Alienware Aurora
ACT1250
Owner's Manual

Regulatory Model: D30M
Regulatory Type: D30M006
June 2025
Rev. A04

ALIENWARE

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

Views of Alienware Aurora ACT1250

Front

Figure 1. Front view

1. **Power button (Alien head)**

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

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

   NOTE: The power-button behavior can be customized in the operating system.

2. **Universal audio jack**

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

3. **USB 3.2 Gen 1 (5 Gbps) ports (2)**

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

4. **USB 3.2 Gen 1 (5 Gbps) port with PowerShare**

   Connect devices such as external storage devices and printers.

Supports data transfer speeds up to 5 Gbps. PowerShare enables you to charge your USB devices even when your computer is turned off.

NOTE: If your computer is turned off or in hibernate state, you must connect the power adapter to charge your devices using the PowerShare port. You must enable this feature in the BIOS setup program.

NOTE: Certain USB devices may not charge when the computer is turned off or in sleep state. In such cases, turn on the computer to charge the device.

5. **USB 3.2 Gen 2 (10 Gbps) Type-C port with PowerShare**

   Connect devices such as external storage devices and printers.

   The port provides data transfer speeds up to 10 Gbps. Supports Power Delivery that enables two-way power supply between devices. Supports up to 15 W power output that enables faster charging.

   NOTE: PowerShare enables you to charge your USB devices even when your computer is turned off.

   NOTE: If the charge on your computer's battery is less than 10 percent, you must connect the power adapter to charge your computer, and USB devices connected to the PowerShare port.

   NOTE: If a USB device is connected to the PowerShare port before the computer is turned off or in hibernate state, you must disconnect and connect it again to enable charging.

Back

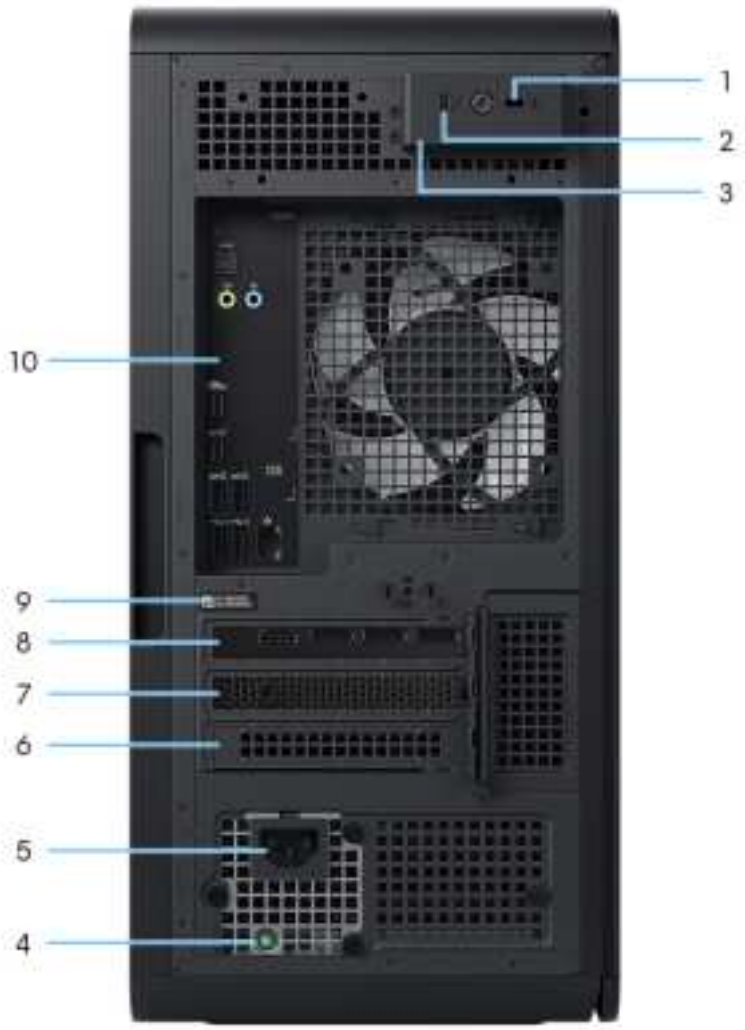

Figure 2. Back view

1. **Security-cable slot (for Kensington locks)**

   Connect a security cable to prevent unauthorized movement of your computer.

2. **Padlock rings**

   Attach a standard padlock to prevent unauthorized access to the interior of your computer.

3. **Side panel release latch**

   Release to allow opening the side panel.

4. **Power-supply diagnostics light**

   The power-supply diagnostics light indicates the power-supply state.

5. **Power-adapter port**

   Connect a power cable to provide power to your computer.

6. **PCI-Express x4 slot**

   Connect a PCI-Express card such as audio, network, or expansion card to enhance the capabilities of your computer.

7. **PCI-Express x4 slot**

   Connect a PCI-Express card such as audio, network, or expansion card to enhance the capabilities of your computer.

8. **PCI-Express x16**

   Connect a PCI-Express graphics card for optimal graphics performance.

9. **Service Tag label**

   The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information.

10. **Back panel**

    Connect USB, audio, video, and other devices.

Back panel

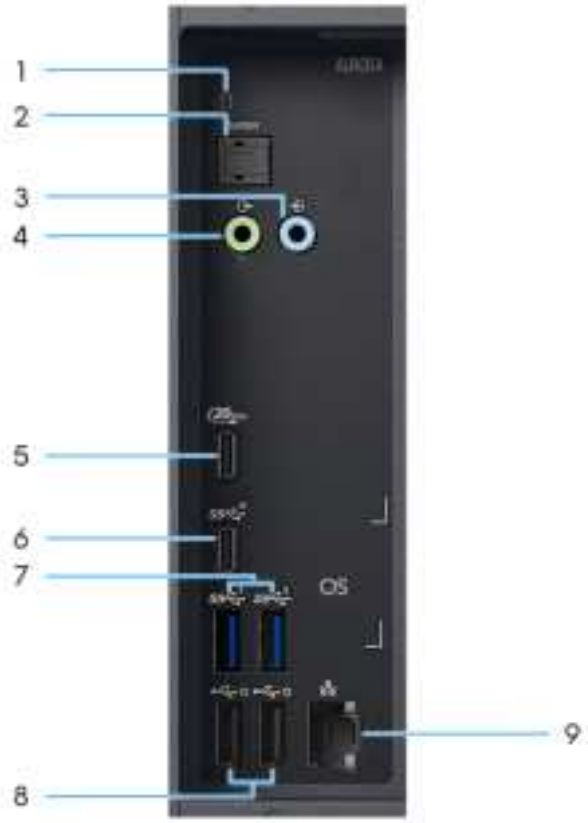

Figure 3. Back panel view

1. **Hard-drive activity light**

   The activity light turns on when the computer reads from or writes to the hard drive.

2. **Optical S/PDIF port**

   Connect an amplifier, speakers, or a TV for digital audio output through an optical cable.

3. **Line-in port**

   Connect recording or playback devices such as a microphone or CD player.

4. **Line-out port**

   Connect audio-output devices such as speakers and amplifiers. In a 2.1 speaker channel setup, connect the left and right speakers. In a 5.1 or a 7.1 speaker channel setup, connect the front-left and front-right speakers.

5. **USB4 20 Gbps Type-C port with Power Delivery**

Supports data transfer only at rates of up to 20 Gbps for USB4. Supports Power Delivery that enables two-way power supply between devices. This port is not enabled for video capability.

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

6. **USB 3.2 Gen 2 (10 Gbps) Type-C port**

   Connect devices such as external storage devices and printers. This port provides data transfer speeds up to 10 Gbps.

7. **USB 3.2 Gen 1 (5 Gbps) ports (2)**

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

8. **USB 2.0 (480 Mbps) ports with Smart Power On (2)**

   Connect devices such as external storage devices and printers. This port provides data transfer speeds up to 480 Mbps.

   NOTE: Deep Sleep is enabled by default. Disable Deep Sleep at the BIOS setup to enable Smart Power On feature on your computer.

   NOTE: Smart Power On is the ability to wake a computer from S0ix, S4, and S5 sleep states with a move of a mouse or press of a key on the keyboard.

   NOTE: This port does not support video or audio streaming or power delivery.

9. **RJ45 ethernet port (2.5 Gbps)**

   Connect an ethernet (RJ45) cable from a router or a broadband modem for network or Internet access.

   The two lights next to the connector indicate the connectivity status and network activity.

Alienware Aurora ACT1250 lighting zone information

Figure 4. Alienware Aurora ACT1250 lighting zone

Figure 5. Alienware Aurora ACT1250 lighting zone

Table 1. Alienware Aurora ACT1250 lighting zone

Callout	Description
1	Power button lighting
2	Bezel ring lighting
3	Rear chassis-fan lighting
4	Liquid cooling module pump lighting

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

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

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

Figure 6. Service Tag/Express Service Code location

Set up your computer

About this task

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

Steps

1. Connect the wired keyboard and mouse to the available ports. To connect a wireless keyboard and mouse, see the instructions on how to connect in the documentation that ships with the wireless keyboard and mouse.

Figure 7. Connecting the wired keyboard and mouse

2. Connect to your network using an Ethernet cable.

Figure 8. Connecting the Ethernet cable

3. Connect the display. For more information about setting up the display, see the documentation that is shipped with your display.

Figure 9. Connecting the display

4. Connect the power cable to the computer and then connect it to the wall outlet.

Figure 10. Connecting the power cable

5. Press the power button at the front of the computer to turn on the computer.

Figure 11. Pressing the power button

Specifications of Alienware Aurora ACT1250

Dimensions and weight

The following table lists the height, width, depth, and weight of your Alienware Aurora ACT1250.

Table 2. Dimensions and weight

Description	Values
Front Height	418 mm (16.46 in.)
Rear Height	418 mm (16.46 in.)
Width	197 mm (7.75 in.)
Depth	458.40 mm (18.05 in.)
Weight (maximum) **NOTE:** The weight of your computer depends on the configuration that is ordered and manufacturing variability.	15.37 kg (33.88 lb)

Processor

The following table lists the details of the processors that are supported on your Alienware Aurora ACT1250.

Table 3. Processor

Description	Option one	Option two
Processor type	Intel Core Ultra 7 265KF	Intel Core Ultra 9 285K
Processor wattage	125 W	125 W
Processor total core count	20	24
Performance-cores	8	8
Efficient-cores	12	16
Processor total thread count	20	24
Processor speed	3.9 GHz to 5.5 GHz	3.7 GHz to 5.7 GHz
Processor performance cores base frequency	3.9 GHz	3.7 GHz
Processor performance cores maximum turbo frequency	5.5 GHz	5.7 GHz
Processor efficient cores base frequency	3.3 GHz	3.2 GHz
Processor efficient cores maximum turbo frequency	4.6 GHz	4.6 GHz
Processor cache	36 MB	40 MB
Integrated graphics	Not supported	Intel Graphics
AI technology	Intel AI Boost	Intel AI Boost
Neural Processing Unit (NPU) performance	13	13
NOTE: Tera Operations Per Second (TOPS) is an AI performance metric that measures how many trillions of operations per second an AI processor can perform.		

Chipset

The following table lists the details of the chipset that is supported on your Alienware Aurora ACT1250.

Table 4. Chipset

Description	Values
Chipset	Intel Z890
Processor	• Intel Core Ultra 7 • Intel Core Ultra 9
DRAM bus width	128-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen5

Operating system

Your Alienware Aurora ACT1250 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro

Memory

The following table lists the memory specifications that are supported on your Alienware Aurora ACT1250.

Table 5. Memory specifications

Description	Values
Memory slots	Two
Memory type	DDR5
Memory speed	• 5200 MT/s **NOTE:** The processors in this computer limit memory speed to 5200 MT/s. **NOTE:** The computer may ship with faster-rated memory, but its performance is restricted by the memory bus limit of 5200 MT/s. • 6400 MT/s (XMP) **NOTE:** The memory performance at 6400 MT/s requires the installation of Dell qualified XMP memory.
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory size per slot	8 GB, 16 GB, and 32 GB
Memory configurations supported	• 16 GB: 2 x 8 GB, DDR5, 5200 MT/s, dual-channel • 32 GB: 2 x 16 GB, DDR5, 5200 MT/s, dual-channel • 64 GB: 2 x 32 GB, DDR5, 5200 MT/s, dual-channel • 32 GB: 2 x 16 GB, DDR5, 6400 MT/s, dual-channel, XMP • 64 GB: 2 x 32 GB, DDR5, 6400 MT/s, dual-channel, XMP

Ports and connectors

The following table lists the external and internal ports available on your Alienware Aurora ACT1250.

Table 6. External ports and connectors

Description	Values
Network	One RJ45 ethernet port (2.5 Gbps)
USB	• Two USB 2.0 ports with SmartPower • Four USB 3.2 Gen 1 (5 Gbps) ports • One USB 3.2 Gen 1 (5 Gbps) port with PowerShare • One USB 3.2 Gen 2 (10 Gbps) Type-C port with PowerShare • One USB 3.2 Gen 2 (10 Gbps) Type-C port • One USB4 20 Gbps Type-C port with Power Delivery
Audio	• One universal audio jack • One optical S/PDIF port • One line-in port - 3.5 mm, 2 stack • One line-out port - 3.5 mm, 2 stack
Video	Supported through discrete GPU
Media card reader	Not supported
Power port	110 V/220 V
Security	One security-cable slot (wedge-shaped)

Table 7. Internal ports and connectors

Description	Values
PCIe expansion card slots	• One PCIe x16 mechanical/x16 electrical Gen5 slot • Two PCIe Gen4 x4 slots
mSATA	Not supported
SATA	Three
M.2	• One slot for WiFi and Bluetooth combo card • Two slots for 2230 or 2280 solid state drive **NOTE:** To learn more about the features of different types of M.2 cards, see the Knowledge Base resource at the Dell Support Site.

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications on your Alienware Aurora ACT1250.

Table 8. Ethernet specifications

Description	Values
Model number	Killer E3100G Ethernet controller integrated on the system board
Transfer rate	10/100/1000/2500 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications on your Alienware Aurora ACT1250.

Table 9. Wireless module specifications

Description	Values
Model number	Intel BE200
Transfer rate	5760 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax) • Wi-Fi 7 (WiFi 802.11be)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP
Bluetooth wireless card	Bluetooth 5.4 wireless card
NOTE: The wireless configuration above is available in certain regions and with certain product configurations only. **NOTE:** The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer.	

Audio

The following table lists the audio specifications on your Alienware Aurora ACT1250.

Table 10. Audio specifications

Description	Values
Audio type	Integrated 5.1 channel audio with S/PDIF port
Audio controller	Realtek ALC1220
Internal audio interface	High-definition audio interface
External audio interface	• 5.1 channel output – optical S/PDIF port • Line in/Line out ports • Universal audio jack

Storage

This section lists the storage options on your Alienware Aurora ACT1250.

Your Alienware Aurora ACT1250 supports one of the following storage configurations:

- Up to two M.2 2230/2280 PCIe NVMe solid state drives
- Up to two M.2 2230/2280 PCIe NVMe solid state drives + one 3.5-inch hard drive

NOTE: The 3.5-inch hard drive is sold separately.

Table 11. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 SSD	TLC PCIe Gen4 x4 NVMe, up to 64 Gbps	Up to 1 TB
M.2 2280 SSD	TLC PCIe Gen4 x4 NVMe, up to 64 Gbps	Up to 8 TB

Power ratings

The following table lists the power rating specifications on your Alienware Aurora ACT1250.

Table 12. Power ratings

Description		Option one	Option two
Type		500 W SFF Platinum	1000 W SFFX Platinum
Input voltage		90 VAC - 264 VAC	90 VAC - 264 VAC
Input frequency		47 Hz - 63 Hz	47 Hz - 63 Hz
Input current (maximum)		7 A	13.60 A
Output current (continuous)		**Operating:** • 12 VA - 18 A • 12 VB - 18 A • 12 VC - 18 A **Standby:** • 12 VA - 1.50 A • 12 VB - 3.30 A • 12 VC - 0 A	**Operating:** • 12 VA - 36 A • 12 VB - 27 A • 12 VC - 36 A **Standby:** • 12 VA - 1.50 A • 12 VB - 5 A • 12 VC - 0 A
Rated output voltage		• 12 VA • 12 VB • 12 VC	• 12 VA • 12 VB • 12 VC
Temperature range			
	Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

Power-supply unit connectors

The following table lists the power-supply unit connectors that are supported on your Alienware Aurora ACT1250.

Table 13. Power-supply unit connectors

Power-supply unit	Power-supply unit connecters
500 W SFFX Platinum	• Two four-pin connectors for the processor • One eight-pin connector for the system board • One six pin + one (2+6) pin connector for graphics card
1000 W SFFX Platinum	• Two four-pin connectors for the processor • One 10-pin connector for the system board • Two six pins + one (6+2) pin connector for graphics card

Video

The following table lists the detailed discrete graphics specifications on your Alienware Aurora ACT1250.

Table 14. Discrete graphics specifications

Controller	Number of cards	External display support	Memory size	Memory type	PCIe version	Power consumption	Recommended PSU
NVIDIA GeForce RTX 4060	1	• Three DisplayPort 1.4a ports • One HDMI 2.1a port	8 GB	GDDR6	4	115 W	>= 500 W
NVIDIA GeForce RTX 4060 Ti	1	• Three DisplayPort 1.4a ports • One HDMI 2.1a port	8 GB	GDDR6	4	160 W	>=500 W
NVIDIA GeForce RTX 4070 SUPER	1	• Three DisplayPort 1.4 ports • One HDMI 2.1 port	12 GB	GDDR6 X	4	220 W	>= 500 W
NVIDIA GeForce RTX 4070 Ti SUPER	1	• Three DisplayPort 1.4 ports • One HDMI 2.1 port	16 GB	GDDR6 X	4	285 W	>= 750 W
NVIDIA GeForce RTX 4080 SUPER	1	• Three DisplayPort 1.4 ports • One HDMI 2.1 port	16 GB	GDDR6 X	4	320 W	>= 750 W
NVIDIA GeForce RTX 4090	1	• Three DisplayPort 1.4 ports • One HDMI 2.1 port	24 GB	GDDR6 X	4	450 W	>= 1000 W

Video port resolution

The following table lists the video port resolution for your Alienware Aurora ACT1250.

Table 15. Video port resolution

Graphics card	Video ports	Maximum supported resolution
NVIDIA GeForce RTX 4060	• Three DisplayPort 1.4a ports[1] • One HDMI 2.1a[8] port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:** • 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz
NVIDIA GeForce RTX 4060 Ti	• Three DisplayPort 1.4a ports[1] • One HDMI 2.1a[8] port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:**

Table 15. Video port resolution (continued)

Graphics card	Video ports	Maximum supported resolution
		• 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz
NVIDIA GeForce RTX 4070 SUPER	• Three DisplayPort 1.4a[1] • One HDMI 2.1 port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:** • 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz
NVIDIA GeForce RTX 4070 Ti SUPER	• Three DisplayPort 1.4a[1] • One HDMI 2.1 port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:** • 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz
NVIDIA GeForce RTX 4080 SUPER	• Three DisplayPort 1.4a[1] • One HDMI 2.1 port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:** • 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz
NVIDIA GeForce RTX 4090	• Three DisplayPort 1.4a[1] • One HDMI 2.1 port	**DisplayPort:** • 7680 x 4320 at 120 Hz[4] • 7680 x 4320 at 60 Hz[5] • 7680 x 4320 at 60 Hz[6] • 5120 x 3200 at 60 Hz[7] • 5120 x 2880 at 60 Hz[7] **HDMI:** • 7680 x 4320 at 60 Hz • 3840 x 2160 at 120 Hz • 4096 x 2160 at 120 Hz

[1] DisplayPort 1.2 certified, DisplayPort 1.3/1.4 ready.

[2] Depending on the GPU resources that are applied to the port.

[3] Maximum raw bandwidth represents the raw bandwidth of four lanes of HBR3.

[4] Requires two DisplayPort 1.4a links and DSC compression.

[5] Requires either a single DisplayPort 1.4a link with DSC compression or two DP links with no compression.

[6] Using DSC compression.

Table 15. Video port resolution (continued)

Graphics card	Video ports	Maximum supported resolution
[7] Uncompressed.		

Graphics card dimensions

Table 16. Graphics card dimensions (maximum)

Description	Values
Length	305 mm (12 in.)
Height	134.45 mm (5.29 in.)
Width	55.12 mm (2.17 in.)
Weight	1.80 kg (3.96 lb)

Graphics-card bracket and graphics-card end holder

The following table shows whether the graphics-card bracket or/and the graphics-card end holder is/are shipped with your Alienware Aurora ACT1250.

Table 17. Graphics-card bracket and graphics-card end holder

Graphics card	Graphics-card bracket	Graphics-card end holder
NVIDIA GeForce RTX 4060	No	No
NVIDIA GeForce RTX 4060 Ti	Yes	Yes
NVIDIA GeForce RTX 4070 SUPER	Yes	Yes
NVIDIA GeForce RTX 4070 Ti SUPER	Yes	Yes
NVIDIA GeForce RTX 4080 SUPER	Yes	Yes
NVIDIA GeForce RTX 4090	Yes	Yes

Operating and storage environment

The following table lists the operating and storage specifications on your Alienware Aurora ACT1250.

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

Table 18. Operating and storage environment

Description	Operating	Storage
Temperature range	10°C–35°C (50°F–95°F)	-40°C–65°C (-40°F–149°F)
Relative humidity (maximum)	20%–80% (non-condensing)	5%–95% (non-condensing)
Vibration (maximum)*	0.26 GRMS	1.37 GRMS
Shock (maximum)	40 G for 2 ms with a change in velocity of 20 in./s (51 cm/s)†	105 G for 2 ms with a change in velocity of 52.50 in./s (133 cm/s)†
Altitude range	-15.20 m–3,048 m (-49.87 ft–10,000 ft)	-15.20 m–10,668 m (-49.87 ft–35,000 ft)

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

* Measured using a random vibration spectrum that simulates the user environment.

† Measured using a 2 ms half-sine pulse.

Working inside your computer

Safety instructions

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

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

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

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

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

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

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

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

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

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

Before working inside your computer

About this task

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

Steps

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

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

   CAUTION: To disconnect a network cable, unplug the cable from your computer.

6. Remove any media card and optical disc from your computer, if applicable.

Safety precautions

This section details the primary steps to be followed before performing any disassembly instructions.

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

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

Standby power

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

Bonding

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

Electrostatic discharge—ESD protection

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

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

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

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

Perform the following steps to prevent ESD damage:

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

ESD Field Service kit

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

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

Working Environment

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

ESD Packaging

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

Components of an ESD Field Service kit

The components of an ESD Field Service kit are:

- **Anti-Static Mat** – The anti-static mat is dissipative and parts can be placed on it during service procedures. When using an anti-static mat, your wrist strap should be snug and the bonding wire should be connected to the anti-static mat and to any bare metal on the computer being worked on. Once deployed properly, service parts can be removed from the ESD bag and placed directly on the anti-static mat. ESD-sensitive items are safe in your hand, on the anti-static mat, in the computer, or inside an ESD bag.
- **Wrist Strap and Bonding Wire** – The wrist strap and bonding wire can be either directly connected between your wrist and bare metal on the hardware if the anti-static mat is not required, or connect to the anti-static mat to protect hardware that is temporarily placed on the mat. The physical connection of the wrist strap and bonding wire between your skin, the anti-static mat, and the hardware is known as bonding. Use only Field Service kits with a wrist strap, anti-static mat, and bonding wire. Never use wireless wrist straps. Always be cautious that the internal wires of a wrist strap are prone to damage from normal wear and tear, and must be checked regularly with a wrist strap tester in order to avoid accidental ESD hardware damage. It is recommended to test the wrist strap and bonding wire at least once per week.
- **ESD Wrist Strap Tester** – The wires inside an ESD strap are prone to damage over time. When using an unmonitored kit, it is a best practice to regularly test the strap prior to each service, and at a minimum, test once per week. A wrist strap tester is the best method for doing this test. To perform the test, plug the bonding-wire of the wrist-strap into the tester while it is strapped to your wrist and push the button to test. A green LED is lit if the test is successful; a red LED is lit and an alarm sounds if the test fails.

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

Transporting sensitive components

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

Lifting equipment

Adhere to the following guidelines when lifting heavy equipment:

CAUTION: Do not lift greater than 50 pounds. Always obtain additional resources or use a mechanical lifting device.

1. Get a firm balanced footing. Keep your feet apart for a stable base, and point your toes out.
2. Tighten stomach muscles. Abdominal muscles support your spine when you lift, offsetting the force of the load.
3. Lift with your legs, not your back.
4. Keep the load close. The closer it is to your spine, the less force it exerts on your back.
5. Keep your back upright, whether lifting or setting down the load. Do not add the weight of your body to the load. Avoid twisting your body and back.
6. Follow the same technique in reverse to set the load down.

After working inside your computer

About this task

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

Steps

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other components that you removed before working on your computer.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver #1
- Phillips screwdriver #2
- 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 19. Screw list

Component	Screw type	Quantity	Screw image
Front bezel	#6-32x1/4"	4	
Power-supply unit bracket	#6-32x1/4"	2	
Power-supply unit bracket (for computers shipped with clear left-side cover)	#6-32x1/4"	2	
Power-supply unit	#6-32x1/4"	4	
Power-supply unit (for computers shipped with clear left-side cover)	#6-32x1/4"	4	
Radiator and fan assembly for liquid cooler	M3x5	2	
Rear-chassis fan	M3x5	1	
Lower front-chassis fan	M3x5	1	
Solid state drive (M.2 slot one/ slot two)	M2x3.5	1	
Wireless card	M2x3.5	1	
System board	#6-32x1/4"	9	
Front I/O bracket	#6-32x1/4"	1	
Liquid-cooling assembly fan	#6-32x1/4"	8	
Antenna	#6-32	2	

Major components of Alienware Aurora ACT1250

NOTE: The optional components may not be present in your computer, depending on the configuration ordered.

