Dell 16 Plus 2-in-1

DB06250

Owner's Manual

Regulatory Model: P138F
Regulatory Type: P138F001
March 2025
Rev. A00

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

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Views of Dell 16 Plus 2-in-1 DB06250

Right

Figure 1. Right view

1. **USB 3.2 Gen 1 (5 Gbps) port**

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

2. **Universal audio jack**

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

Left

Figure 2. Left view

1. **HDMI 2.1 port**

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

2. **USB 3.2 Gen 2 (10 Gbps) Type-C port with DisplayPort 1.4 and Power Delivery**

   Connect devices such as external storage devices and printers. Provides a data transfer speed of up to 10 Gbps.

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

   Supports DisplayPort 2.1, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides a data transfer rate of up to 40 Gbps for Thunderbolt 4.

   NOTE: You can connect a Dell Docking Station to the Thunderbolt 4 ports. For more information, see Dell Docking Stations.

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

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

4. **Battery-status light**

   Indicates the battery-charge status.

   - Solid yellow - Battery charge is low.
   - Blinking yellow - Battery charge is critical.

Top

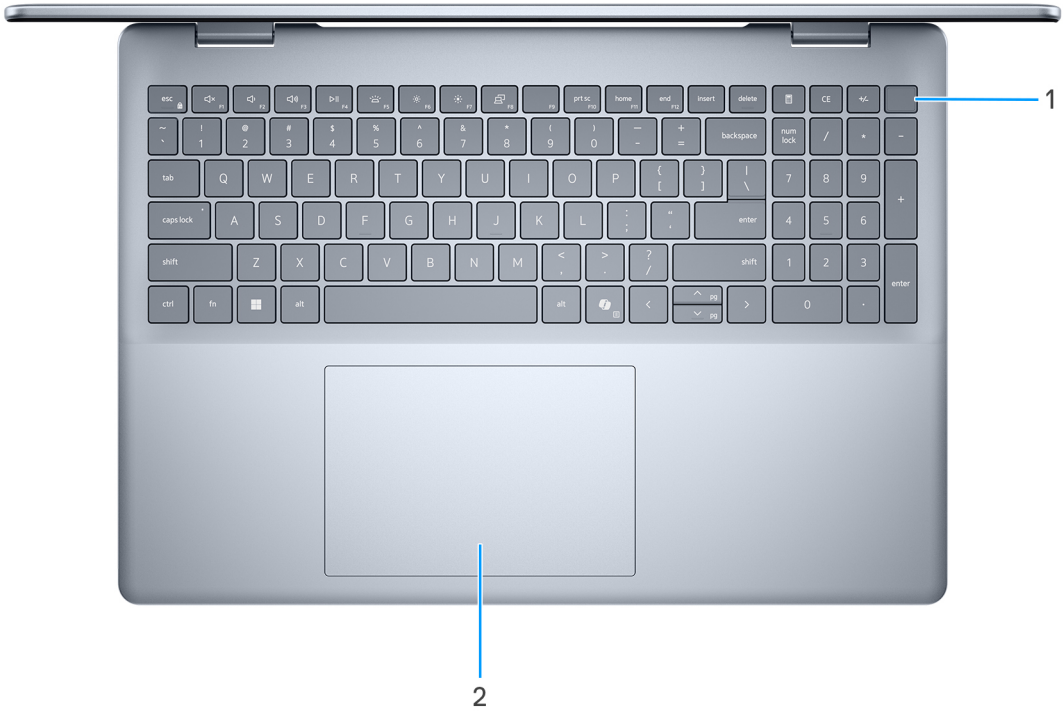

Figure 3. Top view

1. **Power button**

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

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

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

   NOTE: The power-status light on the power button is available only on computers without the fingerprint reader. Computers that are shipped with the fingerprint reader that is integrated on the power button will not have the power-status light on the power button.

   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. **Privacy shutter**

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

3. **Camera**

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

4. **Camera-status light**

   Turns on when the camera is in use.

5. **Right microphone**

   Provides digital sound input for audio recording and voice calls.

Bottom

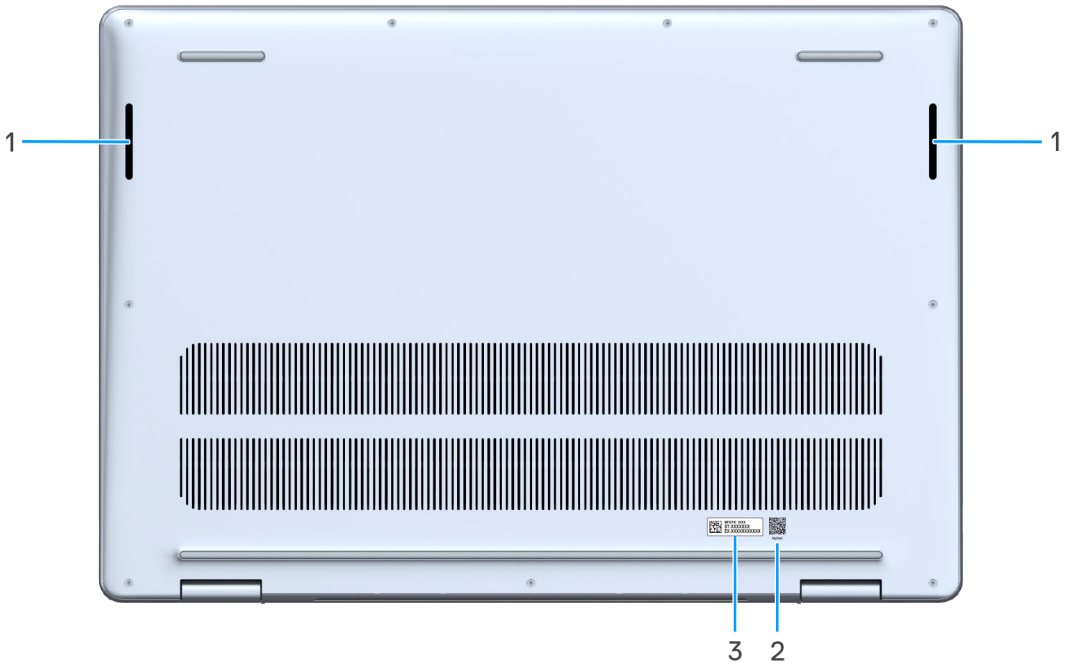

Figure 5. Image: Bottom view

1. **Speakers**

   Provide audio output.

2. **MyDell QR code**

   MyDell provides a consolidated application experience housing capability that helps you get the most out of your computer. Intelligent, AI-based optimization features automatically fine-tune your computer for the best audio, video, battery, and performance. Each MyDell user experience is unique as the software learns and responds to the way you use your computer.

3. **Service Tag/Express Service Code 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. The Express Service Code is a numeric version of the Service Tag.

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

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

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

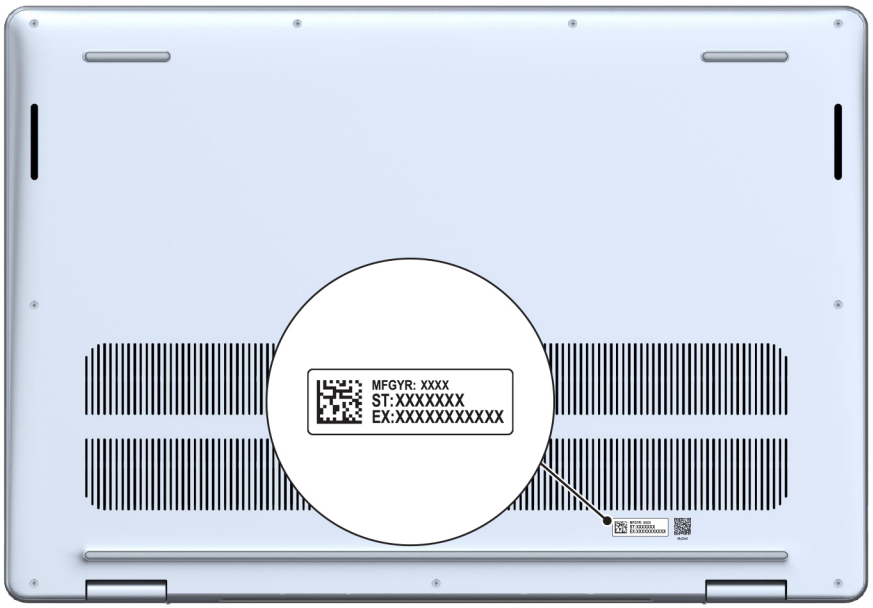

Figure 6. Service Tag/Express Service Code location

Modes

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

Notebook

Figure 7. Notebook mode

Tablet

Figure 8. Tablet mode

Stand

Figure 9. Stand mode

Tent

Figure 10. Tent mode

Battery-charge status light

The following table lists the battery-charge status light of your Dell 16 Plus 2-in-1 DB06250.

Table 1. Battery charge and status light behavior

Power source	LED behavior	System power state	Battery charge level
AC adapter	Off	S0 or S5	Fully charged
AC adapter	Solid white	S0 or S5	< Fully charged
Battery	Off	S0 or S5	11-100%
Battery	Solid amber (590+/-3 nm)	S0 or S5	< 10%

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

2

Set up your Dell 16 Plus 2-in-1 DB06250

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 Windows:

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

   - Connect to a network for Windows updates.

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

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

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

Table 2. Locate Dell apps

Resources	Description
	**MyDell** MyDell provides a consolidated application experience housing capabilities that help you get the most out of your computer. Intelligent, AI-based optimization features automatically fine-tune your computer for the best audio, video, battery, and performance. Each MyDell user experience is unique as the software learns and responds to the way you use your computer. • Applications • Audio • Power • Color and Display • Presence detection • Network For more information about how to use MyDell, see product guides at Dell Support Site.
	**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 also 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 Dell Support Site. **NOTE:** In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.
	**Dell Update** Updates your computer with critical fixes and latest device drivers as they become available. For more information 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.

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Specifications of Dell 16 Plus 2-in-1 DB06250

Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell 16 Plus 2-in-1 DB06250.

Table 3. Dimensions and weight

Description	Values
Height:	
Front height	14.13 mm (0.56 in.)
Rear height	15.57 mm (0.61 in.)
Width	356.78 mm (14.05 in.)
Depth	250.60 mm (9.87 in.)
Weight **NOTE:** The weight of your computer depends on the configuration that is offered.	• Maximum: 2.18 kg (4.81 lb) • Minimum: 2.05 kg (4.52 lb)

Processor

The following table lists the details of the processors that are supported for your Dell 16 Plus 2-in-1 DB06250.

Table 4. Processor

Description	Option one	Option two	Option three	Option four
Processor type	Intel Core Ultra 5 226V	Intel Core Ultra 7 256V	Intel Core Ultra 7 258V	Intel Core Ultra 9 288V
Processor wattage	17 W	17 W	17 W	30 W
Processor total core count	8	8	8	8
Performance-cores	4	4	4	4
Efficient-cores	4	4	4	4
Processor total thread counts **NOTE:** Intel Hyper-Threading Technology is only available on Performance-cores.	8	8	8	8
Processor speed	Up to 4.5 GHz	Up to 4.8 GHz	Up to 4.8 GHz	Up to 5.1 GHz
Performance-cores frequency				
Processor base frequency	2.1 GHz	2.2 GHz	2.2 GHz	3.3 GHz
Maximum turbo frequency	4.5 GHz	4.8 GHz	4.8 GHz	5.1 GHz
Efficient-cores frequency				
Processor base frequency	2.1 GHz	2.2 GHz	2.2 GHz	3.3 GHz
Maximum turbo frequency	3.5 GHz	3.7 GHz	3.7 GHz	3.7 GHz
Processor cache	8 MB	12 MB	12 MB	12 MB
Integrated graphics	Intel Arc Graphics 130V	Intel Arc Graphics 140V	Intel Arc Graphics 140V	Intel Arc Graphics 140V

Chipset

The following table lists the details of the chipset that is supported by your Dell 16 Plus 2-in-1 DB06250.

Table 5. Chipset

Description	Values
Chipset	Integrated in the processor
Processor	Intel Core Ultra 5/7/9
DRAM bus width	Two 64-bit channels
Flash EPROM	32 MB + 8 MB

Table 5. Chipset (continued)

Description	Values
PCIe bus	Up to Gen4

Operating system

Your Dell 16 Plus 2-in-1 DB06250 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Education
- Windows 11 Home

Memory

The following table lists the memory specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 6. Memory specifications

Description	Values
Memory slots	Onboard memory (Memory on Package)
Memory type	Dual-channel LPDDR5x
Memory speed	8533 MT/s
Maximum memory configuration	32 GB
Minimum memory configuration	16 GB
Memory configurations supported	• 16 GB: 2 x 8 GB, LPDDR5x, 8533 MT/s, dual-channel • 32 GB: 2 x 16 GB, LPDDR5x, 8533 MT/s, dual-channel

External ports and slots

The following table lists the external ports and slots on your Dell 16 Plus 2-in-1 DB06250.

Table 7. External ports and slots

Description	Values
USB ports	• One USB 3.2 Gen 1 (5 Gbps) port • One USB 3.2 Gen 2 (10 Gbps) Type-C port with DisplayPort 1.4 and Power Delivery • One Thunderbolt 4 port with DisplayPort 2.1 and Power Delivery **NOTE:** You can connect a Dell Docking Station to the Type-C or the Thunderbolt port. For more information, search in the Knowledge Base Resource at Dell Support Site.
Audio port	One universal audio jack
Video port(s)	One HDMI 2.1 port
Media-card reader	Not supported

Table 7. External ports and slots (continued)

Description	Values
Power-adapter port	USB Type-C
Security-cable slot	Not supported

Internal slots

The following table lists the internal slots of your Dell 16 Plus 2-in-1 DB06250.

Table 8. Internal slots

Description	Values
M.2	• One M.2 2230 slot for WiFi and Bluetooth combo card • One M.2 2230 solid 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) module that is supported on your Dell 16 Plus 2-in-1 DB06250.

Table 9. Wireless module specifications

Description	Values
Model number	Intel BE201
Transfer rate	Up to 5760 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax) • Wi-Fi 7 (WiFi 802.11be)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP
Bluetooth wireless card	Bluetooth 5.4 wireless card

Audio

The following table lists the audio specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 10. Audio specifications

Description	Values
Audio controller	Realtek ALC3329

Table 10. Audio specifications (continued)

Description		Values
Stereo conversion		Supported
Internal audio interface		Soundwire audio interface
External audio interface		One universal audio jack
Number of speakers		2
Internal-speaker amplifier		Class-D speaker amplifier
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average	2 W
	Peak	2.50 W
Microphone		Digital-array microphones in camera assembly

Storage

This section lists the storage options on your Dell 16 Plus 2-in-1 DB06250.

Your Dell 16 Plus DB16250 supports one M.2 223d state drive. The primary drive is the M.2 2230 solid state drive.

Table 11. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 solid state drive, Class 25	PCIe NVMe Gen4 x4	512 GB
M.2 2230 solid state drive, Class 25	PCIe NVMe Gen4 x4	1 TB
M.2 2230 solid state drive, Class 25	PCIe NVMe Gen4 x4	2 TB
M.2 2230 solid state drive, Class 35	PCIe NVMe Gen4 x4	1 TB

Keyboard

The following table lists the keyboard specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 12. Keyboard specifications

Description	Values
Keyboard type	Standard Copilot key hotkey backlit keyboard with numeric keyboard
Keyboard layout	QWERTY
Number of keys	• United States and Canada: 99 keys • United Kingdom: 100 keys • Japan: 103 keys • Brazil: 101 keys

Table 12. Keyboard specifications (continued)

Description	Values
Keyboard size	X = 18.70 mm Y = 18.05 mm
Keyboard shortcuts	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in the BIOS setup program. **NOTE:** If Copilot in Windows is not available on your computer, pressing 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 Dell 16 Plus 2-in-1 DB06250

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 on the key. Press the function key to enable the task represented by the icon. For example, pressing F1 mutes the audio (see 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**. Later, 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 the BIOS setup program.

Table 13. Function key primary behavior

Function key	Primary behavior
F1	Mute or unmute audio
F2	Decrease volume
F3	Increase volume
F4	Play/Pause
F5	Keyboard illumination/Backlight
F6	Decrease brightness
F7	Increase brightness
F8	Switch to external display
F10	Print screen
F11	Home

Table 13. Function key primary behavior (continued)

Function key	Primary behavior
F12	End

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

Table 14. Secondary behavior

Function key	Secondary behavior
fn + Esc	Enable or disable fn-key lock
fn + S	Enable or disable scroll lock
fn + B	Pause/Break
fn + R	System request
fn + P	Enable or disable the privacy screen
fn + Copilot	Open the application menu
fn + Space bar	Open the emoji menu
fn + T	Enable or disable Ultra performance mode
fn + Left arrow	Home
fn + Right arrow	End

Camera

The following table lists the camera specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 15. Camera specifications

Description		Values
Number of cameras		One
Camera type		FHD
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		82.2 degrees

Touchpad

The following table lists the touchpad specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 16. Touchpad specifications

Description	Values
Touchpad resolution:	>300 DPI

Table 16. Touchpad specifications (continued)

Description		Values
Touchpad dimensions:		
	Horizontal	133
	Vertical	90
Touchpad gestures		For more information about the touchpad gestures available on Windows, see the Microsoft Knowledge Base article at Microsoft Support Site.

Power adapter

The following table lists the power adapter specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 17. Power-adapter specifications

Description		Values
Type		Pecos 65 W, USB-C
Power-adapter dimensions:		
	Height	28 mm (1.10 in.)
	Width	51 mm (2.01 in.)
	Depth	112 mm (4.41 in.)
Input voltage		100 VAC–240 VAC
Input frequency		50 Hz–60 Hz
Input current (maximum)		1.70 A
Output current (continuous)		• 20 V: 3.25 A • 15 V: 3 A • 9 V: 3 A • 5 V: 3 A
Rated output voltage		• 20 V • 15 V • 9 V • 5 V
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 Dell 16 Plus 2-in-1 DB06250.

Table 18. Battery specifications

Description		Values
Battery type		4-cell, 64 Wh Lithium Ion, ExpressCharge, ExpressCharge Boost
Battery voltage		15.20 VDC
Battery weight (maximum)		0.26 kg (0.57 lb)
Battery dimensions:		
	Height	5.75 mm (0.23 in.)
	Width	271.90 mm (10.70 in.)
	Depth	82 mm (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)
	Storage	–20°C to 60°C (–4°F to 140°F)
Battery operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Battery charging time (approximate) **NOTE:** You can 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.		• Express charge: 2 hours • Standard charge: 3 hours (When the computer is turned off)
Coin-cell battery		Not supported

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.

Power requirements (for computers shipped with 4-cell, 64 Wh battery)

NOTE: The information in this section is applicable to the European Union (EU) countries.

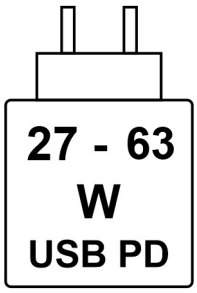


Figure 12. Pictogram for 64Wh battery

The power that is delivered by the charger must be between a minimum of 27 Watts that is required by the radio equipment, and a maximum of 63 Watts in order to achieve the maximum charging speed.

This computer supports USB Power Delivery (PD) fast charging.

Display

The following table lists the display specifications of your Dell 16 Plus 2-in-1 DB06250.

Table 19. Display specifications

Description		Option one	Option two
Display type		16-inch, Full High Definition Plus (FHD+)	16-inch, Quad High Definition Plus (QHD+), ComfortView Plus
Touch options		Touch	Touch
Display-panel technology		Wide-Viewing Angle	Wide-Viewing Angle
Display-panel dimensions (active area):			
	Height	344.68 mm (13.57 in.)	344.68 mm (13.57 in.)
	Width	215.42 mm (8.48 in.)	215.42 mm (8.48 in.)
	Diagonal	406.46 mm (16.00 in.)	406.46 mm (16.00 in.)
Display-panel native resolution		1920 x 1200	2560 x 1600
Luminance (typical)		300 nits (without touch screen glass panel)	• 630 nits (HDR, glass panel) • 378 nits (SDR)
Megapixels		2.3	4.09
Color gamut		NTSC 45% (typical)	100% DCI-P3 (typical)
Pixels Per Inch (PPI)		141	189
Contrast ratio (minimum)		• 800:1 (minimum) • 1000:1 (typical)	• 800:1 (minimum) • 1000:1 (typical)
Response time (maximum)		35 ms	11 ms
Refresh rate		60 Hz	90 Hz
Horizontal view angle		• ± 80 degrees (minimum) • ± 85 degrees (typical)	• ± 80 degrees (minimum) • ± 85 degrees (typical)

Table 19. Display specifications (continued)

Description	Option one	Option two
Vertical view angle	• ± 80 degrees (minimum) • ± 85 degrees (typical)	• ± 80 degrees (minimum) • ± 85 degrees (typical)
Pixel pitch	0.18 mm	0.13 mm
Power consumption (maximum)	4.78 W (at mosaic pattern, 60 Hz)	21.58 W
Anti-glare vs glossy finish	Glossy	Glossy

Fingerprint reader

The following table lists the fingerprint-reader specifications of your Dell 16 Plus 2-in-1 DB06250.

NOTE: The fingerprint reader is on the power button.

Table 20. Fingerprint reader specifications

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

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell 16 Plus 2-in-1 DB06250.

Table 21. GPU—Integrated

Controller	Memory size	Processor
Intel Arc 130V GPU	Shared system memory	Intel Core Ultra 5
Intel Arc 140V GPU	Shared system memory	Intel Core Ultra 7/9

Operating and storage environment

This table lists the operating and storage specifications of your Dell 16 Plus 2-in-1 DB06250.

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

Table 22. 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)	10% to 90% (non-condensing)	0% to 90% (non-condensing)
Vibration (maximum)*	0.66 GRMS	Not available
Shock (maximum)	140 G†	Not available

Table 22. Computer environment (continued)

Description	Operating	Storage
Altitude range	Not available	Not available
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.

ComfortView Plus

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

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

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

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

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

- Position the display at a comfortable viewing distance between 20 and 28 inches (50 cm and 70 cm) from your eyes.
- Blink frequently to moisten your eyes, wet your eyes with water, or apply suitable eye drops.
- Look away from your display, and gaze at a distant object at 20 ft (609.60 cm) away for at least 20 seconds during each break.
- Take an extended break for 20 minutes every two hours.

4

Working inside your computer

Safety instructions

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

WARNING: Before working inside your computer, read the safety information that is shipped with your computer. For more safety best practices, see 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: 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 are 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: To avoid damaging the components and cards, handle them by their edges, and avoid touching the pins and the contacts.

CAUTION: When you disconnect a cable, pull it by its connector or its pull tab, not the cable itself. Some cables have connectors with locking tabs or thumbscrews that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending the connector pins. When connecting cables, ensure that the connector on the cable is correctly oriented and aligned with the port.

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

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

Before working inside your computer

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. Turn off all the attached peripherals.
4. Disconnect your computer from the electrical outlets.
5. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
6. Remove any media card and optical drive from your computer, if applicable.
7. To clean the air vents, use a soft brush and move vertically.

NOTE: Do not remove the base cover or use any blower to clean the vents.

8. 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 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 disconnect the power adapter appears on the screen. Disconnect the power adapter and then press any key to enter into the Service Mode. 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.
      The computer shuts down and enters the Service Mode.

Safety precautions

This section details the primary steps to be followed 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 to avoid electrostatic discharge (ESD) damage.
- Place the removed component on an anti-static mat after removing it from the computer.
- Wear shoes with nonconductive 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 back cover. Systems that are 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, watches, bracelets, or rings before grounding yourself and the equipment.

Electrostatic discharge—ESD protection

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

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

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

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

Perform the following steps to prevent ESD damage:

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

ESD Field Service kit

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

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

Working Environment

Before 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 component using the same ESD bag and packaging that the new part arrived in. The ESD bag should be folded over and taped shut and all the same foam packing material should be used in the original box that the new part arrived in. ESD-sensitive devices should be removed from packaging only at an ESD-protected work surface, and parts should never be placed on top of the ESD bag because only the inside of the bag is shielded. Always place parts in your hand, on the anti-static mat, in the computer, or inside an ESD bag.

