Latitude 3340/Latitude 3340 2-in-1

Service Manual

Regulatory Model: P167G/P168G
Regulatory Type: P167G001/P168G001
July 2025
Rev. A03

DELL Technologies

Notes, cautions, and warnings

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

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

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

Contents

1

Working inside your computer

Safety instructions

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

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

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

WARNING: For laptop computers, discharge the battery completely before removing it. Disconnect the AC power adapter from the computer and operate the computer solely on battery power—the battery is fully discharged when the computer no longer turns on when the power button is pressed.

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

CAUTION: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity which could harm internal components.

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

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

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

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

Before working inside your computer

Steps

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

   NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.
3. Disconnect your computer and all attached devices from their electrical outlets.
4. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
5. Remove any media card and optical disk from your computer, if applicable.

6. Enter the service mode, if you are able to power on your computer.

   Service Mode

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

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

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

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

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

Safety precautions

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

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

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

Bonding

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

Electrostatic discharge—ESD protection

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

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

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

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

Perform the following steps to prevent ESD damage:

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

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

  For more information about the wrist strap and ESD wrist strap tester, see Components of an ESD Field Service Kit.
- Before transporting a static-sensitive component, place it in an anti-static container or packaging.

ESD Field Service kit

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

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

Working environment

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

ESD packaging

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

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – If an anti-static mat is not being used, the wrist strap and bonding wire should be connected directly between your wrist and an exposed metal part of the hardware. If you are using an anti-static mat, connect the wrist strap and bonding wire to the anti-static mat to ensure protection for any hardware placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the anti-static mat, and the hardware is

known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.

- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored ESD kit, it is recommended to test the wrist strap regularly—ideally before each service session, and at a minimum, once per week. The most reliable method for testing is with a wrist strap tester. To perform the test, connect the bonding wire of the wrist strap to the tester while wearing the strap. Press the test button to initiate the check. A green LED indicates a successful test, while a red LED and audible alarm signal a failure.

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

Transporting sensitive components

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

After working inside your computer

About this task

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

Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, 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

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

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

The installation of the following components triggers BitLocker:

- Hard disk drive or solid state drive
- System board

2

Removing and installing components

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

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe

Screw list

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

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

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

Table 1. Screw list

Component	Screw type	Quantity	Screw image
Base cover	Captive	7	
Battery	Captive	5	
M.2 solid-state drive	M2x2 M2x3	1 1	
Wireless-card	M2x3	1	
Fan	M2x3	2	
Display assembly	M2.5x4	6	
I/O board	M2.5x4 M2x3	2 2	

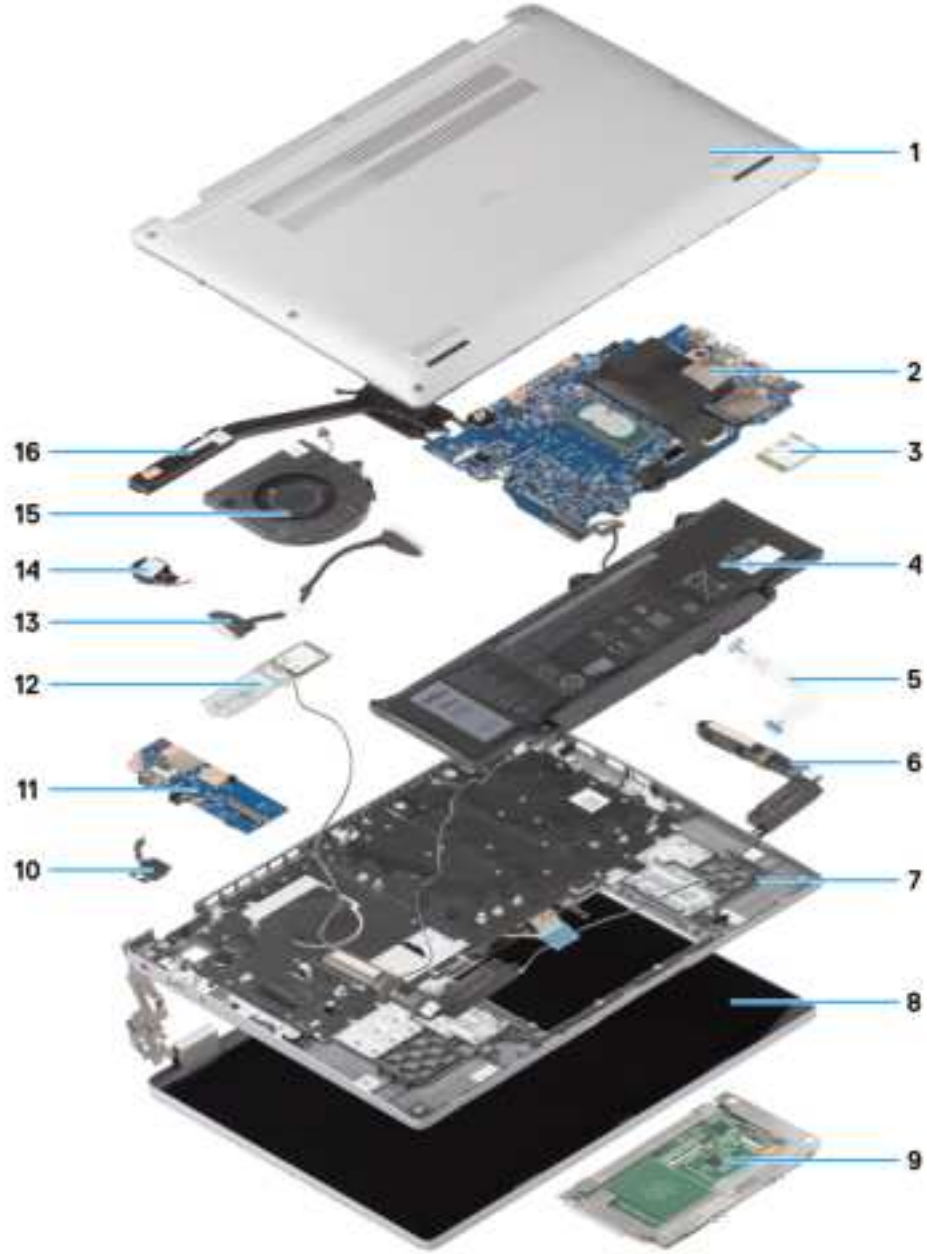
Table 1. Screw list (continued)

Component	Screw type	Quantity	Screw image
Power button board	M2x2	1	
Power button with optional fingerprint reader	M2x3	1	
Touchpad	M2x2	6	
Power-adapter port	M2.5x4	2	
Power-button board	M2x2	2	
Heat sink	Captive	4	
System board	M2.5x4 M2x2	6 2	 

Major components of Latitude 3340

The following image shows the major components of Latitude 3340.

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.



1. Base cover
2. System board
3. Wireless card
4. Battery
5. Touchpad cable
6. Speakers
7. Palm-rest assembly
8. Display assembly
9. Touchpad
10. Power-button
11. I/O board
12. M.2 2230 solid-state drive
13. I/O cable
14. Coin cell battery
15. Fan
16. Heatsink

Base cover

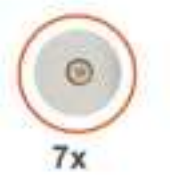
Removing the base cover

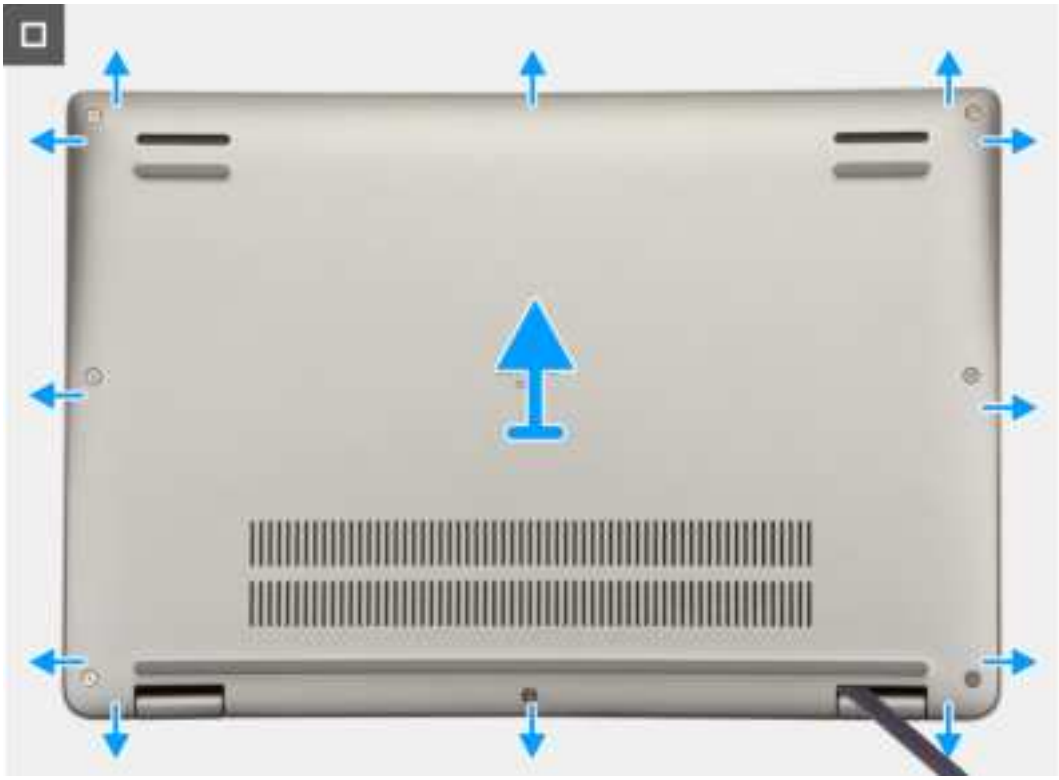
Prerequisites

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

About this task

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





Steps

1. Loosen the seven captive screws that secure the base cover to the chassis.
2. Using a plastic scribe, pry open the base cover starting from the recesses, which are located in the U-shaped indents at the bottom edge of the base cover, near the hinges.

3. Pry open the top side of the base cover and continue working on the left, right and, bottom sides to open the base cover.
4. Carefully lift and remove the base cover from the chassis.

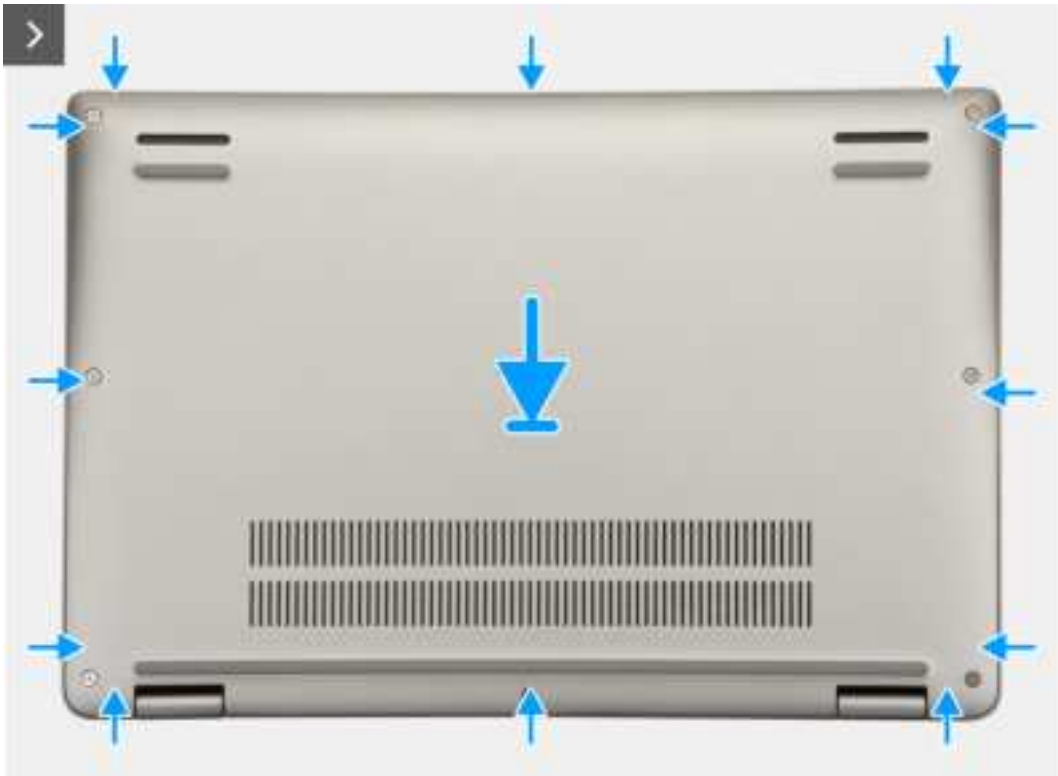
Installing the base cover

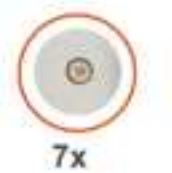
Prerequisites

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

About this task

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





Steps

1. Place the base cover on top of the chassis.
2. Align the screw holes on the base cover with the screw holes on the palm-rest and keyboard assembly, and snap the base cover latches into place.
3. Tighten the seven captive screws to secure the base cover to the chassis.

Next steps

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

Battery

Rechargeable Li-ion battery precautions

WARNING:

- **Exercise caution when handling rechargeable Li-ion batteries.**
- **Discharge the battery completely before removing it. Disconnect the AC power adapter from the computer and operate the computer solely on battery power—the battery is fully discharged when the computer no longer turns on when the power button is pressed.**

- **Do not crush, drop, mutilate, or penetrate the battery with foreign objects.**
- **Do not expose the battery to high temperatures, or disassemble battery packs and cells.**
- **Do not apply pressure to the surface of the battery.**
- **Do not bend the battery.**
- **Do not use tools of any kind to pry on or against the battery.**
- **To prevent accidental puncture or damage to the battery and other components, ensure that no screws are lost or misplaced during the servicing of the computer.**
- **Always purchase genuine batteries from Dell Site or authorized Dell partners and resellers.**
- **Swollen batteries should not be used and should be replaced and disposed properly. For guidelines on how to handle and replace swollen rechargeable Li-ion batteries, see Handling swollen rechargeable Li-ion batteries.**

Removing the battery

Prerequisites

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

About this task

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

Steps

1. Use the pull tab to disconnect the battery cable from the connector on the system board.
2. Loosen the five captive screws 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

Prerequisites

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

About this task

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

Steps

1. Align the screw holes on the battery to the screw holes on the palm-rest and keyboard assembly.
2. Tighten the five captive screws to secure the battery to the palm-rest and keyboard assembly.
3. Connect the battery cable to the connector on the system board.

Next steps

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

Battery cable

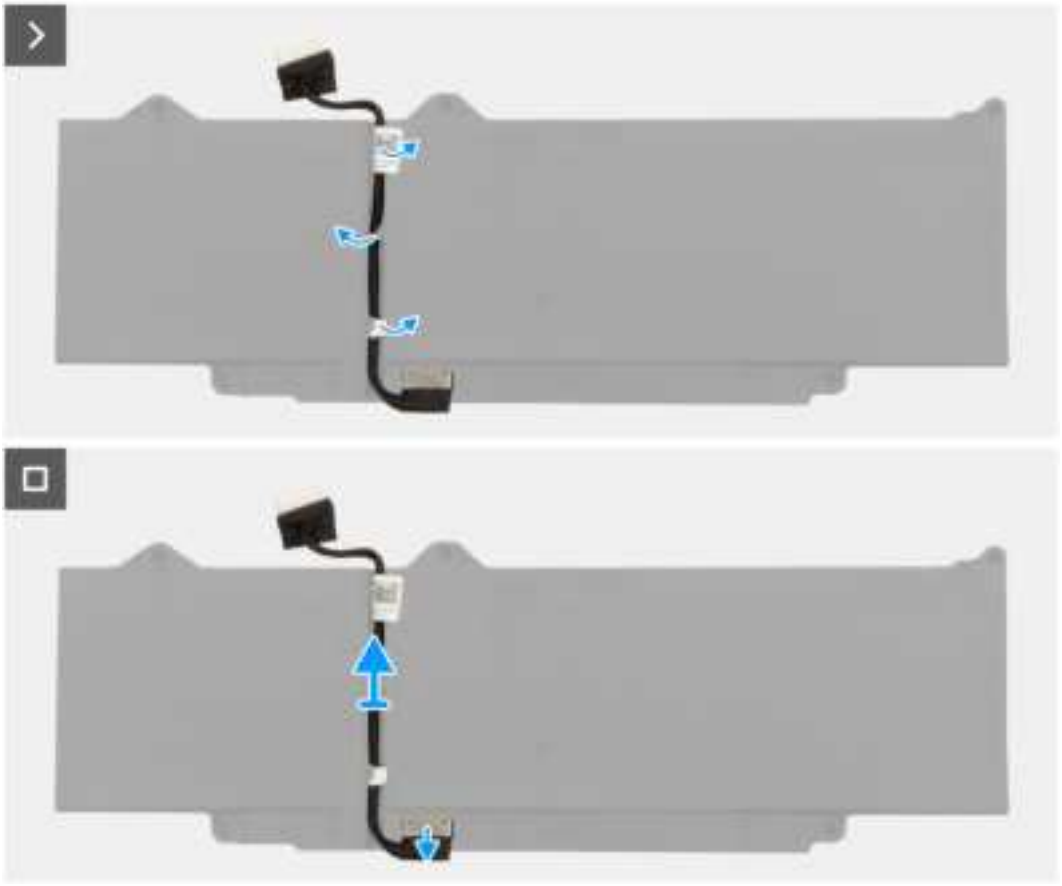
Removing the battery cable

Prerequisites

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

About this task

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



Steps

1. Unroute the battery cable from the routing guides on the battery.
2. Disconnect the battery cable from the connector on the battery.
3. Lift the battery cable away from the battery.

