User Guide

ThinkCentre neo 50s Gen 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*

First Edition (September 2025)

Contents

Discover your Lenovo computer

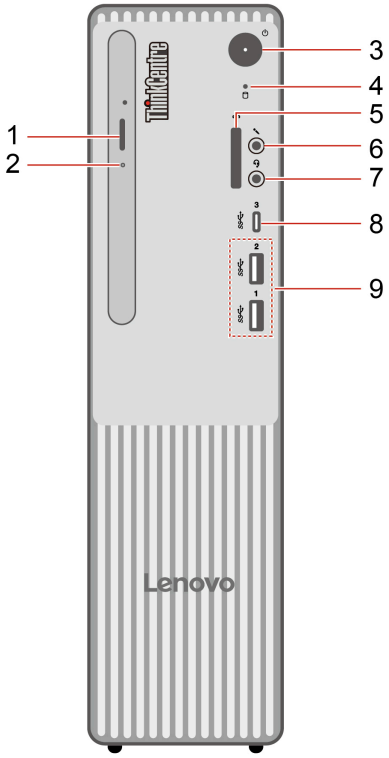
Thank you for choosing a Lenovo computer! We are dedicated to delivering the best solution to you.

Before starting your tour, please read the following information:

- Illustrations in this documentation might look different from your product.
- Depending on the model, some optional accessories, features, software programs, and user interface instructions might not be applicable to your computer.
- Documentation content is subject to change without notice. To get the latest documentation, go to https://support.lenovo.com/documentation.

Chapter 1. Meet your computer

Front



Item	Description	Item	Description
1	Optical drive eject button*	2	Optical drive activity indicator*
3	Power button with power indicator	4	Storage drive activity indicator
5	SD-card slot*	6	Microphone connector
7	Headphone / microphone combo jack (3.5mm)	8	USB-C® connector (USB 5Gbps)
9	USB-A connectors (USB 5Gbps)		

* for selected models

Note: For more information about the USB connector name update, see Appendix C “Notice for USB connector name update” on page 46.

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 in the connector name or below for each corresponding device.

USB device	Data rate (Gbit/s)
Thunderbolt 3	40
Thunderbolt 4	40

Power indicator

Show the system status of your computer.

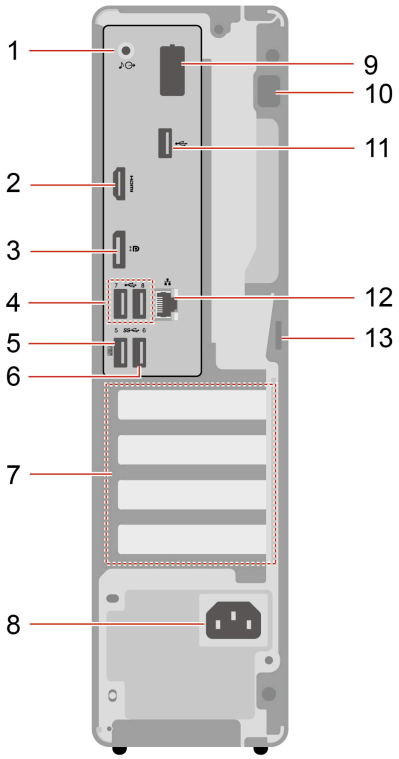
- **Blinking for three times:** The computer is initially connected to power.
- **On:** The computer is starting up or working.
- **Off:** The computer is off or in hibernation mode.
- **Blinking rapidly:** The computer is entering sleep or hibernation mode.
- **Blinking slowly:** The computer is in sleep mode.

Headphone / microphone combo jack (3.5mm)

This connector is compatible with:

- Headphones or earphones with a 3.5mm (0.14 inch), TRS (3-pole) plug
- Headsets with a 3.5mm (0.14 inch), CTIA-compliant or OMTP-compliant TRRS (4-pole) plug

Rear



Item	Description	Item	Description
1	Audio line-out connector	2	HDMI™ out connector (up to 3840 x 2160 pixels / 60 Hz)
3	DisplayPort™ out connector (up to 4096 x 2304 pixels / 60 Hz)	4	USB-A connectors (Hi-Speed USB)
5	USB-A connector (USB 5Gbps) (with smart power-on)	6	USB-A connector (USB 5Gbps)
7	PCI-Express card area	8	Power cord connector
9	Smart cable clip*	10	Security-lock slot
11	USB-A connector (Hi-Speed USB)*	12	Ethernet connector (10/100/1000 Mbps)
13	Padlock loop		

* for selected models

Note: The actual resolution of external displays may vary by the connected display device and the cable being used.

