

# User Guide



IdeaCentre Gaming 5i (14L,6), IdeaCentre Creator 5i (14L,6) and  
IdeaCentre Gaming 5 (14L,6)

## **Read this first**

Before using this documentation and the product it supports, ensure that you read and understand the following:

- *Safety and Warranty Guide*
- *Generic Safety and Compliance Notices*
- *Setup Guide*

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## About this documentation

- Depending on the model, some optional accessories, features, and software programs might not be available on your computer.
- Depending on the version of the operating systems and programs, some user interface instructions might not be applicable to your computer.
- Documentation content is subject to change without notice. Lenovo makes constant improvements to the documentation of your computer, including this *User Guide*. To get the latest documentation, go to: <https://pcsupport.lenovo.com>
- Microsoft® makes periodic feature changes to the Windows® operating system through Windows Update. As a result, some information in this documentation might become outdated. Refer to Microsoft resources for the latest information.
- This guide applies to the Lenovo product models listed below. Illustrations in this guide may look slightly different from your product model.

<b>Model name</b>	<b>Machine types (MT)</b>
IdeaCentre Gaming5 14IOB6	90RE
IC Creator 5 14IOB6	90RG
IdeaCentre Gaming5 14ACN6	90RW

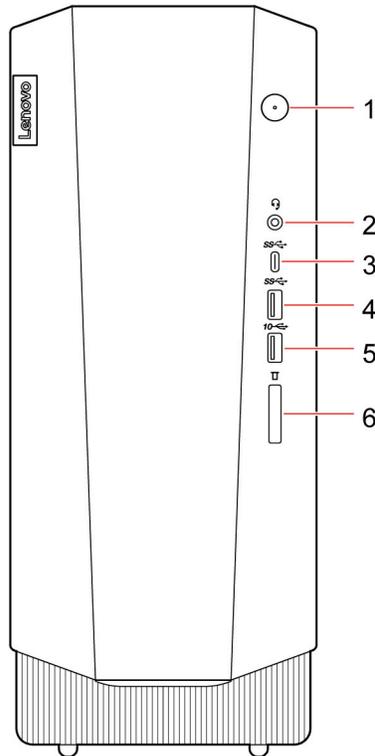


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# Chapter 1. Meet your computer

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## Front



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1. Power button

2. Headset connector

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3. USB-C® (3.2 Gen 1) connector

4. USB 3.2 connector Gen 1

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5. USB 3.2 connector Gen 2

6. SD-card slot\*

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\* for selected models

### Power indicator

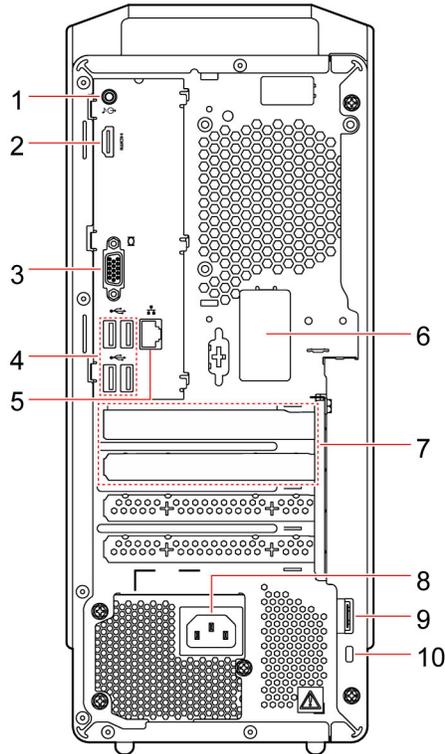
Show the system status of your computer.

- **On:** The computer is on.
- **Off:** The computer is off or in hibernation mode.
- **Blinking:** The computer is in sleep mode.

### Related topics

- “USB specifications” on page 3.
- “Use a media card ” on page 10.

## Rear



1. Audio line-out connector	2. HDMI™ 1.4 out connector*/HDMI™ 2.0 out connector
3. VGA-out connector	4. USB 2.0 connectors (4)
5. Ethernet connector	6. Wireless antennas
7. PCI-Express card area	8. Power cord connector
9. Padlock loop	10. Security-lock slot

\* for IdeaCentre Gaming5 14ACN6 only

### Related topics

- “USB specifications” on page 3.
- “Connect to the wired Ethernet” on page 5.
- “Lock the computer” on page 6.

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## Features and specifications

For detailed specifications of your computer, go to <https://psref.lenovo.com>.

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<b>Hardware configuration</b>	<ol style="list-style-type: none"><li>1. Right-click the <b>Start</b> button to open the Start context menu.</li><li>2. Click <b>Device Manager</b>. Type the administrator password or provide confirmation if prompted.</li></ol>
<b>Power supply</b>	<ul style="list-style-type: none"><li>• 260-watt automatic voltage-sensing power supply**</li><li>• 310-watt automatic voltage-sensing power supply</li><li>• 380-watt automatic voltage-sensing power supply</li></ul>
<b>Microprocessor</b>	To view the microprocessor information of your computer, right-click the <b>Start</b> button and then click <b>System</b> .
<b>Memory</b>	Double data rate 4 (DDR4) dual in-line memory module (DIMM)
<b>Storage device</b>	<p>To view the storage drive capacity of your computer, right-click the <b>Start</b> button to open the Start context menu and then click <b>Disk Management</b>.</p> <p><b>Note:</b> The storage drive capacity indicated by the system is less than the nominal capacity.</p>
<b>Expansion</b>	<ul style="list-style-type: none"><li>• SD card slot*</li><li>• DDR4 DIMM slots</li><li>• M.2 solid-state drive slot (2280/2242)</li><li>• Storage drive bay (3.5-inch Storage drive bay)</li><li>• PCI Express slots: PCIe x16 (1), PCIe x1 (1)</li></ul>
<b>Network features</b>	<ul style="list-style-type: none"><li>• Bluetooth</li><li>• Gigabit Ethernet LAN</li><li>• Wireless LAN</li></ul>

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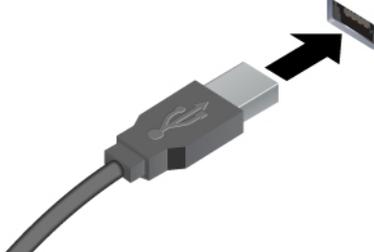
\* for selected models

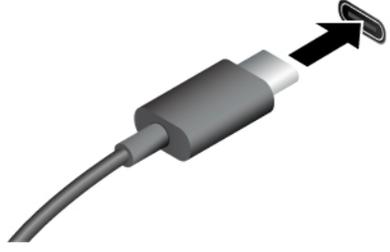
\*\* for IdeaCentre Gaming5 14ACN6 only

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## USB specifications

**Note:** Depending on the model, some USB connectors might not be available on your computer.

Connector name	Description
 <ul style="list-style-type: none"> <li>•  USB 2.0 connector</li> <li>•  USB 3.2 connector Gen 1</li> <li>•  USB 3.2 connector Gen 2</li> </ul>	<p>Connect USB-compatible devices, such as a USB keyboard, USB mouse, USB storage device, or USB printer.</p>

 <ul style="list-style-type: none"> <li>•  USB-C (3.2 Gen 1) connector</li> <li>•  USB-C (3.2 Gen 2) connector</li> <li>•  Thunderbolt 3 connector (USB-C)</li> <li>•  Thunderbolt 4 connector (USB-C)</li> </ul>	<ul style="list-style-type: none"> <li>• Charge USB-C compatible devices with the output voltage and current of 5 V and 3 A.</li> <li>• Connect to an external display: <ul style="list-style-type: none"> <li>– USB-C to VGA: 1900 x 1200 pixels, 60 Hz</li> <li>– USB-C to DP: 3840 x 2160 pixels, 60 Hz</li> </ul> </li> <li>• Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to <a href="https://www.lenovo.com/accessories">https://www.lenovo.com/accessories</a>.</li> </ul>
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### Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
3.2 Gen 1 / 3.1 Gen 1	5
3.2 Gen 2 / 3.1 Gen 2	10
3.2 Gen 2 × 2	20
Thunderbolt 3 (USB-C)	40
Thunderbolt 4 (USB-C)	40

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## Chapter 2. Get started with your computer

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### Access networks

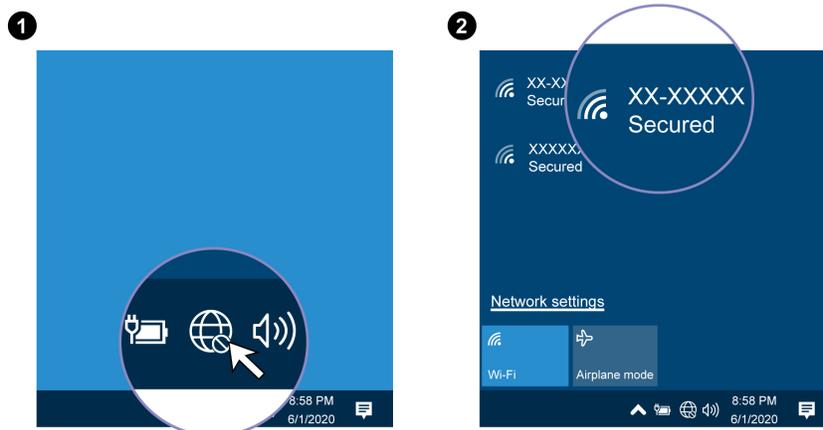
This section helps you access networks through connecting to a wired or wireless network.

#### Connect to the wired Ethernet

Connect your computer to a local network through the Ethernet connector on your computer with an Ethernet cable.

#### Connect to Wi-Fi networks

Click the network icon in the Windows notification area, and then select a network for connection. Provide required information, if needed.



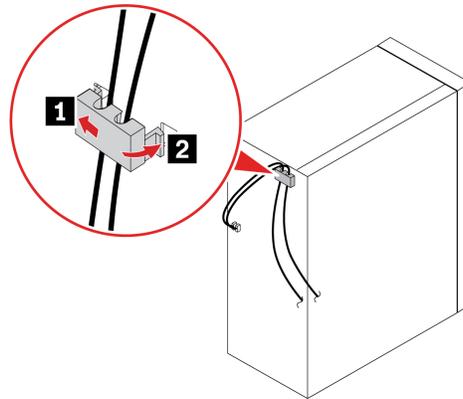
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### Manage cables with a smart cable clip

**Note:** You can purchase a smart cable clip from Lenovo.

To manage cables of devices (such as the keyboard and the mouse) with a smart cable clip:

1. Pull the cables through the dents in the clip.
2. Install the clip as shown.



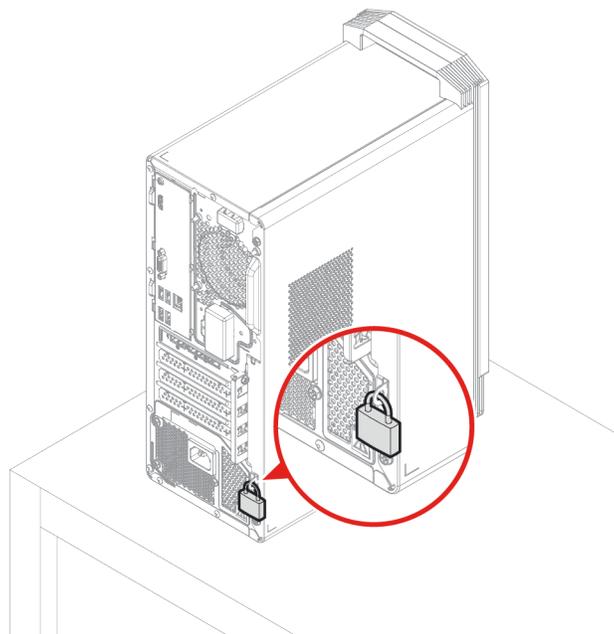
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## Lock the computer

**Note:** You are responsible for evaluating, selecting, and implementing the locking device and security feature. Lenovo makes no comments, judgments, or warranties about the function, quality, or performance of the locking device and security feature. You can purchase computer locks from Lenovo.

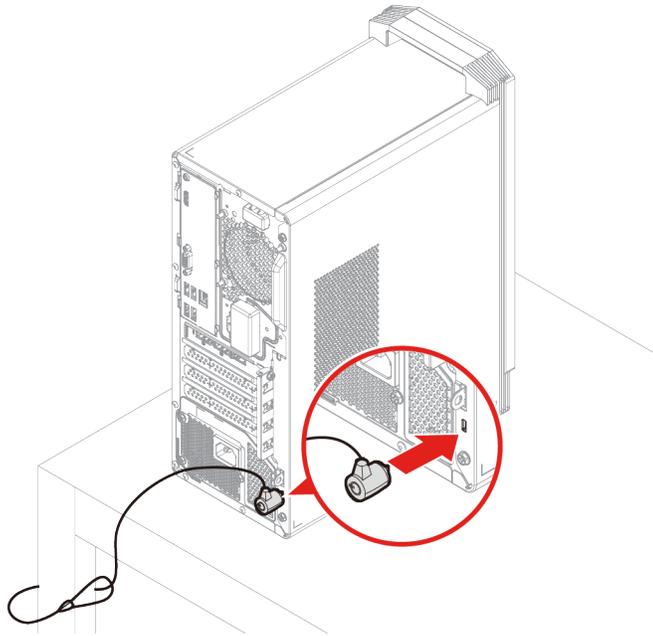
### Padlock

Locking the computer cover through a padlock prevents unauthorized access to the inside of your computer.



## Kensington-style cable lock

Lock your computer to a desk, table, or other fixtures through a Kensington-style cable lock.





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## Chapter 3. Explore your computer

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### Lenovo Vantage



The preinstalled Lenovo Vantage is a customized one-stop solution to help you maintain your computer with automated updates and fixes, configure hardware settings, and get personalized support.

#### Access Lenovo Vantage

Open the **Start** menu and click **Lenovo Vantage**. You also can type **Lenovo Vantage** in the search box.

To download the latest version of Lenovo Vantage, go to Microsoft Store and search by the app name.

#### Key features

Lenovo Vantage enables you to:

- Know the device status easily and customize device settings.
- Download and install UEFI BIOS, firmware and driver updates to keep your computer up-to-date.
- Monitor your computer health, and secure your computer against outside threats.
- Scan your computer hardware and diagnose hardware problems.
- Look up warranty status (online).
- Access *User Guide* and helpful articles.