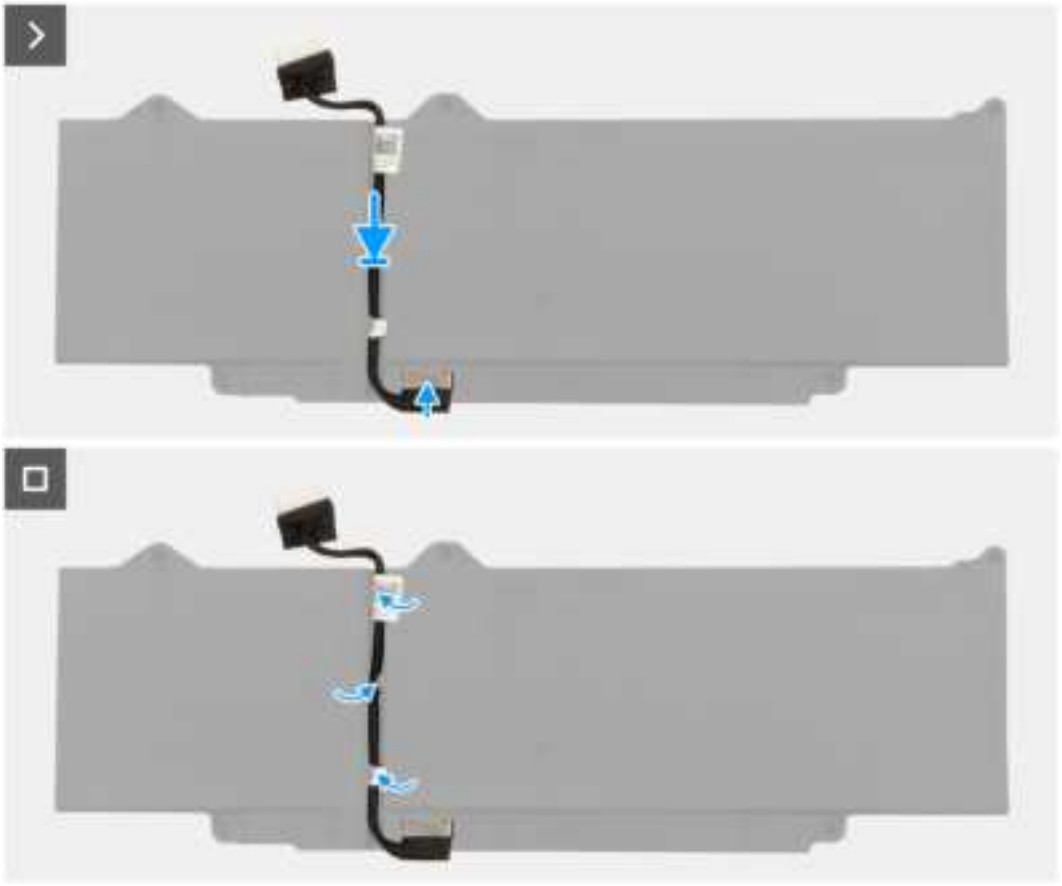
Installing the battery cable

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.



Steps

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

Next steps

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

M.2 solid state drive

Removing the M.2 2230 solid-state drive

Prerequisites

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

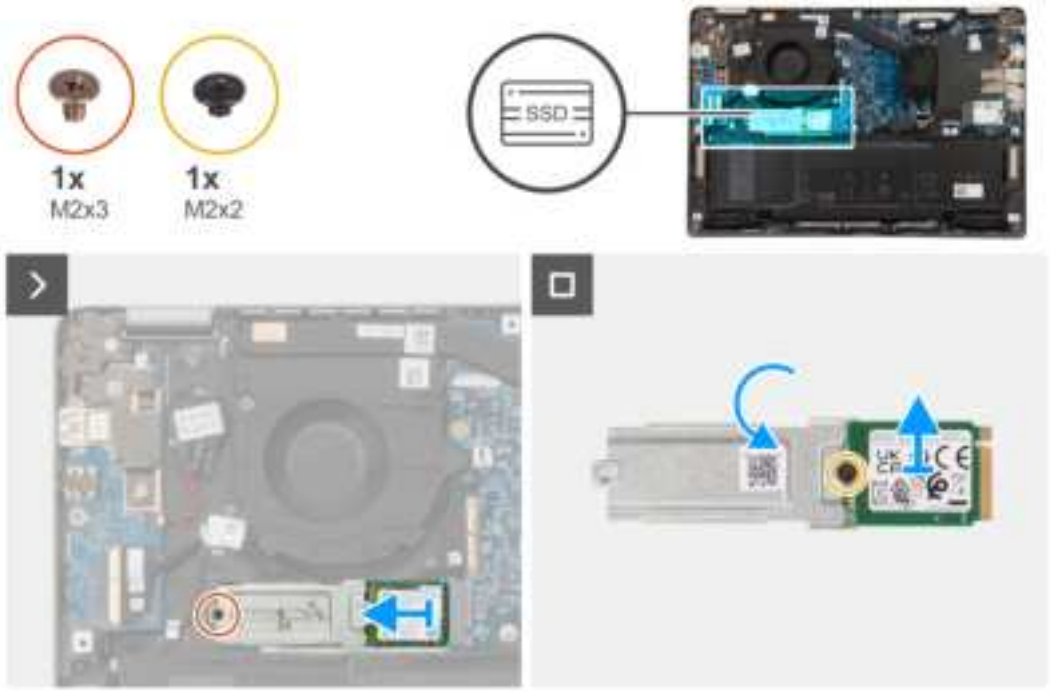
About this task

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

NOTE: The M.2 solid-state drive that is installed on your system depends on the configuration ordered. Supported card configurations on the M.2 solid-state drive slot are:

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

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



Steps

1. Remove the screw (M2x3) to secure the M.2 2230 solid-state drive holder to the system board.
2. Lift the M.2 2230 solid-state drive holder off the palm-rest and keyboard assembly.
3. Flip the M.2 2230 solid-state drive holder and remove the single screw (M2x2) that secure the M.2 2230 solid-state drive to the M.2 2230 solid-state drive holder.
4. Remove the M.2 2230 solid-state drive.

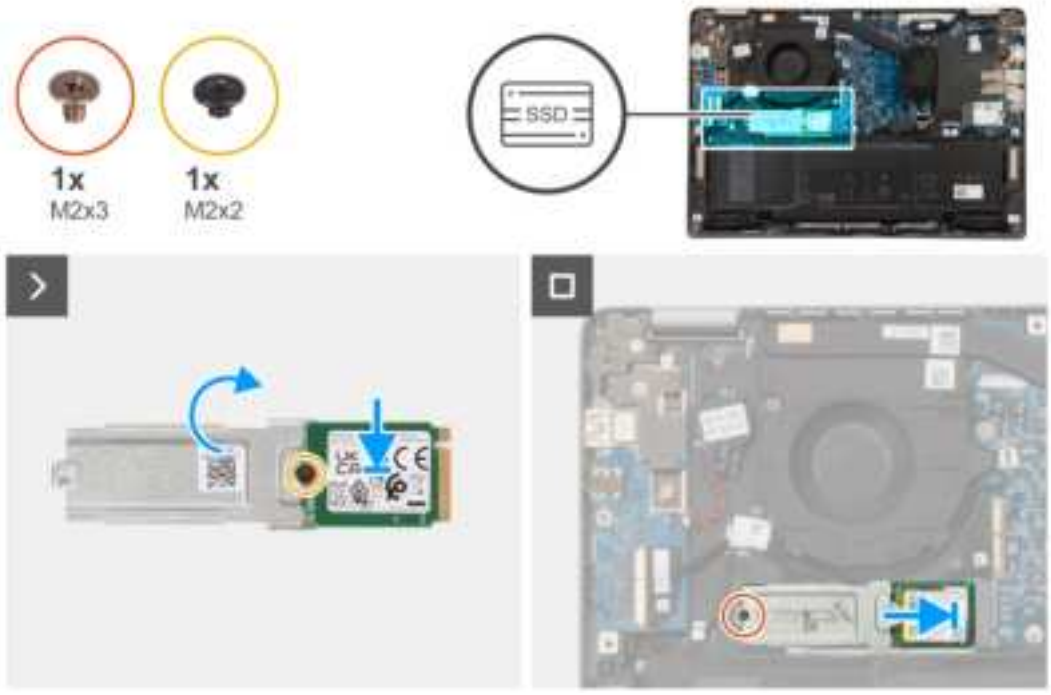
Installing the M.2 2230 solid-state drive

Prerequisites

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

About this task

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



Steps

1. Flip the M.2 2230 solid-state drive holder and align the notch on the M.2 2230 solid-state drive with the tab on the M.2 2230 solid-state drive holder.
2. Replace the single screw (M2x2) that secure the M.2 2230 solid-state drive to the M.2 2230 solid-state drive holder.
3. Slide the M.2 2230 solid-state drive into the M.2 card connector on the system board.
4. Align the screw hole on the M.2 2230 solid-state drive holder with the screw hole on the palm-rest and keyboard assembly.
5. Replace the screw (M2x3) to secure the M.2 2230 solid-state drive holder to the system board.

Next steps

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

Removing the M.2 2280 solid-state drive

Prerequisites

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

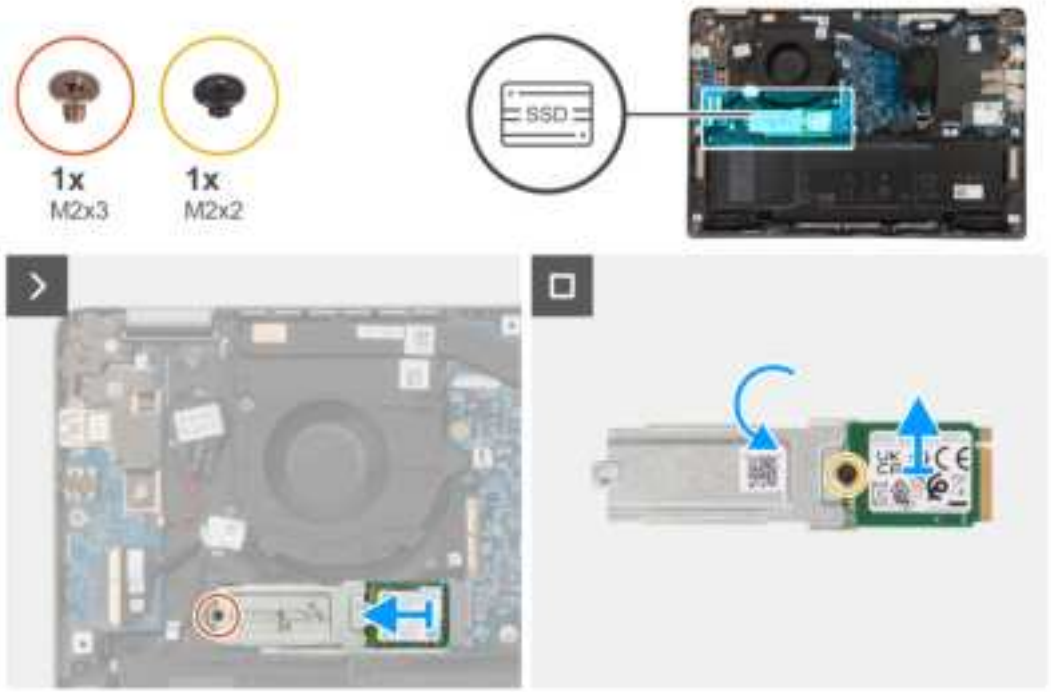
About this task

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

NOTE: The M.2 solid-state drive that is installed on your system depends on the configuration ordered. Supported card configurations on the M.2 solid-state drive slot are:

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

The following images indicate the location of the M.2 2280 solid-state drive and provide a visual representation of the removal procedure.



Steps

1. Remove the screw (M2x3) that secures the M.2 2280 solid-state drive to the system board.
2. Slide and remove the M.2 2280 solid-state drive from the M.2 card connector on the system board.

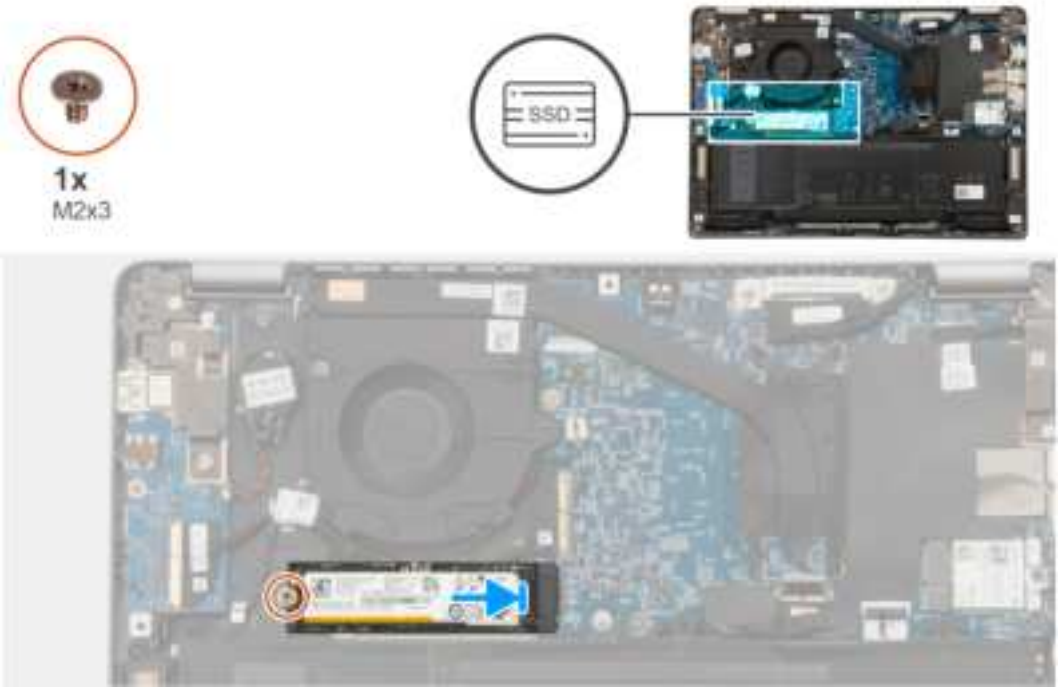
Installing the M.2 2280 solid-state drive

Prerequisites

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

About this task

The following images indicate the location of the M.2 2280 solid-state drive and provide a visual representation of the installation procedure.



Steps

1. Align the notch on the M.2 2280 solid-state drive with the tab on the M.2 card connector on the system board.
2. Slide the M.2 2280 solid-state drive into the M.2 card connector on the system board.
3. Align the screw hole on the M.2 2280 solid-state drive with the screw hole on the palm-rest and keyboard assembly.
4. Replace the screw (M2x3) to secure the M.2 2280 solid-state drive thermal plate to the system board.

