Inspiron 14 7440 2-in-1

Owner's Manual

Regulatory Model: P186G
Regulatory Type: P186G001
June 2024
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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 14 7440 2-in-1

Right

Figure 1. Right view

1. **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)

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.

Left

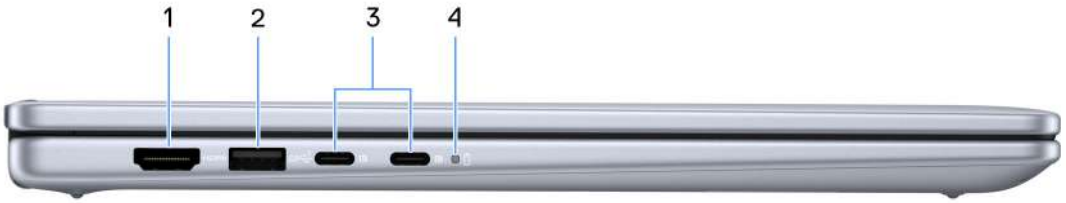

Figure 2. Left view

1. **HDMI 1.4 port**

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

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. - **USB-C 3.2 Gen 2 port with DisplayPort and Power Delivery (primary power)**

     Supports DisplayPort 1.4 and also enables you to connect to an external display using a display adapter.

     NOTE: Connect your USB Type-C power adapter to this port to charge your computer.

- **USB-C 3.2 Gen 2 port with DisplayPort and Power Delivery**

  Supports DisplayPort 1.4 and also enables you to connect to an external display using a display adapter.

  NOTE: Connect your USB Type-C power adapter to this port to charge your computer.

4. **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

Figure 3. Image: Top view

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

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

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

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

   NOTE: You can customize the power-button behavior in Windows.

2. **Touchpad**

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

Front

Figure 4. Image: Front view

1. **Left microphone**

   Provides digital sound input for audio recording and voice calls.

2. **Camera**

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

3. **Camera shutter**

   Slide the privacy shutter to the left to access the camera lens.

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**

   Displays the data, videos, and photos.

Bottom

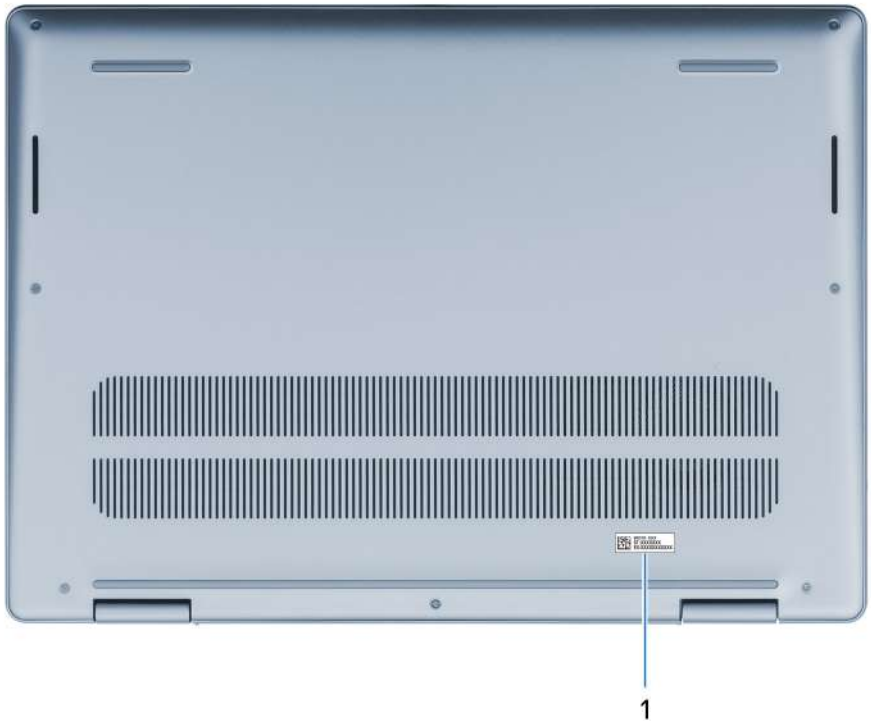

Figure 5. Image: Bottom view

1. **Service Tag label**

   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.

Service Tag

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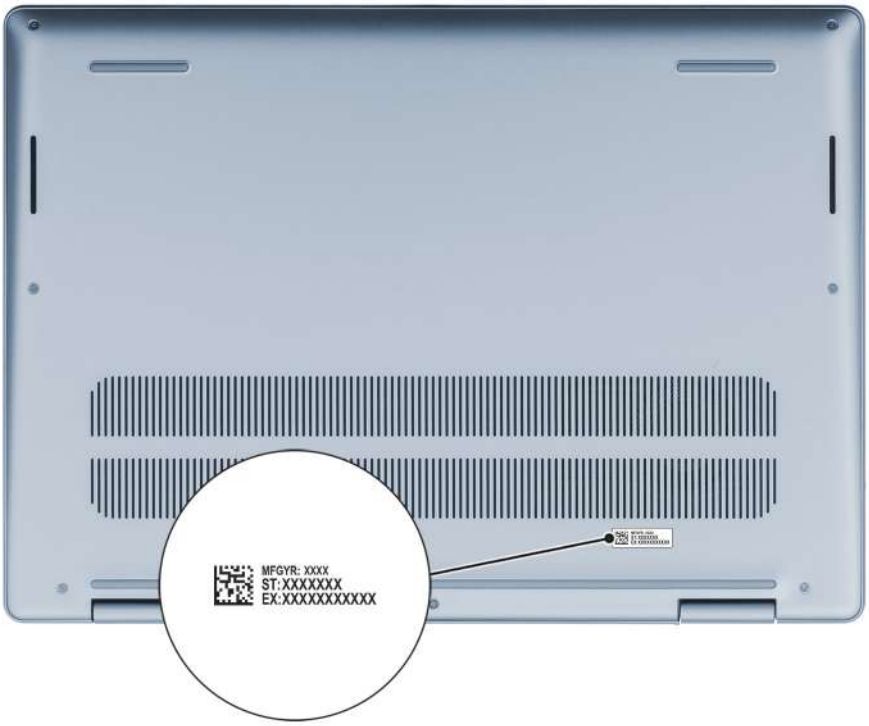

Figure 6. Image: Service Tag location

Modes

The following modes are applicable for your 2-in-1 computers.

Notebook

Figure 7. Image: Notebook mode

Tablet

Figure 8. Image: Tablet mode

Stand

Figure 9. Image: Stand mode

Tent

Figure 10. Image: Tent mode

Battery charge and status light

The following table lists the battery charge and status light behavior of your Inspiron 14 7440 2-in-1.

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) - Computer is turned on.
- S4 (Hibernate) - The computer consumes the least power compared to all other sleep states. The computer is almost at an OFF state. The context data is written to a storage device so that you can resume everything from where you left, once the computer is turned on.
- S5 (OFF) - The computer is in a shutdown state.

2

Set up your Inspiron 14 7440 2-in-1

About this task

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

Steps

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

Figure 11. Connect the power adapter and press the power button

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

2. Finish the operating system setup.

   For Ubuntu:

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

   For Windows:

   Follow the on-screen instructions to complete the setup. When setting up, Dell Technologies 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 in Windows in S-mode

Resources	Description
	**Dell Product Registration** Register your computer with Dell.
	**Dell Help & Support** Access help and support for your computer.
	**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 SupportAssist for Home PCs. **NOTE:** In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.

Table 3. Locate Dell apps in Windows

Resources	Description
	**My Dell** MyDell is a software application that offers you a single streamlined engagement platform including account access, device information, and hardware settings. This software delivers intelligent features that automatically fine-tune your computer for the best possible audio, power, and performance. Get the most out of your Dell device with intelligent, personalized technology from MyDell. Following are the key features of MyDell: • Application • Audio • Power • Color and Display • Presence detection For more information about how to use MyDell, see product guides at Dell Support Site.
	**Dell Update** Updates your computer with critical fixes and latest device drivers as they become available. For more information about using Dell Update, see the product guides and third-party license documents at Dell Support Site.
	**Dell Digital Delivery** Download software applications, which are purchased but not preinstalled on your computer. For more information about using Dell Digital Delivery, search in the Knowledge Base Resource at Dell Support Site.
	**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 SupportAssist for Home PCs.

Table 3. Locate Dell apps in Windows

Resources	Description
	NOTE: In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.

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Specifications of Inspiron 14 7440 2-in-1

Dimensions and weight

The following table lists the height, width, depth, and weight of your Inspiron 14 7440 2-in-1.

Table 4. Dimensions and weight

Description	Values
Height	
Front height	15.86 mm (0.62 in.)
Rear height	17.31 mm (0.68 in.)
Maximum height	18.90 mm (0.74 in.)
Width	314 mm (12.36 in.)
Depth	226.15 mm (8.90 in.)
Weight **NOTE:** The weight of your computer depends on the configuration that is ordered and manufacturing variability.	• Minimum: 1.71 kg (3.77 lb) • Maximum: 1.74 kg (3.84 lb)

Processor

The following table lists the details of the processors that are supported in your Inspiron 14 7440 2-in-1.

Table 5. Processor

Description	Option one	Option two	Option three	Option four
Processor type	Intel Core i3-100U	Intel Core i5-120U	Intel Core i7-150U	13th Gen Intel Core i5-1334U
Processor wattage	15 W	15 W	15 W	15 W
Processor core count	6	10	10	10
Processor thread count	12	12	12	12
Processor speed	Up to 4.7 GHz	Up to 5.0 GHz	Up to 5.4 GHz	Up to 4.6 GHz
Processor cache	10 MB	12 MB	12 MB	12 MB
Integrated graphics	Intel Graphics	Intel Graphics	Intel Graphics	Intel Graphics

Chipset

The following table lists the details of the chipset that is supported in your Inspiron 14 7440 2-in-1.

Table 6. Chipset

Description	Values
Chipset	Integrated in the processor
Processor	14th Generation Intel Core i3/i5/i7
DRAM bus width	64-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen 3

Operating system

Your Inspiron 14 7440 2-in-1 supports the following operating systems:

- Windows 11 Home
- Windows 11 Home in S-mode
- Windows 11 Pro
- Windows 11 Pro National Academic

Memory

The following table lists the memory specifications that are supported by your Inspiron 14 7440 2-in-1.

Table 7. Memory specifications

Description	Values
Memory slots	Two-SODIMM slots
Memory type	DDR5
Memory speed	5200 MT/s
Maximum memory configuration	16 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB
Memory configurations supported	• 8 GB: 1 x 8 GB, DDR5, 5200 MT/s, single-channel • 16 GB: 2 x 8 GB, DDR5, 5200 MT/s, dual-channel

External ports and slots

The following table lists the external ports on your Inspiron 14 7440 2-in-1.

Table 8. External ports and slots

Description	Values
USB ports	• Two USB 3.2 Gen 1 (5 Gbps) ports • One USB Type-C 3.2 Gen 2 (10 Gbps) with Power Delivery and DisplayPort 1.4 port (primary power) • One USB Type-C 3.2 Gen 2 (10 Gbps) with Power Delivery and • • Port 1.4 port
Audio port	One Universal audio jack
Video port(s)	One HDMI 1.4 port
Media-card reader	One SD-card slot
Power-adapter port	One USB Type-C 3.2 Gen 2 (10 Gbps) with Power Delivery and DisplayPort 1.4 port (primary power)
Security-cable slot	Not supported
SIM-card slot	nano-SIM slot

Internal slots

The following table lists the internal slots of your Inspiron 14 7440 2-in-1.

Table 9. Internal slots

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

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules that are supported on your Inspiron 14 7440 2-in-1.

Table 10. Wireless module specifications

Description	Option one	Option two
Model number	Realtek RTL8852BE	Intel AX211
Transfer rate	Up to 1200 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz/6 GHz

Table 10. Wireless module specifications (continued)

Description	Option one	Option two
Wireless standards	• Wi-Fi 802.11 a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6 (WiFi 802.11ax)	• Wi-Fi 802.11 a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6 / Wi-Fi 6E (802.11ax)
Encryption	• WPA • WPA2 • WPA3	• WPA • WPA2 • WPA3
Bluetooth wireless card	Bluetooth 5.3	Bluetooth 5.3
	NOTE: The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer.	

Audio

The following table lists the audio specifications of your Inspiron 14 7440 2-in-1.

Table 11. Audio specifications

Description		Values
Audio controller		Realtek ALC3254
Stereo conversion		Supported
Internal audio interface		High definition audio
External audio interface		One Universal audio jack
Number of speakers		Two
Internal-speaker amplifier		Supported (Audio codec integrated)
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	2 W x 2 = 4 W
	Peak speaker output	2.5 W x 2 = 5 W
Subwoofer output		Not supported
Microphone		Dual-array microphones in camera assembly

Storage

This section lists the storage options on your Inspiron 14 7440 2-in-1.

Your Inspiron 14 7440 2-in-1 supports the following storage configuration:

- One M.2 2230 solid-state drive

The primary drive of your, Inspiron 14 7440 2-in-1 varies with the storage configuration. For computers with a M.2 drive, the M.2 drive is the primary drive

Table 12. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 solid-state drive	PCIe Gen 4 x4 NVMe	Up to 1 TB

Media-card reader

The following table lists the media cards that are supported in your Inspiron 14 7440 2-in-1.

Table 13. Media-card reader specifications

Description	Values
Media-card type	One SD-card slot
Media-cards supported	• Secure Digital (SD) • Secure Digital High Capacity (SDHC) • Secure Digital Extended Capacity (SDXC)
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

The following table lists the keyboard specifications of your Inspiron 14 7440 2-in-1.

Table 14. Keyboard specifications

Description	Values
Keyboard type	• AI hotkey backlit keyboard without fingerprint reader • AI hotkey backlit keyboard with fingerprint reader
Keyboard layout	QWERTY
Number of keys	• United States and Canada: 79 keys • United Kingdom: 80 keys • Japan: 83 keys • Brazil and Quebec: 81 keys
Keyboard size	X=19.05 mm key pitch Y=18.05 mm key pitch
Keyboard shortcuts	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in BIOS setup program. **NOTE:** If Copilot in Windows is not available on your computer, the Copilot key launches Windows Search. For more information about Copilot in Windows, search in the Knowledge Base Resource at the Dell Support site.

Keyboard shortcuts of Inspiron 14 7440 2-in-1

NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys that are 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 that is 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 that is 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 multimedia 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, multimedia functionality can be disabled by pressing **fn** + **esc**. Subsequently, multimedia 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 15. List of keyboard shortcuts

Function key	Primary behavior
F1	Mute audio
F2	Decrease volume
F3	Increase volume
F4	Play/Pause
F5	Toggle keyboard backlight (optional). **NOTE:** Non-backlight keyboards have the F5 function key without the backlight icon and do not support the toggle keyboard backlight function. **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 16. Secondary behavior

Function key	Secondary behavior
fn + Esc	Toggle fn-key lock
fn + S	Toggle scroll lock
fn + B	Pause/Break
fn + R	System request
fn + P	Privacy screen
fn + Space bar	Open the emoji menu

Table 16. Secondary behavior (continued)

Function key	Secondary behavior
fn + T	Toggle ultra performance mode
fn + Left arrow	Home
fn + Right arrow	End
fn + Up arrow	Page up
fn + Down arrow	Page down
fn + Power button	Boot directly to e-Diags Diagnostics
fn + Copilot	Open the application menu
fn + En/Ko (Korean)	Hanja

Camera

The following table lists the camera specifications of your Inspiron 14 7440 2-in-1.

Table 17. Camera specifications

Description		Values
Number of cameras		One
Camera type		FHD+ RGB
Camera location		Front
Camera sensor type		CMOS sensor technology
Camera resolution:		
	Still image	2.07 megapixel
	Video	1920 x 1080 (FHD) at 30 fps
Diagonal viewing angle:		82 degrees

Touchpad

The following table lists the touchpad specifications of your Inspiron 14 7440 2-in-1.

Table 18. Touchpad specifications

Description		Values
Touchpad resolution:		>300 dpi
Touchpad dimensions:		
	Horizontal	115 mm (4.52 in.)
	Vertical	80 mm (3.14 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 14 7440 2-in-1.

Table 19. Power adapter specifications

Description		Values
Type		65 W USB Type-C adapter
Power-adapter dimensions:		
	Height	28 mm (1.10 in.)
	Width	51 mm (2.00 in.)
	Depth	112 mm (4.40 in.)
Input voltage		120 VAC–240 VAC
Input frequency		50 Hz-60 Hz
Input current (maximum)		1.70 A
Output current (continuous)		• 3 A • 3.25 A
Rated output voltage		• 20 V/3.25 A (continuous) • 15 V/3 A (continuous) • 9 V/3 A (continuous) • 5 V/3 A (continuous)
Temperature range:		
	Operating	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)

CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.

Battery

The following table lists the battery specifications of your Inspiron 14 7440 2-in-1.

Table 20. Battery specifications

Description		Option one	Option two
Battery type		4-cell "smart" lithium-ion, 54 Wh	4-cell "smart" lithium-ion, 64 Wh
Battery voltage		15 VDC	15.20 VDC
Battery weight (maximum)		0.23 kg (0.52lb)	0.26 kg (0.57 lb)
Battery dimensions:			
	Height	5.75mm (0.23in.)	5.75mm (0.23in.)
	Width	271.9mm (10.7in.)	271.9mm (10.7in.)

Table 20. Battery specifications (continued)

Description		Option one	Option two
	Depth	82.0mm (3.23 in.)	82.0mm (3.23 in.)
Temperature range:			
	Operating	• Charge: 0°C to 45°C (32°F to 113°F) • Discharge: 0°C to 70°C (32°F to 158°F)	• Charge: 0°C to 45°C (32°F to 113°F) • Discharge: 0°C to 70°C (32°F to 158°F)
	Storage	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Battery operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate) **NOTE:** Control the charging time, duration, start and end time, and so on, using the Dell Power Manager application. For more information about Dell Power Manager, search in the Knowledge Base Resource at Dell Support Site.		3 hours (when the computer is off)	3 hours (when the computer is off)
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 14 7440 2-in-1.

Table 21. Display specifications

Description		Values
Display type		14", Full High Definition Plus (FHD+), ComfortView
Touch options		Yes
Display-panel technology		In-Plane Switching (IPS) with Wide-viewing Angle (WVA)
Display-panel dimensions (active area):		
	Height	301.59 mm (11.87 in.)
	Width	188.5 mm (7.42 in.)
	Diagonal	355.65 mm (14 in.)
Display-panel native resolution		1920 x 1200
Luminance (typical)		250 nits

Table 21. Display specifications (continued)

Description	Values
Megapixels	2.3
Color gamut	45% NTSC (typical)
Pixels Per Inch (PPI)	162
Contrast ratio (minimum)	600:1
Response time (maximum)	35 ms
Refresh rate	60 Hz
Horizontal view angle	• +/- 85 degrees, typical • +/- 80 degrees, minimum
Vertical view angle	• +/- 85 degrees, typical • +/- 80 degrees, minimum
Pixel pitch	0.157 mm
Power consumption (maximum)	3.20 W
Anti-glare vs glossy finish	Glossy

Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint-reader of your Inspiron 14 7440 2-in-1.

Table 22. Fingerprint reader specifications

Description	Values
Fingerprint-reader sensor technology	Capacitive
Fingerprint-reader sensor resolution	500 ppi
Fingerprint-reader sensor pixel size	108 x 88

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Inspiron 14 7440 2-in-1.

Table 23. GPU—Integrated

Controller	Memory size	Processor
Intel Graphics	Shared system memory	14th Generation Intel Core i3/i5/i7

External display support

The following table lists the external display support for your Inspiron 14 7440 2-in-1.

Table 24. External display support

Graphics card	Supported external displays with laptop display enabled	Supported external displays with laptop display disabled
For example, iGPU only	3	4

Operating and storage environment

This table lists the operating and storage specifications of your Inspiron 14 7440 2-in-1.

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

Table 25. Computer environment

Description	Operating	Storage
Temperature range	0°C to 40°C (32°F to 104°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	Maximum 90% (non-condensing)	Maximum 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	Not applicable
Shock (maximum)	140 G†	Not applicable
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.

4

ComfortView

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

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

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

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

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

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.

5

Working inside your computer

Safety instructions

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

WARNING: Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see Dell Regulatory Compliance Home Page.

WARNING: Disconnect your computer from all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting your computer to an electrical outlet.

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 support 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 connector on the cable is correctly oriented and aligned with the port.

CAUTION: Press and eject any installed card from the media-card reader.

CAUTION: Exercise caution when handling rechargeable Li-ion batteries in laptops. Swollen batteries should not be used and should be replaced and disposed properly.

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 instructions.
3. Disconnect your computer 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.

Service Mode

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

CAUTION: If you are unable to turn on the computer to put it into Service Mode, 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 power adapter is disconnected.

a. Press and hold the B key and the power button on the keyboard for 3 seconds or until the Dell logo appears on the screen.
b. Press any key to continue.
c. If the power adapter is not disconnected, a message prompting you to remove the power adapter appears on the screen. Remove the power adapter and then press any key to continue with the Service Mode process. The Service Mode process 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.

Safety precautions

The safety precautions section 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 from AC power.
- Disconnect all network cables and peripherals from the computer.
- Use an ESD field service kit when working inside any notebook to avoid electrostatic discharge (ESD) damage.
- After removing a 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 equipped with 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. Ensure that the wrist strap is secure and in full contact with your skin. Remove all jewelry such as watches, bracelets, or rings before to grounding yourself and the equipment.

Electrostatic discharge—ESD protection

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

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 module that has

received a static shock and immediately generates a "No POST/No Video" symptom with a beep code that is emitted for missing or non-functional memory.

- **Intermittent** – Intermittent failures represent approximately 80 percent of ESD-related failures. The high rate of intermittent failures means that most of the time when damage occurs, it is not immediately recognizable. The memory module receives a static shock, but the tracing is merely weakened and does not immediately produce outward symptoms that are related to the damage. The weakened trace may take weeks or months to melt, and in the meantime may cause degradation of memory integrity, intermittent memory errors, and so on.

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

Perform the following steps to prevent ESD damage:

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

ESD Field Service kit

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

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

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.

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – 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, anti-static 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 the 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.

NOTE: It is recommended to always use the traditional wired ESD grounding wrist strap and protective anti-static mat when servicing Dell products. In addition, it is critical to keep sensitive parts separate from all insulator parts while servicing the computer, 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, disks, or any other parts that you removed before working on your computer.
4. Connect your computer to their electrical outlets.

   NOTE: To exit service mode, ensure to connect the AC adapter to the power-adapter port on your computer.

5. Press the power button to turn on the computer. Your computer will automatically return to normal functioning mode.

BitLocker

CAUTION: If BitLocker is not suspended before updating the BIOS, the Bitlocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to progress, and the system displays a prompt for the recovery key on each reboot. If the recovery key is not known, this can result in data loss or an operating system reinstall. For more information, see Knowledge Article: updating the BIOS on Dell 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
- Plastic scribe

Screw list

NOTE: When removing screws from a component, it is recommended to note the screw type and the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.

NOTE: Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.

NOTE: Screw color may vary depending on the configuration ordered.

Table 26. Screw list

Component	Screw type	Quantity	Screw image
Base cover	Captive Screw	3	
	M2x4	4	
System board	M2x2	2	
Display hinges	M2.5x5	5	
Battery	M2x3	5	
Power-button board	M2x3	1	
I/O board	M2x3	1	
Wireless-card bracket	M2x3	1	
Solid-state drive	M2x3	1	
Type-C bracket	M2x4	2	
Fan	M2x4	2	
Touchpad	M2x2.5	1	
	M2x2	4	

Major components of Inspiron 14 7440 2-in-1

The following image shows the major components of Inspiron 14 7440 2-in-1.