Specifications

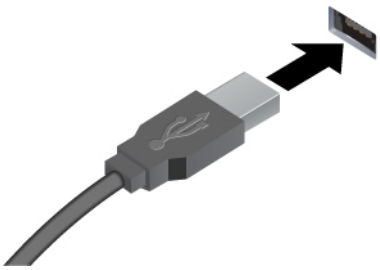
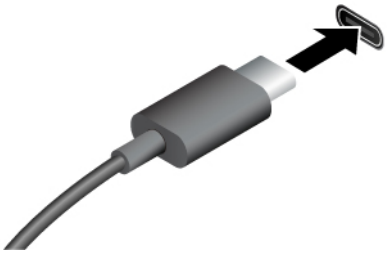
Specifications	Description
Dimensions	• Width: 92.5 mm (3.6 inches) • Height: 339.5 mm (13.4 inches) • Depth: 291.7 mm (11.5 inches)
Weight (without packaging)	Maximum configuration as shipped: 4.62 kg (10.2 lb)
Hardware configuration	• For Ubuntu® operating system: 1. Open the system menu from the top-right corner and click ⚙. 2. Click **System → About**. • For IGEL® operating system (for selected models): 1. Click the IGEL icon in the bottom-left corner to open the start menu. 2. Click the gear icon in the Quick Start Panel, then click **System Information** to open it.
Power supply	• 200-watt automatic voltage-sensing power supply • 260-watt automatic voltage-sensing power supply
Electrical input	• Input voltage: From 100 V ac to 240 V ac • Input frequency: 50/60 Hz
CPU	To view the CPU information of your computer: • For Ubuntu operating system: 1. Open the system menu from the top-right corner and click ⚙. 2. Click **System → About**. • For IGEL operating system (for selected models): Enter **System Information** and click **Devices → Processor**.
Memory	Memory type: double data rate 5 (DDR5) small outline dual in-line memory module (SODIMM) Maximum memory capacity: 64 GB
Storage device	• 3.5-inch hard disk drive* • M.2 solid-state drive* • Optical drive* To view the storage drive capacity of your computer: • For Ubuntu operating system: Type **Disks** in the search box and use the **Disks** application. • For IGEL operating system (for selected models): Type **lsblk /dev/igfboot** in Local Terminal. **Note:** The storage drive capacity indicated by the system is less than the nominal capacity.

Specifications	Description
Video features	• The integrated graphics card supports the following connectors: – DisplayPort out connector – HDMI out connector • The optional discrete graphics card provides an enhanced video experience and extended capabilities.
Expansion	• Card reader* • Memory slots • M.2 solid-state drive slot • Optical drive* • Storage drive bay • PCI Express slots
Network features	• Bluetooth* • Ethernet LAN • Wireless LAN*

* for selected models

USB specifications

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

Connector name	Description
 • USB-A connector (Hi-Speed USB) • USB-A connector (USB 5Gbps)	Connect USB-A compatible devices, such as a USB-A keyboard, USB-A mouse, USB-A storage device, or USB-A printer.
 • USB-C connector (USB 5Gbps)	• Charge USB-C compatible devices with the output voltage and current of 5 V and 3 A. • Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to https://www.lenovo.com/accessories.

Chapter 2. Get started with your computer

Get started with the operating system

Ubuntu operating system

Learn the basics of Ubuntu and start working with it right away. For more information about Ubuntu, see the Ubuntu documentation site at: https://help.ubuntu.com/lts/ubuntu-help/index.html.

The Gnome desktop is installed by default and is designed to be simple and easy to use. Details on using Gnome are available by launching the Help application or online at https://help.gnome.org/users/.

Launch an app

- Press the Super key (with the Windows logo) or open the Activities menu on the top left and type in the name of the application you want to launch.
- Click the **Show Apps** button on the lower left, and select the application you want to launch.

Launch settings

Open the system menu from the top-right corner and click ⚙.

IGEL operating system (for selected models)

For support on IGEL operating system, see the IGEL support site at https://www.igel.com/support/ or visit the knowledge base at https://kb.igel.com/.

1. Open Application Launcher on the taskbar.
2. Select the application as desired.

Note: The system tools available may depend on the configuration by the company administrator.