Next steps

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

Wireless card

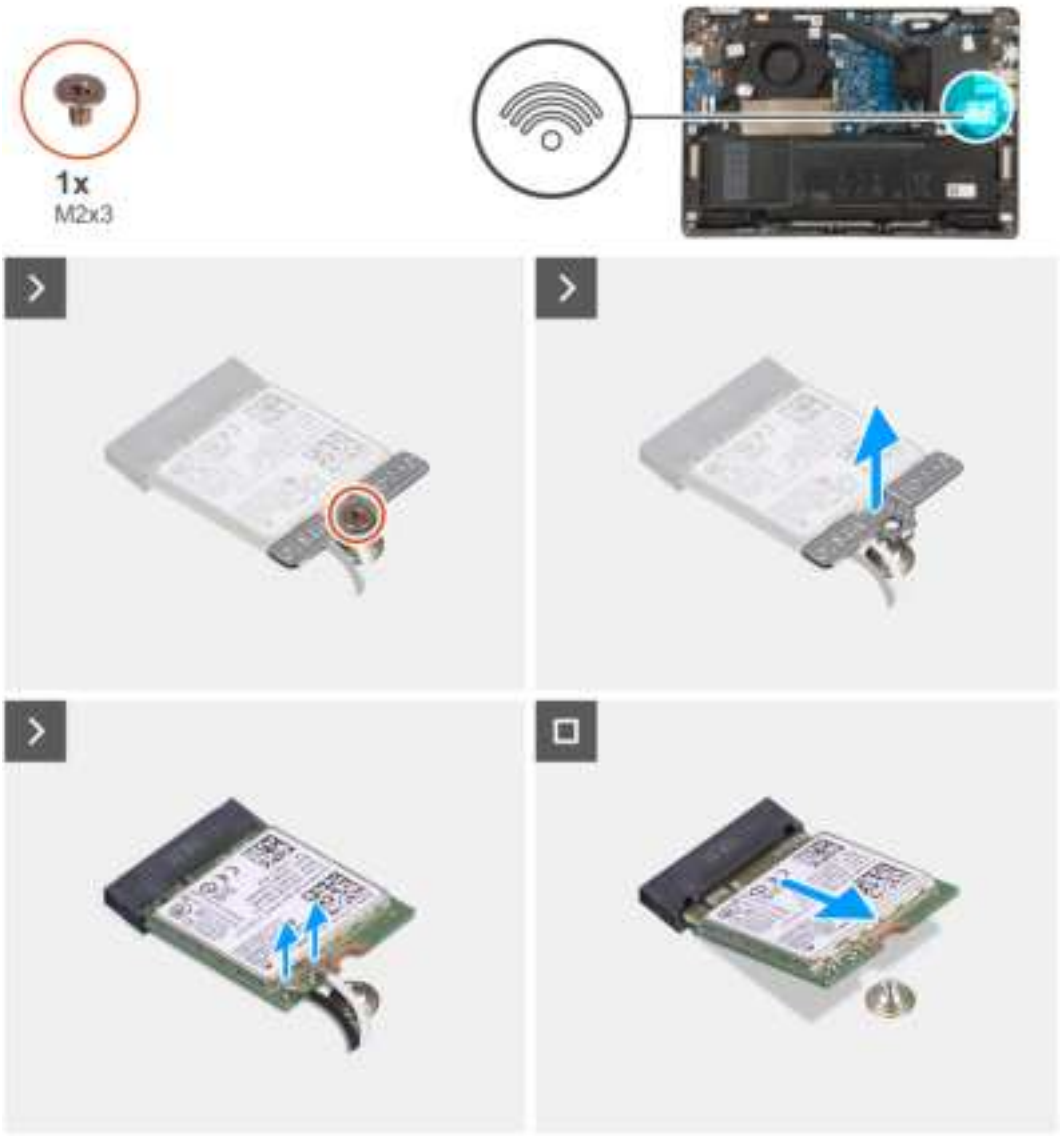
Removing the wireless card

Prerequisites

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

About this task

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



Steps

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

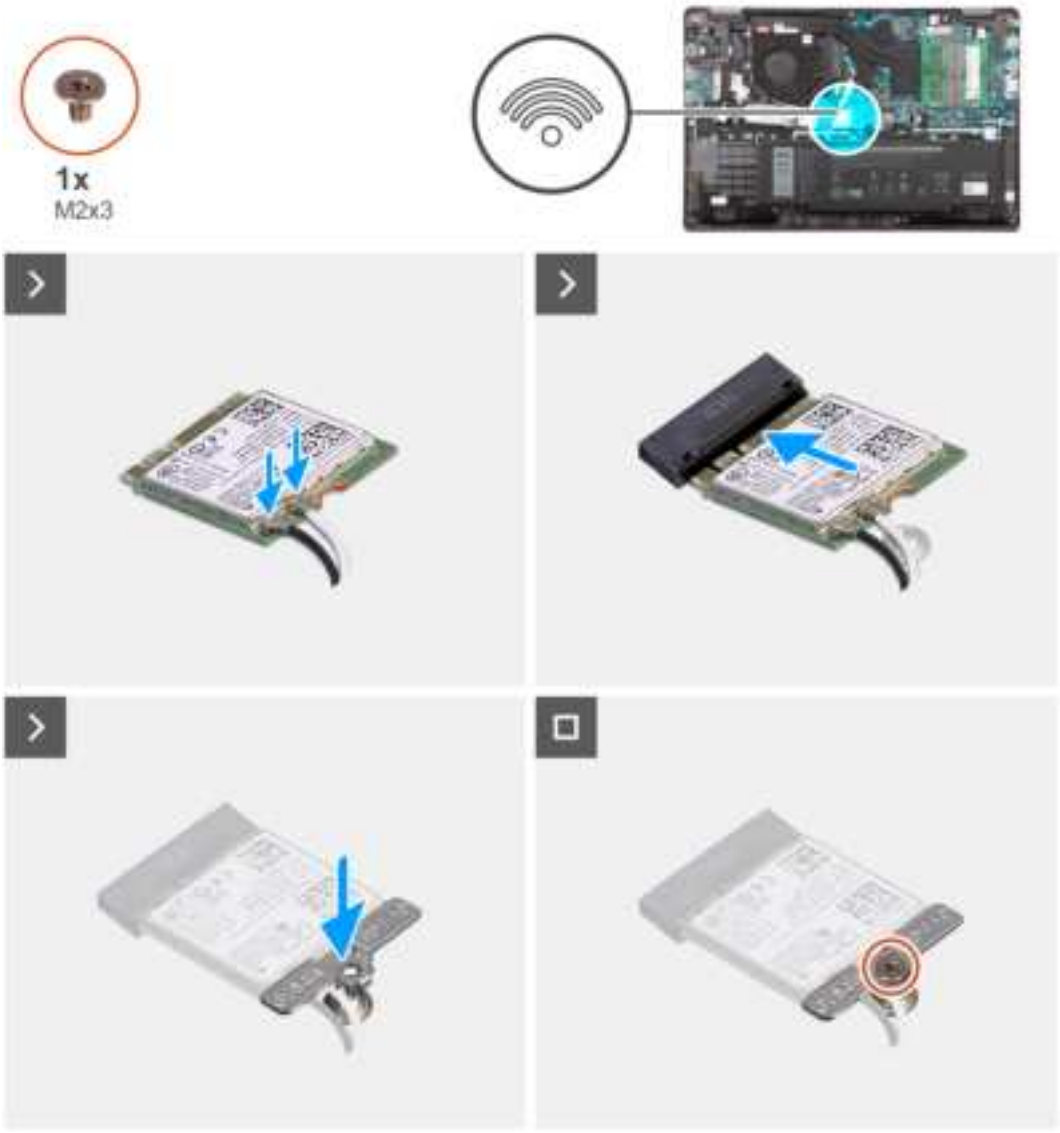
Installing the wireless card

Prerequisites

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

About this task

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



Steps

1. Connect the WLAN-antenna cables to the respective connectors on the wireless card.

   NOTE: The WLAN-antenna cable connectors are fragile, and utmost care should be taken while replacing them.

Table 2. WLAN-antenna cable color scheme

Connectors on the wireless card	Antenna-cable color
Main - White triangle (△) on the wireless module of the system board	White cable
Auxiliary - Solid triangle (▲) on the wireless module of the system board	Black cable

2. Align the notch on the wireless card with the tab on the wireless card slot.
3. Slide the wireless card at an angle into the wireless card slot.
4. Place the wireless-card bracket on the wireless card.
5. Align the screw hole on the wireless-card bracket with the screw hole on the system board.
6. Replace the screw (M2x3) to secure the wireless-card bracket and the wireless card to the system board.

Next steps

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

Fan

Removing the thermal fan

Prerequisites

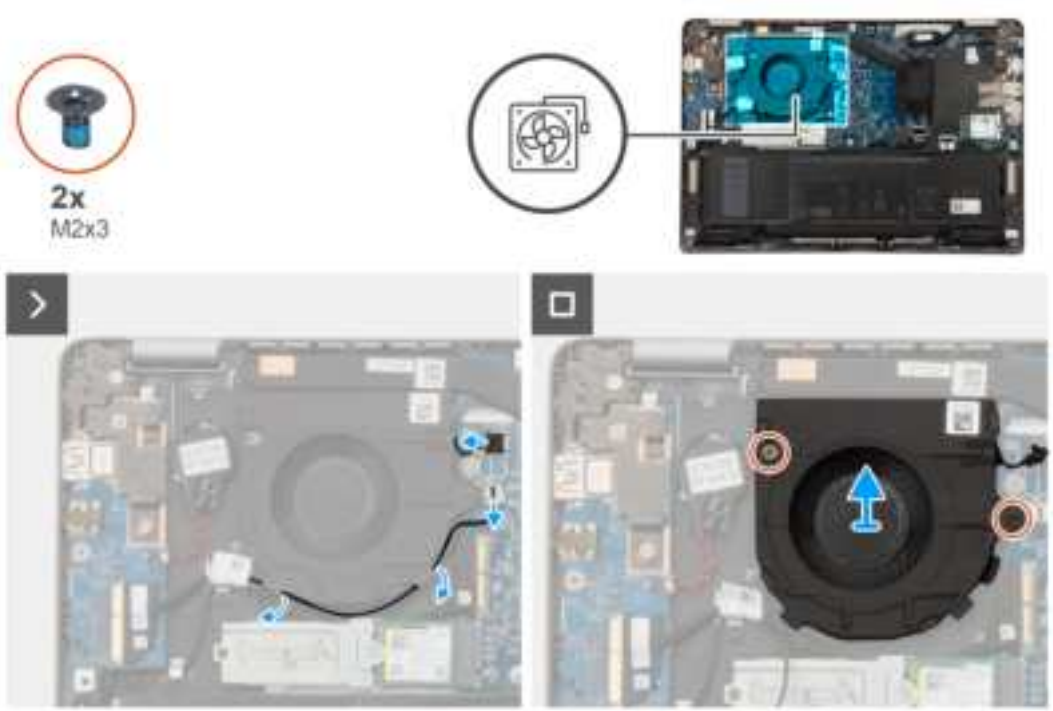
1. Follow the procedure in Before working inside your computer.
2. Remove the base cover.
3. Remove the wireless card.

About this task

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

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

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



Steps

1. Disconnect the thermal-fan cables from the connector on the system board.
2. Remove the two screws (M2x3) that secure the thermal fan to the system board.
3. Lift and remove the thermal fan from the system board.

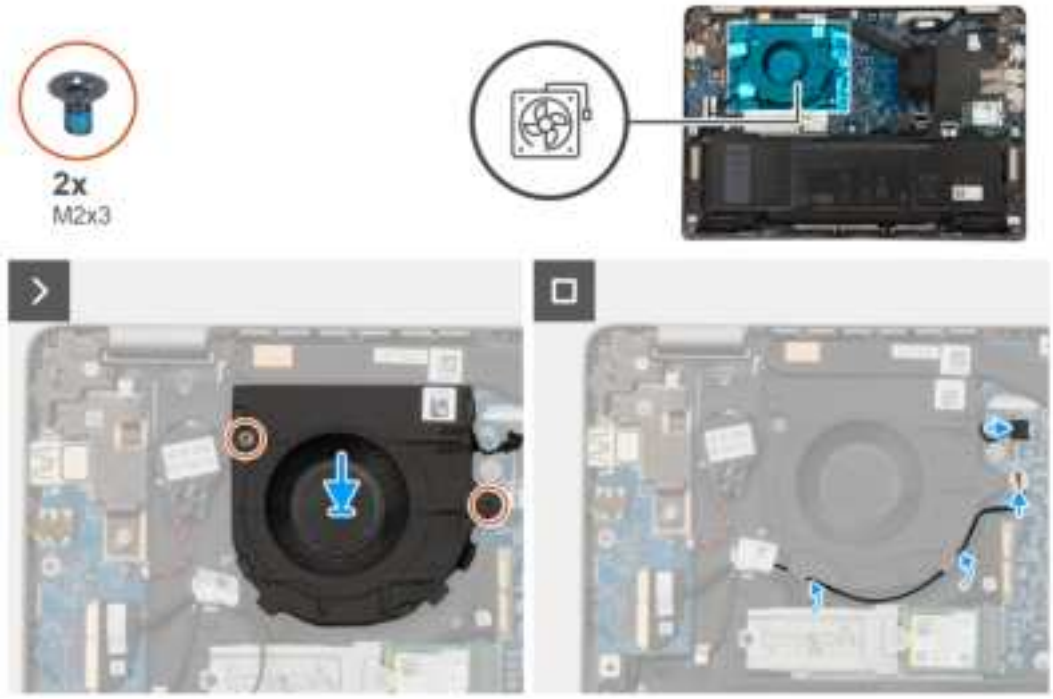
Installing the thermal fan

Prerequisites

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

About this task

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



Steps

1. Place the thermal fan into its slot on the system board.
2. Align the screw holes on the thermal fan to the screw holes on the system board.
3. Replace the two screws (M2x3) to secure the thermal fan to the system board.
4. Connect the thermal-fan cables to the connector on the system board.

Next steps

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

Coin-cell battery

Removing the coin-cell battery

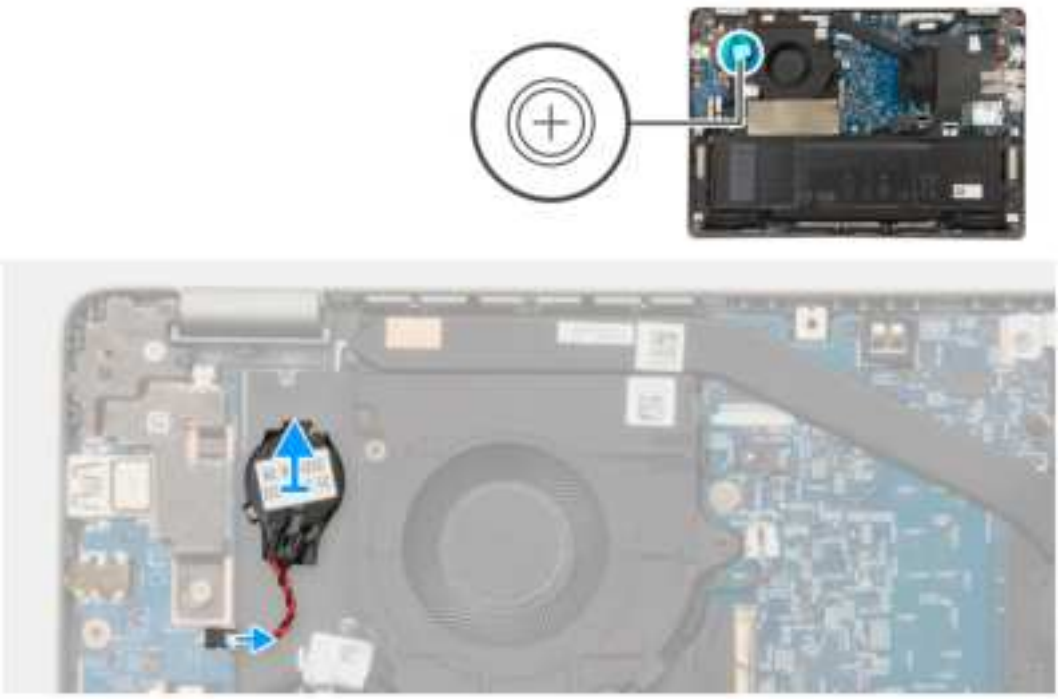
Prerequisites

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

About this task

NOTE: When the coin-cell battery is removed, it clears the CMOS settings.

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



Steps

1. Disconnect the coin-cell battery cable from the connector on the system board.
2. Using a plastic scribe, pry the coin-cell battery off its slot on the palm-rest and keyboard assembly.

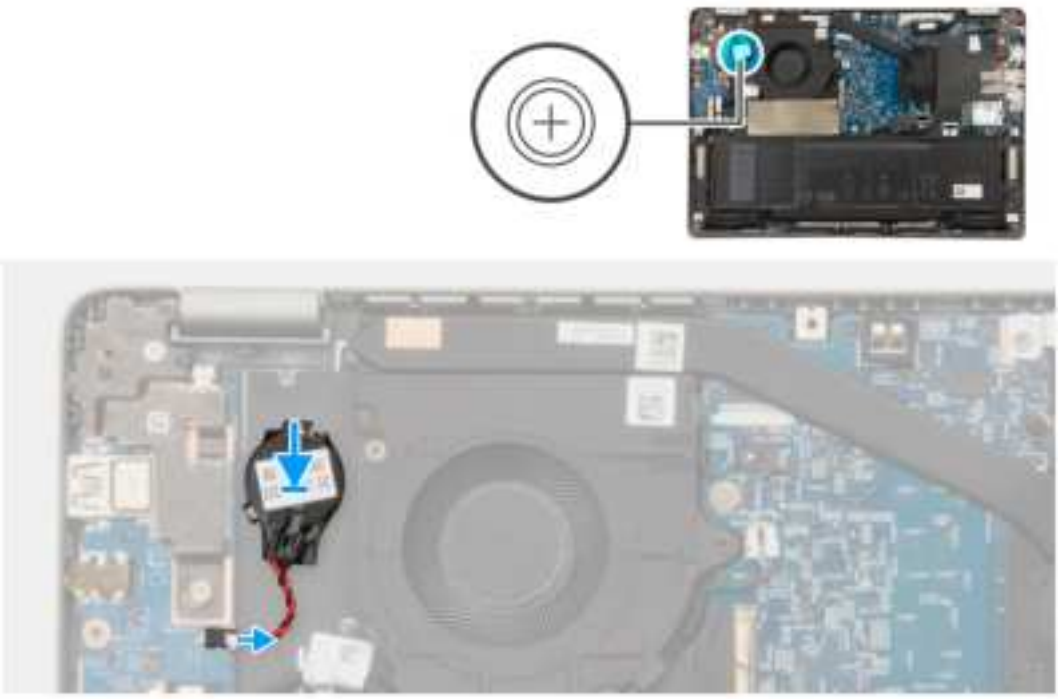
Installing the coin-cell battery

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 coin-cell battery and provides a visual representation of the installation procedure.



Steps

1. Align and place the coin-cell battery into its slot on the palm-rest and keyboard assembly.
2. Connect the coin-cell battery cable to the connector on the system board.

Next steps

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

Display assembly

Removing the display assembly

Prerequisites

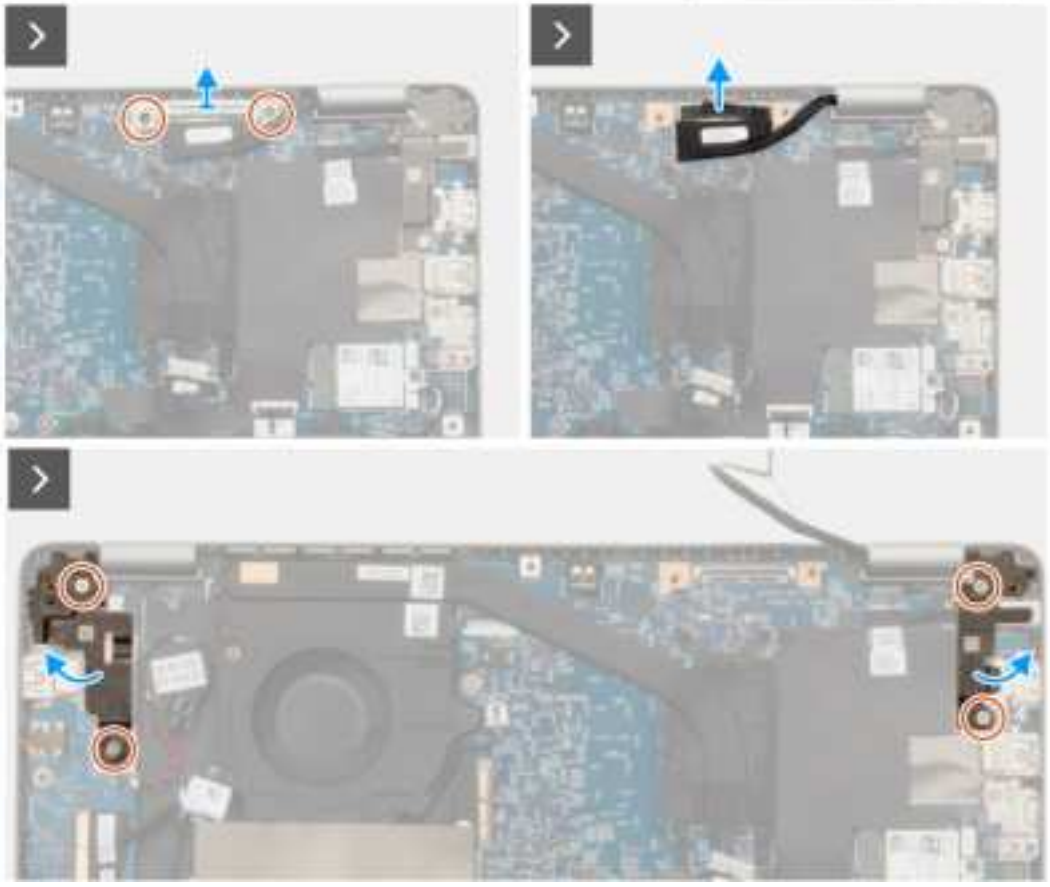
1. Follow the procedure in Before working inside your computer.
2. Remove the base cover.

