyboard assembly.

NOTE: The palm-rest and keyboard assembly consists of the following components:

- Palm rest
- Keyboard
- Wireless antenna (2)

Next steps

1. Install the touchpad
2. Install the power button with optional fingerprint reader.
3. Install the power-button board.
4. Install the power-adapter port.
5. Install the system board

   NOTE: The system board can be removed and installed with the M.2 solid-state drive, memory module, and heat sink attached.
6. Install the speakers (tweeters).
7. Install the speakers (woofers).
8. Install the display assembly.
9. Install the left fan and the right fan.
10. Install the battery.
11. Install the wireless card.
12. Install the base cover.
13. 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 Inspiron 16 Plus 7630 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Academic
- Windows 11 Home

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: Unless you are an expert computer user, do not change the settings in the BIOS Setup. Certain changes can make your computer work incorrectly.

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

NOTE: Before you change the settings in BIOS Setup, it is recommended that you note down the original settings for future reference.

Use BIOS Setup for the following purposes:

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

Entering BIOS setup program

About this task

Turn on (or restart) your computer and press F2 immediately.

Navigation keys

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

Table 27. 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. **NOTE:** For the standard graphical user interface only.
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.

One time boot menu

To enter **one time boot menu**, turn on your computer, and then press F12 immediately.

NOTE: It is recommended to shutdown the computer if it is on.

The one-time boot menu displays the devices that you can boot from. The boot menu options are:

- Windows Boot Manager
- UEFI M.2 sold-state drive Boot
- UEFI HTTPs Boot

The boot sequence screen also displays the option to access the System Setup screen.

System setup options (Intel i5-13500H/i7-13700H)

NOTE: This section is applicable only for systems shipped with the 13th Generation Intel Core i5-13500H/i7-13700H processors.

NOTE: Depending on your system and its installed devices, the items that are listed in this section may or may not appear.

Table 28. System setup options—System information menu

Overview	
Inspiron 16 Plus 7630	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the system.
Asset Tag	Displays the Asset Tag of the system.
Manufacture Date	Displays the manufacture date of the system.
Ownership Date	Displays the ownership date of the system.
Express Service Code	Displays the express service code of the system.
Ownership Tag	Displays the Ownership Tag of the system.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your system.
Battery Information	
Primary	Displays that battery is primary.
Battery Level	Displays the battery level of the system.
Battery State	Displays the battery state of the system.
Health	Displays the battery health of the system.
AC Adapter	Displays whether the AC adapter is connected or not.
Processor Information	
Processor Type	Displays the processor type.
Maximum Clock Speed	Displays the maximum processor clock speed.
Minimum Clock Speed	Displays the minimum processor clock speed.
Current Clock Speed	Displays the current processor clock speed.
Core Count	Displays the number of cores on the processor.
Processor ID	Displays the processor identification code.
Processor L2 Cache	Displays the processor L2 Cache size.
Processor L3 Cache	Displays the processor L3 Cache size.
Microcode Version	Displays the microcode version.
Intel Hyper-Threading Capable	Displays whether the processor is Hyper-Threading (HT) capable.
64-Bit Technology	Displays whether 64-bit technology is used.

Table 28. System setup options—System information menu (continued)

Overview	
Memory Information	
Memory Installed	Displays the total system memory installed.
Memory Available	Displays the total system memory available.
Memory Speed	Displays the memory speed.
Memory Channel Mode	Displays single or dual channel mode.
Memory Technology	Displays the technology that is used for the memory.
Devices Information	
Panel Type	Displays the Panel Type of the system.
Video Controller	Displays the video controller type of the system.
Video Memory	Displays the video memory information of the system.
Wi-Fi Device	Displays the wireless device information of the system.
Native Resolution	Displays the native resolution of the system.
Video BIOS Version	Displays the video BIOS version of the system.
Audio Controller	Displays the audio controller information of the system.
Bluetooth Device	Displays the Bluetooth device information of the system.