Figure 12. Major components of Alienware Aurora ACT1250

1. Front bezel
2. Left-side cover

3. Coin-cell battery
4. Wireless card
5. Liquid-cooling assembly
6. M.2 2280 solid state drive
7. M.2 2230 solid state drive
8. System board
9. Chassis
10. 3.5-inch hard drive
11. Power-supply unit
12. Power-supply unit bracket
13. VR heat sink
14. Graphics-card end holder
15. Lower front-chassis fan
16. Rear-chassis fan
17. Graphics card
18. Graphics-card bracket
19. Memory module
20. Processor fan and heat-sink assembly
21. Processor
22. Antenna

System-board components

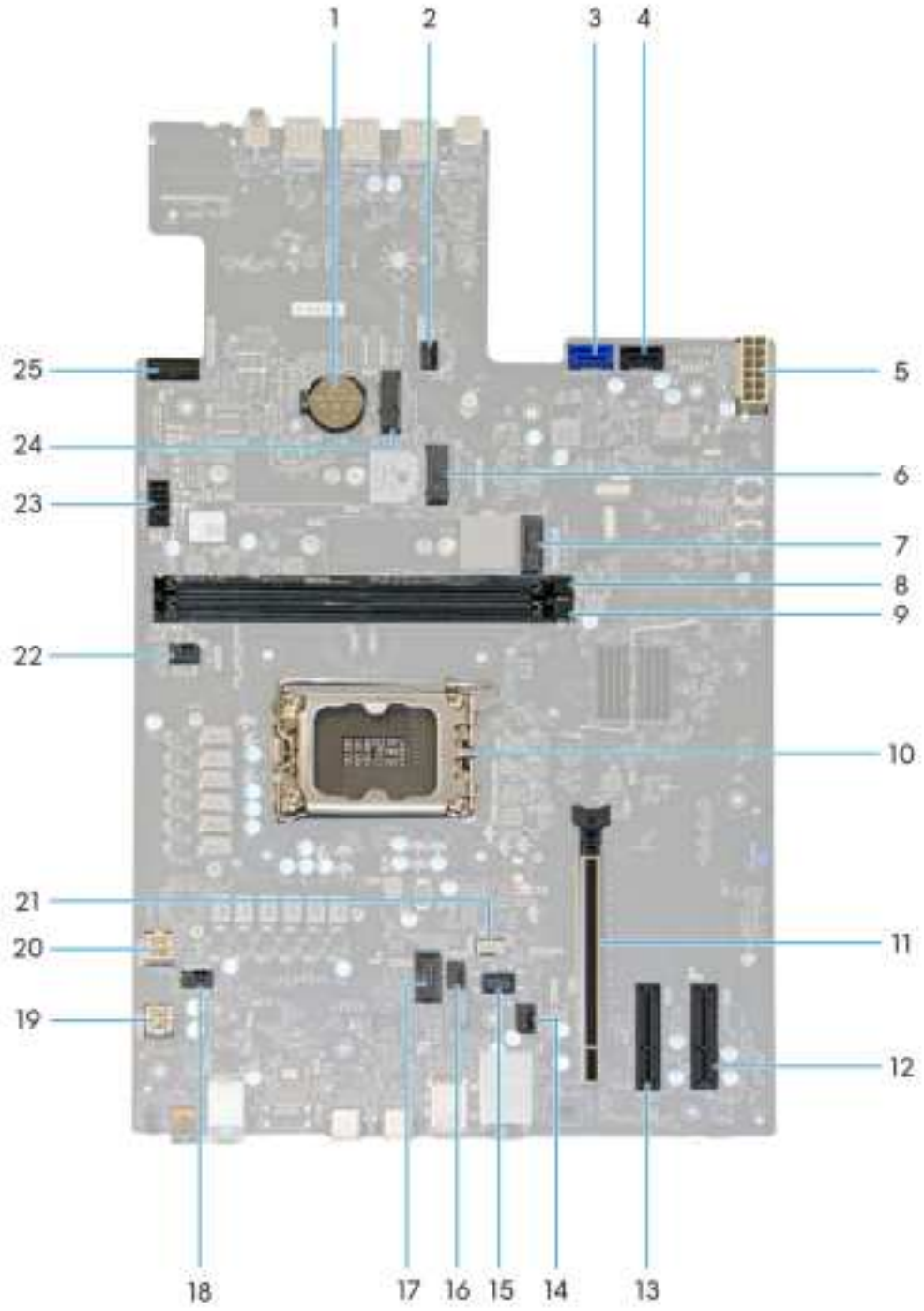

Figure 13. System-board components

1. Coin-cell battery
2. Lower front-chassis fan connector (FAN_SYS2)
3. SATA 6 Gbps drive connector (SATA-0)
4. SATA 6 Gbps drive connector (SATA-1)
5. Power-supply connector (ATX SYS)
6. Solid state drive slot (M.2 PCIe SSD-1)
7. Solid state drive slot (M.2 PCIe SSD-0)

8. Memory-module slot (DIMM1)
9. Memory-module slot (DIMM2)
10. CPU socket (CPU SKT1 COOLER)
11. PCI-Express x16 mechanical/x16 electrical slot (SLOT1)
12. PCI-Express x4 slot (SLOT3)
13. PCI-Express x4 slot (SLOT2)
14. Rear-chassis fan connector (FAN SYS1)
15. Rear-chassis fan LED connector (LED FAN SYS1)
16. Liquid cooling pump fan connector (FAN PUMP)
17. Liquid-cooling pump LED connector (LED PUMP)
18. Top-chassis fan connector one (FAN SYS4)
19. Power-supply connector (ATX CPU2)
20. Power-supply connector (ATX CPU1)
21. Air-cooling fan connector (FAN CPU)
22. Top-chassis fan connector two (FAN SYS5)
23. SATA power connector (SATA PWR)
24. Wireless-card slot (M.2 WLAN)
25. Front I/O-panel cable (RING AMBIENT PWBT)

Thermal solution matrix

Table 20. Thermal solution matrix

Processor			Intel Ultra 7F/9 (65 W)	Intel Ultra 7F/9 (65 W)	Intel Ultra 7K/9K (125 W)
Power supply			500 W	1000 W	1000 W
Graphics card power consumption			Up to 225 W	Up to 450 W	Up to 450 W
Graphics card			• RTX 4060 • RTX 4060 Ti • RTX 4070 SUPER	• RTX 4060 • RTX 4060 Ti • RTX 4070 SUPER • RTX 4070 Ti SUPER • RTX 4080 • RTX 4080 SUPER • RTX 4090	• RTX 4060 • RTX 4060 Ti • RTX 4070 SUPER • RTX 4070 Ti SUPER • RTX 4080 • RTX 4080 SUPER • RTX 4090
Processor cooler type			Air cooler	Air cooler	Liquid cooler 240 mm
Fan	**Fan name**	**Fan connector location on system board**			
	Processor fan	**FAN CPU**	Present	Present	Not present
	Rear fan	**FAN SYS1**	Present	Present	Present
	Front lower fan	**FAN SYS 2**	Present	Present	Present
	Top fan 1	**FAN SYS4**	Not present	Present	Not present
	Top fan 2	**FAN SYS5**	Not present	Present	Not present
Voltage regulator (VR) heat sink			Not present	Present	Present

Removing and installing Customer Replaceable Units (CRUs)

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

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

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

Left-side cover

Removing the left-side cover

Prerequisites

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

About this task

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

NOTE: The clear left-side cover is shipped with some computers.

Figure 14. Removing the left-side cover

Steps

1. Loosen the captive screw (#6-32) that secures the side-cover release latch to the chassis.
2. Pull the side-cover release latch to release the left-side cover away from the chassis.
3. Lift the left-side cover from the chassis.

Installing the left-side 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 left-side cover and provide a visual representation of the installation procedure.

NOTE: The clear left-side cover is shipped with some computers.

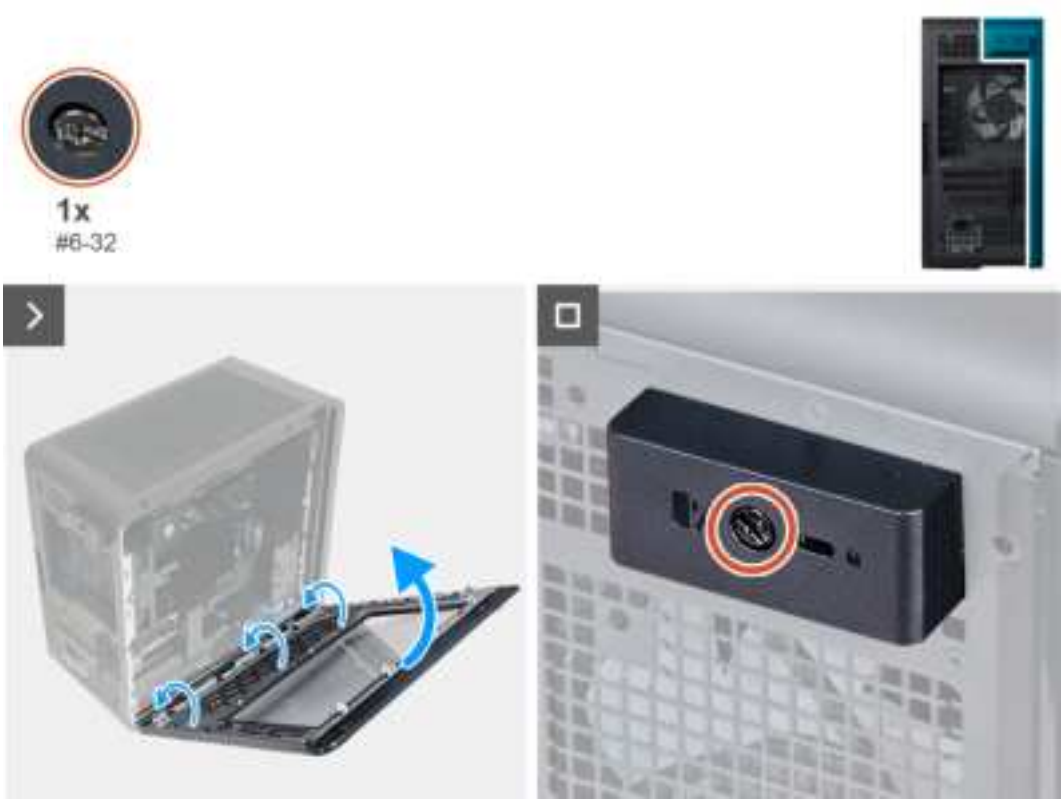

Figure 15. Installing the left-side cover

Steps

1. Locate the tabs on the left-side cover and slots on the chassis.
2. Rotate the left-side cover towards the chassis until it snaps into place.
3. Tighten the captive screw (#6-32) that secures the side-cover release latch to the chassis.

Next steps

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

Right-side cover

Removing the right-side cover

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

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

Figure 16. Removing the right-side cover

Steps

Pull and lift the right-side cover away from the chassis.

Installing the right-side 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 right-side cover and provide a visual representation of the installation procedure.

Figure 17. Installing the right-side cover

Steps

1. Align the tabs on the right-side cover with the slots on the chassis.
2. Push the right-side cover towards the chassis until it snaps into place.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Front bezel

Removing the front bezel

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.
3. Remove the right-side cover.

About this task

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

Figure 18. Removing the front bezel

Steps

1. Place the computer in an upright position.
2. Remove the securing clip and disconnect the front I/O-panel cable from its connector (RING AMBIENT PWBT) on the system board.
3. Remove the four screws (#6-32x1/4") that secures the front bezel to the front panel.
4. Pull the tabs of the front bezel from the slots on the front panel.

NOTE: Start with the tab on top, proceed to the tabs on the left of the front bezel, and then to the tabs on the right of the front bezel.

5. Route the front I/O-panel cable through the slot on the front panel.
6. Pull the front bezel, together with the front I/O-panel cable, away from the chassis slowly.

Installing the front bezel

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 front bezel and provide a visual representation of the installation procedure.

Figure 19. Installing the front bezel

Steps

1. Align the front bezel with the front panel.
2. Route the front I/O-panel cable through the slot on the front panel.
3. Push the front bezel towards the front panel and ensure the tabs clip on to the slots of the front panel.

   NOTE: Start with tab on top, proceed to the tabs on the left of the front bezel, and then to the tabs on the right of the front bezel.

4. Replace the four screws (#6-32x1/4") that secures the front bezel to the front panel.
5. Route the I/O-panel cable through the securing clip and close it.

6. Connect the front I/O-panel cable to its connector (RING AMBIENT PWBT) on the system board.

Next steps

1. Install the right-side cover.
2. Install the left-side cover.
3. Follow the procedure in After working inside your computer.

Top cover

Removing the top cover

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.
3. Remove the right-side cover.
4. Remove the front bezel.

About this task

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

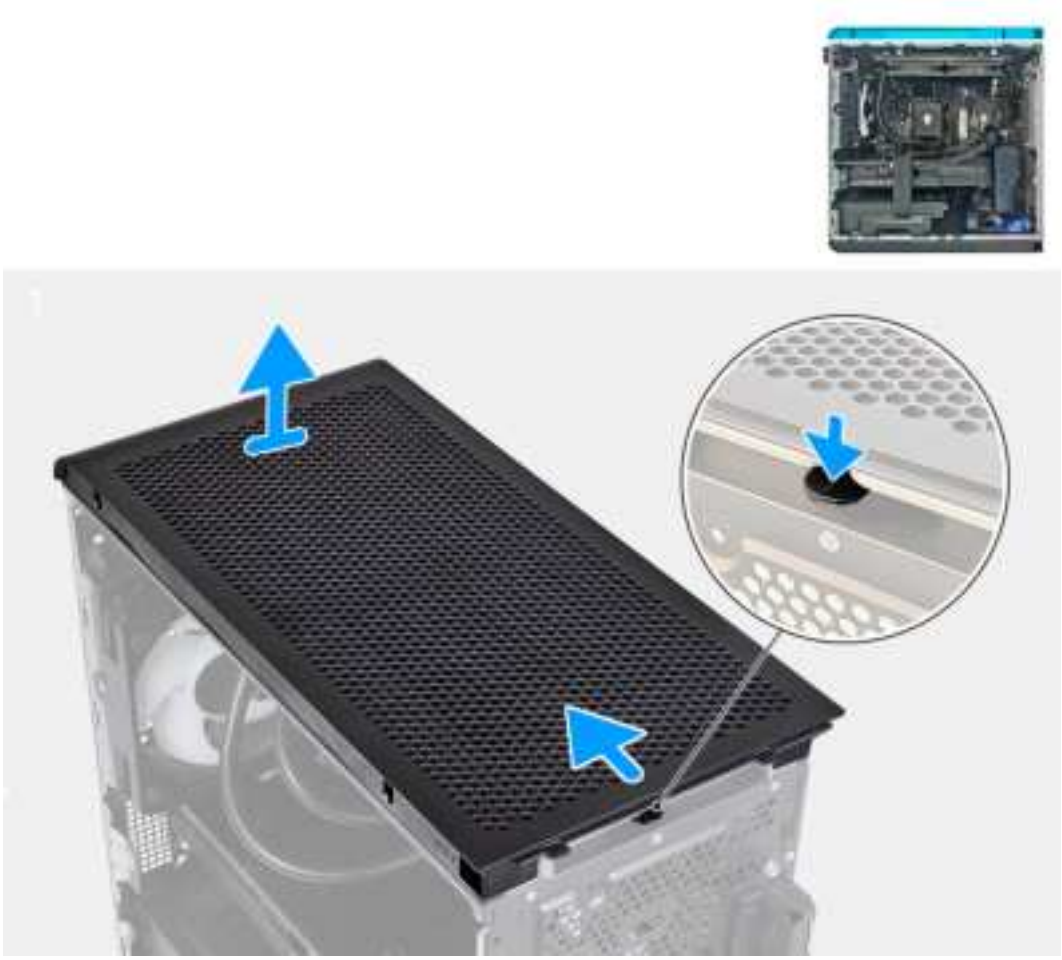

Figure 20. Removing the top cover

Steps

Press down the latch from front side, and push/slide the cover toward to rear side, then lift the cover up.

NOTE: The top cover is secured tight to the chassis by four latches.

Installing the top 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 top cover and provide a visual representation of the installation procedure.

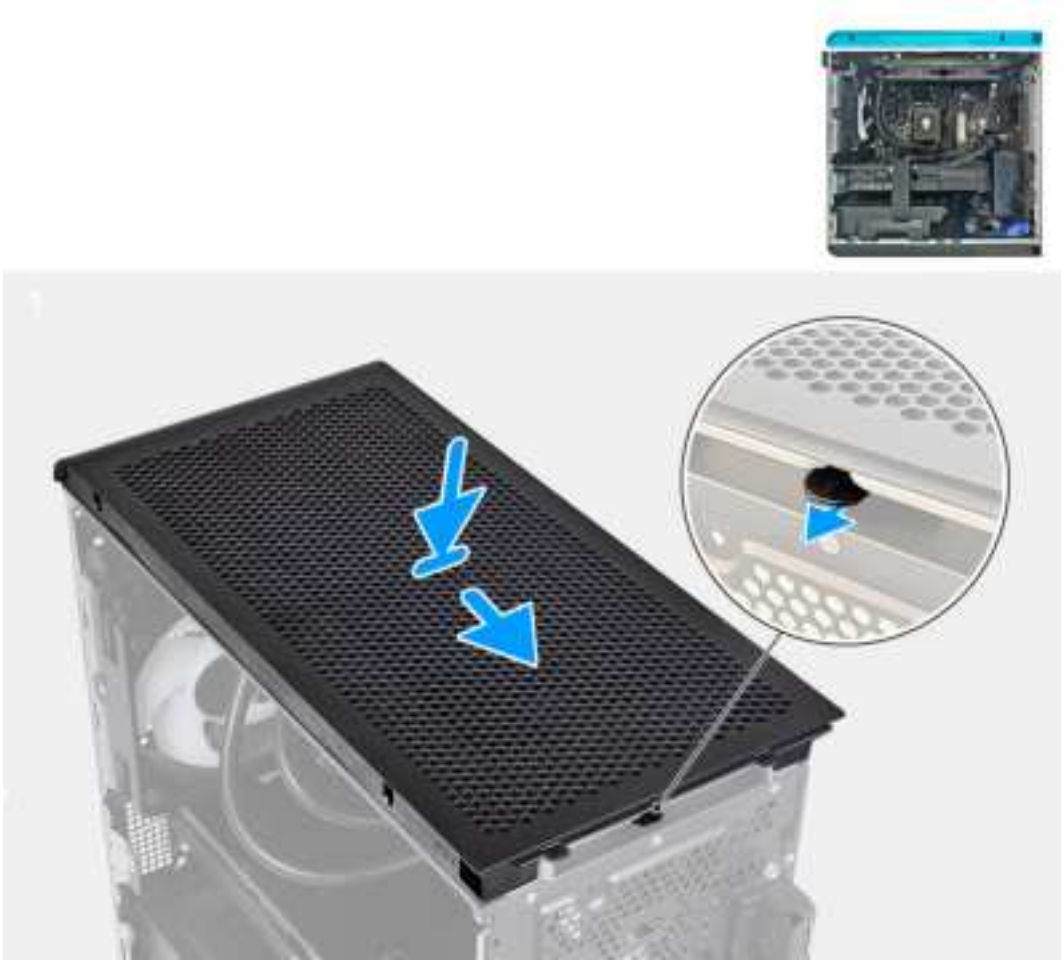

Figure 21. Installing the top cover

Steps

Align the tabs on the top cover with the slots on the chassis and snap the top cover into place.

Next steps

1. Install the front bezel.
2. Install the right-side cover.
3. Install the left-side cover.
4. Follow the procedure in After working inside your computer.

3.5-inch hard drive

Removing the 3.5-inch hard drive

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

The following images indicate the location of the 3.5-inch hard drive and provide a visual representation of the removal procedure.

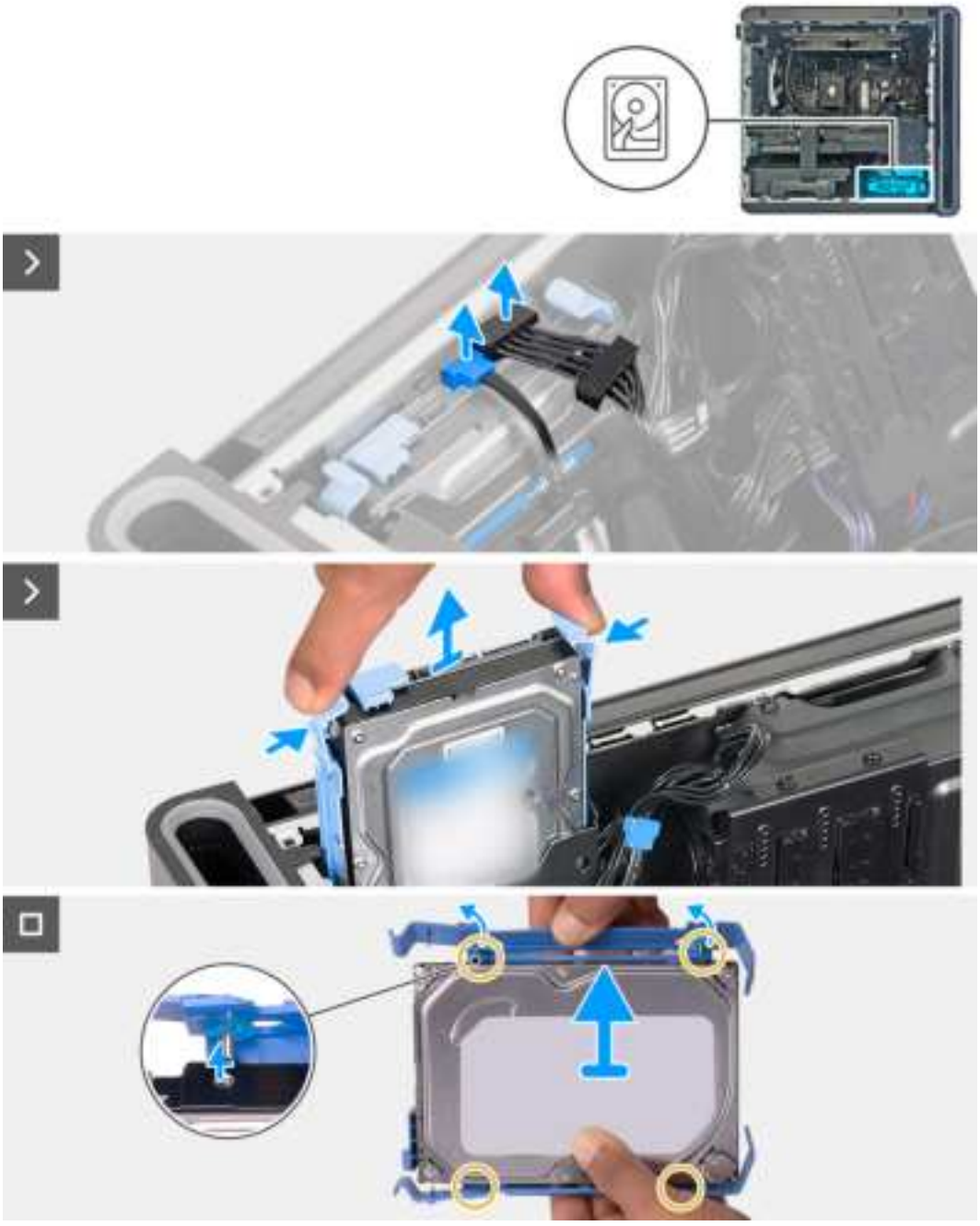

Figure 22. Removing the 3.5-inch hard drive

Steps

1. Lay the computer on the right side.
2. Disconnect the data and power cables from the hard drive.
3. Press the release tabs on the hard-drive carrier and slide the hard-drive carrier out of the hard-drive cage.
4. Pry the hard-drive carrier to release the tabs on the carrier from the slots on the hard drive.
5. Lift the hard drive out of the hard-drive carrier.

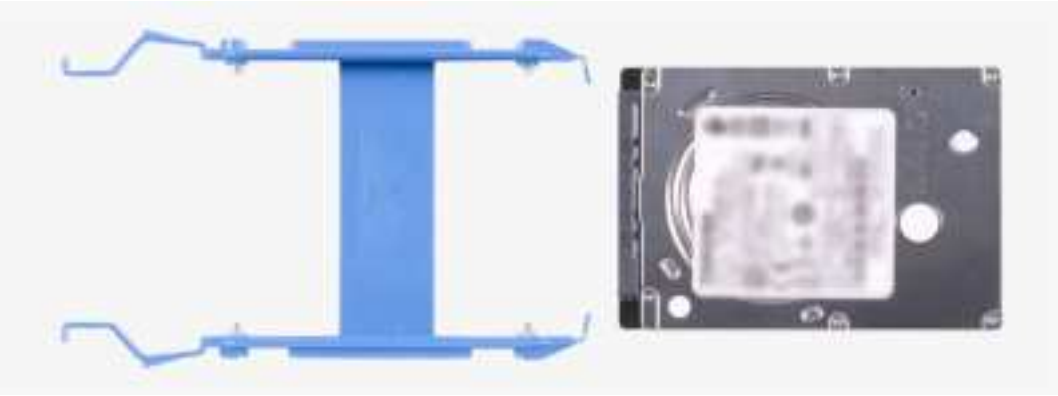

Figure 23. Hard drive and hard-drive carrier

NOTE: Note the orientation of the hard drive so that you can replace it correctly.

Installing the 3.5-inch hard 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 3.5-inch hard drive and provide a visual representation of the installation procedure.

Figure 24. Hard drive and hard-drive carrier

NOTE: Note the orientation of the hard drive to replace it correctly.

Figure 25. Installing the 3.5-inch hard drive

Steps

1. Align the hard drive with the pins on the hard-drive carrier.
2. Using the tabs on the opposite side, flex open the carrier to insert the pins on the other side.
3. Slide the hard-drive assembly into the hard-drive cage until it snaps into place.
4. Connect the data and power cables to the hard drive.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.
3. Verify if the storage device is installed correctly (optional):
   a. If you are replacing a storage device which does not have the operating system installed, follow the steps in Identifying storage device in device manager.

b. If you are replacing a storage device which does not have the operating system installed, follow the steps in Identifying your storage device in system setup (BIOS).

NOTE: To install the operating system on to your storage device, see **Reinstall Windows to the Dell factory image using recovery media** in the Knowledge Base Resource at Dell Support Site.

Identifying the storage device in Device Manager

Steps

1. On the taskbar, click the search box, and then type `Device Manager`.
2. Click **Device Manager**.
   The **Device Manager** window is displayed.
3. Expand **Disk drives**.

Identifying the storage device in system setup (BIOS)

Steps

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.
   A list of hard drives are displayed under the **System Information** in the **General** group.

Coin-cell battery

Removing the coin-cell battery

Prerequisites

1. Follow the procedure in Before working inside 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.

   CAUTION: Removing the coin-cell battery resets the BIOS setup program's settings to default. It is recommended that you note the BIOS setup program's settings before removing the coin-cell battery.