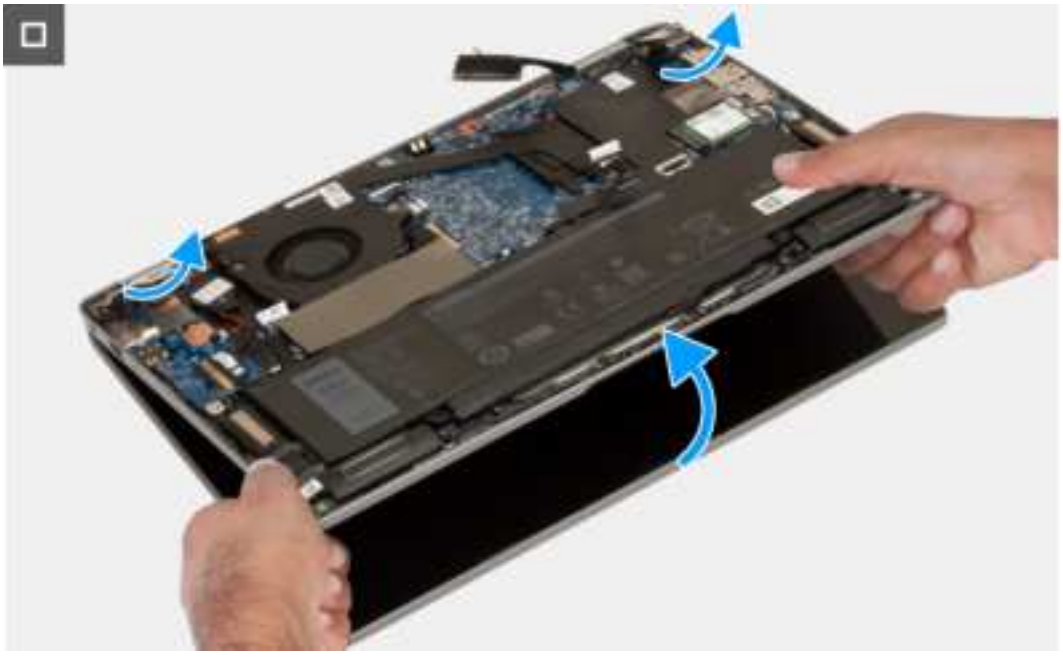
About this task

NOTE: The display assembly removal procedure is the same for both clamshell and 2-in-1 convertible chassis.

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

6x
M2.5x4





Steps

1. Remove the two screws (M2.5x4) that secure the display-cable bracket in place to the system board.
2. Remove the display-cable bracket from the system board.
3. Disconnect the display cable from the connector on the system board.
4. Place the computer on a flat surface such that the palm-rest and keyboard assembly lay flat on the surface.
5. Remove the four screws (M2.5x4) that secure the display hinges to the palm-rest and keyboard assembly.
6. Lift the left and right hinges in upward direction, away from the system.
7. Lift the palm-rest and keyboard assembly at an angle to free it from the hinges and remove it from the display assembly.

NOTE: The display assembly is a Hinge-Up Design (HUD) assembly and cannot be further disassembled once it is removed from the bottom chassis. If any components in the display assembly are malfunctioning and is required to be replaced, replace the entire display assembly.

Installing the display assembly

Prerequisites

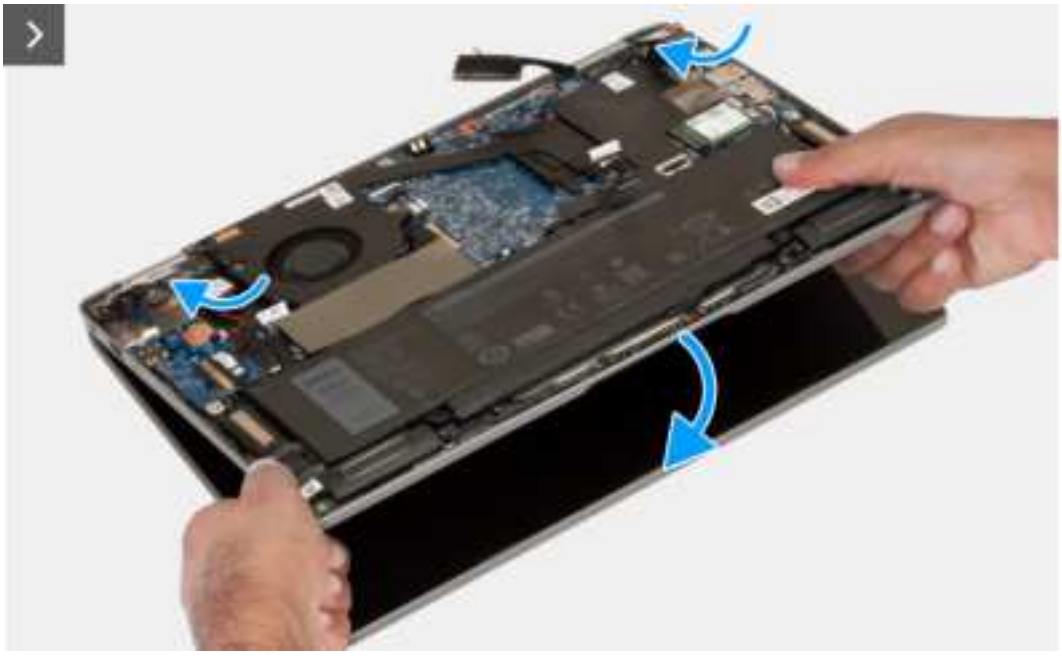
If you are replacing a component, remove the existing component before performing the installation procedure.

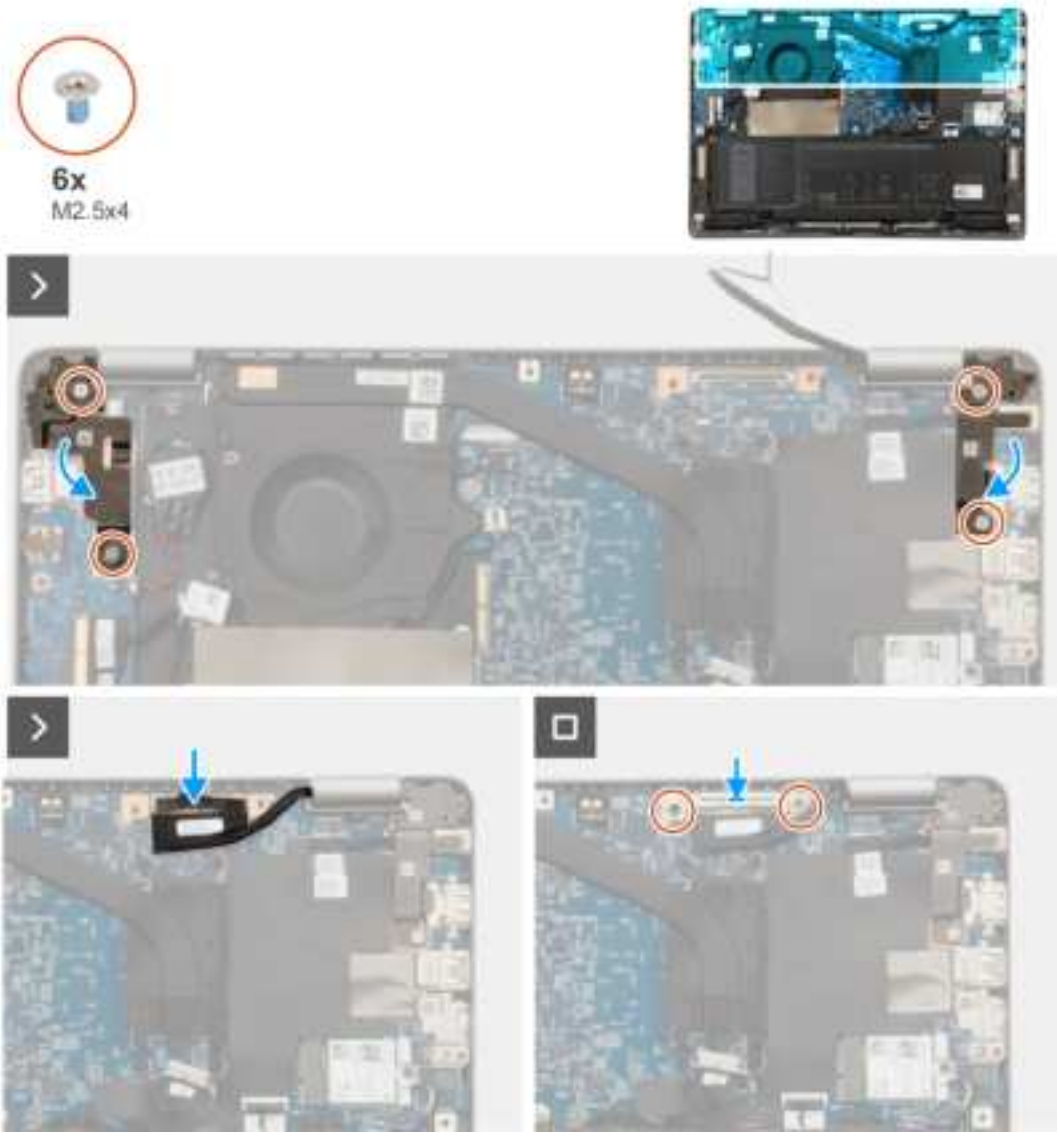
About this task

NOTE: The display assembly installation procedure is the same for both clamshell and 2-in-1 convertible chassis.

NOTE: Ensure that the hinges are opened to the maximum before replacing the display assembly on the palm-rest and keyboard assembly.

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





Steps

1. Place the display assembly on a flat surface.
2. Slide the display assembly at an angle and place the system chassis under the hinges of the display assembly.
3. Gently press down on the display hinges to align the screw holes on the display hinges with the screw holes on the palm-rest and keyboard assembly.
4. Replace the four screws (M2.5x4) to secure the display hinges to the palm-rest and keyboard assembly.
5. Connect the display cable to its connector on the system board.
6. Align and place the display-cable bracket on the display-cable connector on the system board.
7. Replace the two screws (M2.5x4) to secure the display-cable bracket to the system board.

Next steps

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

I/O board

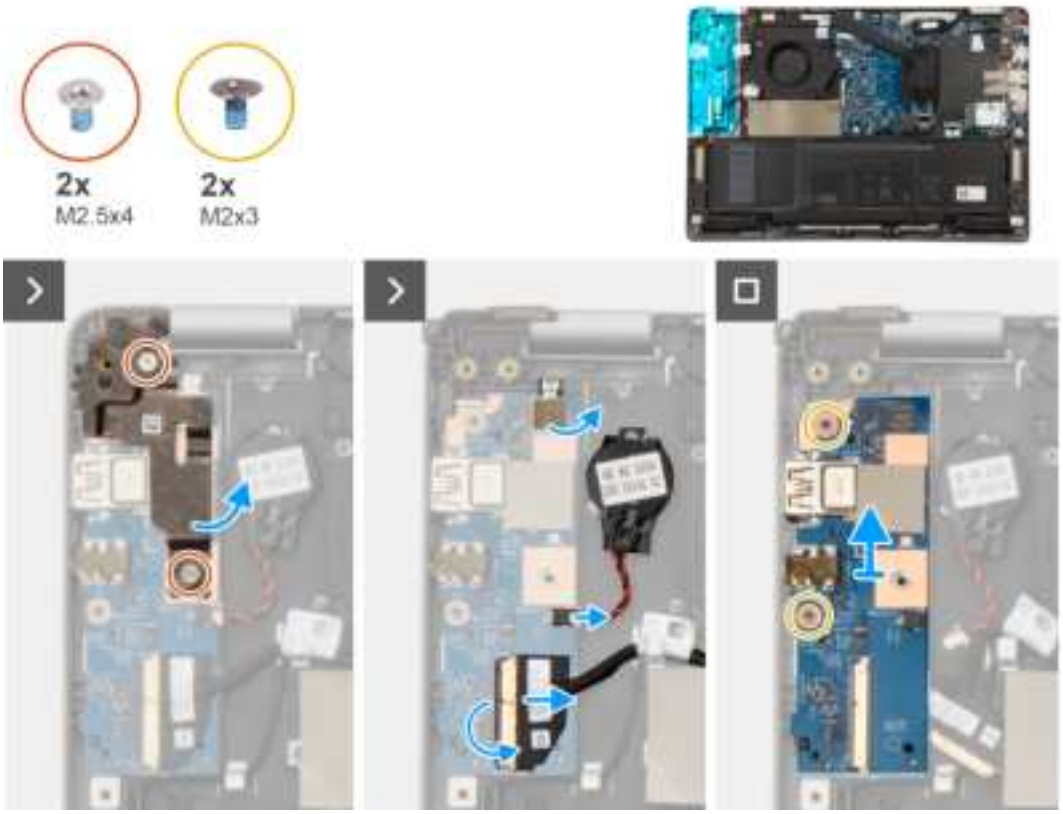
Removing the I/O board

Prerequisites

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

About this task

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



CAUTION: The system has a coin-cell battery that is connected to the I/O board. Disconnecting the I/O board cable resets the BIOS setup program settings to default. Note the BIOS setup program settings before disconnecting the I/O board cable.

Steps

1. Remove the two screws (M2.5x4) that secure the left display hinge to the system.
2. Lift the left display hinge in upward direction away from the system.
3. Open the latch and disconnect the I/O-board cable from the connector on the I/O board.
4. Disconnect the coin-cell battery cable from the connector on the I/O board.
5. Disconnect the fingerprint reader flexible printed circuits from the connector on the I/O board.

   NOTE: This procedure applies only to systems shipped with a power button with fingerprint reader installed.

6. Remove the two screws (M2x3) that secure the I/O board to the palm-rest and keyboard assembly.
7. Lift the I/O board off the palm-rest and keyboard assembly.

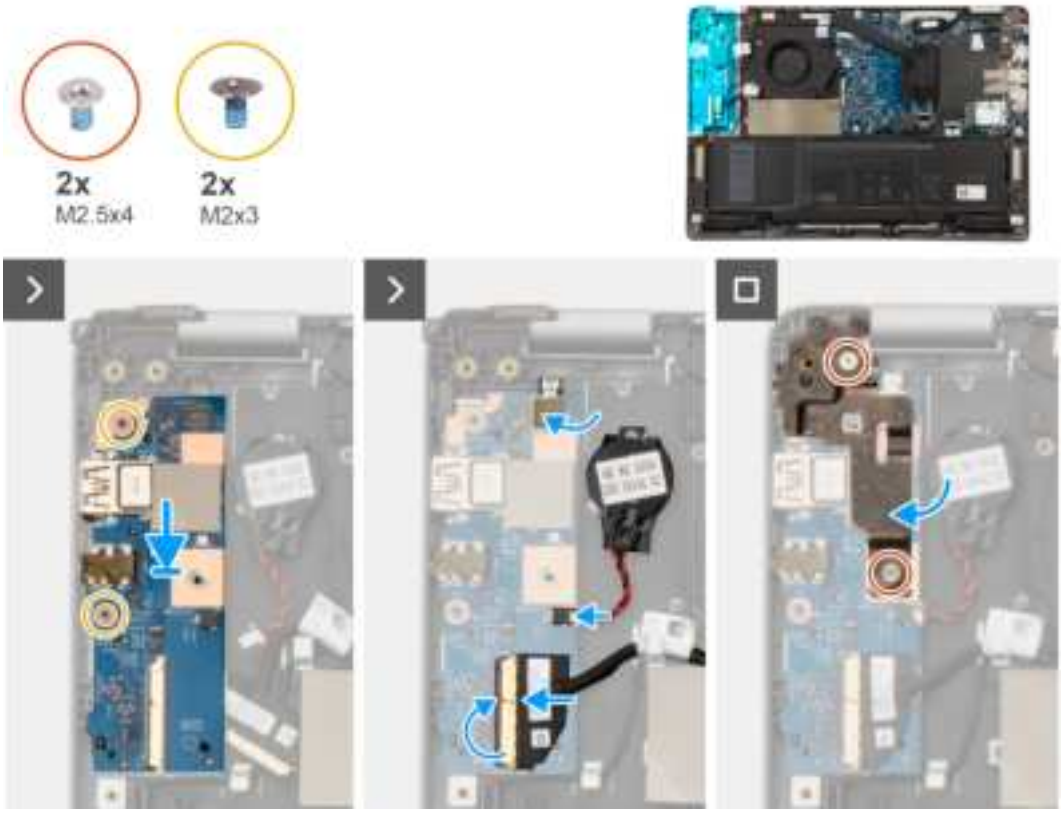
Installing the I/O board

Prerequisites

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

About this task

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



CAUTION: The system has a coin-cell battery that is connected to the I/O board. Disconnecting the I/O board cable resets the BIOS setup program settings to default. Note the BIOS setup program settings before disconnecting the I/O board cable.

Steps

1. Align and place the I/O board on the palm-rest and keyboard assembly.
2. Align the screw holes on the I/O board with the screw holes on the palm-rest and keyboard assembly.
3. Replace the two screws (M2x3) to secure the I/O board to the palm-rest and keyboard assembly.
4. Connect the fingerprint reader flexible printed circuits to the connector on the I/O board.

   NOTE: This procedure applies only to systems shipped with a power button with fingerprint reader installed.

5. Connect the coin-cell battery cable to the connector on the I/O board.
6. Connect the I/O-board cable to the connector on the I/O board and close its latch.
7. Gently press the left display hinge in downward direction towards the system.
8. Align the screw holes on the left display hinge with the screw holes on the system.
9. Replace the two screws (M2.5x4) to secure the left display hinge to the system.