#### Notes:

- The available features vary depending on the computer model.
- Lenovo Vantage makes periodic updates of the features to keep improving your experience with your computer. The description of features might be different from that on your actual user interface.

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### Set the power plan

For ENERGY STAR® compliant computers, the following power plan takes effect when your computers have been idle for a specified duration:

- turn off the display: After 10 minutes
- put the computer to sleep: After 25 minutes

To awaken the computer from Sleep mode, press any key on your keyboard.

To reset the power plan to achieve the best balance between performance and power saving:

1. Go to **Control Panel** and view by large icons or small icons.
2. Click **Power Options**, and then choose or customize a power plan of your preference.

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## Transfer data

Quickly share your files using the built-in Bluetooth technology among devices with the same features. You also can install a disc or media card to transfer data.

### Connect to a Bluetooth-enabled device

You can connect all types of Bluetooth-enabled devices to your computer, such as a keyboard, a mouse, a smartphone, or speakers. To ensure that the connection is successful, place the devices 10 meters (33 feet), at most, from the computer.



1. Click the action center icon  in the Windows notification area. Enable the Bluetooth feature.
2. Click **Add Bluetooth or other device** → **Bluetooth**.
3. Select a Bluetooth device, and then follow the on-screen instructions.

### Use a media card

If your computer has a SD-card slot, read the following information.

#### Install a media card

1. Locate the SD-card slot.
2. Ensure that the metal contacts on the card are facing the ones in the SD-card slot. Insert the card firmly into the SD-card slot until it is secured in place.

#### Remove a media card

**Attention:** Before removing a media card, eject the card from the Windows operating system first. Otherwise, data on the card might get corrupted or lost.

1. Click the triangular icon in the Windows notification area to show hidden icons. Then, right-click the **Safely Remove Hardware and Eject Media** icon.
2. Select the corresponding item to eject the card from the Windows operating system.
3. Press the card and remove it from your computer. Store the card safely for future use.

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## Purchase accessories

Lenovo has a number of hardware accessories and upgrades to help expand the capabilities of your computer. Options include memory modules, storage devices, network cards, power adapters, keyboards, mice, and more.

To shop at Lenovo, go to <https://www.lenovo.com/accessories>.



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## Chapter 4. Troubleshooting, diagnostics, and recovery

This chapter provides solutions to resolve computer problems. Use the basic procedure as a starting point for resolving computer problems.

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### Basic procedure for resolving computer problems

#### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

1. Check that:
  - a. The cables for all connected devices are connected correctly and securely.
  - b. All components have been reassembled correctly.
  - c. All connected devices that require ac power are connected to properly grounded and working electrical outlets.
  - d. All connected devices are enabled in UEFI BIOS.
2. Use an antivirus program (if any) to see if the computer has been infected by a virus. If the program detects a virus, remove the virus.
3. See Chapter 4 “Troubleshooting, diagnostics, and recovery” on page 13 to resolve the problem you are experiencing, run the diagnostic program, and recover your operating system.
4. If the problem persists, contact Lenovo. See Chapter 6 “Help and support” on page 55.

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### Troubleshooting

Use the troubleshooting information to find solutions to problems that have definite symptoms.

## Startup problems

Problem	Solution
The computer does not start up when you press the power button.	<ul style="list-style-type: none"><li>• Ensure that the power cord is correctly connected to the rear of the computer and to a working electrical outlet.</li><li>• If the computer has a secondary power switch on the rear of the computer, ensure that it is switched on.</li><li>• The power indicator on the front of the computer is on.</li><li>• The computer voltage matches the voltage available at the electrical outlet for your country or region.</li></ul>
The operating system does not start up from the correct storage drive or fails to start up	<ul style="list-style-type: none"><li>• Ensure that all storage drive signal cables and power cables are connected correctly.</li><li>• Ensure that the storage drive the computer starts up from is listed as the first startup device in UEFI BIOS.</li><li>• In rare cases, the storage drive with the operating system might get corrupted or damaged. In such cases, you might need to replace the storage drive.</li><li>• If the computer is installed with an Optane memory:<ul style="list-style-type: none"><li>– Ensure that the Optane memory is not removed.</li><li>– Ensure that the Optane memory is not damaged. Check the Optane memory using diagnostic tools.</li></ul></li></ul>
The computer beeps multiple times before the operating system starts up.	Ensure that no keys are stuck.

## Audio problems

Problem	Solution
The audio cannot be heard on the Windows® operating system.	<ul style="list-style-type: none"><li>• If you are using powered external speakers that have an On/Off control, ensure that:<ul style="list-style-type: none"><li>– The On/Off control is set to the <b>On</b> position.</li><li>– The speaker power cable is connected to a properly grounded, functional ac electrical outlet.</li></ul></li><li>• If your external speakers have a volume control, ensure that the volume is not set too low.</li><li>• Click the volume icon in the Windows notification area on the taskbar. Check the speaker and volume settings. Do not mute the speaker or set the volume at a very low level.</li><li>• If your computer has a front audio panel, ensure that the volume is not set too low.</li><li>• Ensure that your external speakers (and headphones, if used) are connected to the correct audio connector on the computer. Most speaker cables are color-coded to match the audio connector.</li></ul> <p><b>Note:</b> When external-speaker or headphone cables are connected to the audio connector, the internal speaker, if present, is disabled. In most cases, if an audio adapter is installed in one of the expansion slots, the audio function built into the system board is disabled. Therefore, you must use the audio connectors on the audio adapter.</p> <ul style="list-style-type: none"><li>• Ensure that the program you are running is designed for use in the Microsoft Windows operating system. If the program is designed to run in DOS, the program does not use the Windows sound feature. The program must be configured to use SoundBlaster Pro or SoundBlaster emulation.</li><li>• Ensure that the audio device drivers are correctly installed.</li></ul>
The sound does not come from the headset or headphones.	Select the headset or headphones as the default audio output device in advanced sound settings.
The sound comes from one of the external speakers.	<ul style="list-style-type: none"><li>• Ensure that the speaker cable is inserted completely into the connector on the computer.</li><li>• Ensure that the cable that connects the left speaker to the right speaker is securely connected.</li><li>• Ensure that the balance settings are set correctly.<ol style="list-style-type: none"><li>1. Right-click the volume icon in the Windows notification area on the taskbar. Then, click <b>Open Volume Mixer</b> and select the desired speaker.</li><li>2. Click the speaker icon on top of the volume control, and then click the <b>Levels</b> tab.</li></ol></li></ul>

## Network problems

**Note:** The Wi-Fi® and Bluetooth features are optional.

Problem	Solution
The computer cannot connect to an Ethernet LAN.	<ul style="list-style-type: none"> <li>• Connect the cable from the Ethernet connector to the RJ45 connector of the hub.</li> <li>• Enable the Ethernet LAN feature in UEFI BIOS.</li> <li>• Enable the Ethernet LAN adapter.               <ol style="list-style-type: none"> <li>1. Go to <b>Control Panel</b> and view by large icons or small icons.</li> <li>2. Click <b>Network and Sharing Center → Change adapter settings</b>.</li> <li>3. Right-click the Ethernet LAN adapter icon and click <b>Enable</b>.</li> </ol> </li> <li>• Update or reinstall the Ethernet LAN driver.</li> <li>• Install all networking software that is necessary for your network environment. Check with your LAN administrator for the necessary networking software.</li> <li>• Set the same duplex for the switch port and the adapter. If you configured the adapter for full duplex, ensure that the switch port is also configured for full duplex. Setting a wrong duplex mode might degrade performance, cause data loss, or result in lost connections.</li> </ul>
When a Gigabit Ethernet model computer is used at a speed of 1000 Mbps, the Ethernet LAN connection fails or errors occur.	Connect the network cable to the Ethernet connector using Category 5 wiring and a 100 BASE-T hub/switch (not 100 BASE-X).
The Wake On LAN (WOL) feature does not work.	Enable the Wake On LAN feature in UEFI BIOS.
The Wi-Fi feature does not work.	<ul style="list-style-type: none"> <li>• Enable the Wi-Fi feature in UEFI BIOS.</li> <li>• Enable all Wi-Fi devices.               <ol style="list-style-type: none"> <li>1. Right-click the <b>Start</b> button to open the <b>Start</b> context menu.</li> <li>2. Click <b>Device Manager</b>. Type the administrator password or provide confirmation, if prompted.</li> <li>3. Expand <b>Network adapters</b> to display all network devices.</li> <li>4. Right-click each Wi-Fi device, and then click <b>Enable device</b>.</li> </ol> </li> <li>• Enable the Wi-Fi feature in Windows Settings.               <ol style="list-style-type: none"> <li>1. Open the <b>Start</b> menu.</li> <li>2. Click <b>Settings → Network &amp; Internet → Wi-Fi</b>.</li> <li>3. Enable the Wi-Fi feature.</li> </ol> </li> <li>• Update or reinstall the Wi-Fi driver.</li> </ul>

Problem	Solution
<p>The Bluetooth feature does not work.</p>	<ul style="list-style-type: none"> <li>• Enable the Bluetooth feature in UEFI BIOS.</li> <li>• Enable all Bluetooth devices.               <ol style="list-style-type: none"> <li>1. Right-click the <b>Start</b> button to open the <b>Start</b> context menu.</li> <li>2. Click <b>Device Manager</b>. Type the administrator password or provide confirmation if prompted.</li> <li>3. Expand <b>Bluetooth</b> to display all Bluetooth devices. Right-click each Bluetooth device, and then click <b>Enable device</b>.</li> <li>4. Expand <b>Network adapters</b> to display all network devices. Right-click each Bluetooth device, and then click <b>Enable device</b>.</li> </ol> </li> <li>• Turn on the Bluetooth radio.               <ol style="list-style-type: none"> <li>1. Open the <b>Start</b> menu.</li> <li>2. Click <b>Settings → Devices → Bluetooth &amp; other devices</b>.</li> <li>3. Turn on the <b>Bluetooth</b> switch to enable the Bluetooth feature.</li> </ol> </li> <li>• Update or reinstall the Bluetooth driver.</li> </ul>
<p>Sound does not come from the Bluetooth headset or headphones.</p>	<p>Select the Bluetooth headset or headphones as the default audio output device in advanced sound settings.</p>

## Performance problems

Problem	Solution
Excessive fragmented files exist on the storage drives.	<p><b>Note:</b> Depending on the volume of the storage drives and amount of data stored on the storage drives, the disk-defragmentation process might take up to several hours.</p> <ol style="list-style-type: none"><li>1. Close any open programs and windows.</li><li>2. Open the <b>Start</b> menu.</li><li>3. Click <b>Windows System → File Explorer → This PC</b>.</li><li>4. Right-click your C drive and then click <b>Properties</b>.</li><li>5. Click the <b>Tools</b> tab.</li><li>6. Click <b>Optimize</b>. Select the drive as desired, and then click <b>Optimize</b>.</li><li>7. Follow the on-screen instructions.</li></ol>
The free storage drive space is insufficient.	<ul style="list-style-type: none"><li>• Clean out your Inbox, Sent Items, and Deleted Items folders from your e-mail application.</li><li>• Clean up your C drive.<ol style="list-style-type: none"><li>1. Open the <b>Start</b> menu.</li><li>2. Click <b>Windows System → File Explorer → This PC</b>.</li><li>3. Right-click your C drive and then click <b>Properties</b>.</li><li>4. Check the amount of free space, and then click <b>Disk Cleanup</b>.</li><li>5. A list of unnecessary file categories is displayed. Select the category you want to delete, and then click <b>OK</b>.</li></ol></li><li>• Disable some Windows features or remove some unnecessary programs.<ol style="list-style-type: none"><li>1. Go to <b>Control Panel</b> and view by large icons or small icons.</li><li>2. Click <b>Programs and Features</b>.</li><li>3. Do one of the following:<ul style="list-style-type: none"><li>– To disable some Windows features, click <b>Turn Windows features on or off</b>. Follow the on-screen instructions.</li><li>– To remove some unnecessary programs, select the program you want to remove, and then click <b>Uninstall/Change</b> or <b>Uninstall</b>.</li></ul></li></ol></li></ul>
The free memory space is insufficient.	<ul style="list-style-type: none"><li>• Right-click a blank area on the taskbar and open Task Manager. Then, end some tasks you are not performing.</li><li>• Install additional memory modules.</li></ul>

## Storage drive problems

Problem	Solution
Some or all storage drives are missing from the BIOS menu.	<ul style="list-style-type: none"><li>• Ensure that the signal cables and power cables for all the storage drives are connected correctly.</li><li>• Ensure that the computer is configured correctly to support the storage drives.<ul style="list-style-type: none"><li>– If the computer is installed with SATA storage drives, ensure that the SATA storage drive enablement module (one to five storage drives) is installed.</li><li>– If the computer is installed with SAS storage drives, ensure that the SAS storage drive enablement module (one to five storage drives) or the LSI MegaRAID SAS adapter is installed.</li></ul></li></ul>

## Software problems

Problem	Solution
Some programs do not work as expected.	<ol style="list-style-type: none"><li>1. Check whether the problem is caused by a program.<ol style="list-style-type: none"><li>a. Ensure that the software is compatible with the computer. Refer to the information supplied with the software for more information.</li><li>b. Verify that other software works correctly on the computer.</li><li>c. Verify that the software you are using works on another computer.</li></ol></li><li>2. If the problem is caused by a program:<ul style="list-style-type: none"><li>• Refer to the printed documentation that comes with the program or the help system of the program.</li><li>• Update the program.</li><li>• Uninstall the program and then reinstall it. To download a program that is preinstalled on your computer, go to <a href="https://pcsupport.lenovo.com">https://pcsupport.lenovo.com</a> and follow the on-screen instructions.</li></ul></li></ol>

## Recovery

This section introduces the recovery information of the Windows 10 operating system. Ensure that you read and follow the on-screen recovery instructions. The data on your computer might be deleted during the recovery process. To avoid data loss, make a backup copy of all the data that you want to keep.

### Restore system files and settings to an earlier point

1. Go to **Control Panel** and view by large icons or small icons.
2. Click **Recovery** → **Open System Restore**. Then, follow the on-screen instructions.

### Restore your files from a backup

**Note:** If you use the File History tool to restore your files from a backup, ensure that you backed up your data earlier with the tool.