Table 29. System setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot mode: UEFI only	Displays the boot mode.
Boot Sequence	Displays the boot sequence. By default, Windows Boot Manager is selected By default, M.2 solid-state drive is selected By default, UEFI HTTPs Boot is selected
Secure Boot	
Enable Secure Boot	Enable or disable the secure boot feature. By default, the option is not enabled.
Enable Microsoft UEFI CA	Enable or disable the Microsoft UEFI CA feature By default, the option is enabled.
Secure Boot Mode	Enable or disable to change the secure boot mode options. By default, the **Deployed Mode** is enabled.

Table 30. System setup options—Integrated Devices menu

Integrated Devices	
Date/Time	Displays the current date in MM/DD/YYYY format and current time in HH:MM:SS AM/PM format.
Camera	Enables or disable the camera. By default, the **Enable Camera** option is selected
Audio	
Enable Audio	Enable or disable the integrated audio controller.

Table 30. System setup options—Integrated Devices menu (continued)

Integrated Devices	
	By default, all the options are enabled.

Table 31. System setup options—Storage menu

Storage	
Storage interface	
Port Enablement	This page allows you to enable the onboard drives. By default, the **M.2 PCIe SSD** option is enabled.
Drive Information	
M.2 PCIe SSD	
Type	Displays the M.2 PCIe SSD type information of the system.
Device	Displays the M.2 PCIe SSD device information of the system.

Table 32. System setup options—Display menu

Display	
Display Brightness	
Brightness on battery power	Enable to set screen brightness when the system is running on battery power.
Brightness on AC power	Enable to set screen brightness when the system is running on AC power.

Table 33. System setup options—Power menu

Power	
Lid Switch	
Enabled Lid Switch	Enable or disable the lid switch. By default, the **Enable Lid Switch** option is enabled.
Power On Lid Open	When enabled, allows the system to power up from the off state whenever the lid is opened. By default, the **Power On Lid Open** option is enabled.

Table 34. System setup options—Security menu

Security	
Legacy Manageability Interface Access	Displays the access options for the Legacy Manageability Interface. By default, the **Enabled** option is selected.

Table 35. System setup options—Passwords menu

Passwords	
Admin Password	Set, change, or delete the administrator password.
NVMe SSD0	Set, change, or delete the NVMe SSD0 password.

Table 36. System setup options—Update, Recovery menu

Update, Recovery	
SupportAssist OS Recovery	Enable or disable the boot flow for SupportAssist OS Recovery tool in the event of certain system errors. By default, the option is enabled.

Table 36. System setup options—Update, Recovery menu (continued)

Update, Recovery	
BIOSConnect	Enable or disable cloud Service operating system recovery if the main operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto operating system Recovery Threshold setup option and local Service operating system does not boot or is not installed. By default, the option is enabled.
Dell Auto operating system Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery Tool. By default, the threshold value is set to 2.

Table 37. System setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the system.
Asset Tag	Create a system Asset Tag.
Diagnostics	Enables or disables Dell OS agents of scheduling onboard diagnostics. By default, the option is disabled.

Table 38. System setup options—Pre-boot Behavior menu

Pre-boot Behavior	
Adapter Warnings	
Enable Adapter Warnings	Enable or disable the warning messages during boot when the adapters with less power capacity are detected. By default, the option is enabled.
Warning and Errors	Enable or disable the action to be done when a warning or error is encountered. By default, the **Prompt on Warnings and Errors** option is enabled.
USB-C Warnings	
Enable Dock Warning Messages	By default, the option is enabled.

Table 39. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear Bios Event Log	Displays BIOS events. By default, the **Keep Log** option is enabled.
Thermal Event Log	
Clear Thermal Event Log	Displays Thermal events. By default, the **Keep Log** option is enabled.
Power Event Log	
Clear Power Event Log	Displays power events. By default, the **Keep Log** option is enabled.

System setup options (Intel i5-13420H/i7-13620H)

NOTE: This section is applicable only for systems shipped with the 13th Generation Intel Core i5-13420H/i7-13620H processors.