2. Remove the left-side cover.

About this task

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

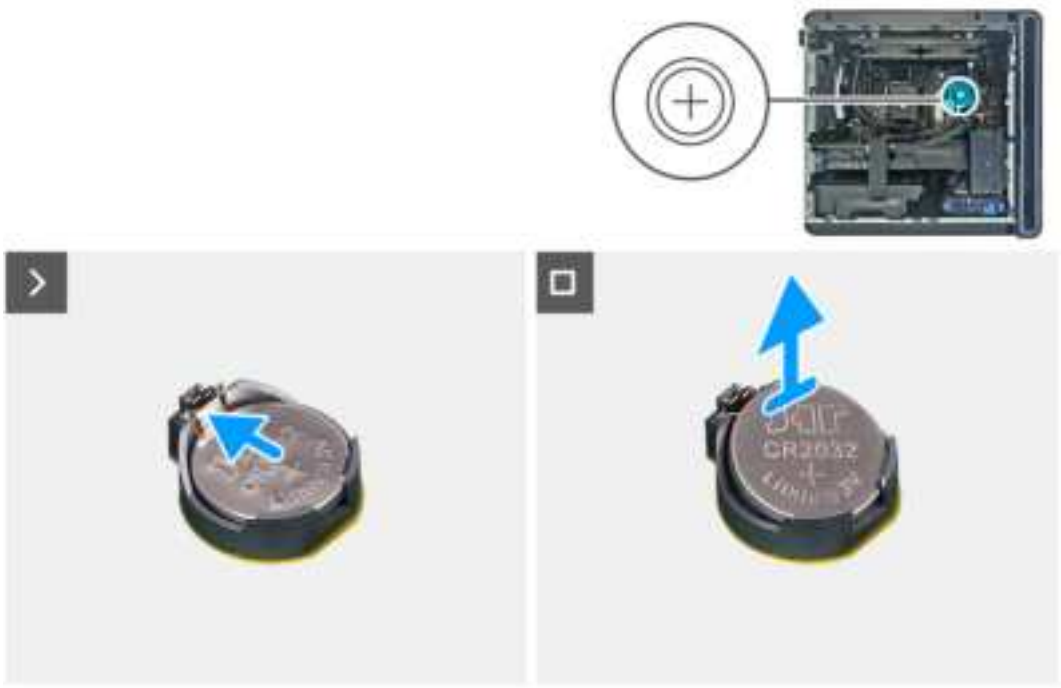

Figure 26. Removing the coin-cell battery

Steps

1. Lay the computer on the right side.
2. Press the battery-release lever away from the coin-cell battery until the coin-cell battery pops up.
3. Lift the coin-cell battery out of its socket.

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 images indicate the location of the coin-cell battery and provide a visual representation of the installation procedure.

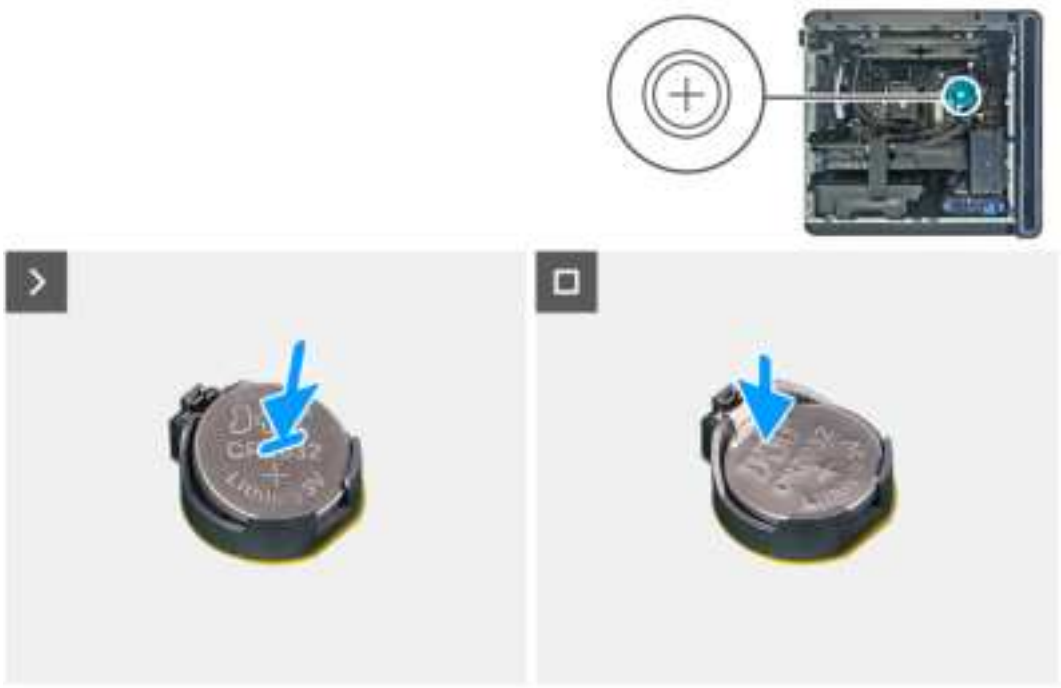

Figure 27. Installing the coin-cell battery

Steps

Insert the new coin-cell battery (CR2032) into the battery socket with the positive side facing up, and snap the battery into place.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Memory module

Removing the memory module

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

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

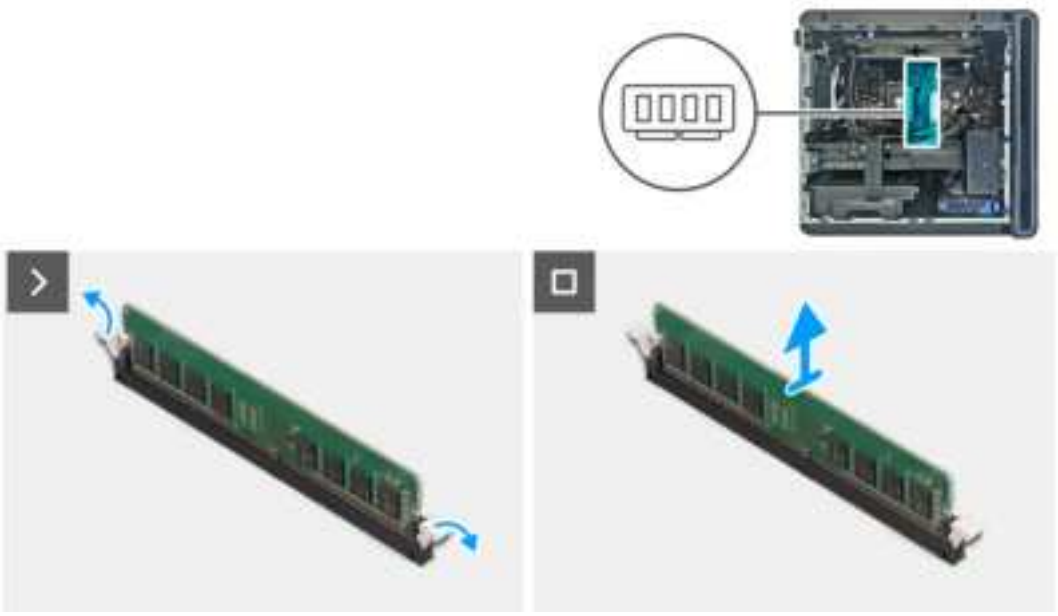

Figure 28. Removing the memory module

Steps

1. Lay the computer on the right side.
2. Push the securing clips away from the memory module.
3. Lift the memory module off the memory-module slot.

NOTE: Repeat step 2 to step 3 to remove any other memory modules installed in your computer.

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

Installing the memory module

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

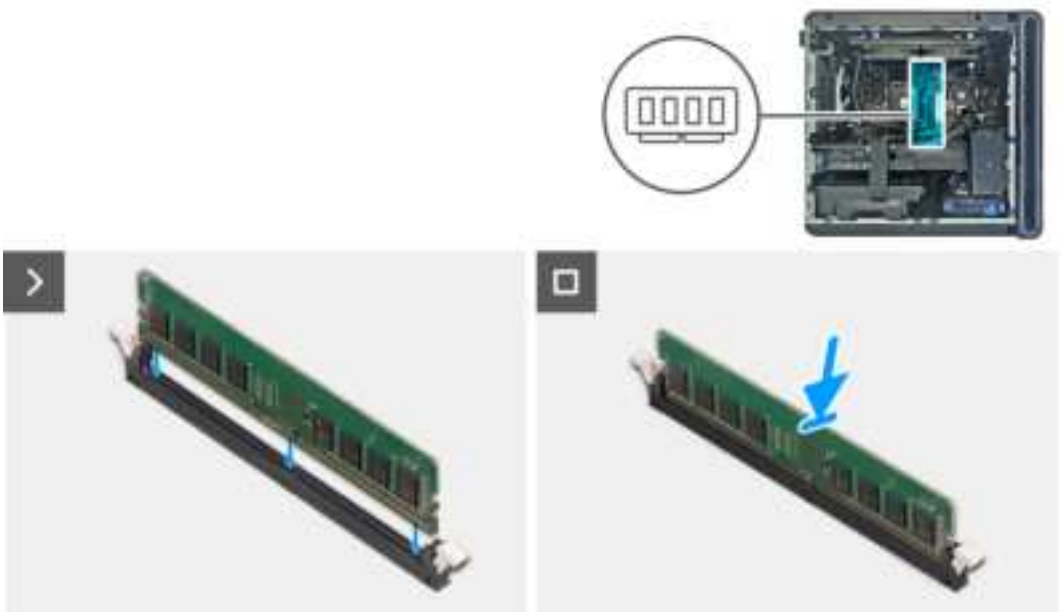

Figure 29. Installing the memory module

Steps

1. Ensure that the securing clips are extended away from the memory-module slot.
2. Align the notch on the memory module with the tab on the memory-module slot.
3. Insert the memory module into the memory-module slot and press the memory module down until it snaps into position and the securing clips lock in place.

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

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

Table 21. Memory configuration matrix

Configuration	Slot	
	DIMM1	DIMM2
16 GB DDR5	8 GB	8 GB
32 GB DDR5	16 GB	16 GB
64 GB DDR5	32 GB	32 GB

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Single-graphics card

Removing the single-graphics card

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

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

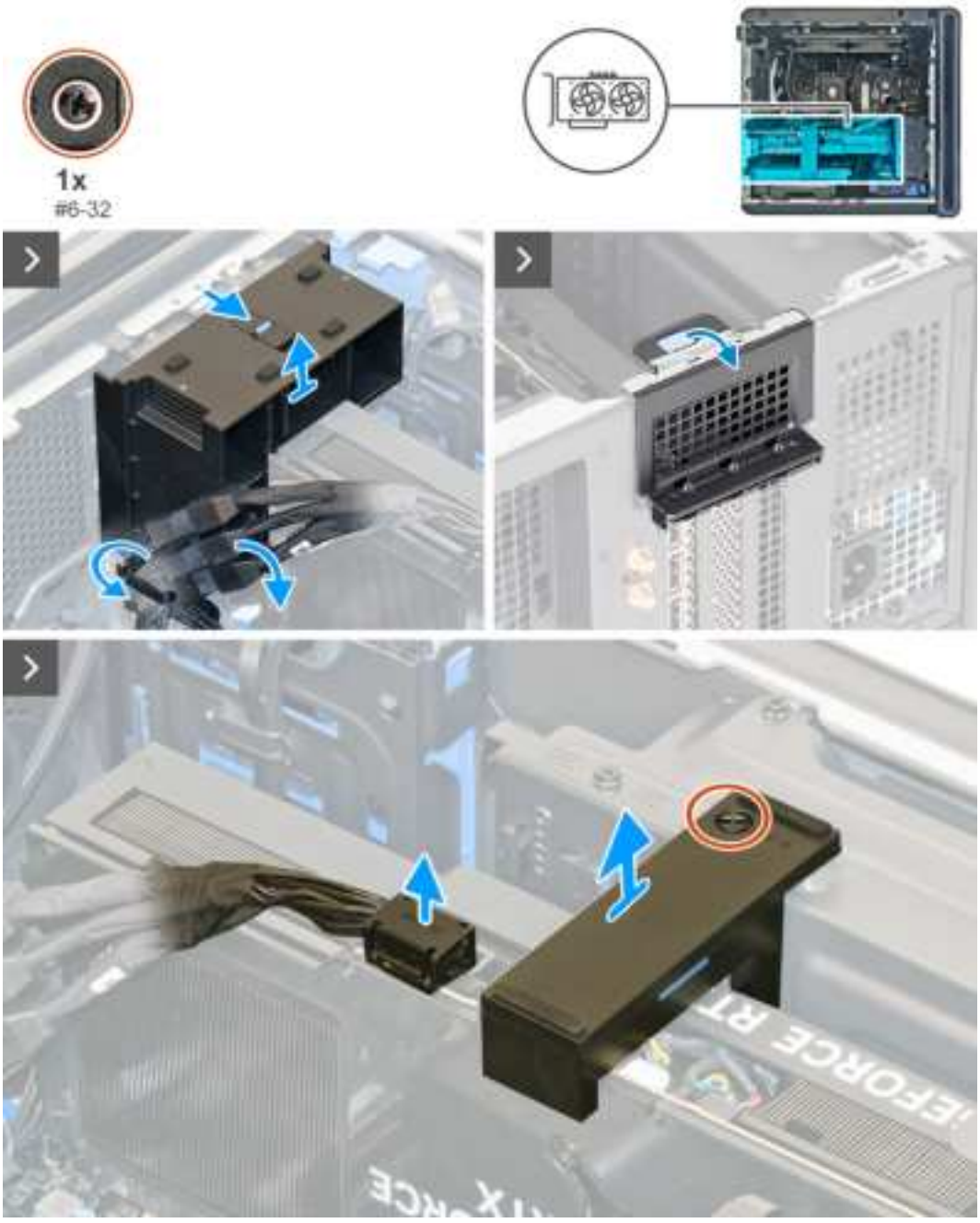

Figure 30. Removing the single-graphics card

Figure 31. Removing the single-graphics card

Steps

1. Lay the computer on the right side.
2. Slide the release latch to its unlock position and lift the graphics-card end holder away from the lower front-chassis fan.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card end holder.

3. Slide the release latch to its unlock position and lift the graphics-card bracket away from the chassis.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card bracket.

   NOTE: Some graphics-card bracket removal may require removing a screw (#6-32).

4. Press the releasing clip on the graphics-card power connectors and disconnect the graphics-card power cables from the graphics card.
5. Lift the pull tab and open the expansion-card door.
6. Push the securing tab on the PCIe slot away from the graphics card, grasp the card by its top corner, and ease it out of the slot.

Installing the single-graphics 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 single-graphics card and provide a visual representation of the installation procedure.

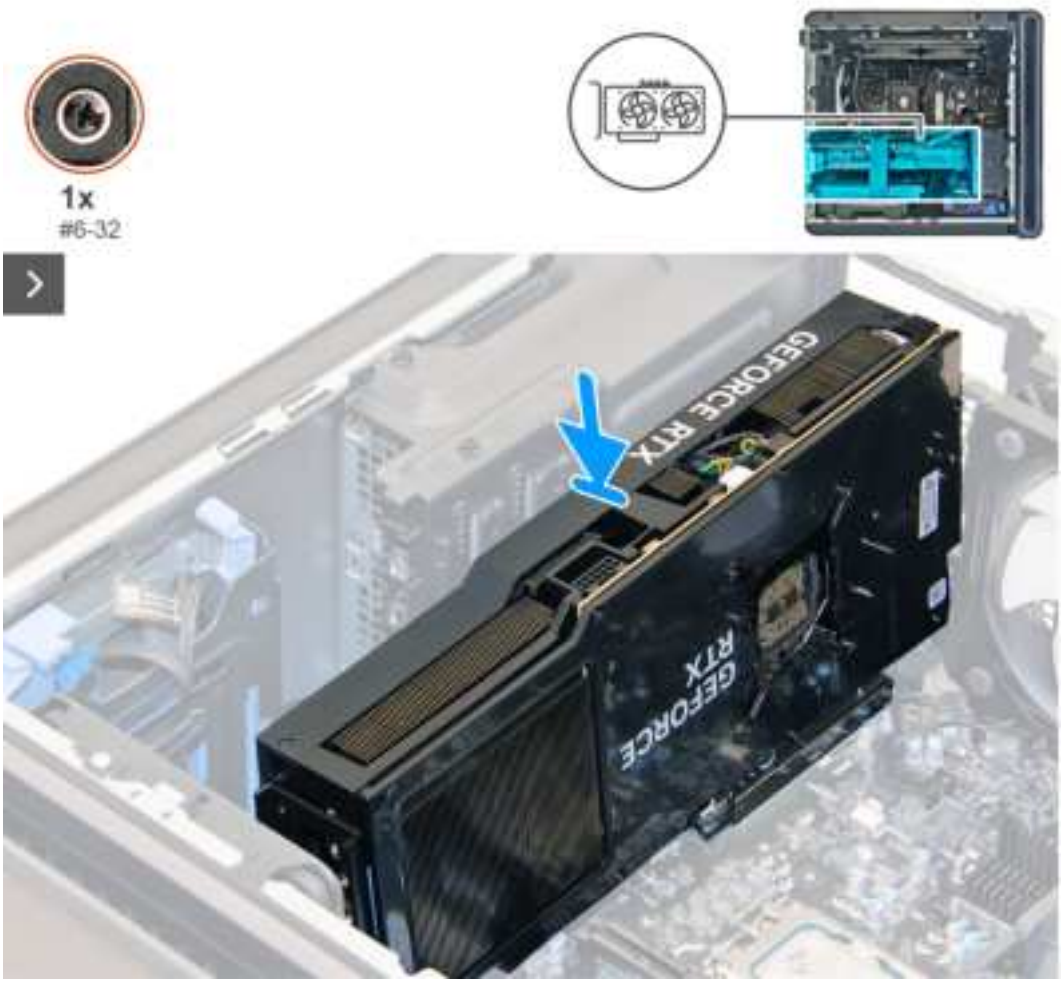

Figure 32. Installing the single-graphics card

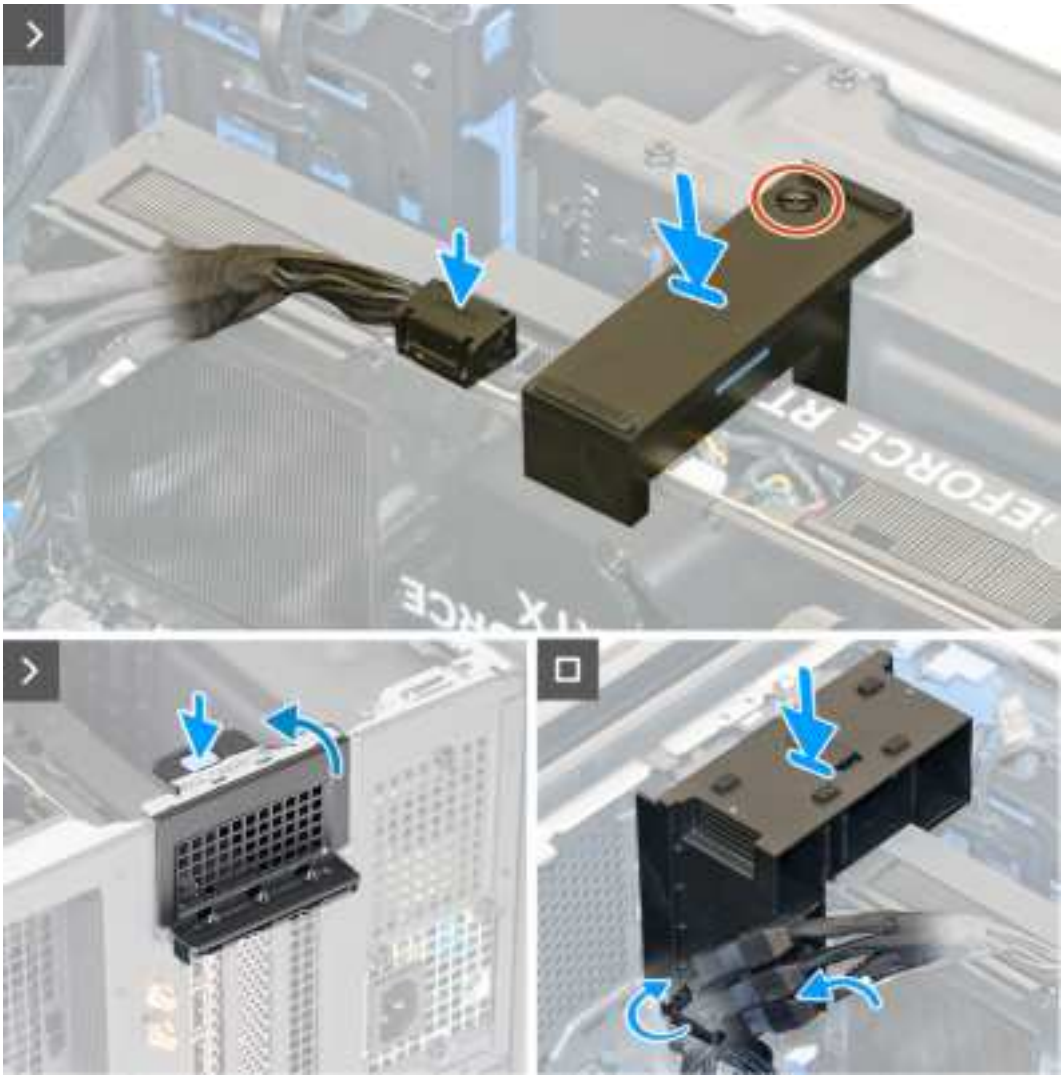

Figure 33. Installing the single-graphics card

Steps

1. Place the card into the PCIe slot and press down firmly until the single-graphics card snaps into place.
2. Close the expansion-card door and snap the latch back into position.
3. Replace the graphics-card end holder over the lower front-chassis fan and slide the latch into its lock position.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card end holder.

4. Align and place the graphics-card bracket on the chassis and slide the latch to its lock position.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card end bracket or a graphics-card bracket holder.

   NOTE: Some graphics-card bracket removal may require installing a screw (#6-32).

5. Connect the graphics-card power cables to the graphics card.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Graphics-card bracket and graphics-card end holder

The following table shows whether the graphics-card bracket or/and the graphics-card end holder is/are shipped with your Alienware Aurora ACT1250.

Table 22. Graphics-card bracket and graphics-card end holder

Graphics card	Graphics-card bracket	Graphics-card end holder
NVIDIA GeForce RTX 4060	No	No
NVIDIA GeForce RTX 4060 Ti	Yes	Yes
NVIDIA GeForce RTX 4070 SUPER	Yes	Yes
NVIDIA GeForce RTX 4070 Ti SUPER	Yes	Yes
NVIDIA GeForce RTX 4080 SUPER	Yes	Yes
NVIDIA GeForce RTX 4090	Yes	Yes

Solid State Drive (SSD)

Removing the M.2 2230 solid state drive

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

NOTE: This procedure applies only to computers shipped with a M.2 2230 solid state drive installed in SSD slot one/slot two.

The following images indicate the location of the M.2 2230 solid state drive that is installed in SSD slot one and provide a visual representation of the removal procedure.

Steps

1. Remove the screw (M2x3) that secures the M.2 2230 solid state drive to the system board.
2. Slide and lift the M.2 2230 solid state drive off solid state drive slot one on the system board.

Installing the M.2 2230 solid state drive

Prerequisites

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

CAUTION: Solid state drives are fragile. Exercise care when handling the solid state drive.

About this task

NOTE: This procedure applies only to computers shipped with a M.2 2230 solid state drive installed in SSD slot one/slot two.

NOTE: Depending on the configuration ordered, your computer may support either a M.2 2230 solid state drive or a M.2 2280 solid state drive in SSD slot one/slot two.

If you want to replace your M.2 2230 solid state drive with a M.2 2280 solid state drive, the solid state drive screw mount must be shifted to fit the M.2 2280 solid state drive.

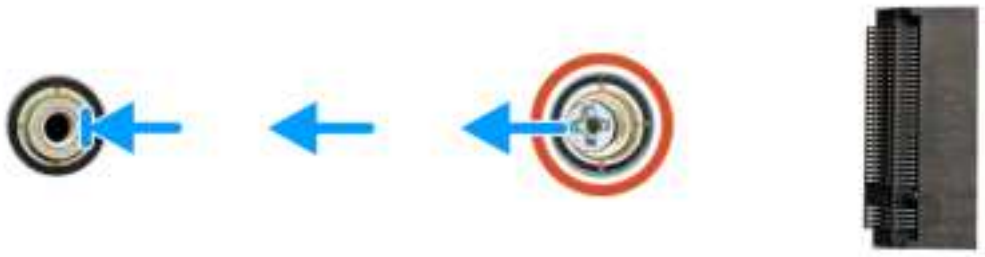

Figure 34. Solid state drive screw mount

Follow the procedure in installing the M.2 2280 solid state drive, to install a M.2 2280 solid state drive.

The following images indicate the location of the M.2 2230 solid state drive that is installed in SSD slot one/slot two and provide a visual representation of the installation procedure.

NOTE: The replacement SSD will not be shipped with the thermal pad as the SSD thermal pad is a separate serviceable component. If the thermal pad is damaged, peel the SSD thermal pad from the SSD slot on the system board and replace it with a new thermal pad before installing the SSD.

Figure 35. Installing the M.2 2230 solid state drive

Steps

1. Align the notch on the M.2 2230 solid state drive with the tab on the SSD slot one/slot two on the system board.
2. Insert the M.2 2230 solid state drive at a 45-degree angle into the system board.
3. Press the other end of the M.2 2230 solid state drive down and replace the screw (M2x3.5) that secures the M.2 2230 solid state drive to the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.
3. Verify if the storage device is installed correctly (optional):
   a. If you are replacing a storage device which does not have the operating system that is installed, follow the steps in Identifying storage device in device manager.
   b. If you are replacing a storage device which does not have the operating system that is installed, follow the steps in Identifying your storage device in system setup (BIOS).

NOTE: To install the operating system on to your storage device, see **Reinstall Windows to the Dell factory image using recovery media** in the Knowledge Base Resource at Dell Support Site.

Removing the M.2 2280 solid state drive

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

NOTE: This procedure applies only to computers shipped with a M.2 2280 solid state drive installed in SSD slot one/slot two.

The following images indicate the location of the M.2 2280 solid state drive that is installed in SSD slot one/slot two and provide a visual representation of the removal procedure.

Figure 36. Removing the M.2 2280 solid state drive

Steps

1. Lay the computer on the right side.
2. Remove the screw (M2x3.5) that secures the M.2 2280 solid state drive to the system board.
3. Slide and lift the M.2 2280 solid state drive off SSD slot one/slot two on the system board.

NOTE: The replacement SSD will not be shipped with the thermal pad as the SSD thermal pad is a separate serviceable component. If the thermal pad is damaged, peel the SSD thermal pad from the SSD slot on the system board and replace it with a new thermal pad.

Installing the M.2 2280 solid state drive

Prerequisites

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

CAUTION: Solid state drives are fragile. Exercise care when handling the solid state drive.

About this task

NOTE: This procedure applies only to computers shipped with a M.2 2280 solid state drive installed in SSD slot one/slot two.

NOTE: Depending on the configuration ordered, your computer may support either a M.2 2280 solid state drive or a M.2 2230 solid state drive in SSD slot one/slot two.

If you want to replace your M.2 2280 solid state drive with a M.2 2230 solid state drive, the solid state drive screw mount must be shifted to fit the M.2 2230 solid state drive.