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – The wrist strap and bonding wire can be either directly connected between your wrist and bare metal on the hardware if the anti-static mat is not required, or connect 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 anti-static mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.

- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored kit, it is a best practice to regularly test the strap prior to each service, and at a minimum, test once per week. A wrist strap tester is the best method for doing this test. 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.

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.

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 23. Screw list

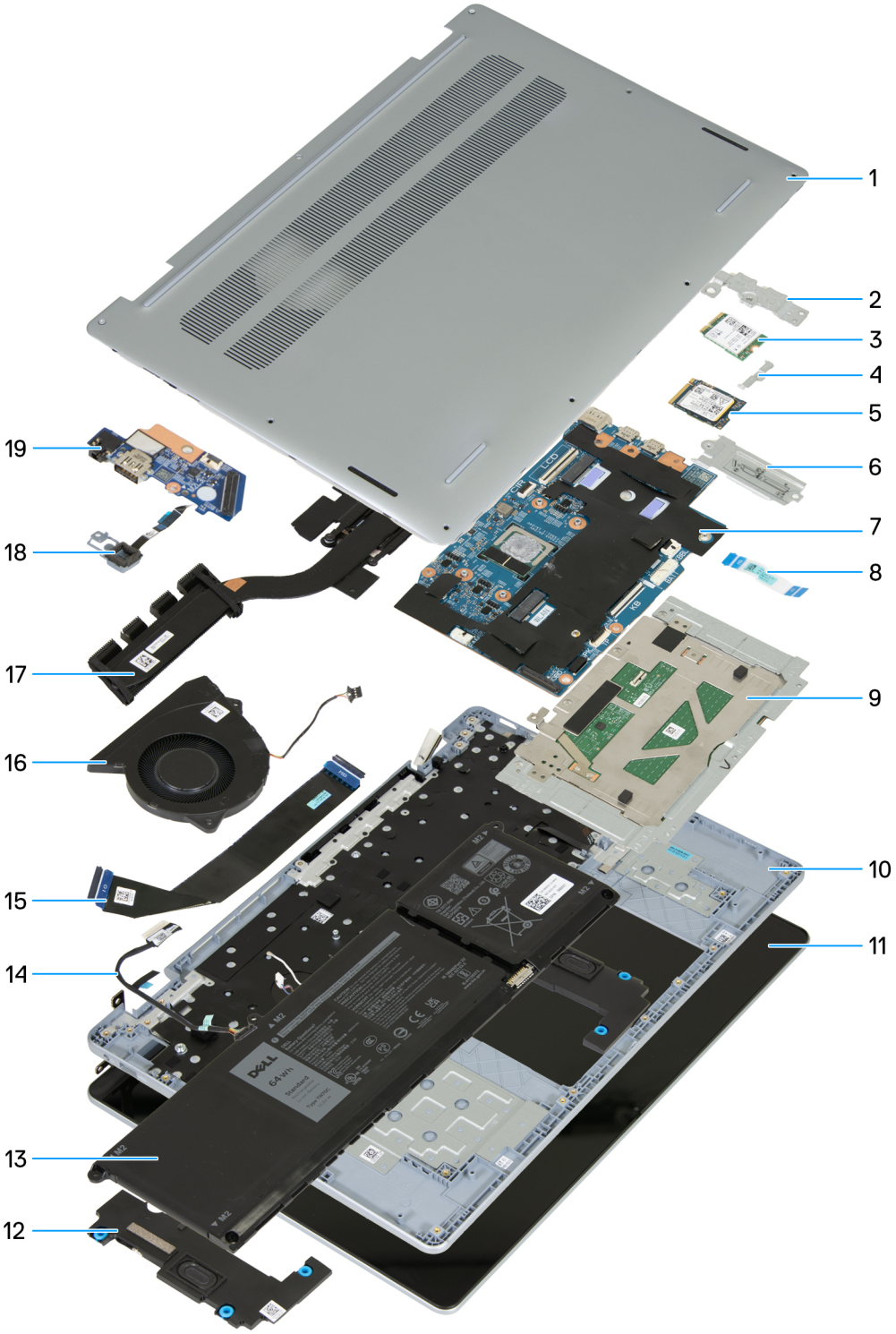
Component	Screw type	Quantity	Screw image
Base cover	M2x4	7	 Figure 13. M2x4 screw
Base cover	Captive	2	 Figure 14. Captive screw
Battery	M2x3	5	 Figure 15. M2x3 screw
M.2 2230 bracket	M2x3	1	 Figure 16. M2x3 screw
M.2 2230 solid state drive + M.2 bracket	M2x1.8	1	 Figure 17. M2x1.8 screw
Fan	M2x3	2	 Figure 18. M2x3 screw
Wireless-card bracket	M2x3	1	 Figure 19. M2x3 screw
Type-C port bracket	M2x4	2	 Figure 20. M2x4 screw

Table 23. Screw list (continued)

Component	Screw type	Quantity	Screw image
Display assembly	M2.5x4	6	 Figure 21. M2.5x4 screw
Power button with fingerprint reader	M2x3	1	 Figure 22. M2x3 screw
I/O board	M2x3	1	 Figure 23. M2x3 screw
System board	M2x1.8	2	 Figure 24. M2x1.8 screw
Touchpad	M2x3	4	 Figure 25. M2x3 screw
Touchpad	M1.6x1.5	4	 Figure 26. M1.6x1.5 screw

Major components of Dell 16 Plus 2-in-1 DB06250

The following image shows the major components of Dell 16 Plus 2-in-1 DB06250.



1. Base cover
2. USB Type-C port bracket
3. M.2 wireless card
4. Wireless-card bracket
5. M.2 solid state drive (M.2 2230 solid state drive shown)
6. M.2 2230 bracket
7. System board
8. Touchpad cable
9. Touchpad
10. Palm-rest and keyboard assembly
11. Display assembly
12. Speakers (2)
13. Battery
14. Battery cable
15. I/O-board cable
16. Fan
17. Heat sink
18. Power button with fingerprint reader

19. I/O board

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

5

Removing and installing Customer Replaceable Units (CRUs)

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

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

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

Base cover

Removing the base cover

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

   NOTE: If the computer does not turn on and cannot enter Service Mode, proceed with removing the base cover.

About this task

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

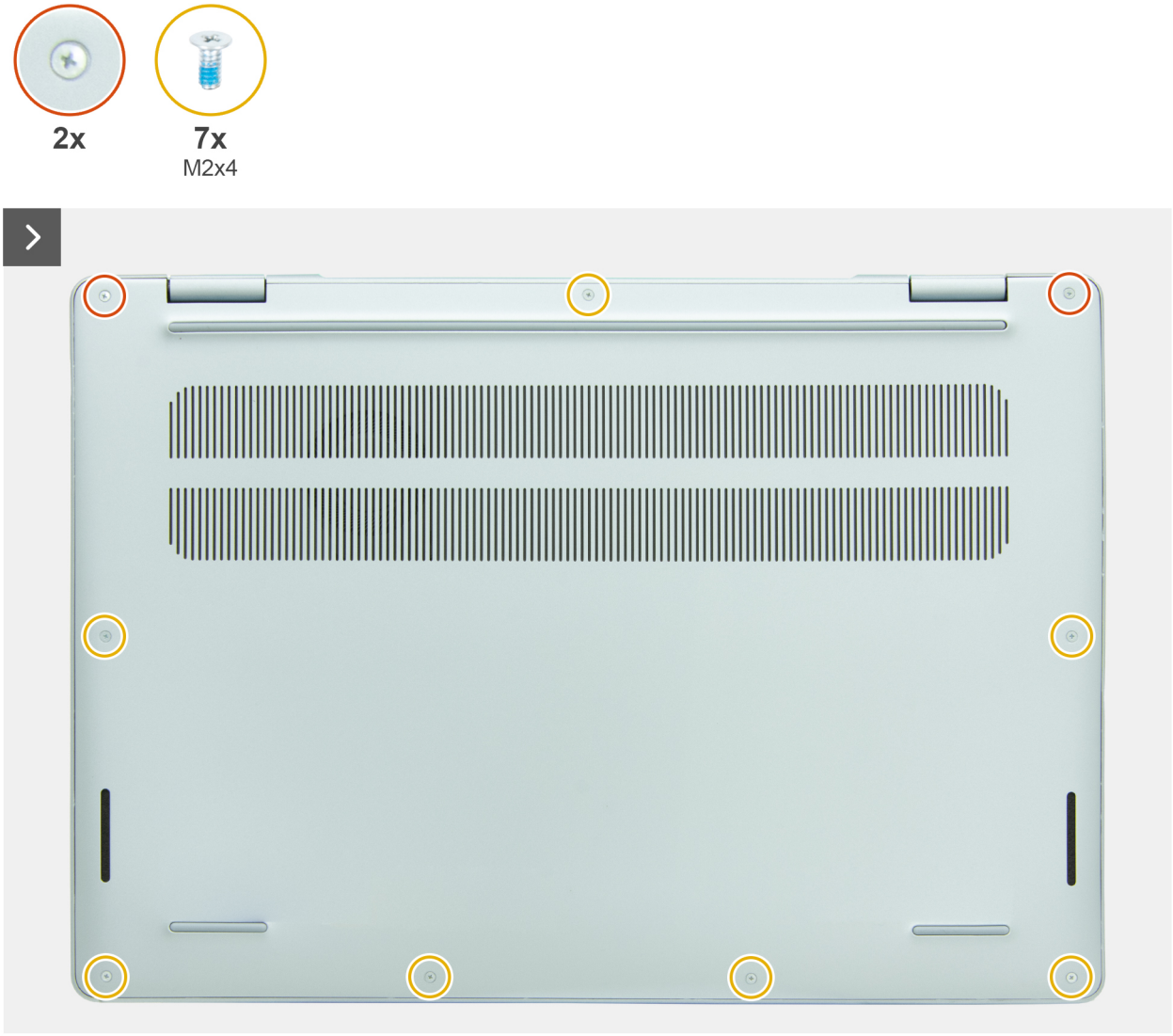


Figure 27. Removing the base cover

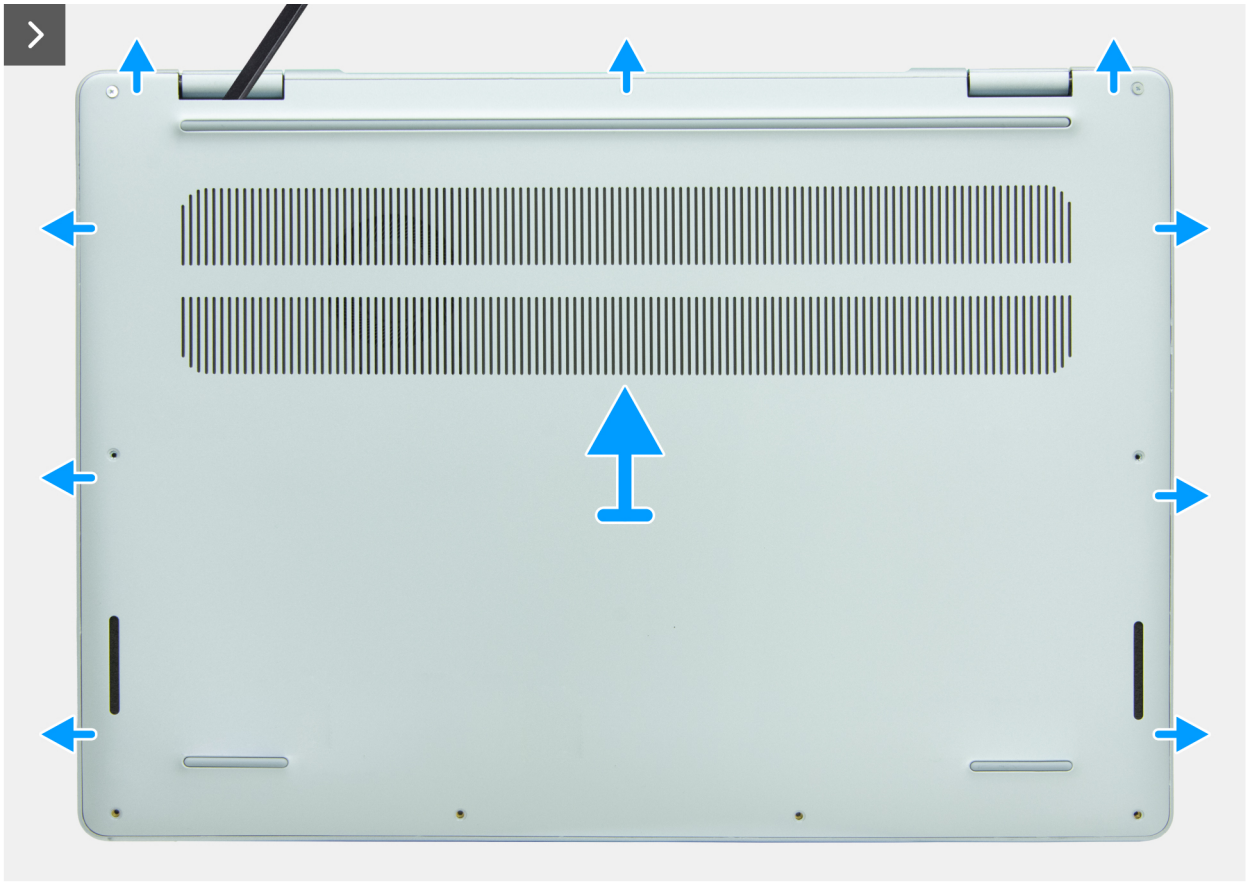


Figure 28. Removing the base cover

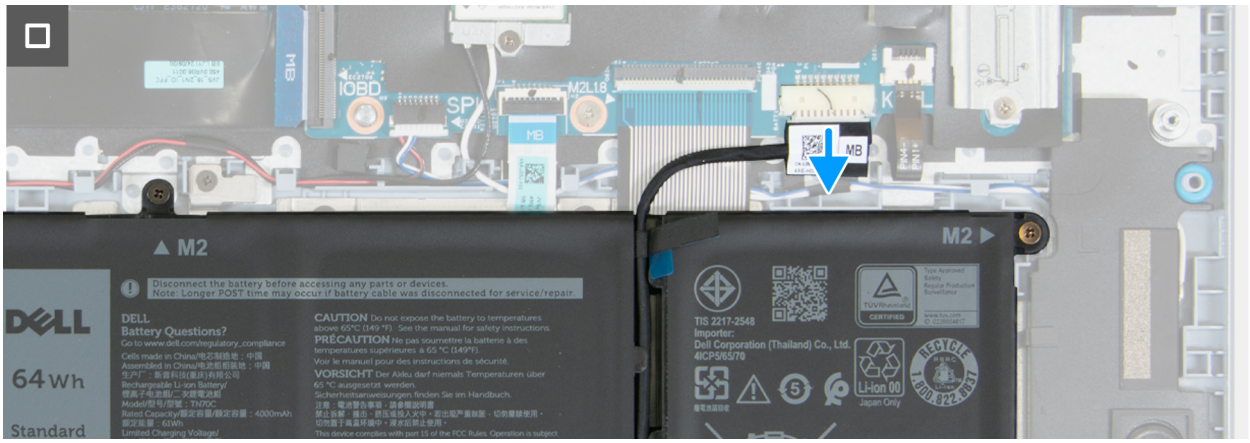


Figure 29. Disconnecting the battery cable

Steps

1. Remove the seven screws (M2x4) that secure the base cover to the palm-rest and keyboard assembly.
2. Loosen the two captive screws (M2x8.6) that secure the base cover to the palm-rest and keyboard assembly.
3. Using a plastic scribe, pry the base cover from the hinge area and continue prying on all its sides to loosen the base cover.
4. Lift the base cover off the keyboard and palm-rest assembly.

   NOTE: If the computer was unable to enter Service Mode, follow steps 5 to 7.

5. Disconnect the battery cable from the battery cable connector (BATT) on the system board.
6. Flip over your computer.
7. Press and hold the power button for five seconds to ground the computer and drain the flea power.

Installing the base cover

Prerequisites

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

About this task

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

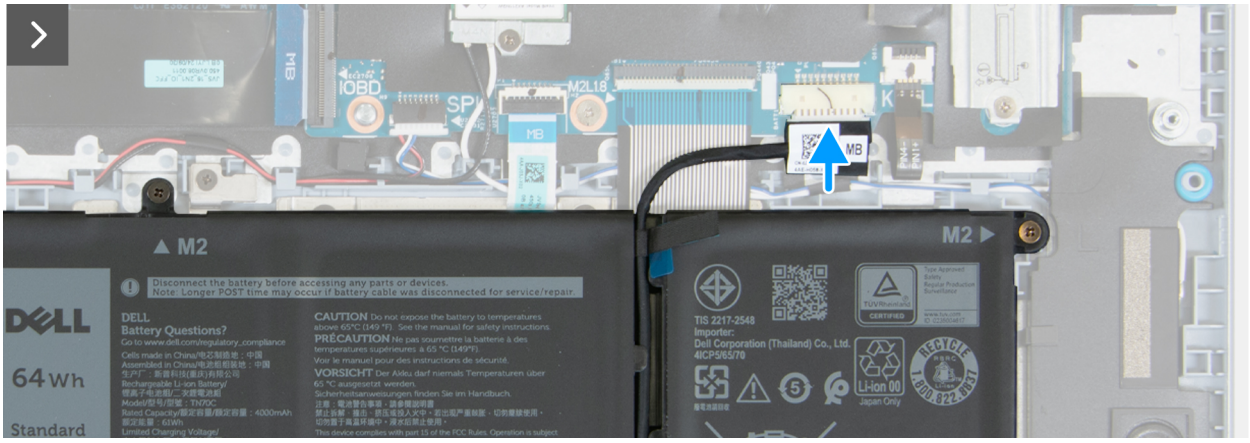


Figure 30. Connecting the battery cable

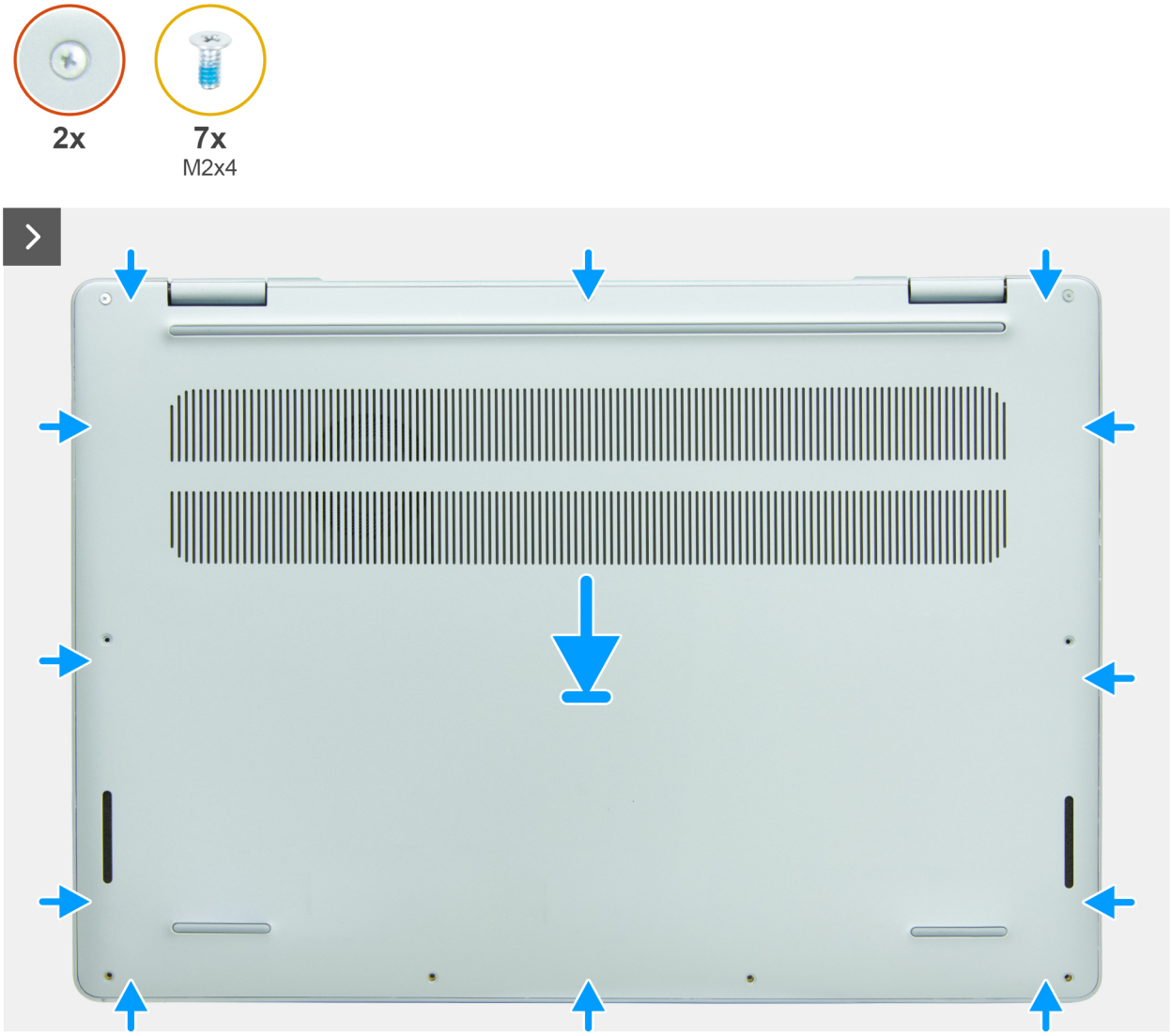


Figure 31. Installing the base cover

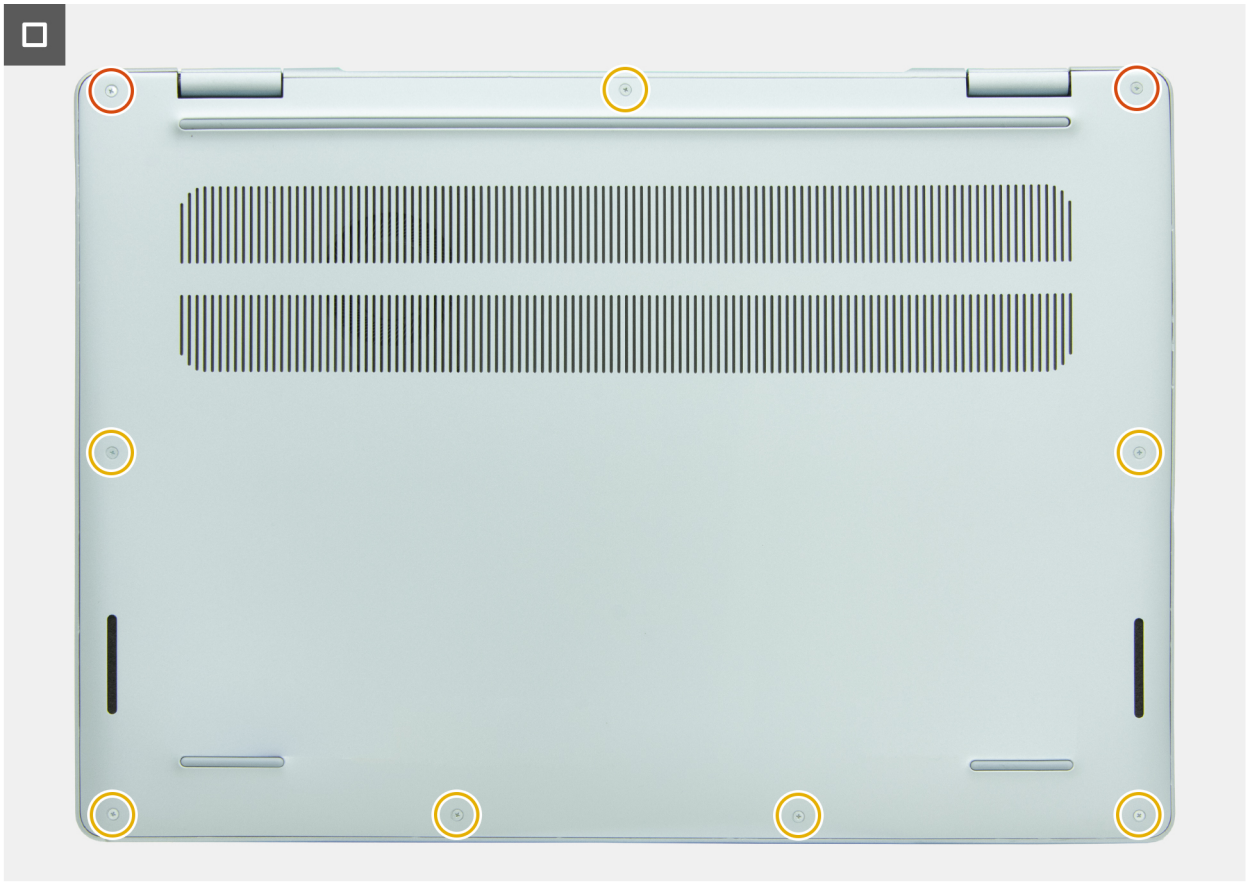


Figure 32. Tighten the captive screws and replace base cover screws

Steps

1. Connect the battery cable to the battery cable connector (BATT) on the system board, if required.
2. Place the base cover on the palm-rest and keyboard assembly.
3. Press the sides of the base cover to snap it into place.
4. Tighten the two captive screws (M2x8.6) that secure the base cover to the palm-rest and keyboard assembly.
5. Replace the seven screws (M2x4) that secure the base cover to the palm-rest and keyboard assembly.