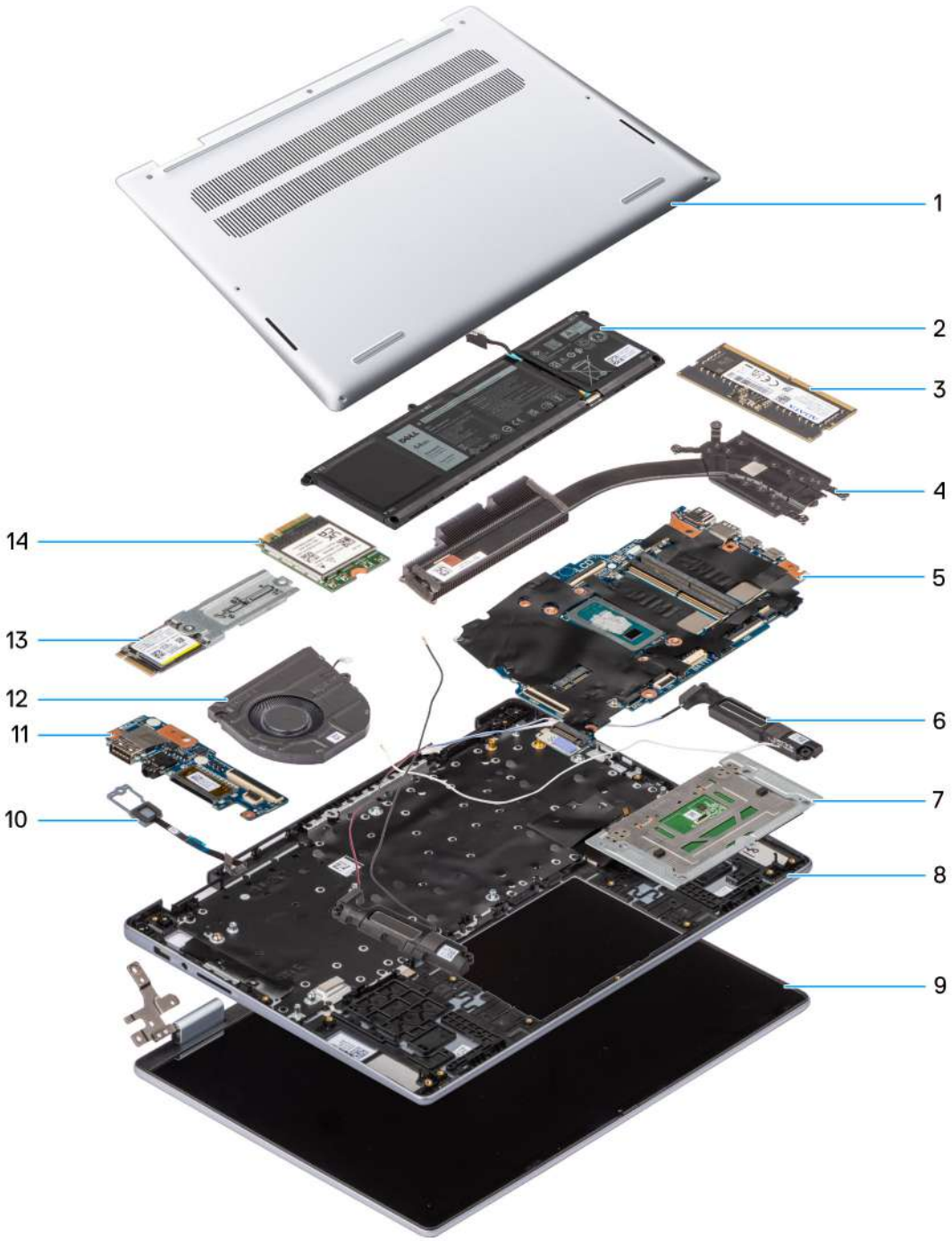

Figure 12. Major components of the system

1. Base cover
2. Battery
3. Memory module
4. Heat sink
5. System board
6. Speaker
7. Touchpad
8. Palm-rest and keyboard assembly
9. Display assembly
10. Power button
11. I/O board

12. System Fan
13. Solid-state drive
14. Wireless card

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

6

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

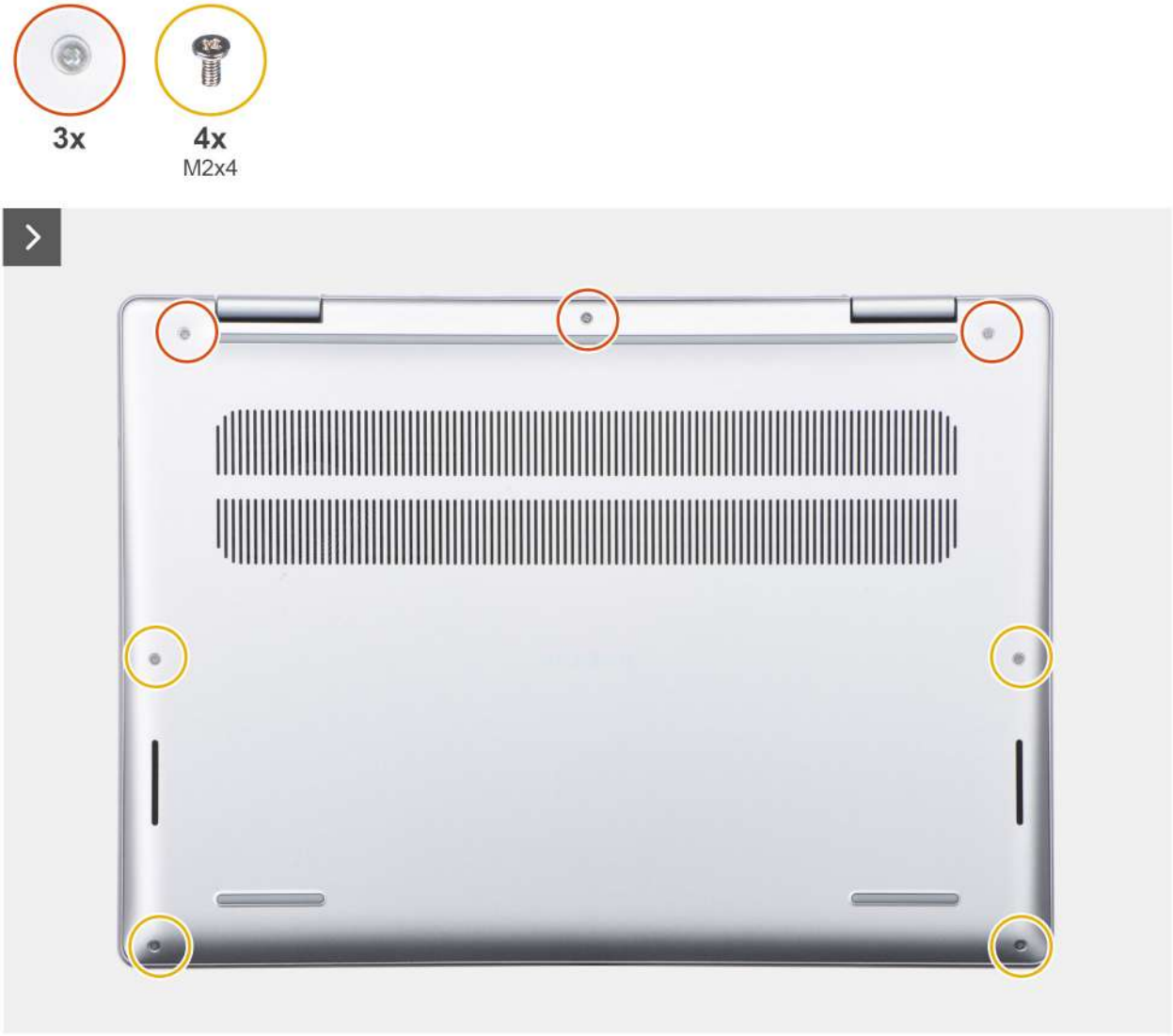

Figure 13. Loosen the screws

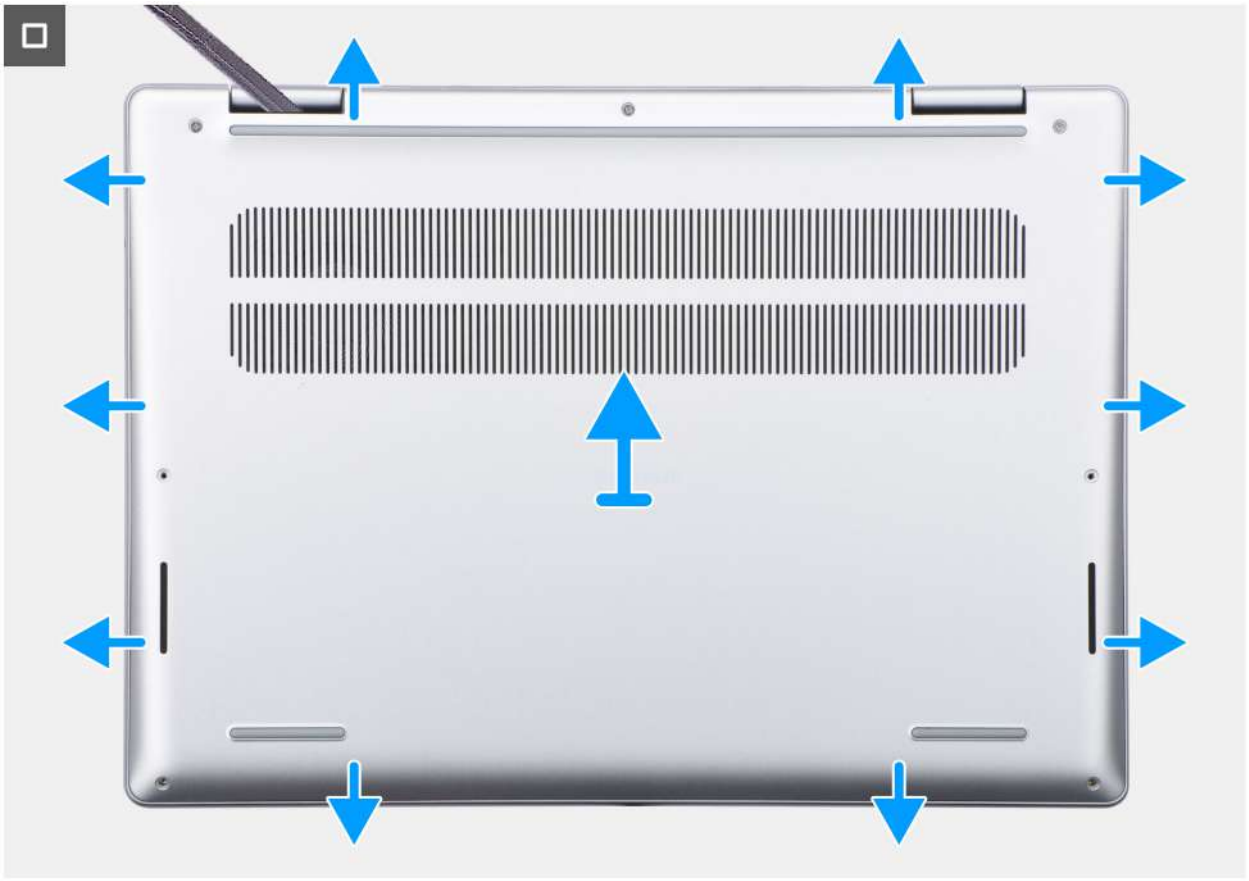

Figure 14. Removing the base cover

Steps

1. Remove the four screws (M2x4) that secure the base cover to the palm-rest and keyboard assembly.
2. Loosen the three captive screws that secure the base cover to the palm-rest and keyboard assembly.

   NOTE: Upon loosening the captive screws, the base cover will open up creating a gap between the base cover and the palm-rest assembly at the hinges.

3. Starting from the top-left corner at the hinge, pry the base cover to release the base cover from the palm-rest and keyboard assembly.
4. Lift the base cover off the palm-rest and keyboard assembly.

Installing the base cover

Prerequisites

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

About this task

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

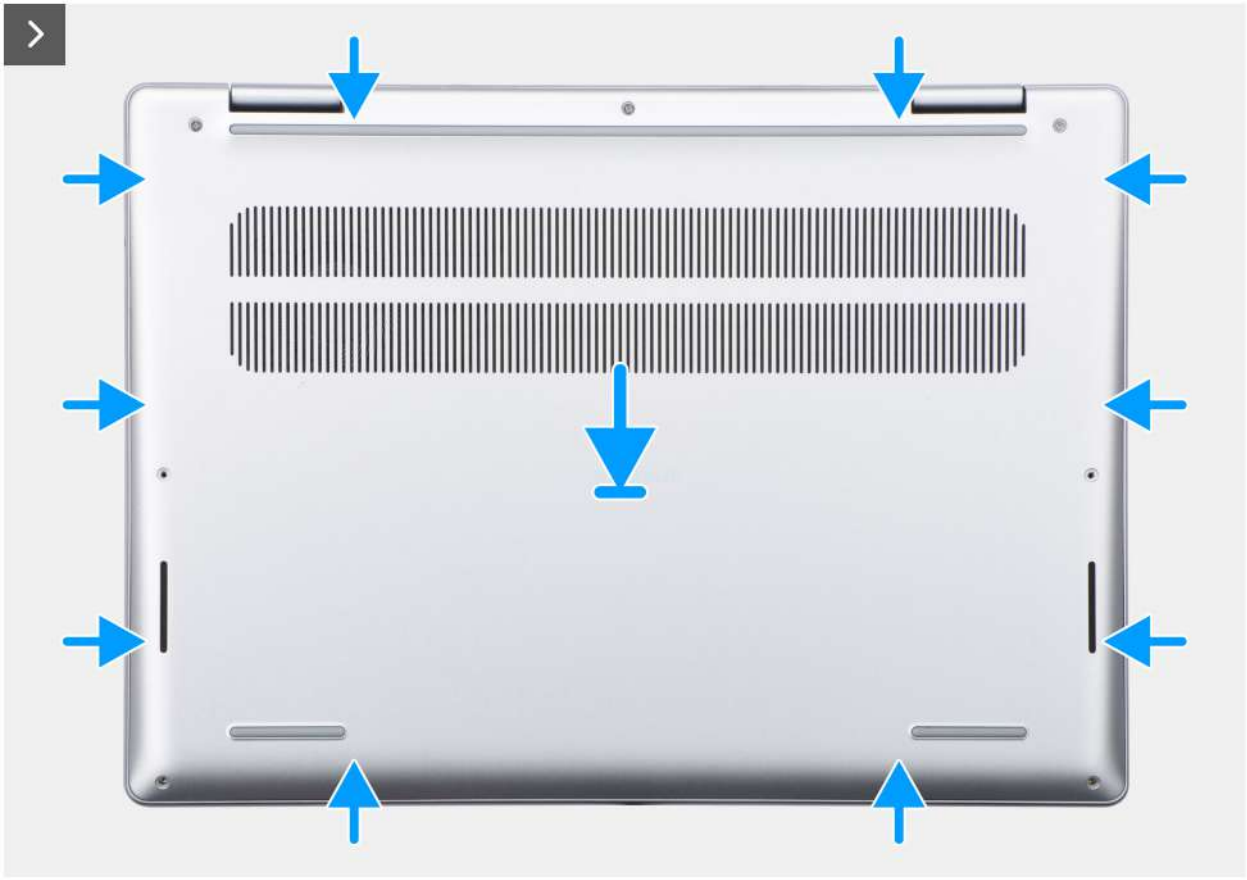

Figure 15. Installing the base cover

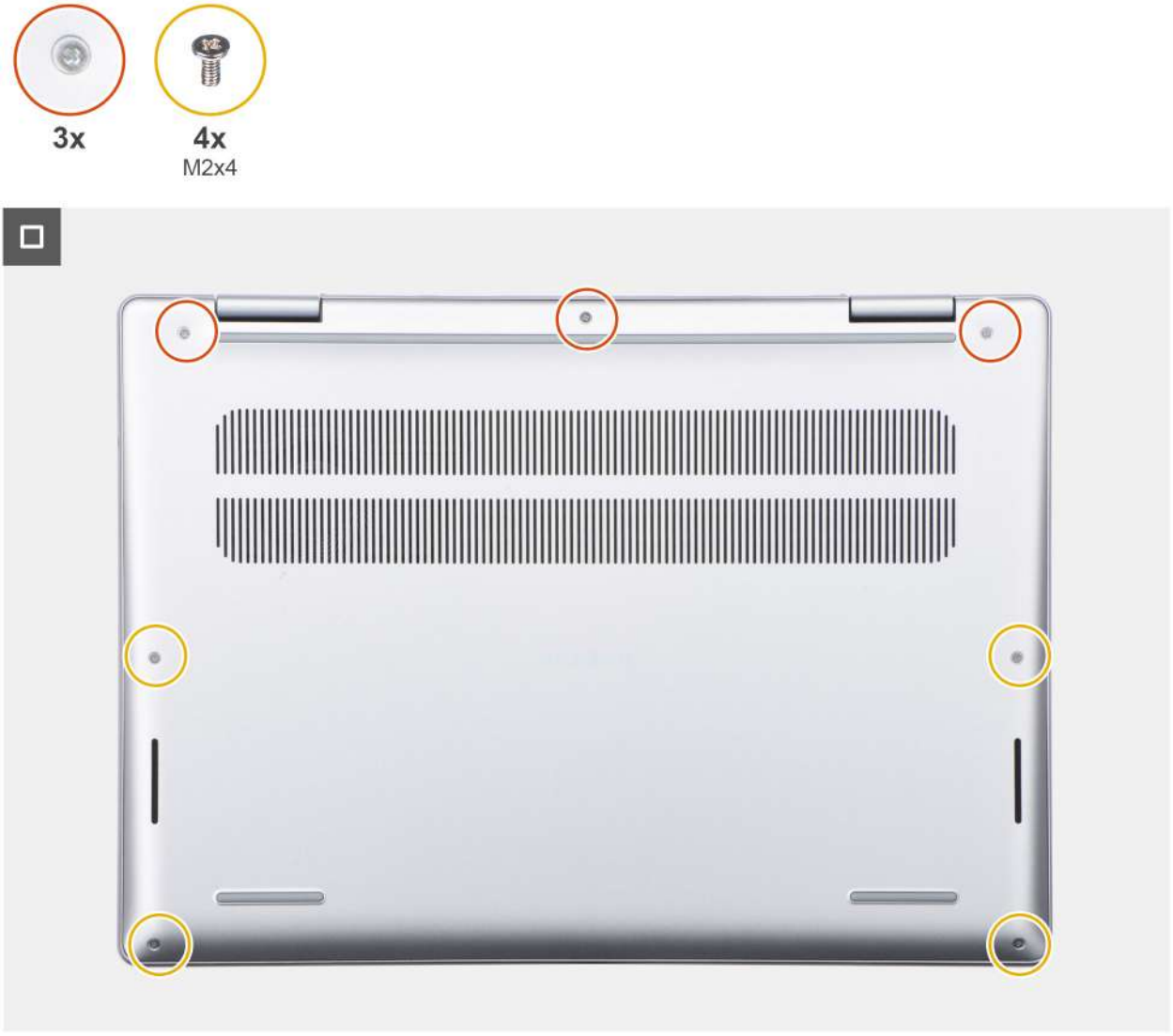

Figure 16. Tighten the screws

Steps

1. Align the screw holes on the base cover with the screw holes on the palm-rest and keyboard assembly, and then snap the base cover into place.
2. Tighten the three captive screws that secure the base cover to the palm-rest and keyboard assembly.
3. Replace the four 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.

Memory module

Removing the memory module

Prerequisites

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

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

2. Remove the base cover.

About this task

The following image indicates the location of the memory module and provides a visual representation of the removal procedure.

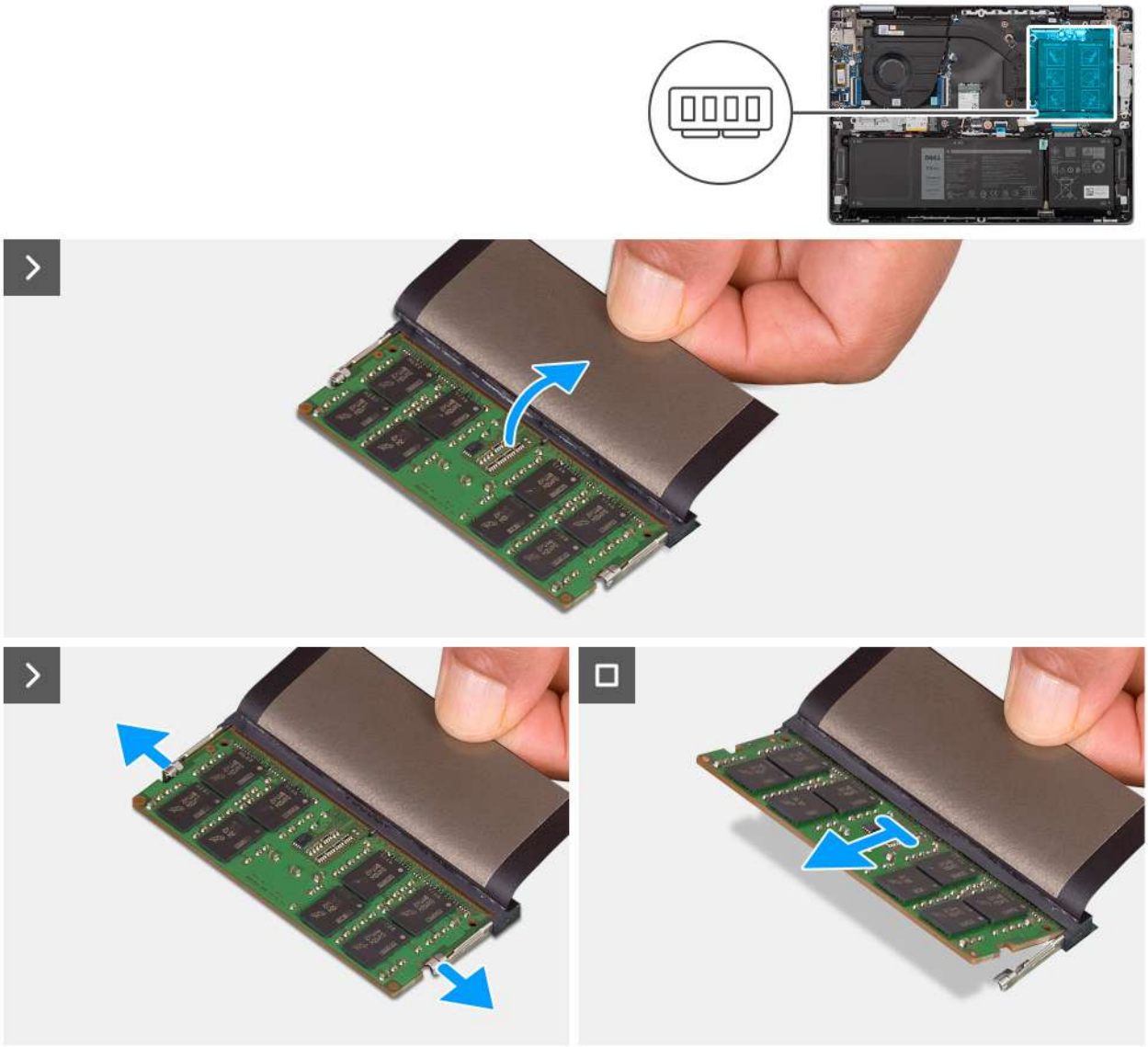

Figure 17. Removing the memory module

Steps

1. Lift the Mylar to access 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.

   CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components or 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.

3. Remove the memory module from the memory-module slot on the system board.

   NOTE: Repeat step 1 to step 3 to remove any other memory modules installed in your computer.

Installing the memory module

Prerequisites

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

About this task

The following image indicates the location of the memory module and provides a visual representation of the installation procedure.

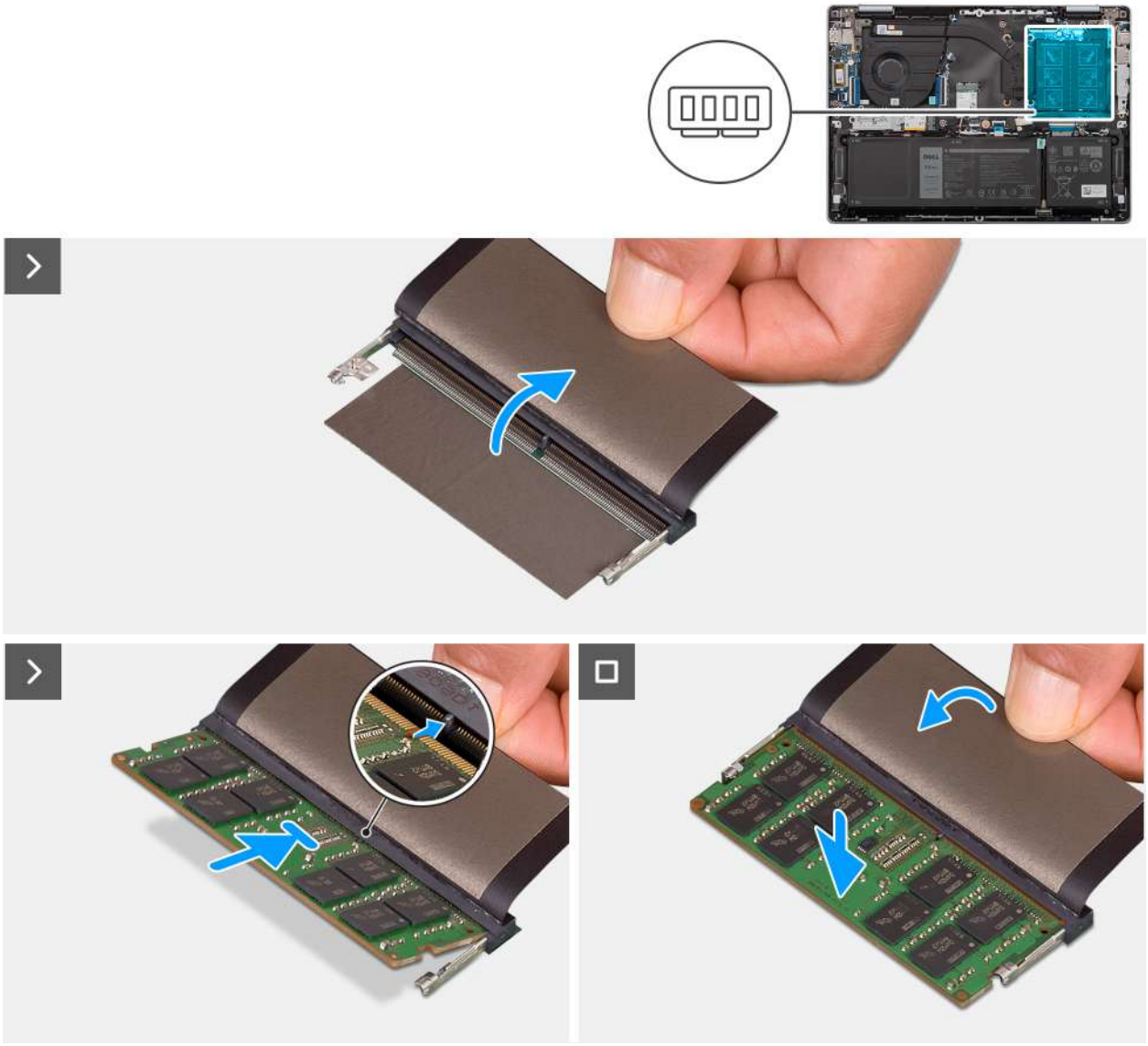

Figure 18. Installing the memory module

Steps

1. Lift the Mylar to access 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.

   CAUTION: To prevent damage to the memory module, hold the memory module by the edges. Do not touch the components or 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.