1. Go to **Control Panel** and view by large icons or small icons.
2. Click **File History** → **Restore personal files**. Then, follow the on-screen instructions.

## Reset your computer

In the resetting process, you can choose to keep your files or remove them when you reinstall the operating system.

**Note:** The items in the graphical user interface (GUI) might change without notice.

1. Open the **Start** menu, and then click **Settings → Update & Security → Recovery**.
2. In the **Reset this PC** section, click **Get started**.
3. Follow the on-screen instructions to reset your computer.

## Use advanced options

1. Open the **Start** menu, and then click **Settings → Update & Security → Recovery**.
2. In the **Advanced startup** section, click **Restart now → Troubleshoot → Advanced options**.
3. Select a preferred option, and then follow the on-screen instructions.

## Windows automatic recovery

**Note:** Ensure that your computer is connected to ac power during the recovery process.

The Windows recovery environment on your computer operates independently from the Windows 10 operating system. It enables you to recover or repair the operating system even if the Windows 10 operating system fails to start.

After two consecutive failed boot attempts, the Windows recovery environment starts automatically. Then, you can choose repair and recovery options by following the on-screen instructions.

## Create and use a recovery USB device

It is recommended that you create a recovery USB drive as early as possible as a backup for the Windows recovery programs. With the recovery USB drive, you can troubleshoot and fix the problems even if the preinstalled Windows recovery programs are damaged.

### Create a recovery USB drive

**Attention:** The creation process deletes anything stored on the USB drive. To avoid data loss, make a backup copy of all the data that you want to keep.

1. Ensure that your computer is connected to ac power.
2. Prepare a USB drive with at least 16 GB of storage capacity. The actual USB capacity required depends on the size of the recovery image.
3. Connect the prepared USB drive to the computer.
4. Type **recovery** in the search box. Then, click **Create a recovery drive**.
5. Click **Yes** in the User Account Control window to allow the Recovery Media Creator program to start.
6. In the Recovery Drive window, follow the on-screen instructions to create a recovery USB drive.

### Use the recovery USB drive

If you cannot start your computer, go to Chapter 6 “Help and support” on page 55 first to try to solve the problem by yourself. If you still cannot start your computer, use the recovery USB drive to recover your computer.

1. Ensure that your computer is connected to ac power.
2. Connect the recovery USB drive to the computer.

3. Turn on or restart the computer. When the logo screen is displayed, press F12. The Boot Menu window opens.
4. Select the recovery USB drive as the boot device. Then, follow the on-screen instructions to complete the process.

## Update the device driver

**Attention:** Reinstalling device drivers will change the current configuration of the computer.

You should download the latest driver for a component when you notice poor performance from that component or when you added a component. This action might eliminate the driver as the potential cause of a problem. Download and install the latest driver by one of the following methods:

- From Lenovo Vantage:

Open Lenovo Vantage to check the available update packages. If the latest UEFI BIOS update package is available, follow the on-screen instructions to download and install the package.

- From the Lenovo Support Web site:

Go to <https://pcsupport.lenovo.com> and select the entry for your computer. Then, follow the on-screen instructions to download and install necessary drivers and software.



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## Chapter 5. CRU replacement

Customer Replaceable Units (CRUs) are parts that can be upgraded or replaced by the customer. Lenovo computers contain the following types of CRUs:

- **Self-service CRUs:** Refer to parts that can be installed or replaced easily by customer themselves or by trained service technicians at an additional cost.
- **Optional-service CRUs:** Refer to parts that can be installed or replaced by customers with a greater skill level. Trained service technicians can also provide service to install or replace the parts under the type of warranty designated for the customer's machine.

If you intend on installing the CRU, Lenovo will ship the CRU to you. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the Lenovo Limited Warranty documentation at:

[https://www.lenovo.com/warranty/llw\\_02](https://www.lenovo.com/warranty/llw_02)

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### CRU list

The following is the CRU list of your computer.

#### Self-service CRUs

- Power cord
- Keyboard\*
- Mouse\*
- Computer cover
- Front bezel
- Storage drives
- Storage drive bay
- Storage drive rubber
- M.2 solid-state drive
- Memory modules
- Thumbscrew kit

#### Optional-service CRUs

- Microprocessor heatsink and fan assembly
- Coin-cell battery
- Power supply assembly
- PCI-Express card
- PCI-Express card holder
- PCI-Express card bracket

\* for selected models

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## Remove or replace a CRU

This section provides instructions on how to remove or replace a CRU.

### Power cord

#### Prerequisite

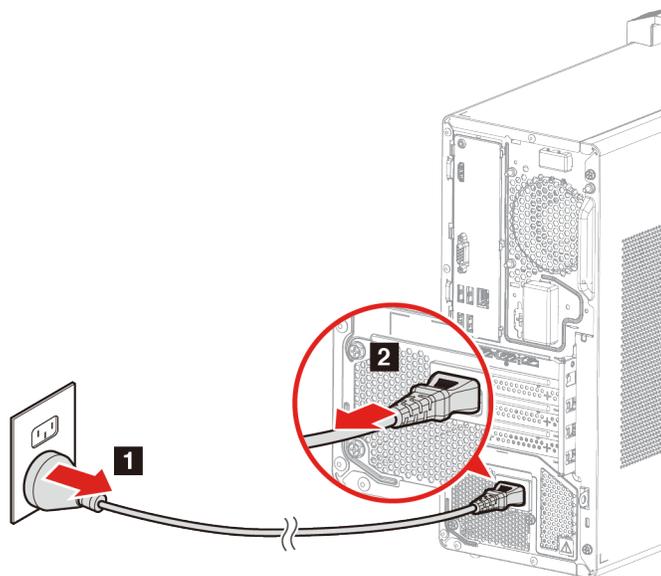
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



Before you remove the power cord, turn off the computer and wait several minutes until the computer is cool.

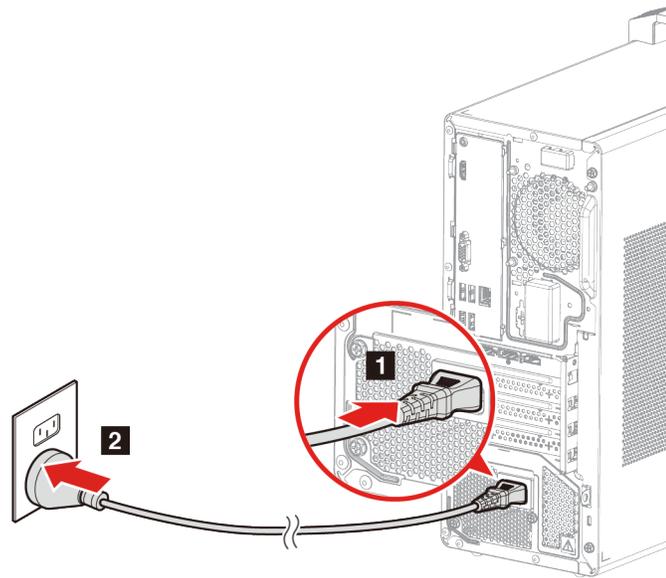
#### Replacement procedure

1. Turn off the computer and remove all connected devices.
2. Disconnect the power cord from the electrical outlet.
3. Disconnect the power cord from the computer.



4. Connect the new power cord to the computer.

5. Connect the new power cord to the electrical outlet.



6. Reconnect all disconnected devices.

## Computer cover

### Prerequisite

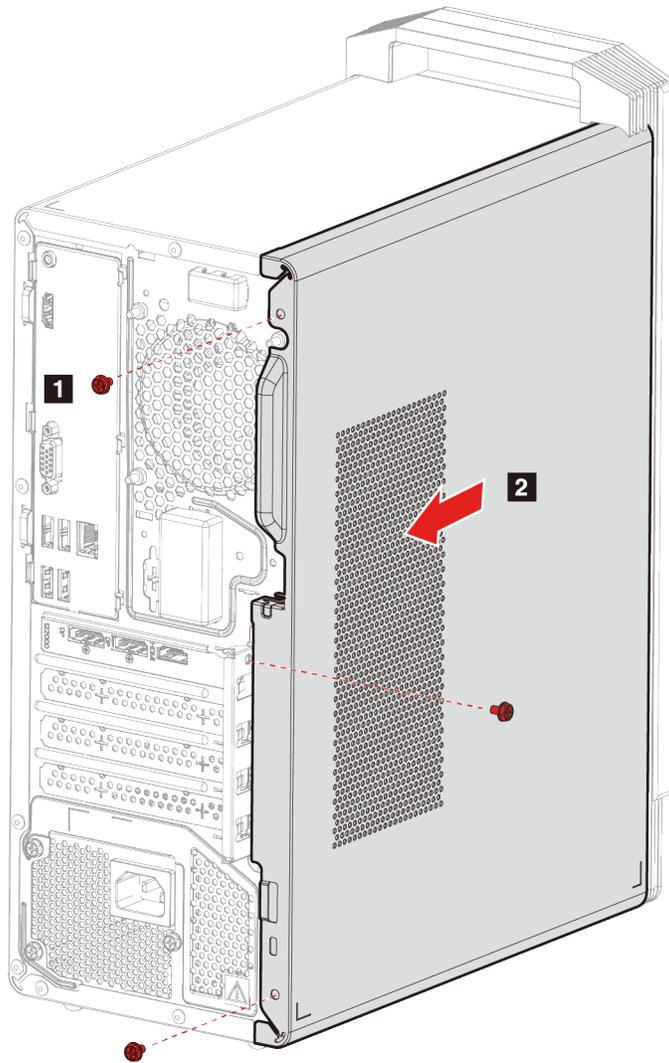
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



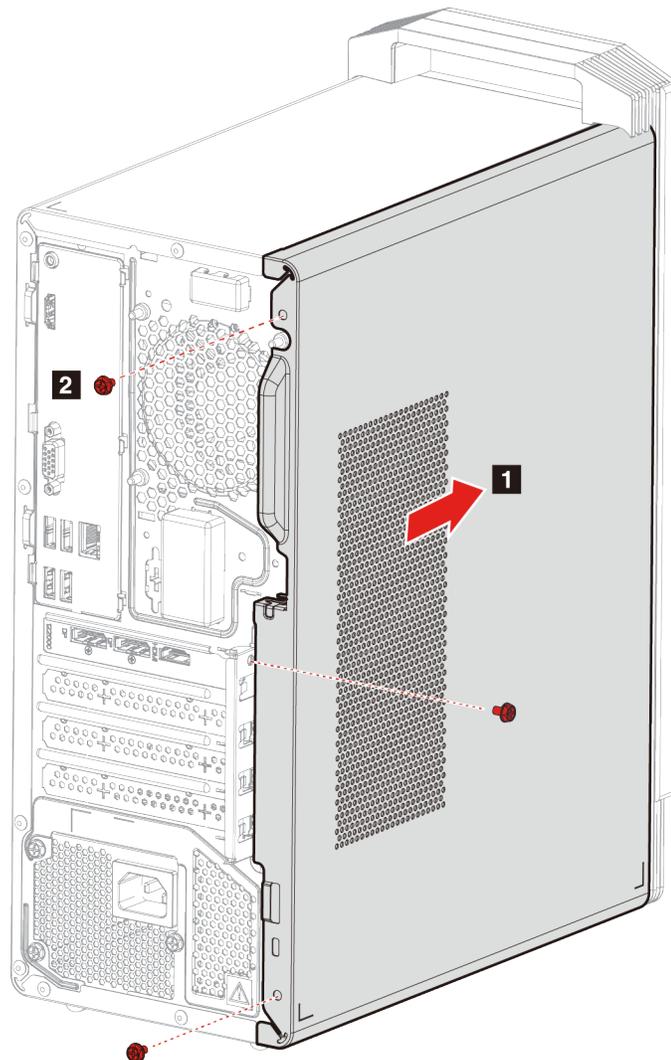
Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24
2. Unlock any locking device that secures the computer cover. See “Lock the computer” on page 6.
3. Remove the screws, and then remove the computer cover by sliding it out.



4. Install the computer cover and secure the cover with the screws.



5. Reconnect the power cord and all other disconnected cables to the computer.

**Note:** If a locking device is available, use it to lock the computer cover.

## Front bezel

### Prerequisites

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

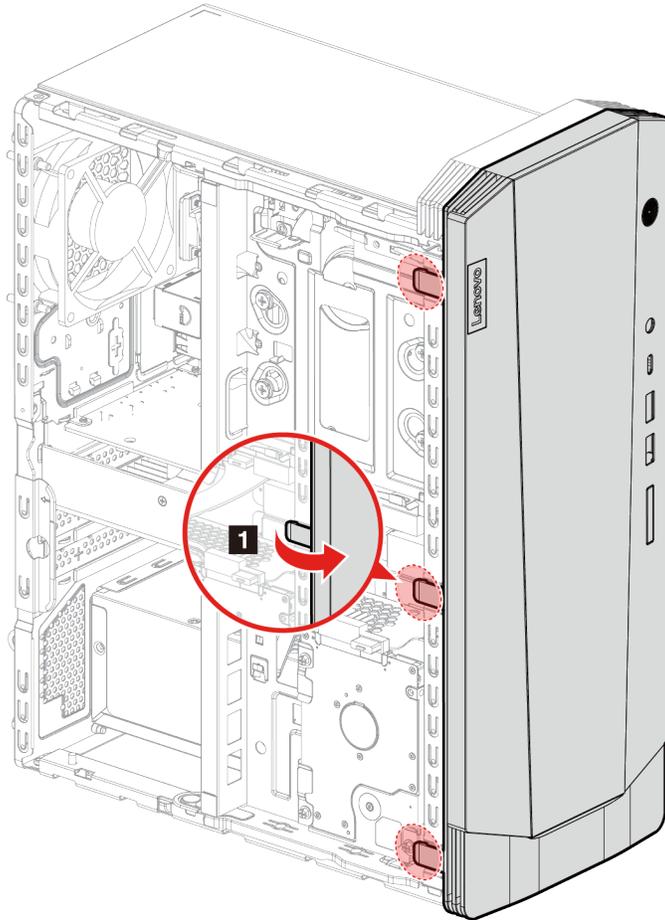


Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

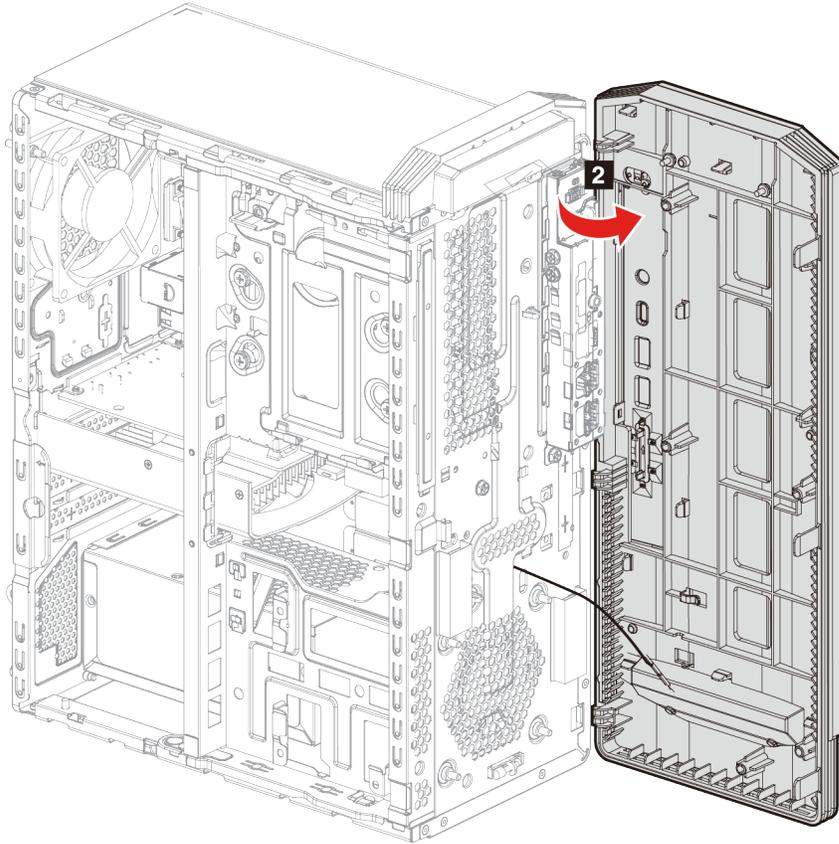
### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24