NOTE: Depending on your system and its installed devices, the items that are listed in this section may or may not appear.

Table 40. System setup options—System information menu

Overview	
Inspiron 16 Plus 7630	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the system.
Asset Tag	Displays the Asset Tag of the system.
Manufacture Date	Displays the manufacture date of the system.
Ownership Date	Displays the ownership date of the system.
Express Service Code	Displays the express service code of the system.
Ownership Tag	Displays the Ownership Tag of the system.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your system.
Battery Information	
Primary	Displays that battery is primary.
Battery Level	Displays the battery level of the system.
Battery State	Displays the battery state of the system.
Health	Displays the battery health of the system.
AC Adapter	Displays whether the AC adapter is connected or not.
Processor Information	
Processor Type	Displays the processor type.
Maximum Clock Speed	Displays the maximum processor clock speed.
Minimum Clock Speed	Displays the minimum processor clock speed.
Current Clock Speed	Displays the current processor clock speed.
Core Count	Displays the number of cores on the processor.
Processor ID	Displays the processor identification code.
Processor L2 Cache	Displays the processor L2 Cache size.
Processor L3 Cache	Displays the processor L3 Cache size.
Microcode Version	Displays the microcode version.
Intel Hyper-Threading Capable	Displays whether the processor is Hyper-Threading (HT) capable.
64-Bit Technology	Displays whether 64-bit technology is used.
Memory Information	
Memory Installed	Displays the total system memory installed.
Memory Available	Displays the total system memory available.
Memory Speed	Displays the memory speed.
Memory Channel Mode	Displays single or dual channel mode.
Memory Technology	Displays the technology that is used for the memory.

Table 40. System setup options—System information menu (continued)

Overview	
Devices Information	
Panel Type	Displays the Panel Type of the system.
Video Controller	Displays the video controller type of the system.
Video Memory	Displays the video memory information of the system.
Wi-Fi Device	Displays the wireless device information of the system.
Native Resolution	Displays the native resolution of the system.
Video BIOS Version	Displays the video BIOS version of the system.
Audio Controller	Displays the audio controller information of the system.
Bluetooth Device	Displays the Bluetooth device information of the system.

Table 41. System setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot mode: UEFI only	Displays the boot mode.
Boot Sequence	Displays the boot sequence. By default, Windows Boot Manager is selected By default, M.2 solid-state drive is selected By default, UEFI HTTPs Boot is selected
Secure Boot	
Enable Secure Boot	Enable or disable the secure boot feature. By default, the option is enabled.
Enable Microsoft UEFI CA	Enable or disable the Microsoft UEFI CA feature By default, the option is enabled.
Secure Boot Mode	Enable or disable to change the secure boot mode options. By default, the **Deployed Mode** is enabled.

Table 42. System setup options—Integrated Devices menu

Integrated Devices	
Date/Time	Displays the current date in MM/DD/YYYY format and current time in HH:MM:SS AM/PM format.
Camera	Enables or disable the camera. By default, the **Enable Camera** option is selected
Audio	
Enable Audio	Enable or disable the integrated audio controller. By default, all the options are enabled.

Table 43. System setup options—Storage menu

Storage	
Storage interface	
Port Enablement	This page allows you to enable the onboard drives. By default, the **M.2 PCIe SSD** option is enabled.

Table 43. System setup options—Storage menu (continued)

Storage	
Drive Information	
M.2 PCIe SSD	
Type	Displays the M.2 PCIe SSD type information of the system.
Device	Displays the M.2 PCIe SSD device information of the system.

Table 44. System setup options—Display menu

Display	
Display Brightness	
Brightness on battery power	Set screen brightness when the system is running on battery power. By default, the option is enabled and is set at **50**
Brightness on AC power	Set screen brightness when the system is running on AC power. By default, the option is enabled and is set at **100**

Table 45. System setup options—Power menu

Power	
Lid Switch	
Power On Lid Open	When enabled, allows the system to power up from the off state whenever the lid is opened. By default, the **Power On Lid Open** option is enabled.