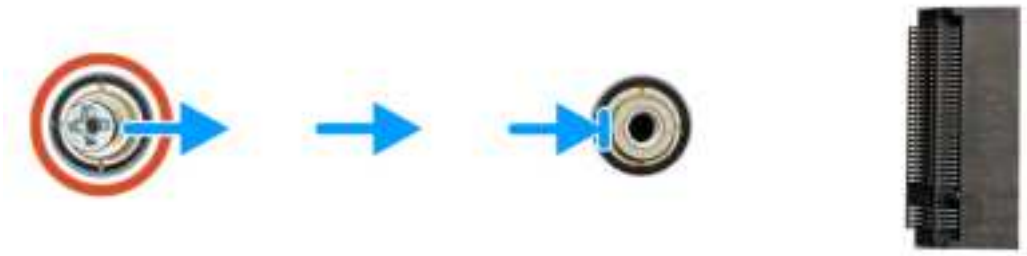

Figure 37. Solid state drive screw mount

Follow the procedure in installing the M.2 2230 solid state drive, to install a M.2 2230 solid state drive.

The following images indicate the location of the M.2 2280 solid state drive that is installed in SSD slot one/slot two and provide a visual representation of the installation procedure.

NOTE: The replacement SSD will not be shipped with the thermal pad as the SSD thermal pad is a separate serviceable component. If the thermal pad is damaged, peel the SSD thermal pad from the SSD slot on the system board and replace it with a new thermal pad.

Figure 38. Installing the M.2 2280 solid state drive

Steps

1. Align the notch on the M.2 2280 solid state drive with the tab on the SSD slot one on the system board.
2. Insert the M.2 2280 solid state drive at a 45-degree angle into the system board.
3. Press the other end of the M.2 2280 solid state drive down and replace the screw (M2x3.5) that secures the M.2 2280 solid state drive to the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.
3. Verify if the storage device is installed correctly (optional):
   a. If you are replacing a storage device which does not have the operating system that is installed, follow the steps in Identifying storage device in device manager.

b. If you are replacing a storage device which does not have the operating system that is installed , follow the steps in Identifying your storage device in system setup (BIOS).

NOTE: To install the operating system on to your storage device, see **Reinstall Windows to the Dell factory image using recovery media** in the Knowledge Base Resource at Dell Support Site.

Wireless card

Removing the wireless card

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

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

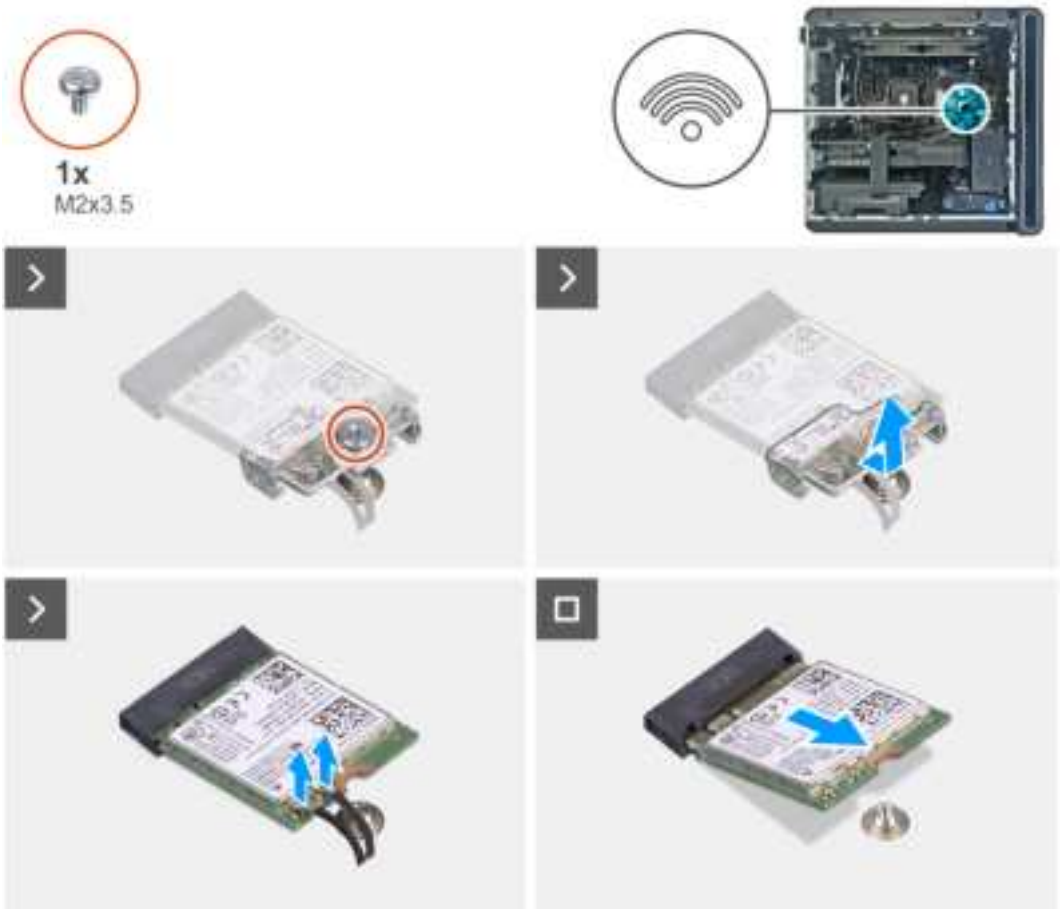

Figure 39. Removing the wireless card

Steps

1. Lay the computer on the right side.
2. Remove the screw (M2x3.5) that secures the wireless card to the system board.
3. Lift the wireless-card bracket off the wireless card.
4. Disconnect the antenna cables from the wireless card.
5. Slide and remove the wireless card from the wireless-card slot (M.2 WLAN).

Installing the wireless card

Prerequisites

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

CAUTION: To avoid damage to the wireless card, do not place any cables under it.

About this task

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

Figure 40. Installing the wireless card

Steps

1. Connect the antenna cables to the wireless card.
2. Place the wireless-card bracket on the wireless card.
3. Align the notch on the wireless card with the tab on the wireless-card slot (M.2 WLAN).
4. Slide the wireless card at an angle into the wireless-card slot (M.2 WLAN).
5. Replace the screw (M2x3.5) that secures the wireless card to the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Lower front-chassis fan

Removing the lower front-chassis fan

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

The following images indicate the location of the lower front-chassis fan and provide a visual representation of the removal procedure.

Figure 41. Removing the lower front-chassis fan

Steps

1. Slide the release latch to its unlock position and lift the graphics-card end holder away from the lower front-chassis fan.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card end holder.

2. Lay the computer on its right side.
3. Disconnect the lower front-chassis fan cable from its connector (FAN SYS2) on the system board.
4. Remove the screw (M3x5) that secures the lower front-chassis fan to the chassis.
5. Push the tab to release the lower front-chassis fan from the chassis.
6. Slide and lift the lower front-chassis fan off the chassis.

Installing the lower front-chassis fan

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 lower front-chassis fan and provide a visual representation of the installation procedure.

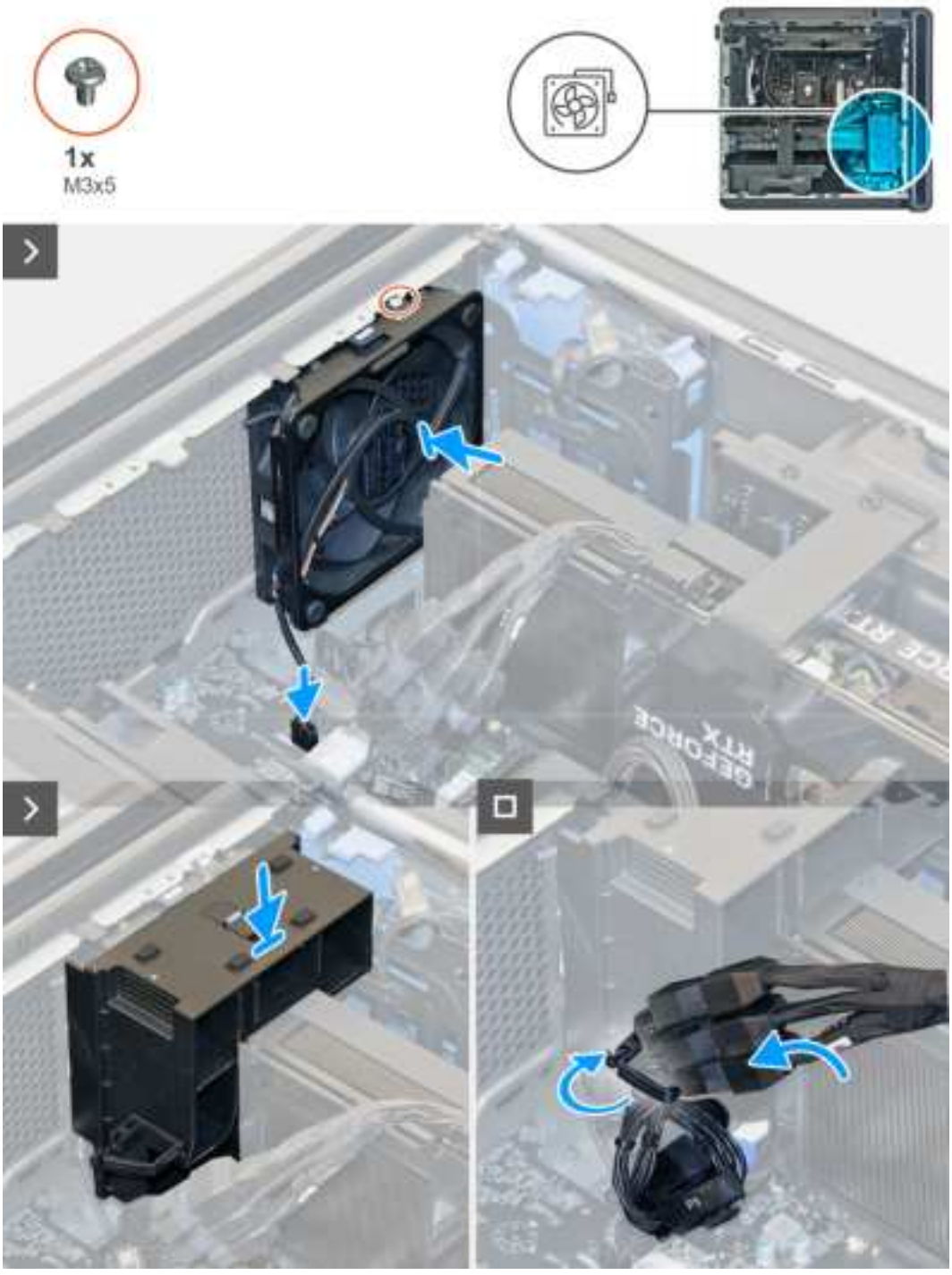

Figure 42. Installing the lower front-chassis fan

Steps

1. Lay the computer on its right side.
2. Align the tabs on the lower front-chassis fan with the slots on the chassis.
3. Slide and push the fan until the releasing clip snaps into position on the chassis.
4. Replace the screw (M3x5) that secures the lower front-chassis fan to the chassis.
5. Connect the lower front-chassis fan cable to its connector (FAN SYS2) on the the system board.
6. Replace the graphics-card end holder and slide the release latch to the lock position.

   NOTE: Skip this step if your graphics card does not ship with a graphics-card end holder.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Rear-chassis fan

Removing the rear-chassis fan

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

The following images indicate the location of the rear-chassis fan and provide a visual representation of the removal procedure.

Figure 43. Removing the rear-chassis fan

Steps

1. Lay the computer on its right side.
2. Disconnect the rear-chassis fan cable from its connector (FAN SYS1) on the system board.
3. Remove the screw (M3x5) that secures the rear-chassis fan to the chassis.
4. Slide and lift the rear-chassis off the chassis.

Installing the rear-chassis fan

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 rear-chassis fan and provide a visual representation of the installation procedure.

Figure 44. Installing the rear-chassis fan

Steps

1. Lay the computer on its right side.
2. Align the rear-chassis fan with the slot on the chassis.
3. Replace the screw (M3x5) that secures the rear-chassis fan to the chassis.
4. Connect the rear-chassis fan cable to its connector (FAN SYS1) on the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Top-chassis fan

Removing the top-chassis fan

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

The following images indicate the location of the top-chassis fan and provide a visual representation of the removal procedure.

Steps

1. Lay the computer on the right side.
2. Disconnect the top-chassis fan cables from its connectors (ATX CPU2 and FAN SYS5) on the system board.
3. Remove the two screws (M3x5) that secures the top-chassis fan to the chassis.
4. Press the releasing clip of the top-chassis fan.
5. Slide and lift the top-chassis fan off the chassis.

Installing the top-chassis fan

About this task

The following images indicate the location of the top-chassis fan and provide a visual representation of the installation procedure.

Steps

1. Lay the computer on the right side.
2. Align and place the top-chassis fan on the chassis.
3. Connect the top-chassis fan cables to its connectors (ATX CPU2 and FAN SYS5) on the system board.
4. Replace the two screws (M3x5) that secures the top-chassis fan to the chassis.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Removing and installing Field Replaceable Units (FRUs)

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

CAUTION: The information in this removing and installing FRU's section is intended for authorized service technicians only.

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

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

CAUTION: As a reminder, your warranty does not cover damages that may occur during FRU repairs that are not authorized by Dell Technologies.

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

Power-supply unit

Removing the power-supply unit

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

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.
3. Remove the right-side cover.

NOTE: Note the routing of all cables as you remove them so that you can route them correctly after you replace the power-supply unit.

About this task

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

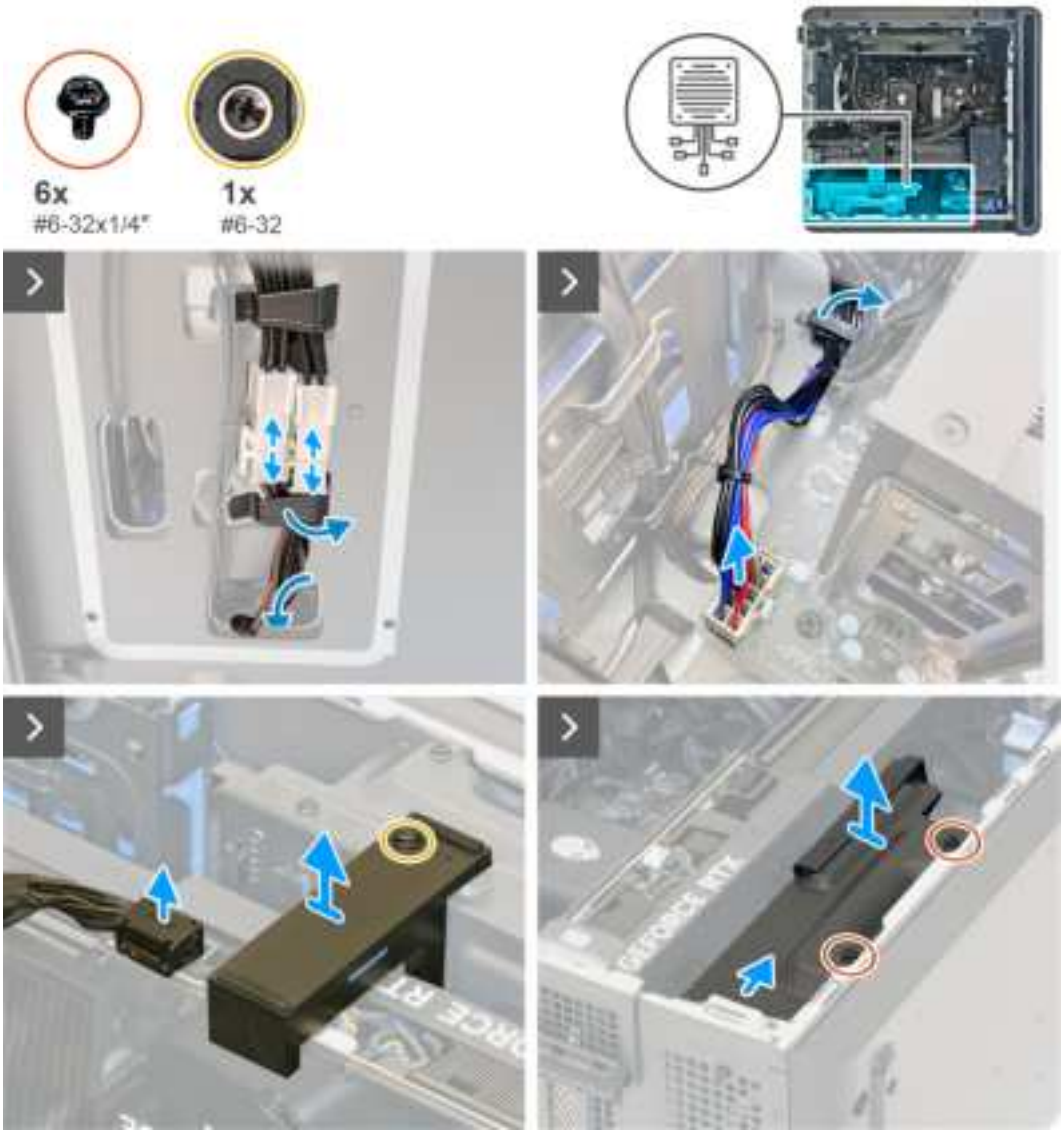

Figure 45. Removing the power-supply unit

Figure 46. Removing the power-supply unit

Steps

1. Lay the computer on the right side.
2. Disconnect the power-supply unit cables from the power-supply unit extension cables on the right side of the computer.
3. Note the cable routing when removing the power-supply unit cables through the slot on the right side of the computer.
4. Release the power-supply unit cables from the securing clip.
5. Press the release clips on the power-supply connectors (ATX SYS) and disconnect the power-supply cables from the system board.
6. Press the release clips on the graphics-card power connectors and disconnect the graphics-card power cables from the power-supply unit.
7. Loosen the captive screw (#6-32) and lift the graphics-card bracket away from the graphics card.
8. Remove the two screws (#6-32x1/4") that secure the power-supply unit bracket to the power-supply unit.
9. Slide and lift the power-supply unit bracket from the power-supply unit.
10. Remove the four screws (#6-32x1/4") that secure the power-supply unit to the chassis.

    NOTE: The number of screws in the power-supply unit depends on the configuration ordered.

11. Slide and lift the power-supply unit, along with the cables, off the chassis.

Installing the power-supply unit

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

Prerequisites

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

WARNING: The cables and ports on the back of the power-supply unit are color-coded to indicate the different power wattage. Ensure that you plug in the cable to the correct port. Failure to do so may result in damaging the power-supply unit and/or computer components.

About this task

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

Figure 47. Installing the power-supply unit

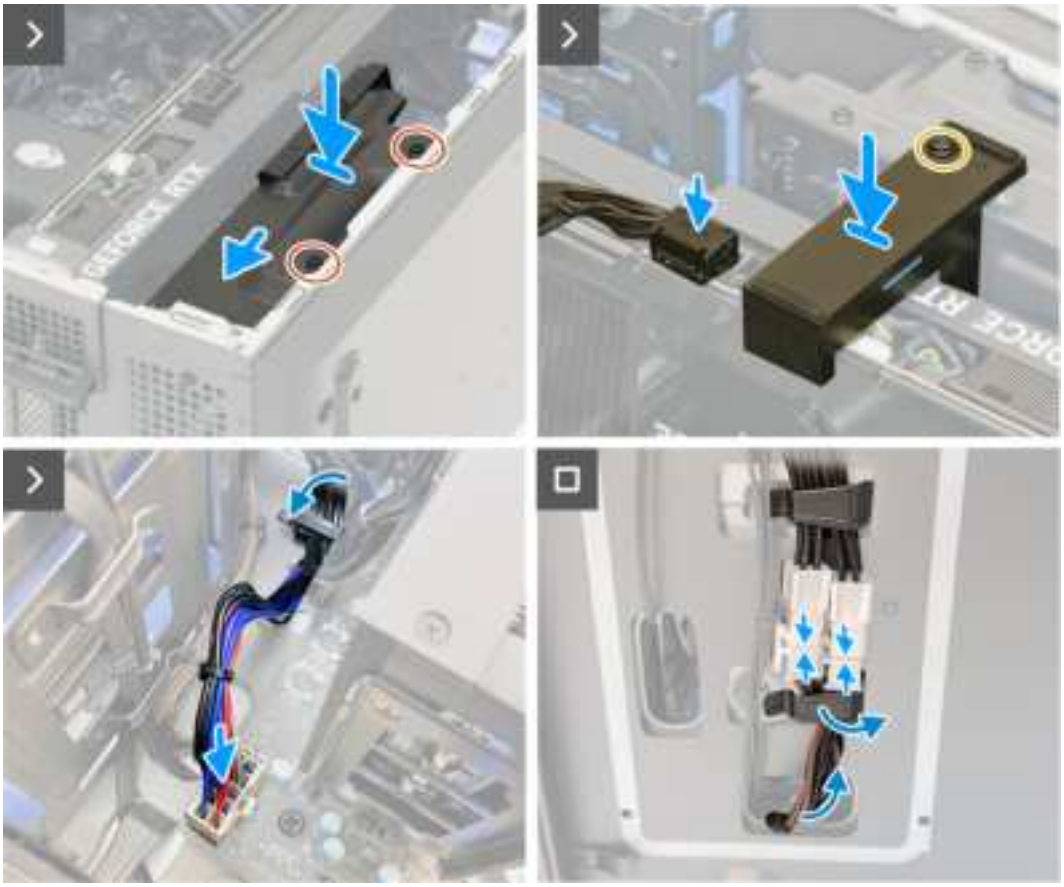

Figure 48. Installing the power-supply unit

Steps

1. Lay the computer on the right side.
2. Slide and place the power-supply unit on the chassis.
3. Align the screw holes on the power-supply unit with the screw holes on the chassis.
4. Replace the four screws (#6-32x1/4") that secure the power-supply unit to the chassis.
5. Align and place the power-supply unit bracket on the power-supply unit.
6. Replace the two screws (#6-32x1/4") that secure the power-supply unit bracket to the power-supply unit.
7. Replace the graphics-card bracket and tighten the captive screw (#6-32) that secures the graphics-card bracket.
8. Route the power-supply unit cables through the securing clip.
9. Connect the power-supply cables to the power-supply connectors (ATX SYS) on the system board.
10. Connect the graphics-card power cables to the power-supply unit.
11. Place the computer in an upright position.
12. Route the power-supply unit cables through the slot on the right side of the computer.
13. Connect the power-supply unit cables to the power-supply unit extension cables on the right side of the computer.

Next steps

1. Install the right-side cover.
2. Install the left-side cover.
3. Follow the procedure in After working inside your computer.

Power-supply unit connectors

The following table lists the power-supply unit connectors that are supported on your Alienware Aurora ACT1250.

Table 23. Power-supply unit connectors

Power-supply unit	Power-supply unit connecters
500 W SFFX Platinum	• Two four-pin connectors for the processor • One eight-pin connector for the system board • One six pin + one (2+6) pin connector for graphics card
1000 W SFFX Platinum	• Two four-pin connectors for the processor • One 10-pin connector for the system board • Two six pins + one (6+2) pin connector for graphics card

Processor fan and heat-sink assembly

Removing the processor fan and heat-sink assembly

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

Prerequisites

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

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

CAUTION: 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.

2. Remove the left-side cover.

About this task

The following images indicate the location of the processor fan and heat-sink assembly and provide a visual representation of the removal procedure.

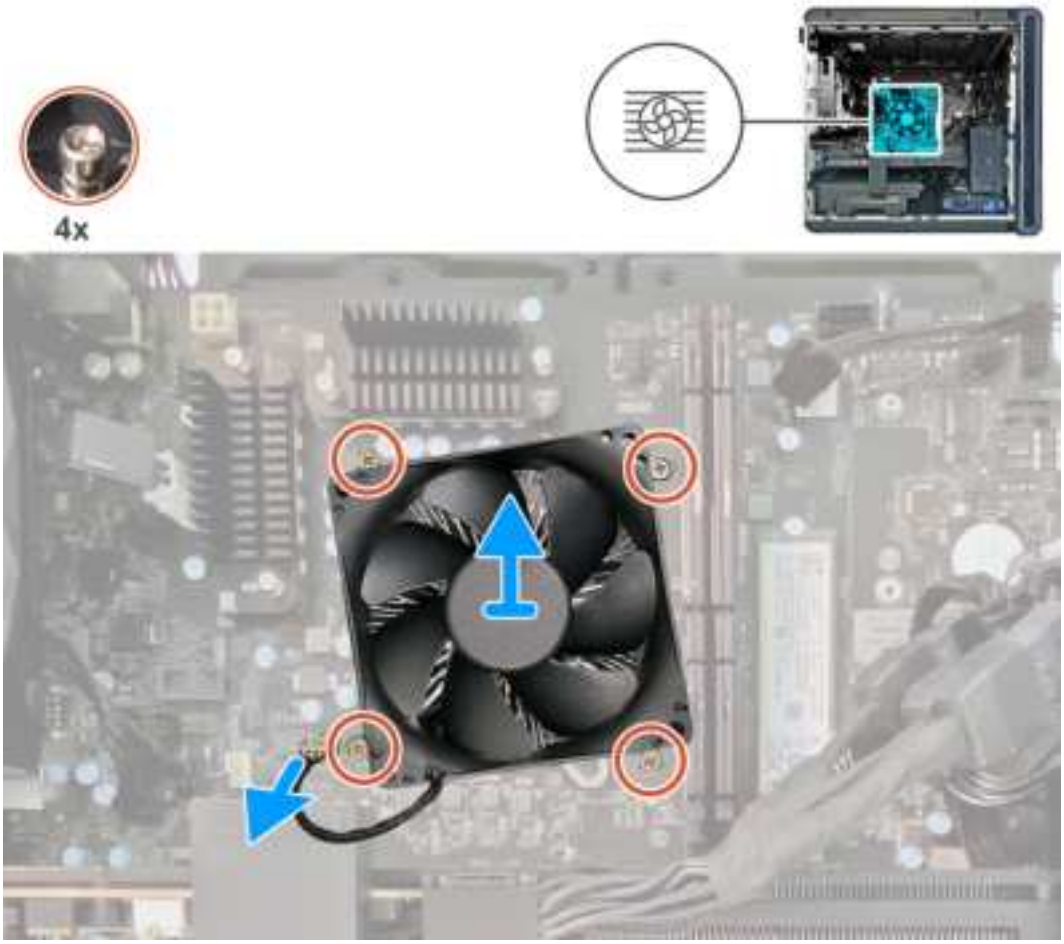

Figure 49. Removing the processor fan and heat-sink assembly

Steps

1. Lay the computer on the right side.
2. Disconnect the processor-fan cable from the system board.
3. In the reverse sequential order, loosen the four captive screws that secure the processor fan and heat-sink assembly to the system board.
4. Lift the processor fan and heat-sink assembly off the system board.