Next steps

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

Power-button board

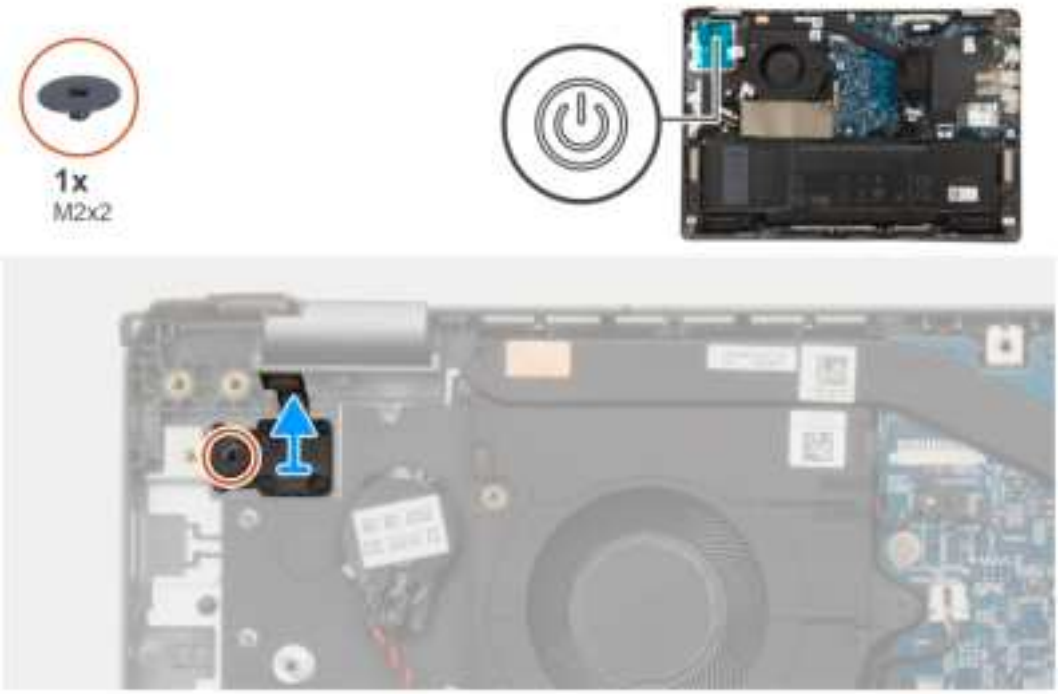
Removing the power button

Prerequisites

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

About this task

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



Steps

1. Remove the screw (M2x2) that secures the power button to the palm-rest and keyboard assembly.
2. Lift to remove the power button from the slot on the palm-rest and keyboard assembly.

Installing the power button

Prerequisites

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

About this task

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

Steps

1. Align and 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 (M2x2) to secure the power button to the palm-rest and keyboard assembly.

Next steps

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

Power button with optional fingerprint reader

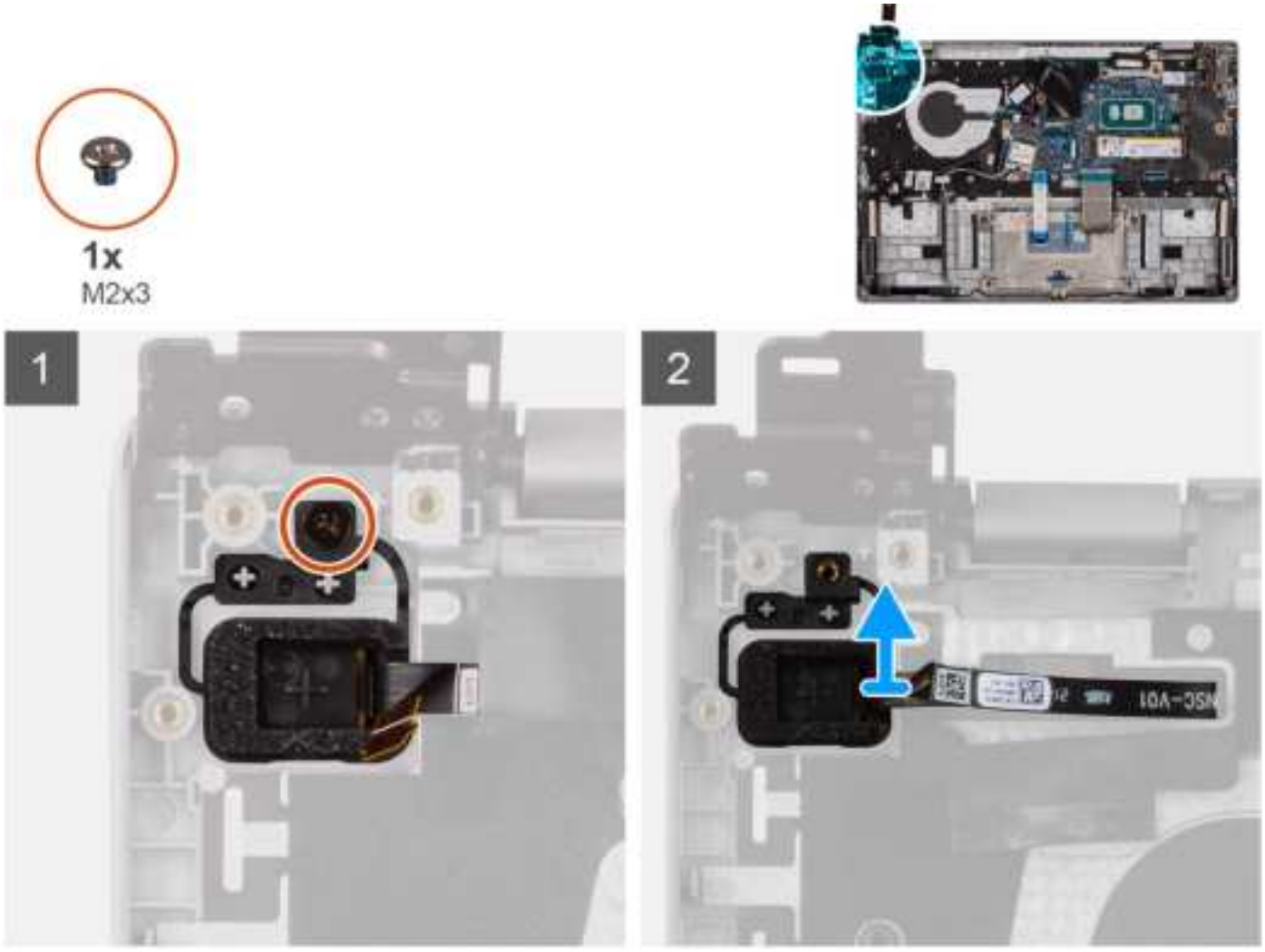
Removing the power button with optional fingerprint reader

Prerequisites

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

About this task

The following images indicate the location of the power button with optional fingerprint reader and provide a visual representation of the removal procedure.



Steps

1. Remove the screw (M2x3) that secures the power button with optional fingerprint reader to the palm-rest and keyboard assembly.
2. Peel off the fingerprint reader flexible printed circuits from the connector on the power button.
3. Remove the power button with optional fingerprint reader from the slot on the palm-rest and keyboard assembly.

Installing the power button with optional fingerprint reader

Prerequisites

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

About this task

The following images indicate the location of the power button with optional fingerprint reader and provide a visual representation of the installation procedure.

Steps

1. Align and place the power button with optional fingerprint reader into its slot on the palm-rest and keyboard assembly.
2. Adhere the fingerprint reader flexible printed circuits to the connector on the power button.
3. Align the screw hole on the power button with optional fingerprint reader to the screw hole on the palm-rest and keyboard assembly.
4. Replace the screw (M2x3) to secure the power button with optional fingerprint reader to the palm-rest and keyboard assembly.

Next steps

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

Touchpad

Removing the touchpad

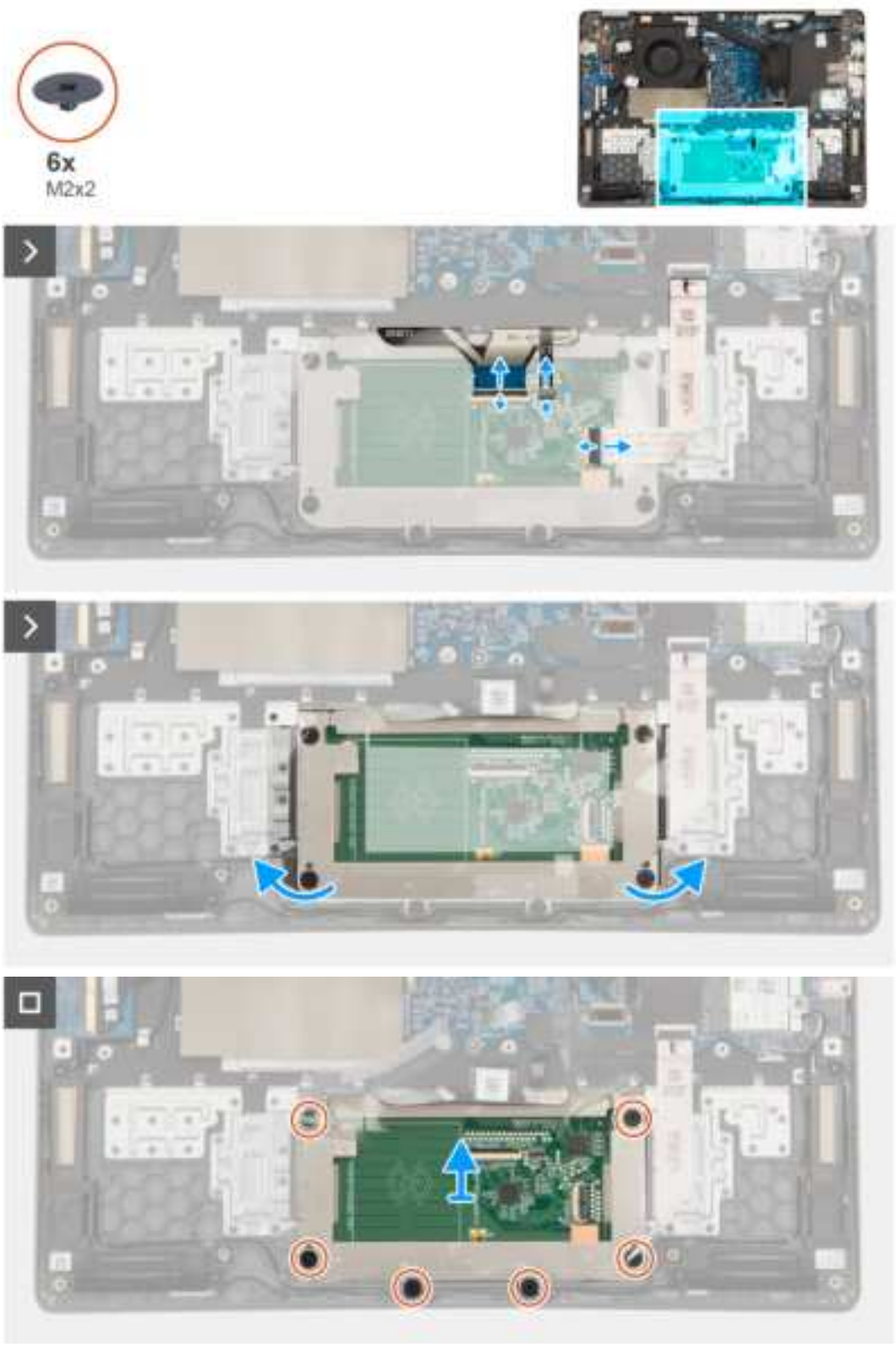
Prerequisites

1. Follow the procedure 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 touchpad and provide a visual representation of the removal procedure.



Steps

1. Open the latch and disconnect the touchpad cable from the connector on the system board.

2. Open the latch and disconnect the keyboard-cable from the connector on the touchpad module.
3. Open the latch and disconnect the keyboard backlight-cable from the connector on the touchpad.
4. Partially peel and lift up the adhesive shielding cover from over the touchpad.
5. Remove the six screws (M2x2) that secure the touchpad bracket to the touchpad module.
6. Lift the touchpad module at an angle and slide it out to remove the touchpad module from the palm-rest and keyboard assembly.

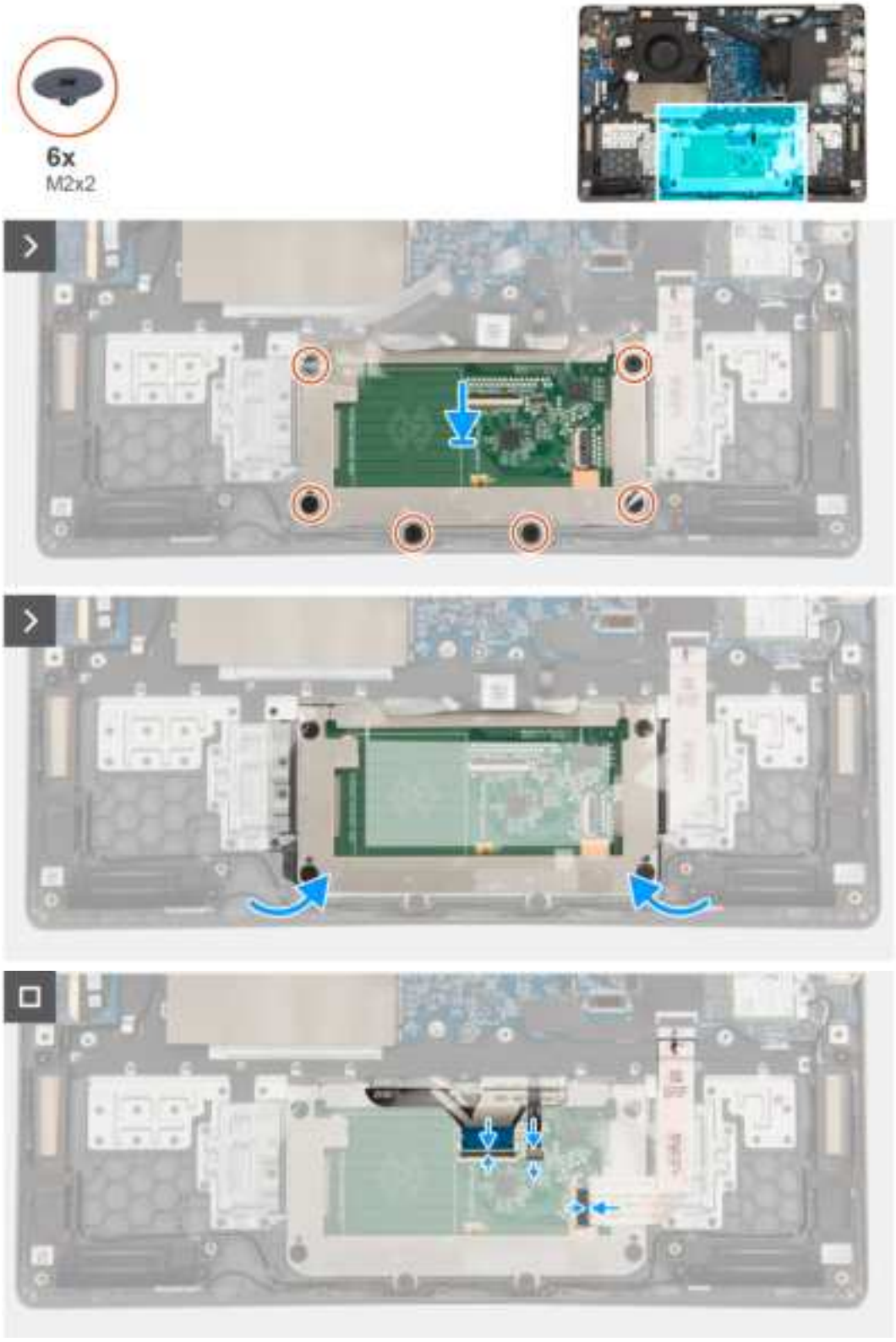
Installing the touchpad

Prerequisites

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

About this task

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



Steps

1. Align and place the touchpad module into the slot on the palm-rest and keyboard assembly.
2. Align the screw holes on the touchpad module to the screw holes on the palm-rest and keyboard assembly.
3. Replace the six screws (M2x2) to secure the touchpad module to the palm-rest and keyboard assembly.
4. Adhere the adhesive shielding cover over the touchpad.
5. Connect the keyboard backlight-cable to the connector on the touchpad module. .

6. Connect the keyboard-cable to the connector on the touchpad module close the latch.
7. Connect the touchpad cable to the connector on the system board and close the latch.

Next steps

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

Power-adapter port

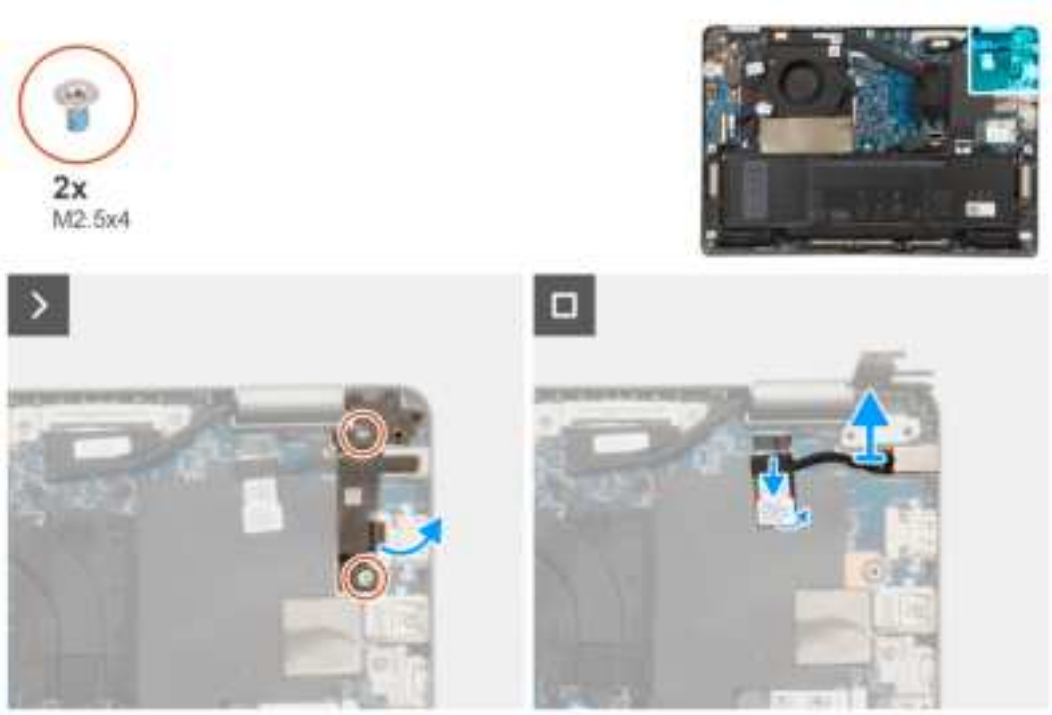
Removing the power-adapter port

Prerequisites

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

About this task

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



Steps

1. Remove the two screws (M2.5x4) that secure the right display hinge to the system.
2. Lift the right display hinge in upward direction away from the system.
3. Disconnect the power-adapter port cable from the connector on the system board and remove the power-adapter port from the system board.

Installing the power-adapter port

Prerequisites

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

About this task

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

Steps

1. Align and place the power-adapter port on the system board.
2. Connect the power-adapter port cable to the connector on the system board.
3. Gently press the right display hinge in downward direction towards the system.
4. Align the screw holes on the right display hinge with the screw holes on the system.
5. Replace the two screws (M2.5x4) to secure the right display hinge to the system.