Next steps

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

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.**
- **To prevent accidental puncture or damage to the battery and other components, ensure that no screws are lost or misplaced during the servicing of this product.**
- **If the battery gets stuck inside your computer as a result of swelling, do not try to release it as puncturing, bending, or crushing a rechargeable Li-ion battery can be dangerous. In such an instance, contact Dell technical support for assistance. See Contact Support at Dell Support Site.**
- **Always purchase genuine batteries from Dell Site or authorized Dell partners and resellers.**
- **Swollen batteries should not be used and should be replaced and disposed properly. For guidelines on how to handle and replace swollen rechargeable Li-ion batteries, see Handling swollen rechargeable Li-ion batteries.**

Removing the battery

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

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

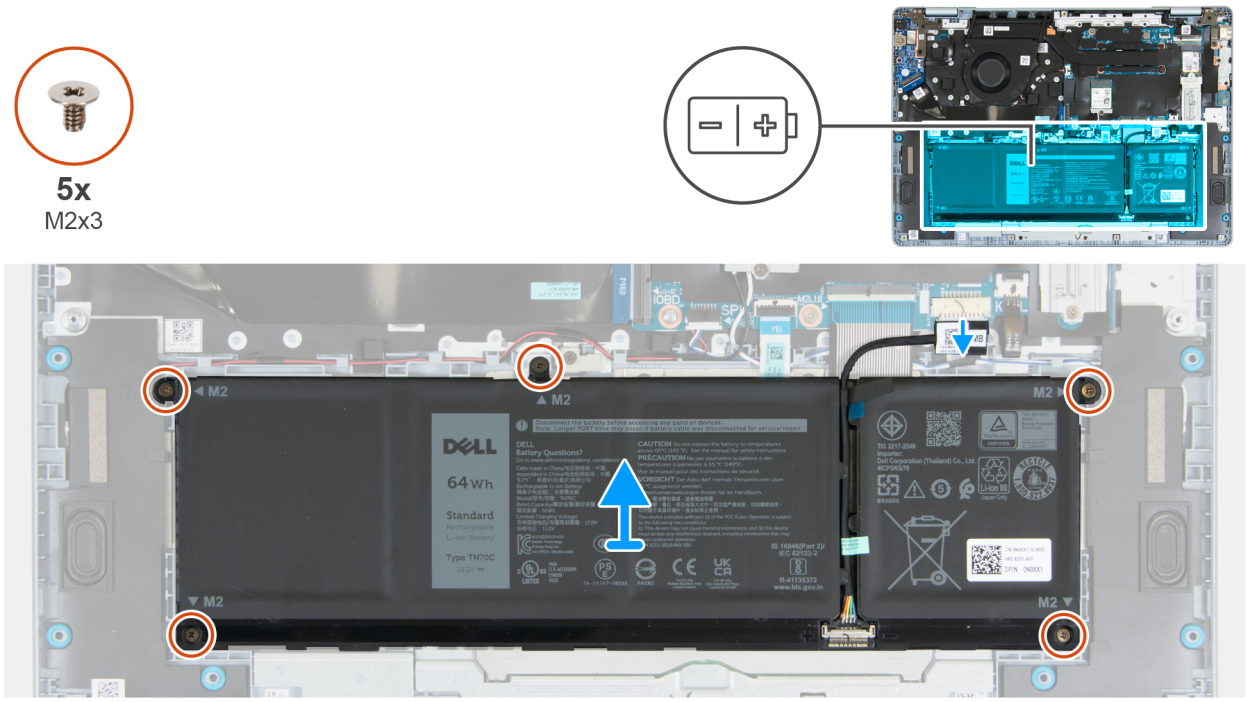


Figure 33. Removing the battery

Steps

1. Disconnect the battery cable from its 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 section is intended for authorized service technicians only.

Prerequisites

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

About this task

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

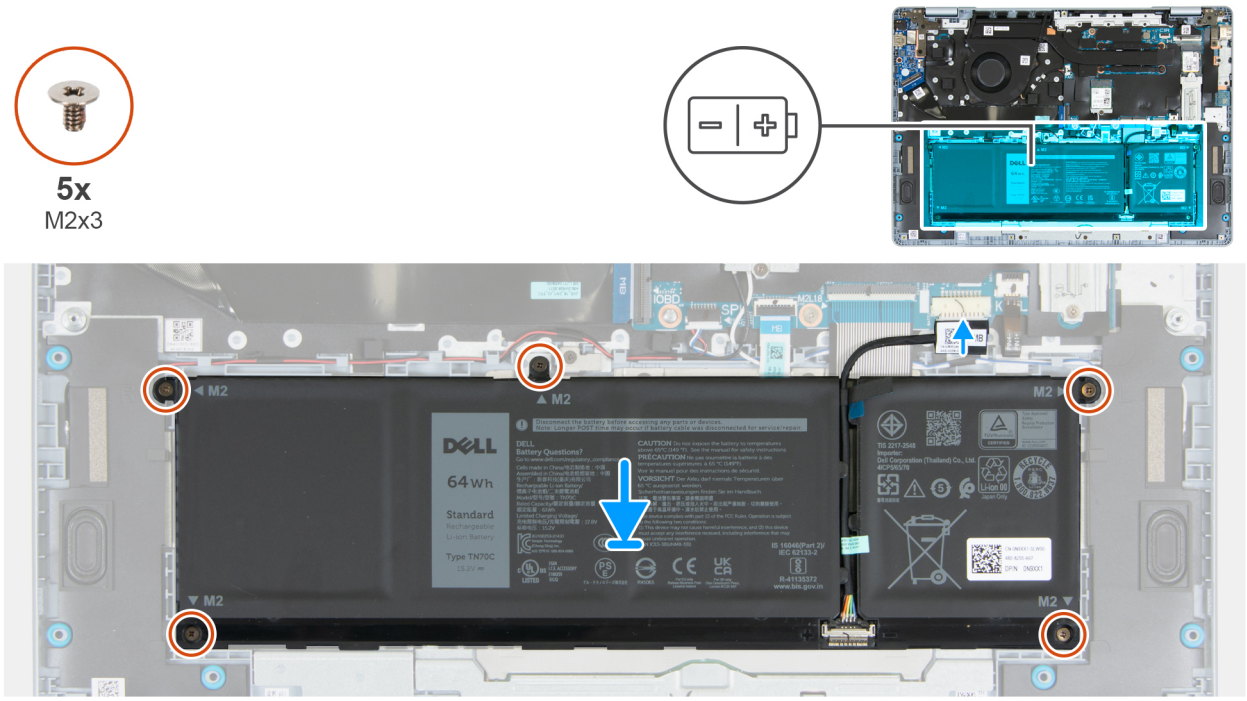


Figure 34. Installing the battery

Steps

1. Place the battery on the palm-rest and keyboard assembly.
2. Align the screw holes on the battery with the screw holes on the palm-rest and keyboard assembly.
3. Replace the five screws (M2x3) that secure the battery to the palm-rest and keyboard assembly.
4. Connect the battery cable to its connector (BATT1) on the system board.

Next steps

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

Battery cable

Removing the battery cable

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

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.
3. Remove the battery.

About this task

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

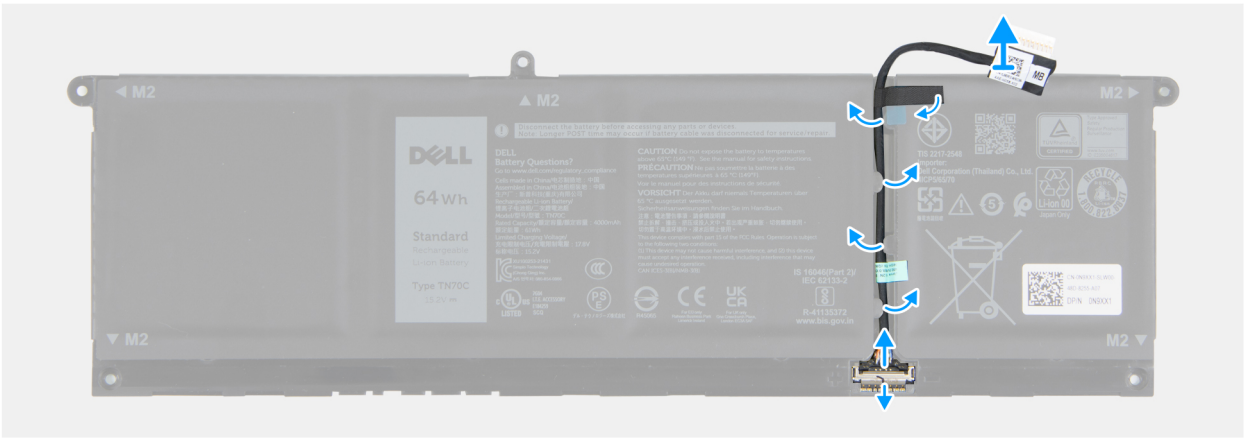


Figure 35. Removing the battery cable

Steps

1. Peel the adhesive tape that secures the battery cable to the connector on the battery.
2. Slide down the clamp that secures the battery cable to the battery.
3. Disconnect and remove the battery cable from the battery.

Installing the battery cable

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

Prerequisites

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

About this task

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

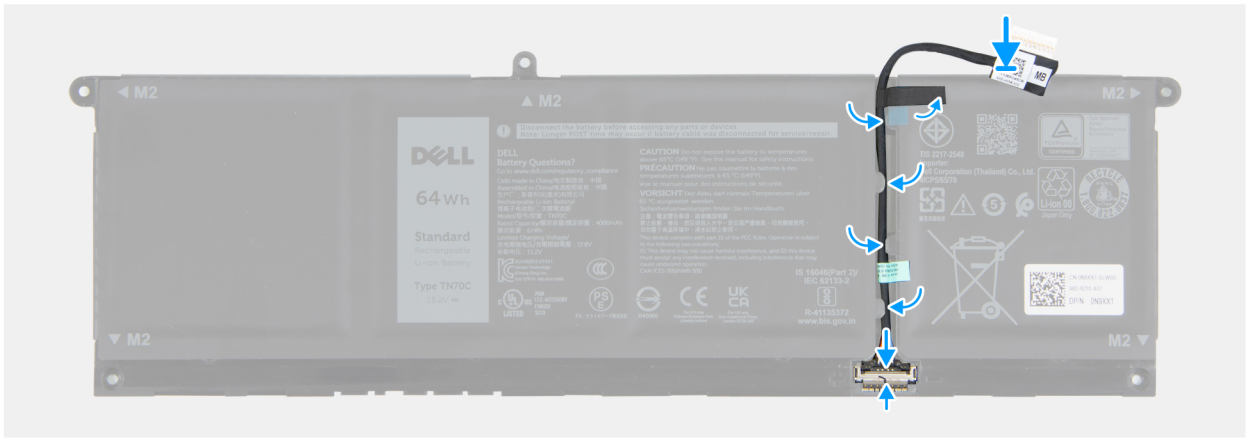


Figure 36. Installing the battery cable

Steps

1. Connect the battery cable to its connector on the battery.
2. Slide the clamp upwards to secure the battery cable to the battery.
3. Route the battery cable through the routing guides on the battery.
4. Adhere the tape that secures the battery cable to the battery.

Next steps

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

Solid State Drive (SSD)

Removing the M.2 2230 solid state drive

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

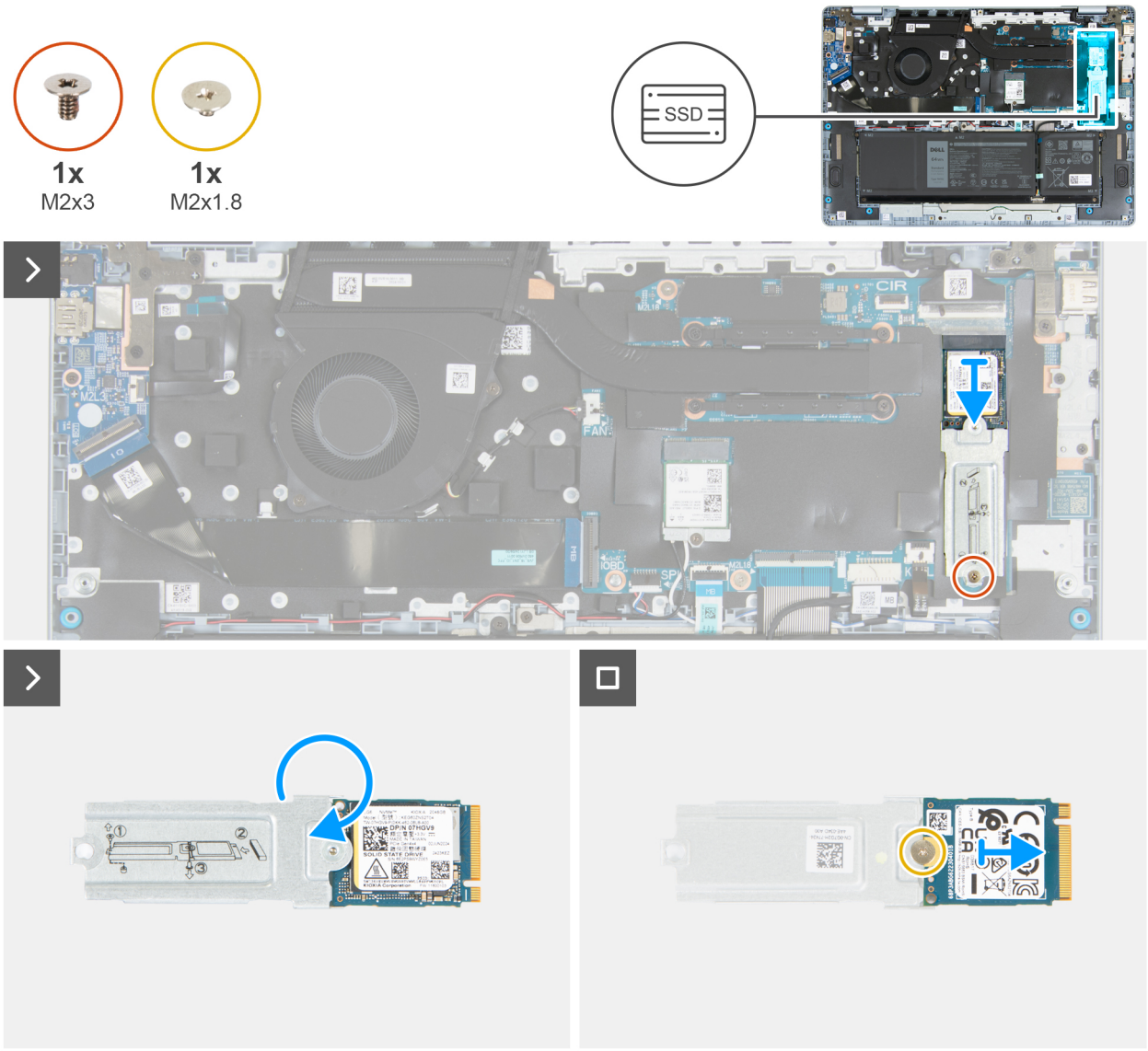


Figure 37. Removing the M.2 2230 solid-state drive

Steps

1. Remove the screw (M2x3) that secures the M.2 2230 bracket to the system board.
2. Lift at an angle and slide the M.2 2230 solid state drive assembly from the M.2 solid state drive slot (SSD1) on the system board.
3. Flip over the M.2 2230 solid state drive assembly and place it on a flat surface.
4. Remove the screw (M2x1.8) that secures the M.2 2230 solid state drive to the M.2 2230 bracket.
5. Remove the M.2 2230 solid state drive from the M.2 2230 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

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

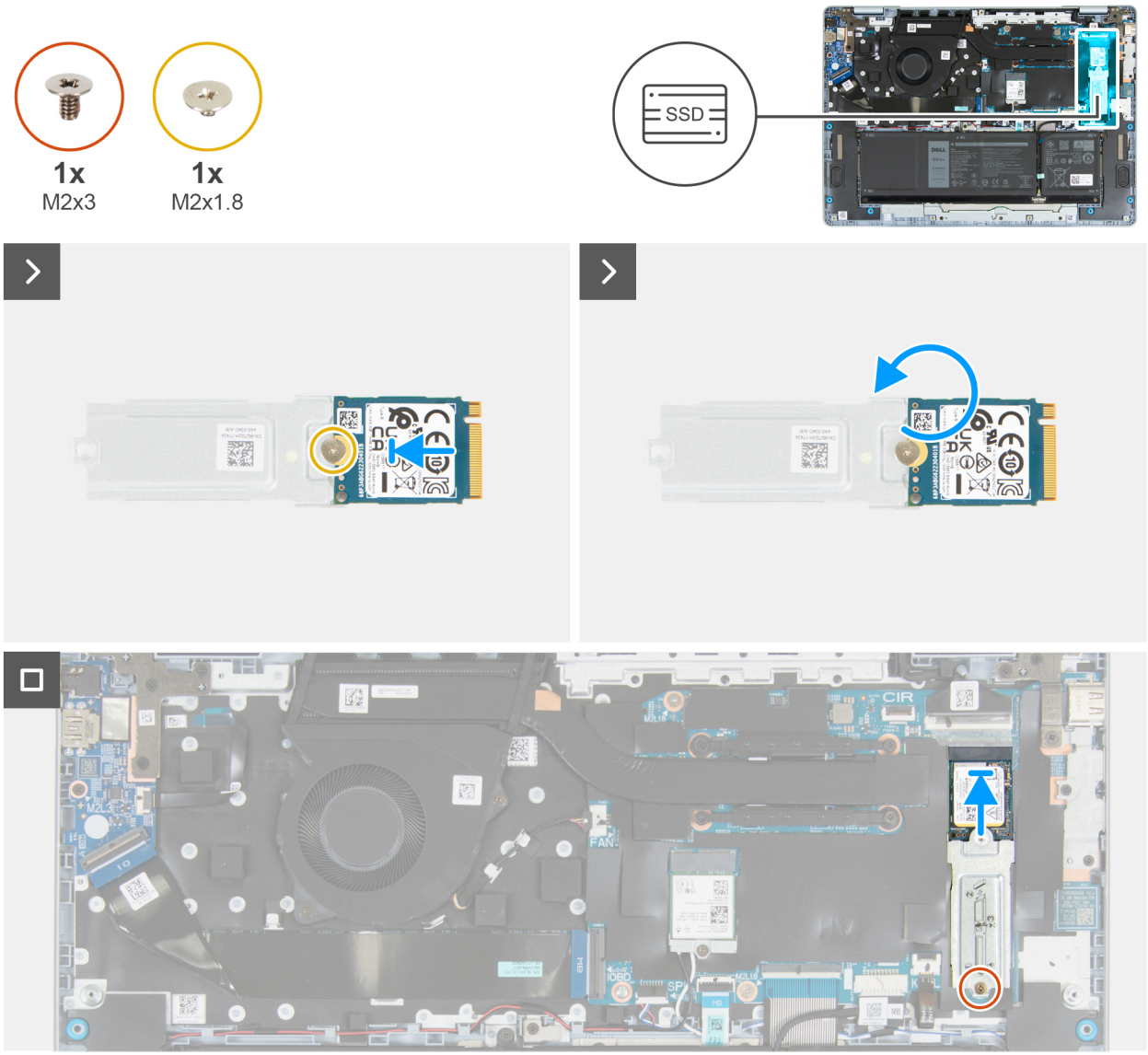


Figure 38. Installing the M.2 2230 solid state drive

Steps

1. Place the M.2 2230 solid state drive on the M.2 2230 bracket.
2. Align the screw hole on the M.2 2230 solid state drive with the screw hole on the M.2 2230 bracket.
3. Replace the screw (M2x1.8) that secures the M.2 2230 solid state drive to the M.2 2230 bracket.
4. Flip over the M.2 2230 solid state drive assembly.
5. Align the notch on the M.2 2230 solid state drive with the tab on the solid state drive slot (SSD1) on the system board.
6. Slide the M.2 2230 solid state drive assembly into the M.2 solid state drive slot (SSD1) on the system board.
7. Replace the screw (M2x3) that secures the M.2 2230 bracket to the system board.

Next steps

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

Fan

Removing the fan

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

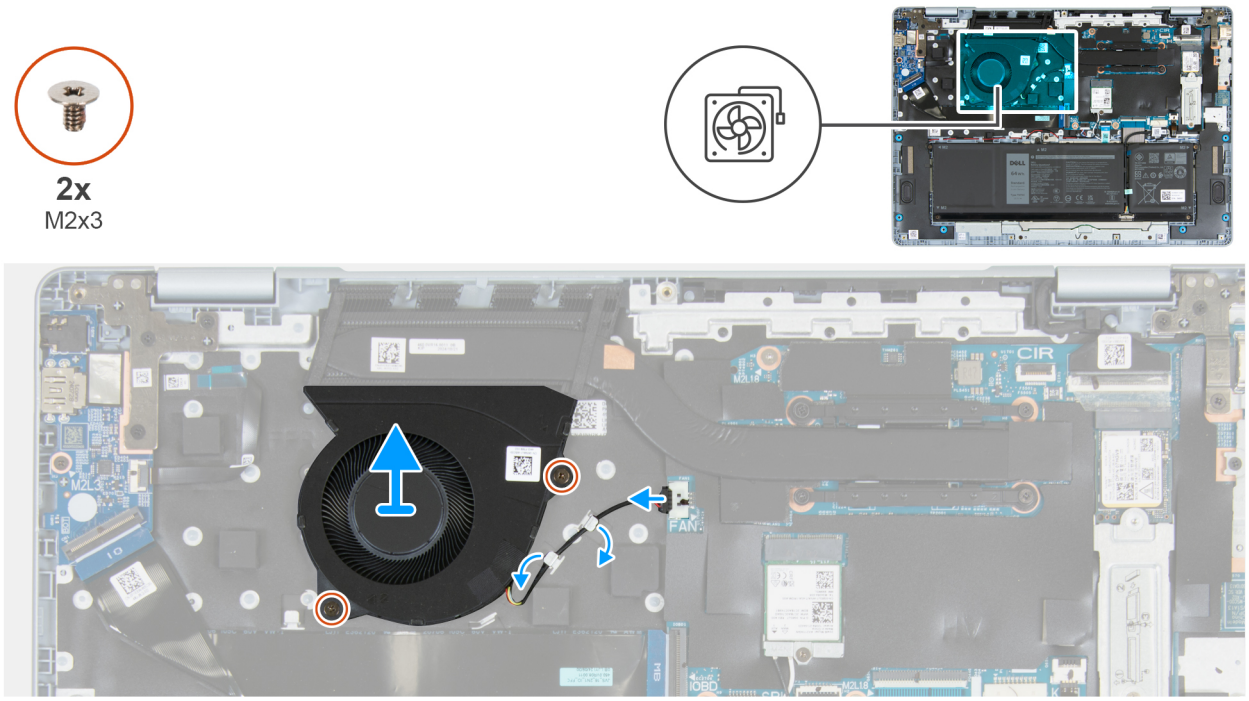


Figure 39. Removing the fan

Steps

1. Disconnect the fan cable from its connector (FAN) on the system board.
2. Remove the fan cable from the routing guides on the palm-rest and keyboard assembly.
3. Remove the two screws (M2x3) that secure the fan to the palm-rest and keyboard assembly.
4. 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 process.