2. Remove the computer cover. See “Computer cover” on page 25
3. Remove the front bezel by releasing the three plastic tabs as shown.

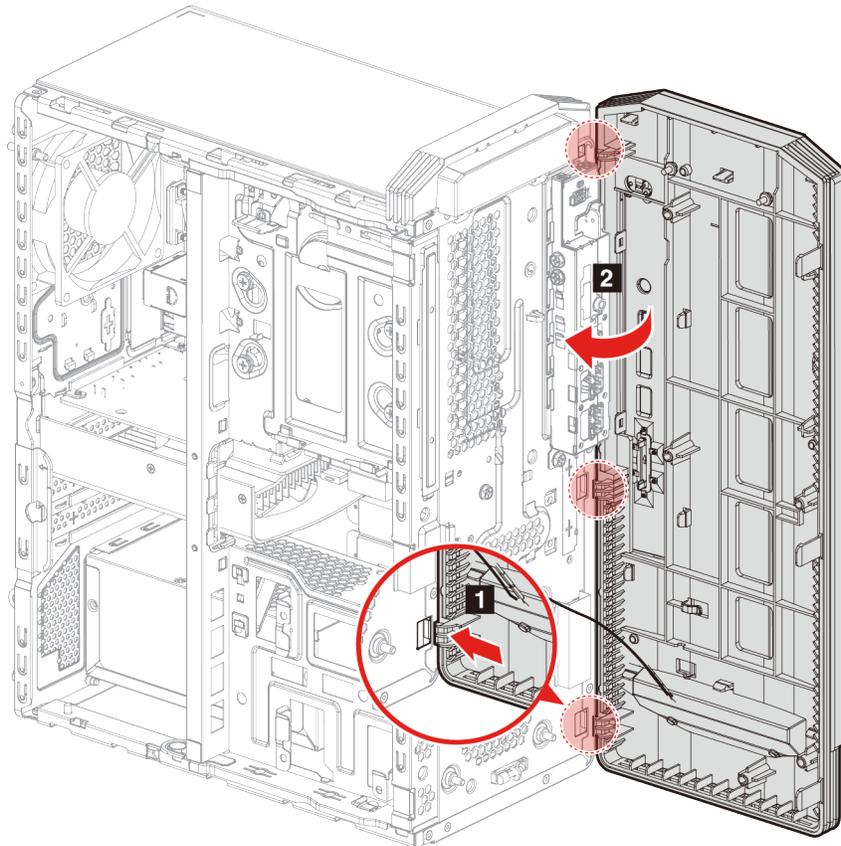


4. Remove the front bezel.



5. Align the new front bezel with the holes on the front of the chassis.

6. Close the bezel and attach the tabs.



7. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## 2.5-inch storage drive (for selected models)

### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

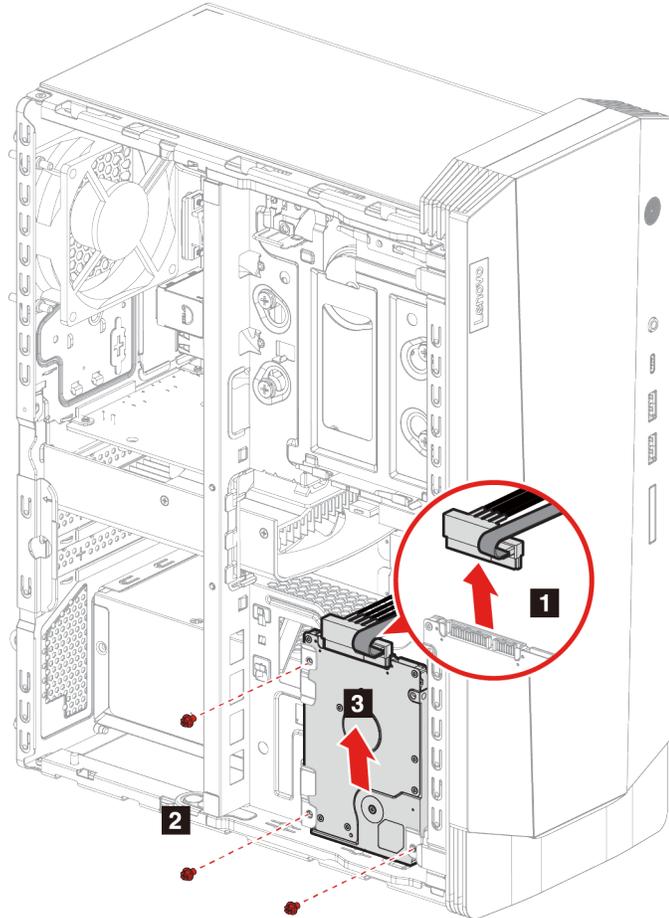
**Attention:** The internal storage drive is sensitive. Inappropriate handling might cause damage and permanent loss of data. When handling the internal storage drive, observe the following guidelines:

- Replace the internal storage drive only for upgrade or repair. The internal storage drive is not designed for frequent changes or replacement.
- Before replacing the internal storage drive, make a backup copy of all the data that you want to keep.
- Do not touch the contact edge of the internal storage drive. Otherwise, the internal storage drive might get damaged.
- Do not apply pressure to the internal storage drive.
- Do not make the internal storage drive subject to physical shocks or vibration. Put the internal storage drive on a soft material, such as cloth, to absorb physical shocks.

### Replacement procedure

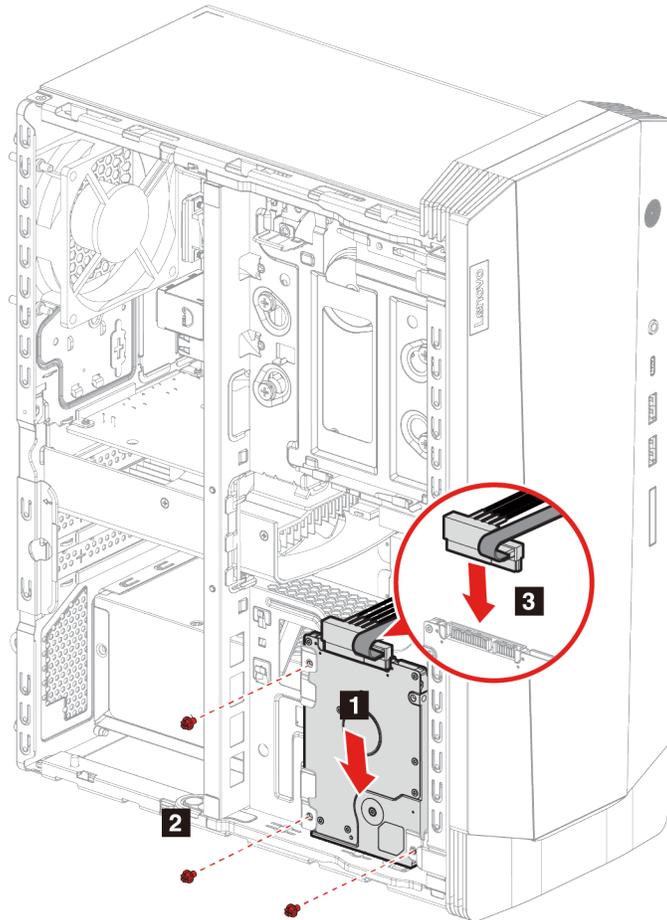
1. Remove the power cord. See “Power cord” on page 24.

2. Remove the computer cover. See “Computer cover” on page 25.
3. Disconnect the signal cable and the power cable from the storage drive.
4. Remove the screws securing the storage drive to the storage drive bay assembly.
5. Remove the storage drive from the storage drive bay.



6. Install the new storage drive into the storage drive bay.
7. Screw the storage drive back into the storage drive bay.

8. Connect the signal cable and the power cable to the storage drive.



9. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## Storage drive bay

### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

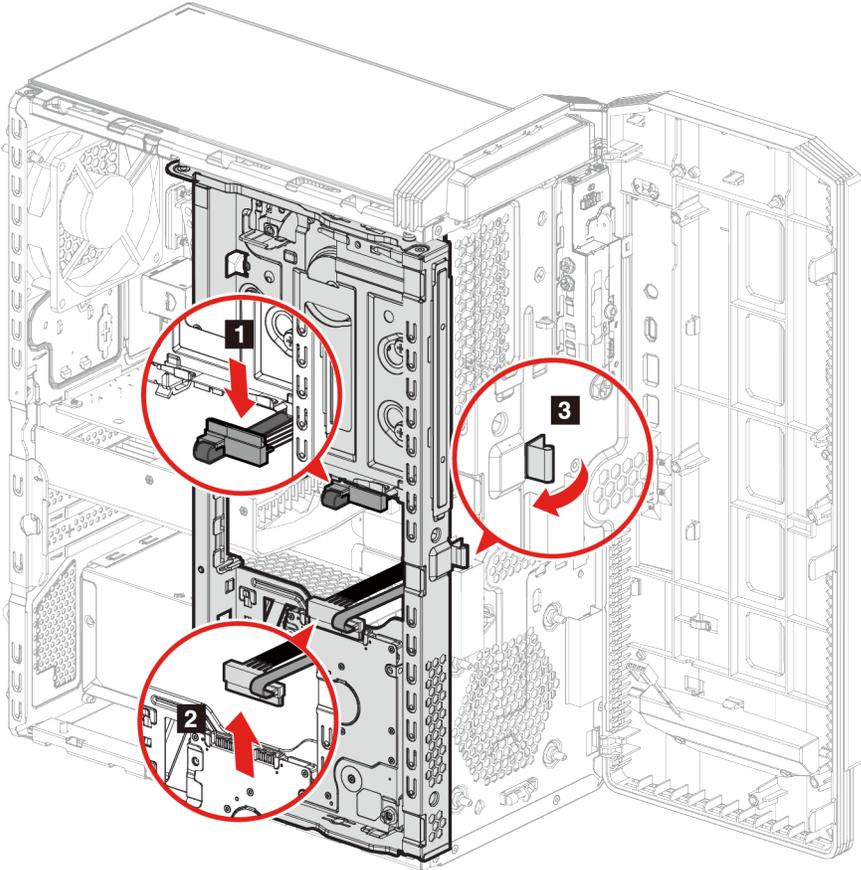
### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the front bezel. See “Front bezel” on page 27.
4. Disconnect the signal cable and the power cable from the storage drive.

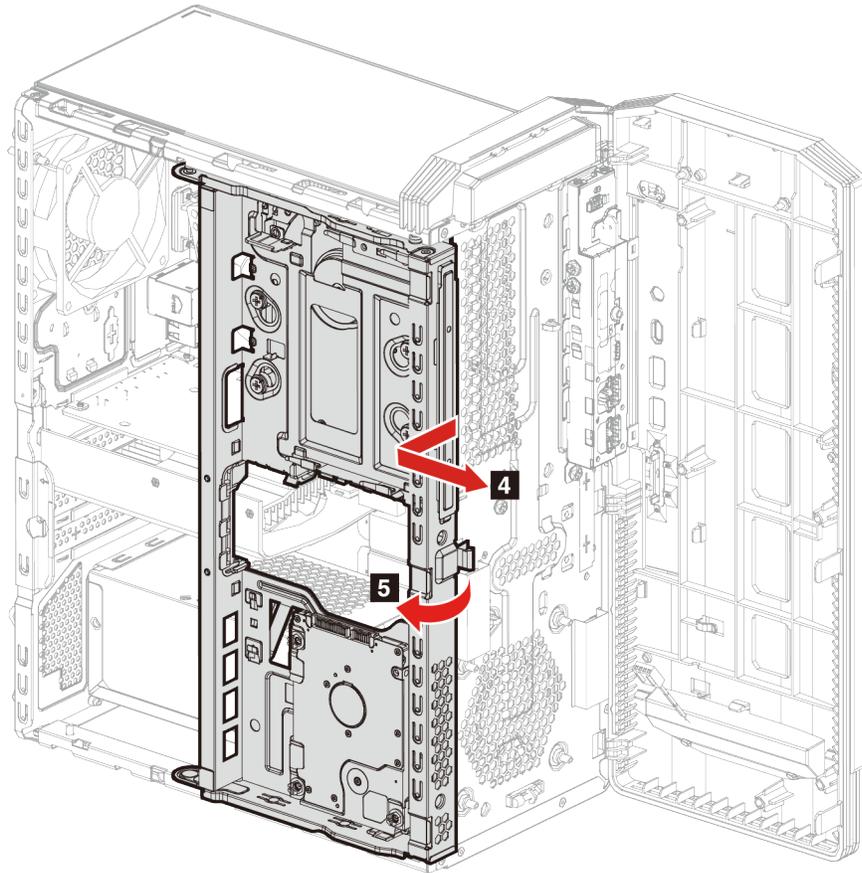
**Notes:** The storage drive will vary depending on your model:

- If your model has a 3.5-inch storage drive, follow step **1** on the illustration.
- If your model has a 2.5-inch storage drive, follow step **2** on the illustration.