Table 46. System setup options—Passwords menu

Passwords	
Admin Password	Set, change, or delete the administrator password.
M.2 PCIe SSD-0	Set, change, or delete the M.2 PCIe SSD password.

Table 47. System setup options—Update, Recovery menu

Update, Recovery	
SupportAssist OS Recovery	Enable or disable the boot flow for SupportAssist OS Recovery tool in the event of certain system errors. By default, the option is enabled.
BIOSConnect	Enable or disable cloud Service operating system recovery if the main operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto operating system Recovery Threshold setup option and local Service operating system does not boot or is not installed. By default, the option is enabled.
Dell Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery Tool. By default, the threshold value is set at 2.

Table 48. System setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the system.
Asset Tag	Create a system Asset Tag.

Table 48. System setup options—System Management menu (continued)

System Management	
Diagnostics	Enables or disables Dell OS agents of scheduling onboard diagnostics. By default, the option is enabled.

Table 49. System setup options—Pre-boot Behavior menu

Pre-boot Behavior	
Adapter Warnings	
Enable Adapter Warnings	Enable or disable the warning messages during boot when the adapters with less power capacity are detected. By default, the option is enabled.
Warning and Errors	Enable or disable the action to be done when a warning or error is encountered. By default, the **Prompt on Warnings and Errors** option is enabled.
USB-C Warnings	
Enable Dock Warning Messages	By default, the option is enabled.

Table 50. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear Bios Event Log	Displays BIOS events. By default, the **Keep Log** option is enabled.
Thermal Event Log	
Clear Thermal Event Log	Displays Thermal events. By default, the **Keep Log** option is enabled.
Power Event Log	
Clear Power Event Log	Displays power events. By default, the **Keep Log** option is enabled.

Updating the BIOS

Updating the BIOS in Windows

Steps

1. Go to Dell Support Site.
2. Click **Product support**. In the **Search support** box, enter the Service Tag of your computer, and then click **Search**.

   NOTE: If you do not have the Service Tag, use the SupportAssist feature to automatically identify your computer. You can also use the product ID or manually browse for your computer model.

3. Click **Drivers & Downloads**. Expand **Find drivers**.
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, browse the folder where you saved the BIOS update file.
8. Double-click the BIOS update file icon and follow the on-screen instructions.

For more information about how to update the system BIOS, search in the Knowledge Base Resource at Dell Support Site.

Updating the BIOS using the USB drive in Windows

Steps

1. Follow the procedure from step 1 to step 6 in Updating the BIOS in Windows to download the latest BIOS setup program file.
2. Create a bootable USB drive. For more information, search the Knowledge Base Resource at Dell Support Site.
3. Copy the BIOS setup program file to the bootable USB drive.
4. Connect the bootable USB drive to the computer that needs the BIOS update.
5. Restart the computer and press **F12** .
6. Select the USB drive from the **One Time Boot Menu**.
7. Type the BIOS setup program filename and press **Enter**.
   The **BIOS Update Utility** appears.
8. Follow the on-screen instructions to complete the BIOS update.

Updating the BIOS from the F12 One Time Boot menu

Update your computer BIOS using the BIOS update.exe file that is copied to a FAT32 USB drive and booting from the F12 **One Time Boot** menu.

About this task

BIOS Update

You can run the BIOS update file from Windows using a bootable USB drive or you can also update the BIOS from the F12 **One Time Boot** menu on the computer.

Most of the Dell computers built after 2012 have this capability, and you can confirm by booting your computer to the F12 **One Time Boot** Menu to see if BIOS FLASH UPDATE is listed as a boot option for your computer. If the option is listed, then the BIOS supports this BIOS update option.

NOTE: Only computers with the BIOS Flash Update option in the F12 **One Time Boot** menu can use this function.