About this task

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

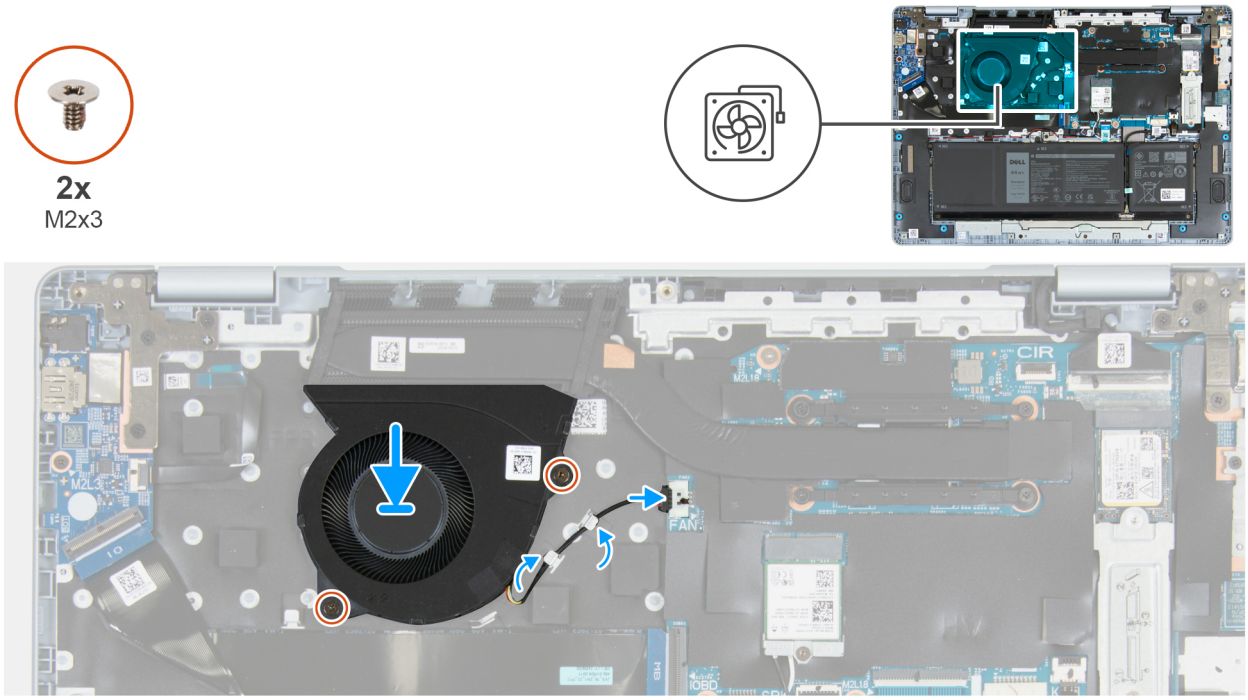


Figure 40. Installing the fan

Steps

1. Place the fan on the palm-rest and keyboard assembly.
2. Align the screw holes of the fan with the screw holes on the palm-rest and keyboard assembly.
3. Replace the two screws (M2x3) that secure the fan to the palm-rest and keyboard assembly.
4. Place the fan cable into the routing guides on the palm-rest and keyboard assembly.
5. Connect the fan cable to its connector (FAN) on the system board.

Next steps

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

Wireless card

Removing the wireless card

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

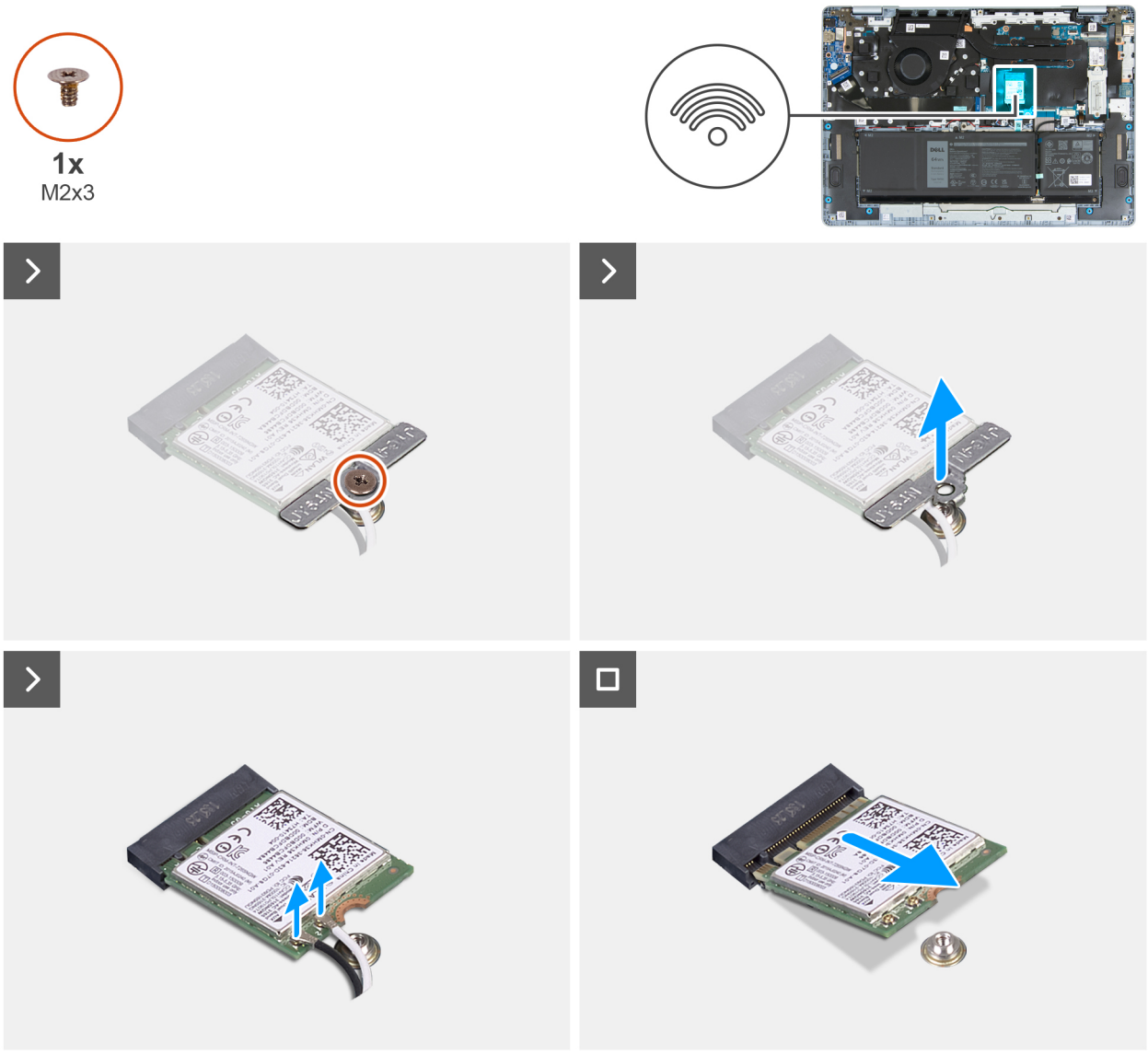


Figure 41. Removing the wireless card

Steps

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

Installing the wireless card

Prerequisites

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

About this task

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

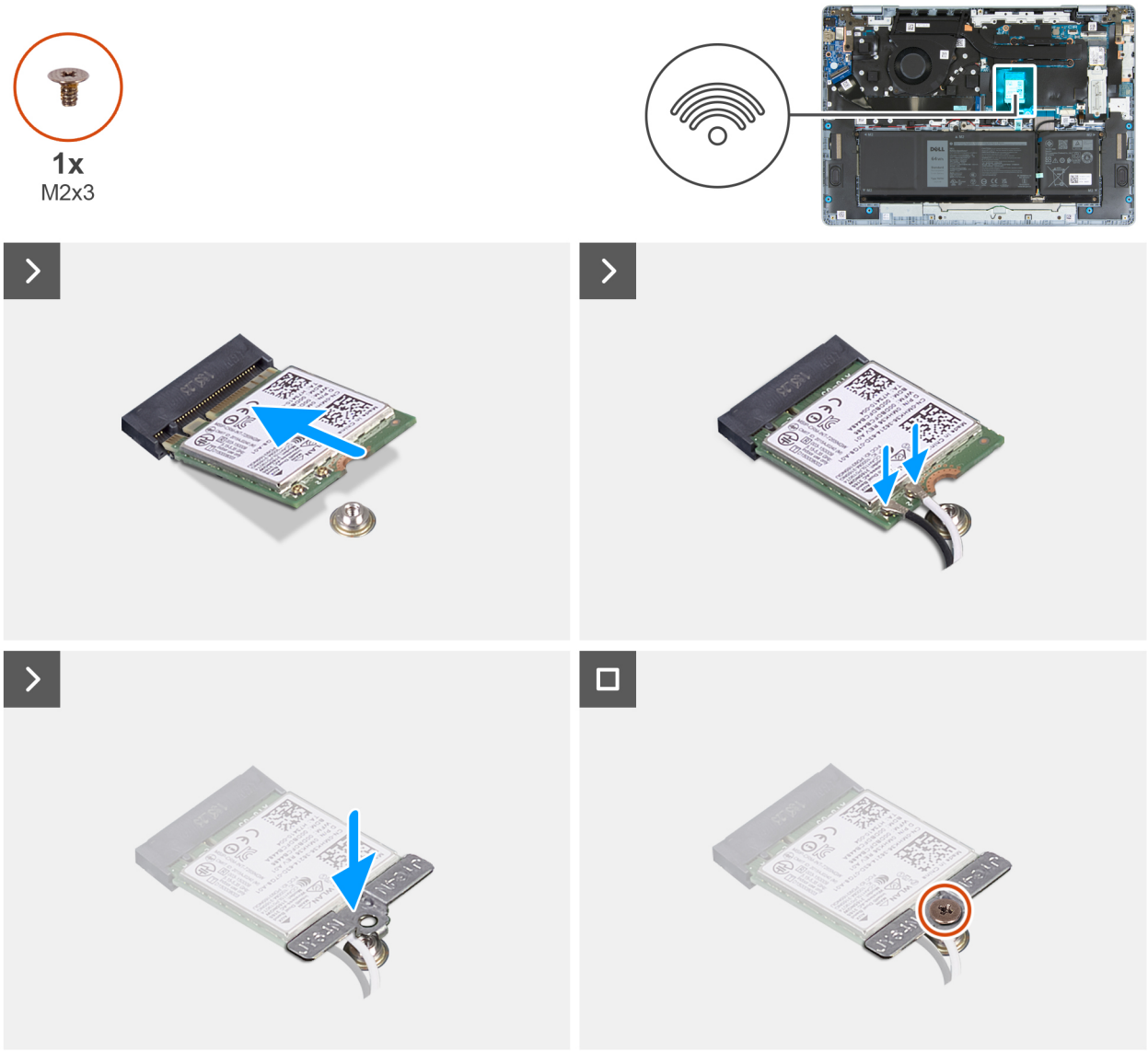


Figure 42. Installing the wireless card

Steps

1. Connect the antenna cables to the wireless card.

Table 24. Antenna-cable color scheme

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

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

Next steps

1. Install the base cover.

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

6

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.

Speaker assembly

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 **step 7** in Before working inside your computer.

2. Remove the base cover.
3. Remove the battery.
4. Remove the wireless card.

About this task

NOTE: The speaker assembly consists of the following components:

- Left speaker
- Right speaker
- Wireless antenna (2)

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

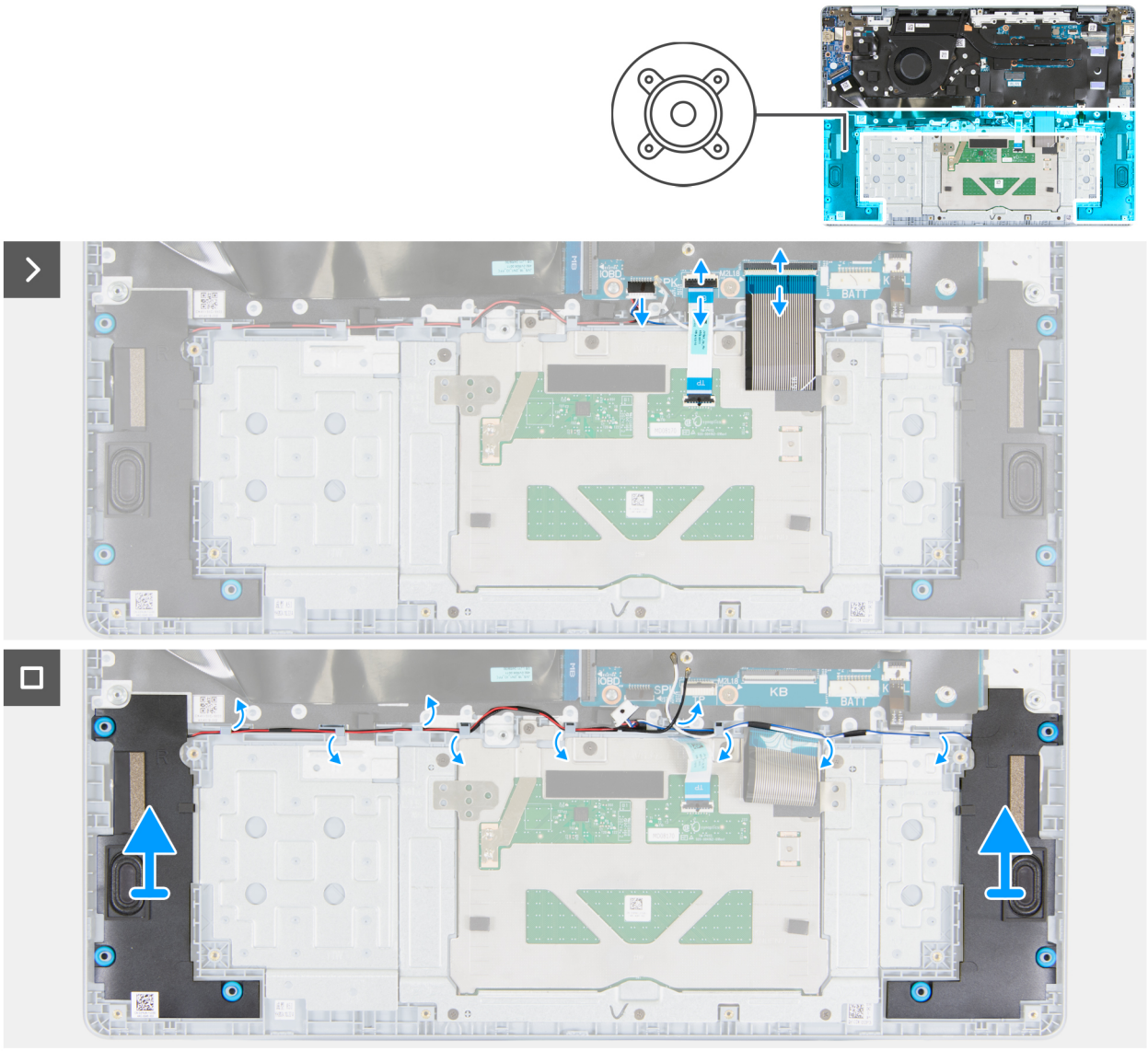


Figure 43. Removing the speakers

Steps

1. Lift the latch and disconnect the keyboard cable from its connector (KB) on the system board.
2. Move the keyboard cable off the speaker and wireless-antenna cables.
3. Disconnect the speaker cable from its connector (SPK) on the system board.
4. Lift the latch and disconnect the touchpad cable from its connector (TP) on the system board.
5. Remove the speaker cables from the routing guides on the palm-rest and keyboard assembly.
6. Remove the wireless-antenna cables from the routing guides on the palm-rest and keyboard assembly.
7. Lift the speaker assembly and its 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 process.

About this task

NOTE: The left and right speakers cannot be separated for individual replacement. When either speaker needs to be replaced, services will dispatch the speaker assembly as a single serviceable component.

NOTE: The speaker assembly consists of the following components:

- Left speaker
- Right speaker
- Wireless antenna (2)

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

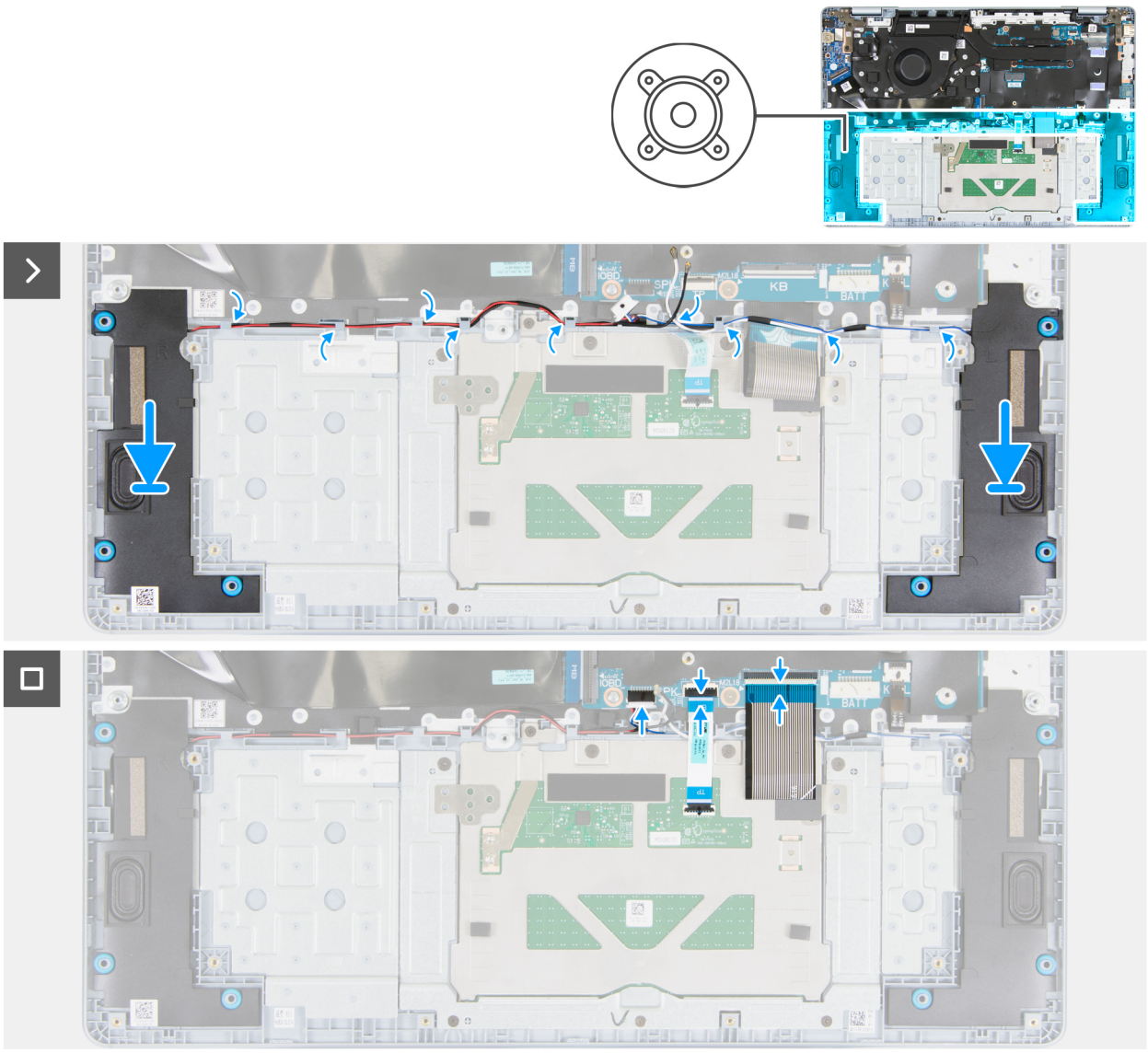


Figure 44. Installing the speakers

Steps

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

   NOTE: Ensure that the four rubber grommets are seated into the slot and installed correctly on the speakers.

2. Route the speaker cables through the routing guides on the palm-rest and keyboard assembly.
3. Route the wireless-antenna cables through the routing guides on the palm-rest and keyboard assembly.
4. Connect the speaker cable to its connector (SPK) on the system board.

5. Connect the touchpad cable to its connector (TP) on the system board and close the latch.

   NOTE: The touchpad cable should be folded over the speaker and antenna cables during the connection procedure.

6. Connect the keyboard cable to its connector (KB) on the system board.

   NOTE: The keyboard cable should be folded over the speaker and antenna cables during the connection procedure.

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 **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

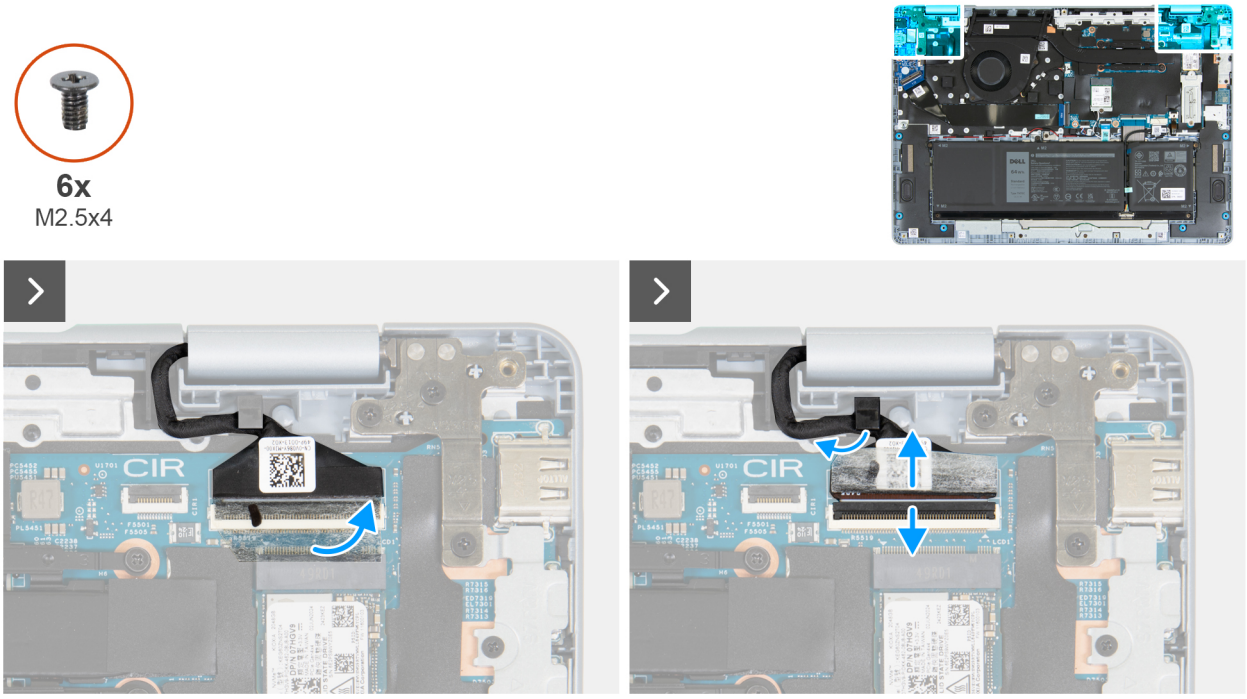


Figure 45. Removing the display assembly

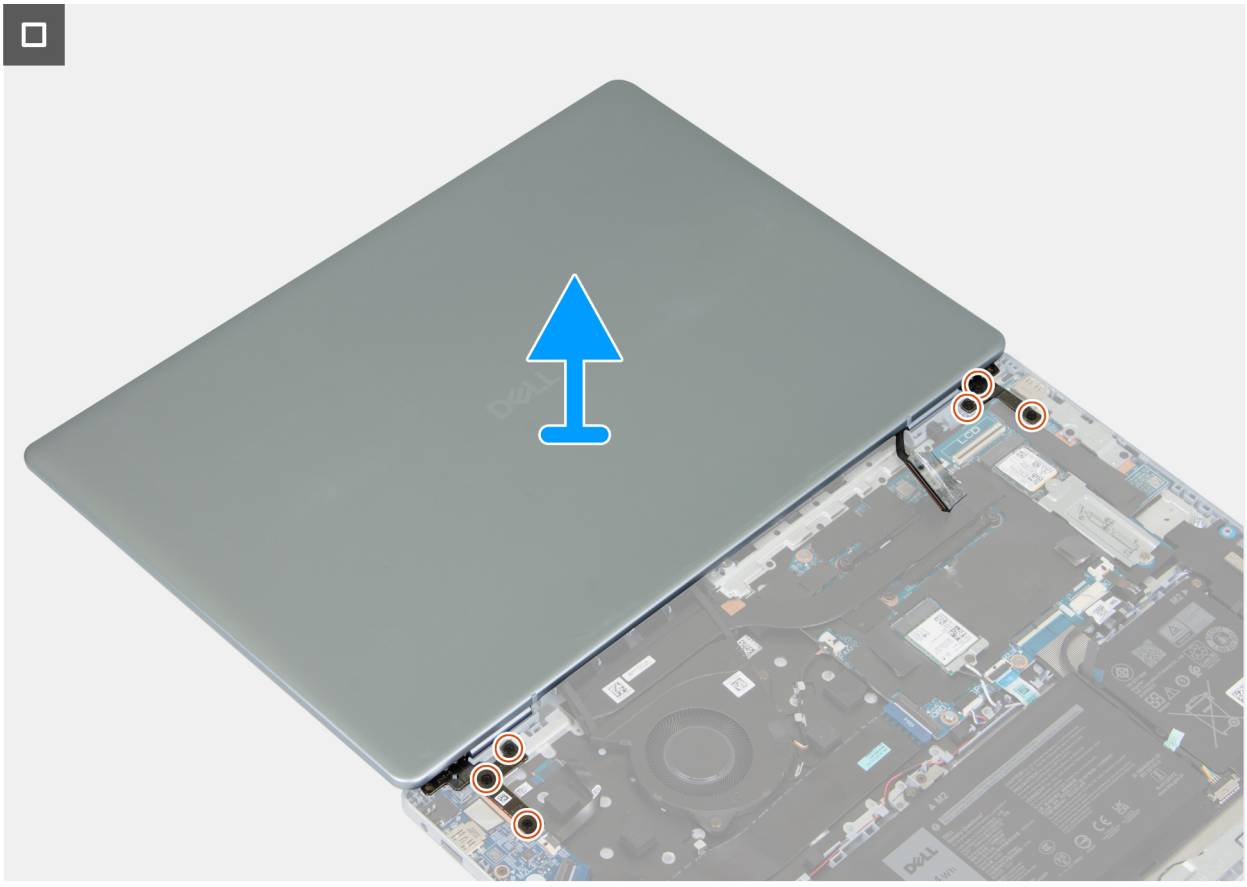


Figure 46. Removing the display assembly

Steps

1. Peel the tape that secures the display-cable latch to its connector (LCD).

2. Lift the latch and disconnect the display-assembly cable from its connector (LCD) on the system board.
3. Remove the display-assembly cable from the routing guide on the palm-rest and keyboard assembly.
4. Flip over your computer and open the display lid fully.
5. Place your computer with the display panel face down.