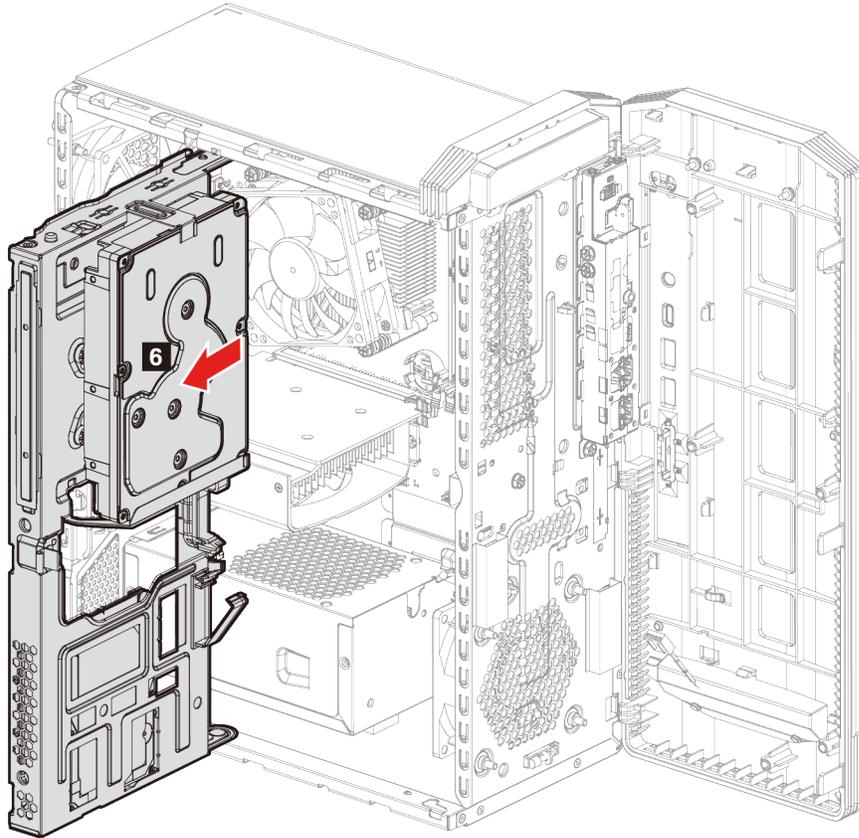
5. Release the latch on the storage drive bay and pull slightly.



6. Slide the storage drive bay towards the front of the case and rotate it away from the case.



7. Remove the storage drive bay from the case.

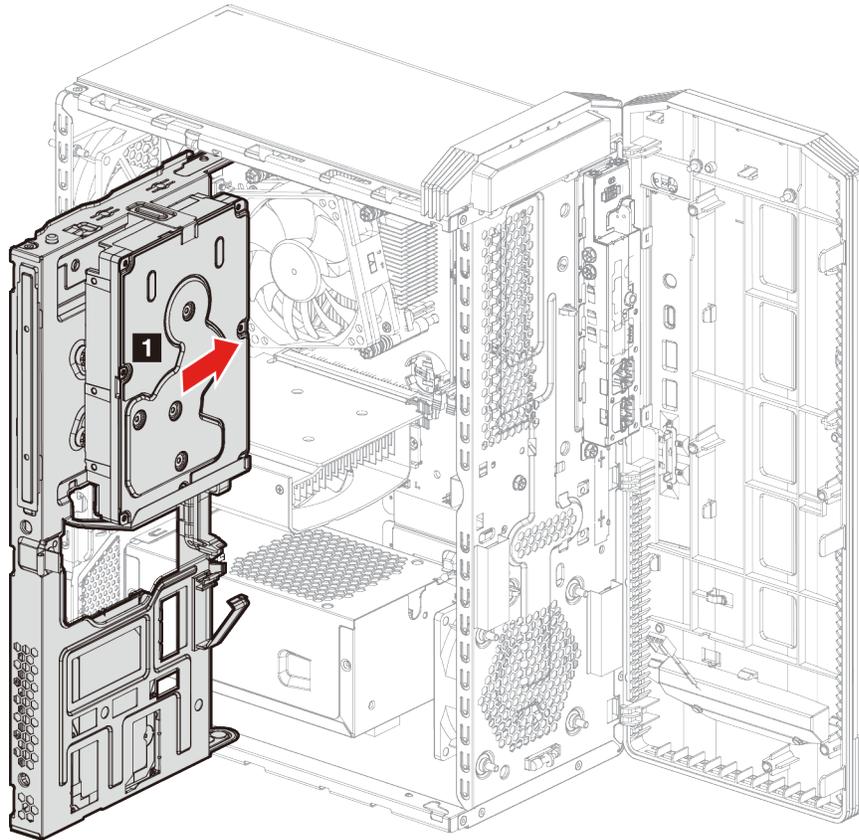


8. Remove the storage drive.

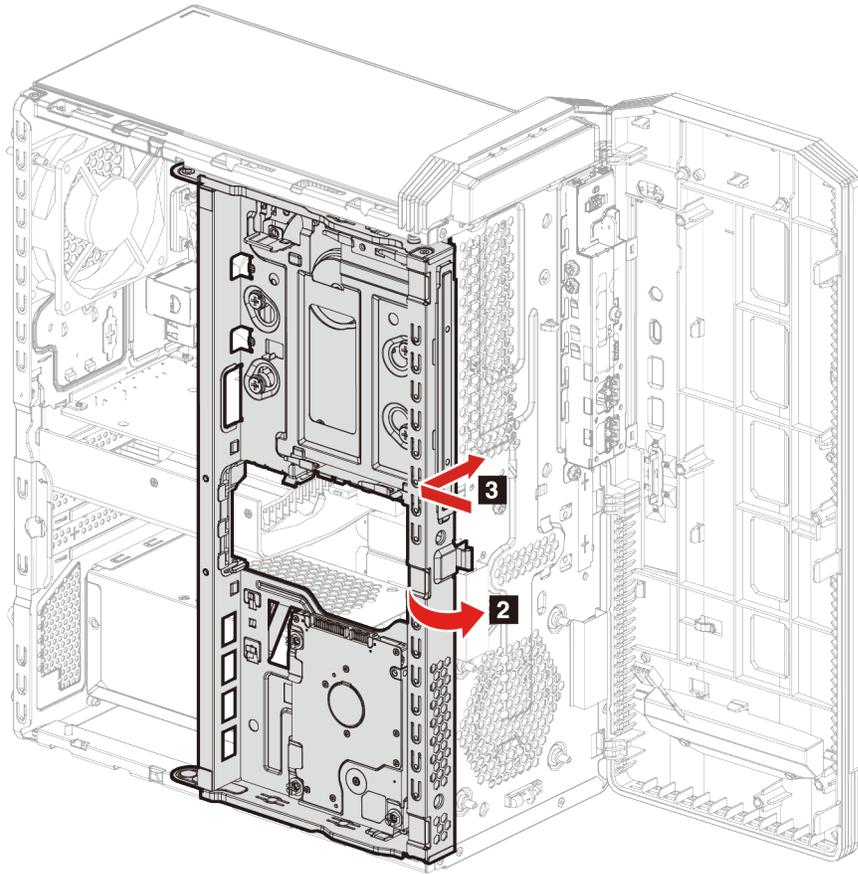
**Notes:** The storage drive will vary depending on your model:

- If your model has a 3.5-inch storage drive, see “3.5-inch storage drive” on page 38.
- If your model has a 2.5-inch storage drive, see “2.5-inch storage drive (for selected models)” on page 30.

9. Mount the new storage drive bay on the case.



10. Close the storage drive bay and slide it back into place.

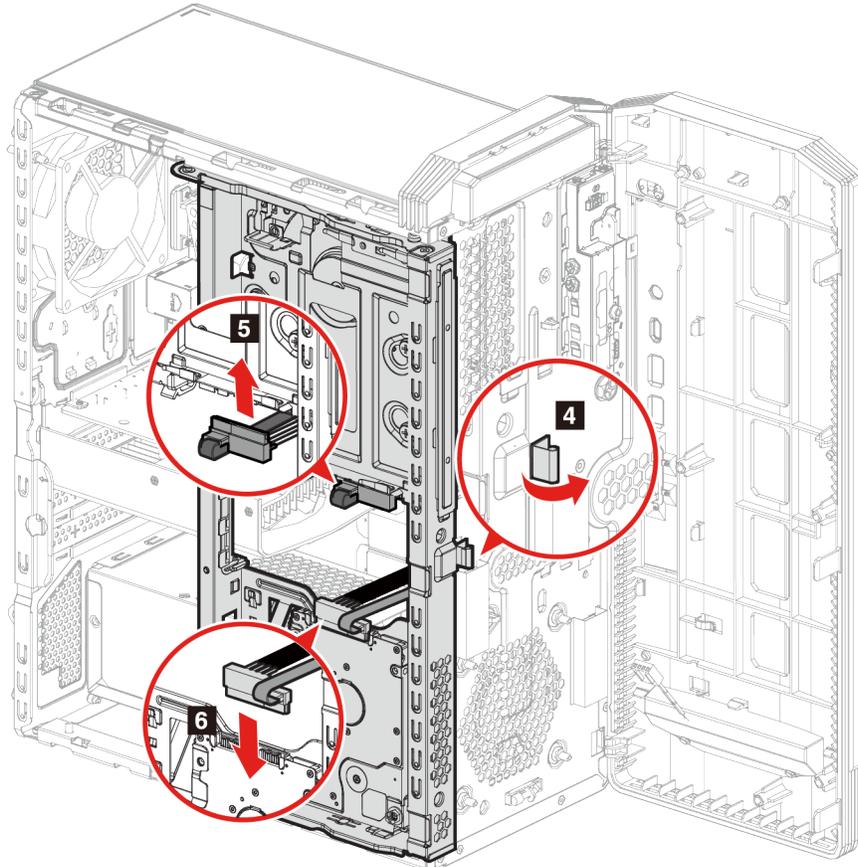


11. Push the storage drive bay into the case to engage the latch.

12. Connect the signal cable and the power cable to the storage drive.

**Notes:** The storage drive will vary depending on your model:

- If your model has a 3.5-inch storage drive, follow step **5** on the illustration.
- If your model has a 2.5-inch storage drive, follow step **6** on the illustration.



13. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## 3.5-inch storage drive

### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

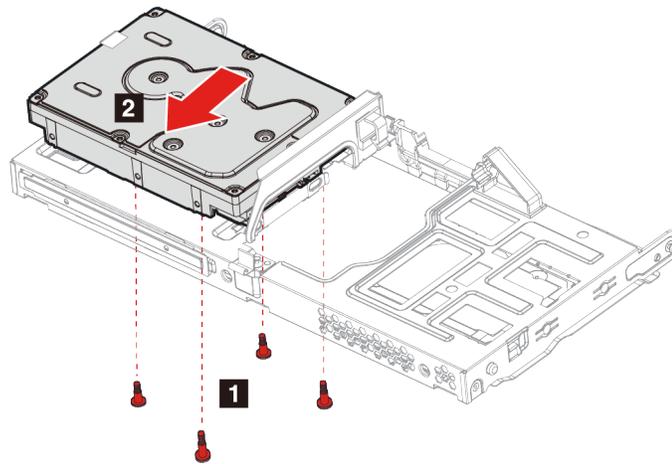
**Attention:** The internal storage drive is sensitive. Inappropriate handling might cause damage and permanent loss of data. When handling the internal storage drive, observe the following guidelines:

- Replace the internal storage drive only for upgrade or repair. The internal storage drive is not designed for frequent changes or replacement.
- Before replacing the internal storage drive, make a backup copy of all the data that you want to keep.
- Do not touch the contact edge of the internal storage drive. Otherwise, the internal storage drive might get damaged.
- Do not apply pressure to the internal storage drive.

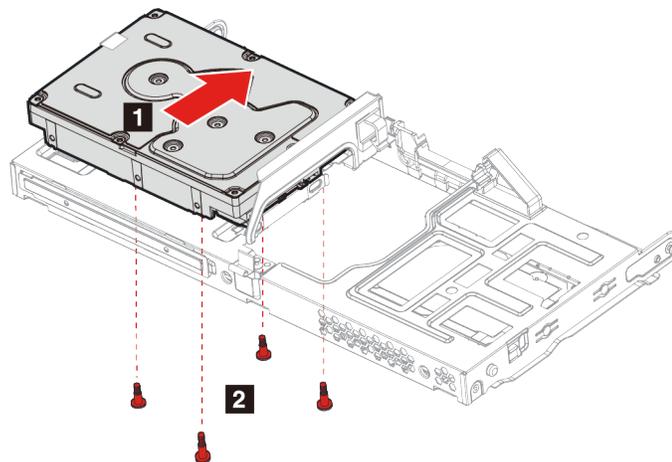
- Do not make the internal storage drive subject to physical shocks or vibration. Put the internal storage drive on a soft material, such as cloth, to absorb physical shocks.

### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Remove the screws securing the storage drive to the storage drive bay.
5. Slide the storage drive out of the storage drive bay.