4. Press down on the memory module till the securing clips click, locking the memory module in place.

NOTE: Repeat step 1 to step 4 to install any other memory modules installed in your computer.

Next steps

1. Install the base cover.
2. 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, Before working inside your computer.
2. Remove the base cover.

About this task

NOTE: The support card configuration on the M.2 card slot is:

- M.2 2230 solid-state drive + M.2 2230 solid-state drive mounting bracket

The following image indicates the location of the M.2 2230 solid-state drive and provides a visual representation of the removal procedure.

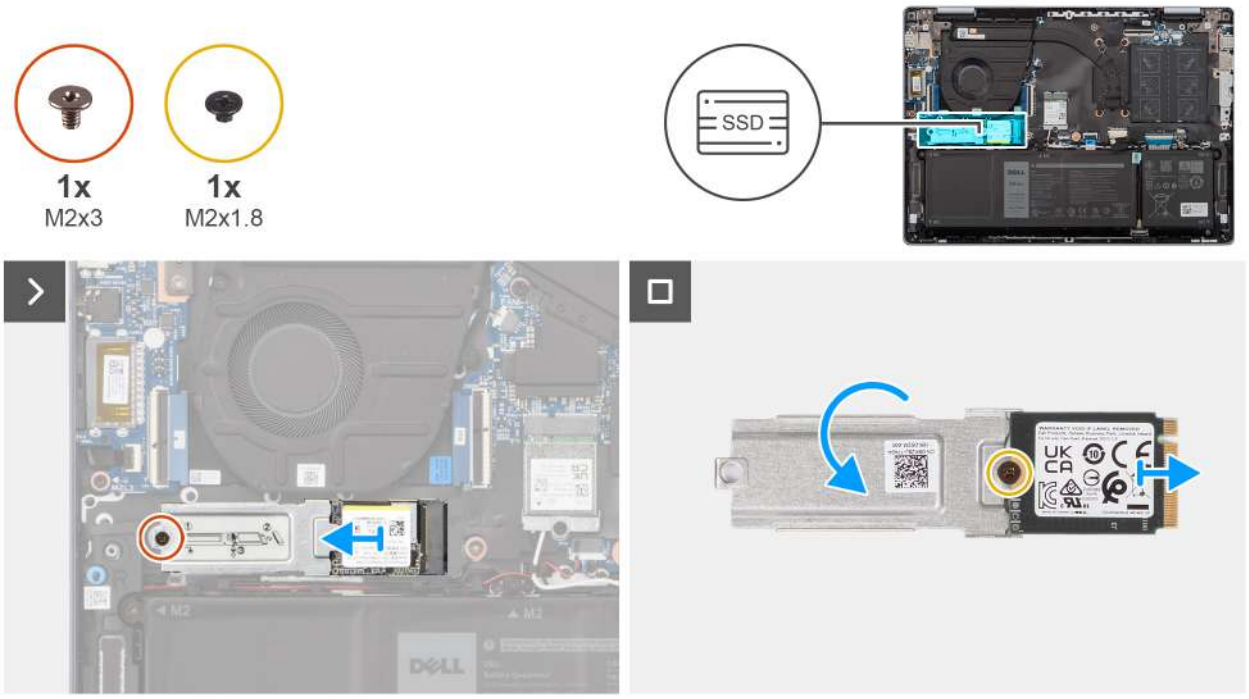

Figure 19. Removing the solid-state drive

Steps

1. Remove the screw (M2x3) that secures the M.2 2230 solid-state drive assembly to the system board.
2. Slide and lift the M.2 2230 solid-state drive assembly off the system board.
3. Flip over the M.2 2230 solid-state drive assembly.
4. Remove the screw (M2x1.8) that secures the M.2 2230 solid-state drive to the M.2 2230 solid-state drive mounting bracket.

5. Lift 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: The support card configuration on the M.2 card slot is:

- M.2 2230 solid-state drive + M.2 2230 solid-state drive mounting bracket

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

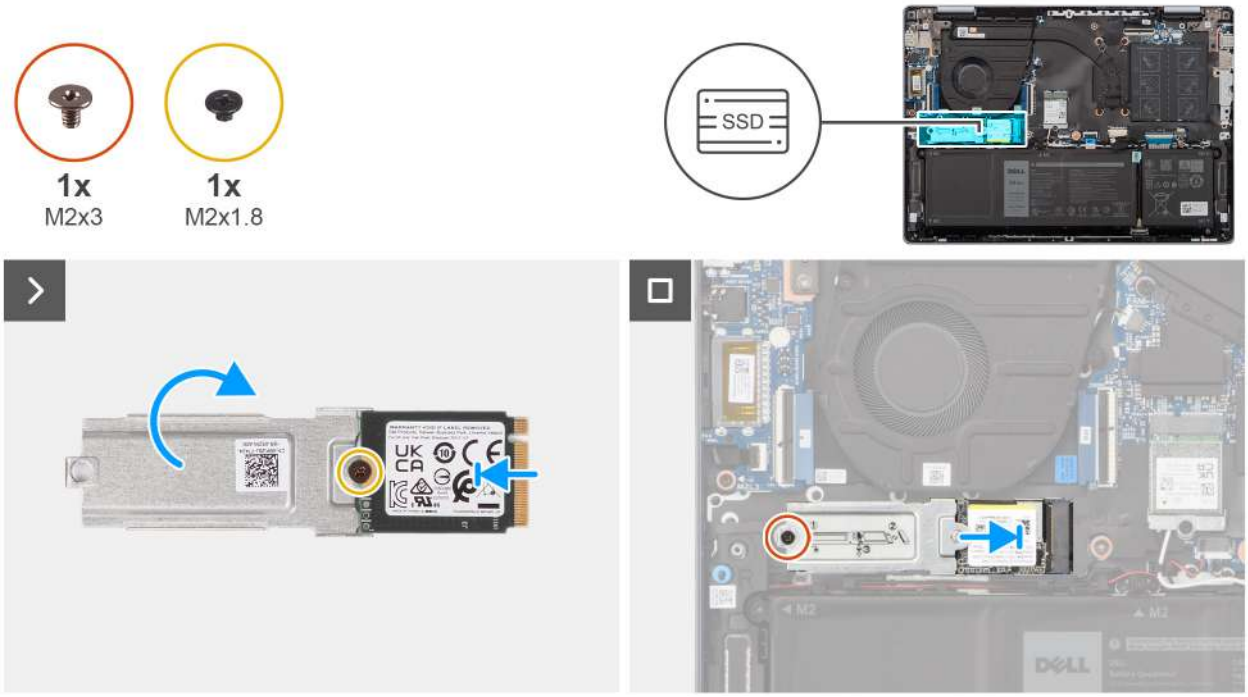

Figure 20. Installing the solid-state drive

Steps

1. Place and align the M.2 2230 solid-state drive on the M.2 2230 solid-state drive mounting bracket.
2. Replace the screw (M2x1.8) that secures the M.2 2230 solid-state drive to the M.2 2230 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 M.2 solid-state drive slot on the system board.
5. Slide and place the M.2 2230 solid-state drive in the M.2 solid-state drive slot on the system board.
6. Replace the screw (M2x3) that secures the M.2 2230 solid-state drive assembly 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, Before working inside your computer.
2. Remove the base cover.

About this task

The following image indicates the location of the wireless card and provides a visual representation of the removal procedure.

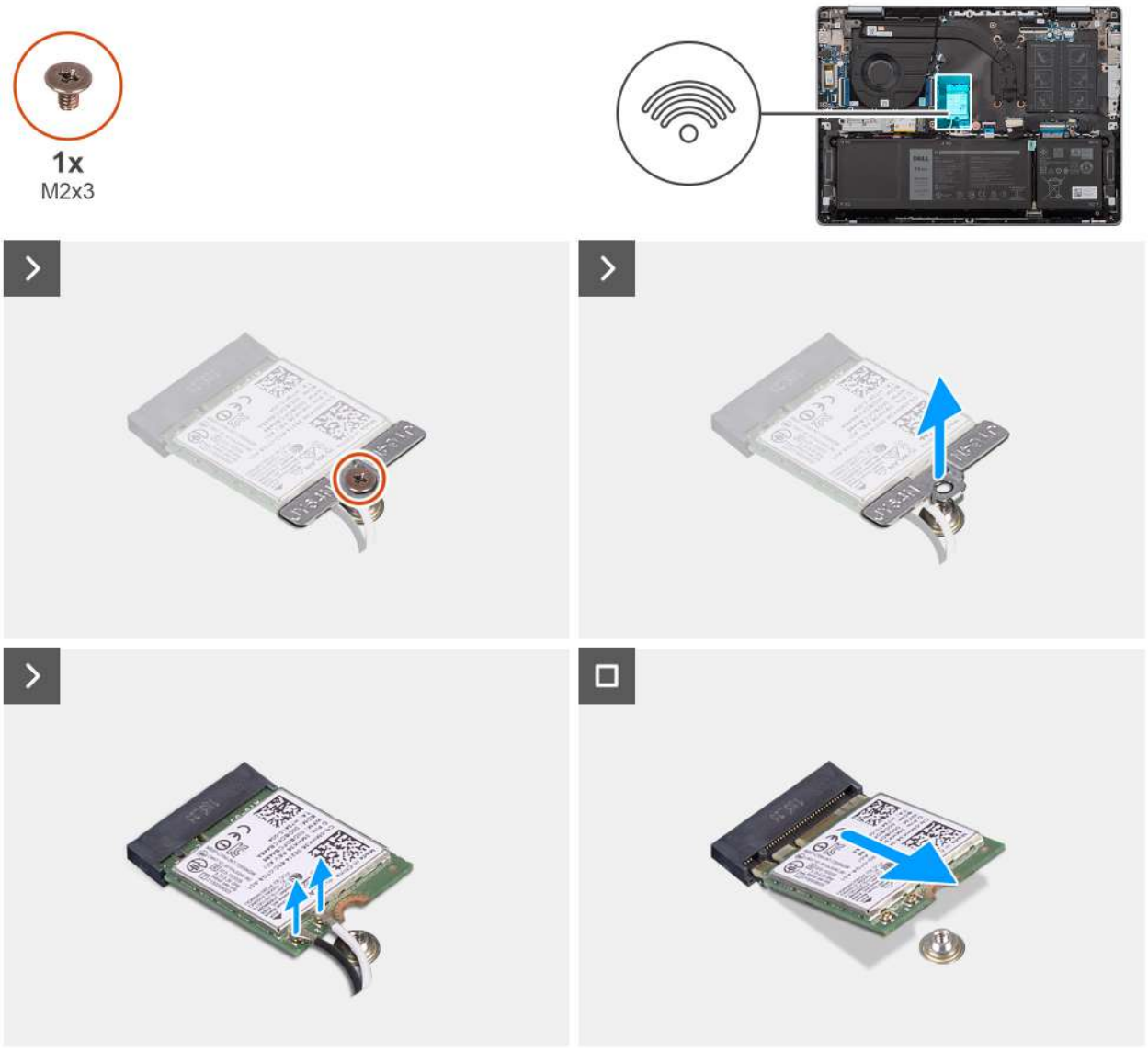

Figure 21. Removing the wireless card

Steps

1. Remove the screw (M2x3) that secures the wireless-card bracket to the wireless card.
2. Lift the wireless-card bracket off the wireless card.
3. Disconnect the antenna cables from the wireless card.

4. Slide and lift the wireless card off the system board.

Installing the wireless card

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 wireless card and provides a visual representation of the installation procedure.

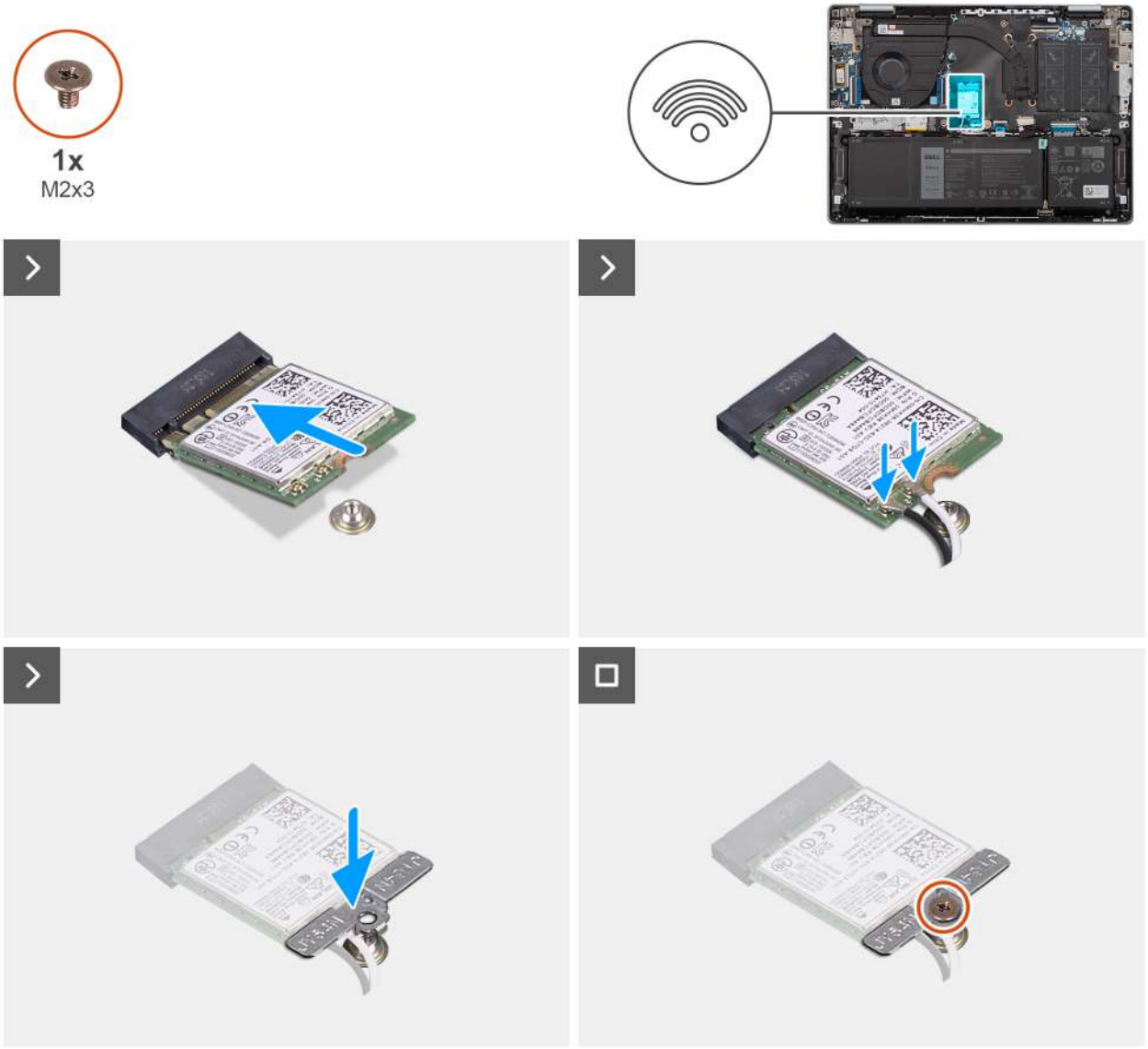

Figure 22. Installing the wireless card

Steps

1. Align the notch on the wireless card with the tab on the wireless-card slot on the system board.
2. Slide the wireless card into the wireless-card slot on the system board.
3. Connect the antenna cables to the wireless card.

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

Table 27. Antenna-cable color scheme

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

4. Replace the screw (M2x3) that secures the wireless-card bracket to the wireless card.

Next steps

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

System fan

Removing the system 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, Before working inside your computer.
2. Remove the base cover.

About this task

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

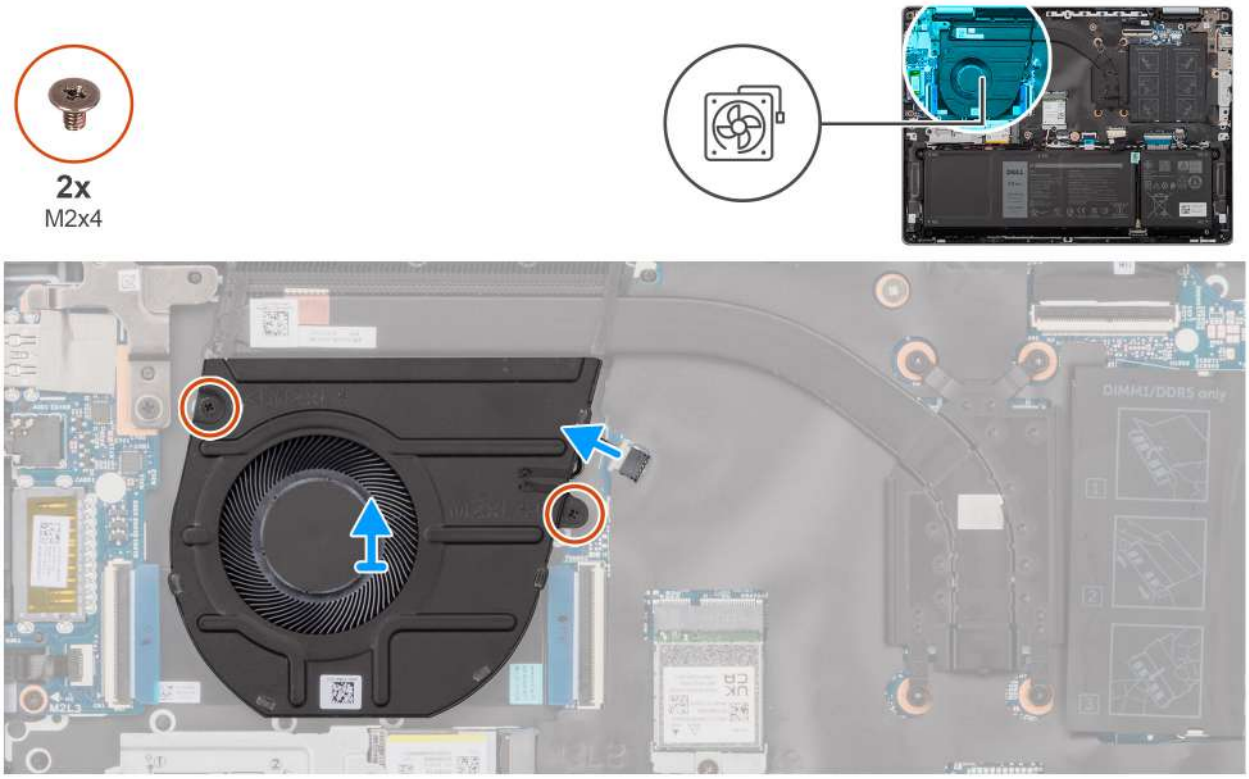

Figure 23. Removing the fan

Steps

1. Disconnect the fan cable from the fan-cable connector (FN1) on the system board.
2. Remove the two screws (M2x4) that secure the fan to the palm-rest and keyboard assembly.
3. Lift the fan off the palm-rest and keyboard assembly.

Installing the fan

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 fan and provides a visual representation of the installation procedure.

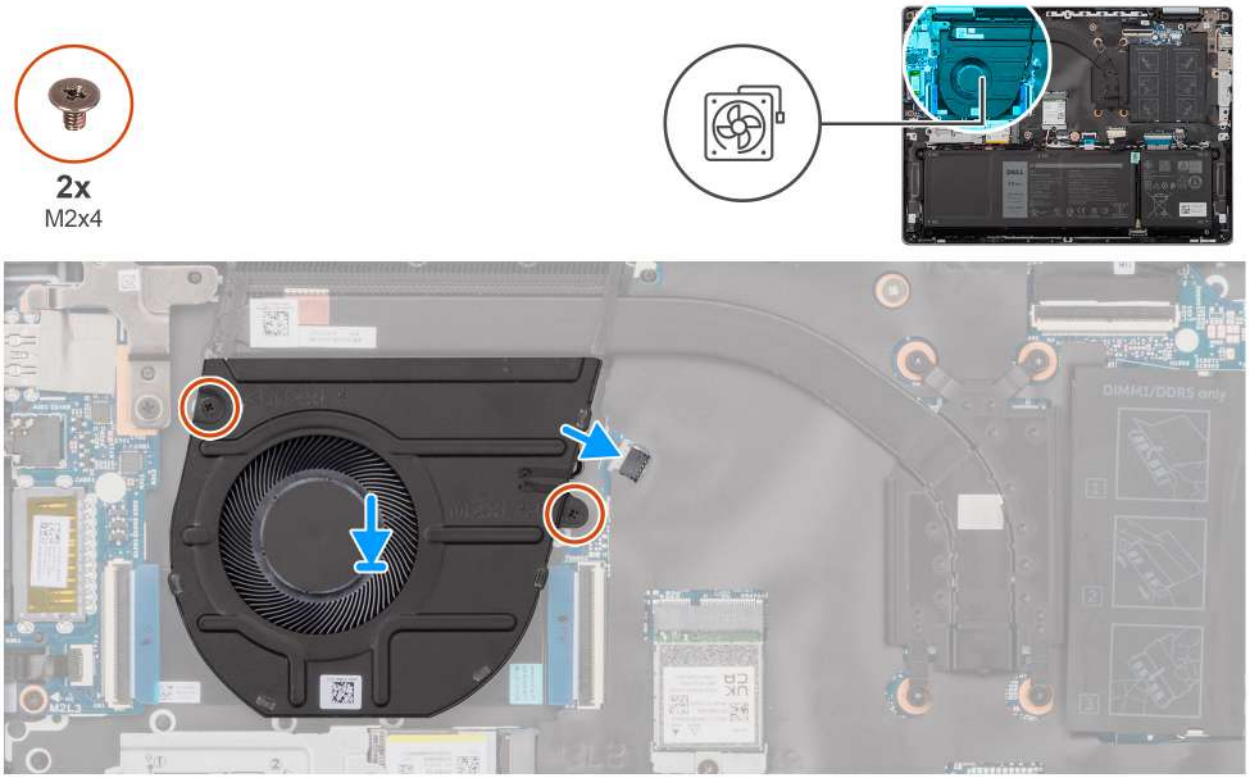

Figure 24. Installing the fan

Steps

1. Place the fan on the palm-rest and keyboard assembly.
2. Align the screw holes on the fan with the screw holes on the palm-rest and keyboard assembly.
3. Replace the two screws (M2x4) that secure the fan to the palm-rest and keyboard assembly.
4. Connect the fan cable to the fan-cable connector (FN1) on the system board.

Next steps

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

7

Removing and installing Field Replaceable Units (FRUs)

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

CAUTION: The information in this 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 removal 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, Before working inside your computer.
2. Remove the base cover.

About this task

CAUTION: Removing the battery resets the BIOS setup settings to default. It is recommended that you note the BIOS setup settings before removing the battery.

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

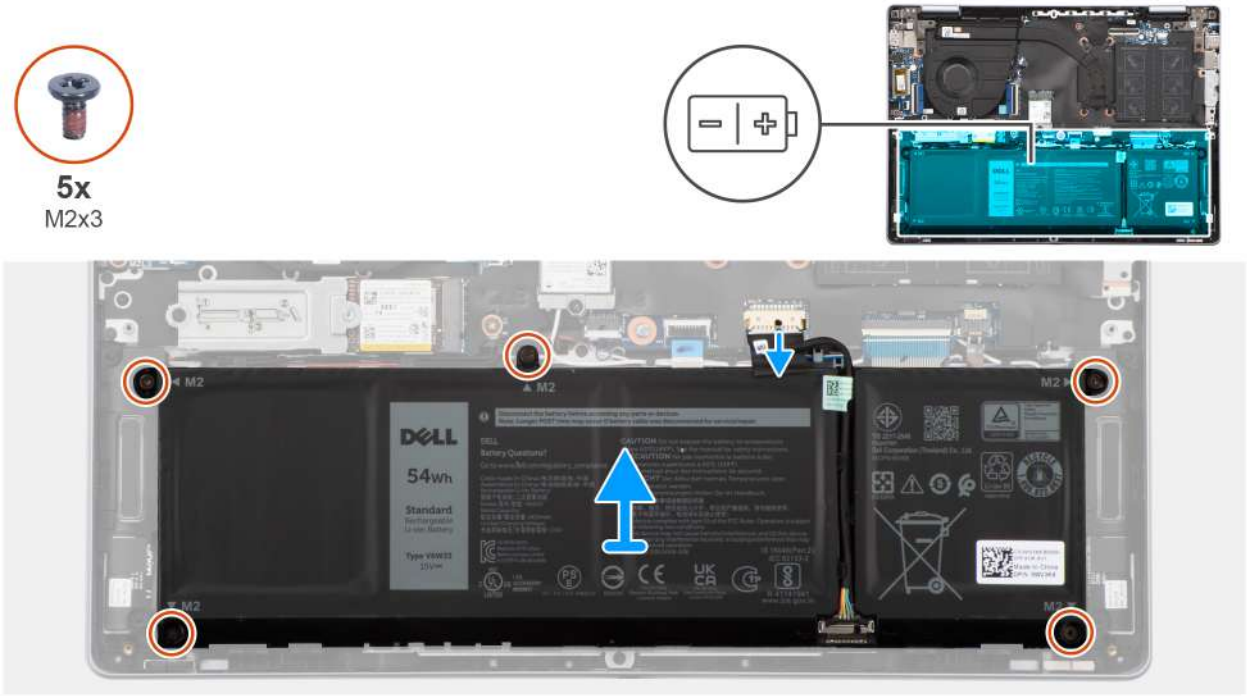

Figure 25. Removing the battery

Steps

1. Disconnect the battery cable from the battery-cable connector (BATT1) 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 installation section is intended for authorized service technicians only.