Installing the processor fan and heat-sink assembly

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

Prerequisites

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

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

About this task

The following images indicate the location of the processor fan and heat-sink assembly and provide a visual representation of the installation procedure.

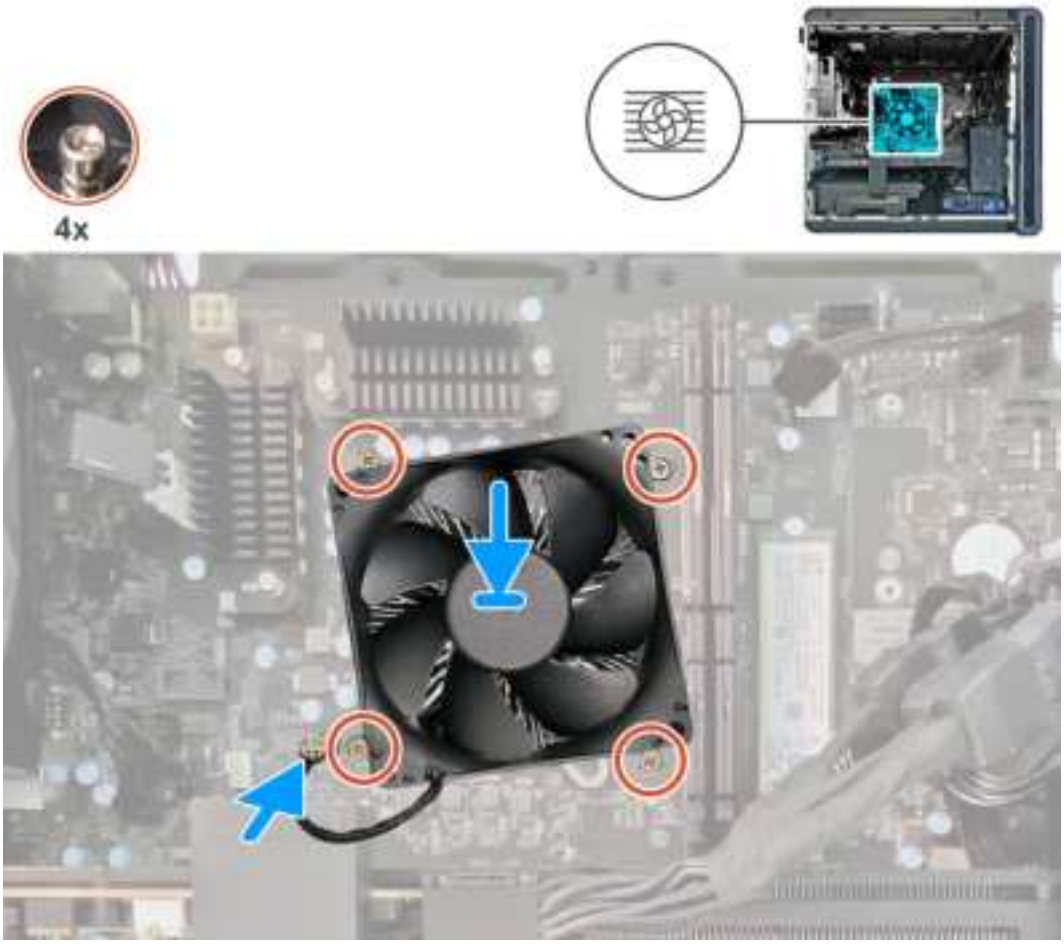

Figure 50. Installing the processor fan and heat-sink assembly

Steps

1. Place the processor fan and heat-sink assembly on the processor.
2. Align the captive screws on the processor fan heat-sink assembly with the screw holes on the system board.
3. In sequential order, tighten the four captive screws that secure the processor fan and heat-sink assembly to the system board.
4. Connect the processor-fan cable to the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Processor liquid-cooling assembly

Removing the processor liquid-cooling assembly (240 mm)

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

Prerequisites

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

WARNING: Despite having a plastic shield, the processor liquid-cooling assembly may be hot during normal operation. Ensure that it had sufficient time to cool before you touch it.

CAUTION: 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.

2. Remove the left-side cover.

About this task

The following images indicate the location of the processor liquid-cooling assembly and provide a visual representation of the removal procedure.

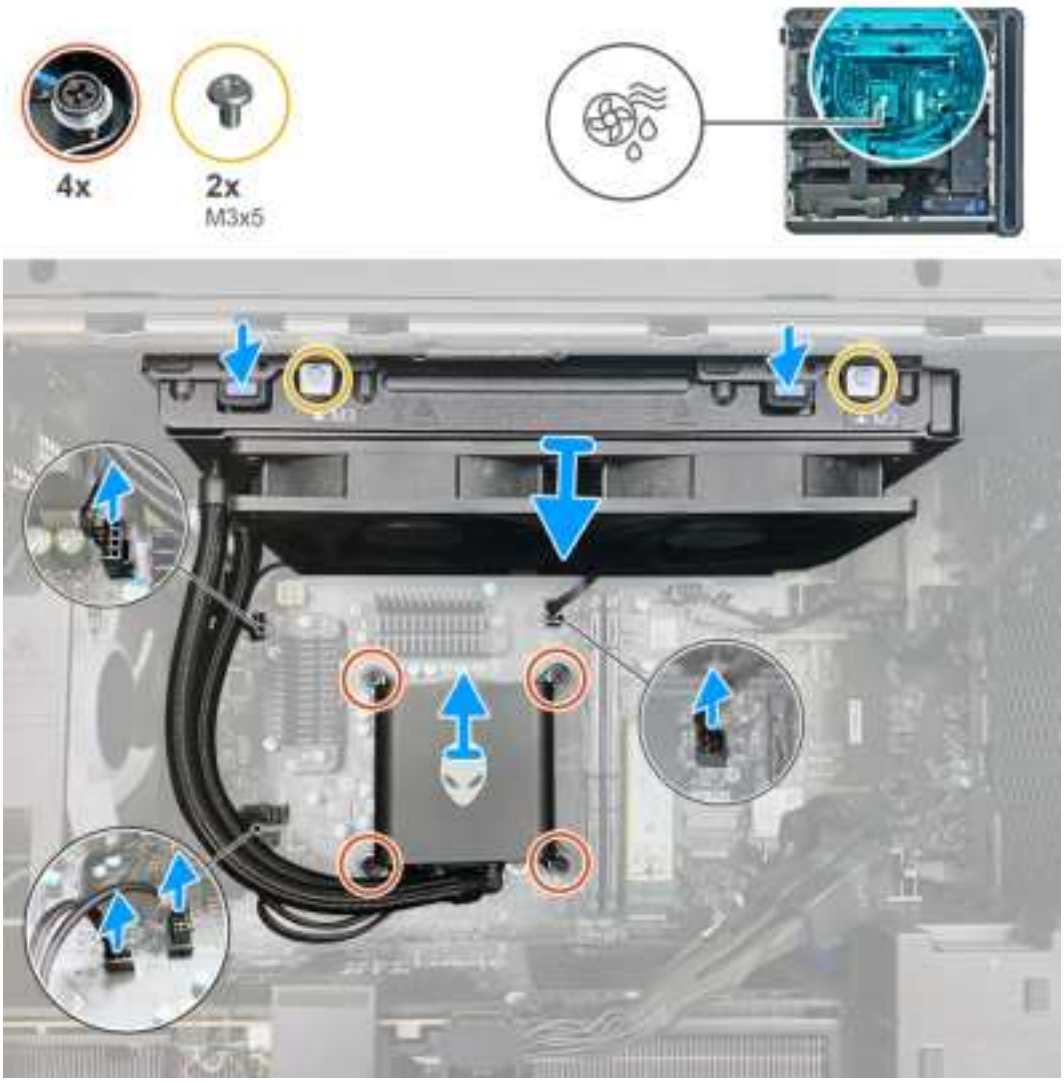

Figure 51. Removing the processor liquid-cooling assembly

Steps

1. Lay the computer on the right side.
2. Remove the two screws (M3x5) that secures the radiator and fan assembly to the chassis.
3. Disconnect the radiator and fan assembly cable from the system board.
4. Disconnect the processor-cooling assembly cables from its connectors (FAN PUMP and LED PUMP) on the system board.
5. Loosen the four captive screws that secure the processor-cooling assembly to the system board.
6. Release the spring latch and lift the processor-cooling assembly, along with the cables, off the system board.

Installing the processor liquid-cooling assembly (240 mm)

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

Prerequisites

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

CAUTION: Incorrect alignment of the processor liquid-cooling assembly can damage the system board and processor.

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

About this task

The following images indicate the location of the processor liquid-cooling assembly and provide a visual representation of the installation procedure.

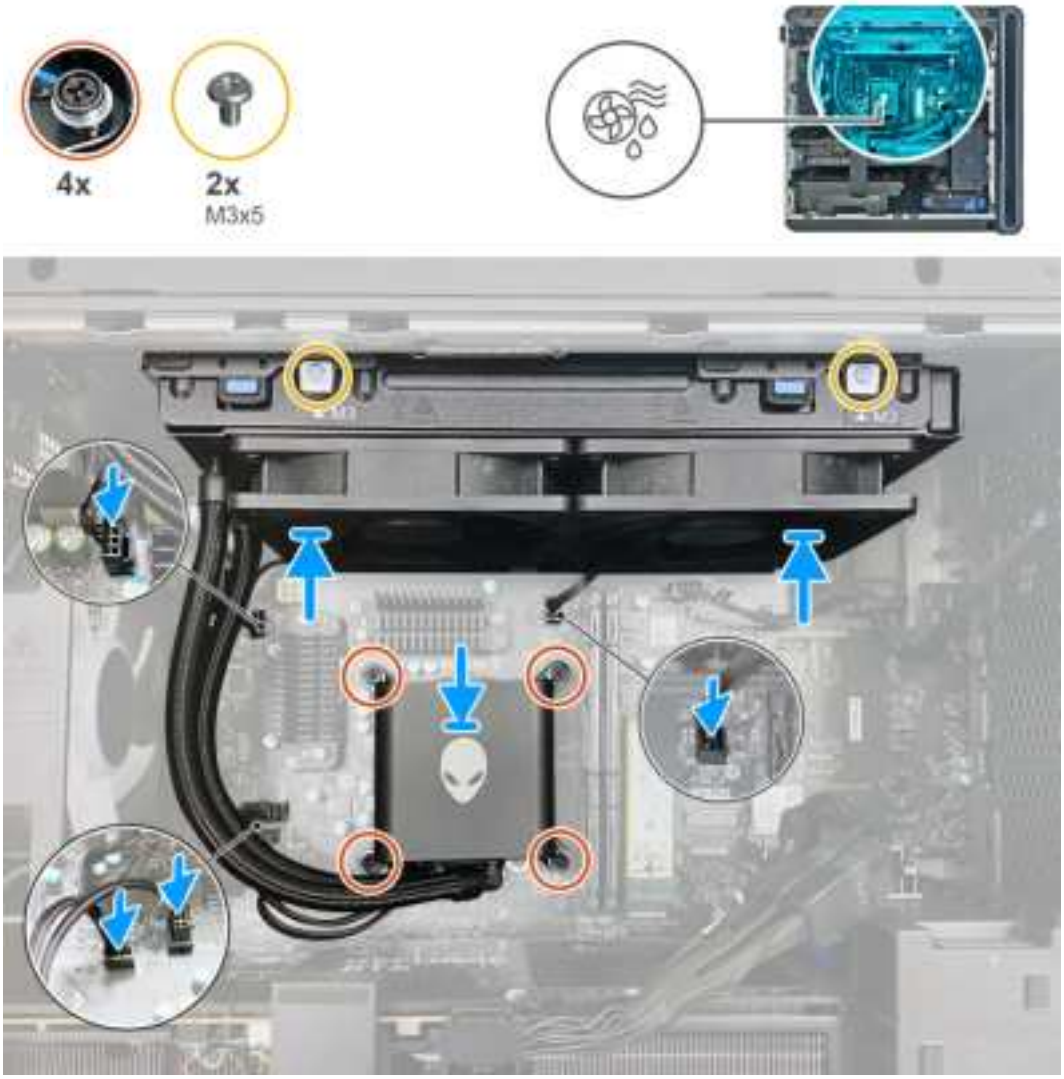

Figure 52. Installing the processor liquid-cooling assembly

Steps

1. Align the screw hole of the radiator and fan assembly to the screw hole on the chassis and ensure that the spring latch is locked.

NOTE: Ensure that the hoses are facing the front of the computer.

2. Replace the two screws (M3x5) that secures the radiator and fan assembly to the chassis.
3. Connect the radiator and fan assembly cable to the system board.
4. Align the screw holes on the processor-cooling assembly with the screw holes on the system board.
5. In the sequential order, tighten the four captive screws that secure the processor-cooling assembly to the system board.
6. Connect the processor-cooling assembly cables to its connectors (FAN PUMP and LED PUMP) on the system board.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Liquid-cooling assembly fan

Removing the liquid-cooling assembly fan

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

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.

About this task

The following images indicate the location of the liquid-cooling assembly fan and provide a visual representation of the removal procedure.

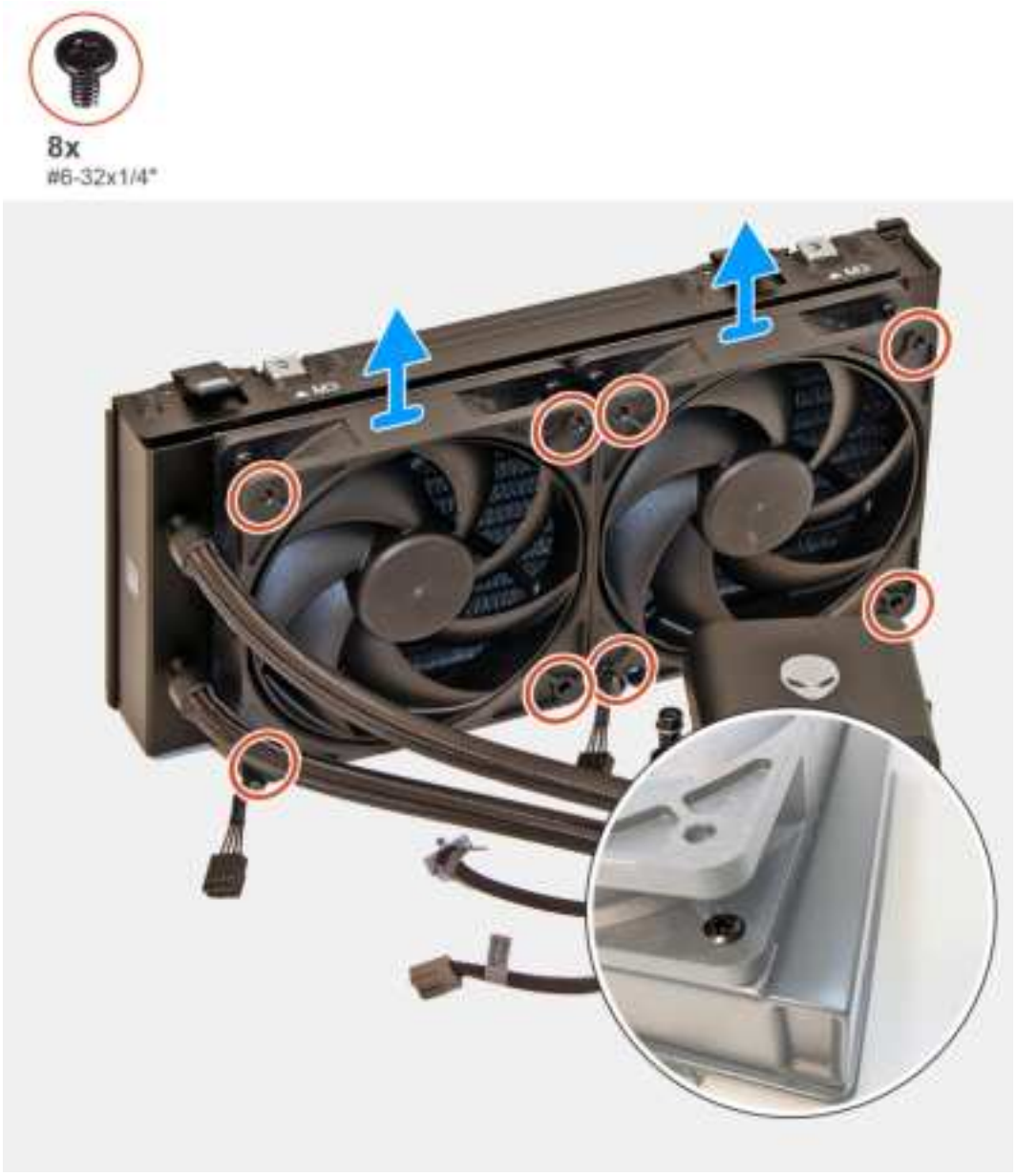

Figure 53. Removing the liquid-cooling assembly fan

Steps

1. Remove the four screws (#6-32x1/4") that secures the left liquid-cooling assembly fan to the liquid-cooling assembly.
2. Lift the left liquid-cooling assembly fan off the liquid-cooling assembly.
3. Remove the four screws (#6-32x1/4") that secures the right liquid-cooling assembly fan to the liquid-cooling assembly.
4. Lift the right liquid-cooling assembly fan off the liquid-cooling assembly.

Installing the liquid-cooling assembly fan

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

Prerequisites

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

About this task

The following images indicate the location of the liquid-cooling assembly fan and provide a visual representation of the installation procedure.

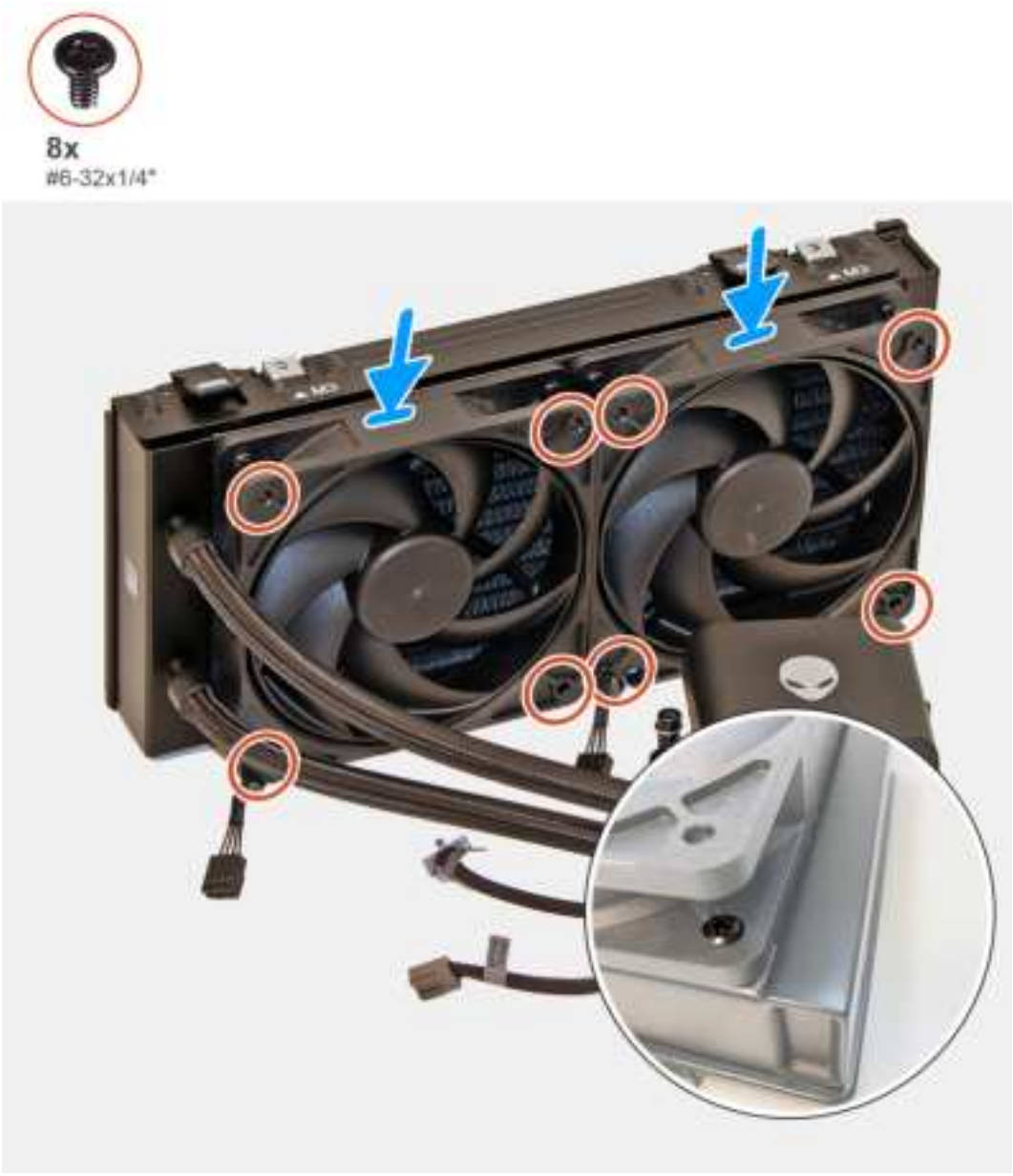

Figure 54. Installing the liquid-cooling assembly fan

Steps

1. Align and place the left liquid-cooling assembly fan on the liquid-cooling assembly.
2. Replace the four screws (#6-32x1/4") that secures the left liquid-cooling assembly fan to the liquid-cooling assembly.
3. Align and place the right liquid-cooling assembly fan off the liquid-cooling assembly.
4. Replace the four screws (#6-32x1/4") that secures the right liquid-cooling assembly fan to the liquid-cooling assembly.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

Processor

Removing the processor

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

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.
3. Remove the processor liquid-cooling assembly or processor fan and heat-sink assembly, as applicable.

About this task

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

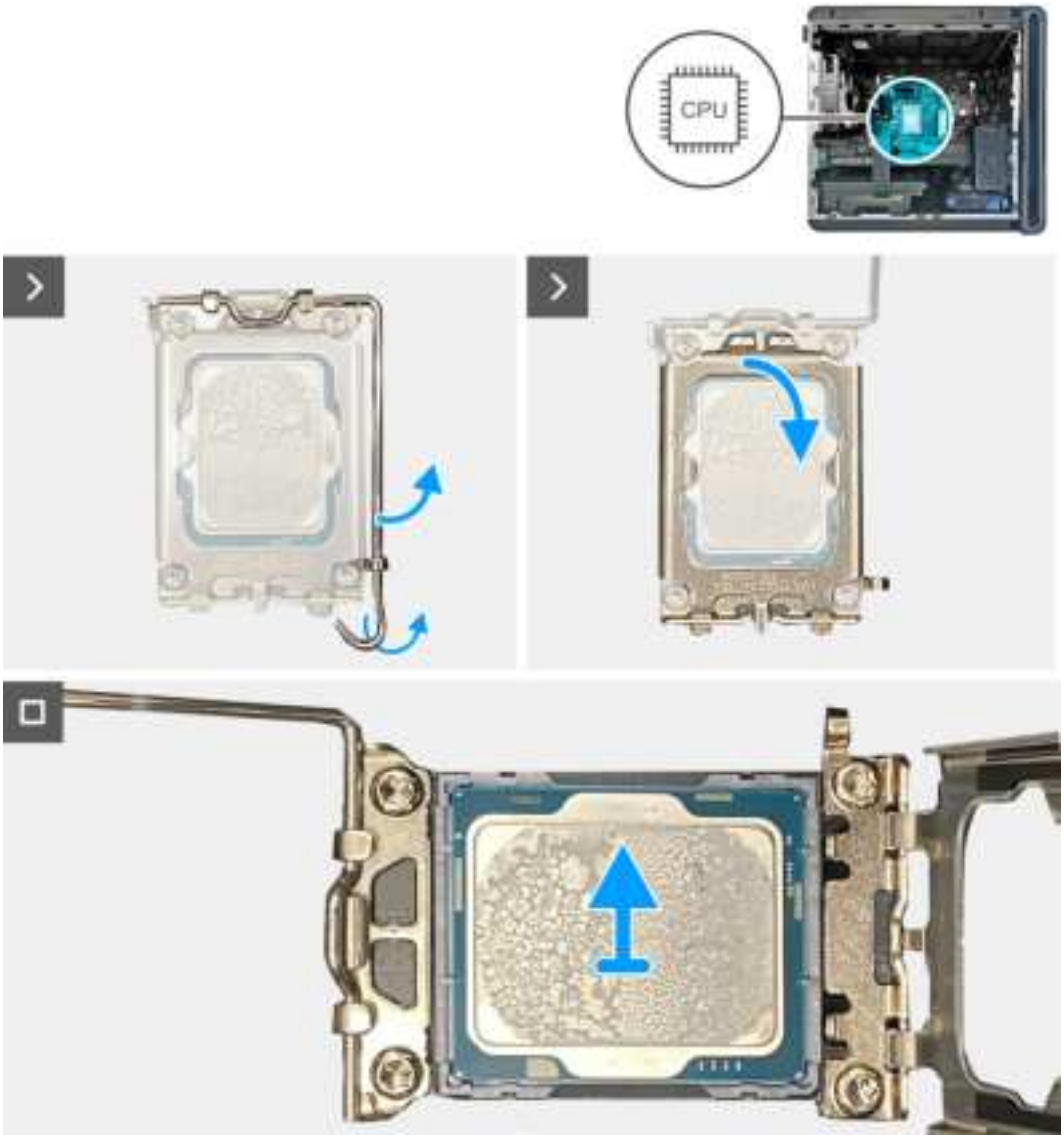

Figure 55. Removing the processor

Steps

1. Press the release lever down and then push it away from the processor to release it from the tab.

2. Extend the release lever completely and open the processor cover.
3. Lift the processor off the processor socket.

Installing the processor

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

Prerequisites

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

About this task

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

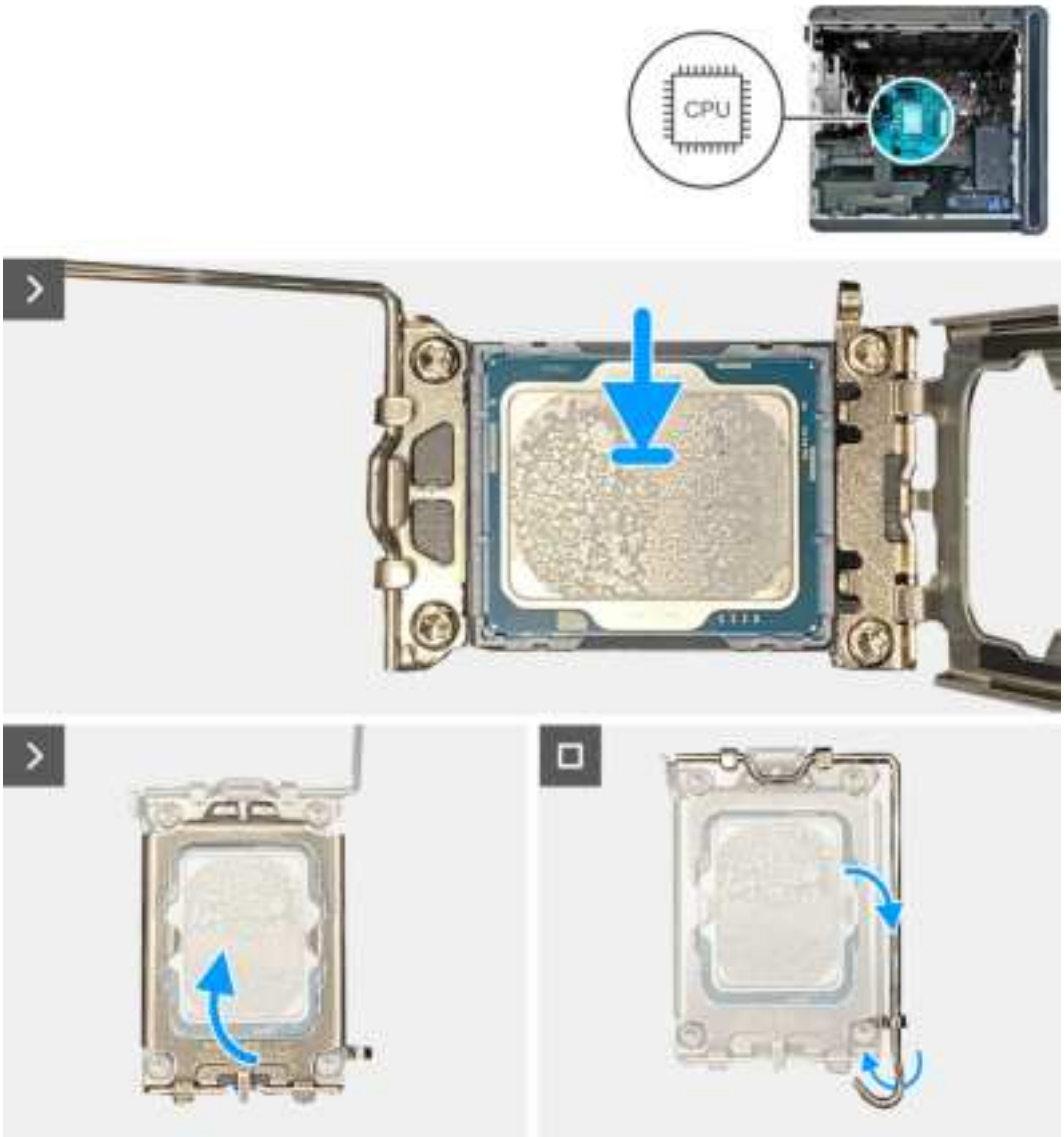

Figure 56. Installing the processor

Steps

1. Ensure that the release lever on the processor socket is fully extended and the processor cover is fully open.

   CAUTION: Position the processor correctly in the processor socket to avoid permanent damage to the processor.