Next steps

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

Speakers

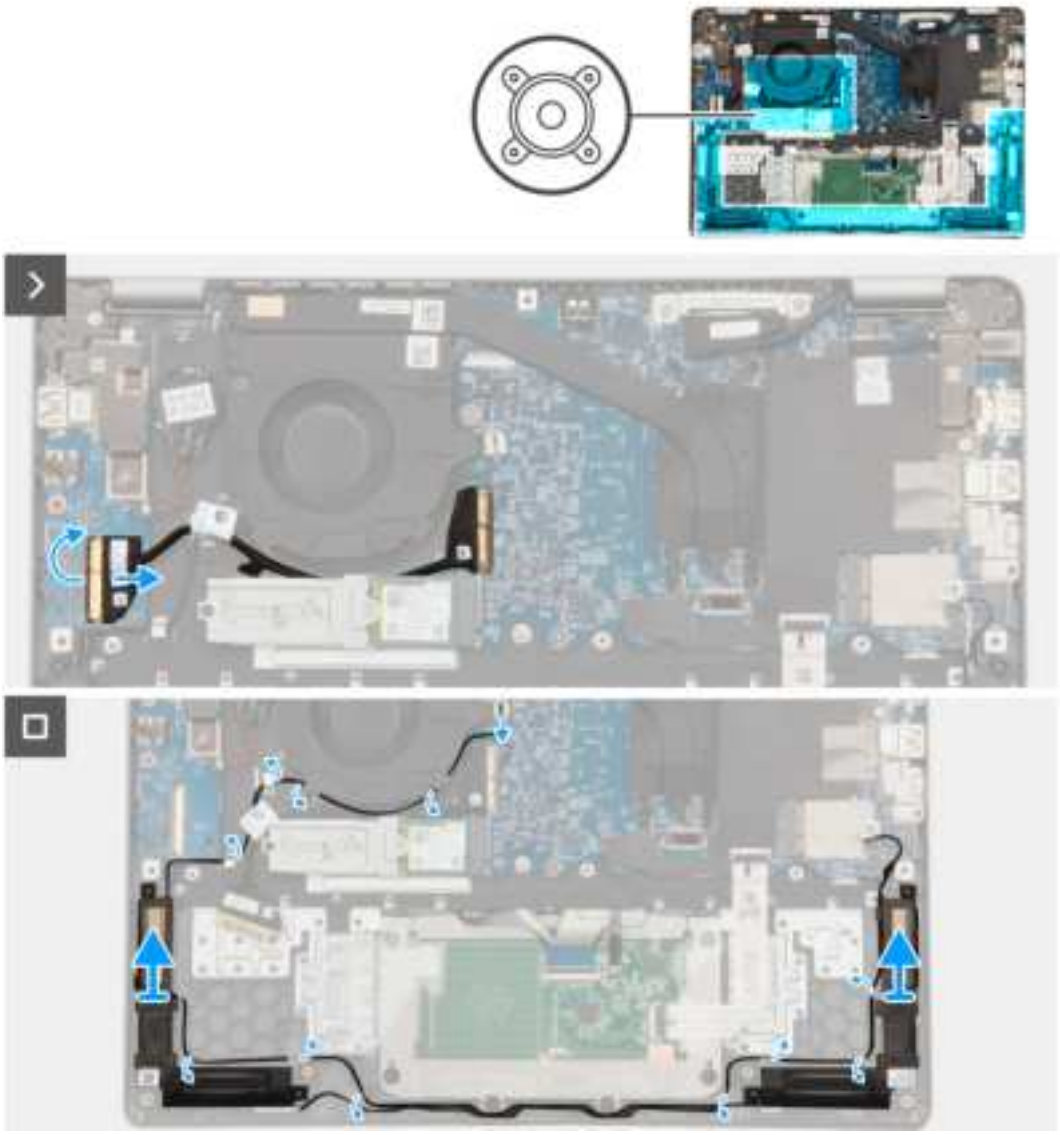
Removing the speakers

Prerequisites

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

About this task

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



Steps

1. Disconnect the I/O board-cable from the connector on the system board.
2. Disconnect the speaker cable from the connector on the system board.
3. Unroute the speaker cable from the routing guides on the palm-rest and keyboard assembly.
4. Remove the speakers from the chassis.

Installing the speakers

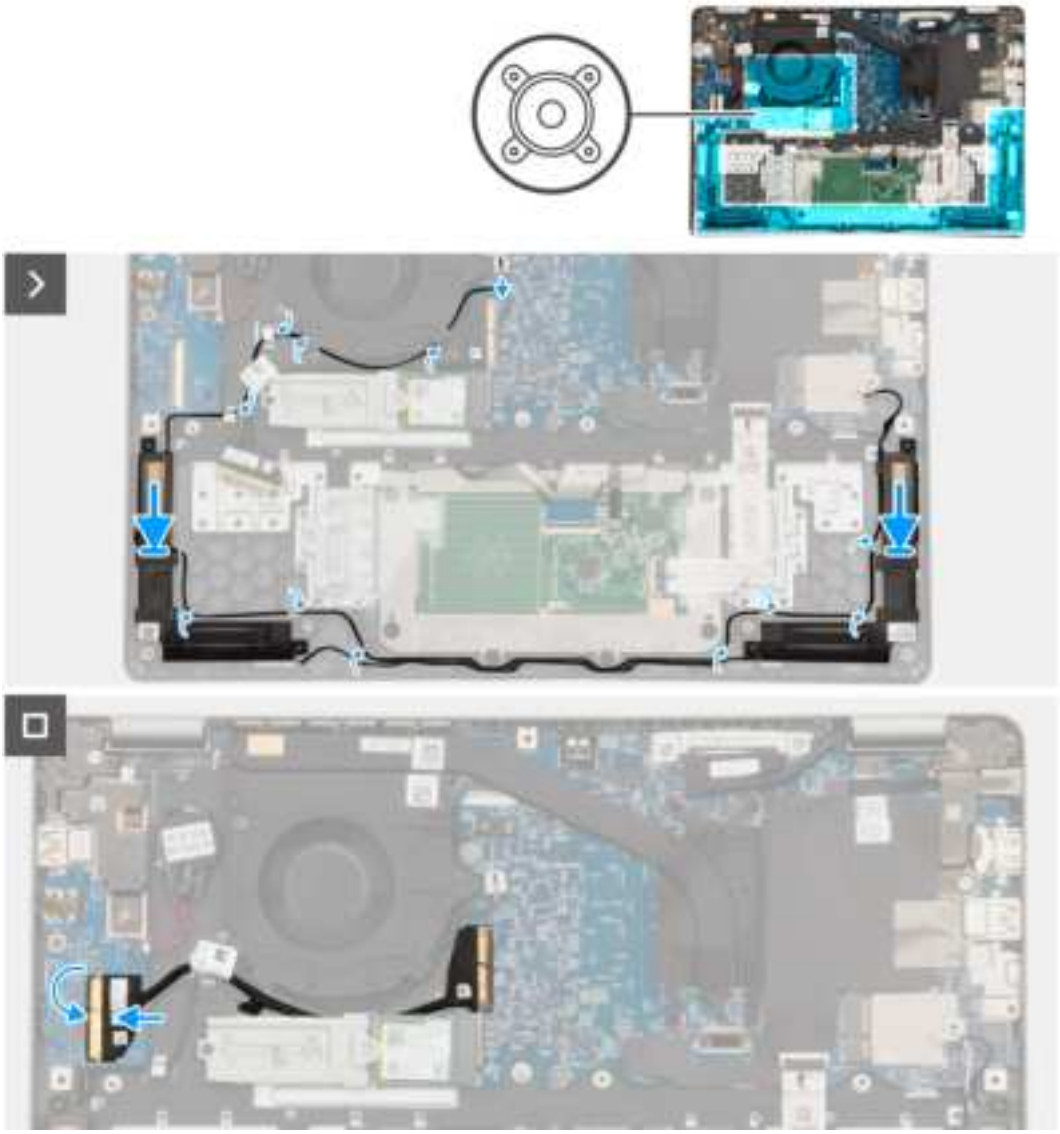
Prerequisites

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

About this task

NOTE: If the rubber grommets are pushed out when removing the speakers, push them back in place before replacing the speakers.

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



Steps

1. Align and place the speakers in the slot on the chassis.
2. Route the speaker cables through the routing guides on the palm-rest and keyboard assembly.
3. Connect the speaker cable to the connector on the system board.
4. Connect the I/O board-cable to the connector on the system board and close the latch.

Next steps

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

Removing the speakers without antenna

Prerequisites

1. Follow the procedure 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 speakers and provide a visual representation of the removal procedure.

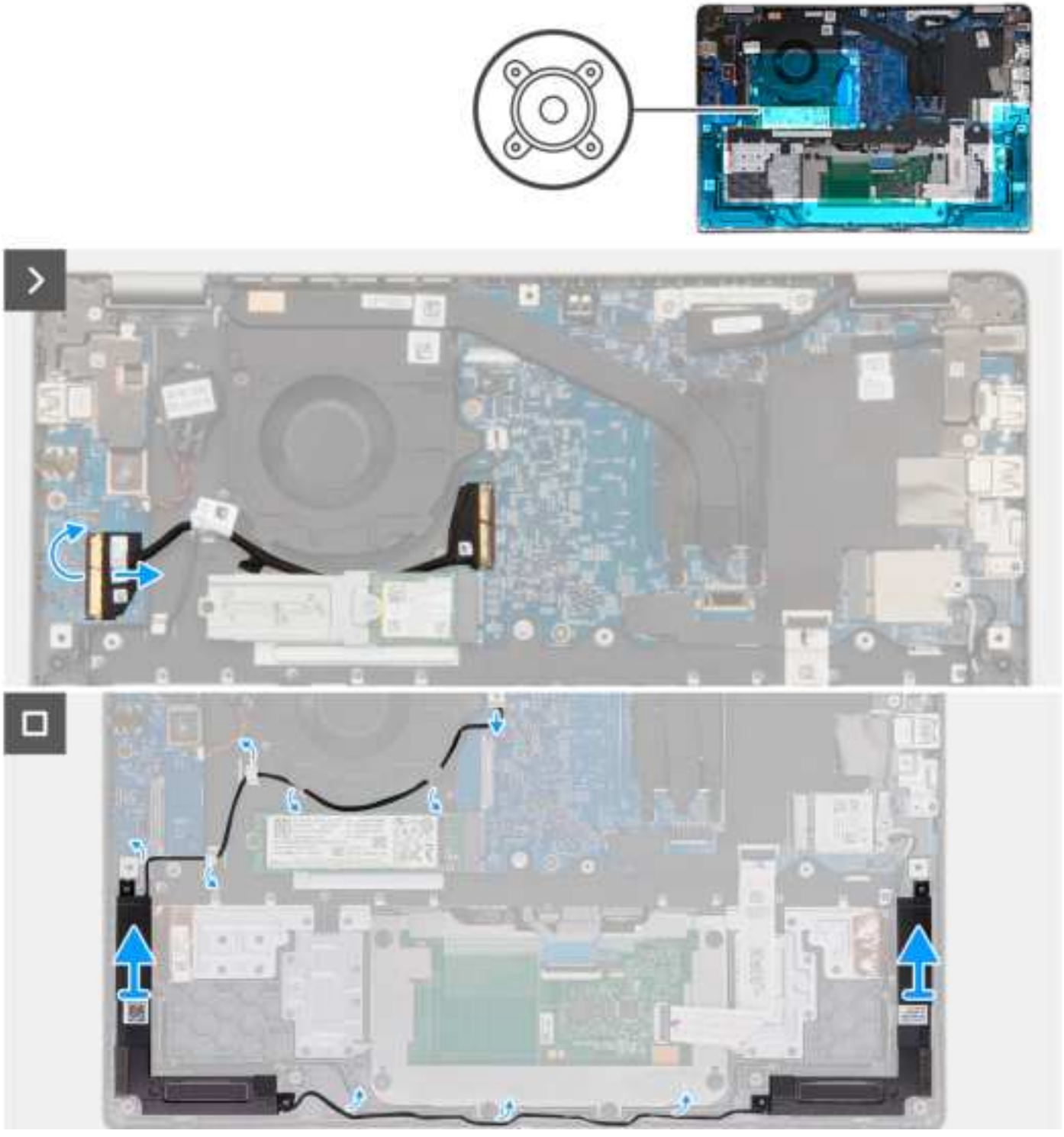


Figure 1. Removing the speakers without antenna

Steps

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

4. Remove the speakers from the chassis.

Installing the speakers without antenna

Prerequisites

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

About this task

NOTE: If the rubber grommets are pushed out when removing the speakers, push them back in place before replacing the speakers.

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

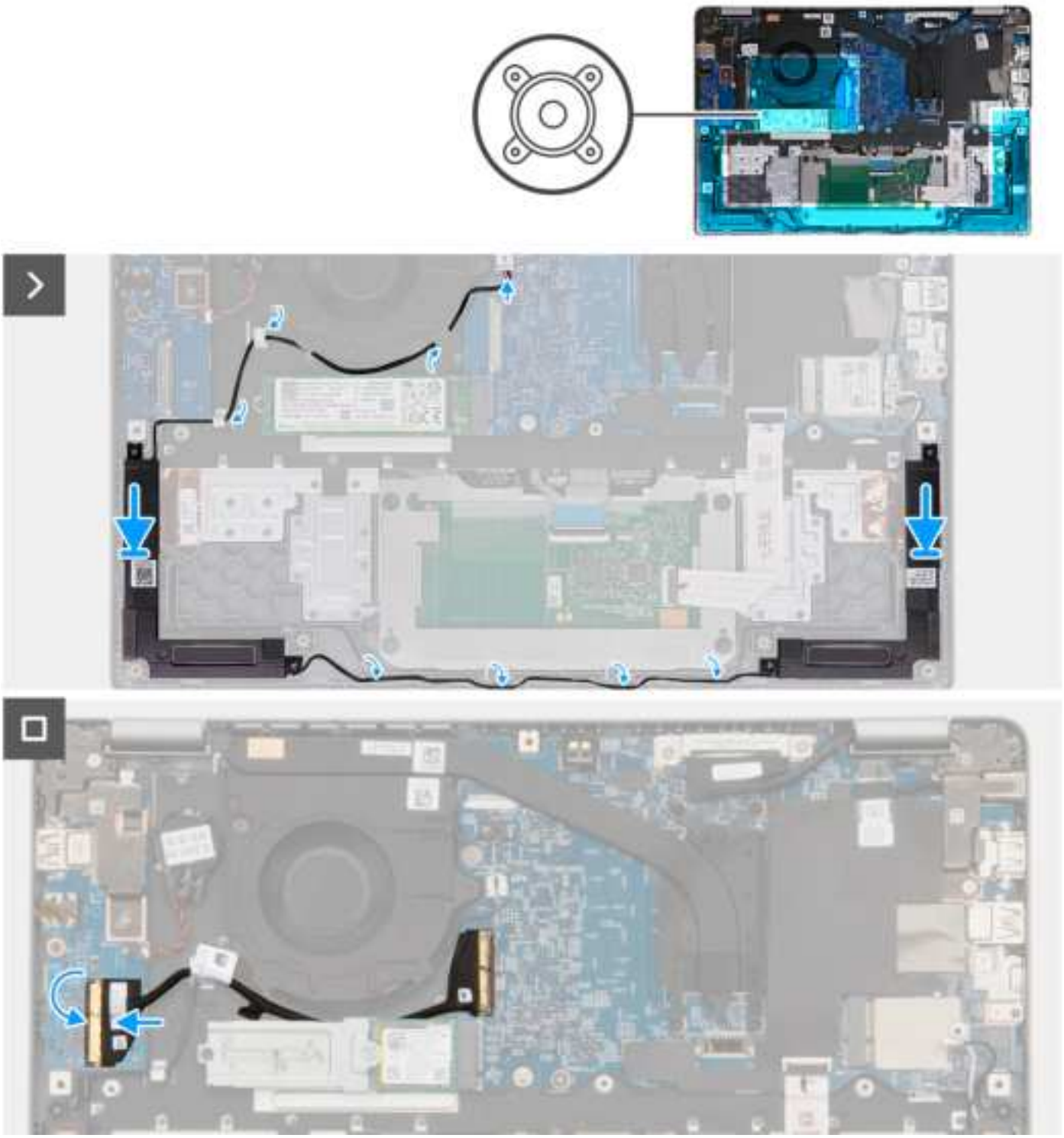


Figure 2. Installing the speakers without antenna

Steps

1. Align and place the speakers in the slot on the chassis.
2. Route the speaker cables through the routing guides on the palm-rest and keyboard assembly.
3. Connect the speaker cable to the connector on the system board.
4. Connect the I/O board-cable to the connector on the system board and close the latch.

Next steps

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

Heat sink

Removing the heat-sink for integrated graphics

Prerequisites

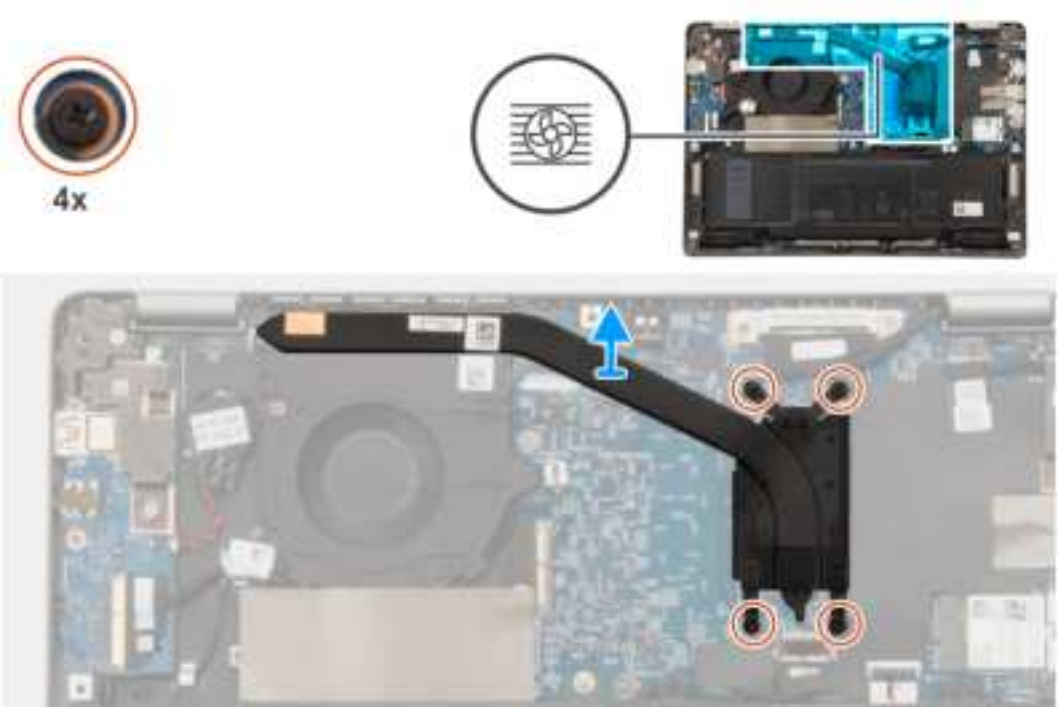
1. Follow the procedure in Before working inside your computer.
2. Remove the base cover.