   NOTE: To prevent damage, ensure that the display panel has a clean and smooth surface to rest on.

6. Remove the three screws (M2.5x4) that secure the left-display hinge to the palm-rest and keyboard assembly.
7. Remove the three screws (M2.5x4) that secure the right-display hinge to the palm-rest and keyboard assembly.
8. Lift the display assembly off the palm-rest and keyboard assembly.

Installing the display assembly

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

Prerequisites

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

About this task

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

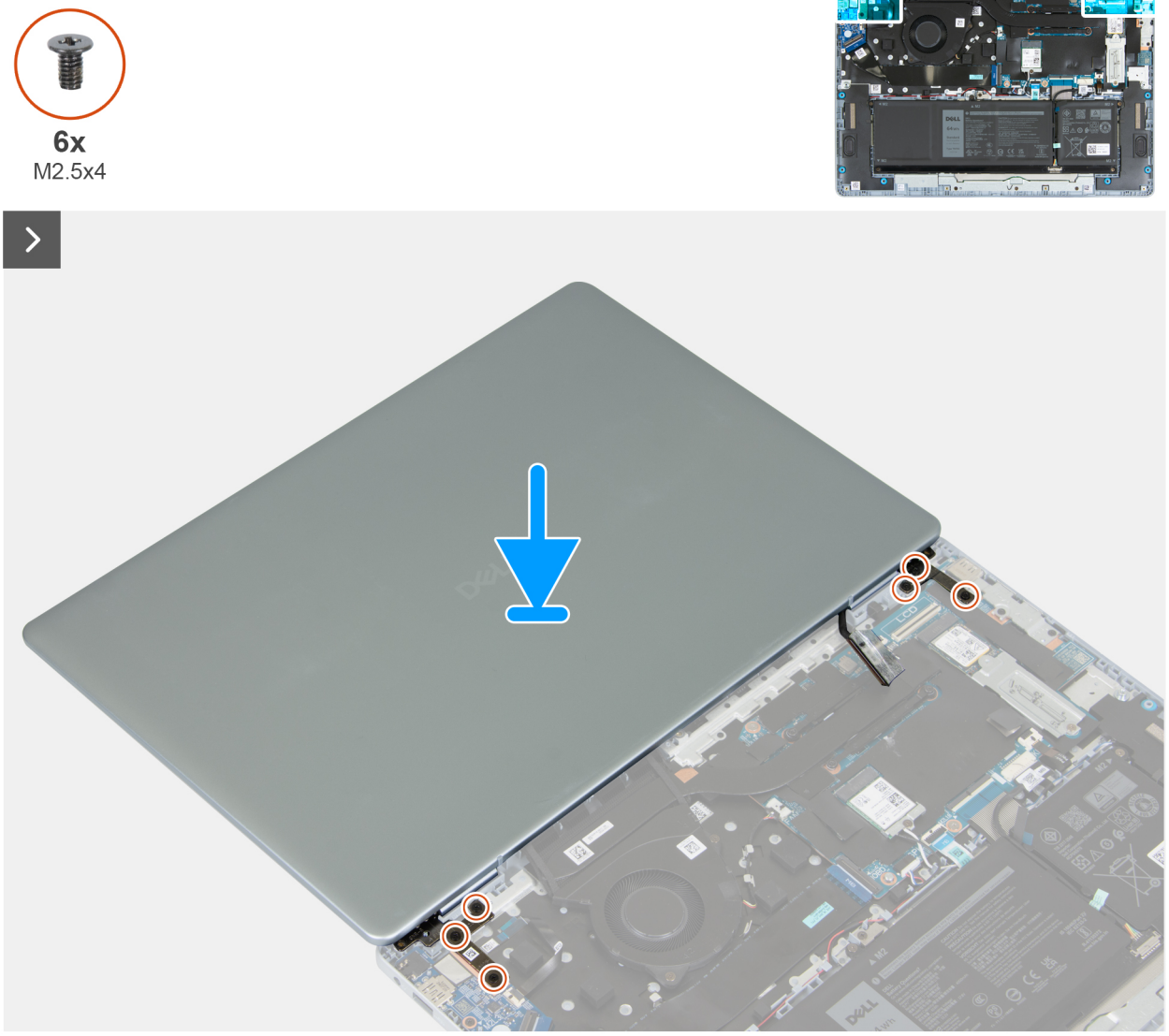


Figure 47. Installing the display assembly

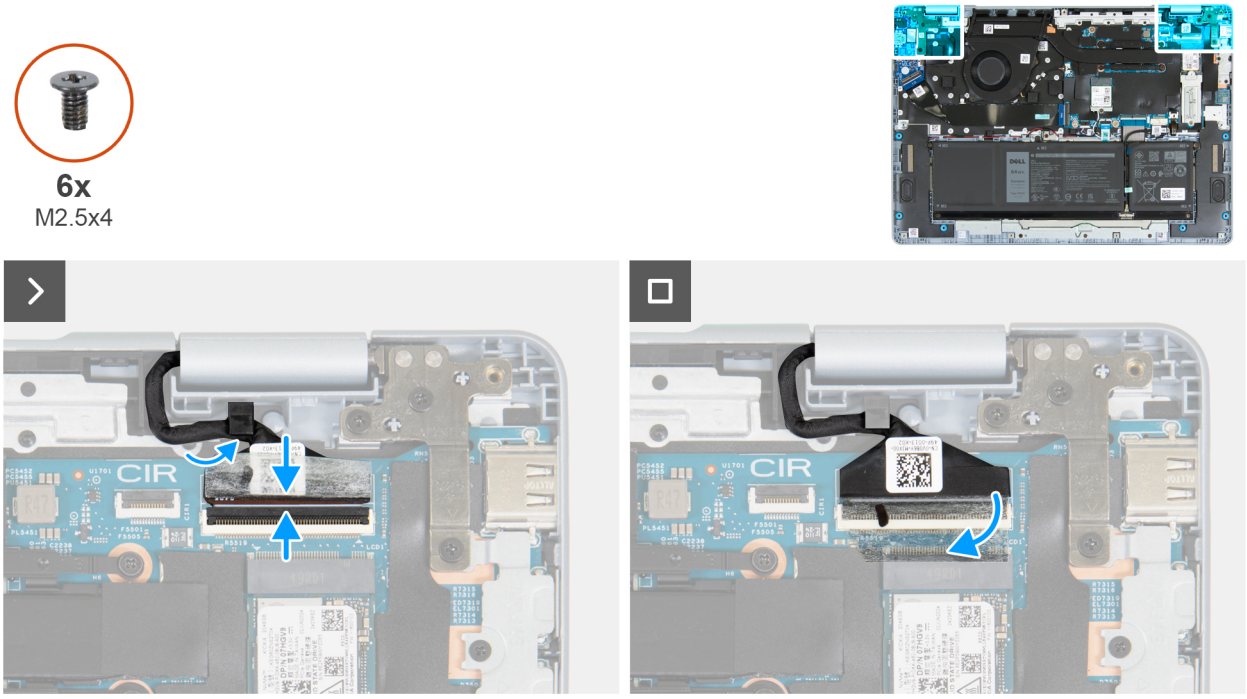


Figure 48. Installing the display assembly

Steps

1. Place the display assembly over the palm-rest and keyboard assembly.

   NOTE: To prevent damage, ensure that the display panel has a clean and smooth surface to rest on.

2. Align the screw holes on the left-display hinge with the screw holes on the palm-rest and keyboard assembly.
3. Replace the three screws (M2.5x4) that secure the left-display hinge to the palm-rest and keyboard assembly.
4. Align the screw holes on the right-display hinge with the screw holes on the palm-rest and keyboard assembly.
5. Replace the three screws (M2.5x4) that secure the right-display hinge to the palm-rest and keyboard assembly.
6. Flip over the computer and close the display lid.
7. Place the computer with the bottom side up.
8. Replace the display-assembly cable to the routing guide on the palm-rest and keyboard assembly.
9. Connect the display-assembly cable to its connector (LCD) on the system board and close the latch.
10. Adhere the tape to secure the display-cable latch to its connector (LCD) to the system board.

Next steps

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

I/O-board cable

Removing the I/O-board cable

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

Prerequisites

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

NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

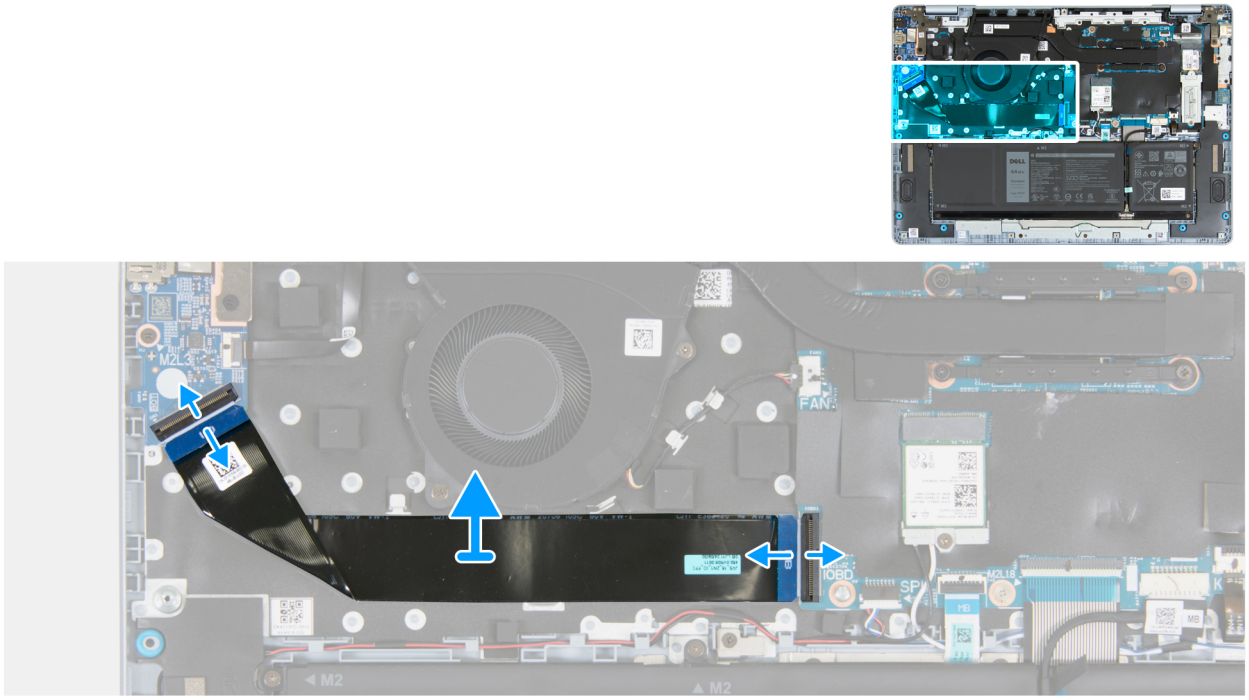


Figure 49. Removing the I/O-board cable

Steps

1. Lift the latch and disconnect the I/O-board cable from its connector (IOBD) on the system board.
2. Lift the latch and disconnect the I/O-board cable from its connector (CN1) on the I/O board.
3. Peel and lift the I/O-board cable off the palm-rest and keyboard assembly.

Installing the I/O-board cable

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

Prerequisites

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

About this task

The following image(s) indicate the location of the I/O-board and provides a visual representation of the installation procedure.

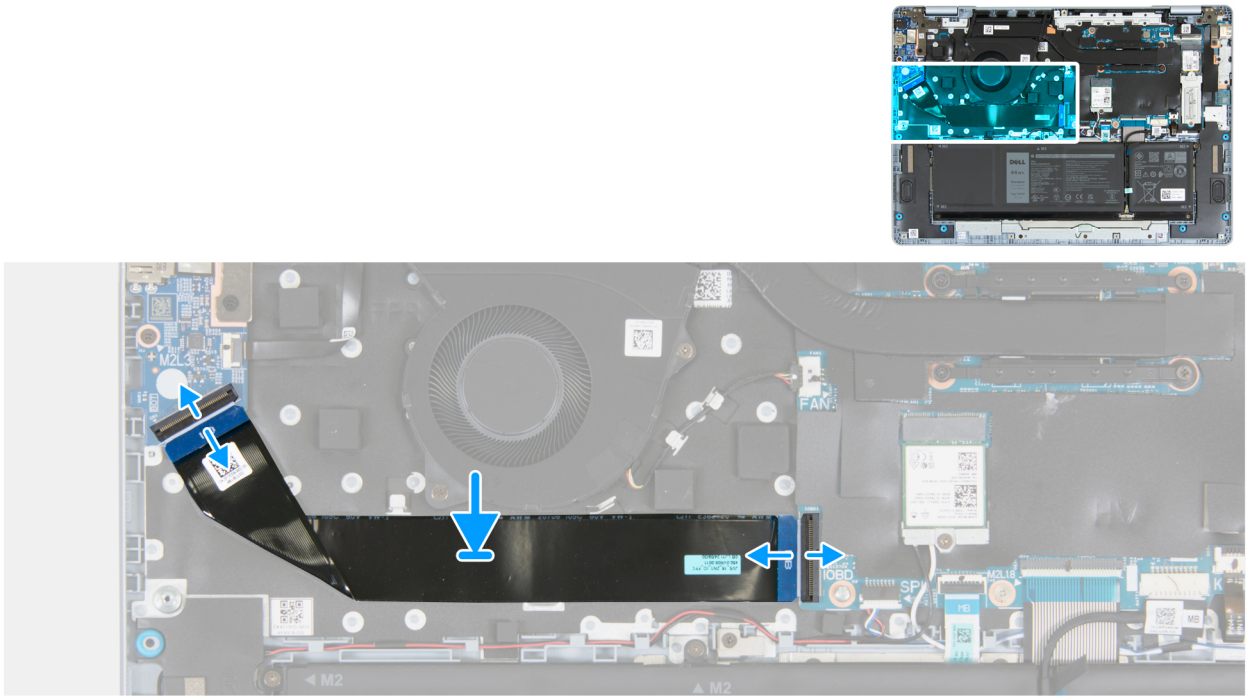


Figure 50. Installing the I/O-board cable

Steps

1. Place the I/O-board cable on the palm-rest and keyboard assembly.
2. Connect the I/O-board cable to its connector (IOBD) on the system board and close the latch.
3. Connect the I/O-board cable to its connector (CN1) on the I/O board and close the latch.
4. Adhere the I/O-board cable to the palm-rest and keyboard assembly.

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 **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

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

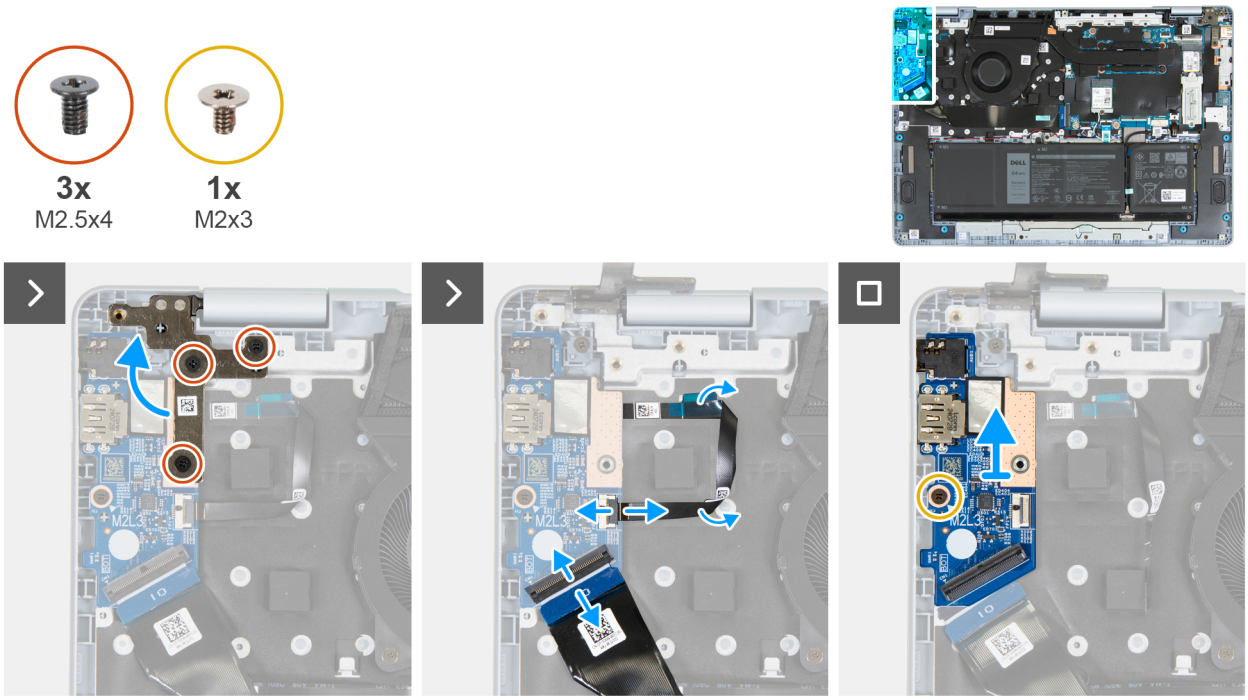


Figure 51. Removing the I/O board

Steps

1. Remove the three screws (M2.5x4) that secure the left-display hinge to the palm-rest and keyboard assembly.
2. Pry open the left-display hinge at an angle of 90 degrees.
3. Lift the latch and disconnect the I/O-board cable from its connector (CN1) on the I/O board.
4. Lift the latch and disconnect the fingerprint cable from its connector (FP1) on the I/O board.
5. Peel off the adhesive tape that secures the fingerprint cable to the palm-rest and keyboard assembly.
6. Remove the screw (M2x3) that secures the I/O board to the palm-rest and keyboard assembly.
7. 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(s) indicate the location of the I/O board and provides a visual representation of the installation procedure.

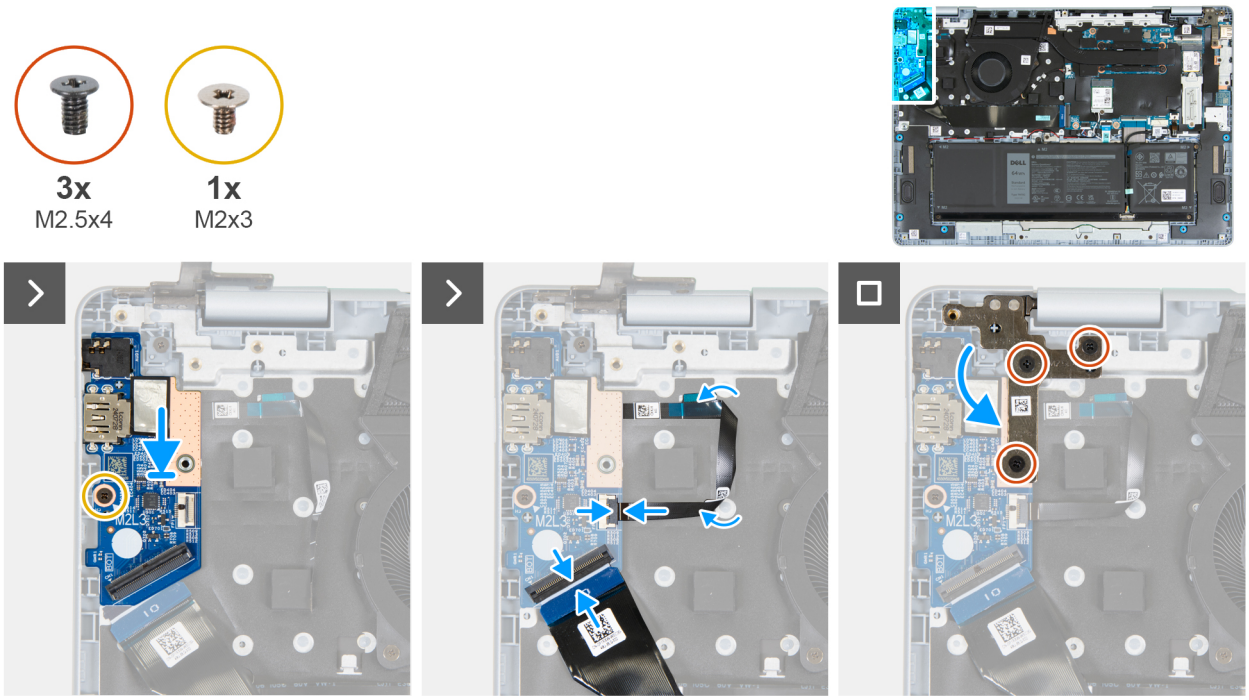


Figure 52. Installing the I/O board

Steps

1. Place the I/O board onto the palm-rest and keyboard assembly .
2. Align the ports on the I/O board to the slots on the palm-rest and keyboard assembly.
3. Align the screw holes on the I/O board to the screw holes on the palm-rest and keyboard assembly.
4. Replace the screw (M2x3) that secures the I/O board to the palm-rest and keyboard assembly.
5. Connect the I/O-board cable to its connector (CN1) on the I/O board and close the latch.
6. Adhere the adhesive tape that secures the fingerprint cable to the palm-rest and keyboard assembly.
7. Connect the fingerprint cable to its connector (FP1) on the I/O board and close the latch.
8. Close the left-display hinge and align the screw holes on the left-display hinge with the screw holes on the palm-rest and keyboard assembly.
9. Replace the three screws (M2.5x4) 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 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 **step 7** in Before working inside your computer.