2. Align the pin-1 corner on the processor with the pin-1 corner on the processor socket, and then place the processor in the processor socket.

   CAUTION: Ensure that the processor-cover notch is positioned underneath the alignment post.

3. When the processor is fully seated in the socket, close the processor cover.
4. Push the release lever down and place it under the tab on the processor cover.

Next steps

1. Install the processor liquid-cooling assembly or processor fan and heat-sink assembly, as applicable.
2. Install the left-side cover.
3. Follow the procedure in After working inside your computer.

Antenna

Removing the antenna

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

Prerequisites

1. Follow the procedure in Before working inside your computer.
2. Remove the left-side cover.
3. Remove the top cover.
4. Remove the wireless card.
5. Remove the right-side cover.
6. Remove the front bezel.

About this task

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

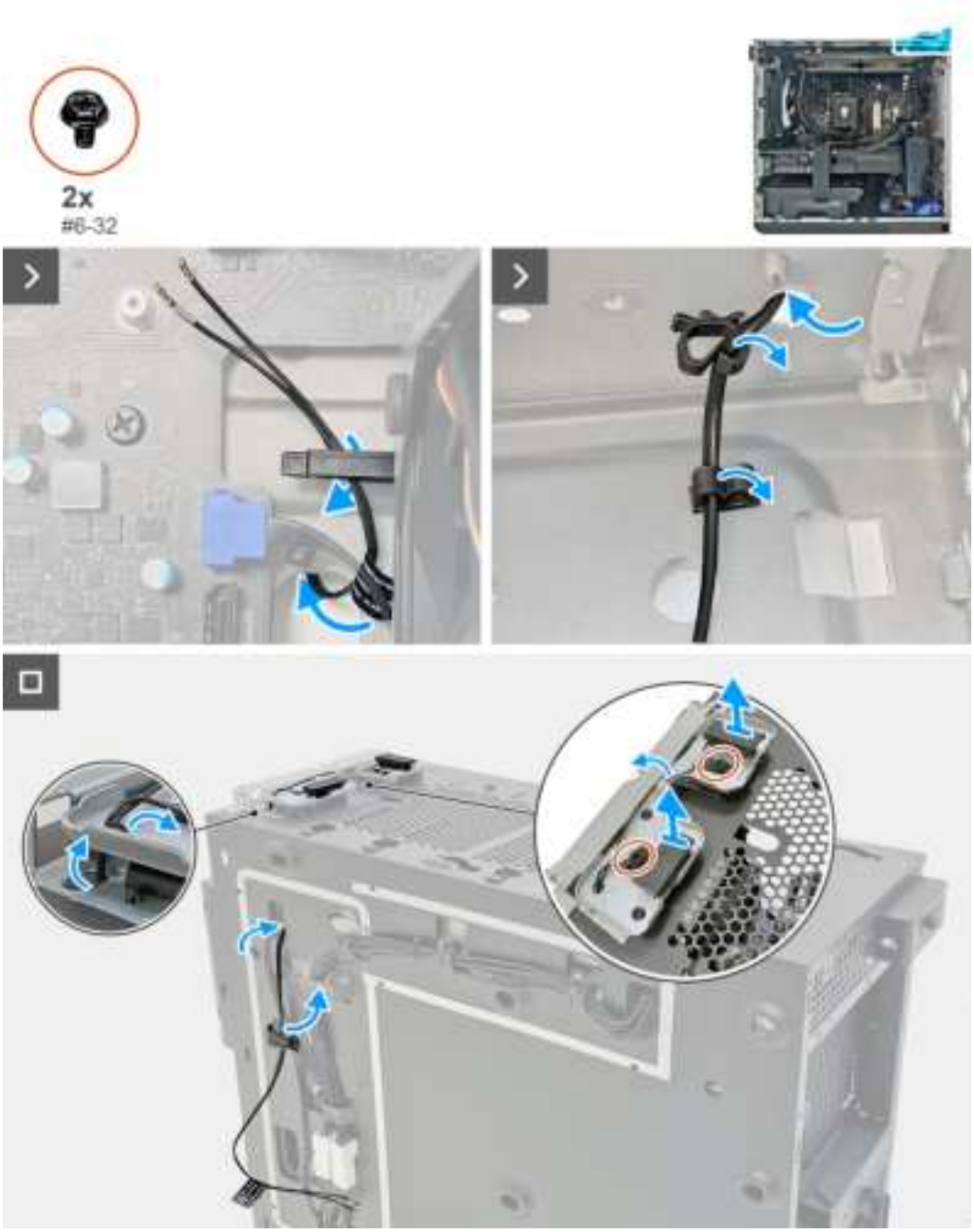

Figure 57. Removing the antenna

Steps

1. Remove the antenna cables from the routing guides on the chassis.
2. Unlock the securing clip and remove the antenna cables from the securing clip.
3. Remove the two screws (#6-32) that secure the antenna cables to the antenna tray.
4. Remove the two antennas along with its cable from the slots on the chassis.
5. Pull the antenna cables carefully through the hole on the chassis, and lift the antennas along with their cables from the chassis.

Installing the antenna

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

Prerequisites

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

About this task

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

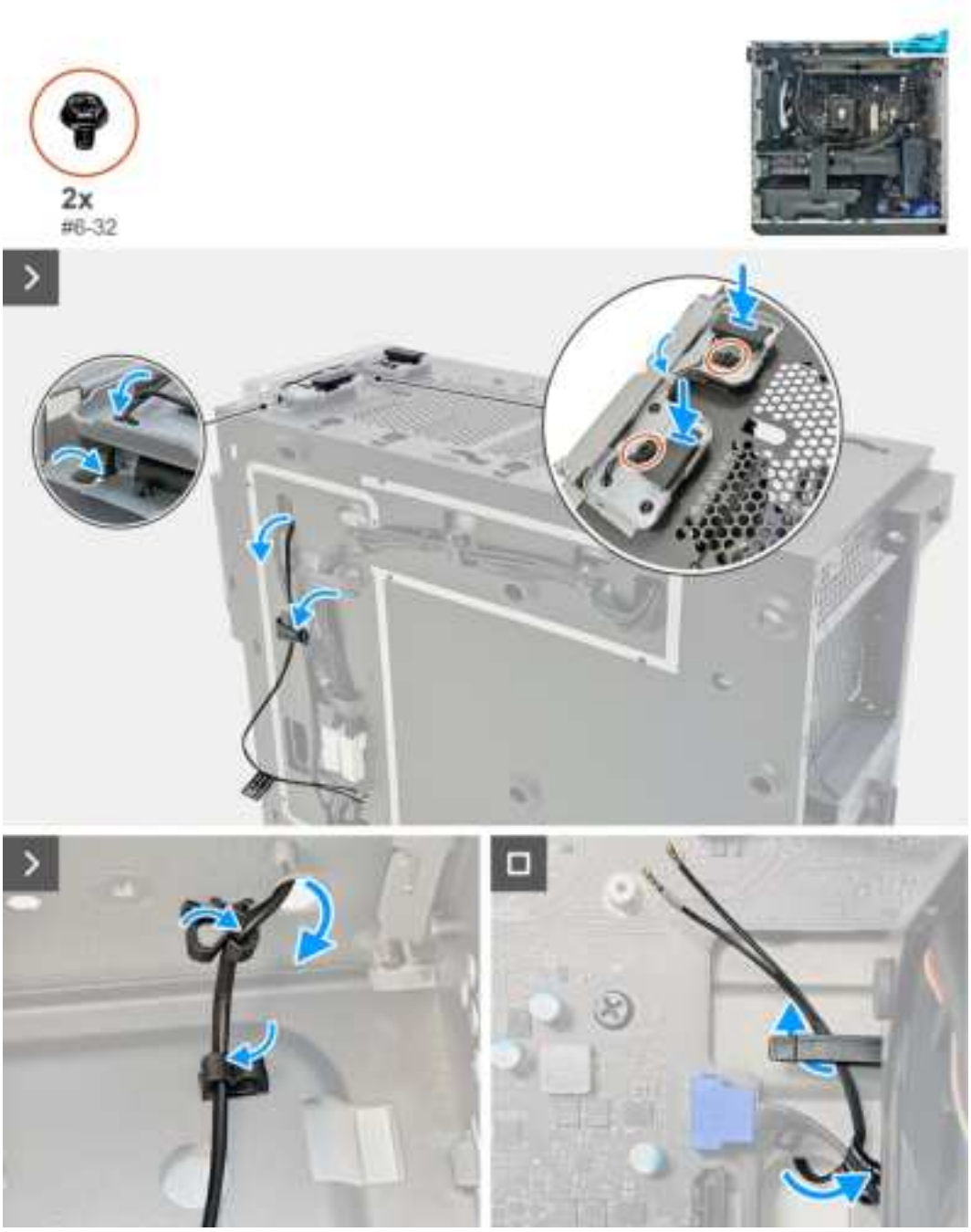

Figure 58. Installing the antenna

Steps

1. Replace the antennas on the slots of the chassis.
2. Align the screw holes on the foil with the screw holes on the antenna tray.
3. Replace the two screws (#6-32) that secure the two antennas to the antenna tray.
4. Push the end of the antenna cables with the connectors through the hole on the chassis.
5. Route the antenna cables through the routing guides on the chassis.

6. Insert the antenna cables into the securing clip and lock the securing clip to secure the cables.

Next steps

1. Install the front bezel.
2. Install the right-side cover.
3. Install the top cover.
4. Install the wireless card.
5. Install the left-side cover.
6. Follow the procedure in After working inside your computer.

VR heat sink

Removing the VR heat sink

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

Prerequisites

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

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

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

   NOTE: 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.

   NOTE: The VR heat sinks (2) are shipped as separate units and they do not ship along with the new system board. Remove the VR heat sink (2) from old system board for transfer to the new system board.

2. Remove the left-side cover.

About this task

The following images indicate the location of the VR heat sink and provide a visual representation of the removal procedure.

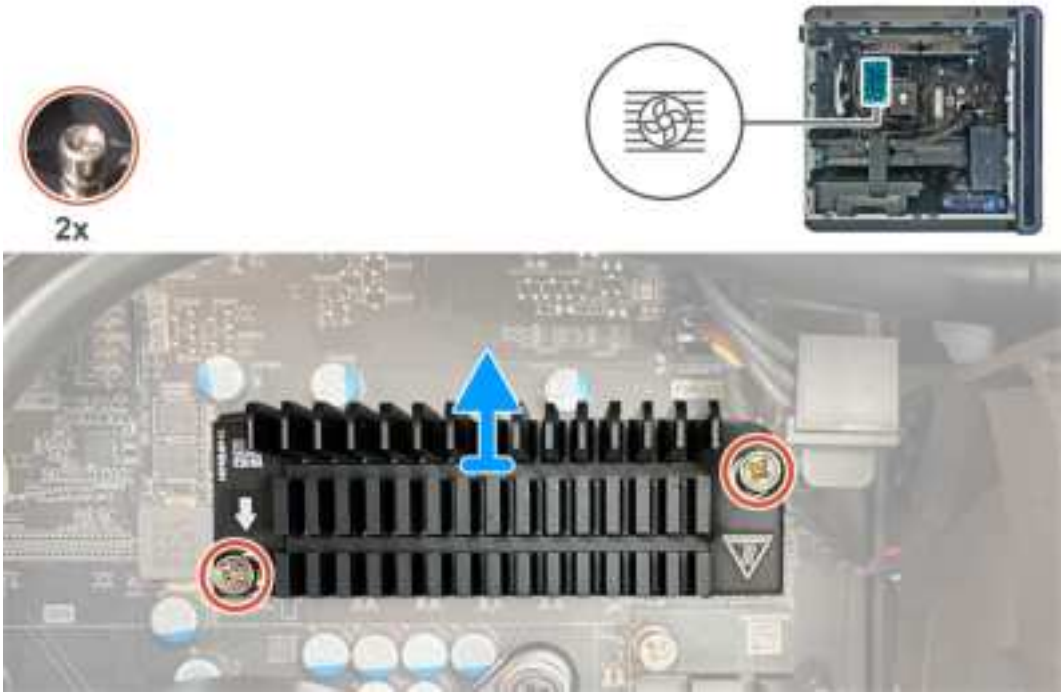

Figure 59. Removing the VR heat sink

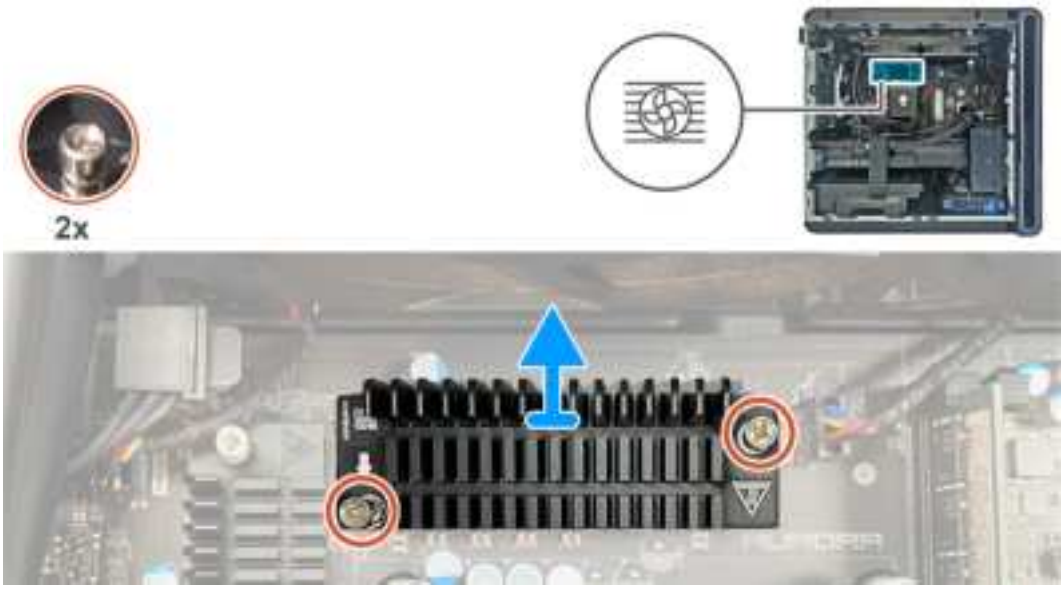

Figure 60. Removing the VR heat sink

Steps

1. Lay the computer on the right side.
2. Loosen the captive screws that secure the VR heat sink to the system board.
3. Repeat the same process for the other VR heat sink.
4. Lift the VR heat sink (2) off the system board.

Installing the VR heat sink

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

Prerequisites

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

NOTE: Before installing the new VR heat sink, ensure to remove the protective foil from the thermal pad.

About this task

The following images indicate the location of the VR heat sink and provide a visual representation of the installation procedure.

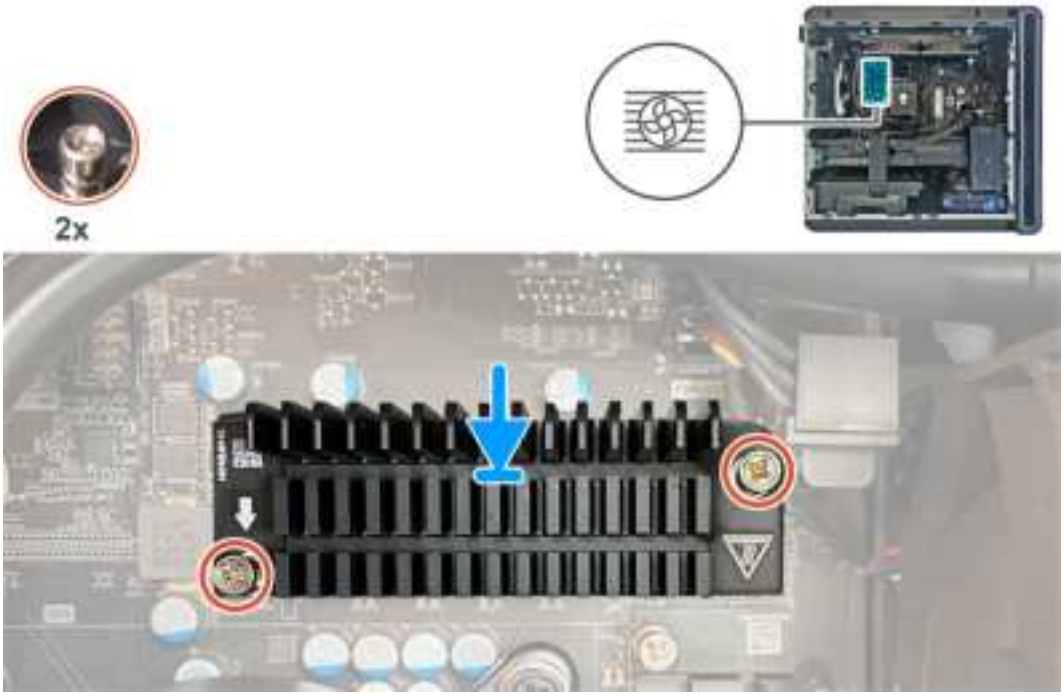

Figure 61. Installing the VR heat sink

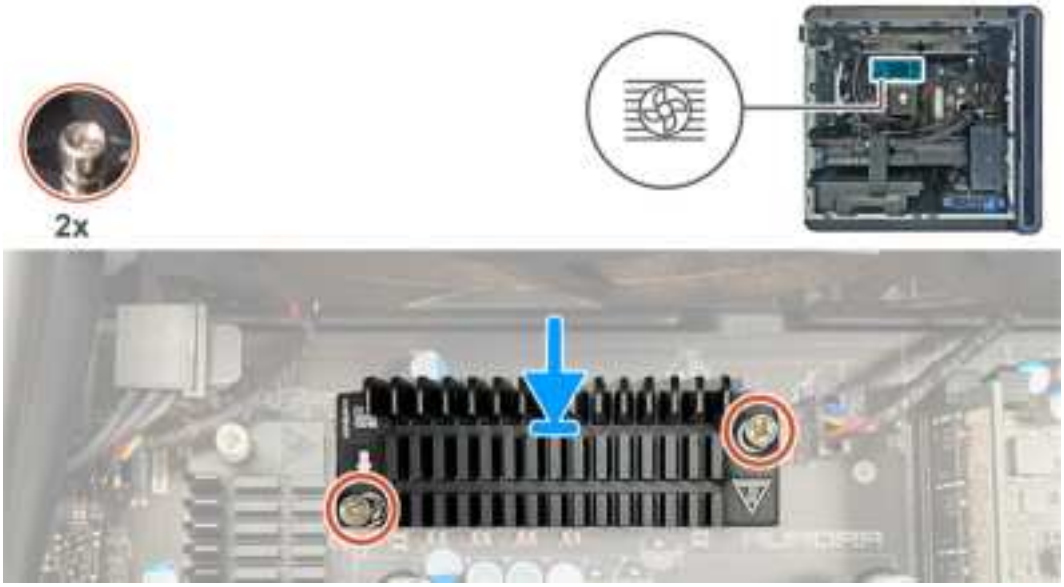

Figure 62. Installing the VR heat sink

Steps

1. Align the captive screws of the VR heat sink with the screw holes on the system board.

2. Tighten the two captive screws that secure the VR heat sink to the system board.
3. Repeat the same procedure for the other VR heat sink.

Next steps

1. Install the left-side cover.
2. Follow the procedure in After working inside your computer.

System board

Removing the system board

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

Prerequisites

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

NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.

NOTE: Replacing the system board removes any changes that you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.

NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect the cables correctly after you replace the system board.

2. Remove the left-side cover.
3. Remove the right-side cover.
4. Remove the front bezel.
5. Remove the memory module.
6. Remove the single-graphics card.
7. Remove the M.2 2230 solid state drive or the M.2 2280 solid state drive in SSD slot one or slot two, as applicable.
8. Remove the wireless card.
9. Remove the processor liquid-cooling assembly or processor fan and heat-sink assembly, as applicable.
10. Remove the processor.
11. Remove the VR heat sink.

About this task

The following image indicates the connectors on your system board.

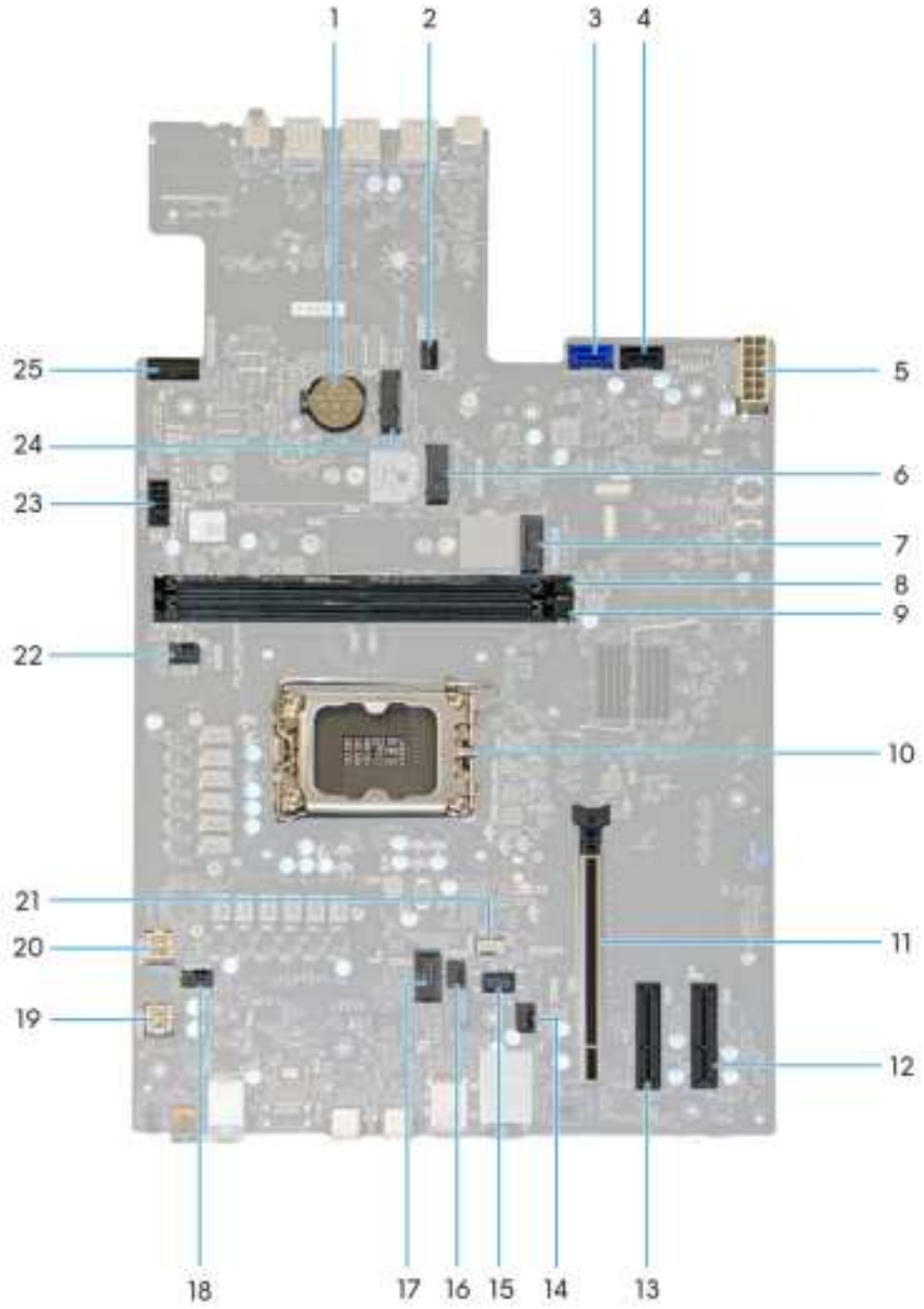

Figure 63. System-board components

1. Coin-cell battery
2. Lower front-chassis fan connector (FAN_SYS2)
3. SATA 6 Gbps drive connector (SATA-0)
4. SATA 6 Gbps drive connector (SATA-1)
5. Power-supply connector (ATX SYS)
6. Solid state drive slot (M.2 PCIe SSD-1)
7. Solid state drive slot (M.2 PCIe SSD-0)
8. Memory-module slot (DIMM1)
9. Memory-module slot (DIMM2)
10. CPU socket (CPU SKT1 COOLER)