About this task

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

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

The following image indicates the location of the heat-sink and provides a visual representation of the removal procedure.



Steps

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

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

2. Lift and remove the heat-sink from the system board.

Installing the heat-sink for integrated graphics

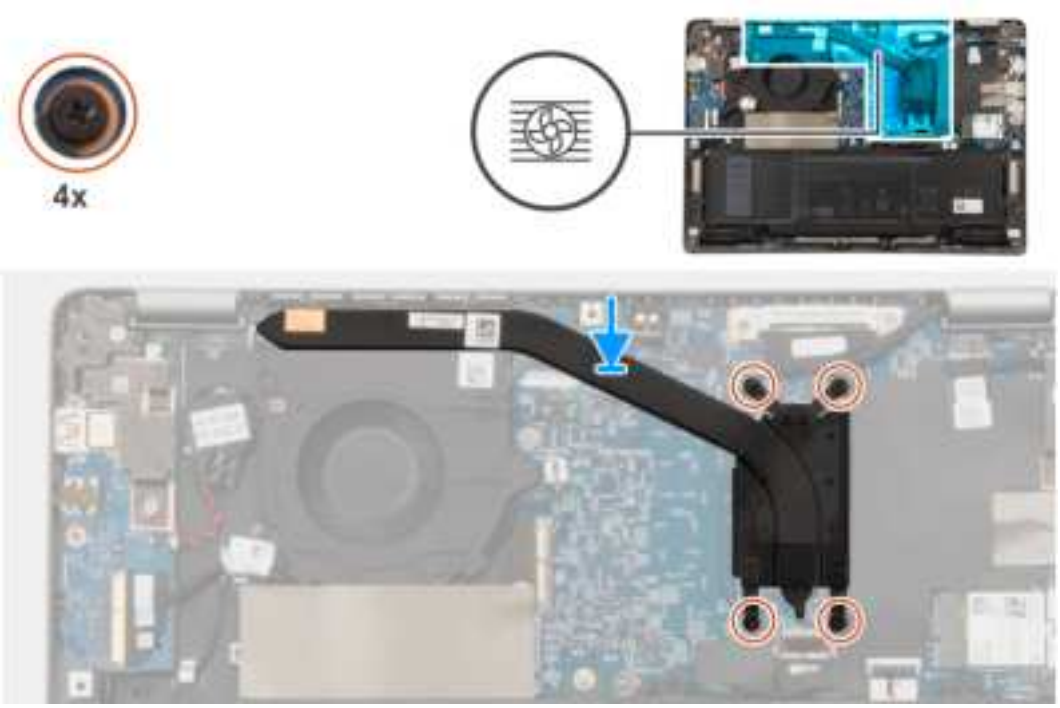
Prerequisites

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

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 indicates the location of the heat-sink and provides a visual representation of the installation procedure.



Steps

1. Place the heat-sink into its slot on the system board.
2. Align the screw holes on the heat-sink to the screw holes on the system board.
3. Tighten the four captive screws to secure the heat-sink to the system board.

   NOTE: Tighten the four captive screws in the sequential order mentioned on the heat-sink [1 > 2 > 3 > 4]

Next steps

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

System board

Removing the system board

Prerequisites

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

3. Remove the battery.
4. Remove the M.2 2230 solid-state drive or the M.2 2280 solid-state drive, whichever applicable.
5. Remove the wireless card.
6. Remove the thermal fan.
7. Remove the thermal heatsink.

About this task

The following image indicates the connectors on your system board.

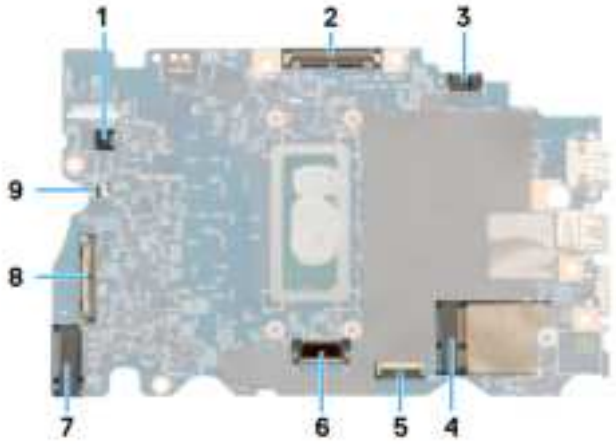
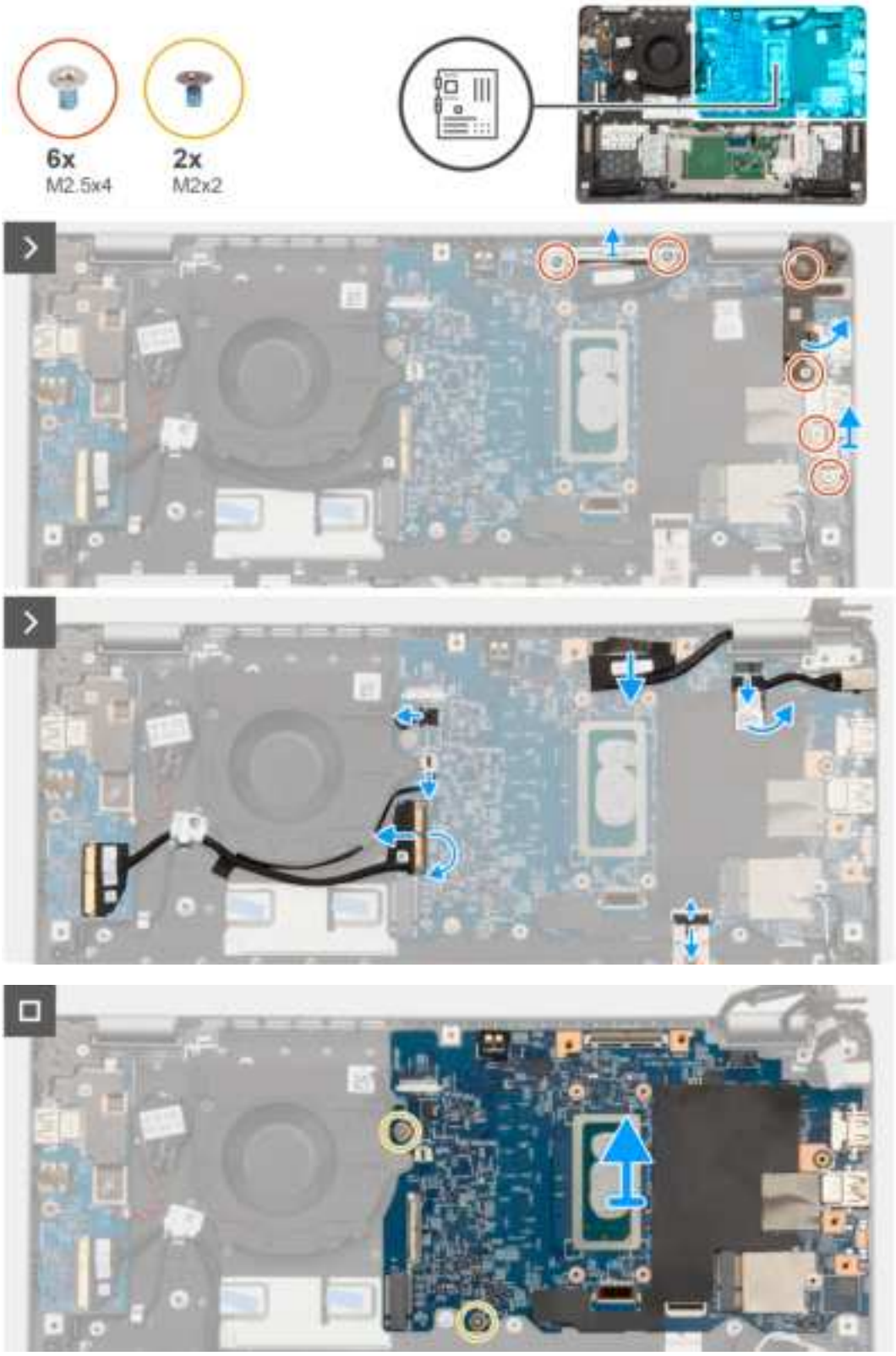


Figure 3. System-board connectors

1. Fan cable connector
2. Display cable connector
3. DC-in port connector
4. WLAN card connector
5. Touchpad cable connector
6. Battery cable connector
7. M.2 solid-state drive connector
8. I/O board cable connector
9. Speaker cable connector

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



CAUTION: The system has a coin-cell battery that is connected to the I/O board. Disconnecting the I/O board cable resets the BIOS setup program settings to default. Note the BIOS setup program settings before disconnecting the I/O board cable.

Steps

1. Remove the two screws (M2.5x4) that secure the display-cable bracket to the system board.

2. Remove the display-cable bracket from the system board.
3. Remove the two screws (M2.5x4) that secure the right display hinge to the system board.
4. Lift the right display hinge in upward direction away from the system board.
5. Remove the screw (M2.5x4) that secures the USB type-C bracket to the system board.
6. Lift and remove the USB type-C bracket from the system board.
7. Disconnect the following cables from the respective connectors on the system board:
   a. Touchpad cable
   b. I/O board cable
   c. Speaker cable
   d. Fan cable
   e. Display cable
   f. Power adapter port cable
8. Remove the two screws (M2x2) that secure the system board to the palm-rest and keyboard assembly.
9. Lift and remove the system board from the palm-rest and keyboard assembly.

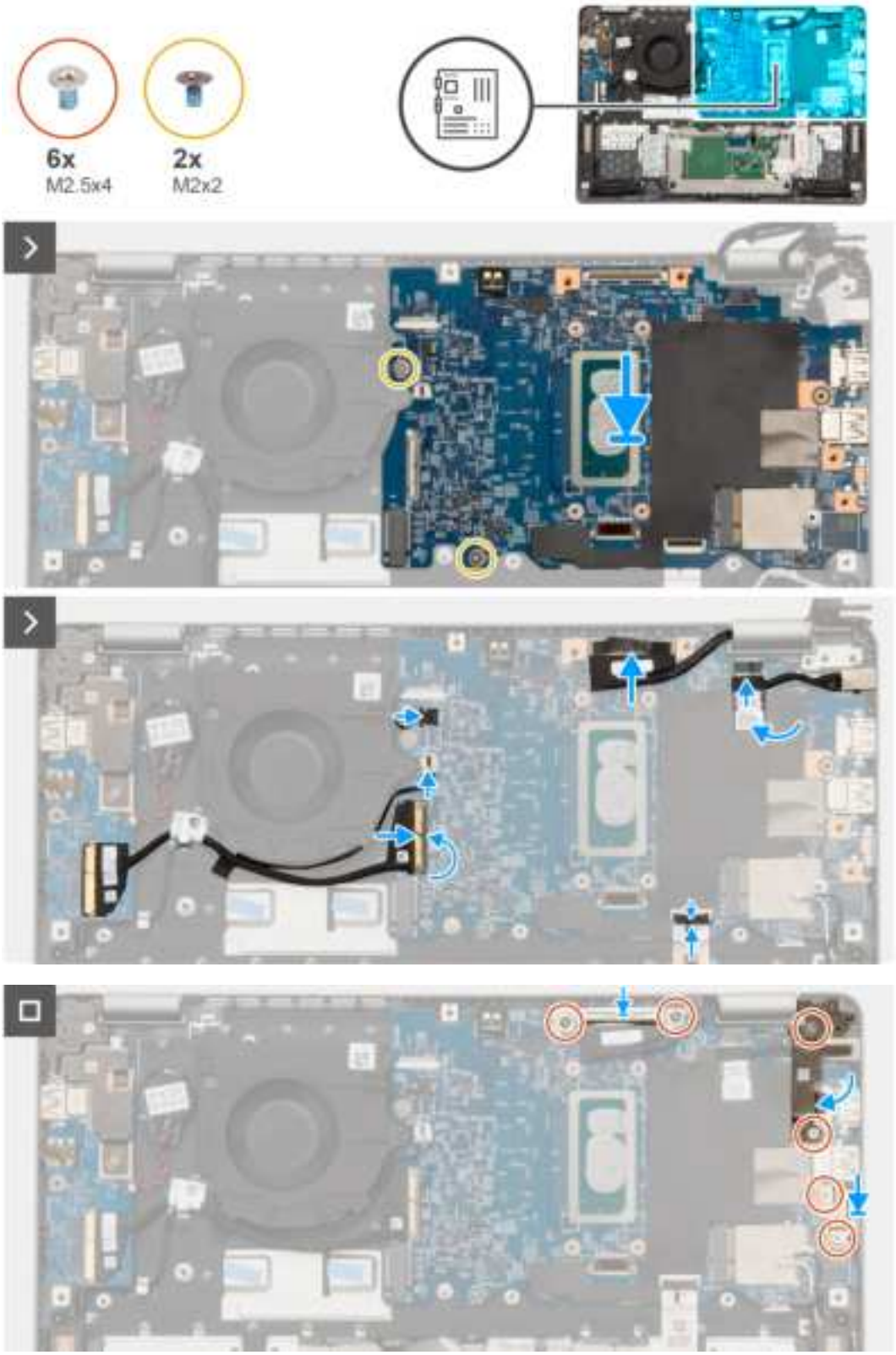
Installing the system board

Prerequisites

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

About this task

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



CAUTION: The system has a coin-cell battery that is connected to the I/O board. Disconnecting the I/O board cable resets the BIOS setup program settings to default. Note the BIOS setup program settings before disconnecting the I/O board cable.

Steps

1. Align and place the system board on the palm-rest and keyboard assembly.

2. Align the screw holes on the system board with the screw holes on the palm-rest and keyboard assembly.
3. Replace the two screws (M2x2) to secure the system board to the palm-rest and keyboard assembly.
4. Connect the following cables to the respective connectors on the system board:
   a. Touchpad cable
   b. I/O board cable
   c. Speaker cable
   d. Thermal fan cable
   e. Display cable
   f. Power adapter port cable
5. Align and place the USB type-C bracket on the system board.
6. Align the screw holes on the USB type-C bracket with the screw holes on the system board.
7. Replace the screw (M2.5x4) to secure the USB type-C bracket to the system board.
8. Gently press the right display hinge in downward direction towards the system board.
9. Align the screw holes on the right display hinge with the screw holes on the system board.
10. Replace the two screws (M2.5x4) to secure the right display hinge to the system board.
11. Align and place the display-cable bracket on the display-cable connector on the system board.
12. Replace the two screws (M2.5x4) to secure the display-cable bracket to the system board.

Next steps

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

Palm-rest and keyboard assembly

Removing the palm-rest and keyboard assembly

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the base cover.
3. Remove the battery.
4. Remove the M.2 2230 solid-state drive or the M.2 2280 solid-state drive, whichever applicable.
5. Remove the wireless card.
6. Remove the thermal fan.
7. Remove the thermal heat-sink.
8. Remove the coin-cell battery.
9. Remove the display assembly.
10. Remove the I/O board.
11. Remove the power button or the power button with fingerprint reader, whichever applicable.
12. Remove the speakers.
13. Remove the touchpad.
14. Remove the system board.

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

15. Remove the power-adapter port.

About this task

NOTE: The palm-rest assembly cannot be further disassembled once all the pre-removal parts procedures are completed. If the keyboard is malfunctioning and is required to be replaced, replace the entire palm-rest assembly.

The image below shows the palm-rest assembly after the pre-removal parts procedures have been performed for any palm-rest assembly replacement.

Steps

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

Installing the palm-rest and keyboard assembly

Prerequisites

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

About this task

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

Steps

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

Next steps

1. Install the power-adapter port.
2. Install the system board.

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

3. Install the touchpad.
4. Install the speakers.
5. Install the power button or the power button with fingerprint reader, whichever applicable.
6. Install the I/O board.
7. Install the display assembly.
8. Install the coin-cell battery.
9. Install the thermal heat-sink.
10. Install the thermal fan.
11. Install the wireless card.
12. Install the M.2 2230 solid-state drive or the M.2 2280 solid-state drive, whichever applicable.
13. Install the battery.
14. Install the base cover.
15. Follow the procedure in After working inside your computer.

3

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.

4

BIOS Setup

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

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

Use BIOS Setup for the following purposes:

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

Entering BIOS Setup program

About this task

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

Navigation keys

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

Table 3. 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.

One time boot menu

To access the **one time boot menu**, turn on your computer, and then press F2 immediately.

NOTE: If your computer fails to enter the boot menu, restart the computer and press F2 immediately.

The one-time boot menu displays the devices that you can boot from, and also displays the option 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

  NOTE: Choosing **Diagnostics**, will display the **ePSA diagnostics** screen.

The **one time boot menu** also displays the option to access the System Setup screen.

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

Table 4. System setup options—System information menu

Overview	
Lattitude 3340	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the system.
Asset Tag	Displays the Asset Tag of the system.
Manufacture Date	Displays the manufacture date of the system.
Ownership Date	Displays the ownership date of the system.
Express Service Code	Displays the express service code of the system.
Ownership Tag	Displays the Ownership Tag of the system.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your system.
Battery Information	
Primary	Displays that battery is primary.
Battery Level	Displays the battery level of the system.
Battery State	Displays the battery state of the system.
Health	Displays the battery health of the system.