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

About this task

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

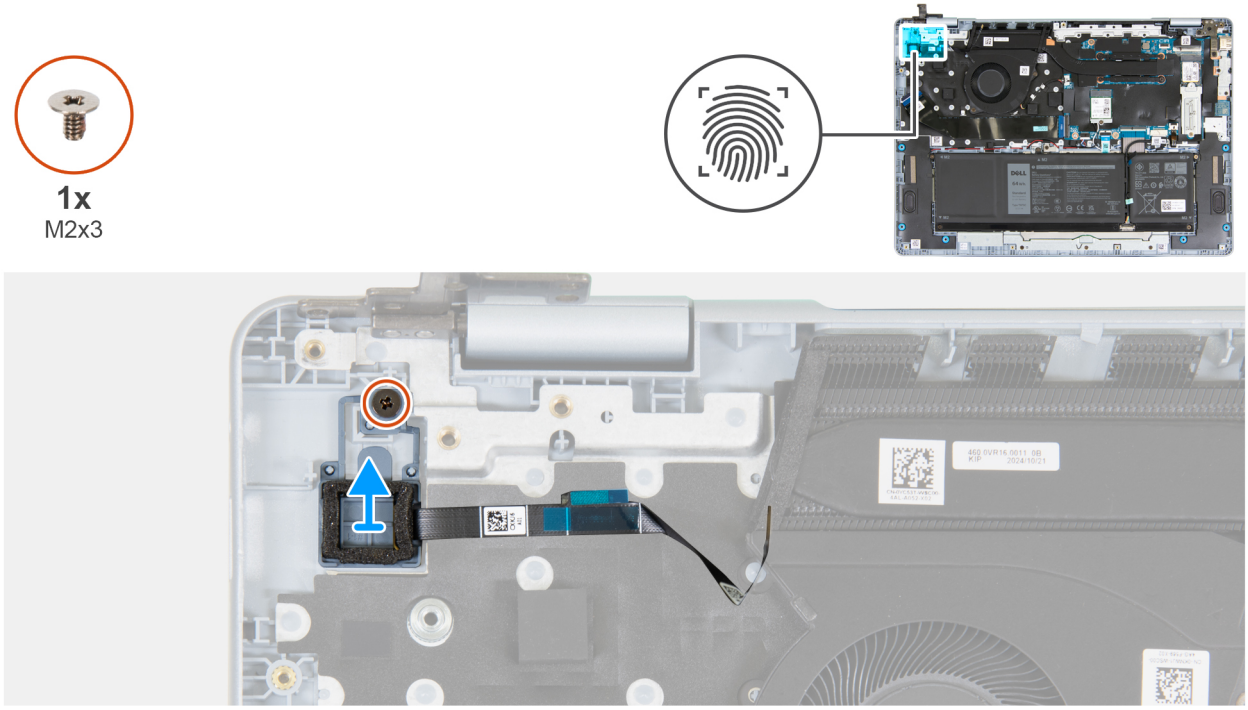


Figure 53. Removing the power button with a fingerprint reader

Steps

1. Peel back the tape that secures the fingerprint-reader cable to the palm-rest and keyboard assembly.
2. Remove the screw (M2x3) that secures the power button to the palm-rest and keyboard assembly.
3. Lift the power button with the fingerprint-reader cable off the palm-rest and keyboard assembly.

Installing the power button with fingerprint reader

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

Prerequisites

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

About this task

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

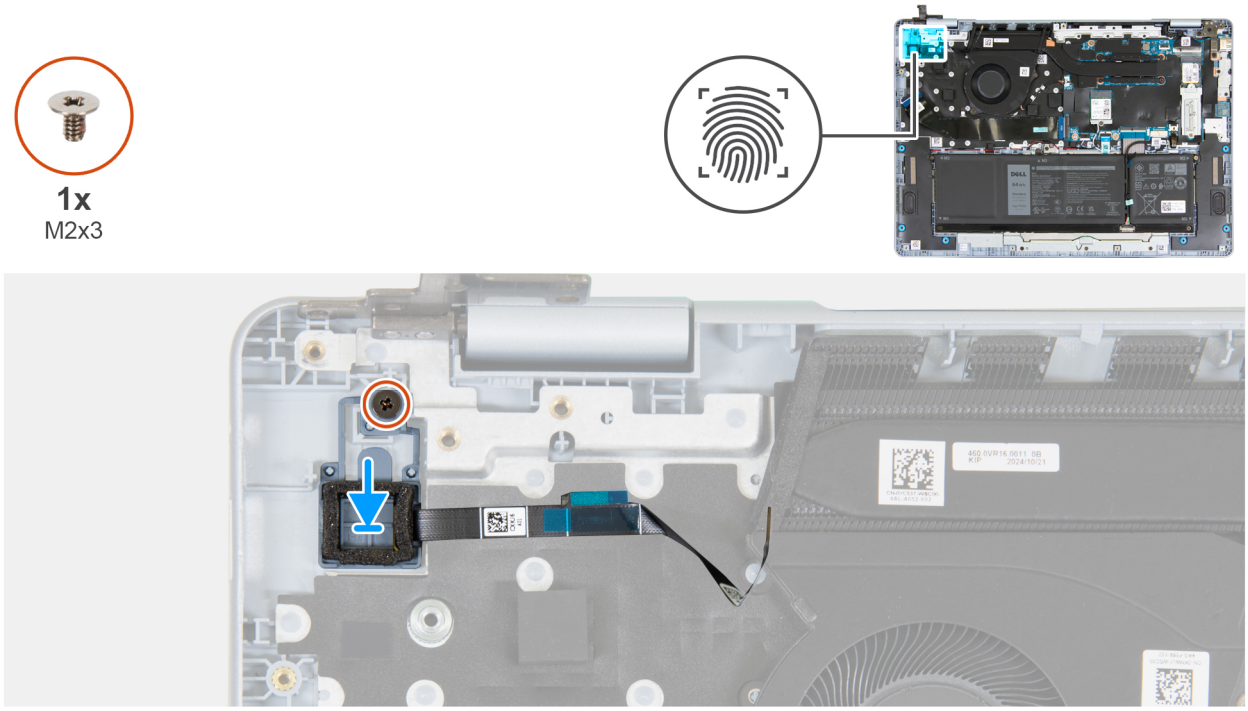


Figure 54. Installing power button with a fingerprint reader

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 to 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.

Heat sink

Removing the heat sink

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

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.

About this task

CAUTION: 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(s) indicate the location of the heat sink and provides a visual representation of the removal procedure.

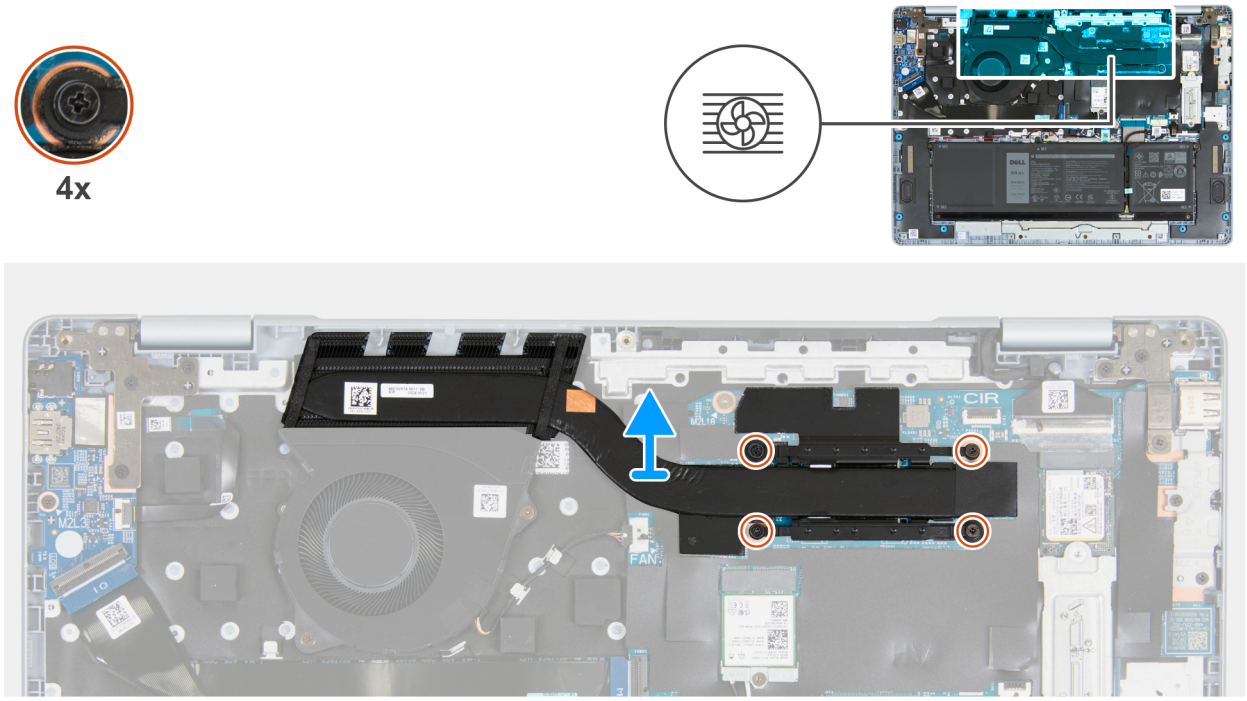


Figure 55. Removing the heat sink

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

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

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

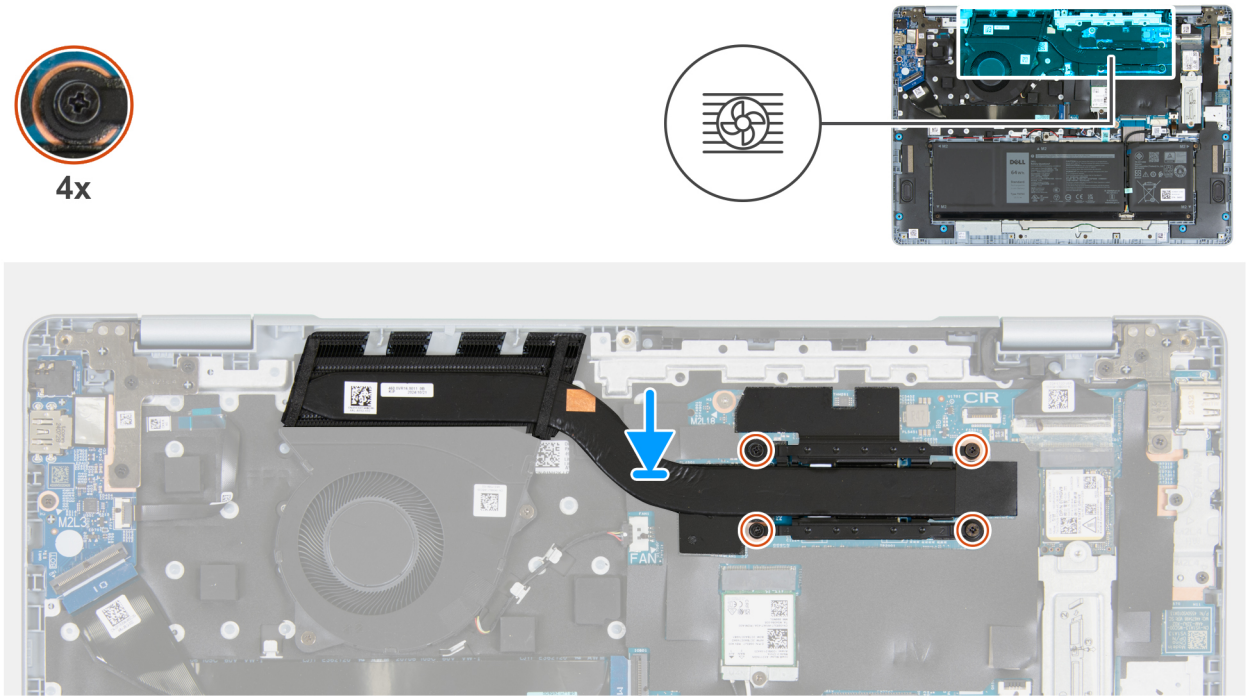


Figure 56. Installing the heat sink

Steps

1. Place the heat sink on the palm-rest and keyboard assembly.
2. Align the captive screws on the heat sink to 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.

Touchpad

Removing the touchpad

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

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.
3. Remove the battery.

About this task

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

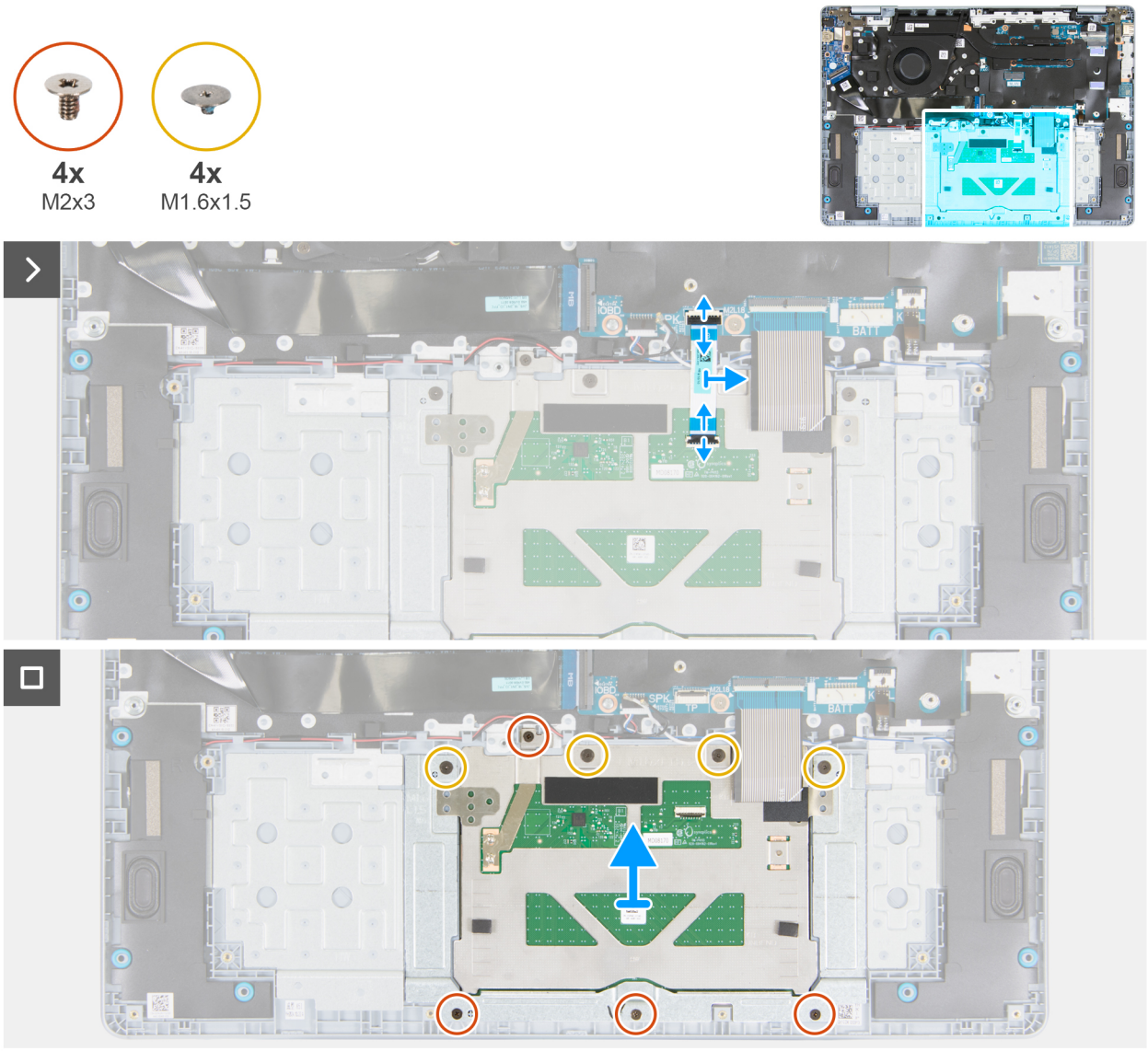


Figure 57. Removing the touchpad

Steps

1. Open the latch and disconnect the touchpad cable from its connector on the touchpad.
2. Open the latch and disconnect the touchpad cable from its connector (TP) on the system board.
3. Remove the touchpad cable from the touchpad.
4. Remove the one screw (M2x3) and the two screws (M1.6x1.5) that secure the touchpad to the palm-rest and keyboard assembly.
5. Remove the three screws (M2x3) and the two screws (M1.6x1.5) that secure the touchpad bracket to the palm-rest and keyboard assembly.
6. Lift the touchpad assembly off the palm-rest and keyboard assembly.

Installing the touchpad

Prerequisites

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

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

About this task

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

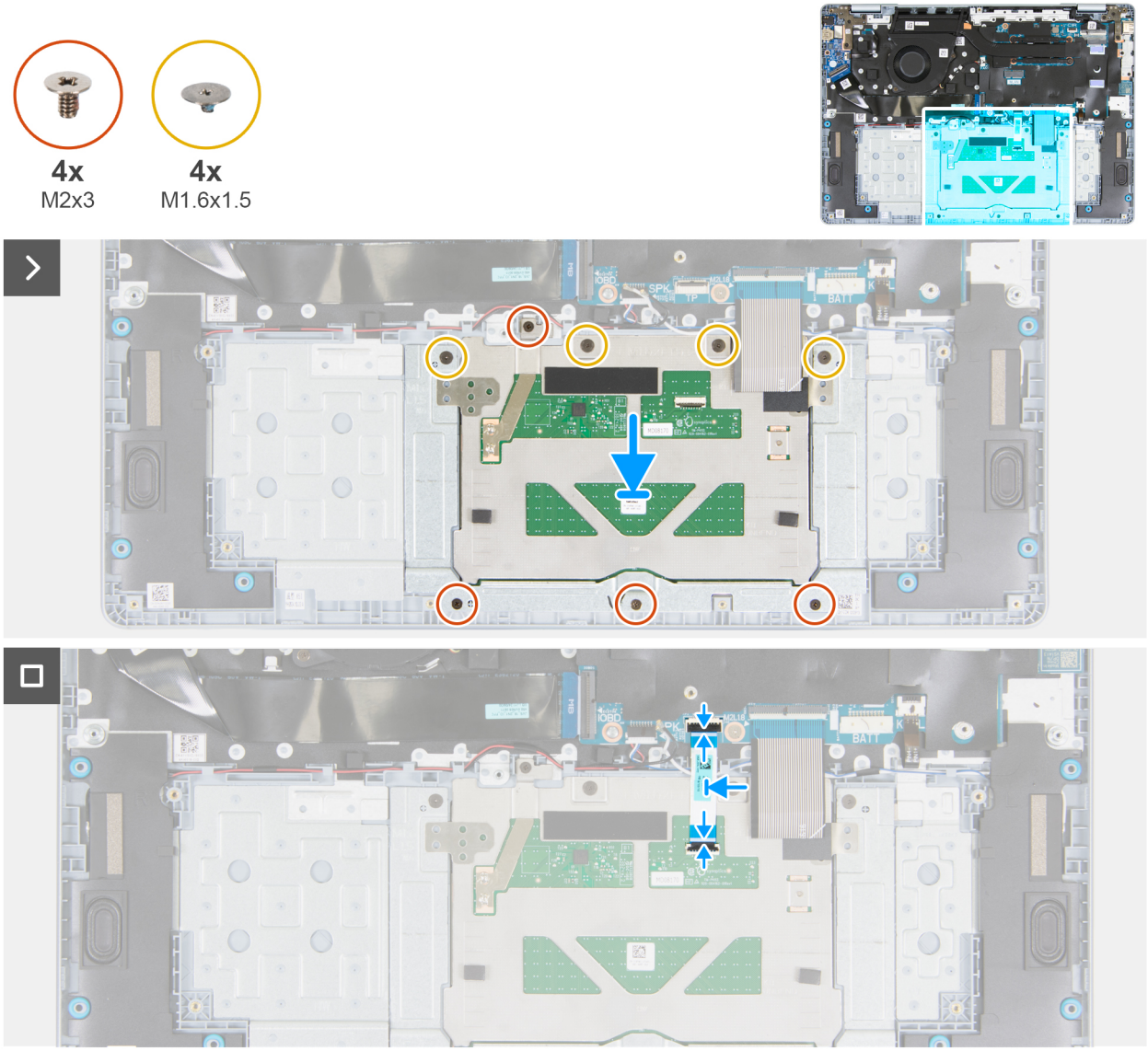


Figure 58. Installing the touchpad

Steps

1. Place the touchpad assembly onto the palm-rest and keyboard assembly.
2. Align the screw holes of the touchpad assembly to the screw holes on the palm-rest and keyboard assembly.
3. Replace the one screw (M2x3) and the two screws (M1.6x1.5) that secure the touchpad to the palm-rest and keyboard assembly.
4. Replace the three screws (M2x3) and the two screws (M1.6x1.5) that secure the touchpad bracket to the palm-rest and keyboard assembly.
5. Place the touchpad cable on the palm-rest and keyboard assembly.
6. Connect the touchpad cable to its connector on the touchpad and close the latch.
7. Connect the touchpad cable to its connector (TP) 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.

System board

Removing the system board

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

Prerequisites

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

   NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in Before working inside your computer.

2. Remove the base cover.
3. Remove the battery.
4. Remove the heat sink.
5. Remove the wireless card.
6. Remove the M.2 2230 solid-state drive .

About this task

CAUTION: Before removing the system board, give sufficient time for the heat sink to cool down to avoid injury.

NOTE: Replacing the system board removes any changes that you have made to the BIOS using the BIOS Setup program. Make the appropriate changes again after you replace the system board.

The following image indicates the connectors on your system board.