6. Install the new storage drive in the storage drive bay.
7. Screw the storage drive back into the storage drive bay.



8. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

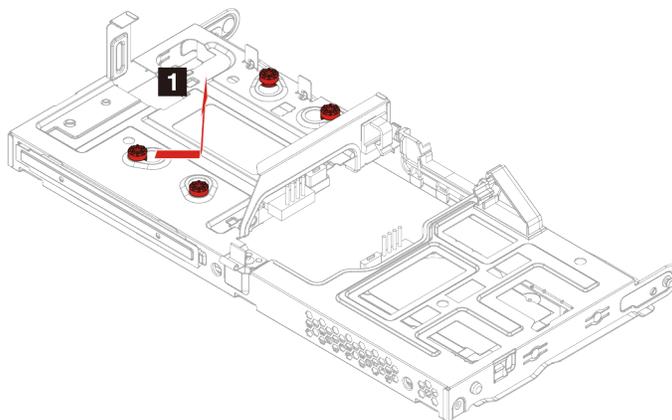
# Storage drive rubber

## Prerequisite

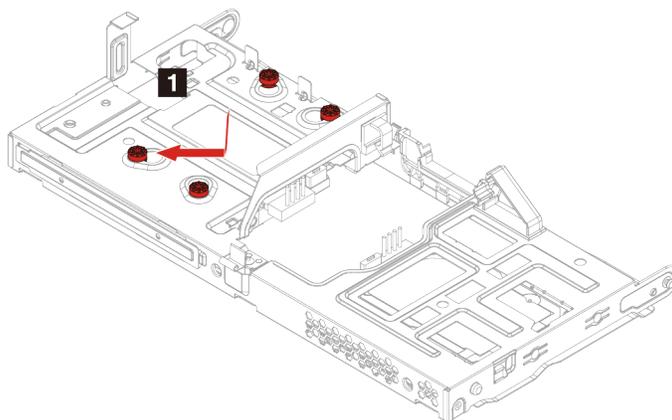
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

## Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. If available in your model, remove the 3.5-inch storage drive. See “3.5-inch storage drive” on page 38
5. Slide each storage drive rubber and pull away from storage drive bay.



6. Insert each new storage drive rubber and secure into storage drive bay.



7. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## M.2 solid-state drive

### Prerequisite

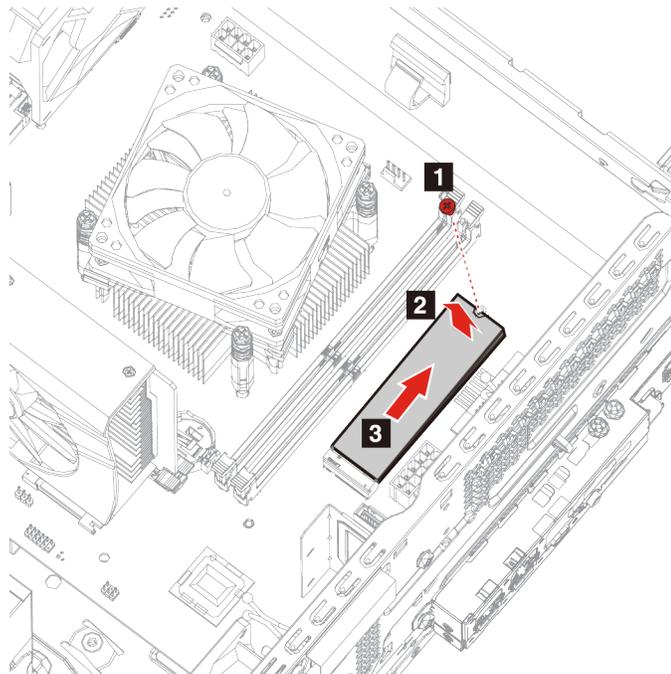
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

**Attention:** The internal storage drive is sensitive. Inappropriate handling might cause damage and permanent loss of data. When handling the internal storage drive, observe the following guidelines:

- Replace the internal storage drive only for upgrade or repair. The internal storage drive is not designed for frequent changes or replacement.
- Before replacing the internal storage drive, make a backup copy of all the data that you want to keep.
- Do not touch the contact edge of the internal storage drive. Otherwise, the internal storage drive might get damaged.

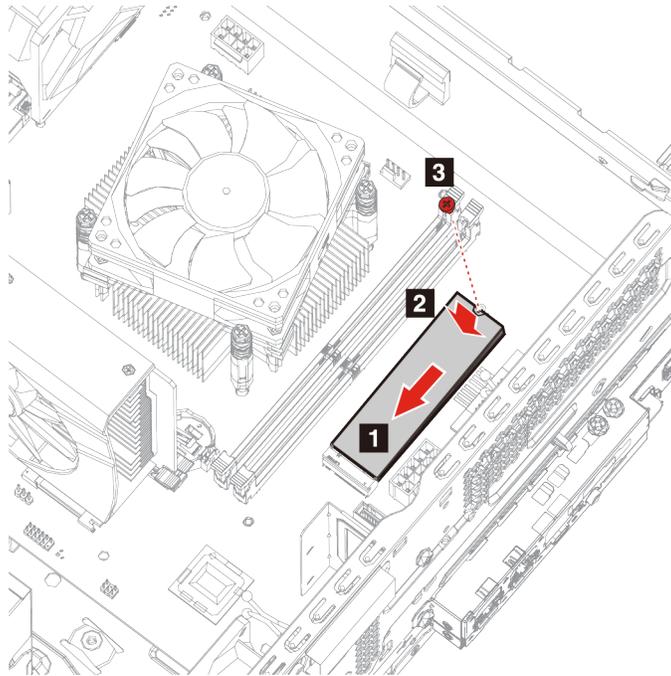
### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Remove the M.2 mounting screw holding the M.2 solid-state drive in place.
5. Pivot the M.2 solid-state drive upward
6. Remove the M.2 solid-state drive from the M.2 slot.



7. Install the new M.2 solid-state drive in the M.2 slot.
8. Press down on the M.2 solid-state drive.

9. Screw in the M.2 mounting screw.



10. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## Memory modules

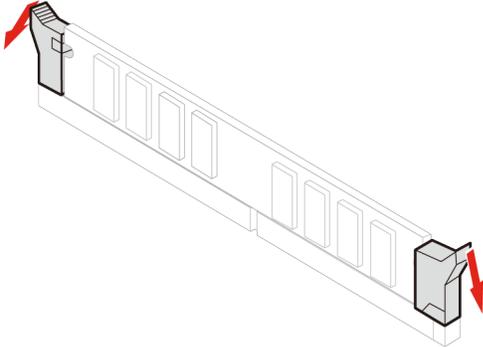
### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

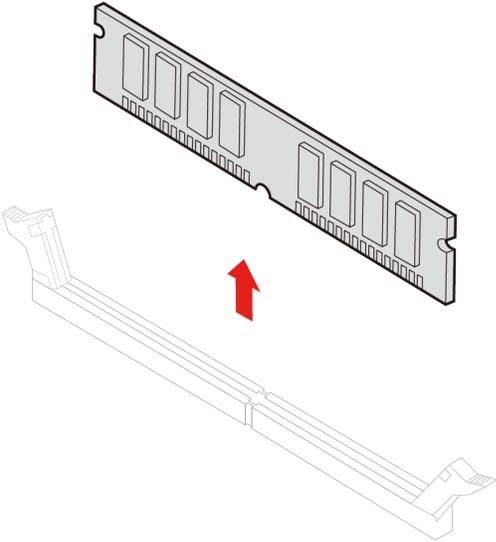
### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.

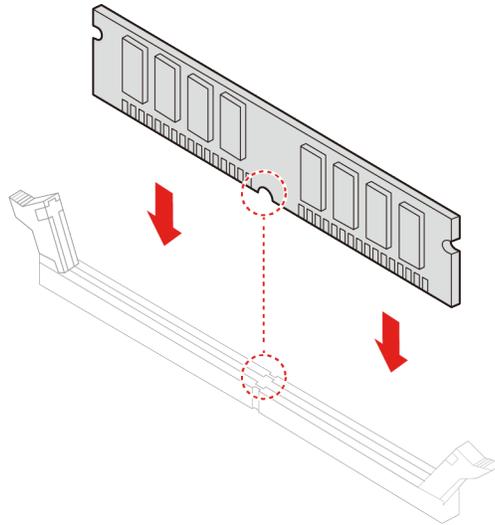
4. Disengage the tabs on the memory modules.



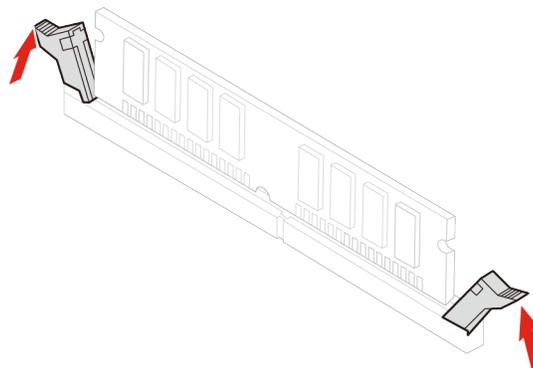
5. Remove the memory module.



6. Install the new memory module.



7. Secure the memory module with the tabs.



8. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## Microprocessor heatsink and fan assembly

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



The heatsink might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

**Note:** The images provided are for reference only. The microprocessor heatsink and fan provided with your computer may differ in appearance.

### Replacement procedure

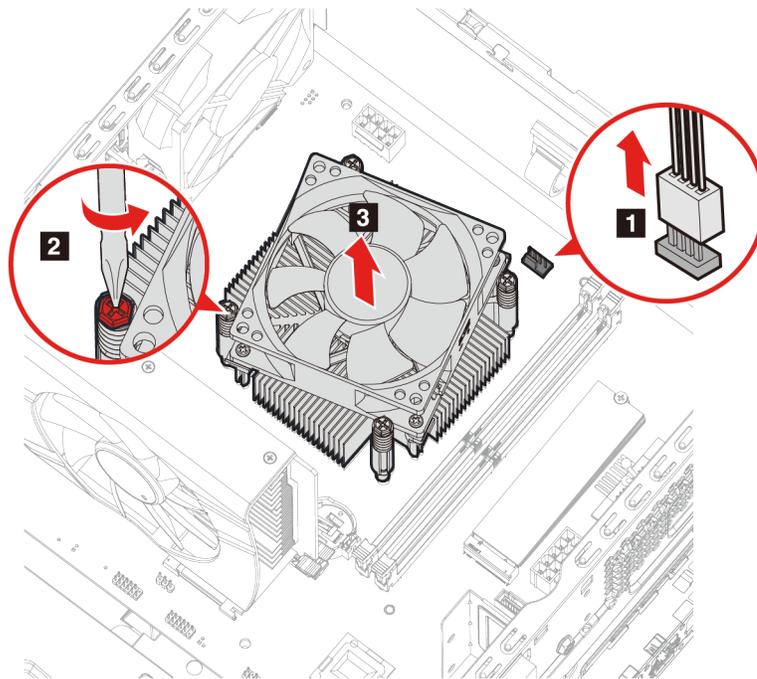
1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Remove the fan power cable from the system board.
5. Remove the heatsink mounting screws.

**Note:** Carefully remove the screws from the system board to avoid any possible damage to the system board. The screws cannot be removed from the heatsink.

6. Remove the heatsink and fan.

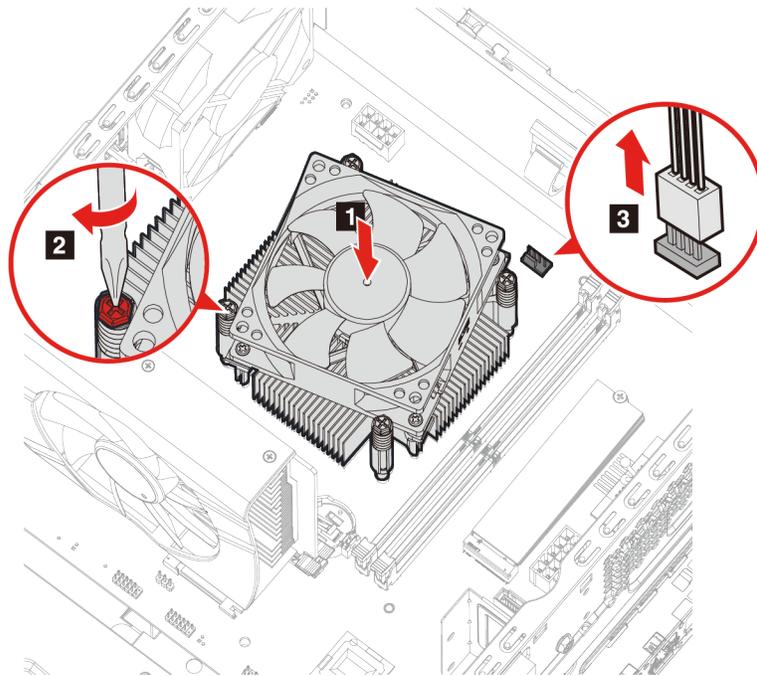
#### Notes:

- Do not touch the thermal paste while handling the heatsink.
- You may have to gently twist the heatsink to free it from the microprocessor.



7. Install the new heatsink and fan.
8. Screw in the heatsink mounting screws.

9. Plug the fan power cable into the system board.



10. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## PCI-Express card

### Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

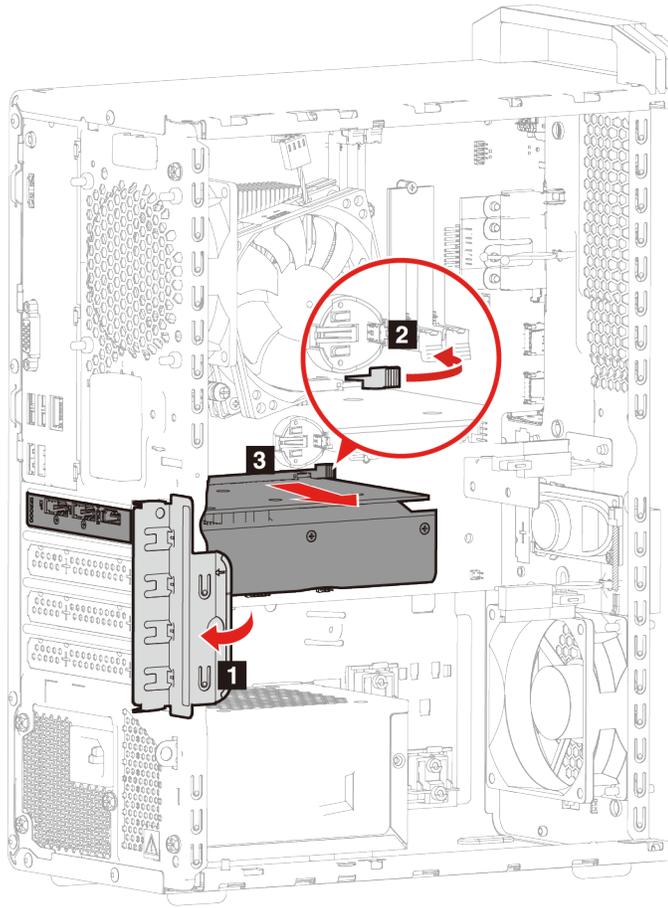


The PCI-Express card might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

### Replacement procedure

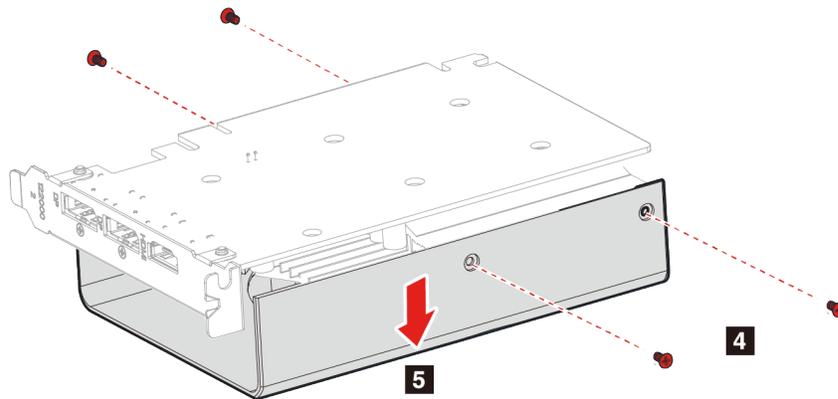
1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Open the latch.
5. Press the tab until you hear a pop to disengage the PCI-Express card.