Table 4. System setup options—System information menu (continued)

Overview	
AC Adapter	Displays whether the AC adapter is connected or not.
Battery Life Type	Displays the battery life type of the system.
Processor Information	
Processor Type	Displays the processor type.
Maximum Clock Speed	Displays the maximum processor clock speed.
Minimum Clock Speed	Displays the minimum processor clock speed.
Current Clock Speed	Displays the current processor clock speed.
Core Count	Displays the number of cores on the processor.
Processor ID	Displays the processor identification code.
Processor L2 Cache	Displays the processor L2 Cache size.
Processor L3 Cache	Displays the processor L3 Cache size.
Microcode Version	Displays the microcode version.
Intel Hyper-Threading Capable	Displays whether the processor is Hyper-Threading (HT) capable.
64-Bit Technology	Displays whether 64-bit technology is used.
Memory Information	
Memory Installed	Displays the total system memory installed.
Memory Available	Displays the total system memory available.
Memory Speed	Displays the memory speed.
Memory Channel Mode	Displays single or dual channel mode.
Memory Technology	Displays the technology that is used for the memory.
Devices Information	
Panel Type	Displays the Panel Type of the system.
Video Controller	Displays the video controller type of the system.
Video Memory	Displays the video memory information of the system.
Wi-Fi Device	Displays the wireless device information of the system.
Native Resolution	Displays the native resolution of the system.
Video BIOS Version	Displays the video BIOS version of the system.
Audio Controller	Displays the audio controller information of the system.
Bluetooth Device	Displays the Bluetooth device information of the system.
Pass Through MAC Address	Displays the pass through MAC address information of the system.

Table 5. System setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot mode	Displays the boot mode.
Boot Sequence	Displays the boot sequence.
Secure Boot	
Enable Secure Boot	Enable or disable the secure boot feature. By default, the option is not enabled.
Enable Microsoft UEFI CA	Enable or disable the Microsoft UEFI CA boot feature.

Table 5. System setup options—Boot Configuration menu (continued)

Boot Configuration	
	By default, the option is enabled.
Secure Boot Mode	Enable or disable to change the secure boot mode options. By default, the **Deployed Mode** is enabled.
Expert Key Management	
Enable Custom Mode	Enable or disable custom mode. By default, the **custom mode** option is not enabled.
Custom Mode Key Management	Select the custom values for expert key management.

Table 6. System setup options—Integrated Devices menu

Integrated Devices	
Date/Time	Displays the current date in MM/DD/YYYY format and current time in HH:MM:SS AM/PM format.
Camera	Enables or disable the camera. By default, the **Enable Camera** option is selected
Audio	
Enable Audio	Enable or disable the integrated audio controller. By default, all the options are enabled.
USB Configuration	• Enable or disable booting from USB mass storage devices that are connected to external USB ports. By default, the **Enable External USB Ports** option is enabled. • Enable or disable booting from USB mass storage devices such as external hard drive, optical drive, and USB drive. By default, the **Enable USB Boot Support** option is enabled.
Disable USB4 PCIE Tunneling	Disable the USB4 PCIE Tunneling option. By default, the option is disabled.
Miscellaneous Devices	Enable or disable the Fingerprint reader Device. By default, the **Miscellaneous Devices** option is enabled.
Unobtrusive Mode	Enable or disable the Unobtrusive Mode. Enabling this option will turn off all system light and sound. By default, the **Unobtrusive Mode** option is disabled.

Table 7. System setup options—Storage menu

Storage	
SATA/NVMe Operation	
SATA/NVMe Operation	Set the operating mode of the integrated storage device controller. By default, the **RAID On** option is enabled.
Storage interface	
Port Enablement	This page allows you to enable the onboard drives. By default, the **M.2 PCIe SSD** option is enabled.
SMART Reporting	

Table 7. System setup options—Storage menu (continued)

Storage	
Enable SMART Reporting	Enable or disable Self-Monitoring, Analysis, and Reporting Technology (SMART) during system startup. By default, the **Enable SMART Reporting** option is not enabled.
Drive Information	
M.2 PCIe SSD	
Type	Displays the M.2 PCIe SSD type information of the system.
Device	Displays the M.2 PCIe SSD device information of the system.

Table 8. System setup options—Display menu

Display	
Display Brightness	
Brightness on battery power	Enable to set screen brightness when the system is running on battery power.
Brightness on AC power	Enable to set screen brightness when the system is running on AC power.
Touchscreen	Enable or disable the touchscreen functionality. By default, this option is enabled.
EcoPower	Enable or disable EcoPower Feature in your panel. EcoPower can increase the battery life of your system by reducing the display brightness when appropriate. By default, **Enable EcoPower** option is enabled.
Full Screen Logo	Enable or disable full screen logo. By default, the option is not enabled.

Table 9. System setup options—Connection menu

Connection	
Wireless Device Enable	
WLAN	Enable or disable the internal WLAN device. By default, the option enabled.
Bluetooth	Enable or disable the internal Bluetooth device By default, the option enabled.
Enable UEFI Network Stack	Enable or disable UEFI Network Stack and controls the on-board LAN Controller. By default, the **Enable UEFI Network Stack** option is enabled.
HTTPs Boot Feature	
HTTPs Boot	Enable or disable the HTTPs Boot feature. By default, the **HTTPs Boot** option is disabled.
HTTP(s) Boot Modes	
Auto Mode	HTTP(s) Boot automatically extracts Boot URL from the DHCP
Manual Mode	HTTP(s) Boot reads Boot URL provided by the user.

Table 10. System setup options—Power menu

Power	
Battery configuration	Enables the system to run on battery during peak power usage hours. Use the table **Custom Charge Start** and **Custom Charge Stop**, to prevent AC power usage between certain times of each day. By default, the **Adaptive** option is enabled.
Advanced Configuration	
Enable Advanced Battery Charge Configuration	Enable or disable the advanced battery charge configuration. By default, the **Enable Advanced Battery Charge Configuration** option is disabled.
Peak Shift	Enables the system to run on battery during peak power usage hours.
Enable Peak Shift	By default, the **Enable Peak Shift** option is disabled.
USB PowerShare	When enabled, external devices like phones or portable music players can be powered or charged using the stored system battery when the system is in sleep state.
Enable USB PowerShare	By default, the **USB PowerShare** option is disabled.
Thermal Management	Enables to cool the fan and processor heat management to adjust the system performance, noise, and temperature. By default, the **Optimized** option is enabled.
USB Wake Support	
Wake on Dell USB-C Dock	When enabled, connecting a Dell USB-C Dock will wake the system from Standby, Hibernate, and Power Off. By default, the **Wake on Dell USB-C Dock** option is enabled.
Block Sleep	Enables to block entering sleep (S3) mode in the operating system. By default, the **Block Sleep** option is disabled.
Intel Speed Shift Technology	Enable or disable the Intel speed shift technology support. By default, the **Intel Speed Shift Technology** option is enabled.

Table 11. System setup options—Security menu

Security	
TPM 2.0 Security	
TPM 2.0 Security On	Allows you to enable or disable TPM visibility to operating system. By default, the **TPM 2.0 Security On** option is enabled.
Attestation Enable	Enables to control whether the Trusted Platform Module (TPM) Endorsement Hierarchy is available to the operating system. By default, the **Attestation Enable** option is enabled.
Key Storage Enable	Enables to control whether the Trusted Platform Module (TPM) Storage Hierarchy is available to the operating system. By default, the **Key Storage Enable** option is enabled.
SHA-256	When enabled, the BIOS and TPM will use the SHA-256 hash algorithm to extend measurements into the TPM PCRs during BIOS boot. By default, the **SHA-256** option is enabled.
Clear	Enables to clear the TPM owner information and returns the TPM to the default state.

Table 11. System setup options—Security menu (continued)

Security	
	By default, the **Clear** option is disabled.
PPI Bypass for Clear Commands	Controls the TPM Physical Presence Interface (PPI). By default, the **PPI ByPass for clear Commands** option is disabled.
Chassis Intrusion	This feature controls the chassis intrusion feature By default, the **Chassis Intrusion** option is disabled.
SMM Security Mitigation	Enable or disable additional UEFI SMM Security Mitigation protections. By default, the option is enabled.
Data Wipe on Next Boot	
Start Data Wipe	Enable or disable the data wipe on next boot. By default, the **Start Data Wipe** option is disabled.
Absolute	Enable or disable or permanently disable the BIOS module interface of the optional Absolute Persistence Module service from Absolute software. By default, the option is enabled. **WARNING: The 'Permanently Disabled' option can only be selected once. When 'Permanently Disabled' is selected, Absolute Persistence cannot be re-enabled. No further changes to the Enable/Disable states are allowed.** **NOTE:** The Enable/Disable options will be unavailable while Computrace is in the activated state.
UEFI Boot Path Security	Controls whether the system will prompt the user to enter the admin 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.
Firmware Device Tamper Detection	Controls the Firmware Device Tamper Detection feature. By default, the **Firmware Device Tamper Detection** option is selected as **Silent**.
Clear Firmware Device Tamper Detection	By default, the **Clear Firmware Device Tamper Detection** option is selected as **OFF**.

Table 12. System setup options—Passwords menu

Passwords	
Admin Password	Set, change, or delete the administrator password.
System Password	Set, change, or delete the system password.
M.2 PCIe SSD-0	Set, change, or delete the M.2 PCIe SSD-0 password.
Password Configuration	
Upper Case Letter	Reinforces password must have at least one upper case letter. By default, the option is disabled.
Lower Case Letter	Reinforces password must have at least one lower case letter. By default, the option is disabled.
Digit	Reinforces password must have at least one digit number. By default, the option is disabled.
Special Character	Reinforces password must have at least one special character.

Table 12. System setup options—Passwords menu (continued)

Passwords	
	By default, the option is disabled.
Minimum Characters	Set the minimum characters allowed for password.
Password Bypass	When enabled, this always prompts for system and internal hard drive passwords when powered on from the off state. By default, the **Disabled** option is selected.
Password Changes	
Allow Non-Admin Password Changes	Enable or disable to change system and hard drive password without the need for admin password. By default, the option is enabled.
Admin Setup Lockout	
Enable Admin Setup Lockout	Enables administrators control over how their users can or cannot access BIOS setup. By default, the option is disabled.
Master Password Lockout	
Enable Master Password Lockout	When enabled, this disables the master password support. By default, the option is disabled.
Allow Non-Admin PSID Revert	
Enable Allow Non-Admin PSID Revert	Controls access to the Physical Security ID (PSID) revert of NVMe hard-drives from the Dell Security Manager prompt. By default, the option is disabled.

Table 13. System setup options—Update, Recovery menu

Update, Recovery	
UEFI Capsule Firmware Updates	Enable or disable BIOS updates through UEFI capsule update packages. **NOTE:** Disabling this option will block BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS). By default, the option is enabled.
BIOS Recovery from Hard Drive	Enables the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive or an external USB key. By default, the option is enabled. **NOTE:** BIOS Recovery from Hard Drive is not available for self-encrypting drives (SED).
BIOS Downgrade	
Allow BIOS Downgrade	This field controls the flashing of the system firmware to previous revisions. By default, the option is enabled.
SupportAssist OS Recovery	Enable or disable the boot flow for SupportAssist OS Recovery tool in the event of certain system errors. By default, the option is enabled.
BIOSConnect	Enable or disable cloud Service operating system recovery if the main operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto operating system Recovery Threshold setup option and local Service operating system does not boot or is not installed.

Table 13. System setup options—Update, Recovery menu (continued)

Update, Recovery	
	By default, the option is enabled.
Dell Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for Dell operating system Recovery Tool. By default, the threshold value is set to 2.

Table 14. System setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the system.
Asset Tag	Create a system Asset Tag.
AC Behavior	
Wake on AC	Enable or disable the wake on AC option. By default, the option is disabled.
Wake on LAN	
Wake on LAN	Enable or disable the Wake on LAN option. By default, the option is disabled.
Auto on Time	Enable or disable the wake on LAN option. By default, the option is disabled.
Diagnostics	
OS Agent Requests	This feature schedules onboard diagnostics on a subsequent boot that helps assist in prevention and resolution of hardware related issues. By default, the option is enabled.
Power-on-Self-Test Automatic Recovery	This feature attempts to automatically recover the computer from BIOS settings issues or booting issues to the operating system. By default, the option is enabled.

Table 15. System setup options—Keyboard menu

Keyboard	
Numlock Enable	Allows you to enable or disable the Numlock function when the system boots. By default, the option **Fn Lock Options** is enabled.
Fn Lock Options	By default, the Fn lock option is enabled.
Lock Mode	By default, the **Lock Mode Secondary** option is enabled. With this option, the F1-F2 keys scan the code for their secondary functions.

Table 16. System setup options—Pre-boot Behavior menu

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

Table 16. System setup options—Pre-boot Behavior menu (continued)

Pre-boot Behavior	
USB-C Warnings	
Enable Dock Warning Messages	By default, the option is enabled.
Fastboot	Allows you to configure the speed of the UEFI boot process. By default, the **Minimal** option is enabled.
Extend BIOS POST Time	Set the BIOS POST load time. By default, the **0 seconds** option is enabled.
MAC Address Pass-Through	Allows you to replace the external NIC MAC address with the selected MAC address from the system. By default, the **Passthough MAC Address** option is enabled.

Table 17. System setup options—Virtualization menu

Virtualization	
Intel Virtualization Technology	
Enable Intel Virtualization Technology (VT)	When enabled, the system will be able to run a Virtual Machine Monitor (VMM). By default, the option is enabled.
VT for Direct I/O	When enabled, the system will be able to perform Virtualization Technology for Direct I/O (VT-d). By default, the option is enabled.
DMA Protection	Allows you to control the BIOS support for Pre-Boot and Kernal DMA protections.
Enable Pre-Boot DMA Support	Allows you to control Pre-boot DMA protection for both Internal and External ports. By default, the option is enabled.
Enable OS Kernal DMA Support	Allows you to control Kernal DMA protection for both Internal and External ports. By default, the option is enabled.

Table 18. System setup options—Performance menu

Performance	
Multi Core Support	
Multiple Atom Cores	Allows you to chnage the number of Atom cores available to the operating system. By default, the **All Cores** option is enabled.
Intel SpeedStep	
Enable Intel SpeedStep Technology	Enables the system to dynamically adjust processor voltage and core frequency, decreasing average power consumption and heat production. By default, the option is enabled.
C-States Control	
Enable C-State Control	Enable the ability of the CPU to enter and exit low power state. When disabled, it disabled all C-states. When enabled, it enabled all C-states that the chipset or platform allows.

Table 18. System setup options—Performance menu (continued)

Performance	
	By default, the option is enabled.
Intel Turbo Boost Technology	
Enable Intel Turbo Boost Technology	Enable or disable the Intel TurboBoost mode of the processor. By default, the option is enabled.
Intel Hyper-Threading Technology	
Enable Intel Hyper-Threading Technology	Enable or disable Hyper-Threading in the processor. By default, the option is enabled.

Table 19. System setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear Bios Event Log	Displays BIOS events. By default, the **Keep Log** option is enabled.
Thermal Event Log	
Clear Thermal Event Log	Displays Thermal events. By default, the **Keep Log** option is enabled.
Power Event Log	
Clear Power Event Log	Displays power events. By default, the **Keep Log** option is enabled.
License Information	Displays the license information of the system.

Updating the BIOS

Updating the BIOS in Windows

About this task

CAUTION: If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, see the Knowledge Base Resource Updating the BIOS on Dell systems with BitLocker enabled.

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

Steps

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

   NOTE: If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.

3. Click **Drivers & Downloads**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. After the download is complete, navigate to the folder where the BIOS update file has been saved.
8. Double-click the BIOS update file and follow the on-screen instructions.
   For more information, search in the Knowledge Base Resource at Dell Support Site.

Updating the BIOS in Linux and Ubuntu

To update the system BIOS on a computer that is installed with Linux or Ubuntu, see the Dell Knowledge Base article 000131486 at Dell Support Site.

Updating the BIOS using the USB drive in Windows

About this task

CAUTION: If BitLocker is not suspended before updating the BIOS, the BitLocker key is not recognized the next time you reboot the computer. You will then be prompted to enter the recovery key to proceed, and the computer displays a prompt for the recovery key on each reboot. Failure to provide the recovery key can result in data loss or an operating system reinstall. For more information, see the Knowledge Base Resource Updating the BIOS on Dell systems with BitLocker enabled.

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

Steps

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

   NOTE: If you do not have the Service Tag, click **Detect This PC**. The site automatically detects your device, and you can then click **Explore Product Support** to go to the support page for your device. You can also use the product ID or manually browse for your computer model.

3. Click **Drivers & Downloads**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. Create a bootable USB drive. For more information, search in 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

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

System and setup password

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

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

Table 20. System and setup password

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

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

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

Assigning a System Setup password

Prerequisites

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

Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
   The **Security** screen is displayed.
3. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to create the system password:
   - Password can be up to 32 characters.
   - Password must contain at least one special character: "(! " # $ % & ' * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | })"
   - The password can contain numbers from 0 to 9.
   - The password can contain alphabets A to Z and a to z.
4. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
5. Press Y to save the changes.
   The computer restarts.

Deleting or changing an existing system password or setup password

Prerequisites

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

Steps

1. To enter the **System Setup**, press **F2** immediately after a power-on or reboot.
2. In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.
   The **System Security** screen is displayed.
3. In the **System Security** screen, verify that the **Password Status** is Unlocked.

4. Select **System Password**. Update or delete the existing system password, and press Enter or Tab.
5. Select **Setup Password**. Update or delete the existing setup password, and press Enter or Tab.

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

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

Clearing 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. Remove the coin-cell battery.
4. Wait for one minute.
5. Replace the coin-cell battery.
6. Connect the battery cable to the system board.
7. Replace 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.

5

Troubleshooting

Handling swollen rechargeable Li-ion batteries

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

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

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

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

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

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

Dell SupportAssist Pre-boot System Performance Check diagnostics

About this task

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

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

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

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

For more information, see the knowledge base article 000181163.

Running the SupportAssist Pre-Boot System Performance Check

Steps

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

Built-in self-test (BIST)

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

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

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

How to run M-BIST

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

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

Table 21. 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 Latitude 3340.

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

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

Recovering the operating system

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

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

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

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

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

Real-Time Clock (RTC Reset)

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

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

Backup media and recovery options

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

Network power cycle

About this task

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

Steps

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

Drain flea power (perform hard reset)

About this task

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

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

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

Perform the following steps to drain the flea power:

Steps

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

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

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

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

6

Getting help and contacting Dell

Self-help resources

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

Table 22. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	Dell Site
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	Windows Support Site Linux Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified using a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at Dell Support Site. For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles	1. Go to Dell Support Site. 2. On the menu bar at the top of the Support page, select **Support** > **Support Library**. 3. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see Dell Support Site.

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

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

7

Revision history

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

Table 23. Revision history

Revision	Date	Description
A00	02-16-2023	Original publish date.
A04	07-28-2025	Updated Wireless module specifications.