Prerequisites

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

About this task

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

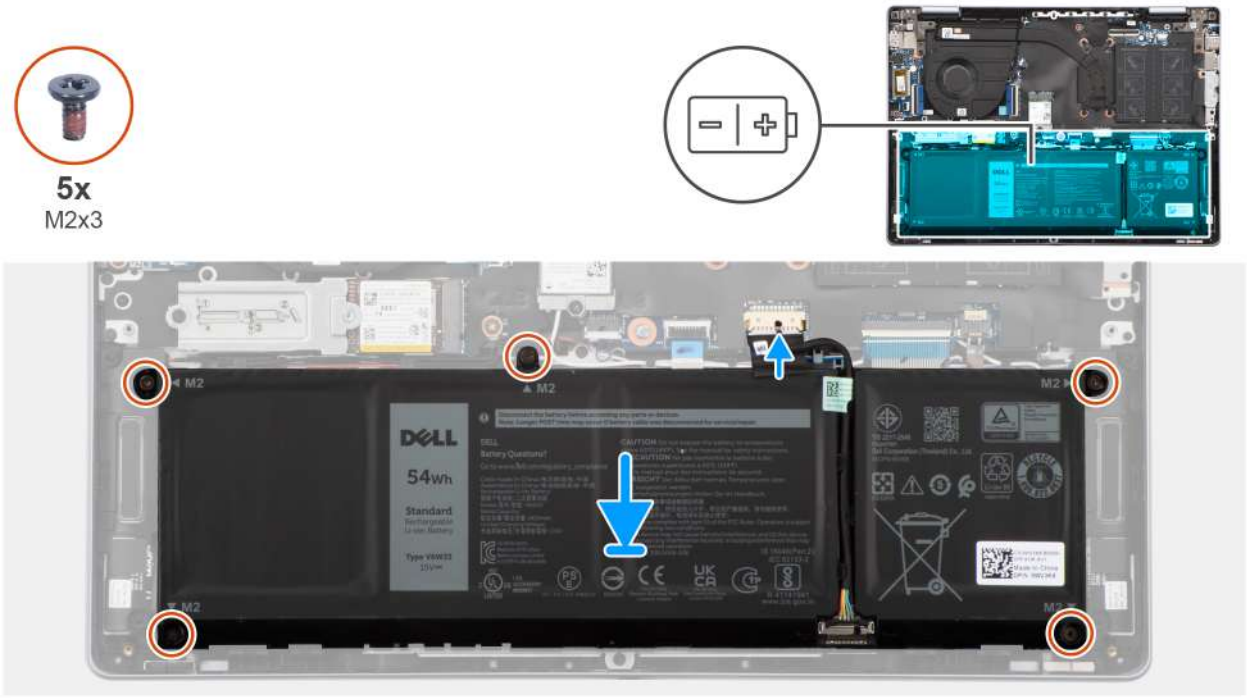

Figure 26. Installing the battery

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 the battery-cable connector (BATT1) on the system board.

Next steps

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

Disconnecting the battery cable

CAUTION: The information in this removal 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, Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.

About this task

CAUTION: Removing the battery resets the BIOS setup settings to default. It is recommended that you note the BIOS setup settings before removing the battery.

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

Figure 27. Disconnecting the battery cable

Steps

1. Unroute the battery cable from the routing guides on the battery.
2. Open the latch and disconnect the battery cable from the connector on the battery.

CAUTION: DO NOT pull the battery cable to disconnect it from the battery, it may damage the battery or the battery cable.

NOTE: To disconnect the battery cable, first push the latch downward to release the connector, and then pull the connector upward to disconnect it from the battery.

Connecting the battery cable

CAUTION: The information in this installation 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.

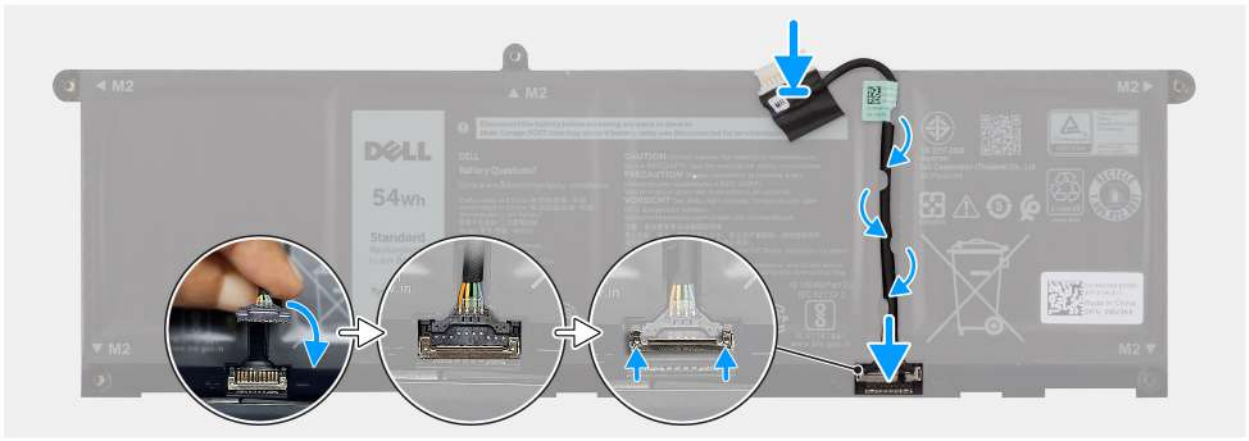

Figure 28. Connecting the battery cable

Steps

1. Connect the battery cable to the connector on the battery and close the latch.
2. Route the battery cable through the routing guides on the battery.

Next steps

1. Install the battery.
2. Install the base cover.
3. 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, 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.

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

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

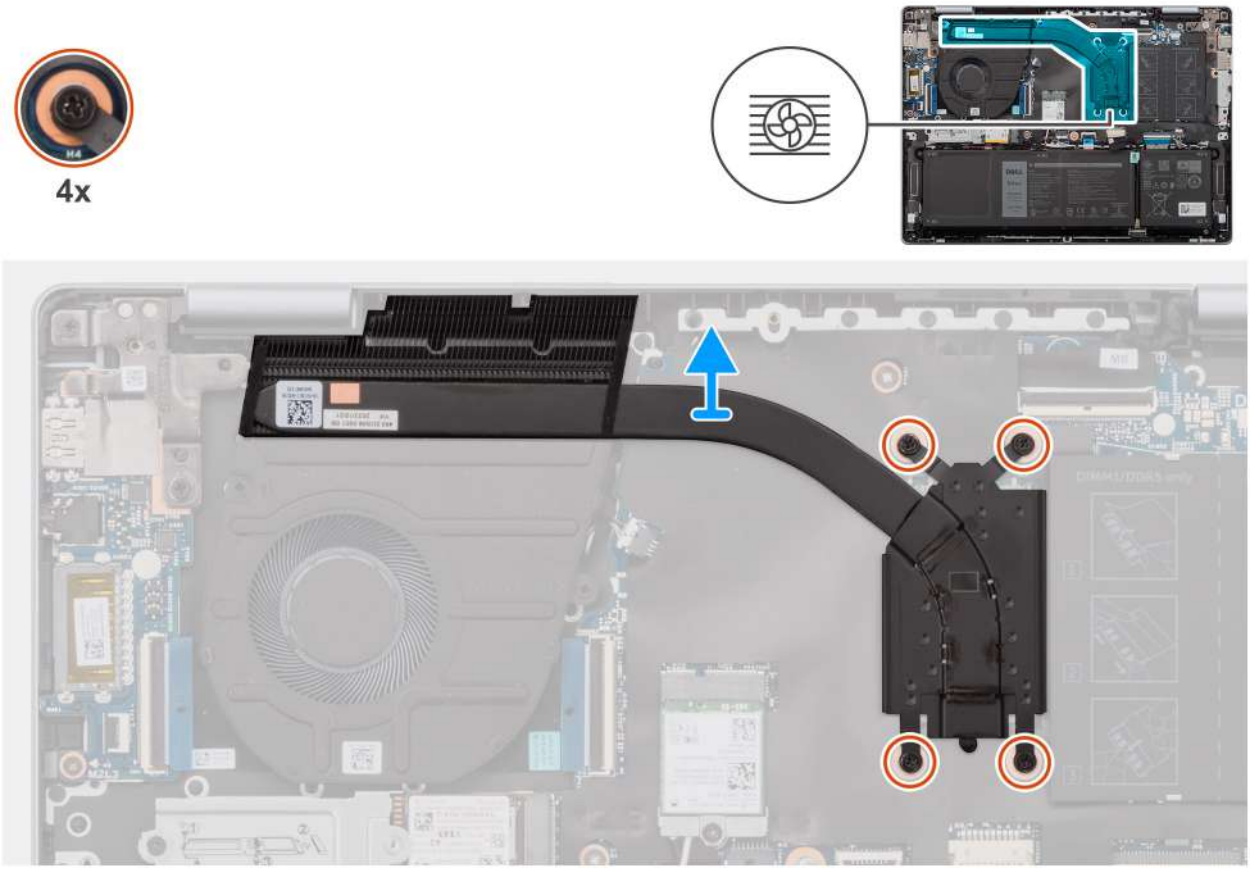

Figure 29. Removing the heat sink

Steps

1. In reverse sequential order (4 > 3 > 2 > 1), loosen the four 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 indicates the location of the heat sink and provides a visual representation of the installation procedure.

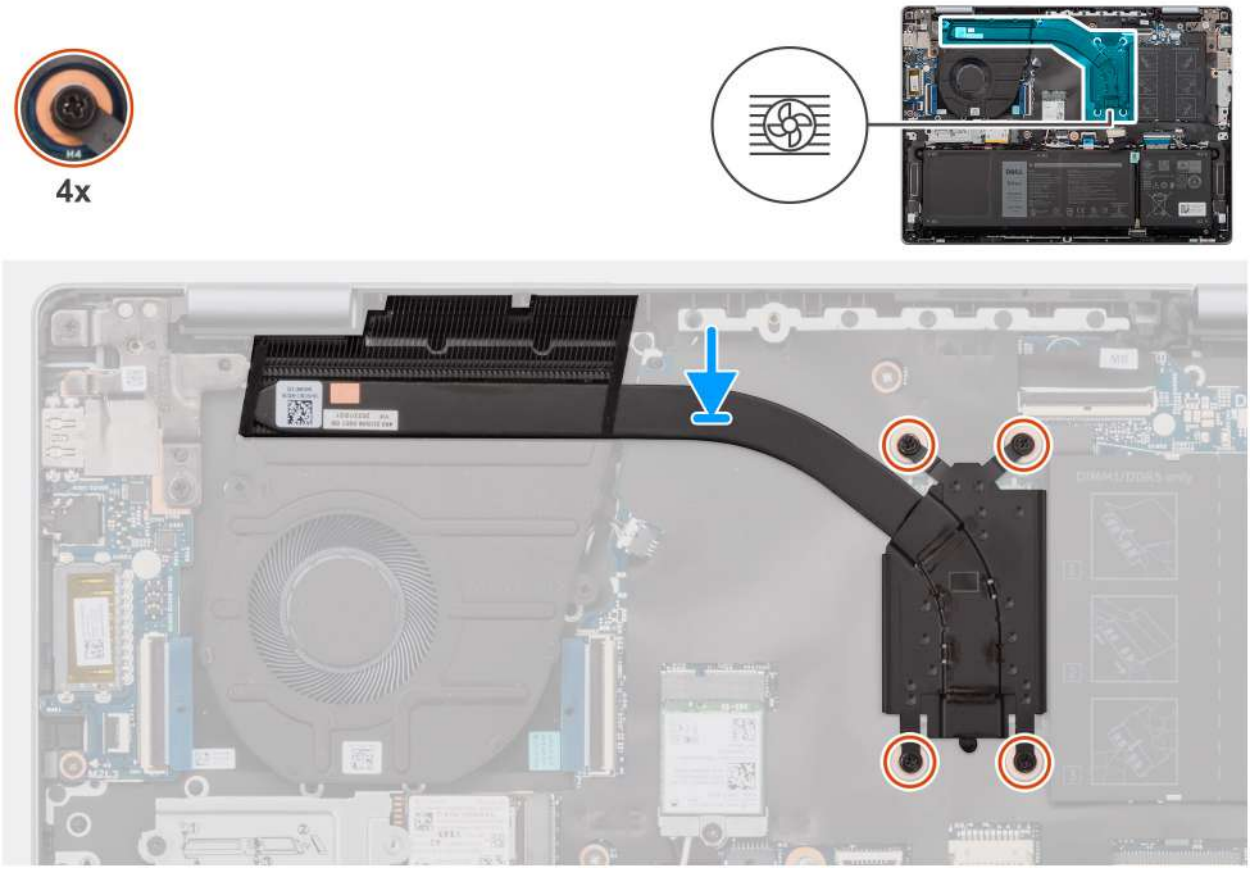

Figure 30. Installing the heat sink

Steps

1. Place the heat sink on the system board.
2. Align the screw holes on the heat sink with the screw holes on the system board.
3. In sequential order (1 > 2 > 3 > 4) tighten the four 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.

I/O board

Removing the I/O 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, Before working inside your computer.
2. Remove the base cover.

About this task

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

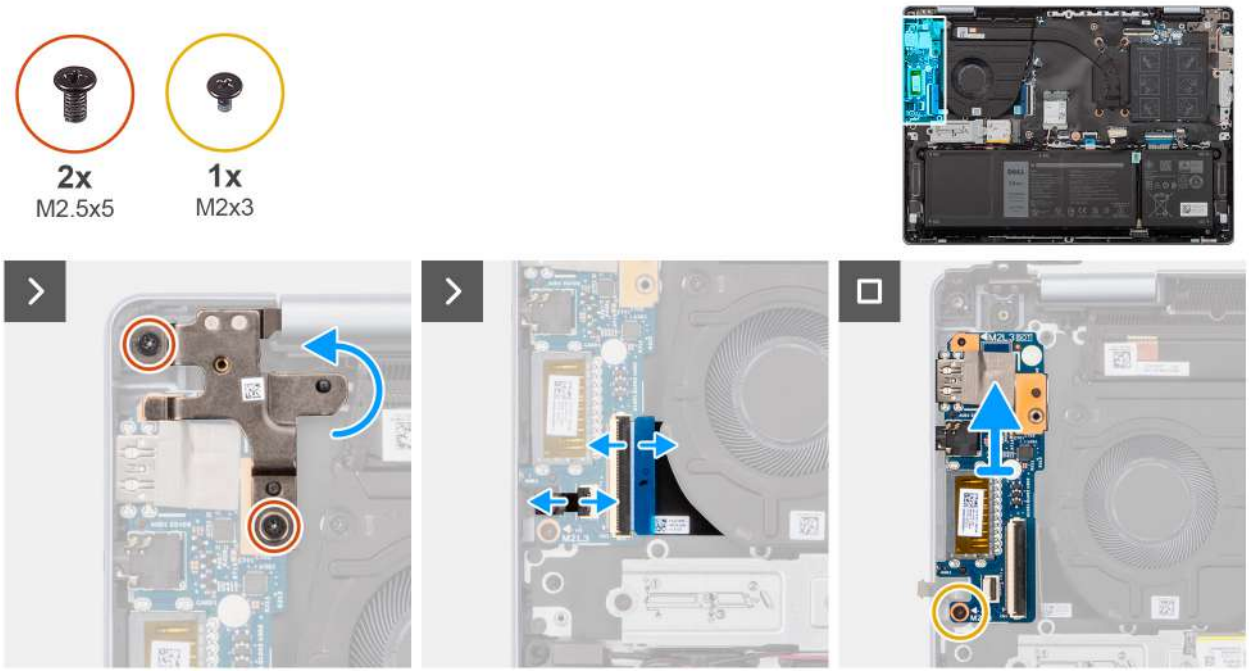

Figure 31. Removing the I/O board

Steps

1. Remove the two screws (M2.5x5) that secure the left display hinge to the palm-rest and keyboard assembly.
2. Pry open the left display hinge to an angle of 90 degrees.
3. Lift the latch and disconnect the power-button with fingerprint reader cable from the I/O board.

   NOTE: This step is only applicable to computers shipped with the optional fingerprint reader.

4. Lift the I/O-board cable-connector (IOBD1) latch and disconnect the I/O-board cable from the I/O board.
5. Remove the screw (M2x3) that secure the I/O board to the palm-rest and keyboard assembly.
6. Lift the I/O board off the palm-rest and keyboard assembly.

Installing the I/O 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 location of the I/O board and provides a visual representation of the installation procedure.

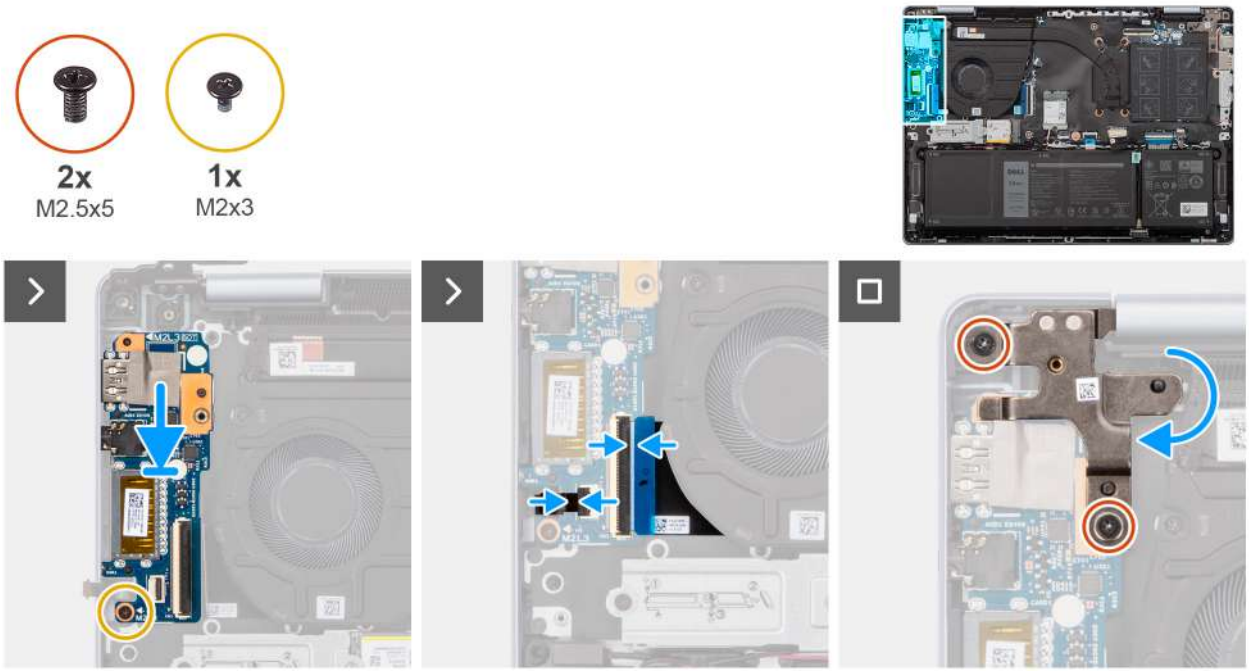

Figure 32. Installing the I/O board

Steps

1. Place the I/O board on the palm-rest and keyboard assembly.
2. Align the screw holes on the I/O board with the screw holes on the palm-rest and keyboard assembly.
3. Replace the screw (M2x3) that secure the I/O board to the palm-rest and keyboard assembly.
4. Connect the I/O-board cable to the I/O board cable connector (IOBD1) on the I/O board and close the latch.
5. Connect the power-button with fingerprint-reader cable to the connector on the I/O board and close the latch.

   NOTE: This step is only applicable to computers shipped with the optional fingerprint reader.

6. Close the left display hinge and align the screw holes on the left display hinge with the screw holes on the I/O board.
7. Replace the two screws (M2.5x5) that secure the left display hinge to the palm-rest and keyboard assembly.

Next steps

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

Power button

Removing the power button

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

Prerequisites

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

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

2. Remove the base cover.
3. Remove the I/O board.

About this task

NOTE: This procedure is applicable only for computers that are shipped without the optional fingerprint reader.

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

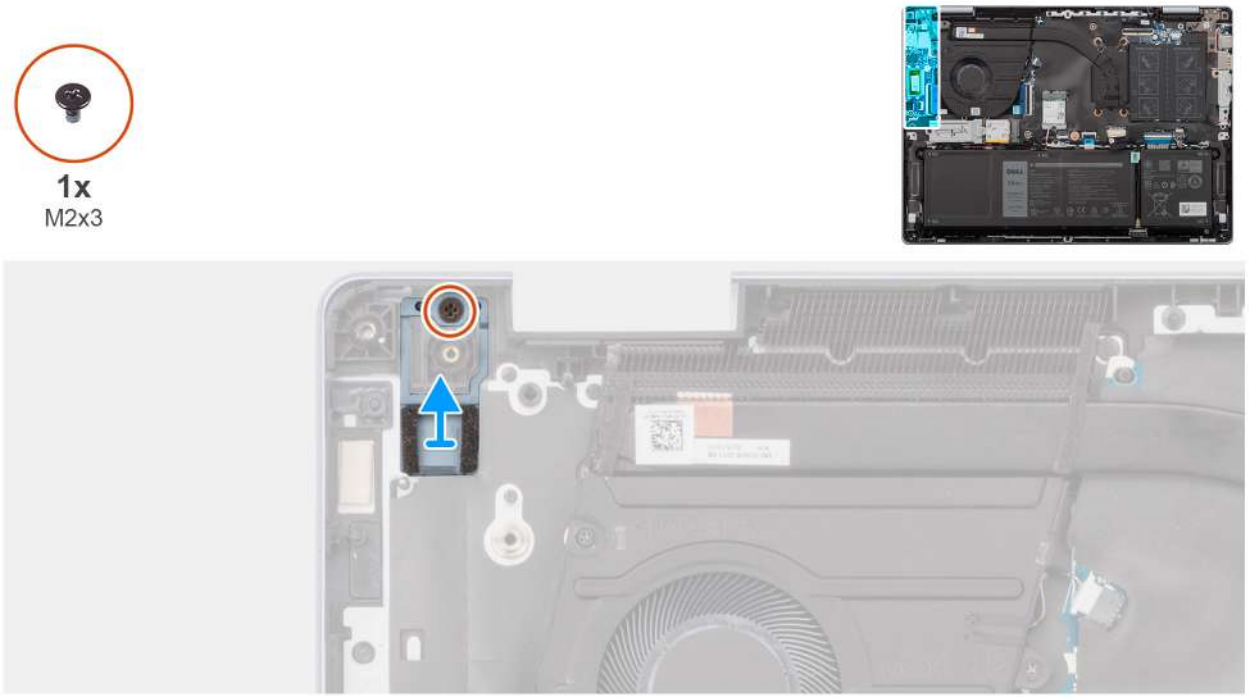

Figure 33. Removing the power button

Steps

1. Remove the screw (M2x3) that secures the power button to the palm-rest and keyboard assembly.
2. Lift the power button off the palm-rest and keyboard assembly.

Installing the power button

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

Prerequisites

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

About this task

NOTE: This procedure is applicable only when you are installing a power button without the optional fingerprint reader.

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

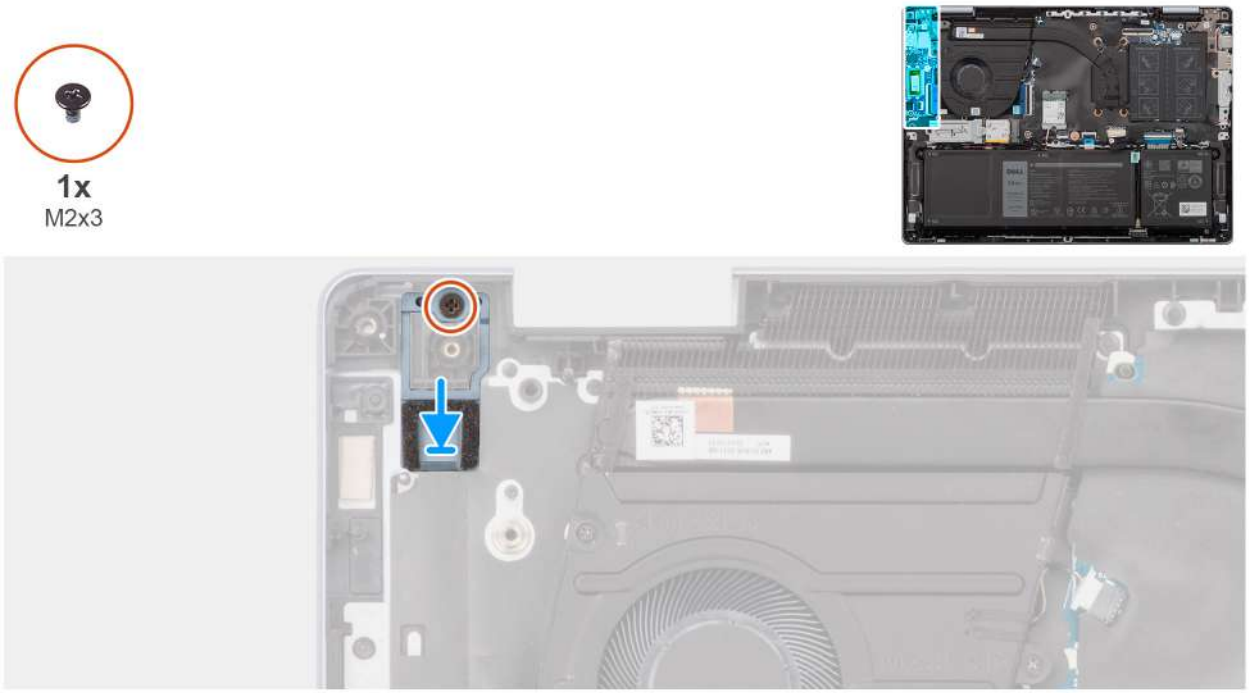

Figure 34. Installing the power button

Steps

1. Place the power button into its slot on the palm-rest and keyboard assembly.
2. Align the screw hole on the power button with the screw hole on the palm-rest and keyboard assembly.
3. Replace the screw (M2x3) that secures the power button to the palm-rest and keyboard assembly.