6. Pull the PCI-Express card away from the PCI-Express slot.



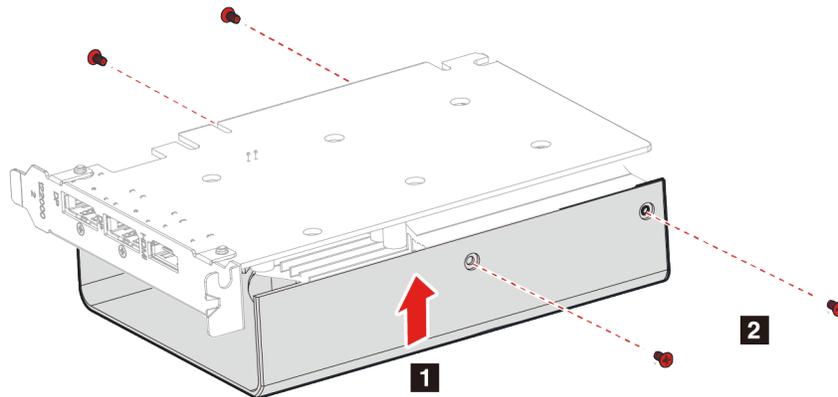
7. Remove the screws holding the PCI-Express card and the PCI-Express card bracket together.

8. Pull the PCI-Express card bracket away from the PCI-Express card.



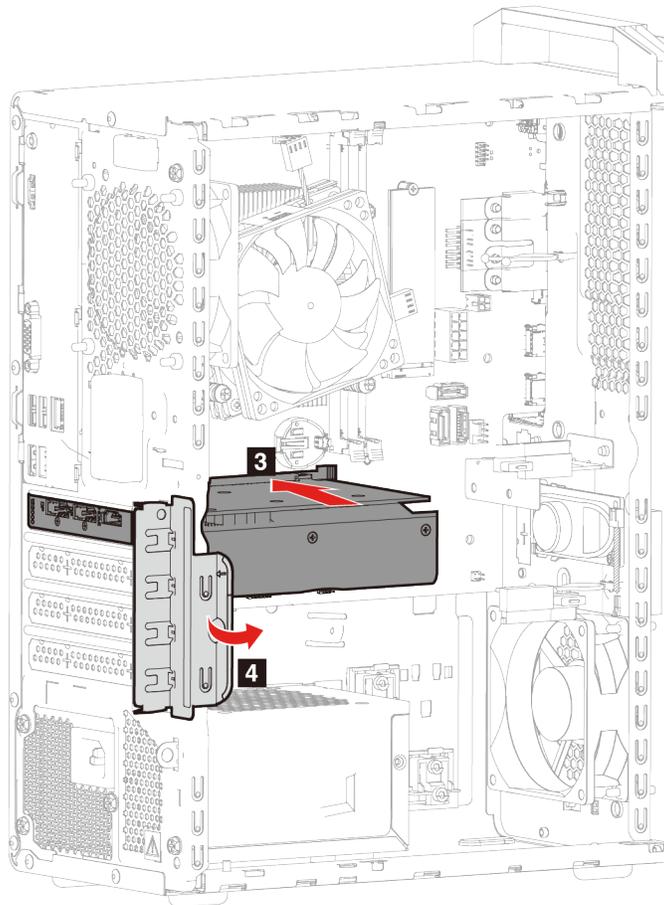
9. Install the new PCI-Express card into the PCI-Express card bracket.

10. Screw in the PCI-Express card to the PCI-Express card bracket.



11. Install the PCI-Express card into the PCI-Express slot, pressing down until you hear a pop from the tab.

12. Close the latch.



13. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

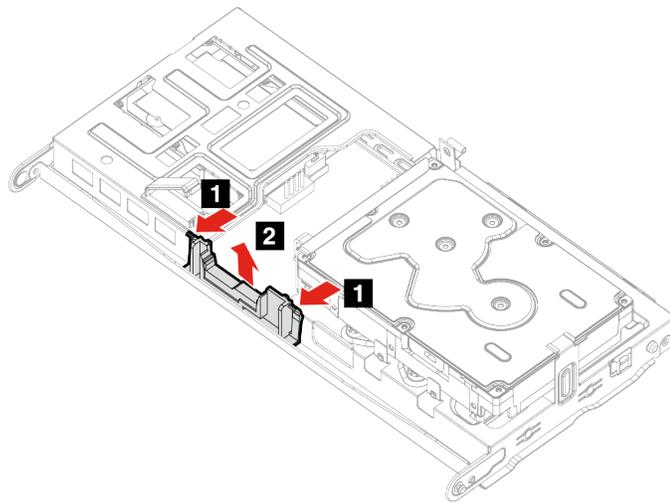
## PCI-Express card holder

### Prerequisite

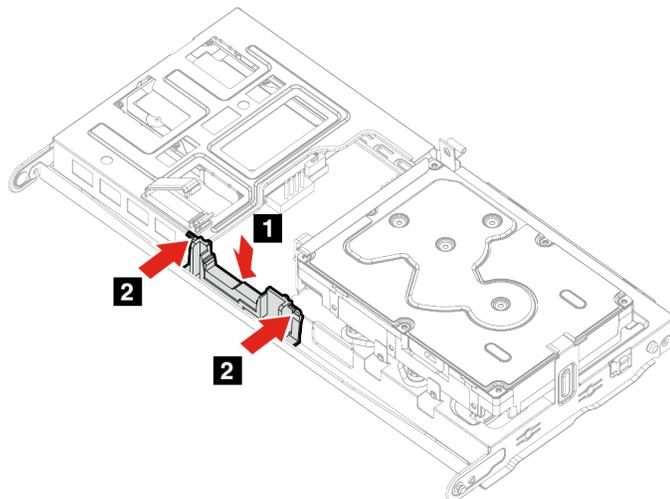
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Press the two tabs to release the PCI-Express card holder from the storage drive bay.
5. Remove the PCI-Express card holder from the storage drive bay.



6. Install the new PCI-Express card holder onto the storage drive bay.
7. Make sure that the PCI-Express card holder tabs are fully latched into the storage drive bay.



8. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

# Coin-cell battery

## Prerequisite

Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



**If the coin-cell battery is incorrectly replaced, there is danger of an explosion. The coin-cell battery contains a small amount of harmful substance. To avoid possible injury:**

- **Replace only with a battery type recommended by Lenovo.**
- **Keep the battery away from fire.**
- **Do not expose it to excessive heat.**
- **Do not expose it to water or rain.**
- **Do not short-circuit it.**
- **Do not drop, crush, puncture the battery, or subject it to strong forces. Battery abuse or mishandling can cause the battery to overheat, which can cause gasses or flame to "vent" from the battery or coin-cell battery.**

**Note:** To dispose of the coin-cell battery, refer to “Lithium coin-cell battery notice” in the *Safety and Warranty Guide*.

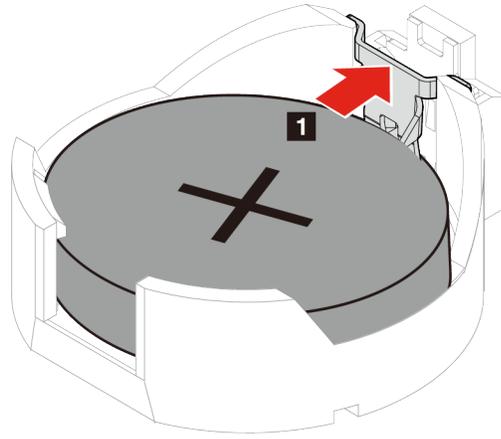
Your computer has a special type of memory that maintains the date, time, and settings for built-in features, such as parallel connector assignments (configurations). A coin-cell battery keeps this information active when you turn off the computer.

The coin-cell battery normally requires no charging or maintenance throughout its life; however, no coin-cell battery lasts forever. If the coin-cell battery fails, the date and time information is lost. An error message is displayed when you turn on the computer.

## Replacement procedure

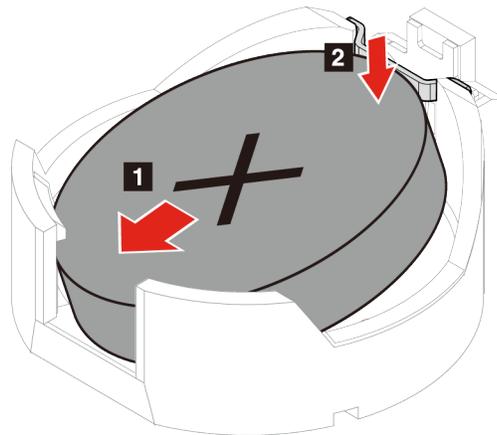
1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.

4. Disengage the latch.



5. Remove the coin-cell battery.

6. Install the new coin-cell battery and secure it with the latch.



7. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.

## Power supply assembly

### Prerequisite

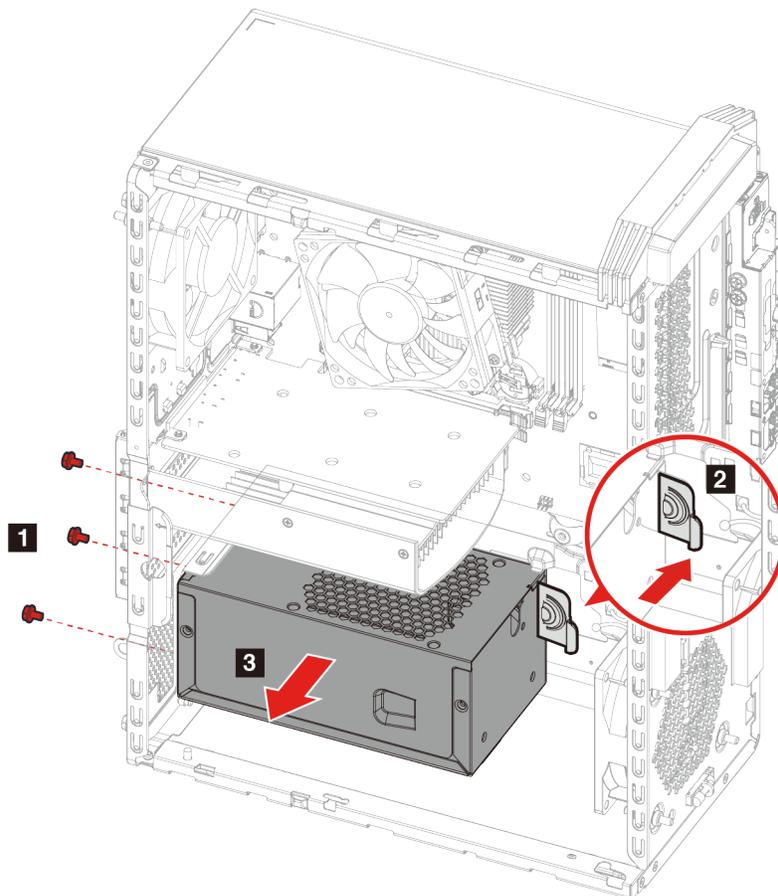
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.



The power supply might be very hot. Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

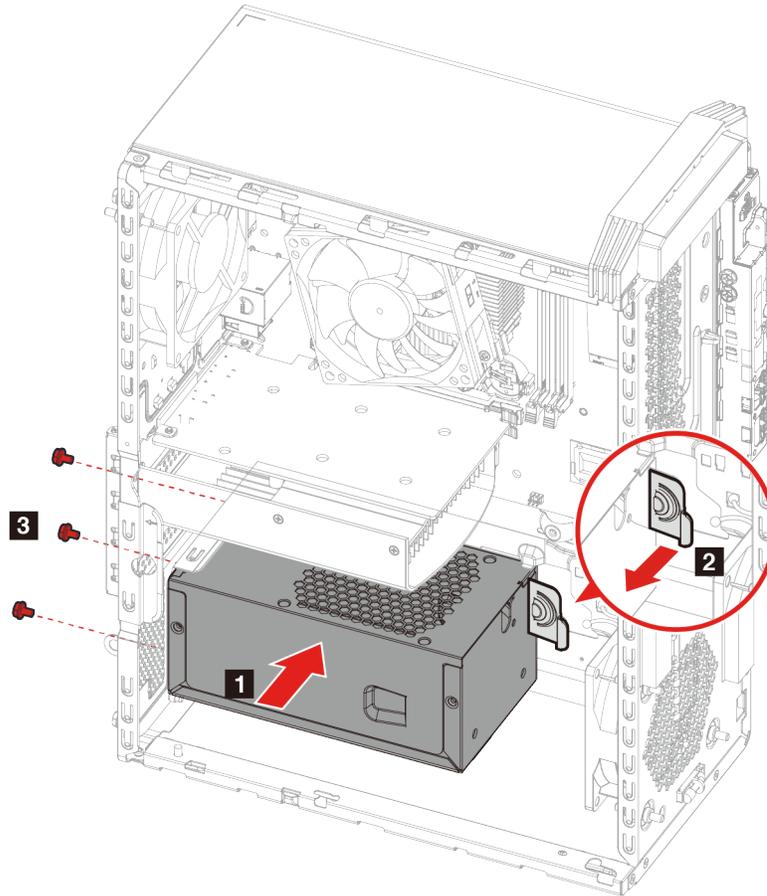
### Replacement procedure

1. Remove the power cord. See “Power cord” on page 24.
2. Remove the computer cover. See “Computer cover” on page 25.
3. Remove the storage drive bay. See Storage drive bay.
4. Disconnect the power cable from the system board.
5. Remove the power supply assembly mounting screws from the rear of the computer case.
6. Press the power supply assembly tab to release.
7. Remove the power supply assembly.