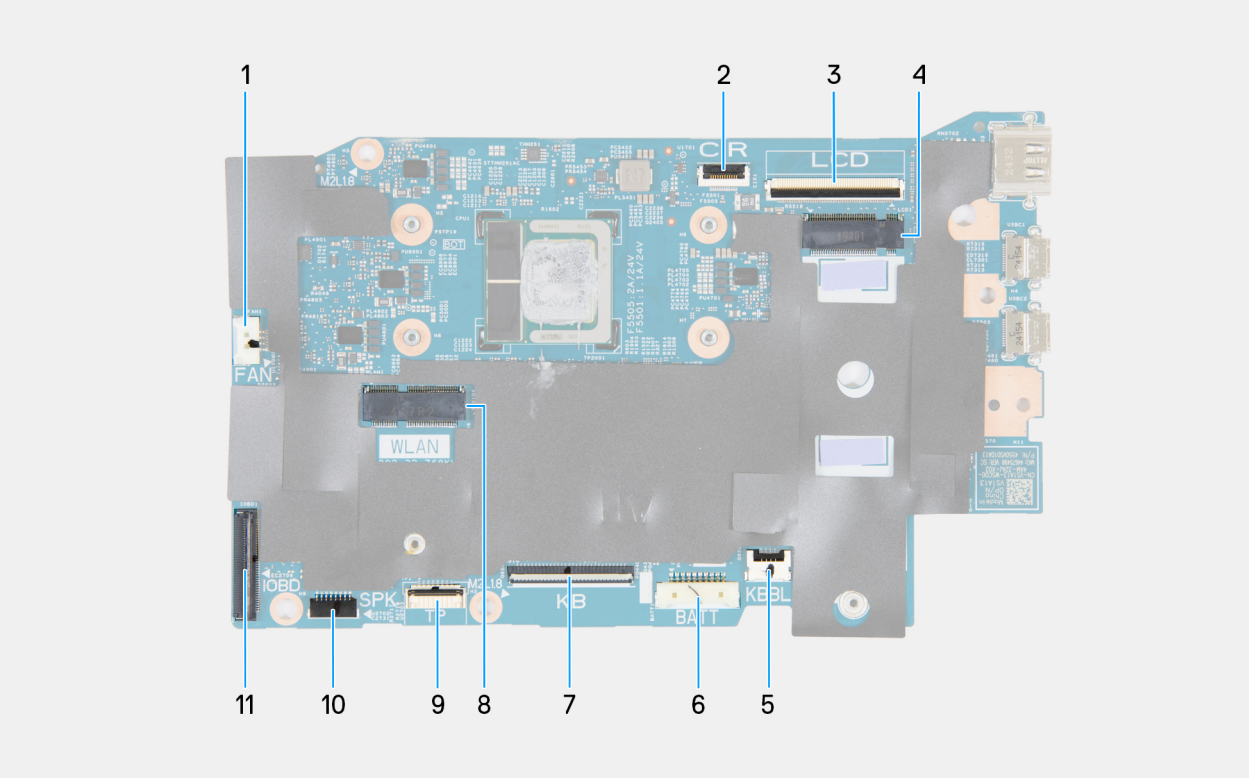


Figure 59. System board callouts

1. Fan-cable connector (FAN)
2. Display-board cable connector (CIR)
3. Display-assembly cable connector (LCD)

4. M.2 solid state drive slot (SSD1)
5. Keyboard-backlight cable connector (KBBL)
6. Battery cable connector (BATT)
7. Keyboard-cable connector (KB)
8. M.2 wireless card slot (WLAN)
9. Touchpad-cable connector (TP)
10. Speaker cable connector (SPK)
11. I/O board-cable connector (IOBD)

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

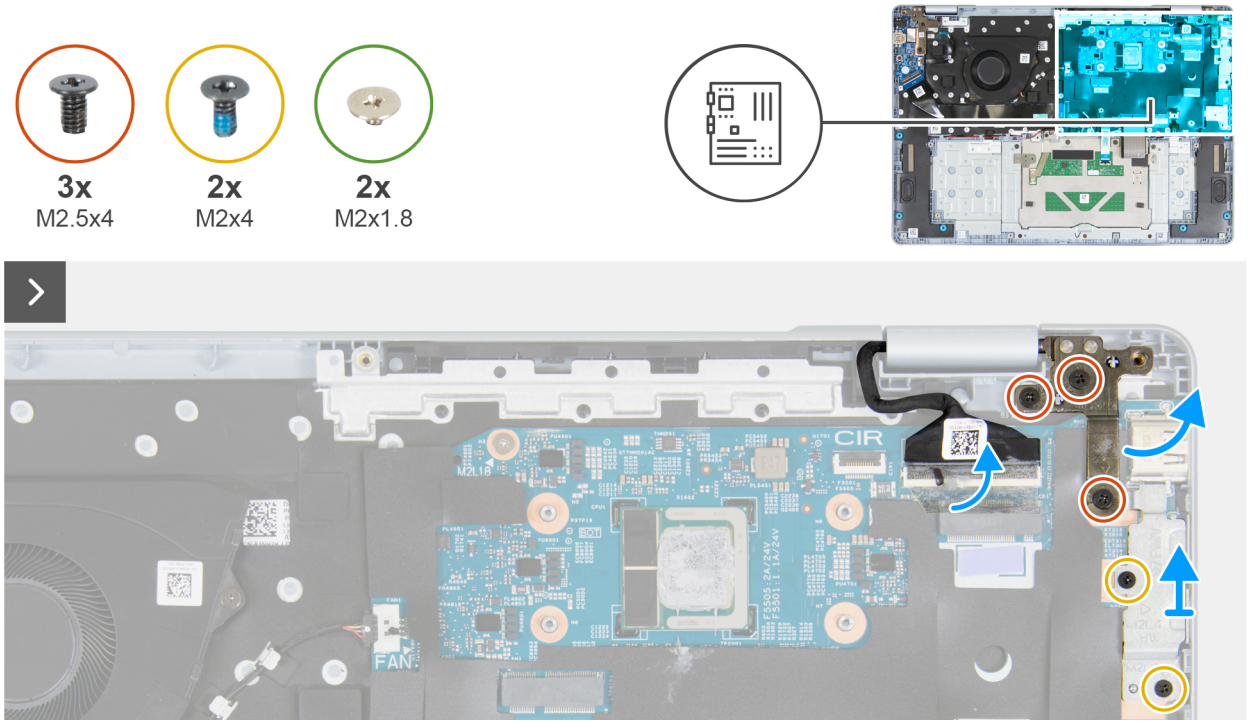


Figure 60. Removing the system board

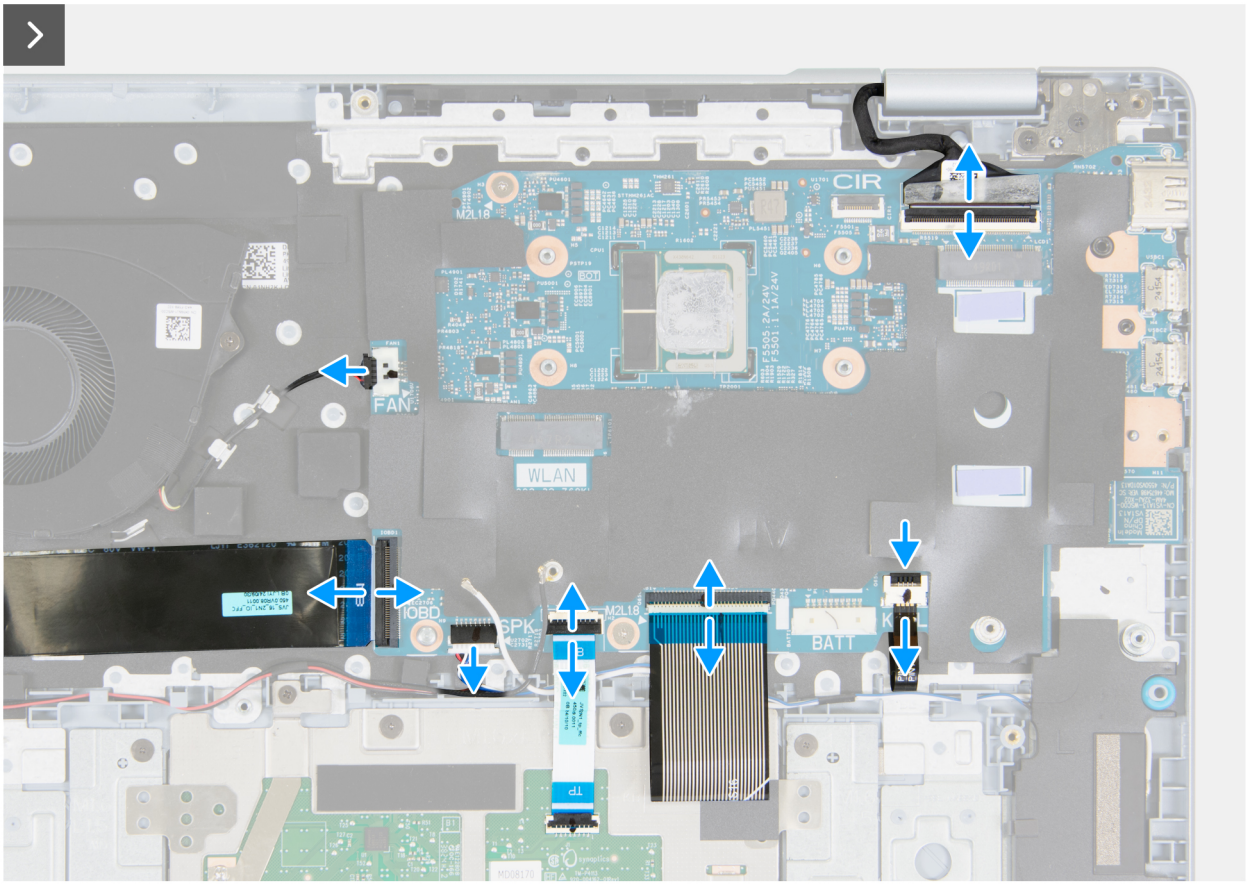


Figure 61. Removing the system board

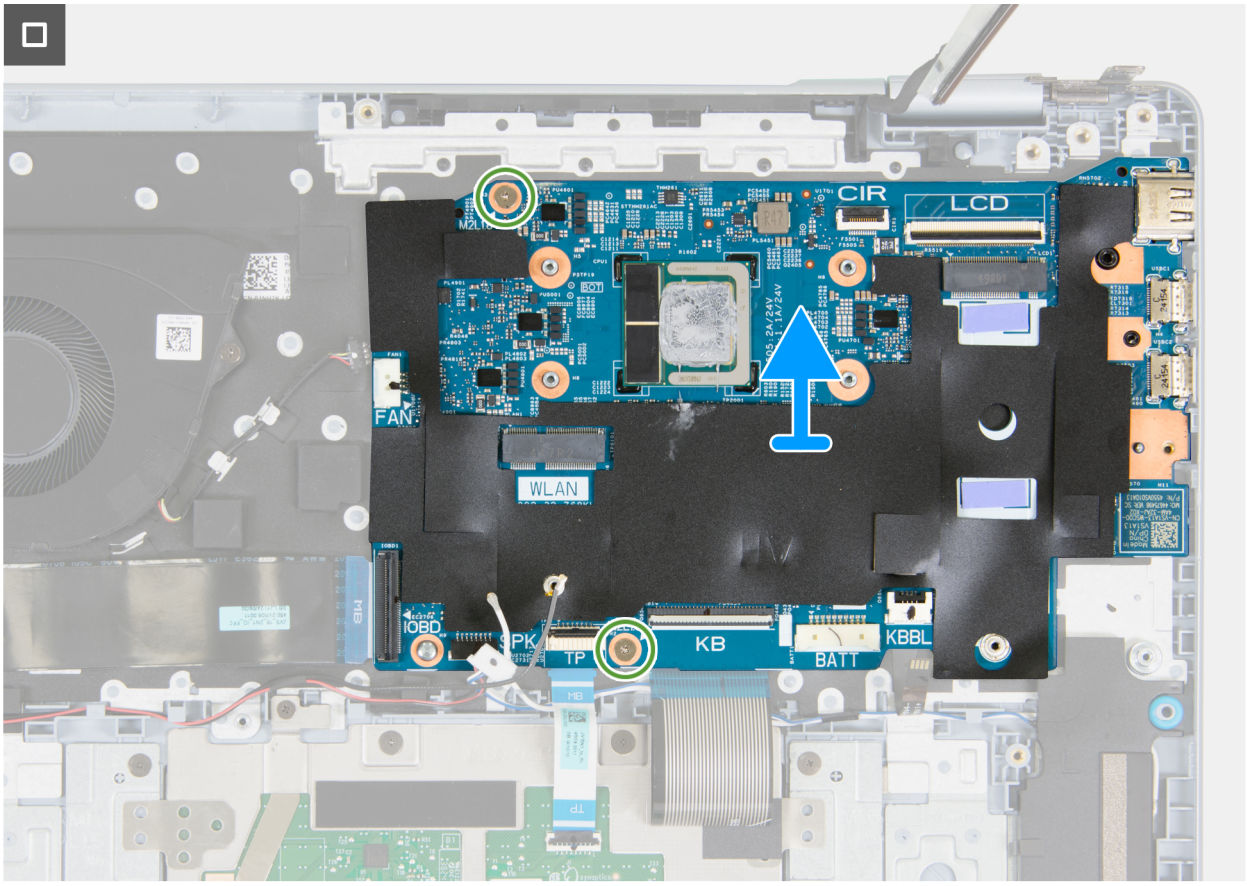


Figure 62. Removing the system board

Steps

1. Remove the three screws (M2.5x4) that secure the right-display hinge to the palm-rest and keyboard assembly.
2. Pry open the right-display hinge at a 90-degree angle.
3. Peel the tape that secures the display-cable latch to its connector.
4. Remove the two screws (M2x4) that secure the Type-C port-bracket to the system board.
5. Lift the Type-C port-bracket off the system board.
6. Lift the latch and disconnect the display-assembly cable from its connector (LCD) on the system board.
7. Lift the latch and disconnect the keyboard-backlight cable from its connector (KBBL) on the system board.
8. Lift the latch and disconnect the keyboard cable from its connector (KB) on the system board.
9. Disconnect the speaker cables from their connector (SPK) on the system board.
10. Lift the latch and disconnect the touchpad cable from its connector (TP) on the system board.
11. Lift the latch and disconnect the I/O-board cable from its connector (IOBD) on the system board.
12. Disconnect the fan cable from its connector (FAN) on the system board.
13. Remove the two screws (M2x1.8) that secure the system board to the palm-rest and keyboard assembly.
14. 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

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

The following image indicates the connectors on your system board.

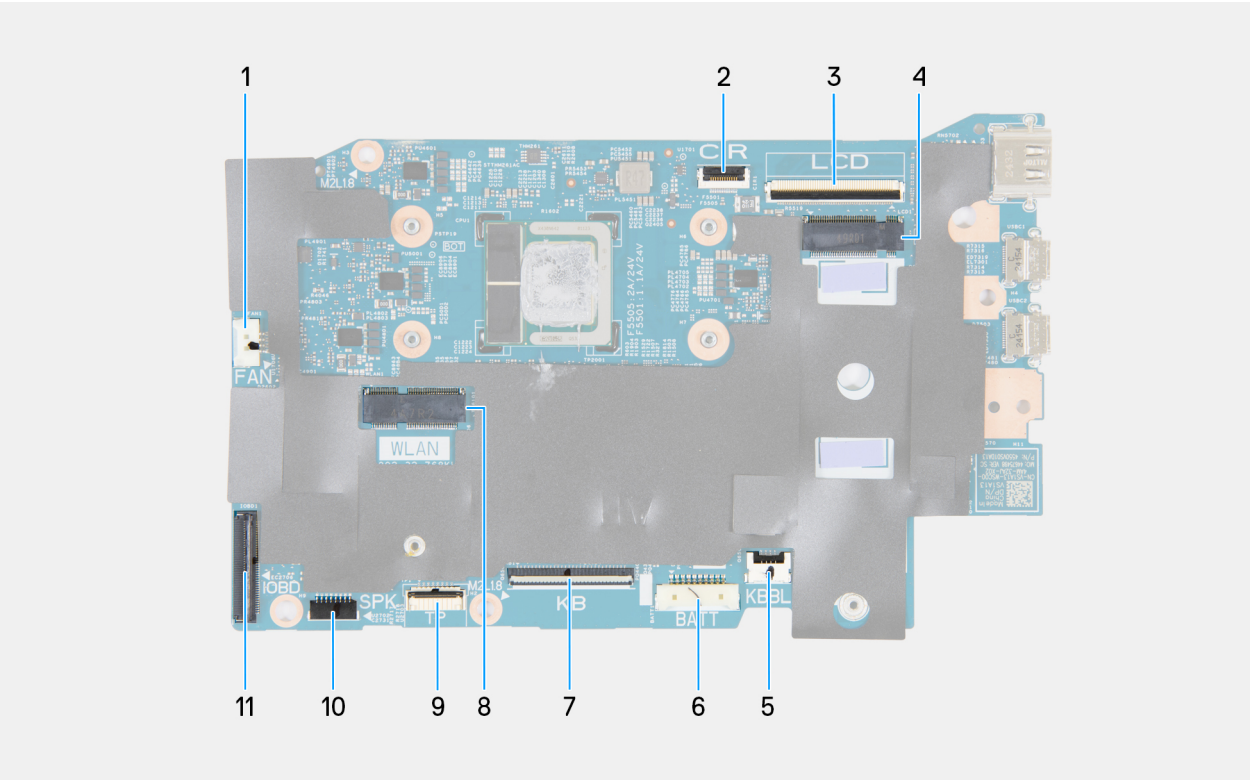


Figure 63. System board callouts

1. Fan-cable connector (FAN)
2. Display-board cable connector (CIR)
3. Display-assembly cable connector (LCD)
4. M.2 solid state drive slot (SSD1)
5. Keyboard-backlight cable connector (KBBL)
6. Battery cable connector (BATT)
7. Keyboard-cable connector (KB)
8. M.2 wireless card slot (WLAN)
9. Touchpad-cable connector (TP)
10. Speaker cable connector (SPK)
11. I/O board-cable connector (IOBD)

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

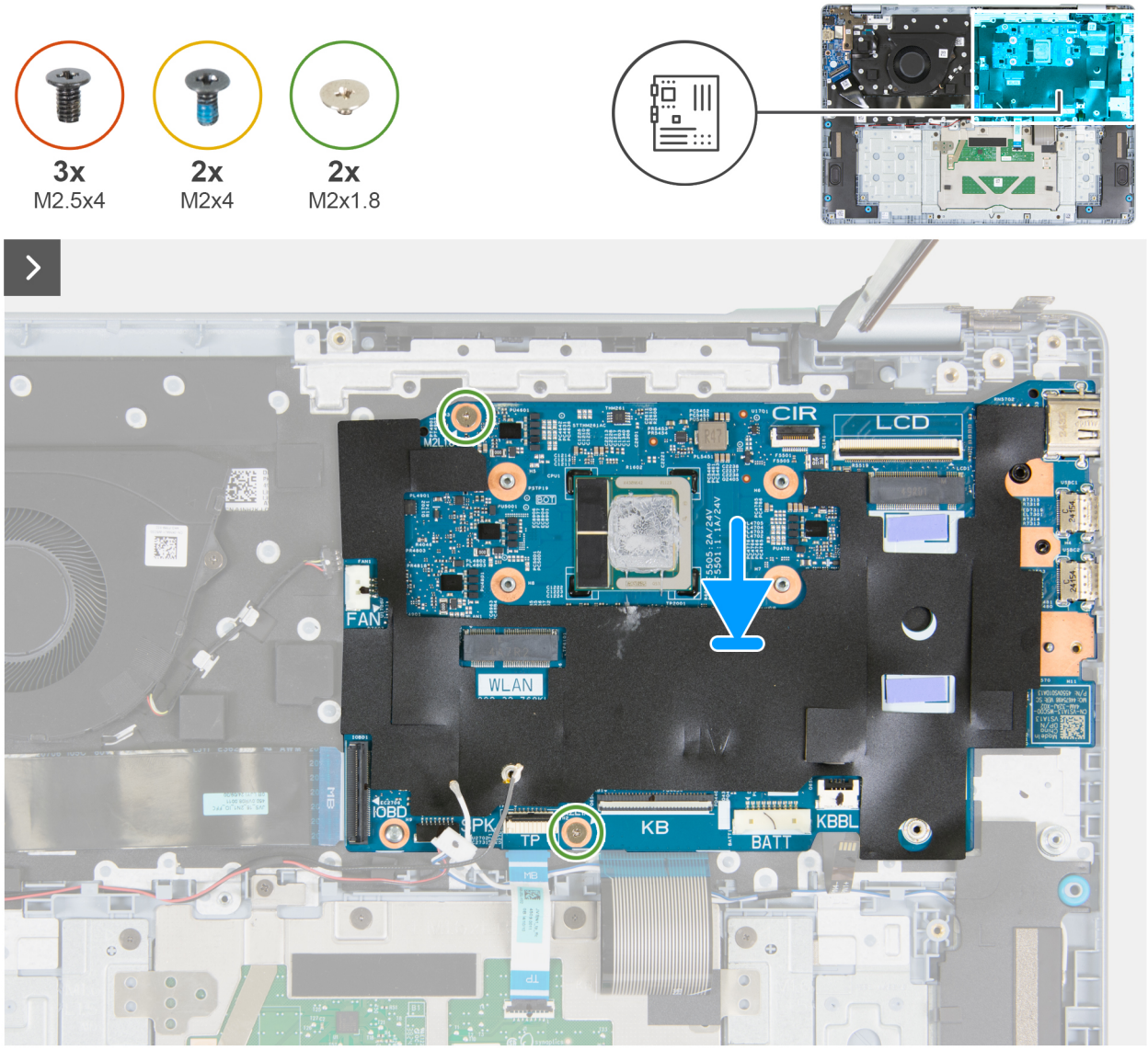


Figure 64. Installing the system board

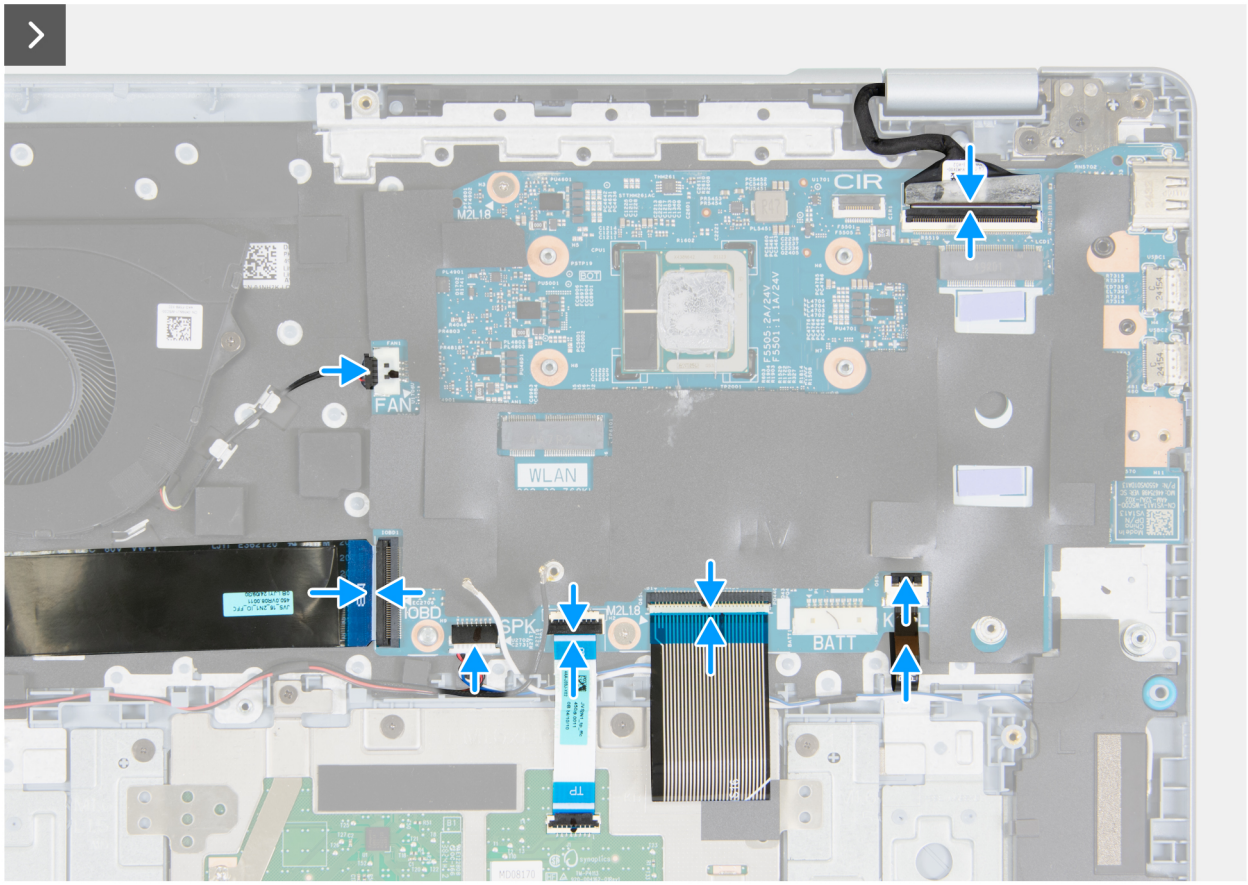


Figure 65. Installing the system board

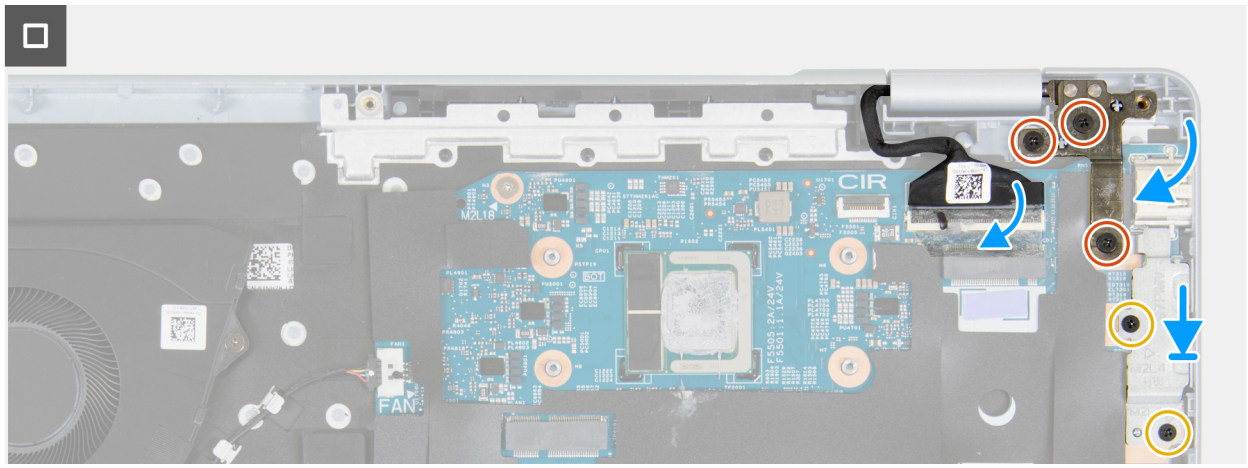


Figure 66. Installing the system board

Steps

1. Place the system board on the palm-rest and keyboard assembly.
2. Align the positioning pin on the system board with the hole on the palm-rest and keyboard assembly.
3. Align the ports on the system board with the ports on the palm-rest and keyboard assembly.
4. Align the screw holes on the system board with the screw holes on the palm-rest and keyboard assembly.
5. Replace the two screws (M2x1.8) that secure the system board to the palm-rest and keyboard assembly.
6. Replace the display-assembly cable to the routing guide on the palm-rest and keyboard assembly.
7. Connect the display-assembly cable to its connector (LCD) on the system board and close the latch.
8. Connect the keyboard-backlight cable to its connector (KBBL) on the system board and close the latch.