Updating from the One Time Boot menu

To update your BIOS from the F12 **One Time Boot** menu, you need the following:

- USB drive formatted to the FAT32 file system (key does not have to be bootable)
- BIOS executable file that you downloaded from the Dell Support website and copied to the root of the USB drive
- AC power adapter that is connected to the computer
- Functional computer battery to flash the BIOS

Perform the following steps to perform the BIOS update flash process from the F12 menu:

CAUTION: Do not turn off the computer during the BIOS update process. The computer may not boot if you turn off your computer.

Steps

1. From a turn off state, insert the USB drive where you copied the flash into a USB port of the computer.
2. Turn on the computer and press F12 to access the **One Time Boot** Menu, select BIOS Update using the mouse or arrow keys then press Enter.
   The flash BIOS menu is displayed.
3. Click **Flash from file**.
4. Select an external USB device.
5. Select the file and double-click the flash target file, and then click **Submit**.
6. Click **Update BIOS**. The computer restarts to flash the BIOS.
7. The computer will restart after the BIOS update is completed.

System and setup password

Table 51. System and setup password

Password type	Description
System password	Password that you must enter to log in to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

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

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

CAUTION: Anyone can access the data that is stored on your computer, when not locked and left unattended.

NOTE: System and setup password feature is disabled.

Assigning a System Setup password

Prerequisites

You can assign a new System or Admin Password only when the status is in **Not Set**.

About this task

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 visible.
2. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - At least one special character: "(! " # $ % & ' * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | })"
   - Numbers 0 to 9.
   - Upper case letters from A to Z.
   - Lower case letters from a to z.
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press Esc and save the changes as prompted by the message.
5. Press Y to save the changes.
   The computer restarts.

Deleting or changing an existing system setup password

Prerequisites

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.

About this task

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 and/or Setup password, reenter the new password when prompted. If you delete the System 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 BIOS (System Setup) and System passwords

About this task

To clear the computer or BIOS passwords, contact Dell technical support as described at Contact Support at Dell Support Site.

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 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 should be replaced and disposed of properly. We recommend contacting Dell product 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 system. To discharge the battery, unplug the AC adapter from the system and operate the system only on battery power. When the system will no longer turn on when the power button is pressed, the battery is fully discharged.
- 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 product 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.

Locate the Service Tag or Express Service Code of your Dell computer

Your Dell computer is uniquely identified with a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, we recommend entering 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 Instructions on how to find your Service Tag or Serial Number.

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 with 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 introduce additional test options to provide extra information about one or more failed devices.
- View status messages that inform you 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 terminal when the diagnostic tests are performed.

For more information, see the knowledge base article 000180971.

Running the SupportAssist Pre-Boot System Performance Check

Steps

1. Turn on your computer.
2. As the computer boots, press the F12 key as the Dell logo appears.
3. On the boot menu screen, select the **Diagnostics** option.
4. Click the arrow at the bottom left corner.
   Diagnostics front page is displayed.
5. Click the arrow in the lower-right corner to go to the page listing.
   The items that are detected are listed.
6. To run a diagnostic test on a specific device, press Esc and click **Yes** to stop the diagnostic test.
7. Select the device from the left pane and click **Run Tests**.
8. If there are any issues, error codes are displayed.
   Note the error code and validation number and contact Dell.

Built-in self-test (BIST)

M-BIST

M-BIST (Built In Self-Test) is the system board built-in 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: M-BIST must be initiated on the computer from a power-off state that is either connected to AC power or with a battery only.

1. Press and hold both the **M** key on the keyboard and the **power button** to initiate M-BIST.
2. The battery indicator LED may exhibit two states:
   a. OFF: No fault was detected with the system board.
   b. AMBER: Amber indicates a problem with the system board.

3. If there is a failure with the system board, the battery status LED flashes one of the following error codes for 30 seconds:

Table 52. 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 section for 30 seconds and then turn off.

LCD Power rail 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 Test:

1. Press the power button to start the 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 (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 and so on, it is always a good practice to isolate the LCD (screen) by running the Built-In Self-Test (BIST).