Next steps

1. Install the I/O board.
2. Install the base cover.
3. Follow the procedure in After working inside your computer.

Power button with fingerprint reader

Removing the power button with 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, Before working inside your computer.
2. Remove the base cover.
3. Remove the I/O board.

About this task

NOTE: This procedure is applicable only for computers that are shipped with a fingerprint reader on the power button.

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

Figure 35. Removing the power button with fingerprint reader

Steps

1. Lift the Mylar covering the fingerprint-reader cable.
2. Remove the screw (M2x3) that secures the power button with fingerprint reader to the palm-rest and keyboard assembly.
3. Remove the fingerprint-reader cable from the palm-rest and keyboard assembly.
4. Lift the power button off the palm-rest and keyboard assembly.

Installing the power button with fingerprint reader

Prerequisites

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

About this task

NOTE: This procedure is applicable only when you are installing a power button with fingerprint reader into your computer.

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

Figure 36. Installing the power button with fingerprint reader

Steps

1. Align and place the power button, along with the fingerprint-reader cable, into its slot on the palm-rest and keyboard assembly.
2. Align the screw hole on the power button with the screw holes on the palm-rest and keyboard assembly.
3. Replace the screw (M2x3) that secures the power button to the palm-rest and keyboard assembly.
4. Adhere the Mylar over the fingerprint-reader cable, securing it to the palm-rest and keyboard assembly.

Next steps

1. Install the I/O board.
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, Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.

About this task

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

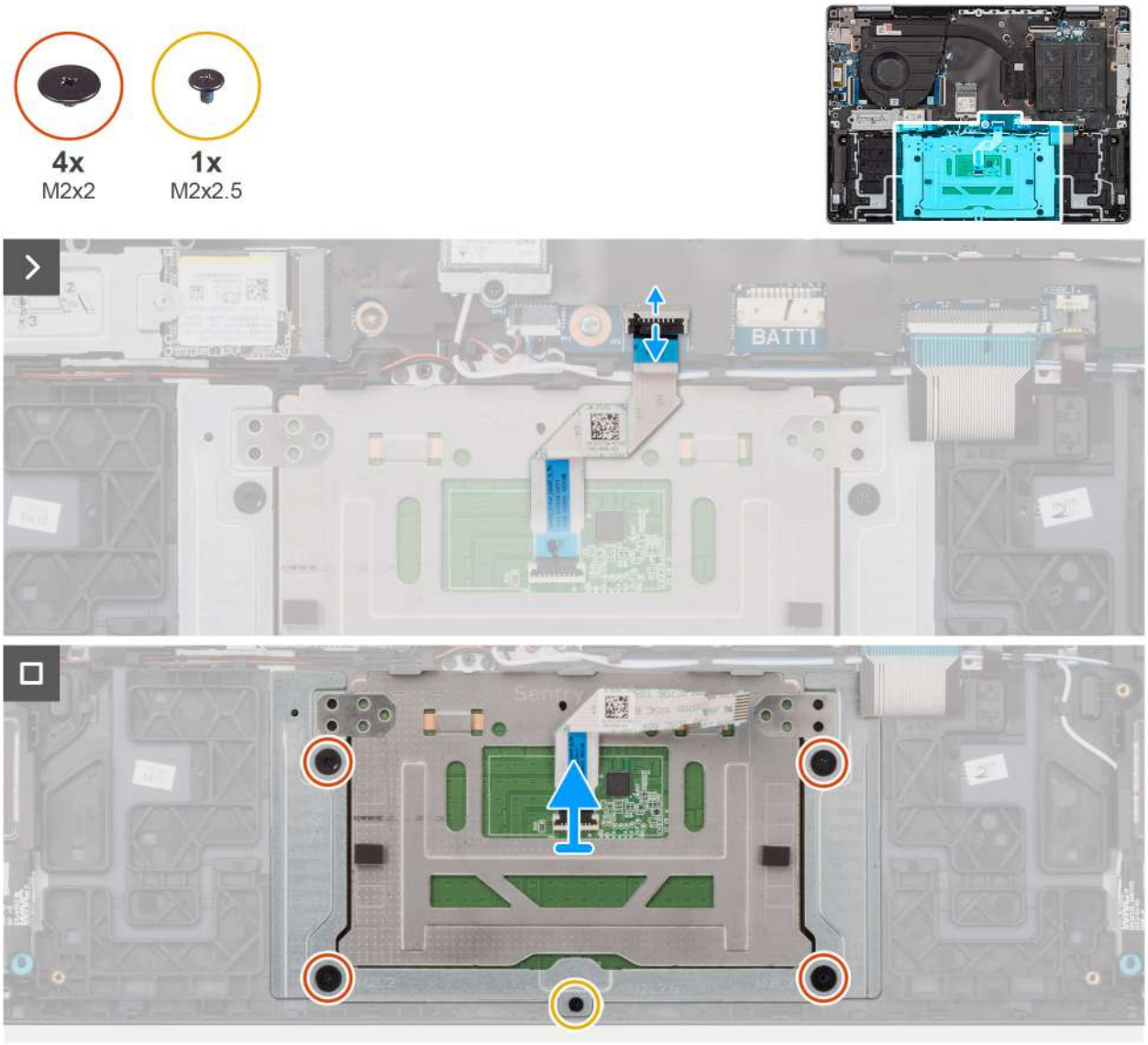

Figure 37. Removing the touchpad

Steps

1. Lift the latch and disconnect the touchpad cable from the touchpad-cable connector (TP1) on the system board.
2. Lift the latch and disconnect the touchpad cable from the touchpad.
3. Lift the touchpad cable off the palm-rest and keyboard assembly.
4. Remove the screw (M2x2.5) and the four screws (M2x2) that secure the touchpad to the palm-rest and keyboard assembly.
5. Lift the touchpad off the palm-rest and keyboard assembly.

Installing the touchpad

Prerequisites

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

About this task

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

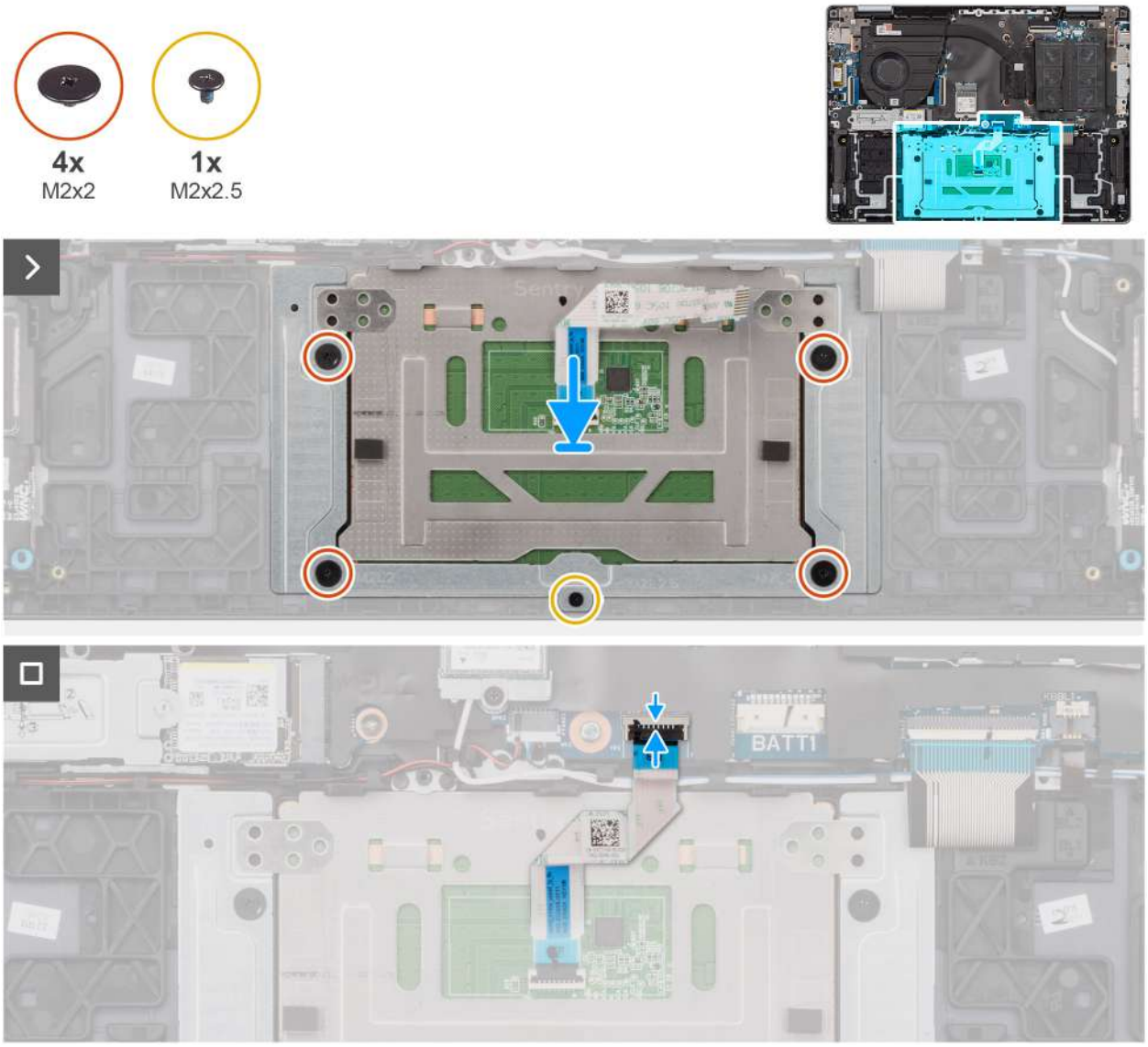

Figure 38. Installing the touchpad

Steps

1. Place the touchpad into its slot on the palm-rest and keyboard assembly.
2. Align the screw holes on the touchpad with the screw holes on the palm-rest and keyboard assembly.
3. Replace the four screws (M2x2) and the screw (M2x2.5) that secure the touchpad to the palm-rest and keyboard assembly.
4. Place the touchpad cable on the palm-rest and keyboard assembly.
5. Connect the touchpad cable to the touchpad and close the latch.
6. Connect the touchpad cable to the touchpad-cable connector (TP1) 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.

Speakers

Removing the speakers

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, Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the wireless card.

About this task

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

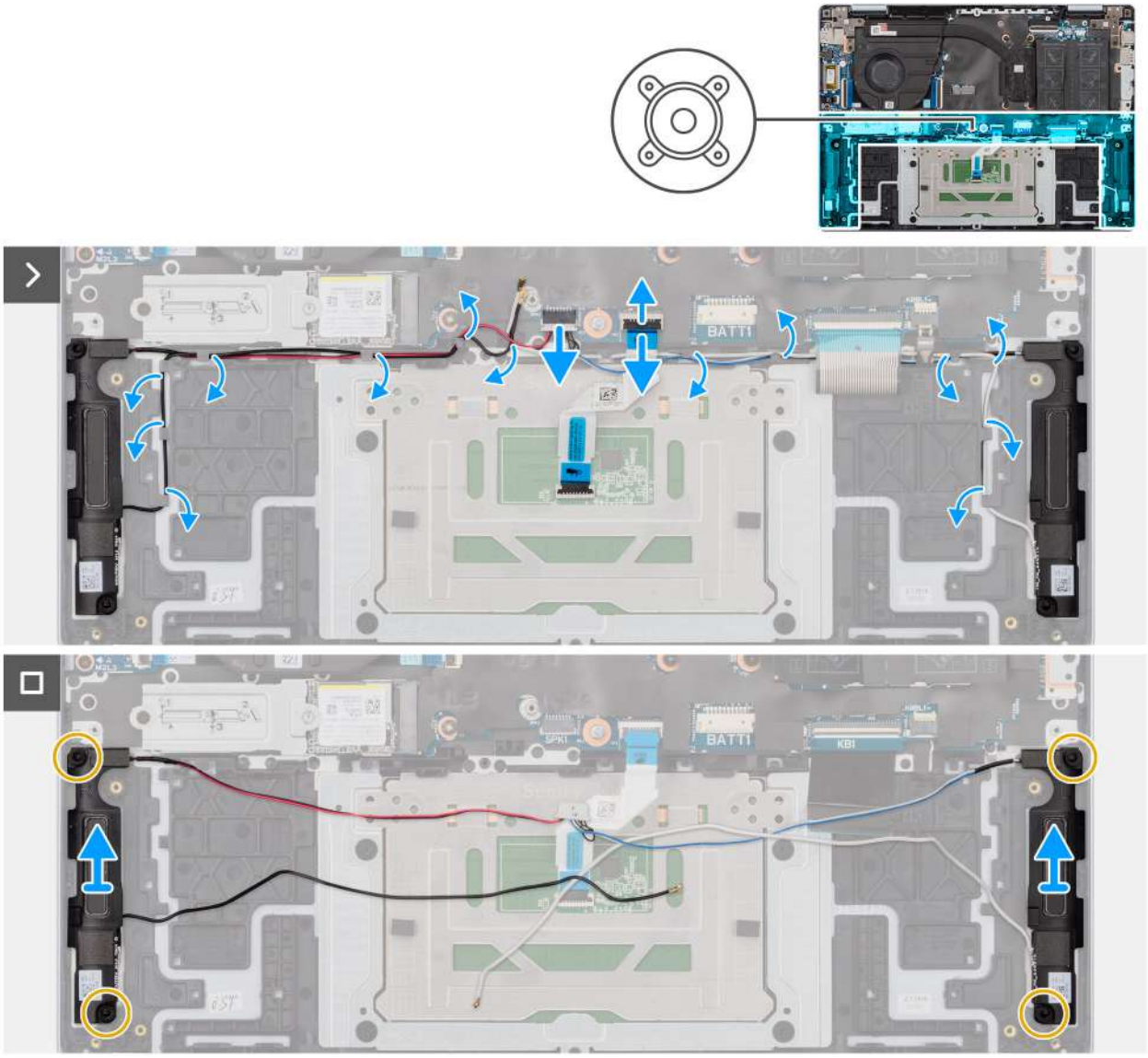

Figure 39. Removing the speakers

Steps

1. Lift the latch and disconnect the keyboard-backlight cable from the keyboard-backlight cable connector (KBBL1) on the system board.
2. Lift the latch and disconnect the keyboard cable from the keyboard cable connector (KB1) on the system board.
3. Lift the latch and disconnect the touchpad cable from the touchpad-cable connector (TP1) on the system board.
4. Disconnect the speaker cable from the speaker-cable connector (SPK1) on the system board.
5. Remove the speaker and wireless module cables and from the routing guides on the palm-rest and keyboard assembly.
6. Lift the left and right speakers along with the cables, off the palm-rest and keyboard assembly.

Installing the speakers

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 speakers and provides a visual representation of the installation procedure.

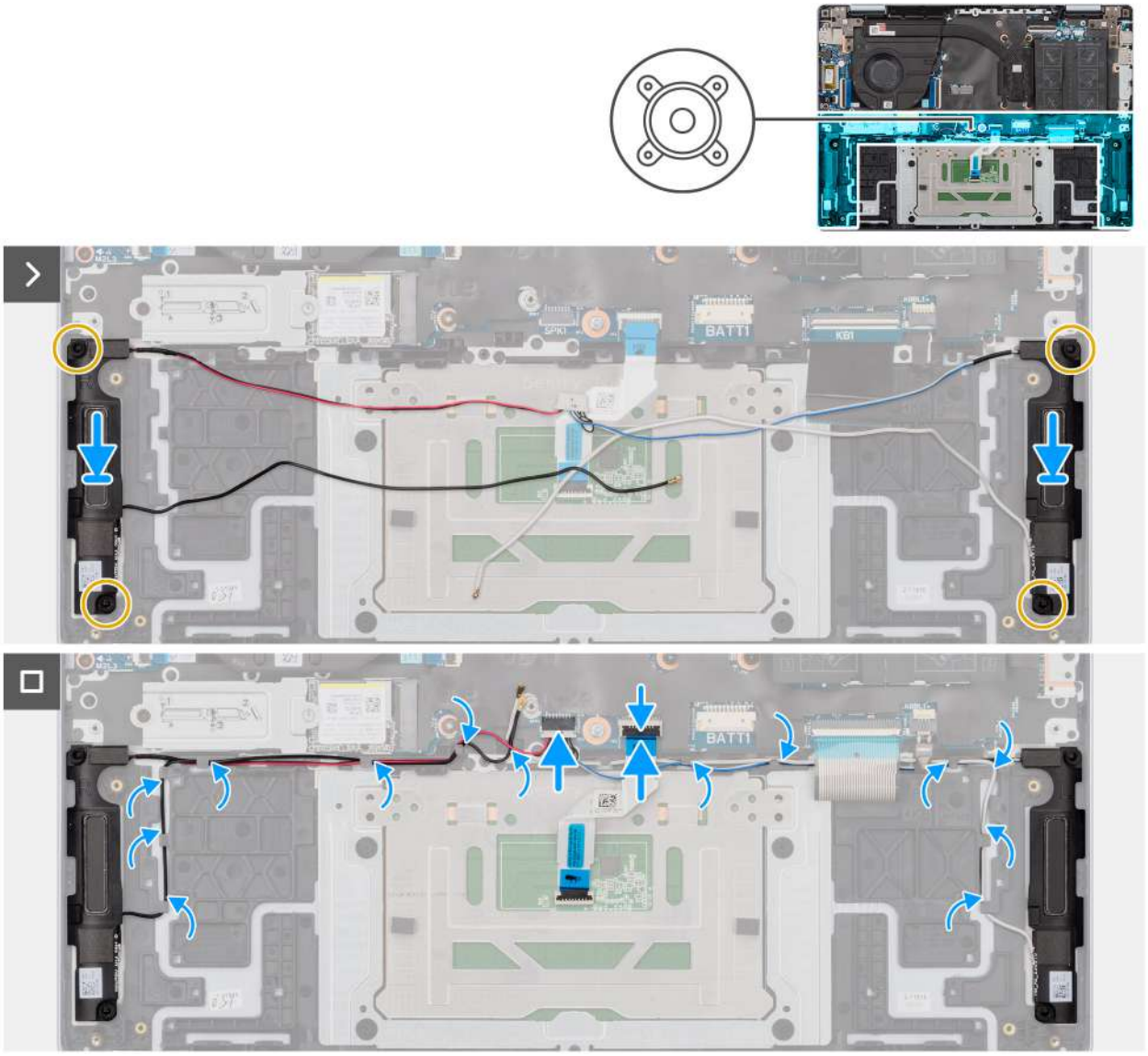

Figure 40. Installing the speakers

Steps

1. Using the alignment posts and rubber grommets, place the speakers on the slots of the palm-rest and keyboard assembly.
2. Route the speaker and wireless module cables through the routing guides on the palm-rest and keyboard assembly.
3. Connect the speaker cable to the speaker-cable connector (SPK1) on the system board.
4. Connect the touchpad cable to the touchpad-cable connector (TP1) on the system board and close the latch.
5. Connect the keyboard cable to the keyboard-cable connector (KB1) on the system board and close the latch.
6. Connect the keyboard-backlight cable to the keyboard-backlight cable connector (KBBL1) on the system board and close the latch.

Next steps

1. Install the wireless card.
2. Install the battery.
3. Install the base cover.
4. 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, Before working inside your computer.
2. Remove the base cover.

About this task

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

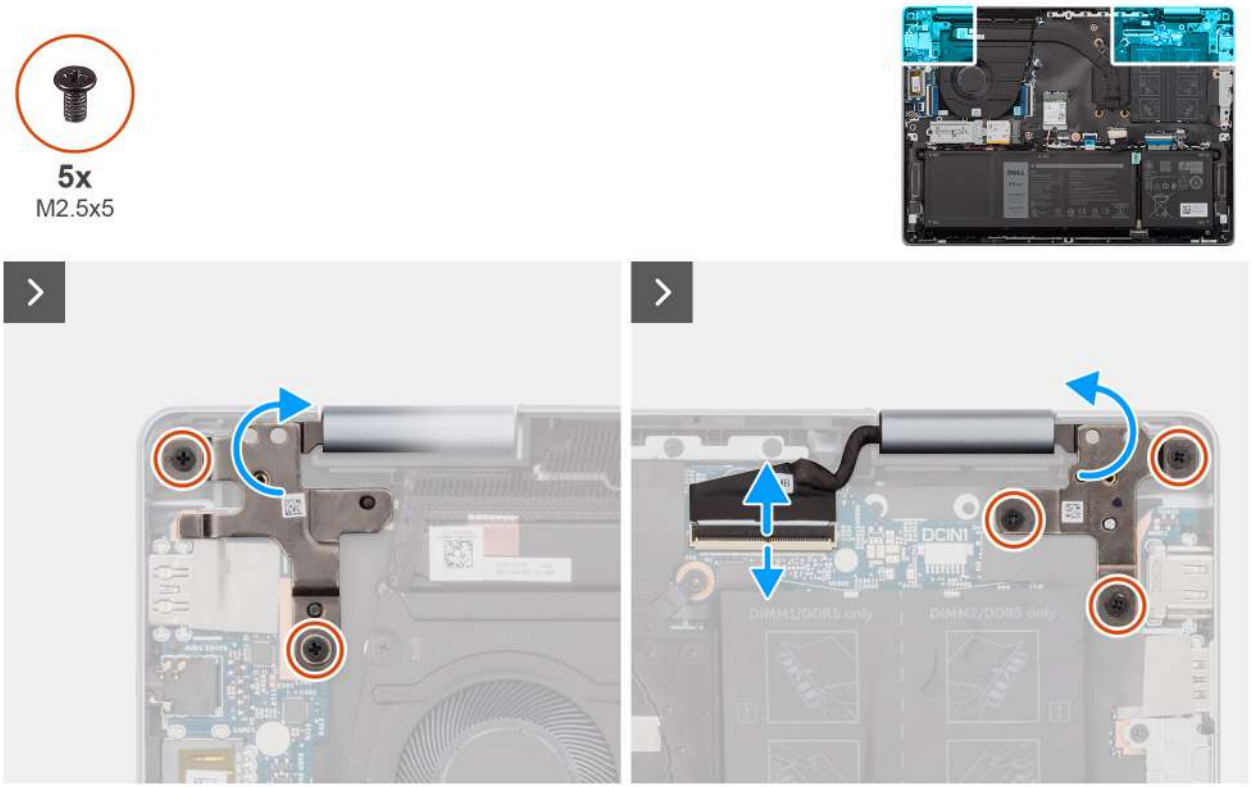

Figure 41. Removing the screws

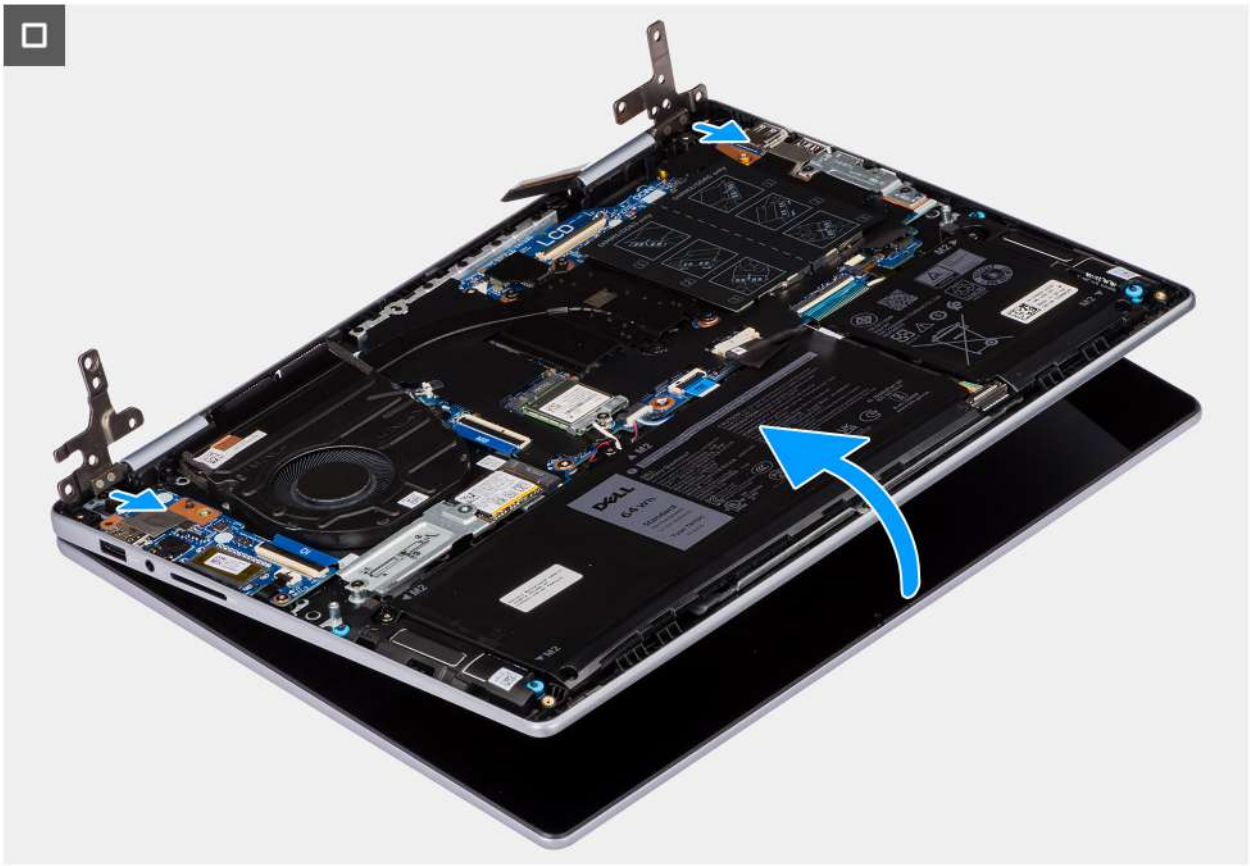

Figure 42. Removing the display assembly

Steps

1. Peel the tape that secures the display-cable connector latch to the system board.
2. Lift the latch and disconnect the display cable from the display-cable connector (LCD) on the system board.
3. Remove the two screws (M2.5x5) that secure the left display hinge to the palm-rest and keyboard assembly.
4. Remove the three screws (M2.5x5) that secure the right display hinge to the palm-rest and keyboard assembly.
5. 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 images indicate the location of the display assembly and provide a visual representation of the installation procedure.