9. Connect the keyboard cable to its connector (KB) on the system board and close the latch.
10. Connect the touchpad cable to its connector (TP) on the system board and close the latch.
11. Connect the speakers cables to their connector (SPK) on the system board.
12. Connect the I/O board cable to its connector (IOBD) on the system board and close the latch.
13. Connect the fan cable to its connector (FAN) on the system board.
14. Adhere the tape to secure the display-cable latch to its connector (LCD) on the system board.
15. Close the right-display hinge and align the screw holes on the right-display hinge with the screw holes on the palm-rest and keyboard assembly.
16. Replace the three screws (M2.5x4) that secure the right-display hinge to the palm-rest and keyboard assembly.
17. Place the Type-C port-bracket on the system board.
18. Align the screw holes of the Type-C port-bracket with the screw holes on the system board.
19. Replace the two screws (M2x4) that secure the Type-C port-bracket to the system board.

NOTE: Do not secure the two screws (M2x4) into the system board without the Type-C port-bracket.

Next steps

1. Install the M.2 2230 solid-state drive.
2. Install the wireless card.
3. Install the heat sink.
4. Install the battery.
5. Install the base cover.

Palm-rest and keyboard assembly

Removing the palm-rest and keyboard assembly

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

Prerequisites

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

NOTE: Ensure that your computer is in Service Mode. For more information, see **step 7** in 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 display assembly.
7. Remove the fan.
8. Remove the I/O-board cable.
9. Remove the I/O board.
10. Remove the power button.
11. Remove the speakers.
12. Remove the touchpad.
13. Remove the system board.

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

About this task

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

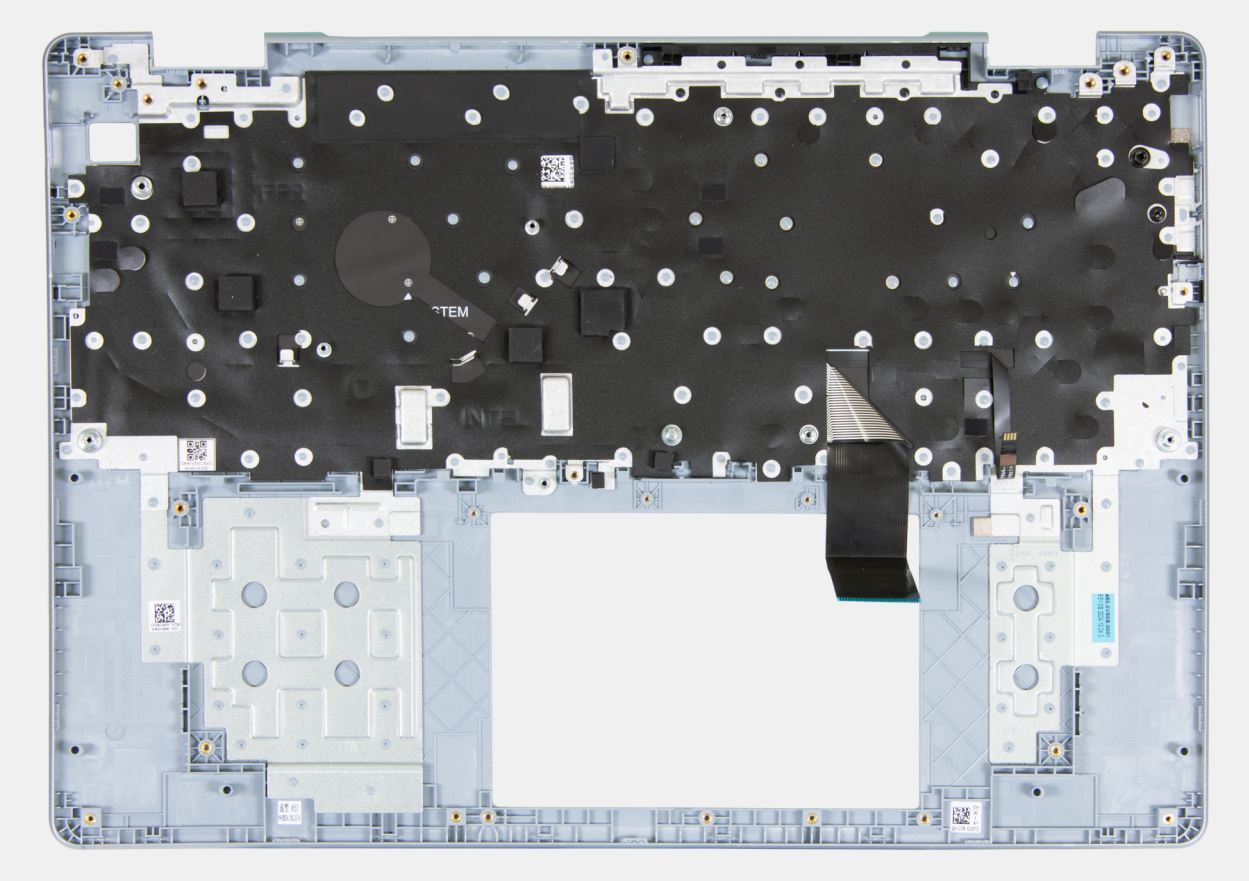


Figure 67. Palm-rest and keyboard assembly

Steps

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

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

- Palm rest
- Keyboard

Installing the palm-rest and keyboard assembly

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

Prerequisites

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

About this task

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

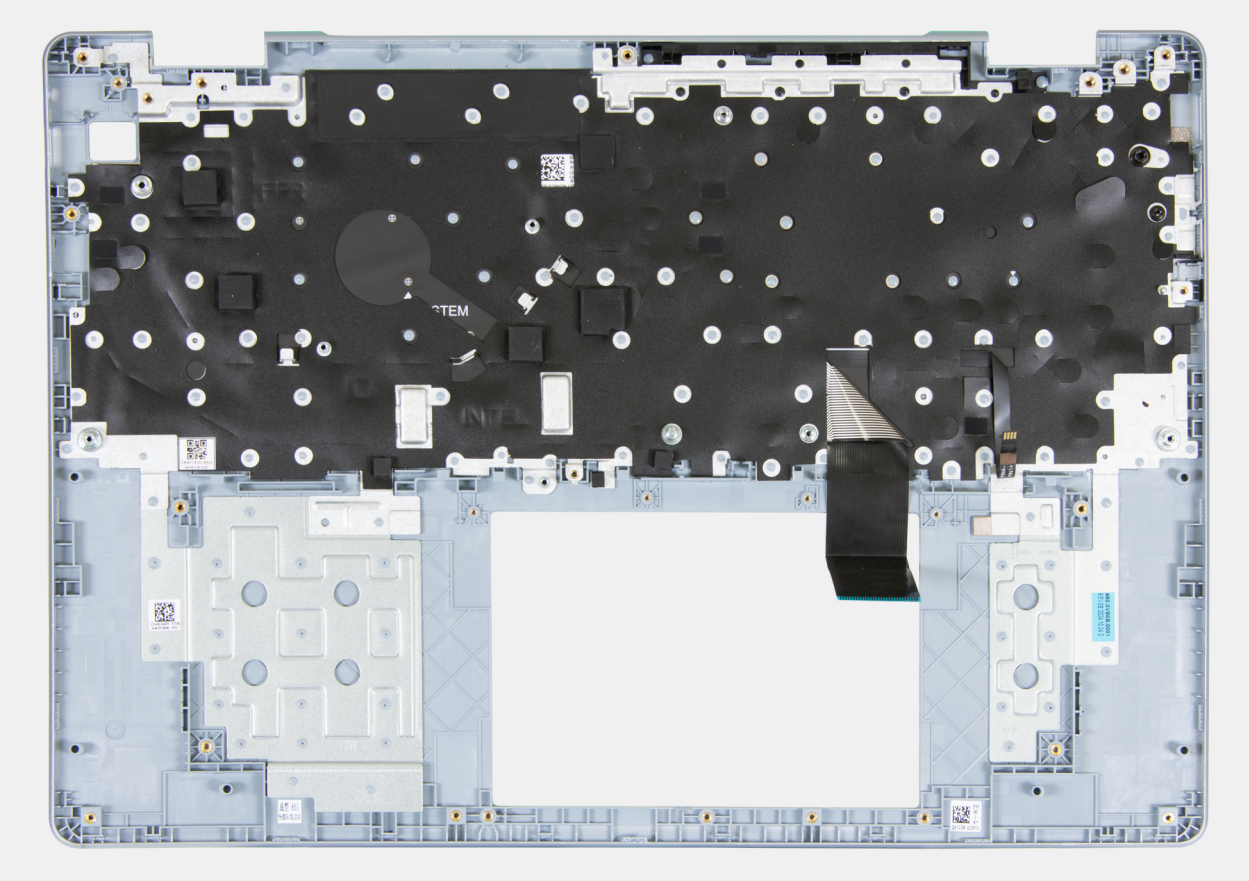


Figure 68. Palm-rest and keyboard assembly

Steps

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

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

- Palm rest
- Keyboard

Next steps

1. Install the system board.

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

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

7

Software

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

Operating system

Your Dell 16 Plus 2-in-1 DB06250 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Pro National Education
- Windows 11 Home

Drivers and downloads

When troubleshooting, downloading, or installing drivers, it is recommended that you read the Dell Knowledge Base article Drivers and Downloads FAQs 000123347.

8

Technology and components

NOTE: Instructions that are provided in the following section are applicable to computers that are shipped with the Windows operating system. Windows is factory-installed with this computer.

9

BIOS Setup

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

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

Use BIOS Setup for the following purposes:

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

Entering BIOS Setup program

Turn on or restart your computer and press F2 immediately.

Navigation keys

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

Table 25. Navigation keys

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

F12 One Time Boot menu

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

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

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

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

NOTE: XXX denotes the SATA drive number.

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

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

System setup options

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

Table 26. System setup options—Overview menu

Overview	
Dell 16 Plus 2-in-1 DB06250	
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. Default: Enabled
BATTERY	Displays the battery health information.
Primary	Displays the primary battery.
Battery Level	Displays the battery level.
Battery State	Displays the battery state.
Health	Displays the battery health.
AC Adapter	Displays whether an AC adapter is connected. If connected, the AC adapter type.
PROCESSOR	
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.
Intel vPro Technology®	Displays whether Intel vPro Technology®.
MEMORY	
Memory Installed	Displays the total computer memory installed.
Memory Speed	Displays the memory speed.

Table 26. System setup options—Overview menu (continued)

Overview	
Memory Channel Mode	Displays single or dual channel mode.
Memory Technology	Displays the technology that is used for the memory.
DEVICES	
Panel Type	Displays the panel type of the computer.
Panel Revision	Displays the panel revision of the computer.
Video Controller	Displays the integrated graphics information of the computer.
Video Memory	Displays the video memory information of the computer.
Wi-Fi Device	Displays the Wi-Fi device installed in 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 whether a Bluetooth device is installed in the computer.

Table 27. System setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot Mode: UEFI only	Displays the boot mode of this computer.
Boot Sequence	Specifies the order that the BIOS searches the list of devices to find an operating system to boot. By default, **Windows Boot Manager** is selected. By default, **UEFI Hard Drive** is selected.
Enable PXE Boot Priority	Enables PXE Boot Priority. Default: **OFF**
Secure Boot	
Enable Secure Boot	Enables secure boot using only validated boot software. Default: **OFF**
Enable Microsoft UEFI CA	Enables UEFI CA to be included in the BIOS UEFI Secure Boot DB. Default: **ON**
Secure Boot Mode	Modifies the behavior of Secure Boot to allow evaluation or enforcement of UEFI driver signatures. Deployed Mode should be selected for normal operation of Secure Boot. By default, **Deployed Mode** is selected.

Table 28. System setup options—Integrated Devices menu

Integrated Devices	
Date/Time	
Date	Sets the computer date in MM/DD/YYYY format. Changes to the date take effect immediately.
Time	Sets the computer time in HH/MM/SS 24-hour format. You can switch between 12-hour and 24-hour clock. Changes to the time take effect immediately.
Camera	

Table 28. System setup options—Integrated Devices menu (continued)

Integrated Devices	
Enable Camera	Enables or disables the camera. By default, **Enable Camera** is selected.
Audio	Enables or disables all integrated audio controller. Default: **ON**
Enable Microphone	Enables or disables microphone. By default, **Enable Microphone** is selected.
Enable Internal Speaker	Enables or disables internal speaker. By default, **Enable Internal Speaker** is selected.
USB/Thunderbolt Configuration	
Enable USB Boot Support	Enables or disables booting from USB mass storage devices such as external hard drive, optical drive, and USB drive. By default, **Enable USB Boot Support** is selected.
Miscellaneous Devices	Enable or disable the fingerprint reader device. By default, **Enable Fingerprint Reader Device** is selected.

Table 29. System setup options—Storage menu

Storage	
SATA/NVMe Operation	
Storage Interface	
Drive Information	Displays the information of various onboard drives.
M.2 PCIe SSD	
Type	Displays the M.2 PCIe SSD type information of the system.
Device	Displays the M.2 PCIe SSD device information of the system.

Table 30. System setup options—Display menu

Display	
Display Brightness	
Brightness on battery power	Sets the screen brightness when the computer is running on battery power. Default: **40**
Brightness on AC power	Sets the screen brightness when the computer is running on AC power. Default: **40**
Touchscreen	
Touchscreen	Enable or disable the touchscreen. By default, **Touchscreen** is enabled.
Full Screen Logo	
Full Screen Logo	Enables or disables display of full screen logo if the image matches screen resolution. Default: **OFF**

Table 31. System setup options—Connection menu

Connection	
Wireless Device Enable	
WLAN	Enables or disables the internal WLAN device. By default, **WLAN** is selected.
Bluetooth®	Enables or disables the internal Bluetooth device. By default, **Bluetooth** is selected.
Enable UEFI Network Stack	Enables or disables the UEFI Network Stack. Default: **Selective Enabled**
Dynamic Wireless Transmit Power	Enables or disables increase of transmit power of WLAN device. By default, **Dynamic Wireless Transmit Power** is selected.
HTTP(s) Boot Feature	
HTTP(s) Boot	Enables or disables HTTP(s) boot. Default: **ON**
HTTP(s) Boot Modes	Enables selection of Auto or Manual boot mode. Default: **Auto Mode**
Upload	Enables uploading of CA certificate required for connecting to the HTTPs boot server.
Delete	Enables deleting of CA certificate.

Table 32. System setup options—Power menu

Power	
Lid Switch	

Table 33. System setup options—Security menu

Security	
Intel® Platform Trust Security	
Intel Platform Trust Security On	Select whether Intel® Platform Trust Security is visible to the operating system. Default: **ON**
PPI Bypass for Clear Commands	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 information that is stored in the TPM 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 TPM data is required 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.

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

Security	
	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. **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 34. System setup options—Passwords menu

Passwords	
Admin Password	Enables the user to set, change, or delete the administrator (admin) password. The admin password enables several security features
System Password	Enables the user to set, change, or delete the system password.
M.2 PCIe SSD-0	Enables the user to set, change, or delete the password for the internal storage.

Table 35. System setup options—Update,Recovery menu

Update,Recovery	
SupportAssist OS Recovery	Enables or disables the boot flow for SupportAssist OS Recovery tool, in the event of certain system error. Default: **ON**
BIOSConnect	Enables or disables cloud Service OS recovery if the main OS fails to boot within the number of failures equal or greater than the value specified by Dell Auto OS Recovery Threshold, and local Service does not boot, or is not installed.

Table 35. System setup options—Update,Recovery menu (continued)

Update,Recovery	
	Default: **ON**
Dell Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery tool. Default: **2**.

Table 36. System setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Creates a system Asset Tag that can be used by an IT administrator to uniquely identify a particular system. Once set in BIOS, the Asset Tag cannot be changed.

Table 37. System setup options—Keyboard menu

Keyboard	
Keyboard Illumination	Allows for selection of keyboard illumination settings. Default: **Bright**
Keyboard Backlight Timeout on AC	Allows for selection of keyboard backlight timeout value, when an AC adapter is plugged into the computer. Default: **1 minute**
Keyboard Backlight Timeout on Battery	Allows for selection of keyboard backlight timeout value, when the computer is running on battery power. Default: **1 minute**

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

Pre-boot Behavior	
Adapter warnings	
Enable Adapter warnings	Enables or disables the computer to display adapter warning messages when adapters with too little power capacity are detected. Default: **ON**
Warnings and Errors	Selects an action on encountering a warning or error during boot. Default: **Prompt on Warnings and Errors. Stop, prompt, and wait for user input when warnings or errors are detected.** **NOTE:** Errors deemed critical to the operation of the computer hardware will always halt the computer.
USB-C Warnings	
Enable Dock Warning Messages	Enables or disables dock warning messages.

Table 39. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear Bios Event Log	Select keep or clear BIOS events. Default: **Keep Log**
Thermal Event Log	

Table 39. System setup options—System Logs menu (continued)

System Logs	
Clear Thermal Event Log	Select keep or clear Thermal events. Default: **Keep Log**
Power Event Log	
Clear Power Event Log	Select keep or clear Power events. Default: **Keep Log**

Updating the BIOS

Updating the BIOS in Windows

Steps

1. Go to Dell Support Site.
2. Go to **Identify your product or search support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.

   NOTE: If you do not have the Service Tag, 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. Go to Dell Support Site.
2. Go to **Identify your product or search support**. In the box, enter the product identifier, model, service request or describe what you are looking for, and then click **Search**.

   NOTE: If you do not have the Service Tag, 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. Create a bootable USB drive. For more information, search the Knowledge Base Resource at Dell Support Site.
8. Copy the BIOS Setup program file to the bootable USB drive.
9. Connect the bootable USB drive to the computer that needs the BIOS update.
10. Restart the computer and press **F12** .
11. Select the USB drive from the **One Time Boot Menu**.
12. Type the BIOS Setup program filename and press **Enter**.
    The **BIOS Update Utility** appears.
13. Follow the on-screen instructions to complete the BIOS update.

Updating the BIOS from the One-Time boot menu

You can run the BIOS flash 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. To update your computers BIOS, copy the BIOS XXXX.exe file onto a USB drive formatted with the FAT32 file system. Then, restart your computer and boot from the USB drive using the One-Time Boot Menu.

About this task

BIOS Update

To confirm if the BIOS Flash Update is listed as a boot option you can boot your computer to the **One Time Boot** Menu. If the option is listed, then the BIOS can be updated using this method.

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
- A functional computer battery to flash the BIOS

Perform the following steps to update the BIOS from the One-Time boot 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 the computer, insert the USB drive that contains the BIOS flash update file.
2. Turn on the computer and press **F12** to access the **One Time Boot** Menu. Select **BIOS Update** using the mouse or arrow keys then press Enter.
   The flash BIOS menu is displayed.
3. Click **Flash from file**.
4. Select 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

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

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

Table 40. System and setup password

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

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

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

Assigning a System Setup password

Prerequisites

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

Steps

1. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
   The **Security** screen is displayed.
2. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to create the system password:
   - Password can be up to 32 characters.
   - Password must contain at least one special character: "(! " # $ % & ' * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | })"
   - The password can contain numbers from 0 to 9.
   - The password can contain alphabets A to Z and a to z.
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press Y to save the changes.
   The computer restarts.

Deleting or changing an existing system password or setup password

Prerequisites

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

Steps

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that the **Password Status** is Unlocked.
3. Select **System Password**. Update or delete the existing system password, and press Enter or Tab.
4. Select **Setup Password**. Update or delete the existing setup password, and press Enter or Tab.

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

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

Clearing CMOS settings

About this task

CAUTION: Clearing CMOS settings will reset the BIOS settings on your computer.

Steps

1. Remove the base cover.
2. Disconnect the battery cable from the system board.
3. Wait for one minute.
4. Connect the battery cable to the system board.

5. Install the base cover.

Clearing system and setup passwords

About this task

To clear the system or setup passwords, contact Dell technical support as described at Contact Support.

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

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

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

Dell SupportAssist Pre-boot System Performance Check diagnostics

About this task

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

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

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

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

For more information, see the knowledge base article 000181163.

Running the SupportAssist Pre-Boot System Performance Check

Steps

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

Built-in self-test (BIST)

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

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

Table 41. LED error codes

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

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

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

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

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

How to invoke the L-BIST

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

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

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

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

How to invoke the LCD-BIST

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

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

System-diagnostic lights

This section lists the system-diagnostic lights of your Dell 16 Plus 2-in-1 DB06250.

Table 42. 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

Table 42. System-diagnostic lights (continued)

Blinking pattern		Problem description
Amber	**White**	
1	6	EC internal failure
1	7	Non-RPMC Flash on boot guard fused system
2	1	Processor failure
2	2	System board: BIOS or ROM (Read-Only Memory) failure
2	3	No memory or RAM (Random-Access Memory) detected
2	4	Memory or RAM (Random-Access Memory) failure
2	5	Memory or RAM (Random-Access Memory) failure
2	6	System-board or chipset error
2	7	Display failure - SBIOS message
2	8	Display failure - EC detection of power rail failure
3	2	PCI of video card/chip failure
3	3	BIOS recovery image not found
3	4	BIOS recovery image found but invalid
3	5	Power-rail failure
3	6	System BIOS Flash corruption.
3	7	Management Engine (ME) error
4	1	Memory or RAM (Random-Access Memory) failure
4	2	Processor failure

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

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

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

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

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

Recovering the operating system

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

Dell SupportAssist OS Recovery is a stand-alone tool that is preinstalled in Dell computers running the Windows operating system. It consists of tools to diagnose and troubleshoot issues that may occur before your computer boots to the operating

system. It enables you to diagnose hardware issues, repair your computer, back up your files, and restore your computer to its factory state.

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

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

Real-Time Clock (RTC Reset)

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

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

Backup media and recovery options

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

Network power cycle

About this task

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

Steps

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

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

Drain flea power (perform hard reset)

About this task

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

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

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

Perform the following steps to drain the flea power:

Steps

1. Turn off the computer.

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

   CAUTION: The battery is a Field Replaceable Unit (FRU) and the removal and installation procedures are intended for authorized service technicians only.

5. Press and hold the power button for 20 seconds to drain the flea power.
6. Install the battery.
7. Install the base cover.
8. Connect the power adapter to the computer.
9. Turn on the computer.

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

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Getting help and contacting Dell Technologies

Self-help resources

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

Table 43. 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.