Launch settings

1. Click the IGEL icon in the bottom-left corner to open the start menu.
2. Click the gear icon in the Quick Start Panel to display available system settings tools.

Change display settings

1. Right-click a blank area on the desktop and select display settings.
2. Select the display that you want to configure and change display settings of your preference.

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 (for selected models)

If your computer includes a wireless LAN module, you can connect your computer to Wi-Fi® networks.

For Ubuntu operating system

1. Open the system menu from the top-right corner and turn on the Wi-Fi by clicking **Wi-Fi** button.
2. Click **>** to expand the Wi-Fi section of the menu. A list of available wireless networks is displayed. Click **All Networks** to see extra options.
3. Select an available network for connection. Provide required information if needed.

For IGEL operating system (for selected models)

1. Click the Wi-Fi tray icon and select **Manage Wireless Networks** to launch the Wireless Manager tool.

2. Search for available networks and select a network for connection.

Notes: Ensure that the Wireless Manager is enabled:

1. Click the gear icon in the Quick Start Panel to open Setup.
2. Select **Network → Wireless**.

For more details on managing Wi-Fi networks, see https://kb.igel.com/base_system/12.4/en/wi-fi-networks-122896032.html.

Advanced settings are available under **Setup → Network → Wireless**. For more details, see https://kb.igel.com/base_system/12.4/en/wireless-122896021.html.

Airplane mode (for selected models)

When the Airplane mode is enabled, all wireless features are disabled.

To enable or disable the Airplane mode, press Fn+F8.

Chapter 3. Explore your computer

Smart power-on feature (for selected models)

The smart power-on feature helps you start up or wake up the computer from the hibernation mode simply by pressing Alt+P.

Note: Ensure that the keyboard is connected to a USB connector supporting the smart power-on feature.

Enable or disable the smart power-on feature

To enable or disable the smart power-on feature:

Step 1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.

Step 2. Select **Power → Smart Power On** and press Enter.

Step 3. Enable or disable the feature as desired.

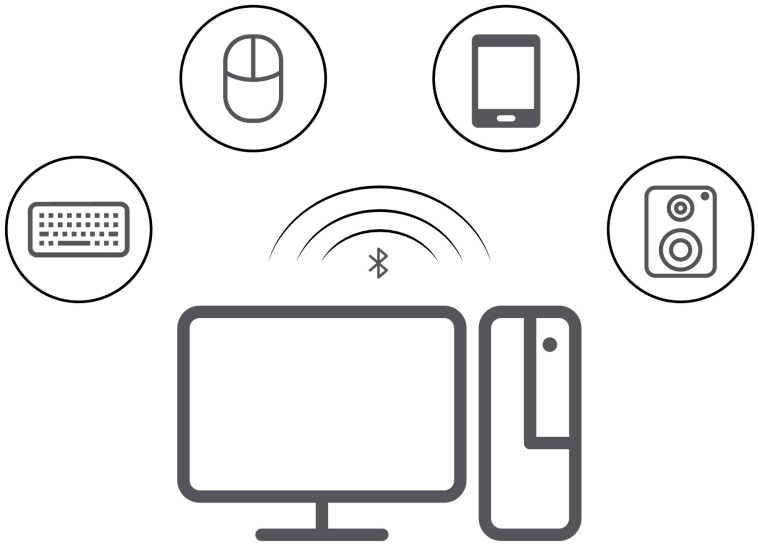
Step 4. Press F10 or Fn+F10 to save the changes and exit.

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 (for selected models)

You can connect all types of Bluetooth-enabled devices to your computer, such as a keyboard, a mouse, a smartphone, or speakers. Place the device that you are attempting to connect to less than 10 meters (33 feet) from the computer.



- To connect to a Bluetooth-enabled device in Ubuntu operating system:
  1. Open the system menu from the top-right corner and turn on the Bluetooth by clicking **Bluetooth** button.

2. Click **>** to expand the Bluetooth section of the menu. A list of discoverable devices is displayed.
3. Select a Bluetooth device, and then follow the on-screen instructions.

- To connect to a Bluetooth-enabled device in IGEL operating system (for selected models):
  1. Turn on Bluetooth on the computer:
     a. Click the gear icon in the Quick Start Panel to open Setup.
     b. Select **Devices → Bluetooth** and enable Bluetooth.
  2. Use the Bluetooth tool to connect to a Bluetooth-enabled device:
     a. Click the grid icon to open Application Launcher.
     b. Click the gear icon and choose **Bluetooth Tool**.