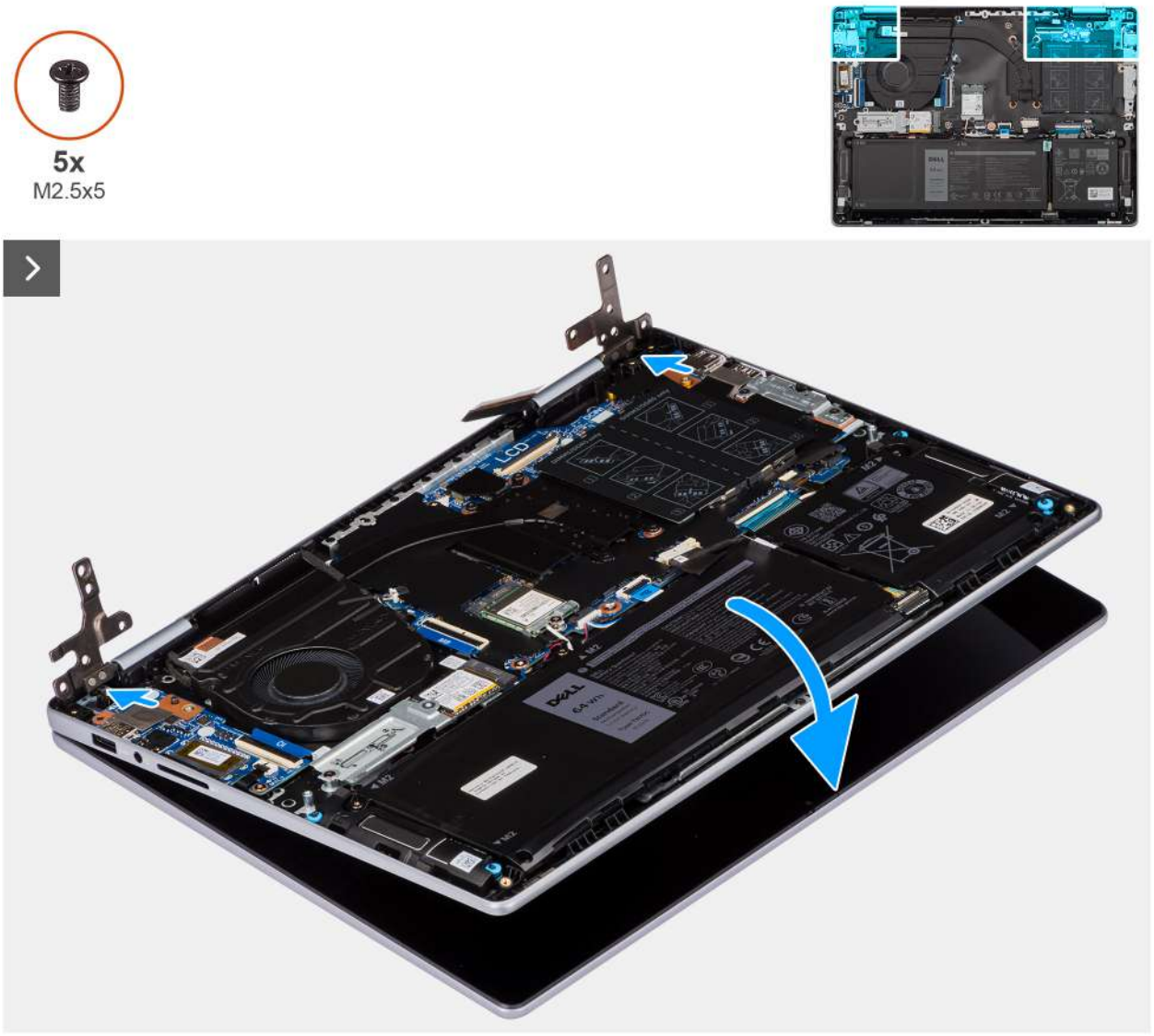

Figure 43. Installing the display assembly

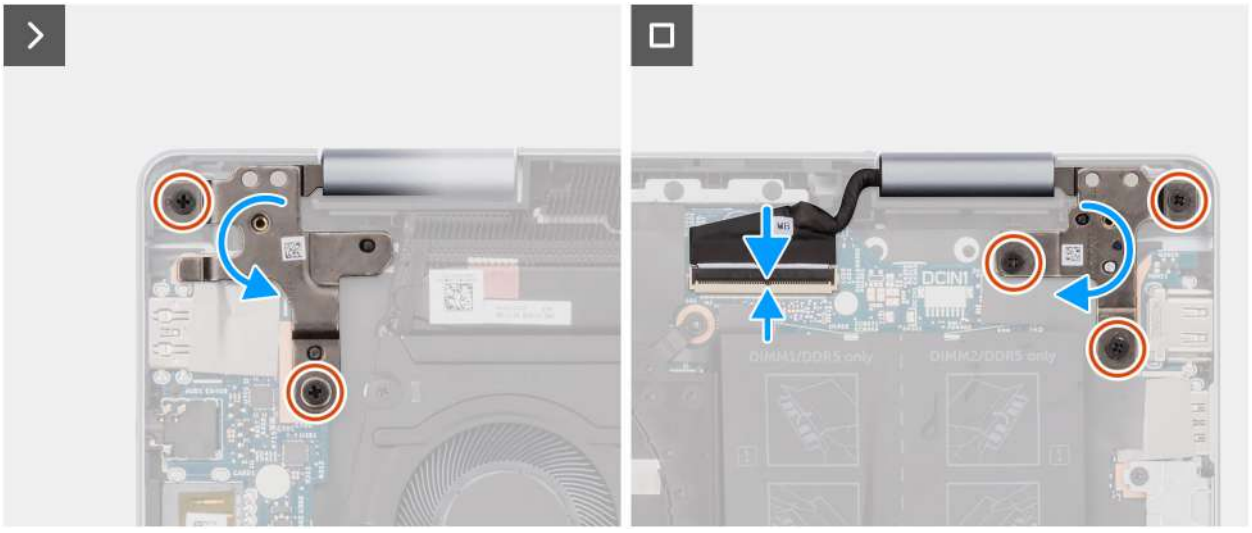

Figure 44. Replacing the screws

Steps

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

Next steps

1. Install the base cover.
2. 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, Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the wireless card.
5. Remove the M.2 2230 solid-state drive.
6. Remove the fan.
7. Remove the heatsink.
8. Remove the display assembly.

About this task

The following image indicates the connectors on your system board.

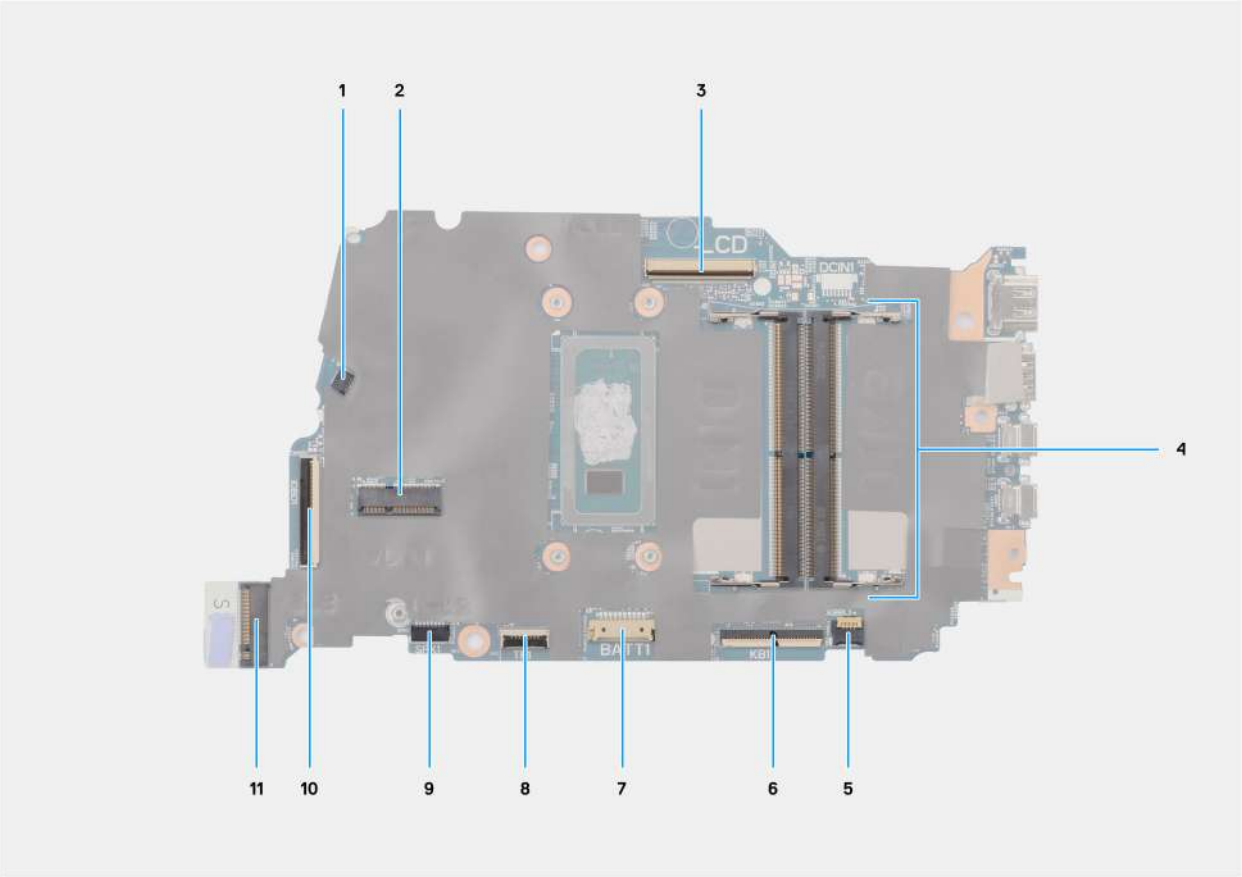

Figure 45. Connectors on the system board

1. Fan-cable connector (FN1)
2. M.2 wireless-card connector
3. Display-cable connector(LCD)
4. Memory module connector
5. Keyboard-backlight cable connector(KBBL1)
6. Keyboard-cable connector (KB1)
7. Battery-cable connector (BATT1)
8. Touchpad-cable connector (TP1)
9. Speaker-cable connector (SPK1)
10. I/O-board cable connector (IOBD1)
11. M.2 solid-state drive connector (SSD1)

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

Steps

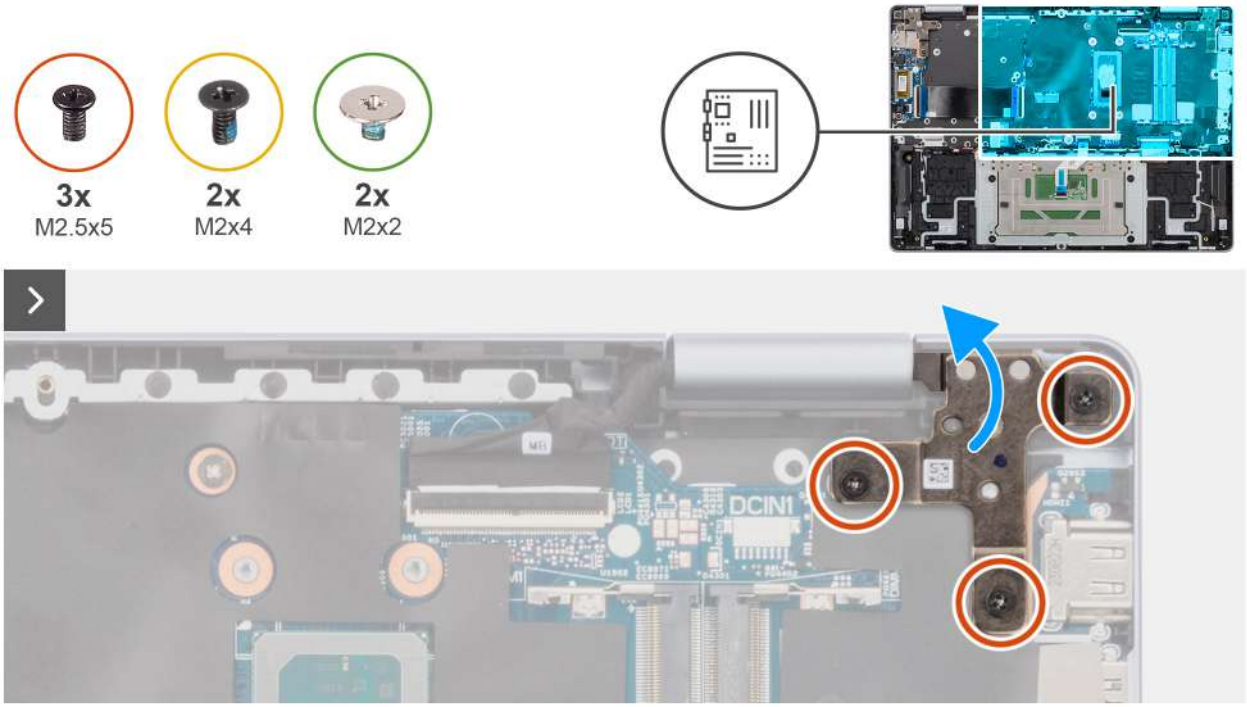

Figure 46. Removing the screws on the right hinge

1. Remove the three screws (M2.5x5) that secure the right display hinge to the palm-rest and keyboard assembly.

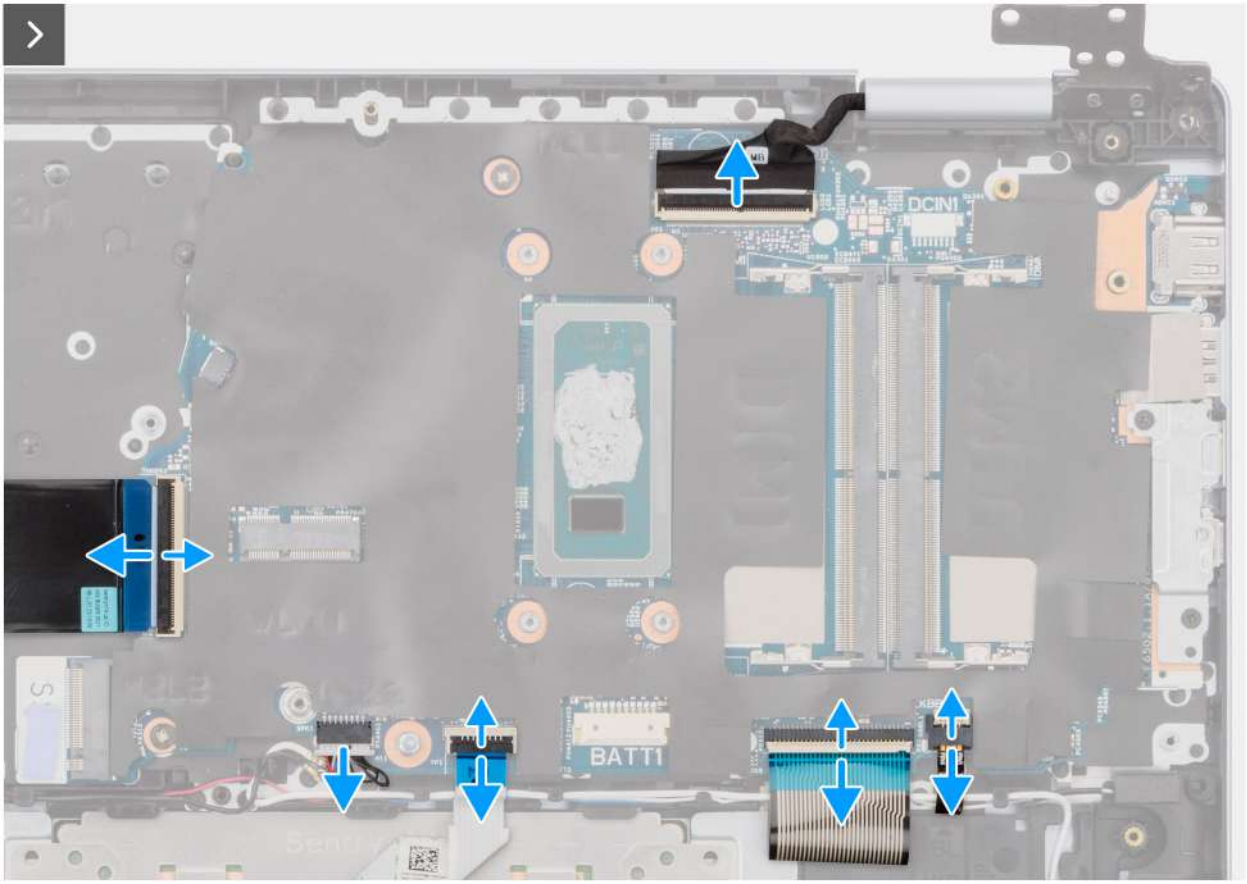

Figure 47. Removing the cable connectors

2. Lift the I/O-board cable-connector (IOBD1) latch and disconnect the I/O-board cable from the system board.
3. Disconnect the speaker cable from the speaker-cable connector (SPK1) on the system board.

4. Lift the latch and disconnect the touchpad cable from the touchpad-cable connector (TP1) on the system board.
5. Lift the latch and disconnect the keyboard cable from the keyboard-cable connector (KB1) on the system board.
6. Lift the latch and disconnect the keyboard-backlight cable from the keyboard-backlit cable connector (KBBL1) on the system board.

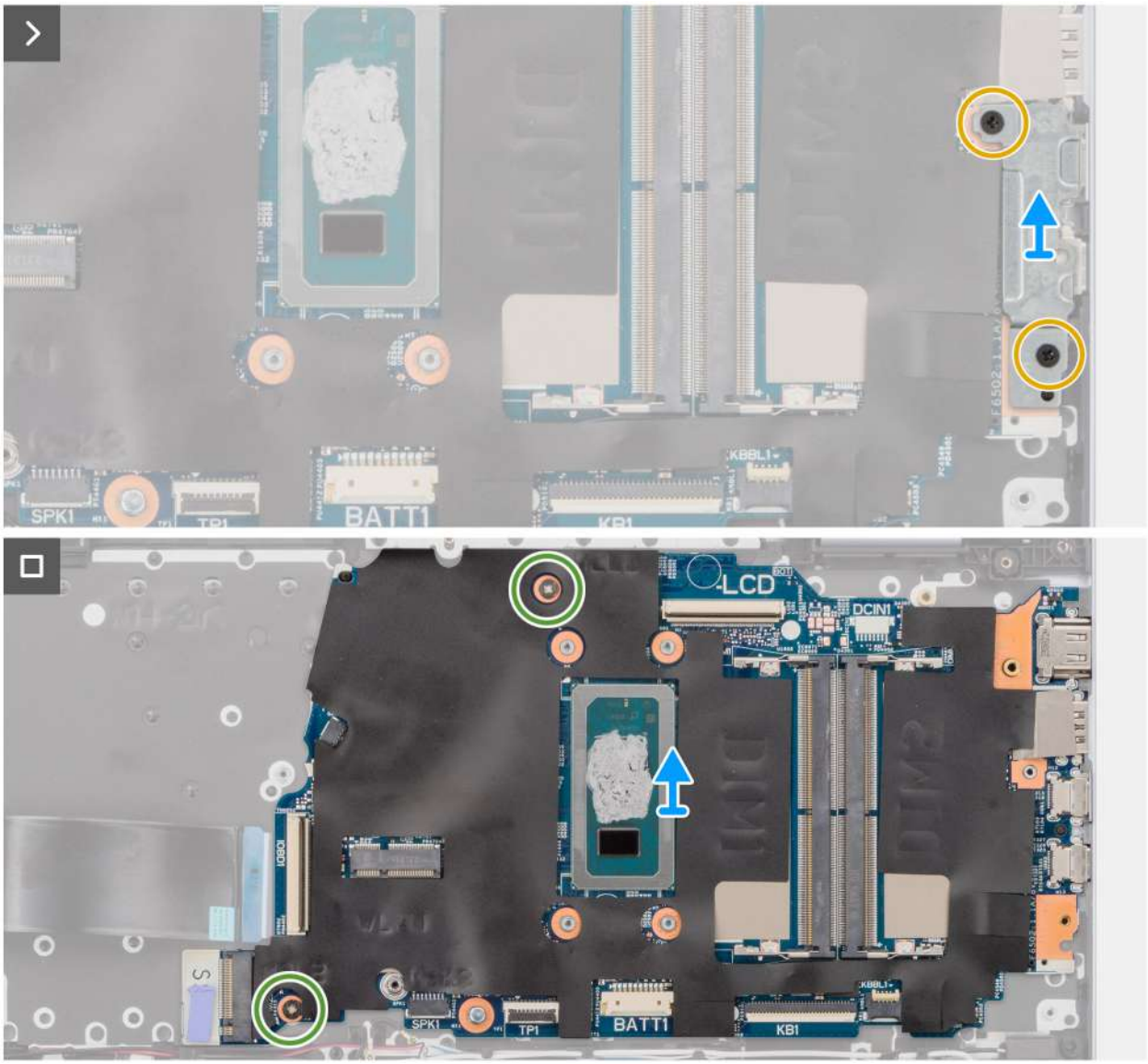

Figure 48. Removing the USB-C bracket and the system board

7. Remove the two screws (M2x4) that secure the USB Type-C bracket to the system board.
8. Lift the USB Type-C bracket off the system board.
9. Remove the two screws (M2x2) that secure the system board to the palm-rest and keyboard assembly.
10. Lift the system board off the palm-rest and keyboard assembly.

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.