11. PCI-Express x16 mechanical/x16 electrical slot (SLOT1)
12. PCI-Express x4 slot (SLOT3)
13. PCI-Express x4 slot (SLOT2)
14. Rear-chassis fan connector (FAN SYS1)
15. Rear-chassis fan LED connector (LED FAN SYS1)
16. Liquid cooling pump fan connector (FAN PUMP)
17. Liquid-cooling pump LED connector (LED PUMP)
18. Top-chassis fan connector one (FAN SYS4)
19. Power-supply connector (ATX CPU2)
20. Power-supply connector (ATX CPU1)
21. Air-cooling fan connector (FAN CPU)
22. Top-chassis fan connector two (FAN SYS5)
23. SATA power connector (SATA PWR)
24. Wireless-card slot (M.2 WLAN)
25. Front I/O-panel cable (RING AMBIENT PWBT)

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

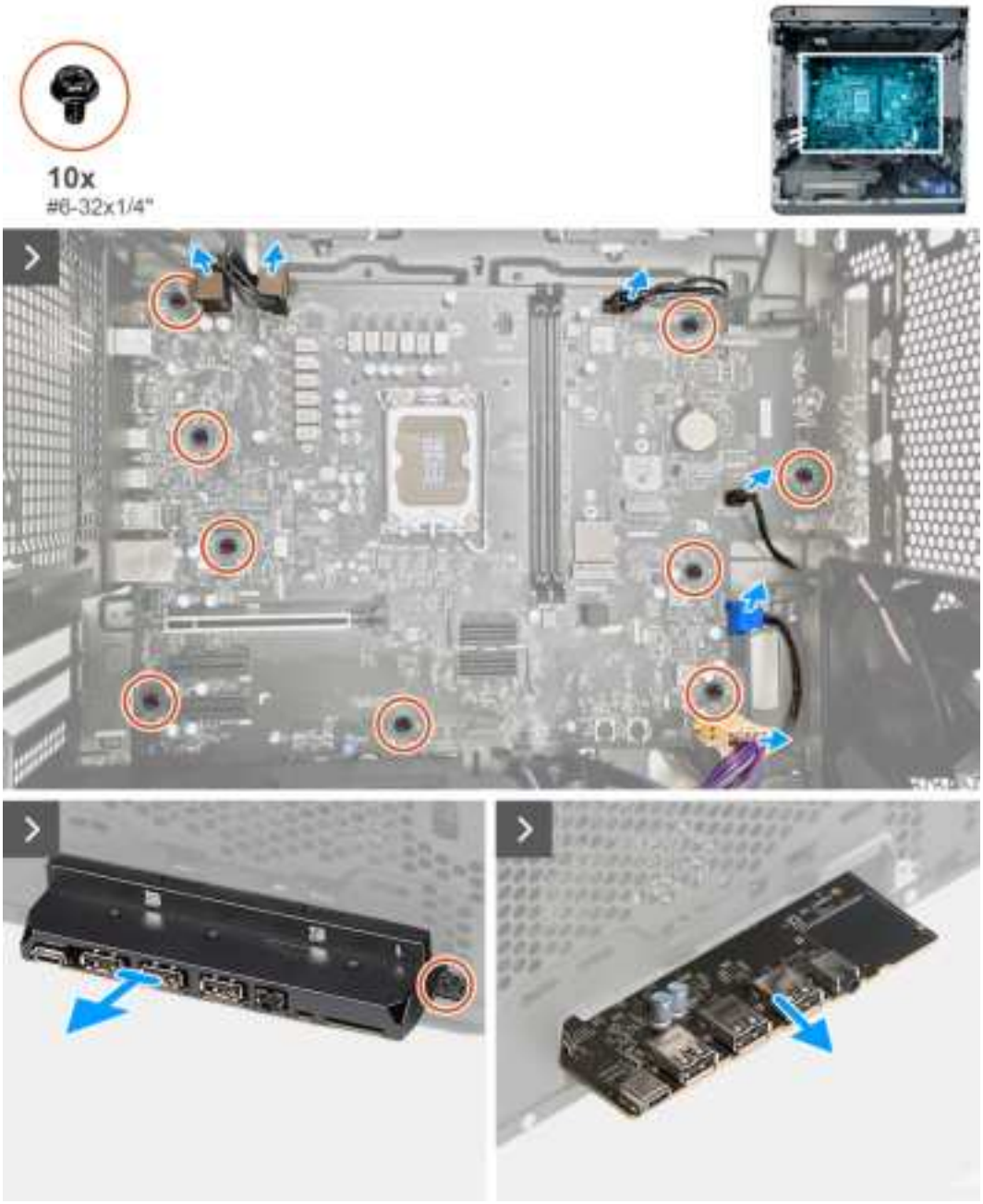

Figure 64. Removing the system board

Figure 65. Removing the system board

Steps

1. Disconnect the hard drive data cables from the system board.
2. Disconnect the processor-power cables from the system board.
3. Disconnect thecomputerm-board power cables from the system board.
4. Disconnect the rear-chassis fan power cable from the system board.
5. Disconnect the SATA power cable from the system board.
6. Disconnect all the cables that are connected to the system board.

   NOTE: Note the routing of all cables as you remove them so that you can route them correctly after you replace the system board. For information about system board connectors, see "system-board components".

   NOTE: Note the routing of all cables as you remove them so that you can route them correctly after you replace the system board.

7. Remove the nine screws (#6-32x1/4") that secures the system board to standoffs on the chassis.
8. Remove the screw (#6-32x1/4") that secures the front I/O-bracket to the chassis and remove the front I/O-bracket.
9. Hold the edge of the system board where the front I/O-ports are located.
10. Hold the edge of the system board where the rear ports are located.
11. Lift the system board off the chassis at an angle and remove the system board from the chassis.

Installing the system board

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

Prerequisites

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

About this task

The following image indicates the connectors on your system board.

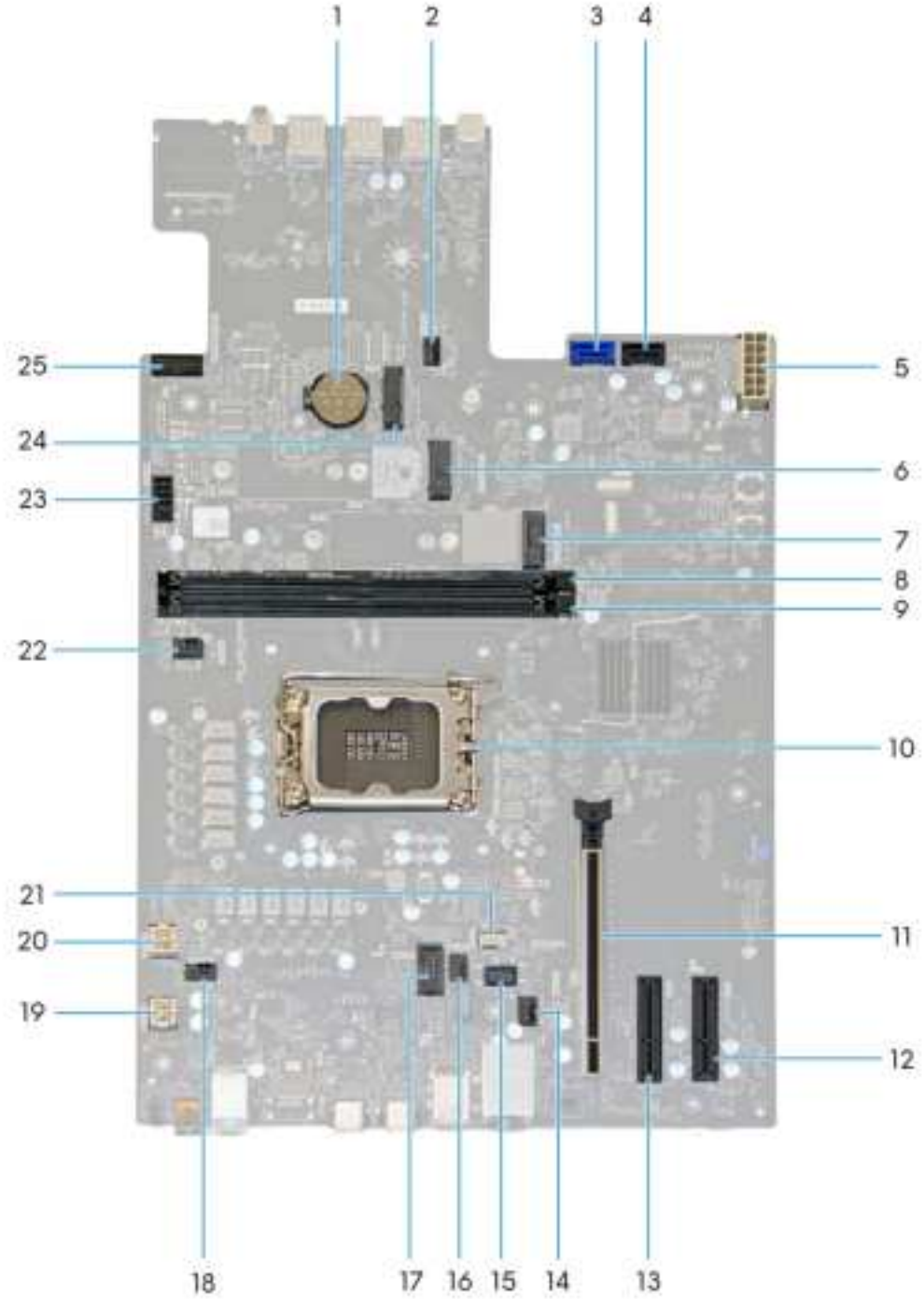

Figure 66. System-board components

1. Coin-cell battery
2. Lower front-chassis fan connector (FAN_SYS2)
3. SATA 6 Gbps drive connector (SATA-0)
4. SATA 6 Gbps drive connector (SATA-1)

5. Power-supply connector (ATX SYS)
6. Solid state drive slot (M.2 PCIe SSD-1)
7. Solid state drive slot (M.2 PCIe SSD-0)
8. Memory-module slot (DIMM1)
9. Memory-module slot (DIMM2)
10. CPU socket (CPU SKT1 COOLER)
11. PCI-Express x16 mechanical/x16 electrical slot (SLOT1)
12. PCI-Express x4 slot (SLOT3)
13. PCI-Express x4 slot (SLOT2)
14. Rear-chassis fan connector (FAN SYS1)
15. Rear-chassis fan LED connector (LED FAN SYS1)
16. Liquid cooling pump fan connector (FAN PUMP)
17. Liquid-cooling pump LED connector (LED PUMP)
18. Top-chassis fan connector one (FAN SYS4)
19. Power-supply connector (ATX CPU2)
20. Power-supply connector (ATX CPU1)
21. Air-cooling fan connector (FAN CPU)
22. Top-chassis fan connector two (FAN SYS5)
23. SATA power connector (SATA PWR)
24. Wireless-card slot (M.2 WLAN)
25. Front I/O-panel cable (RING AMBIENT PWBT)

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

Figure 67. Installing the system board

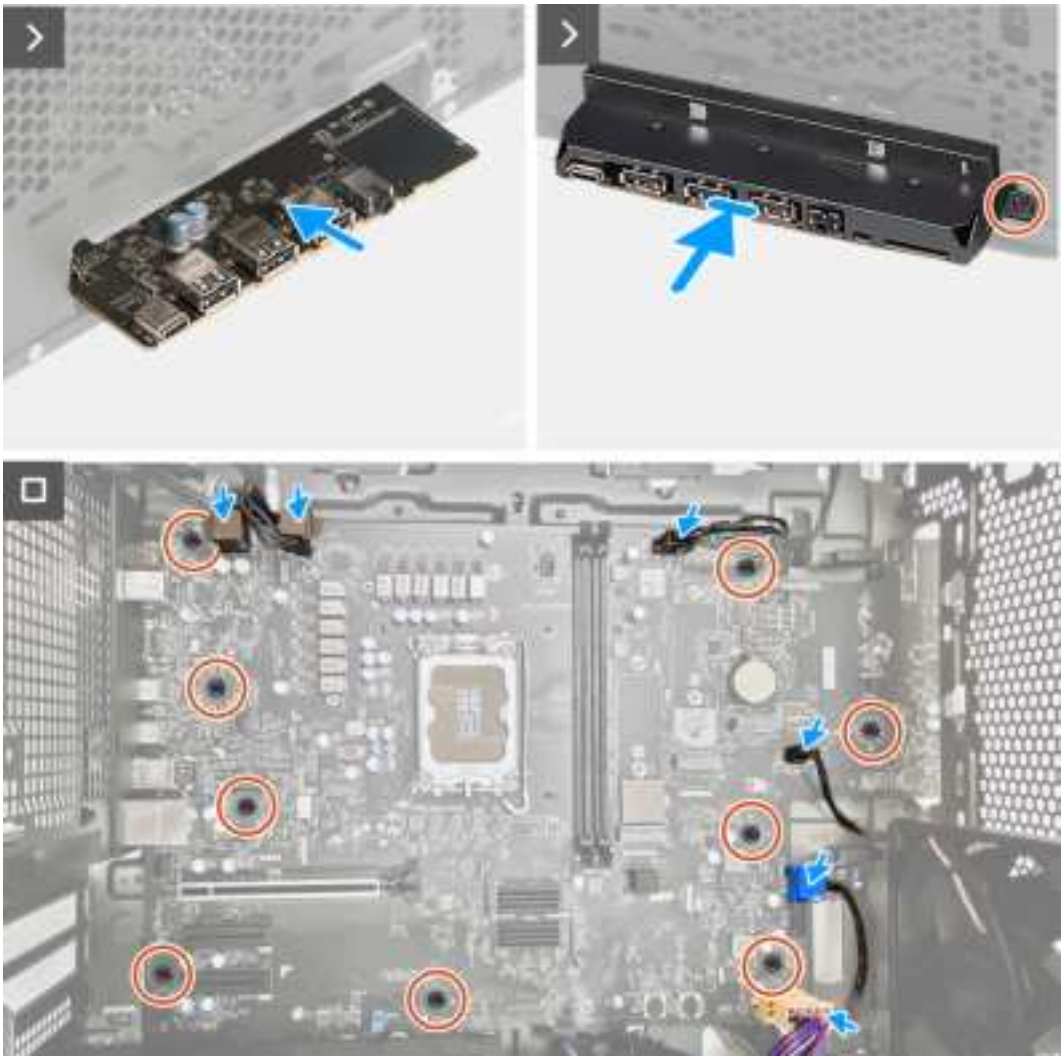

Figure 68. Installing the system board

Steps

1. Slide the front I/O-ports on the system board into the front I/O-slot on the chassis and align the screw holes on the system board with the standoffs on the chassis.
2. Place the system board on the standoffs on the chassis.
3. Align the front I/O-bracket to the front I/O-ports and install the bracket on the chassis.
4. Replace the screw (#6-32x1/4") that secures the front I/O-bracket to the chassis.
5. Replace the nine screws (#6-32x1/4") that secures the system-board assembly to the standoffs on the chassis.
6. Route and connect all the cables that were disconnected from the system board.
7. Connect the SATA power cable from the system board.
8. Connect the rear-chassis fan power cable from the system board.
9. Connect thecomputerm-board power cables from the system board.
10. Connect the processor-power cables from the system board.
11. Connect the hard drive data cables from the system board.

Next steps

1. Install the VR heat sink.
2. Install the processor.
3. Install the processor liquid-cooling assembly or processor fan and heat-sink assembly, as applicable.
4. Install the wireless card.
5. Install the M.2 2230 solid state drive or the M.2 2280 solid state drive in SSD slot one or slot two, as applicable.

6. Install the single-graphics card.
7. Install the memory module.
8. Install the front bezel.
9. Install the right-side cover.
10. Install the left-side cover.
11. Follow the procedure in After working inside your computer.

Alienware Command Center

Alienware Command Center (AWCC) provides a single interface to customize and enhance the gaming experience. The AWCC dashboard displays most recently played or added games, and provides game-specific information, themes, profiles, and access to computer settings. You can quickly access settings such as game-specific profiles and themes, lighting, macros, and audio that are critical to the gaming experience.

AWCC also supports AlienFX 2.0. AlienFX enables you to create, assign, and share game-specific lighting maps to enhance the gaming experience. It also enables you to create your own customized lighting effects and apply them to the computer or attached peripherals. AWCC embeds Peripheral Controls to ensure a unified experience and the ability to link these settings to your computer or game.

This computer features the following AlienFX lighting zones:

- Alien head power button
- Bezel ring
- Liquid cooler pump
- Fan (only on certain configurations)

NOTE: Information about the location of AlienFX lighting zones on your computer is available in AWCC.

AWCC supports the following features:

- FX: Create and manage the AlienFX zones.
- Fusion: Fusion includes the ability to adjust game-specific Power Management, Sound Management, and Thermal Management features.
- Peripheral Management: Peripheral Management enables peripherals to appear in and be managed in Alienware Command Center. Supports key peripheral settings and associates with other functions such as profiles, macros, AlienFX, and game library.

AWCC also supports Sound Management, Thermal Controls, CPU, GPU, and Memory (RAM) monitoring. For more information about AWCC, see the *Alienware Command Center Online Help* or search in the Knowledge Base Resource at Dell Support Site.

Software

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

Operating system

Your Alienware Aurora ACT1250 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro

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.

BIOS Setup

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

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

Use BIOS Setup for the following purposes:

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

Entering BIOS Setup program

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 24. Navigation keys

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

F12 One Time Boot menu

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

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

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

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

NOTE: XXX denotes the SATA drive number.

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

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

System Setup options

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

NOTE: Depending on your computer and its installed devices, the items that are listed may differ.

Table 25. System Setup options—Overview menu

Overview	Description
Alienware Aurora ACT1250	
BIOS Version	Displays the BIOS version number.
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Displays the Asset Tag of the computer.
Manufacture Date	Displays the manufacture date of the computer.
Ownership Date	Displays the ownership date of the computer.
Express Service Code	Displays the Express Service Code of the computer.
Ownership Tag	Displays the Ownership Tag of the computer.
Signed Firmware Update	Displays whether the Signed Firmware Update is enabled on your computer. By default, the **Signed Firmware Update** option is enabled. **NOTE:** To view this option, enable **Service** options as described in View Service options.
PROCESSOR	
Processor Type	Displays the processor type.
Maximum Clock Speed	Displays the maximum processor clock speed. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Minimum Clock Speed	Displays the minimum processor clock speed. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Current Clock Speed	Displays the current processor clock speed. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
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 value.
Processor L3 Cache	Displays the processor L3 cache value.
Microcode Version	Displays the microcode version. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 25. System Setup options—Overview menu (continued)

Overview	Description
Intel Hyper-Threading Capable	Displays whether the processor is Hyper-Threading (HT) capable. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
64-Bit Technology	Displays whether 64-bit technology is used.
Intel vPro Technology	Displays whether Intel vPro technology is used.
MEMORY	
Memory Installed	Displays the total memory installed on the computer.
Memory Available	Displays the total memory available on the computer.
Memory Speed	Displays the memory speed. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Memory Channel Mode	Displays single or dual channel mode. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Memory Technology	Displays the technology that is used for the memory.
DIMM 1 Size	Displays the size of DIMM 1.
DIMM 2 Size	Displays the size of DIMM 2.
DEVICES	
Wi-Fi Device	Displays the wireless device information of the computer.
Native Resolution	Displays the native resolution of the computer.
Audio Controller	Displays the audio controller information of the computer.
Bluetooth Device	Displays the Bluetooth device information of the computer.
LOM MAC Address	Displays the MAC address of the LOM.
dGPU Video Controller	Displays the dGPU video controller.
Slot 1	Displays the PCIe slot 1 information.
Slot 2	Displays the PCIe slot 2 information.
Slot 3	Displays the PCIe slot 3 information.

Table 26. System Setup options—Boot Configuration menu

Boot Configuration	
Boot Sequence	
Boot Mode: UEFI only	Displays the boot mode of the computer. **NOTE:** To view this option, enable **Service** options as described in View Service options.
Boot Sequence	Displays the boot sequence.
Enable PXE Boot Priority	Enables or disables new PXE boot option. By default, the **Enable PXE Boot Priority** option is off. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 26. System Setup options—Boot Configuration menu (continued)

Boot Configuration	
Secure Boot	Secure Boot is a method of guaranteeing the integrity of the boot path by performing additional validation of the operating system and PCI add-in cards. The computer stops booting to the operating system when a component is not authenticated during the boot process. Secure Boot can be enabled in BIOS setup or using management interfaces like Dell Command|Configure, but can only be disabled from BIOS setup.
Enable Secure Boot	Enables the computer to boot using only validated boot software. By default, this **Enable Secure Boot** option is disabled. For additional security, Dell Technologies recommends keeping the **Secure Boot** option enabled to ensure that the UEFI firmware validates the operating system during the boot process. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options. **NOTE:** To enable Secure Boot, the computer is required to be in UEFI boot mode and the Enable Legacy Option ROMs option is required to be turned off.
Enable Microsoft UEFI CA	When disabled, the UEFI CA is removed from the BIOS UEFI Secure Boot database. **CAUTION: When disabled, the Microsoft UEFI CA can cause your computer to not boot, computer graphics may not function, some devices may not function properly, and the computer could become unrecoverable.** By default, the **Enable Microsoft UEFI CA** option is enabled. For additional security, Dell Technologies recommends keeping the **Enable Microsoft UEFI CA** option enabled to ensure the broadest compatibility with devices and operating systems.
Secure Boot Mode	Enables or disables the Secure Boot operation mode. By default, the **Deployed Mode** is selected. **Deployed Mode** should be selected for normal operation of Secure Boot. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Expert Key Management	
Enable Custom Mode	Enables or disables the keys in the PK, KEK, db, and dbx security key databases to be modified. By default, the **Enable Custom Mode** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Custom Mode Key Management	Selects the custom values for expert key management. By default, the **PK** option is selected. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 27. System Setup options—Integrated Devices menu

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

Table 27. System Setup options—Integrated Devices menu (continued)

Integrated Devices	
Audio	
Enable Audio	Enables all integrated audio controller. By default, all the options are enabled.
Enable Microphone	Enables the microphone. By default, the **Enable Microphone** option is enabled. **NOTE:** Depending on the configuration ordered, the microphone setup option may not be available.
USB Configuration	
Enable Front USB Ports	Enables the front USB ports. By default, the **Enable Front USB Ports** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable Rear USB Ports	Enables the rear USB ports. By default, the **Enable Rear USB Ports** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable USB Boot Support	Enables booting from USB mass storage devices that are connected to external USB ports. By default, the **Enable USB Boot Support** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 28. System Setup options—Storage menu

Storage	
SATA/NVMe Operation	
SATA/NVMe Operation	Sets the operating mode of the integrated SATA hard drive controller. By default, the **RAID On** option is selected.
Storage Interface	Displays the information of various onboard drives.
Port Enablement	Enables or disables the M.2 PCIe SSD option.
SMART Reporting	Enables or disables the SMART Reporting option. By default, the **Enable SMART Reporting** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Drive Information	Displays the information of onboard drives.

Table 29. System Setup options—Display menu

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

Table 29. System Setup options—Display menu

Display	
	NOTE: To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 30. System Setup options—Connection menu

Connection	
Network Controller Configuration	
Integrated NIC	Controls the onboard LAN Controller. By default, the **Enabled with PXE** option is enabled.
Wireless Device Enable	
WLAN/WiGig	Enables or disables the internal WLAN device. By default, the **WLAN/WiGig** option is enabled.
Bluetooth	Enables or disables the internal Bluetooth device. By default, the **Bluetooth** option is enabled.
Enable UEFI Network Stack	Enables or disables the UEFI networking protocols, allowing pre-OS and early OS networking features to use any enabled NICs. By default, the **Auto Enabled** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
HTTPS(s) Boot Feature	
HTTP(s) Boot	When enabled, supports HTTP(s) boot on the client BIOS, which offers wired or wireless and HTTP/HTTPS connection options. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
HTTP(s) Boot Modes	In Auto Mode, the boot URL is obtained from the DHCP response; the boot URL specifies the HTTP Boot Server and location of the Network Boot Program (NBP) file. In Manual mode, the user enters the URL in the text box, which must start with `http://` or `https://` and end with the NBP file name. By default, **Auto Mode** is selected. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
CA Certificate	Upload or delete the CA certificate. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 31. System Setup options—Power menu

Power	
USB PowerShare	
Enable USB PowerShare	Enables external devices to be powered or charged using the stored computer battery. Devices must be connected through the designated USB PowerShare port on the computer. By default, the **Enable USB PowerShare** option is off. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 31. System Setup options—Power menu (continued)

Power	
USB Wake Support	
Enable USB Wake Support	Enables or disables USB devices like a mouse or keyboard to wake the computer from Standby, Hibernation, or Power Off. **NOTE:** This feature requires Deep Sleep Control to be disabled. By default, the **Enable USB Wake Support** option is on. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
AC Behavior	
AC Recovery	Sets what action the computer takes when power is restored after an unexpected loss of power. By default, the **AC Recovery** option is set to **Power Off**. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Block Sleep	Enables or disables the computer from entering Sleep (S3) mode in the operating system. By default, the **Block Sleep** option is disabled. **NOTE:** When enabled, the computer does not go to Sleep, Intel Rapid Start is disabled automatically, and the operating system power option is blank if it was set to Sleep. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Deep Sleep Control	
Deep Sleep Control	Allows you to define the controls when Deep Sleep is enabled. By default, the **Deep Sleep Control** option is **Enabled in S4 and S5**.
Intel Speed Shift Technology	Enables or disables the Intel Speed Shift Technology support. When enabled, the operating system selects the appropriate processor performance automatically. By default, the **Intel Speed Shift Technology** option is enabled. **NOTE:** To view this option, enable **Service** options as described in View Service options.

Table 32. System Setup options—Security menu

Security	
Intel Platform Trust Technology	
Intel Platform Trust Technology On	Enables or disables the TPM. By default, the **Intel Platform Trust Technology** option is enabled. For additional security, Dell Technologies recommends keeping TPM enabled to allow these security technologies to fully function. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
PPI Bypass for Clear Commands	The PPI Bypass for Clear Commands option allows the operating system to manage certain aspects of PTT. When enabled, you are not prompted to confirm changes to the PTT configuration. By default, the **PPI Bypass for Clear Commands** option is disabled.