8. Install the new power supply assembly.

9. Screw in the power supply assembly mounting screws.



10. Connect the power cable into the system board.

11. Reinstall all removed parts. Then, reconnect the power cord and all disconnected cables to the computer.



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## Chapter 6. Help and support

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### Self-help resources

Use the following self-help resources to learn more about the computer and troubleshoot problems.

Resources	How to access?
Use Lenovo Vantage to: <ul style="list-style-type: none"><li>• Configure device settings.</li><li>• Download and install UEFI BIOS, drivers and firmware updates.</li><li>• Secure your computer from outside threats.</li><li>• Diagnose hardware problems.</li><li>• Check the computer warranty status.</li><li>• Access <i>User Guide</i> and helpful articles.</li></ul>	<ul style="list-style-type: none"><li>• Open the <b>Start</b> menu and click <b>Lenovo Vantage</b>.</li><li>• Use Windows Search.</li></ul>
Product documentation: <ul style="list-style-type: none"><li>• <i>Safety and Warranty Guide</i></li><li>• <i>Generic Safety and Compliance Notices</i></li><li>• <i>Setup Guide</i></li><li>• <i>This User Guide</i></li><li>• <i>Regulatory Notice</i></li></ul>	Go to <a href="https://pcsupport.lenovo.com">https://pcsupport.lenovo.com</a> . Then, follow the on-screen instructions to filter out the documentation you want.
Lenovo Support Web site with the latest support information of the following: <ul style="list-style-type: none"><li>• Drivers and software</li><li>• Diagnostic solutions</li><li>• Product and service warranty</li><li>• Product and parts details</li><li>• Knowledge base and frequently asked questions</li></ul>	<a href="https://pcsupport.lenovo.com">https://pcsupport.lenovo.com</a>
Windows help information	<ul style="list-style-type: none"><li>• Open the <b>Start</b> menu and click <b>Get Help</b> or <b>Tips</b>.</li><li>• Use Windows Search or the Cortana® personal assistant.</li><li>• Microsoft support Web site: <a href="https://support.microsoft.com">https://support.microsoft.com</a></li></ul>

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## Call Lenovo

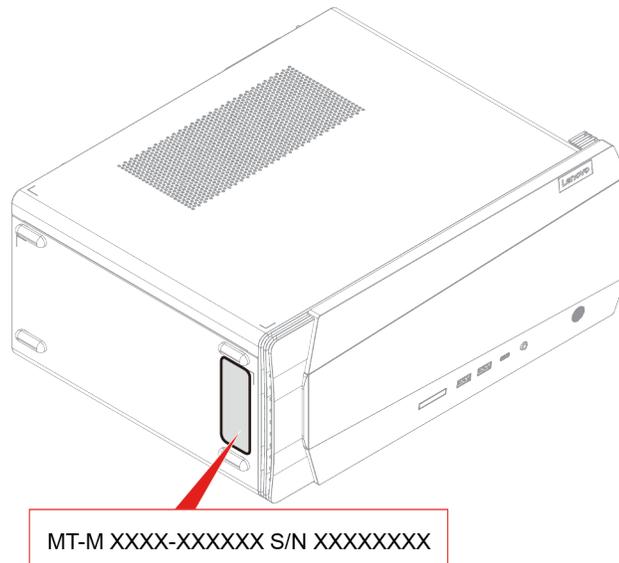
If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

## Before you contact Lenovo

Prepare the following before you contact Lenovo:

1. Record the problem symptoms and details:
  - What is the problem? Is it continuous or intermittent?
  - Any error message or error code?
  - What operating system are you using? Which version?
  - Which software applications were running at the time of the problem?
  - Can the problem be reproduced? If so, how?
2. Record the system information:
  - Product name
  - Machine type and serial number

The following illustration shows where to find the machine type and serial number of your computer.



## Lenovo Customer Support Center

During the warranty period, you can call Lenovo Customer Support Center for help.

### Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to:

<https://pcsupport.lenovo.com/supportphonenumberlist>

**Note:** Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

### **Services available during the warranty period**

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

### **Services not covered**

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts
- Identification of software problem sources
- Configuration of UEFI BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, see “Warranty information” in the *Safety and Warranty Guide* that comes with your computer.

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## **Purchase additional services**

During and after the warranty period, you can purchase additional services from Lenovo at:  
<https://pcsupport.lenovo.com/warrantyupgrade>

Service availability and service name might vary by country or region.



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## Appendix A. Accessibility and ergonomic information

This chapter provides information about accessibility and ergonomics.

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### Accessibility information

Lenovo is committed to providing users who have hearing, vision, and mobility limitations with greater access to information and technology. This section provides information about the ways these users can get the most out of their computer experience. You also can get the most up-to-date accessibility information from the following Web site:

<https://www.lenovo.com/accessibility>

#### Keyboard shortcuts

The following list contains keyboard shortcuts that can help make your computer easier to use.

**Note:** Depending on your keyboard, some of the following keyboard shortcuts might not be available.

- **Windows logo key + U:** Open Ease of Access Center
- **Right Shift for eight seconds:** Turn on or turn off Filter Keys
- **Shift five times:** Turn on or turn off Sticky Keys
- **Num Lock for five seconds:** Turn on or turn off Toggle Keys
- **Left Alt+Left Shift+Num Lock:** Turn on or turn off Mouse Keys
- **Left Alt+Left Shift+PrtScn (or PrtSc):** Turn on or turn off High Contrast

For more information, go to <https://windows.microsoft.com>, and then search using any of the following keywords: keyboard shortcuts, key combinations, shortcut keys.

#### Ease of Access Center

Ease of Access Center on the Windows operating system enables you to configure your computers to suit their physical and cognitive needs.

To access Ease of Access Center:

1. Go to **Control Panel** and view by Category.
2. Click **Ease of Access → Ease of Access Center**.
3. Choose the appropriate tool by following the on-screen instructions.

Ease of Access Center mainly includes the following tools:

- **Magnifier**  
Magnifier is a useful utility that enlarges the entire screen or part of the screen so that you can see the items better.
- **Narrator**  
Narrator is a screen reader that reads what is displayed on the screen aloud and describes events such as error messages.
- **On-Screen Keyboard**  
If you prefer to type or enter data into your computer using a mouse, joystick, or other pointing device instead of a physical keyboard, you can use On-Screen Keyboard. On-Screen Keyboard displays a visual

keyboard with all the standard keys. You can select keys using the mouse or another pointing device, or you can tap to select the keys if your computer supports multi-touch screen.

- **High Contrast**

High Contrast is a feature that heightens the color contrast of some text and images on your screen. As a result, those items are more distinct and easier to identify.

- **Personalized keyboard**

Adjust keyboard settings to make your keyboard easier to use. For example, you can use your keyboard to control the pointer and make the keyboard easier to type certain key combinations.

- **Personalized mouse**

Adjust mouse settings to make your mouse easier to use. For example, you can change the pointer appearance and make your mouse easier to manage windows.

## **Speech Recognition**

Speech Recognition enables you to control your computer by voice.

You can use verbal instructions to control the keyboard and mouse. With verbal instructions, you can start programs, open menus, click objects on the screen, dictate text into documents, and write and send e-mails.

To use Speech Recognition:

1. Go to **Control Panel** and view by Category.
2. Click **Ease of Access → Speech Recognition**.
3. Follow the on-screen instructions.

## **Screen-reader technologies**

Screen-reader technologies are primarily focused on software program interfaces, help systems, and various online documents. For additional information about screen readers, see the following:

- Use PDFs with screen readers:  
<https://www.adobe.com/accessibility.html?promoid=DJGVE>
- Use the JAWS screen reader:  
<https://www.freedomscientific.com/Products/Blindness/JAWS>
- Use the NVDA screen reader:  
<https://www.nvaccess.org/>

## **Screen resolution**

You can make the text and images on your screen easier to read by adjusting the screen resolution of your computer.

To adjust the screen resolution:

1. Right-click an empty area of the desktop and then click **Display settings → Display**.
2. Follow the on-screen instructions.

**Note:** Setting a resolution too low might prevent some items from fitting on the screen.

## **Customizable item size**

You can make the items on your screen easier to read by changing the item size.

- To change the item size temporarily, use the Magnifier tool in Ease of Access Center.
- To change the item size permanently:

- Change the size of all the items on your screen.
  1. Right-click an empty area of the desktop and then click **Display settings → Display**.
  2. Change the item size by following the on-screen instructions. For some applications, your configuration might not take effect until you sign out and then sign in again.
- Change the size of the items on a Web page.

Press and hold Ctrl, and then press the plus-sign key (+) to enlarge or the minus-sign key (–) to reduce the text size.
- Change the size of the items on the desktop or a window.

**Note:** This function might not work on some windows.

If your mouse has a wheel, press and hold Ctrl, and then scroll the wheel to change the item size.

### Industry-standard connectors

Your computer provides industry-standard connectors that enable you to connect assistive devices.

### Documentation in accessible formats

Lenovo provides electronic documentation in accessible formats, such as properly tagged PDF files or HyperText Markup Language (HTML) files. Lenovo electronic documentation is developed to ensure that visually impaired users can read the documentation through a screen reader. Each image in the documentation also includes adequate alternative text so that visually impaired users can understand the image when they use a screen reader.

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## Ergonomic information

Good ergonomic practice is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort when using your computer.

Working in the virtual office might mean adapting to frequent changes in your environment. Adapting to the surrounding light sources, active seating, and the placement of your computer hardware, can help you improve your performance and achieve greater comfort.

This example shows someone in a conventional setting. Even when not in such a setting, you can follow many of these tips. Develop good habits, and they will serve you well.



**General posture:** Make minor modifications in your working posture to deter the onset of discomfort caused by long periods of working in the same position. Frequent short breaks from your work also help to prevent minor discomfort associated with your working posture.

**Display:** Position the display to maintain a comfortable viewing distance of 510 mm to 760 mm (20 inches to 30 inches). Avoid glare or reflections on the display from overhead lighting or outside sources of light. Keep the display screen clean and set the brightness to levels that enable you to see the screen clearly. Press the brightness control keys to adjust display brightness.

**Head position:** Keep your head and neck in a comfortable and neutral (vertical, or upright) position.

**Chair:** Use a chair that gives you good back support and seat height adjustment. Use chair adjustments to best suit your comfort posture.

**Arm and hand position:** If available, use chair arm rests or an area on your working surface to provide weight support for your arms. Keep your forearms, wrists, and hands in a relaxed and neutral (horizontal) position. Type with a soft touch without pounding the keys.

**Leg position:** Keep your thighs parallel to the floor and your feet flat on the floor or on a footrest.

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## Appendix B. Compliance information

**Note:** For more compliance information, refer to *Generic Safety and Compliance Notices* at <https://pcsupport.lenovo.com>.

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### Federal Communications Commission (FCC) Supplier's Declaration of Conformity

The following information refers to Lenovo product model(s) listed below.

Model name	Machine types (MT)
IdeaCentre Gaming5 14IOB6	90RE
IC Creator 5 14IOB6	90RG
IdeaCentre Gaming5 14ACN6	90RW

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:  
Lenovo (United States) Incorporated  
7001 Development Drive  
Morrisville, NC 27560  
Email: FCC@lenovo.com



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## Operating environment

### Temperature

- Operating: From 10°C (50°F) to 35°C (95°F)
- Storage or transportation:
  - For common desktop computers: From -40°C (-40°F) to 55°C (131°F)
  - For all-in-one desktop computers: From -20°C (-4°F) to 55°C (131°F)

**Note:** If your computer is stored or transported in temperatures less than 10°C (50°F), allow the computer to rise slowly to an optimal operating temperature before use. This process might take up to two hours. Using the computer in a lower operating temperature might result in irreparable damage to your computer.

### Relative humidity

- Operating: 35%-80% (non-condensing)
- Storage: 20%–93% (non-condensing)

### Atmospheric pressure

86 kPa to 106 kPa

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## Korea SAR statement

무선설비 전파 혼신 (사용주파수 2400 ~ 2483.5 , 5725 ~ 5825 무선제품해당)

해당 무선설비가 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

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## Enable or disable the ErP LPS compliance mode

Lenovo computers meet the eco-design requirements of the ErP Lot 3 regulation. For more information, go to:

<https://www.lenovo.com/us/en/compliance/eco-declaration>

You can enable the ErP LPS compliance mode to reduce the consumption of electricity when the computer is off or in sleep mode.

To enable or disable the ErP LPS compliance mode:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Select **Power** → **Enhanced Power Saving Mode** and press Enter.
3. Depending on whether you select **Enabled** or **Disabled**, do one of the following:
  - If you select **Enabled**, press Enter. Then, select **Power** → **Automatic Power On** and press Enter. Check whether the Wake on LAN feature is disabled automatically. If no, disable it.

- If you select **Disabled**, press Enter. Then, go to the next step.
4. Press F10 or Fn+F10 to save the changes and exit.

When the ErP LPS compliance mode is enabled, you can wake up the computer by doing one of the following:

- Press the power button.
- Enable the Wake Up on Alarm feature to make the computer wake up at a set time.

To meet the off mode requirement of ErP compliance, you need to disable the Fast Startup function.

1. Go to **Control Panel** and view by large icons or small icons.
2. Click **Power Options** → **Choose what the power buttons do** → **Change settings that are currently unavailable**.
3. Clear the **Turn on fast startup (recommended)** option from the **Shutdown settings** list.



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## Appendix C. Notices and trademarks

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<https://pcsupport.lenovo.com>

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