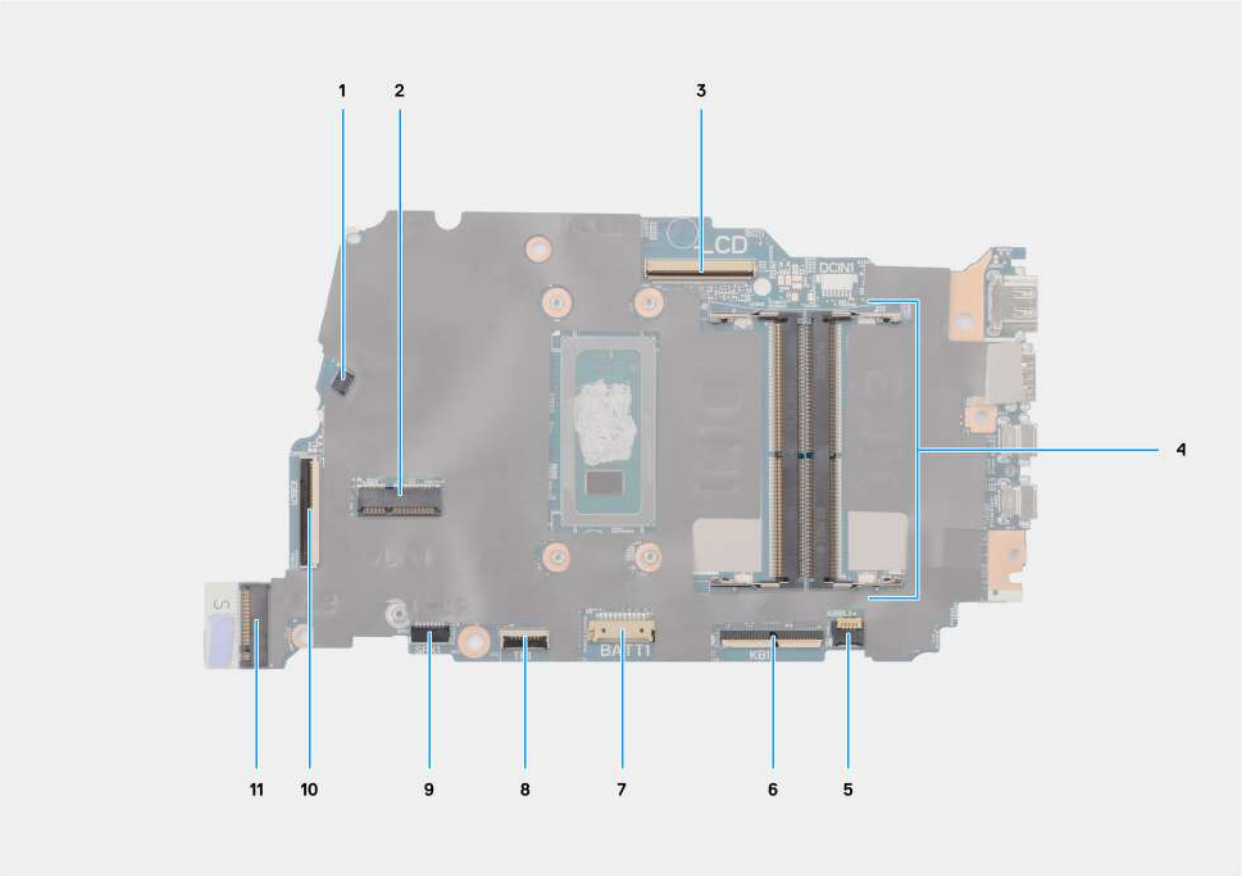

Figure 49. Connectors on the system board

1. Fan-cable connector (FN1)
2. M.2 wireless-card connector
3. Display-cable connector(LCD)
4. Memory module connector
5. Keyboard-backlight cable connector(KBBL1)
6. Keyboard-cable connector (KB1)
7. Battery-cable connector (BATT1)
8. Touchpad-cable connector (TP1)
9. Speaker-cable connector (SPK1)
10. I/O-board cable connector (IOBD1)
11. M.2 solid-state drive connector (SSD1)

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

Steps

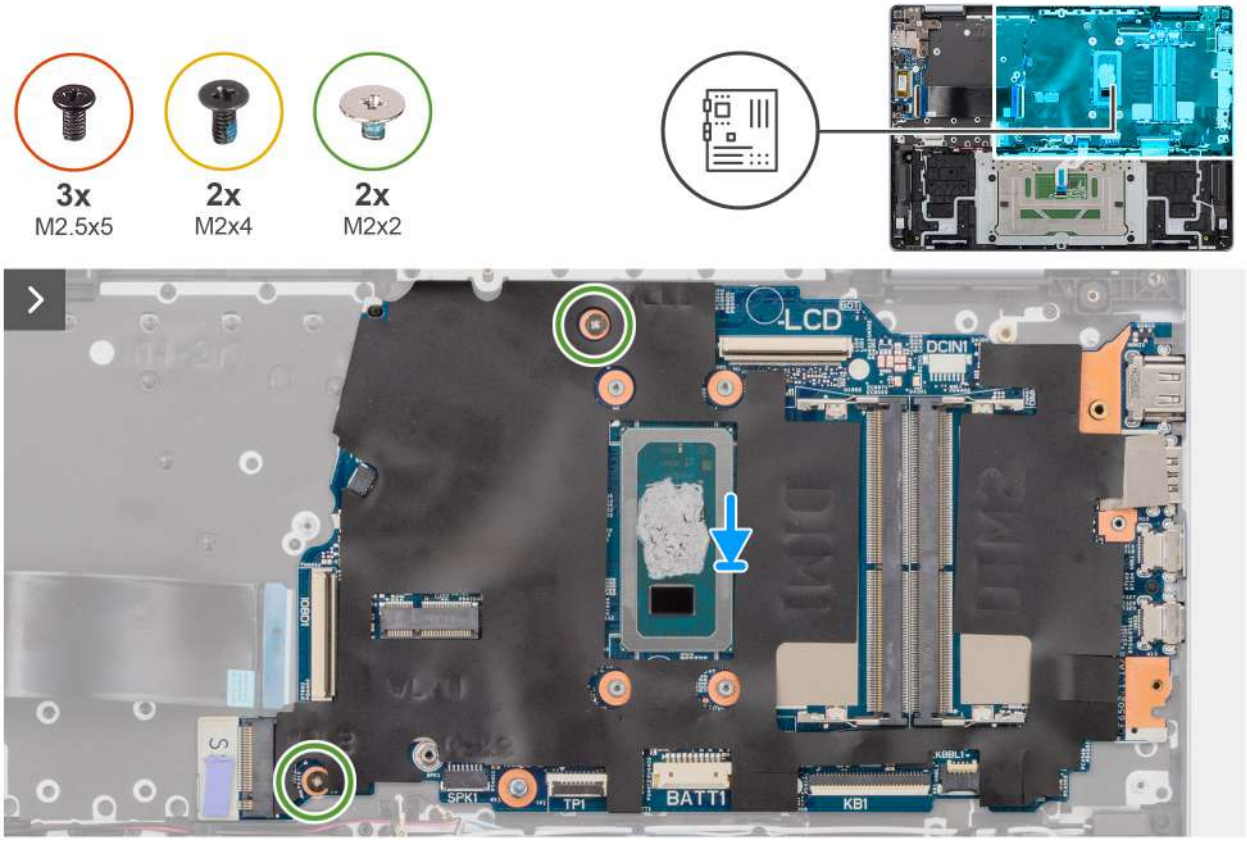

Figure 50. Installing the system board

1. Align the screw holes on the system board with the screw holes on the palm-rest and keyboard assembly.
2. Replace the two screws (M2x2) that secure the system board to the palm-rest and keyboard assembly.

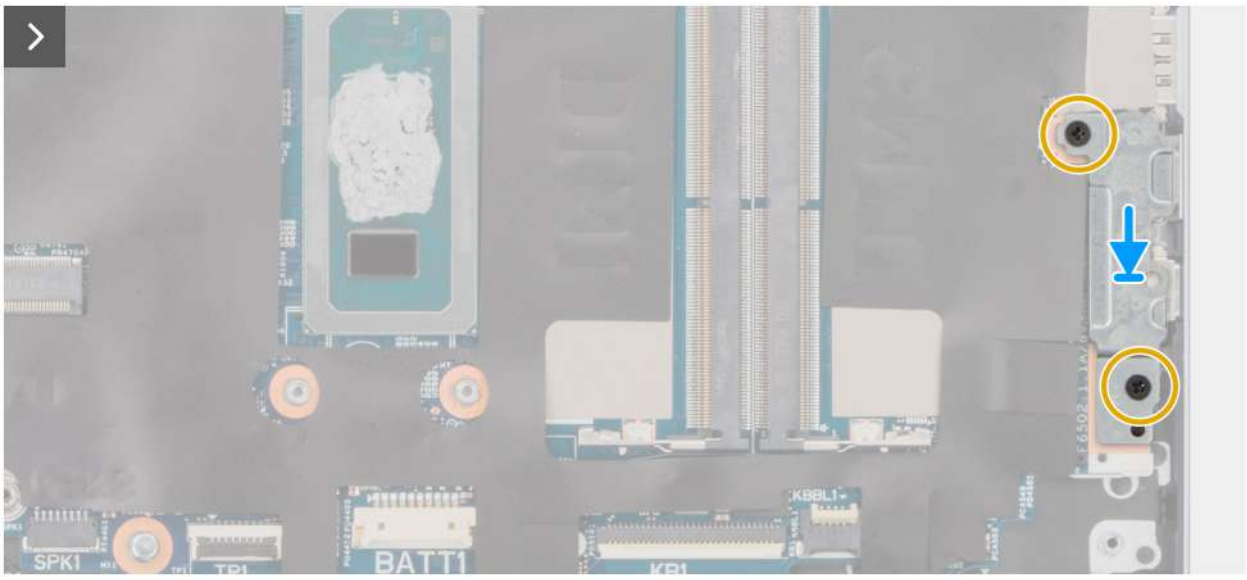

Figure 51. Replacing the USB Type-C bracket

3. Align the screw holes on the USB Type-C bracket to the screw holes on the system board.
4. Replace the two screws (M2x4) that secure the USB Type-C bracket to the system board.

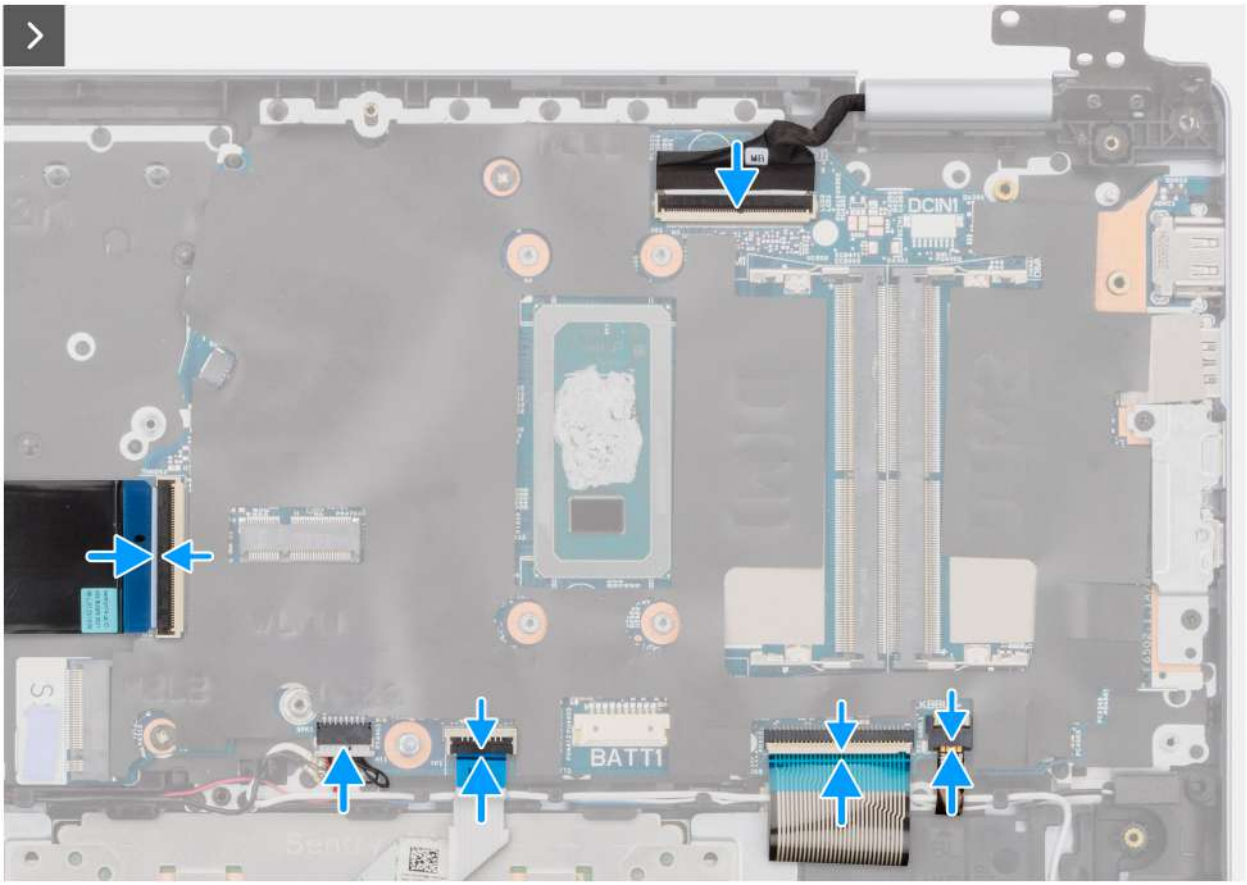

Figure 52. Replacing the cable connectors

5. Connect the I/O board cable to the I/O board cable-connector (IOBD1) on the system board.
6. Connect the speaker cable to the speaker-cable connector (SPK1) on the speaker board.
7. Connect the touchpad cable to the touchpad-cable connector (TP1) on the system board and close the latch.
8. Connect the keyboard cable to the keyboard-cable connector (KB1) on the system board and close the latch.
9. Connect the keyboard-backlight cable to the keyboard-backlight cable connector (KBBL1) on the system board and close the latch.

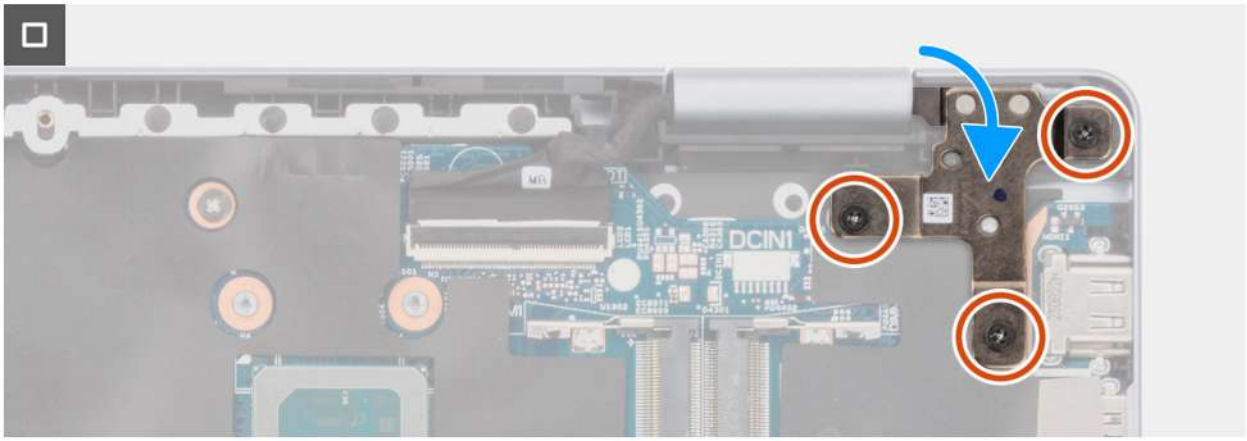

Figure 53. Replacing the hinge screws

10. Replace the three screws (M2.5x5) that secure the right display hinge to the palm-rest and keyboard assembly.

Next steps

1. Install the display assembly.
2. Install the heatsink.
3. Install the fan.

4. Install the M.2 2230 solid-state drive.
5. Install the wireless card.
6. Install the battery.
7. Install the base cover.
8. 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, Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the wireless card.
5. Remove the M.2 2230 solid-state drive.
6. Remove the I/O board.
7. Remove the speakers.
8. Remove the fan.
9. Remove the power button or the power button with fingerprint reader.
10. Remove the touchpad.
11. Remove the display assembly.
12. Remove the system board.

    NOTE: The system board can be removed with the heatsink attached.

About this task

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

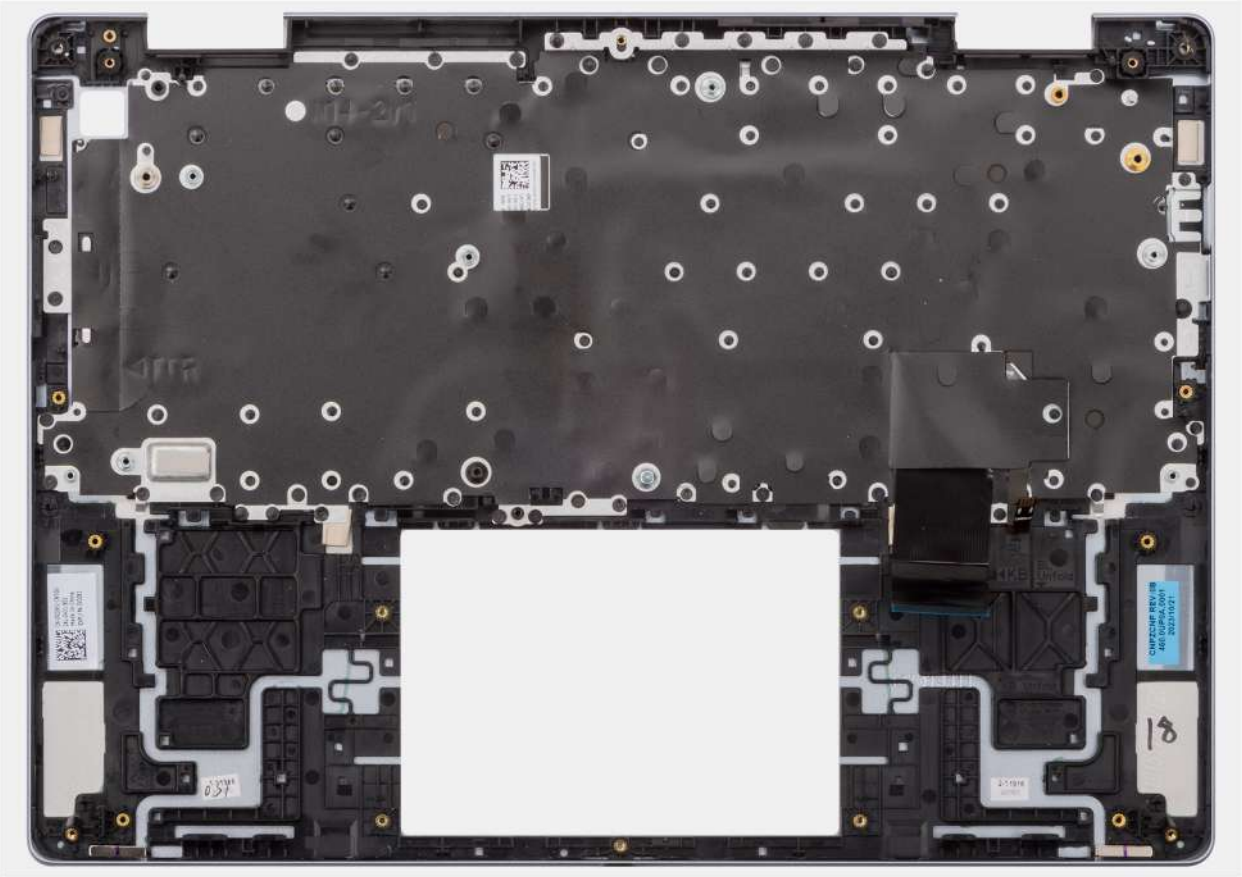

Figure 54. Removing the palm-rest and keyboard assembly

Steps

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

Installing the palm-rest and keyboard assembly

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

Prerequisites

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

About this task

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

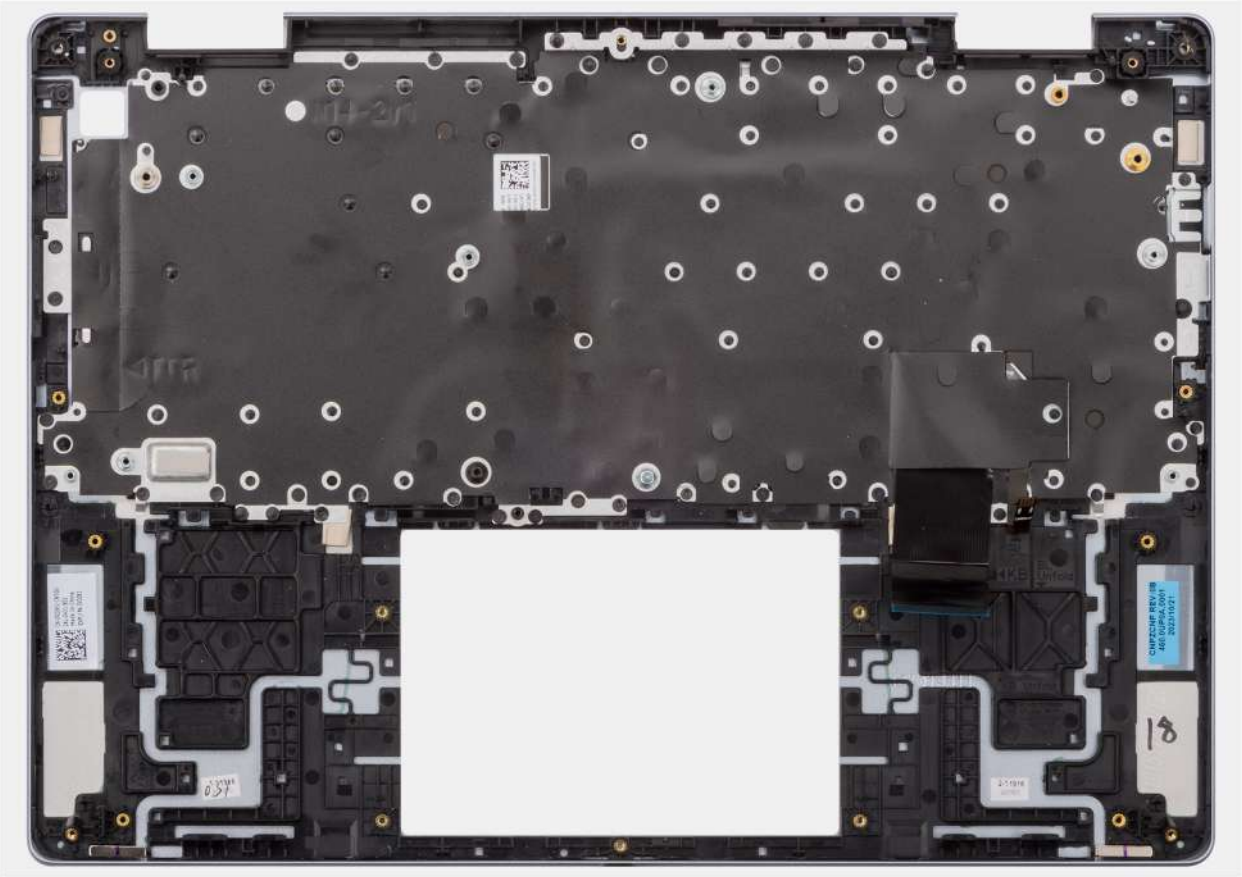

Figure 55. Installing the palm-rest and keyboard assembly

Steps

Place the palm-rest and keyboard assembly on a clean and flat surface.

Next steps

1. Install the system board.

   NOTE: The system board can be installed with the heatsink attached.

2. Install the display assembly.
3. Install the touchpad.
4. Install the power button or the power button with fingerprint reader, whichever is applicable.
5. Install the fan.
6. Install the speakers.
7. Install the I/O board.
8. Install the M.2 2230 solid-state drive.
9. Install the wireless card.
10. Install the battery.
11. Install the base cover.
12. Follow the procedure in After working inside your computer.

8

Software

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

Operating system

Your Inspiron 14 7440 2-in-1 supports the following operating systems:

- Windows 11 Home
- Windows 11 Home in S-mode
- Windows 11 Pro
- Windows 11 Pro National Academic

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.

9

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 the installed devices, the options 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 enable or disable 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 BIOS Setup options, changes that you make are recorded but do not take effect until you restart the computer.

Table 28. Navigation keys

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

F12 One Time Boot menu

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

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

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

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

  NOTE: XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

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

System setup options

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

Table 29. System setup options—Overview menu

Overview	
Inspiron 14 7440 2-in-1	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Displays the Asset Tag of the computer.
Manufacture Date	Displays the manufacture date of the computer.
Ownership Date	Displays the ownership date of the computer.
Express Service Code	Displays the Express Service Code of the computer.
Ownership Tag	Displays the Ownership Tag of the computer.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your computer. By default, the **Signed Firmware Update** option is enabled.
Battery Information	
Primary	Displays the primary battery of the computer.
Battery Level	Displays the battery level of the computer.
Battery State	Displays the battery state of the computer.
Health	Displays the battery health of the computer.
AC Adapter	Displays whether an AC adapter is connected. If connected, displays the type of AC adapter that is connected.
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.

Table 29. System setup options—Overview menu (continued)

Overview	
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 computer memory installed.
Memory Available	Displays the total computer 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.
DIMM_SLOT1	Displays the memory installed and memory type in DIMM SLOT1.
DIMM_SLOT2	Displays the memory installed and memory type in DIMM SLOT2.
Devices Information	
Panel Type	Displays the Panel Type of the computer.
Video Controller	Displays the video controller type of the computer.
Video Memory	Displays the video memory information of the computer.
Wi-Fi Device	Displays the wireless device information of the computer.
Native Resolution	Displays the native resolution of the computer.
Video BIOS Version	Displays the video BIOS version of the computer.
Audio Controller	Displays the audio controller information of the computer.
Bluetooth Device	Displays the Bluetooth device information of the computer.

Table 30. System setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot Mode: UEFI only	Displays the boot mode of the computer.
Boot Sequence	Displays the boot sequence.
Enable PXE Boot Priority	Enables adding new PXE boot options to the top of the Boot Sequence. By default, the **Enable PXE Boot Priority** option is disabled.
Secure Digital (SD) Card Boot	Enables or disables read-only boot from Secure Digital (SD) card. By default, the **Secure Digital (SD) Card Boot** option is disabled.
Secure Boot	Secure Boot is a method of guaranteeing the integrity of the boot path by performing additional validation of the operating system and PCI add-in cards. The computer stops booting to the operating system when a component is not authenticated during the boot process. Secure Boot can be enabled in BIOS setup or using management interfaces like Dell Command|Configure, but can only be disabled from BIOS setup.
Enable Secure Boot	Enables the computer to boot using only validated boot software. By default, the **Enable Secure Boot** option is enabled. For additional security, Dell Technologies recommends keeping the **Secure Boot** option enabled to ensure that the UEFI firmware validates the operating system during the boot process.