How to invoke the LCD BIST Test

1. Power off the Dell laptop.
2. Disconnect any peripherals that are connected to the laptop. Connect only the AC adapter (charger) to the laptop.
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 **Power on** the laptop to enter LCD built-in self-test (BIST) mode. Continue to hold the D key until the computer boots up.
5. The screen displays solid colors and change 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 Inspiron 16 Plus 7630.

Table 53. System-diagnostic lights

Blinking pattern		Problem description
Amber	**White**	
1	1	TPM detection failure
1	2	Unrecoverable SPI flash failure
1	3	Short in hinge cable tripped OCP1
1	4	Short in hinge cable tripped OCP2
1	5	EC unable to program i-Fuse
1	6	EC internal failure
1	7	Non-RPMC Flash on boot guard fused system
2	1	Processor failure
2	2	System board: BIOS or ROM (Read-Only Memory) failure
2	3	No memory or RAM (Random-Access Memory) detected
2	4	Memory or RAM (Random-Access Memory) failure
2	5	Invalid memory module installed
2	6	System-board or chipset error
2	7	Display failure - SBIOS message
2	8	Display failure - EC detection of power rail failure
3	1	CMOS battery failure
3	2	PCI of video card/chip failure
3	3	BIOS recovery image not found
3	4	BIOS recovery image found but invalid
3	5	Power-rail failure
3	6	System BIOS Flash corruption.
3	7	Management Engine (ME) error
4	1	Memory DIMM power rail failure
4	2	Issue with the Processor's power cable connection

NOTE: Blinking pattern 3-3-3 on Lock LED (Caps-Lock or Num-Lock), Power button LED (without Fingerprint reader), and Diagnostic LED indicates failure to provide input during LCD panel test on the "Dell SupportAssist Pre-boot System Performance Check" diagnostics.

Camera status light: Indicates whether the camera is in use.

- Solid white—Camera is in use.
- Off—Camera is not in use.

Caps Lock status light: Indicates whether Caps Lock is enabled or disabled.

- Solid white—Caps Lock enabled.
- Off—Caps Lock disabled.

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 in all Dell computers that are installed with 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, or 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 their 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**.

Real-Time Clock (RTC Reset)

The Real Time Clock (RTC) reset function allows you or the service technician to recover Dell computers from No POST/No Power/No Boot situations. The legacy jumper enabled RTC reset has been retired on these models.

Start the RTC reset with the computer powered off and connected to AC power. Press and hold the power button for

thirty (30) 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 proposes multiple options for recovering the Windows operating system on your Dell computer. For more information, see Dell Windows Backup Media and Recovery Options.

Wi-Fi power cycle

About this task

If your computer is unable to access the Internet due to Wi-Fi connectivity issues a Wi-Fi power cycle procedure may be performed. The following procedure provides the instructions on how to conduct a Wi-Fi power cycle:

NOTE: Some Internet Service Providers (ISPs) provide a modem or router combo device.

Steps

1. Turn off your computer.
2. Turn off the modem.
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 your computer.

Drain residual 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 are requested to drain residual flea power before removing or replacing any components in your computer.

Draining residual 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 residual flea power:

Steps

1. Turn off your computer.
2. Disconnect the power adapter from your computer.
3. Remove the base cover.
4. Remove the battery.

   CAUTION: The battery is a Field Replaceable Unit (FRU) and the removal/installation is 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 your computer.
9. Turn on your computer.

   NOTE: For more information about performing a hard reset, search in the Knowledge Base Resource at Dell Support Site.

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Getting help and contacting Dell Technologies

Self-help resources

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

Table 54. Self-help resources

Self-help resources	Resource location
Information about Dell Technologies products and services	Dell Site
My Dell app	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	Windows Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell Technologies computer is uniquely identified using a Service Tag or Express Service Code. To view relevant support resources for your Dell Technologies 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 Instructions on how to find your Service Tag or Serial Number.
Dell Technologies 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 Technologies

To contact Dell Technologies for sales, technical support, or customer service issues, see Contact Support at 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 about your purchase invoice, packing slip, bill, or Dell Technologies product catalog.