Table 32. System Setup options—Security menu (continued)

Security	
	For additional security, Dell Technologies recommends keeping the **PPI Bypass for Clear Commands** option disabled.
SMM Security Mitigation	Enables or disables additional UEFI SMM Security Mitigation protections. This option uses the Windows SMM Security Mitigations Table (WSMT) to confirm to the operating system that security best practices have been implemented by the UEFI firmware. By default, the **SMM Security Mitigation** option is enabled. For additional security, Dell Technologies recommends keeping the **SMM Security Mitigation** option enabled unless you have a specific application which is not compatible. **NOTE:** This feature may cause compatibility issues or loss of functionality with some legacy tools and applications. **NOTE:** To view this option, enable **Service** options as described in View Service options.
Data Wipe on Next Boot	
Start Data Wipe	Data Wipe is a secure wipe operation that deletes information from a storage device. **CAUTION: The secure Data Wipe operation deletes information in a way that it cannot be reconstructed.** Commands such as delete and format in the operating system may remove files from showing up in the file system. However, they can be reconstructed through forensic means as they are still represented on the physical media. Data Wipe prevents this reconstruction and the data can no longer be recovered. When enabled, the data wipe option provides prompts to wipe any storage devices that are connected to the computer on the next boot. By default, the **Start Data Wipe** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
HDD Security	
SED Block SID Authentication	Enables or disables the SED Block SID Authentication setting controls used by the BIOS to block entities from taking ownership of the Self-Encrypting Drive (SED) when the drive does not have a password set. By default, the **SED Block SID Authentication** option is enabled.
PPI Bypass for SED Block SID Command	Enables or disables the SED Block SID Physical Presence Interface (PPI). By default, the **PPI Bypass for SED Block SID Command** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Absolute	
Absolute	Absolute Software provides various cyber security solutions, some requiring software preloaded on Dell computers and integrated into the BIOS. To use these features, you must enable the Absolute BIOS setting and contact Absolute for configuration and activation. By default, the **Enable Absolute** option is enabled. For additional security, Dell Technologies recommends keeping the **Absolute** option enabled.

Table 32. System Setup options—Security menu (continued)

Security	
	WARNING: The Disable Absolute option can only be selected once. When Disable Absolute is selected, Absolute Persistence cannot be reenabled. No further changes to the Enable/Disable states are allowed. **NOTE:** The Enable/Disable options are unavailable while the computer is in the activated state. **NOTE:** When the Absolute features are activated, the Absolute integration cannot be disabled from the BIOS Setup screen.
UEFI Boot Path Security	Enables or disables the computer to prompt the user to enter the Administrator password (if set) when booting to a UEFI boot path device from the F12 boot menu. By default, the **Always Except Internal HDD** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 33. System Setup options—Passwords menu

Passwords	
Admin Password	The Admin Password prevents unauthorized access to the BIOS Setup options. Once the administrator password is set, the BIOS Setup options can only be modified after providing the correct password. The following rules and dependencies apply to the Admin Password – • The administrator password cannot be set if computer and/or internal hard drive passwords are previously set. • The administrator password can be used in place of the system and/or internal hard drive passwords. • When set, the administrator password must be provided during a firmware update. • Clearing the administrator password also clears the computer password (if set). Dell Technologies recommends using an administrator password to prevent unauthorized changes to BIOS Setup options.
System Password	The System Password prevents the computer from booting to an operating system without entering the correct password. The following rules and dependencies apply when the System Password is used – • The computer shuts down when idle for approximately 10 minutes at the system password prompt. • The computer shuts down after three incorrect attempts to enter the system password. • The computer shuts down when the **Esc** key is pressed at the **System Password** prompt. • The system password is not prompted when the computer resumes from standby mode. Dell Technologies recommends using the system password in situations where it is likely that a computer may be lost or stolen.
M.2 PCIe SSD-0	The M.2 PCIe SSD-0 password can be set to prevent unauthorized access of the data stored on the solid state drive. The computer prompts for the M.2 PCIe SSD-0 password during boot to unlock the drive. A password-secured M.2 PCIe SSD-0 stays locked even when removed from the computer or placed into another computer. It prevents an attacker from accessing data on the drive without authorization. The following rules and dependencies apply when the **M.2 PCIe SSD-0** option is used.

Table 33. System Setup options—Passwords menu (continued)

Passwords	
	• The M.2 PCIe SSD-0 password option cannot be accessed when the M.2 PCIe SSD-0 is disabled in the BIOS Setup. • The computer shuts down when idle for approximately 10 minutes at the M.2 PCIe SSD-0 password prompt. • The computer shuts down after three incorrect attempts to enter the M.2 PCIe SSD-0 password and treats the M.2 PCIe SSD-0 as not available. • The computer treats the M.2 PCIe SSD-0 as not available when the **Esc** key is pressed at the M.2 PCIe SSD-0 password prompt. • The M.2 PCIe SSD-0 password is not prompted when the computer resumes from standby mode. When the M.2 PCIe SSD-0 is unlocked by the user before the computer goes into standby mode, it remains unlocked after the computer resumes from standby mode. • If the computer and M.2 PCIe SSD-0 passwords are set to the same value, the M.2 PCIe SSD-0 unlocks after the correct computer password is entered. Dell Technologies recommends using a M.2 PCIe SSD-0 password to protect unauthorized data access.
Password Configuration	The Password configuration page includes several options for changing the requirements of BIOS passwords. You can modify the minimum and maximum length of the passwords as well as require passwords to contain certain character classes (upper case, lower case, digit, special character). When the **Upper Case Letter** option is enabled, the password requires at least one upper case letter. When the **Lower Case Letter** option is enabled, the password requires at least one lower case letter. When the **Digit** option is enabled, the password requires at least one numeric digit. When the **Special Character** option is enabled, the password requires at least one special character from the set: !"#$%&'()*+,-./:;<=>?@[\]^_`{|}~. When setting **Minimum Characters** for password length, Dell Technologies recommends setting the minimum password length to at least eight characters. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Password Bypass	The **Password Bypass** option allows the computer to reboot from the operating system without entering the system or hard drive password. If the computer has already booted to the operating system, it is presumed that the user has already entered the correct system or hard drive password. **NOTE:** This option does not remove the requirement to enter the password after shutting down. By default, the **Password Bypass** option is disabled. For additional security, Dell Technologies recommends keeping the **Password Bypass** option enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Password Changes	
Allow Non-Admin Password Changes	The **Allow Non-Admin Password Changes** option in BIOS Setup allows an end user to set or change the system or hard drive passwords without entering the administrator password. This gives an administrator control over the BIOS settings but enables an end user to provide their own password. By default, the **Allow Non-Admin Password Changes** option is enabled. For additional security, Dell Technologies recommends keeping the **Allow Non-Admin Password Changes** option disabled.

Table 33. System Setup options—Passwords menu (continued)

Passwords	
	NOTE: To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable Admin Setup Lockout	The **Admin Setup Lockout** option prevents an end user from even viewing the BIOS Setup configuration without first entering the administrator password (if set). By default, the **Enable Admin Setup Lockout** option is disabled. For additional security, Dell Technologies recommends keeping the **Admin Setup Lockout** option disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable Master Password Lockout	The **Master Password Lockout** option allows you to disable the Recovery Password feature. If the system, administrator, or hard drive password is forgotten, the computer becomes unusable. **NOTE:** When the owner password is set, the Master Password Lockout option is not available. **NOTE:** When an internal hard drive password is set, it must first be cleared before Master Password Lockout can be changed. By default, the **Enable Master Password Lockout** option is disabled. Dell Technologies does not recommend enabling the **Master Password Lockout** unless you have implemented your own password recovery system. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable Allow Non-Admin PSID Revert	The **Allow Non-Admin PSID Revert** option allows a user to clear the hard drive password without entering the BIOS Admin Password. When an Admin Password is set, the ability to enter the PSID is protected by requiring authentication with the Admin Password. If this option is enabled, any user can clear the drive without entering the Admin Password. By default, the **Enable Allow Non-Admin PSID Revert** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 34. System Setup options—Update, Recovery menu

Update, Recovery	
UEFI Capsule Firmware Updates	
Enable UEFI Capsule Firmware Updates	Enables or disables BIOS updates through UEFI capsule update packages. **NOTE:** Disabling this option blocks the BIOS updates from services such as Microsoft Windows Update and Linux Vendor Firmware Service (LVFS). By default, the **Enable UEFI Capsule Firmware Updates** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
BIOS Recovery from Hard Drive	Enables or disables the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive or an external USB drive. By default, the **BIOS Recovery from Hard Drive** option is enabled. **NOTE:** BIOS Recovery from Hard Drive is not available for self-encrypting drives (SED). **NOTE:** BIOS recovery is designed to fix the main BIOS block and cannot work if the Boot Block is damaged. In addition, this feature cannot work in the event of

Table 34. System Setup options—Update, Recovery menu (continued)

Update, Recovery	
	EC corruption, ME corruption, or a hardware issue. The recovery image must exist on an unencrypted partition on the drive. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
BIOS Downgrade	
Allow BIOS Downgrade	Allows downgrading of the computer firmware to previous revisions. By default, the **Allow BIOS Downgrade** option is enabled.
SupportAssist OS Recovery	Enables or disables the boot flow for SupportAssist OS Recovery tool if certain computer errors occur. By default, the **SupportAssist OS Recovery** option is enabled.
BIOSConnect	Enables or disables cloud service operating system recovery if the main operating system fails to boot with the number of failures equal to or greater than the value specified by the Auto OS Recovery Threshold setup option and local service operating system does not boot or is not installed. By default, the **BIOSConnect** option is enabled.
Dell Auto OS Recovery Threshold	Allows the control of the automatic boot flow for the SupportAssist System Resolution Console and the Dell OS Recovery Tool. By default, the **Dell Auto OS Recovery Threshold** value is set to **2**. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 35. System Setup options—System Management menu

System Management	
Service Tag	Displays the Service Tag of the computer.
Asset Tag	Creates a computer Asset Tag that an IT administrator can use to uniquely identify a particular computer. **NOTE:** Once set in the BIOS, the Asset Tag cannot be changed.
Wake on LAN/WLAN	Enables or disables the computer to turn on by a special LAN signal. By default, the **Wake on LAN/WLAN** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Auto On Time	Enable to set the computer to turn on automatically every day or on a preselected date and time. This option can be configured only if the Auto On Time is set to Everyday, Weekdays, or Selected Days. By default, the **Auto On Time** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
SERR Messages	
Enable SERR Messages	Enables or disables the SERR message mechanism. By default, the **Enable SERR Messages** option is enabled. **NOTE:** Some graphics card require that the SERR message mechanism is disabled

Table 35. System Setup options—System Management menu (continued)

System Management	
First Power On Date	
Set Ownership Date	Allows to set the Ownership date. By default, the **Set Ownership Date** option is disabled.
Diagnostics	
OS Agent requests	Enable or disable the option for applications running in the operating system to run with preboot diagnostics on subsequent boots. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Power-on-Self-Test Automatic Recovery	Enable or disable the automatic recovery of the computer from no power or no-POST failure by applying mitigation steps. By default, the **Power-on-Self-Test Automatic Recovery** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 36. System Setup options—Keyboard menu

Keyboard	
Keyboard Errors	
Enable Keyboard Error Detection	Enabling this option allows keyboard related errors to be reported when the computer boots. By default, the **Enable Keyboard Error Detection** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Numlock LED	
Enable Numlock LED	Enables or disables the Numlock LED when the computer boots. By default, the **Enable Numlock LED** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 37. System Setup options—Pre-boot Behavior menu

Pre-boot Behavior	
Warnings and Errors	Enables or disables the action to be taken when a warning or error is encountered. By default, the **Prompt on Warnings and Errors** option is selected. **NOTE:** Errors deemed critical to the operation of the computer hardware stop the functioning of the computer. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Extend BIOS POST Time	Sets the BIOS POST (Power-On Self-Test) load time. By default, the **0 seconds** option is selected. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 38. System Setup options—Virtualization Support menu

Virtualization Support	
Intel Virtualization Technology	
Enable Intel Virtualization Technology (VT)	When enabled, the computer can run a Virtual Machine Monitor (VMM). By default, the **Enable Intel Virtualization Technology (VT)** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
VT for Direct I/O	
Enable Intel VT for Direct I/O	When enabled, the computer can perform Virtualization Technology for Direct I/O (VT-d). VT-d is an Intel method that provides virtualization for memory map I/O. By default, the **Enable Intel VT for Direct I/O** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
DMA Protection	
Enable Pre-Boot DMA Support	Allows you to control the Pre-Boot DMA protection for both internal and external ports. This option does not directly enable DMA protection in the operating system. **NOTE:** This option is not available when the virtualization setting for IOMMU is disabled (VT-d/AMD Vi). By default, the **Enable Pre-Boot DMA Support** option is enabled. For additional security, Dell Technologies recommends keeping the **Enable Pre-Boot DMA Support** option enabled. **NOTE:** This option is provided only for compatibility purposes, since some older hardware is not DMA capable. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Enable OS Kernel DMA Support	Allows you to control the Kernel DMA protection for both internal and external ports. This option does not directly enable DMA protection in the operating system. For operating systems that support DMA protection, this setting indicates to the operating system that the BIOS supports the feature. **NOTE:** This option is not available when the virtualization setting for IOMMU is disabled (VT-d/AMD Vi). By default, the **Enable OS Kernel DMA Support** option is enabled. **NOTE:** This option is provided only for compatibility purposes, since some older hardware is not DMA capable. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Internal Port DMA Compatibility Mode	This option when enabled allows the BIOS to notify the operating system that the internal ports are not DMA capable. This setting helps with devices that have operating system DMA compatibility issues. This setting does not affect external port DMA or pre-boot DMA support. By default, the **Internal Port DMA Compatibility Mode** option is disabled.

Table 39. System Setup options—Performance menu

Performance	
Multi-Core Support	
Active Efficient Cores (E-Cores) Select	Allows to change the number of CPU E-Cores cores available to the operating system. The default value is set to the maximum number of cores.

Table 39. System Setup options—Performance menu (continued)

Performance	
	By default, the **All Active** option is selected. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Intel SpeedStep	
Enable Intel SpeedStep Technology	Enables the computer to dynamically adjust processor voltage and core frequency, decreasing average power consumption and heat production. By default, the **Enable Intel SpeedStep Technology** option is enabled. **NOTE:** To view this option, enable **Service** options as described in View Service options.
C-State Control	
Enable C-State Control	Enables or disables the ability of the CPU to enter and exit low-power state. When disabled, it disables all C-states. When enabled, it enables all C-states that the chipset or platform allows. By default, the **Enable C-State Control** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Intel Turbo Boost Technology	
Enable Intel Turbo Boost Technology	Enables or disables the Intel TurboBoost mode of the processor. When enabled, the Intel TurboBoost driver increases the performance of the CPU or graphics processor. By default, the **Enable Intel Turbo Boost Technology** option is enabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
OverClocking feature	
OverClocking feature	Enables or disables global overclocking functions. When this option is enabled, overclocking options are displayed. By default, the **OverClocking feature** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
PCIe Resizable Base Address Register (BAR)	
PCIe Resizable Base Address Register (BAR)	Enables or disables PCIe resizable bar support. **NOTE:** This option is available for development only and is not customer visible. By default, the **PCIe Resizable Base Address Register (BAR)** option is disabled. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

Table 40. System Setup options—System Logs menu

System Logs	
BIOS Event Log	
Clear BIOS Event Log	Select the option to keep or clear BIOS events logs. By default, the **Keep Log** option is selected.

Table 40. System Setup options—System Logs menu (continued)

System Logs	
	NOTE: To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.
Power Event Log	
Clear Power Event Log	Select the option to keep or clear power events logs. By default, the **Keep Log** option is selected. **NOTE:** To view this option, enable **Advanced Setup** mode as described in View Advanced Setup options.

View Service options

About this task

Service options are hidden by default and only visible by entering a hotkey command.

NOTE: Service options are described in system setup options.

To view Service options:

Steps

1. Enter BIOS Setup.
   The **Overview** menu appears.
2. Enter the hotkey combination **Ctrl +Alt + s** to view the **Service** options.
   Service options are visible.

View Advanced Setup options

About this task

Some BIOS Setup options are only visible by enabling **Advanced Setup** mode, which is disabled by default.

NOTE: BIOS Setup options, including **Advanced Setup** options, are described in system setup options.

To enable Advanced Setup:

Steps

1. Enter BIOS Setup.
   The **Overview** menu appears.
2. Click the **Advanced Setup** option to move it to the **ON** mode.
   Advanced BIOS Setup options are visible.

Updating the BIOS

Updating the BIOS in Windows

Steps

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

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

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

Updating the BIOS using the USB drive in Windows

Steps

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

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

3. Click **Drivers & Downloads**. Expand **Find drivers**.
4. Select the operating system installed on your computer.
5. In the **Category** drop-down list, select **BIOS**.
6. Select the latest version of BIOS, and click **Download** to download the BIOS file for your computer.
7. Create a bootable USB drive. For more information, search the Knowledge Base Resource at Dell Support Site.
8. Copy the BIOS Setup program file to the bootable USB drive.
9. Connect the bootable USB drive to the computer that needs the BIOS update.
10. Restart the computer and press **F12** .
11. Select the USB drive from the **One Time Boot Menu**.
12. Type the BIOS Setup program filename and press **Enter**.
    The **BIOS Update Utility** appears.
13. Follow the on-screen instructions to complete the BIOS update.

Updating the BIOS from the One-Time boot menu

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

About this task

BIOS Update

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

To update your BIOS from the One-Time boot menu, you need the following:

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

Perform the following steps to update the BIOS from the One-Time boot menu:

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

Steps

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

System and setup password

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

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

Table 41. System and setup password

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

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

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

Assigning a System Setup password

Prerequisites

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

Steps

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

Deleting or changing an existing system password or setup password

Prerequisites

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

Steps

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

   NOTE: If you change the system password and/or setup password, reenter the new password when prompted. If you delete the system password and/or setup password, confirm the deletion when prompted.
5. Press Esc. A message prompts you to save the changes.
6. Press Y to save the changes and exit from **System Setup**.
   The computer restarts.

Clearing CMOS settings

About this task

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

The following images indicate the location of the CMOS jumper on the system board and provide a visual representation of the clearing CMOS procedure.

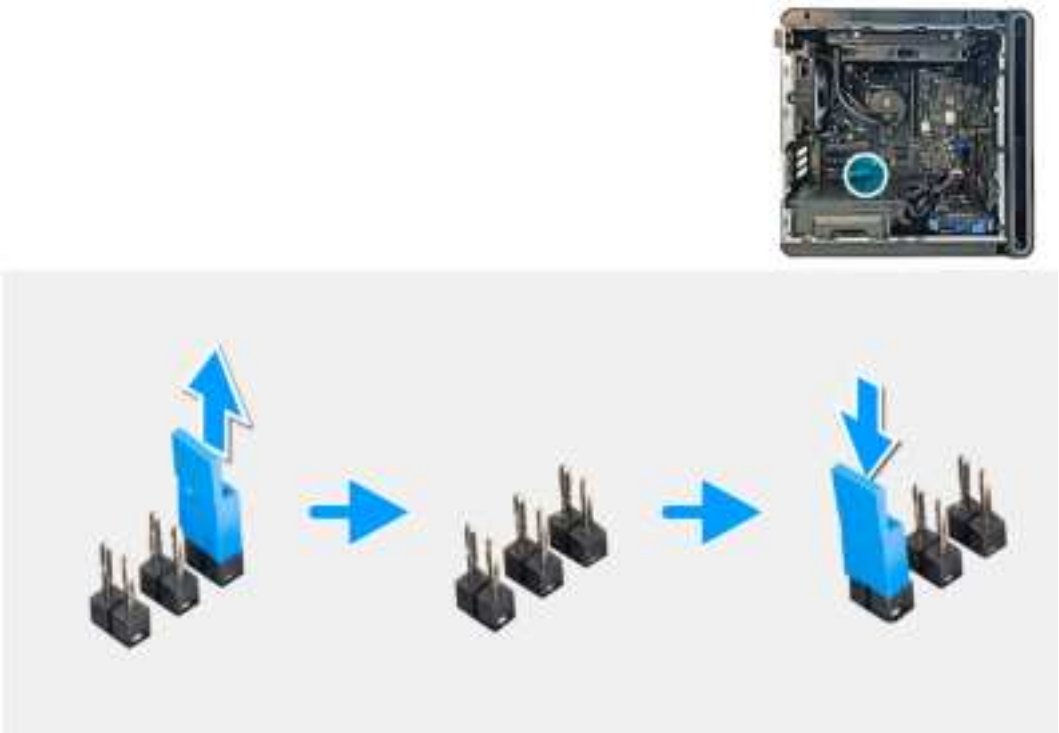

Figure 69. Clearing CMOS settings

Steps

1. Turn off the computer and disconnect the power cable from the computer.
2. Remove the left-side cover.
3. Lay the computer on its right side.
4. Locate the 2-pin CMOS jumper on the system board.
5. Ensure that the jumper is on the pair of password pins (JM34).
6. Move the jumper to the pair of CMOS pins (JM12).
7. Plug the power cable to the computer.
8. Wait for 10 seconds for the CMOS to clear.
9. Disconnect the power cable from the computer.
10. Move the jumper to the pair of password pins (JM34).
11. Install the left-side cover.

Clearing BIOS (System Setup) and System passwords

About this task

The following images indicate the location of the password reset jumper on the system board and provide a visual representation of the clearing passwords procedure.

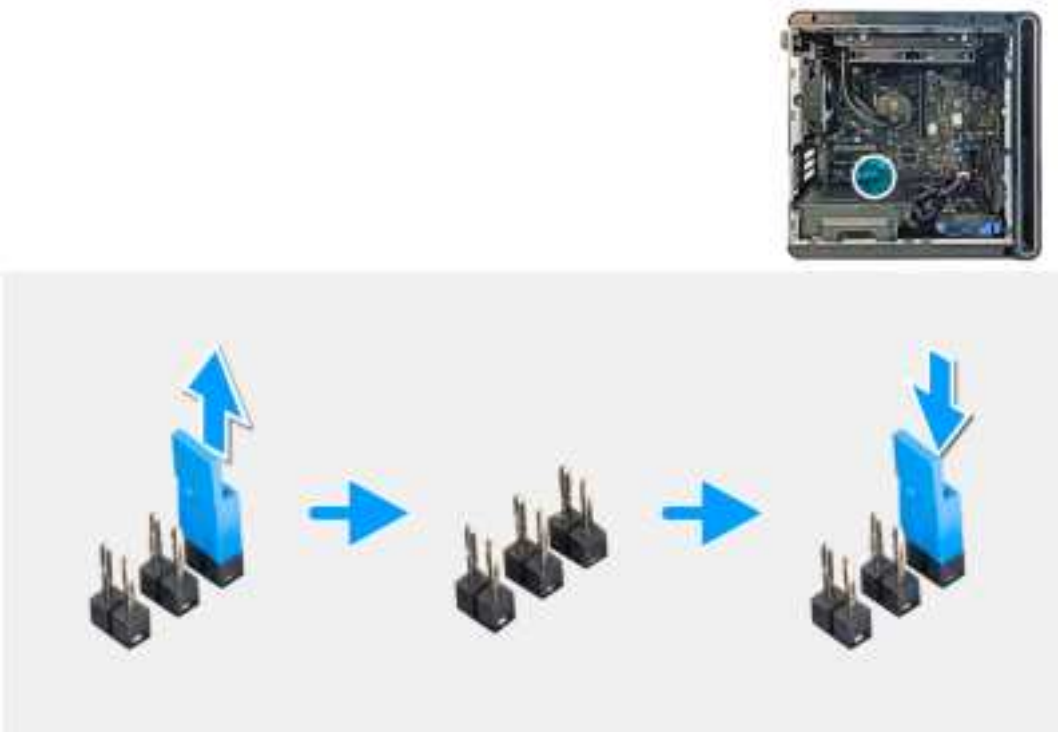

Figure 70. Clearing BIOS (System Setup) and System passwords

Steps

1. Turn off the computer and disconnect the power cable from the computer.
2. Remove the left-side cover.
3. Lay the computer on its right side.
4. Locate the 2-pin password reset jumper on the system board.
5. Ensure that the jumper is on the pair of password pins (JM34) and remove the jumper.
6. Plug the power cable to the computer and turn on the computer to clear the password.
7. Wait for until the desktop is loaded and then shut down the computer.
8. Disconnect the power cable from the computer.

9. Replace the jumper on the pair of password pins (JM34).
10. Install the left-side cover.

Troubleshooting

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.

System-diagnostic lights

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

Solid white—Computer is in S0 state. This is the normal power state of the computer.

Blinking white—Computer is in a low-power state, S3. This does not indicate a fault.

Solid amber—Computer is experiencing a boot failure, including the power-supply unit.

Blinking amber—Computer is experiencing a boot failure but the power-supply unit is functioning correctly.

Off—Computer is in hibernation mode or turned off.

The power-status light may also blink amber or white according to predefined "beep codes" indicating various failures.

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

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

NOTE: The following diagnostic light codes and recommended solutions are intended for Dell service technicians to troubleshoot problems. You should only perform troubleshooting and repairs as authorized or directed by the Dell technical support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

Table 42. Diagnostic light codes

Diagnostic light codes (Amber, White)	Problem description
1,5	EC unable to program i-Fuse
1,8	Chipset "Catastrophic Error" signal has tripped
2,1	CPU failure
2,2	System board: BIOS or Read-Only Memory (ROM) failure
2,3	No memory or Random-Access Memory (RAM) detected
2,4	Memory or Random-Access Memory (RAM) failure
2,5	Invalid memory installed
2,6	System board or chipset error
3,1	CMOS battery failure **NOTE:** Not supported on computer without coin-cell battery.
3,2	PCI of video card or chip failure
3,3	BIOS Recovery 1: BIOS recovery image not found
3,4	BIOS Recovery 2: Recovery image found but invalid
3,5	Power Rail Failure: EC ran into power sequencing failure
3,6	Flash corruption detected by SBIOS
3,7	Timeout waiting on ME to reply to HECI message
4,1	Memory DIMM power rail failure
4,2	CPU power cable connection issue

Recovering the operating system

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

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

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

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

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 residual flea power (perform hard reset)

About this task

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

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

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

To drain residual flea power (perform a hard reset)

Steps

1. Turn off your computer.
2. Disconnect the power adapter from your computer.
3. Press and hold the power button for 20 seconds to drain the flea power.
4. Connect the power adapter to your computer.
5. Turn on your computer.

   NOTE: For more information about performing a hard reset, see the knowledge base article 000139016 at Dell Support Site.

Getting help and contacting Alienware

Self-help resources

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

Table 43. Alienware products and online self-help resources

Self-help resources	Resource location
Information about Alienware products and services	Alienware Support Site
Contact Support	In Windows search, type **Contact Support**, and press **Enter**.
Online help for operating system	Windows Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Alienware computer is uniquely identified by 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 Instructions on how to find your Service Tag or Serial Number.
Videos providing step-by-step instructions to service your computer.	Alienware Support Channel

Contacting Alienware

To contact Alienware for sales, technical support, or customer service issues, see Alienware 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.

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 44. Revision history

Revision	Date	Description
A00	02-27-2025	Original publish date.
A04	06-27-2025	• Added short description • Added version table