Table 30. System setup options—Boot Configuration menu (continued)

Boot Configuration	
	NOTE: For Secure Boot to be enabled, the computer is required to be in UEFI boot mode and the Enable Legacy Option ROMs option is required to be turned off.
Secure Boot Mode	Enables or disables the Secure Boot operation mode. By default, the **Deployed Mode** is selected. **NOTE:** **Deployed Mode** should be selected for normal operation of Secure Boot.
Enable Microsoft UEFI CA	When disabled, the UEFI CA is removed from the BIOS UEFI Secure Boot database. **NOTE:** When disabled, the Microsoft UEFI CA could render your computer unable to boot, computer graphics may not function, some devices may not function properly, and the computer could become unrecoverable. By default, the **Enable Microsoft UEFI CA** option is enabled. For additional security, Dell Technologies recommends keeping the **Microsoft UEFI CA** option enabled to ensure the broadest compatibility with devices and operating systems.
Expert Key Management	
Enable Custom Mode	Enables or disables the keys in the PK, KEK, db, and dbx security key databases to be modified. By default, the **Enable Custom Mode** option is disabled.
Custom Mode Key Management	Selects the custom values for expert key management. By default, the **PK** option is selected.

Table 31. System setup options—Integrated Devices menu

Integrated Devices	
Date/Time	
Date	Sets the computer date in MM/DD/YYYY format. Changes to the date format take effect immediately.
Time	Sets the computer time in HH/MM/SS 24-hour format. You can switch between a 12-hour and 24-hour clock. Changes to the time format take effect immediately.
Camera	
Enable Camera	Enables the camera. By default, the **Enable Camera** option is enabled. **NOTE:** Depending on the configuration ordered, the camera setup option may not be available.
Audio	
Enable Audio	Enables all integrated audio controller. By default, all the options are enabled.
Enable Microphone	Enables the microphone. By default, the **Enable Microphone** option is enabled. **NOTE:** Depending on the configuration ordered, the microphone setup option may not be available.
Enable Internal Speaker	Enables the internal speaker.

Table 31. System setup options—Integrated Devices menu (continued)

Integrated Devices	
	By default, the **Enable Intenal Speaker** option is enabled.
USB/Thunderbolt Configuration	
Enable USB Boot Support	Enables booting from USB mass storage devices that are connected to external USB ports. By default, the **Enable USB Boot Support** option is enabled.
Enable External USB Ports	Enables the external USB ports. By default, the **Enable External USB Ports** option is enabled.
Miscellaneous Devices	
Enable Fingerprint Reader Device	Enables the Fingerprint Reader Device option. By default, the **Enable Fingerprint Reader Device** option is enabled.

Table 32. System setup options—Storage menu

Storage	
SATA/NVMe Operation	
SATA/NVMe Operation	Sets the operating mode of the integrated SATA hard drive controller. By default, the **RAID on** option is selected. The storage device is configured for RAID on mode.
Storage Interface	Displays the information of various onboard drives.
Port Enablement	Enables or disables the M.2 PCIe SSD option. By default, the **M.2 PCIe SSD** option is enabled.
Smart Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the Self Monitoring Analysis and Reporting Technology (SMART) specification. By default, the **Enable SMART Reporting** option is disabled.
Drive Information	Displays the information of onboard drives.
Enable MediaCard	
Secure Digital (SD) Card	Enables or disables the SD card. By default, the **Secure Digital (SD) Card** option is enabled.

Table 33. System setup options—Display menu

Display	
Display Brightness	
Brightness on battery power	Enables to set the screen brightness when the computer is running on battery power. By default, the screen brightness is set to 50 when the computer is running on battery power.
Brightness on AC power	Enables to set the screen brightness when the computer is running on AC power. By default, the screen brightness is set to 100 when the computer is running on AC power.
Touchscreen	Enables or disables the touch screen option. By default, the **Touchscreen** option is enabled.

Table 33. System setup options—Display menu (continued)

Display	
Full Screen Logo	Enables or disables the computer to display a full-screen logo, if the image matches screen resolution. By default, the **Full Screen Logo** option is disabled.

Table 34. System setup options—Connection menu

Connection	
Wireless Device Enable	
WLAN	Enables or disables the internal WLAN device. By default, the **WLAN** option enabled.
Bluetooth	Enables or disables the internal Bluetooth device. By default, the **Bluetooth** option enabled.
Enable UEFI Network Stack	Enables or disables the UEFI Network Stack and controls the onboard LAN Controller. By default, the **Enable UEFI Network Stack** option is enabled.
HTTP(s) Boot Feature	
HTTP(s) Boot	Displays if the computer has HTTP(s) Boot capabilities or not. By default, the **HTTP(s) Boot** option is enabled.
HTTP(s) Boot Modes	Allows you to set the HTTP(s) Boot Mode for the computer. By default, the **Auto Mode** option is selected. HTTP(s) Boot automatically extracts Boot URL from Dynamic Host Configuration Protocol (DHCP).

Table 35. System setup options—Power menu

Power	
Battery Configuration	Enables or disables the computer to run on battery during peak power usage hours. Use the table **Custom Charge Start** and **Custom Charge Stop**, to prevent AC power usage between certain times of each day. By default, the **Adaptive** option is selected. Battery settings are adaptively optimized based on your typical battery usage pattern.
Advanced Configuration	
Enable Advanced Battery Charge Configuration	Enables Advanced Battery Charge Configuration from the beginning of the day to a specified work period. When enabled, Advanced Battery Charged maximizes battery health while still supporting heavy use during the work day. By default, the **Enable Advanced Battery Charge Configuration** option is disabled.
Thermal Management	Enables or disables cooling of fan and manages processor heat to adjust the computer performance, noise, and temperature. By default, the **Optimized** option is selected. Standard setting for balanced performance, noise, and temperature.
USB Wake Support	
Wake on Dell USB-C Dock	When enabled, connecting a Dell USB-C Dock wakes the computer from Standby, Hibernate, and Power Off. By default, the **Wake on Dell USB-C Dock** option is enabled.

Table 35. System setup options—Power menu (continued)

Power	
Block Sleep	Enables or disables the computer from entering Sleep (S3) mode in the operating system. By default, the **Block Sleep** option is disabled. **NOTE:** When enabled, the computer does not go to Sleep, Intel Rapid Start is disabled automatically, and the operating system power option is blank if it was set to Sleep.
Intel Speed Shift Technology	Enables or disables the Intel Speed Shift Technology support. When enabled, the operating system selects the appropriate processor performance automatically. By default, the **Intel Speed Shift Technology** option is enabled.

Table 36. System setup options—Security menu

Security	
Intel Platform Trust Technology (PTT)	Intel PTT is a firmware-based Trusted Platform Module (fTPM) device that is part of Intel chipsets. It provides credential storage and key management that can replace the equivalent functionality of a discrete TPM chip. **NOTE:** The options that are listed apply to computers with a discrete **Trusted Platform Module (TPM)**.
PTT On	Enables or disables the Intel PTT option. By default, the **PTT On** option is enabled. For additional security, Dell Technologies recommends keeping the **PTT On** option enabled.
Physical Presence Interface (PPI) Bypass for Clear Commands	The PPI Bypass for Clear Commands option allows the operating system to manage certain aspects of PTT. When enabled, you are not prompted to confirm changes to the PTT configuration. By default, the **PPI Bypass for Clear Commands** option is disabled. For additional security, Dell Technologies recommends keeping the **PPI Bypass for Clear Commands** option disabled.
Clear	When enabled, the **Clear** option clears the information that is stored in the PTT fTPM after exiting the computer's BIOS. This option returns to the disabled state when the computer restarts. By default, the **Clear** option is disabled. Dell Technologies recommends enabling the **Clear** option only when PTT fTPM data needs to be cleared.
SMM Security Mitigation	Enables or disables additional UEFI SMM Security Mitigation protections. This option uses the Windows SMM Security Mitigations Table (WSMT) to confirm to the operating system that security best practices have been implemented by the UEFI firmware. By default, the **SMM Security Mitigation** option is enabled. For additional security, Dell Technologies recommends keeping the **SMM Security Mitigation** option enabled unless you have a specific application which is not compatible. **NOTE:** This feature may cause compatibility issues or loss of functionality with some legacy tools and applications.
Data Wipe on Next Boot	
Start Data Wipe	Data Wipe is a secure wipe operation that deletes information from a storage device.

Table 36. System setup options—Security menu (continued)

Security	
	CAUTION: The secure Data Wipe operation deletes information in a way that it cannot be reconstructed. Commands such as delete and format in the operating system may remove files from showing up in the file system. However, they can be reconstructed through forensic means as they are still represented on the physical media. Data Wipe prevents this reconstruction and is not recoverable. When enabled, the data wipe option will prompt to wipe any storage devices that are connected to the computer on the next boot. By default, the **Start Data Wipe** option is disabled.
Absolute	Absolute Software provides various cyber security solutions, some requiring software preloaded on Dell computers and integrated into the BIOS. To use these features, you must enable the Absolute BIOS setting and contact Absolute for configuration and activation. By default, the **Absolute** option is enabled. For additional security, Dell Technologies recommends keeping the **Absolute** option enabled. **NOTE:** When the Absolute features are activated, the Absolute integration cannot be disabled from the BIOS setup screen.
UEFI Boot Path Security	Enables or disables the computer to prompt the user to enter the Administrator password (if set) when booting to a UEFI boot path device from the F12 boot menu. By default, the **Always Except Internal HDD** option is enabled.

Table 37. System setup options—Passwords menu

Passwords	
Admin Password	The Administrator Password prevents unauthorized access to the BIOS Setup options. Once the administrator password is set, the BIOS setup options can only be modified after providing the correct password. The following rules and dependencies apply to the Administrator Password - • The administrator password cannot be set if computer and/or internal hard drive passwords are previously set. • The administrator password can be used in place of the computer and/or internal hard drive passwords. • When set, the administrator password must be provided during a firmware update. • Clearing the administrator password also clears the computer password (if set). Dell Technologies recommends using an administrator password to prevent unauthorized changes to BIOS setup options.
System Password	The System Password prevents the computer from booting to an operating system without entering the correct password. The following rules and dependencies apply when the System Password is used - • The computer shuts down when idle for approximately 10 minutes at the computer password prompt. • The computer shuts down after three incorrect attempts to enter the computer password. • The computer shuts down when the **Esc** key is pressed at the System Password prompt. • The computer password is not prompted when the computer resumes from standby mode.

Table 37. System setup options—Passwords menu (continued)

Passwords	
	Dell Technologies recommends using the computer password in situations where it is likely that a computer may be lost or stolen.
Hard Drive Password	The Hard Drive Password can be set to prevent unauthorized access of the data stored on the hard drive. The computer prompts for the hard drive password during boot in order to unlock the drive. A password-secured hard drive stays locked even when removed from the computer or placed into another computer. It prevents an attacker from accessing data on the drive without authorization. The following rules and dependencies apply when the Hard Drive Password is used - ● The hard drive password option cannot be accessed when a hard drive is disabled in the BIOS setup. ● The computer shuts down when idle for approximately 10 minutes at the hard drive password prompt. ● The computer shuts down after three incorrect attempts to enter the hard drive password and treats the hard drive as not available. ● The hard drive does not accept password unlock attempts after five incorrect attempts to enter the hard drive password from the BIOS Setup. The hard drive password must be reset for the new password unlock attempts. ● The computer treats the hard drive as not available when the **Esc** key is pressed at the hard drive password prompt. ● The hard drive password is not prompted when the computer resumes from standby mode. When the hard drive is unlocked by the user before the computer goes into standby mode, it remains unlocked after the computer resumes from standby mode. ● If the computer and hard drive passwords are set to the same value, the hard drive unlocks after the correct computer password is entered. Dell Technologies recommends using a hard drive password to protect unauthorized data access.
Password Configuration	The Password configuration page includes several options for changing the requirements of BIOS passwords. You can modify the minimum and maximum length of the passwords and require passwords to contain certain character classes (upper case, lower case, digit, special character). Dell Technologies recommends setting the minimum password length to at least eight characters.
Password Bypass	The **Password Bypass** option allows the computer to reboot from the operating system without entering the computer or hard drive password. If the computer has already booted to the operating system, it is presumed that the user has already entered the correct computer or hard drive password. **NOTE:** This option does not remove the requirement to enter the password after shutting down. By default, the **Password Bypass** option is disabled. For additional security, Dell Technologies recommends keeping the **Password Bypass** option enabled.
Password Changes	
Allow Non-Admin Password Changes	The **Allow Non-Admin Password Changes** option in BIOS setup allows an end user to set or change the computer or hard drive passwords without entering the administrator password. This gives an administrator control over the BIOS settings but enables an end user to provide their own password. By default, the **Allow Non-Admin Password Changes** option is enabled. For additional security, Dell Technologies recommends keeping the **Allow Non-Admin Password Changes** option disabled.

Table 37. System setup options—Passwords menu (continued)

Passwords	
Admin Setup Lockout	The **Admin Setup Lockout** option prevents an end user from even viewing the BIOS setup configuration without first entering the administrator password (if set). By default, the **Admin Setup Lockout** option is disabled. For additional security, Dell Technologies recommends keeping the **Admin Setup Lockout** option disabled.
Master Password Lockout	
Enable Master Password Lockout	The Master Password Lockout setting allows you to disable the Recovery Password feature. If the computer, administrator, or hard drive password is forgotten, the computer becomes unusable. **NOTE:** When the owner password is set, the Master Password Lockout option is not available. **NOTE:** When an internal hard drive password is set, it must first be cleared before Master Password Lockout can be changed. By default, the **Enable Master Password Lockout** option is disabled. Dell does not recommend enabling the **Master Password Lockout** unless you have implemented your own password recovery computer.
Allow Non-Admin PSID Revert	
Enable Allow Non-Admin PSID Revert	Allows you to control access to the Physical Security ID (PSID) revert of NVMe hard-drives from the Dell Security Manager prompt. When enabled, PSID revert is allowed to proceed without providing the BIOS Admin password. By default, the **Enable Allow Non-Admin PSID Revert** option is disabled.

Table 38. System setup options—Update, Recovery menu

Update, Recovery	
UEFI Capsule Firmware Updates	
Enable UEFI Capsule Firmware Updates	Enables or disables BIOS updates through UEFI capsule update packages. **NOTE:** Disabling this option blocks the BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS). By default, the **Enable UEFI Capsule Firmware Updates** option is enabled.
BIOS Recovery from Hard Drive	Enables or disables the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive or an external USB key. By default, the **BIOS Recovery from Hard Drive** option is enabled. **NOTE:** BIOS Recovery from Hard Drive is not available for self-encrypting drives (SED). **NOTE:** BIOS recovery is designed to fix the main BIOS block and cannot work if the Boot Block is damaged. In addition, this feature cannot work in the event of EC corruption, ME corruption, or a hardware issue. The recovery image must exist on an unencrypted partition on the drive.
BIOS Downgrade	
Allow BIOS Downgrade	Controls flashing of the computer firmware to previous revisions. By default, the **Allow BIOS Downgrade** option is enabled.
SupportAssist OS Recovery	Enables or disables the boot flow for SupportAssist OS Recovery tool in the event of certain computer errors.

Table 38. System setup options—Update, Recovery menu (continued)

Update, Recovery	
	By default, the **SupportAssist OS Recovery** option is enabled.
BIOSConnect	Enables or disables 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 **BIOSConnect** option is enabled.
Dell Auto OS Recovery Threshold	Allows you to control the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery Tool. By default, the **Dell Auto OS Recovery Threshold** value is set to 2.

Table 39. System setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Creates a computer Asset Tag that can be used by an IT administrator to uniquely identify a particular computer. **NOTE:** Once set in BIOS, the Asset Tag cannot be changed.
AC Behavior	
Wake on AC	Enables or disables the computer to turn on and go to boot when AC power is supplied to the computer. By default, the **Wake on AC** option is disabled.
Auto On Time	Enable to set the computer to turn on automatically every day or on a preselected date and time. This option can be configured only if the Auto On Time is set to Everyday, Weekdays, or Selected Days. By default, the **Auto On Time** option is disabled.
Diagnostics	
Operating system Agent Requests	By default **operating system Agent Requests** option is enabled.
Power-on-Self-Test Automatic Recovery	
Power-on-Self-Test Automatic Recovery	By default **Power-on-Self-Test Automatic Recovery** option is enabled.

Table 40. System setup options—Keyboard menu

Keyboard	
Fn Lock Options	Enables or disables the Fn Lock option. By default, the **Fn Lock** option is enabled.
Lock Mode	By default, the **Lock Mode Secondary** option is enabled. With this option, the F1-F12 keys scan the code for their secondary functions.
Keyboard Illumination	Configures the operating mode of the keyboard illumination feature. By default, the **Bright** option is selected. Enables the keyboard illumination feature at 100% brightness level.
Keyboard Backlight Timeout on AC	Sets the timeout value for the keyboard backlight when an AC adapter is connected to the computer. By default, the **1 minute** option is selected.

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

Keyboard	
Keyboard Backlight Timeout on Battery	Sets the timeout value for the keyboard backlight when the computer is running only on the battery power. The keyboard backlight timeout value is only effective when the backlight is enabled. By default, the **1 minute** option is selected.

Table 41. System setup options—Preboot Behavior menu

Preboot Behavior	
Adapter Warnings	
Enable Adapter Warning	Enables the warning messages during boot when the adapters with less power capacity are detected. By default, the **Enable Dock Warning Messages** option is enabled.
Warnings and Errors	Enables or disables the action to be taken when a warning or error is encountered. By default, the **Prompt on Warnings and Errors** option is selected. Stop, prompt, and wait for user input when warnings or errors are detected. **NOTE:** Errors deemed critical to the operation of the computer hardware stop the functioning of the computer.
USB-C Warnings	
Enable Dock Warning Messages	Enables the warning messages during boot when the USB-C adapters with less power capacity are detected. By default, the **Enable Dock Warning Messages** option is enabled.
Extend BIOS POST Time	Sets the BIOS POST (Power-On Self-Test) load time. By default, the **0 seconds** option is selected.
Sign of Life	
Early Keyboard Backlight	Keyboard Backlight Sign of Life. By default, the **Early Keyboard Backlight** option is enabled.

Table 42. System setup options—Virtualization menu

Virtualization Support	
Intel Virtualization Technology	
Enable Intel Virtualization Technology (VT)	When enabled, the computer can run a Virtual Machine Monitor (VMM). By default, the **Enable Intel Virtualization Technology (VT)** option is enabled.
VT for Direct I/O	
Enable Intel VT for Direct I/O	When enabled, the computer can perform Virtualization Technology for Direct I/O (VT-d). VT-d is an Intel method that provides virtualization for memory map I/O. By default, the **Enable Intel VT for Direct I/O** option is enabled.
DMA Protection	
Enable Pre-Boot DMA Support	Allows you to control the Pre-Boot DMA protection for both internal and external ports. This option does not directly enable DMA protection in the operating system. **NOTE:** This option is not available when the virtualization setting for IOMMU is disabled (VT-d/AMD Vi).

Table 42. System setup options—Virtualization menu (continued)

Virtualization Support	
	By default, the **Enable Pre-Boot DMA Support** option is enabled. For additional security, Dell Technologies recommends keeping the **Enable Pre-Boot DMA Support** option enabled. **NOTE:** This option is provided only for compatibility purposes, since some older hardware is not DMA capable.
Enable OS Kernel DMA Support	Allows you to control the Kernel DMA protection for both internal and external ports. This option does not directly enable DMA protection in the operating system. For operating systems that support DMA protection, this setting indicates to the operating system that the BIOS supports the feature. **NOTE:** This option is not available when the virtualization setting for IOMMU is disabled (VT-d/AMD Vi). By default, the **Enable OS Kernel DMA Support** option is enabled. **NOTE:** This option is provided only for compatibility purposes, since some older hardware is not DMA capable.
Internal Port DMA Compatibility Mode	Allows you to control the boot compatibility for integrated PCIe peripherals by disabling PCIe DMA protection on internal PCIe ports. When enabled, BIOS will notify the operating system that the internal ports are not DMA capable. This option is to help with devices that have operating system DMA compatibility issues. This option does not directly enable DMA protection in the operating system. **NOTE:** This option is not available when the virtualization setting for IOMMU is disabled (VT-d/AMD Vi). By default, the **Internal Port DMA Compatibility Mode** option is disabled. **NOTE:** This option is provided only for compatibility purposes, as certain older hardware may not be DMA compliant.

Table 43. System setup options—Performance menu

Performance	
Multi-Core Support	
Multiple Atom Cores	Enables to change the number of Atom cores available to the operating system. The default value is set to the maximum number of cores. By default, the **All Cores** option is selected.
Intel SpeedStep	
Enable Intel SpeedStep Technology	Enables the computer to dynamically adjust processor voltage and core frequency, decreasing average power consumption and heat production. By default, the **Enable Intel SpeedStep Technology** option is enabled.
C-State Control	
Enable C-State Control	Enables or disables the ability of the CPU to enter and exit low-power state. When disabled, it disables all C-states. When enabled, it enables all C-states that the chipset or platform allows. By default, the **Enable C-State Control** option is enabled.
Intel Turbo Boost Technology	
Enable Intel Turbo Boost Technology	Enables the Intel TurboBoost mode of the processor. When enabled, the Intel TurboBoost driver increases the performance of the CPU or graphics processor. By default, the **Enable Intel Turbo Boost Technology** option is enabled.

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

Performance	
Intel Hyper-Threading Technology	
Enable Intel Hyper-Threading Technology	Enables the Intel Hyper-Threading mode of the processor. When enabled, the Intel Hyper-Threading increases the efficiency of the processor resources when multiple threads run on each core. By default, the **Intel Hyper-Threading Technology** option is enabled.

Table 44. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear BIOS Event Log	Allows you to select option to keep or clear BIOS events logs. By default, the **Keep Log** option is selected.
Thermal Event Log	
Clear Thermal Event Log	Allows you to select option to keep or clear Thermal events logs. By default, the **Keep Log** option is selected.
Power Event Log	
Clear Power Event Log	Allows you to select option to keep or clear Power events logs. By default, the **Keep Log** option is selected.

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 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 One Time Boot menu

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

You can confirm by booting your computer to the **One Time Boot** Menu to see if BIOS FLASH UPDATE is listed as a boot option . If the option is listed, then the BIOS can be updated using this method..

Updating from the One Time Boot menu

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

- USB drive formatted to the FAT32 file system (the drive 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 must be connected to the computer
- Functional computer battery to flash the BIOS

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

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

Steps

1. Turn off your computer, insert the USB drive where you copied the BIOS flash update file into a USB port of the computer.
2. Turn on the computer and press to access the **One Time Boot** Menu. Select BIOS flash Update using the mouse or arrow keys then press Enter.
   The flash BIOS menu is displayed.
3. Click **Flash from file**.
4. Select the 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 flash update is completed.

System and setup password

Table 45. 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 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 displayed.
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. **Confirm new password** type the system password that you entered earlier in the 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 password or setup password

Prerequisites

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

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 password and/or setup password, reenter the new password when prompted. If you delete the system password and/or setup password, confirm the deletion when prompted.

5. Press Esc. A message prompts you to save the changes.
6. Press Y to save the changes and exit from **System Setup**.
   The computer restarts.

Clearing 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. For more information, go to Dell Support Site.

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

10

Troubleshooting

Handling swollen rechargeable Li-ion batteries

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

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

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

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

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

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

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

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 46. 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

1. Turn on your computer 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

1. Turn off your computer.
2. Disconnect any peripherals that are connected to the computer. Connect only the AC adapter (charger) to the computer.
3. Ensure that the LCD (screen) is clean (no dust particles on the surface of the screen).
4. Press and hold the **D** key and press the power button to enter LCD 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 14 7440 2-in-1.

Power and battery-status light

The power and battery status light indicates the power and battery status of the computer. These are the power states:

Solid white: Power adapter is connected and the battery has more than 5% charge.

Amber: Computer is running on battery and the battery has less than 5% charge.

Off:

- Power adapter is connected, and the battery is fully charged.
- Computer is running on battery, and the battery has more than 5% charge.
- Computer is in sleep state, hibernation, or turned off.

The power and battery-status light may blink amber or white according to pre-defined "beep codes" indicating various failures.

For example, the power and battery-status light blinks amber two times followed by a pause, and then blinks white three times followed by a pause. This 2,3 pattern continues until the computer is turned off, indicating no memory or RAM is detected.

The following table shows different power and battery-status light patterns and associated problems.

NOTE: The following diagnostic light codes and recommended solutions are intended for Dell service technicians to troubleshoot problems. 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.

Table 47. 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	Generic catch-all for ungraceful EC code flow errors
2	1	CPU 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 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, video card/chip failure
3	3	BIOS Recovery image not found
3	4	BIOS Recovery image found but invalid

Table 47. System-diagnostic lights (continued)

Blinking pattern		Problem description
Amber	**White**	
3	5	Power-rail failure
3	6	System BIOS Flash incomplete
3	7	Management Engine (ME) error

NOTE: Blinking 3-3-3 LEDs 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 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 the 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 Dell computers running 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 the primary operating system due to software or hardware failures.

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

Real-Time Clock (RTC Reset)

The Real-Time Clock (RTC) reset function enables you or the service technician to recover Dell computers from No POST/No Power/No Boot situations. 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 twenty seconds . The computer RTC Reset occurs after you release the power button.

Backup media and recovery options

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

Wi-Fi power cycle

About this task

If your computer is unable to access the Internet due to Wi-Fi connectivity issues, reset your Wi-Fi device by performing the following steps:

Steps

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

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

Drain 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 must 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 the computer.
2. Disconnect the power adapter from the computer.
3. Remove the base cover.
4. Remove the battery.

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

   NOTE: For more information about performing a hard reset, search in the Knowledge Base Resource at the 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 48. Self-help resources

Self-help resources	Resource location
Information about Dell Technologies products and services	Dell Site
MyDell 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.