  For more details on using the Bluetooth tool, see https://kb.igel.com/base_system/12.4/en/bluetooth-122896116.html.

Your Bluetooth-enabled device and computer will automatically connect the next time if the two devices are in range of each other with Bluetooth turned on. You can use Bluetooth for data transfer or remote control and communication.

Use the optical drive (for selected models)

If your computer has an optical drive, read the following information.

Install or remove a disc

1. With the computer on, press the eject button on the optical drive. The tray slides out of the drive.
2. Insert a disc into the tray or remove a disc from the tray, and then push the tray back into the drive.

Note: If the tray does not slide out of the drive when you press the eject button, turn off the computer. Then, insert a straightened paper clip into the emergency-eject hole adjacent to the eject button. Use the emergency eject only in an emergency.

Record a disc

1. Insert a recordable disc into the optical drive that supports recording.
2. In the **Blank CD/DVD-R Disc** notification that pops up at the bottom of the screen, select **Open with CD/DVD Creator**.
3. Follow the on-screen instructions.

Use a media card (for selected models)

If your computer has an 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, unmount the card from the operating system first. Otherwise, data on the card might get corrupted or lost.

1. Launch the **Files** application.
2. Select the unmount icon next to the card and unmount the card from the operating system.

3. Press the card and remove it from your computer. Store the card safely for future use.

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:
  - **For Ubuntu operating system**: After 5 minutes
  - **For IGEL operating system** (for selected models): After 20 minutes
- Put the computer to sleep: After 20 minutes

To awaken the computer from Sleep mode:

- **For Ubuntu operating system**:

  Press any key on your keyboard.
- **For IGEL operating system** (for selected models):
  1. Change the registry settings properly.
  2. Press any key on your keyboard.

To set the power plan:

- **For Ubuntu operating system**:
  1. Go to **Settings → Power**.
  2. Choose or customize a power plan of your preference.
- **For IGEL operating system** (for selected models):
  1. Click the gear icon in the Quick Start Panel to open Setup.
  2. Select **System → Power Options → System**.
  3. Choose or customize a power plan of your preference.

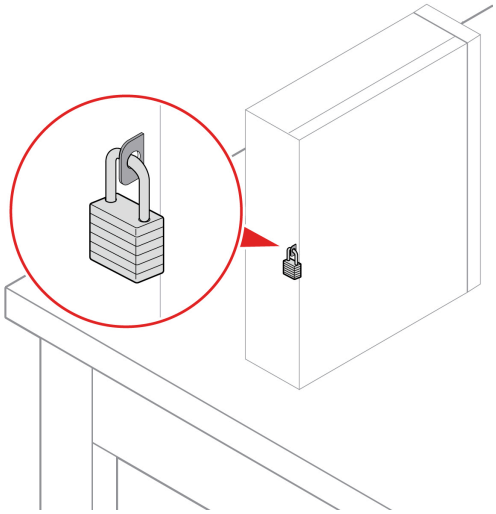
Chapter 4. Secure your computer and information

Lock the computer

Note: 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.

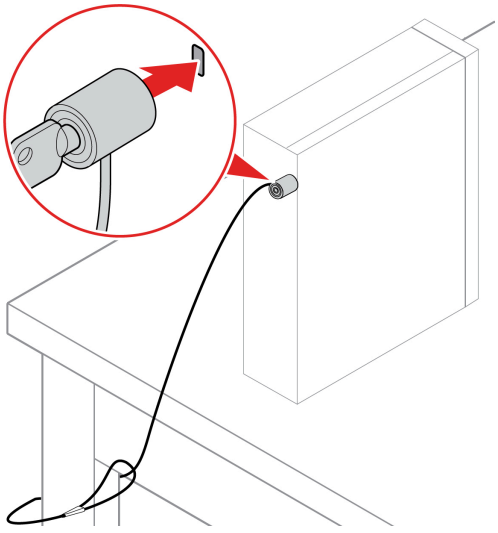
Padlock

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



Security lock

Lock your computer to a desk, table, or other fixtures through a security lock.



UEFI BIOS passwords

You can set passwords in UEFI (Unified Extensible Firmware Interface) BIOS (Basic Input/Output System) to strengthen the security of your computer.

Password types

You can set a power-on password, supervisor password, system management password, or hard disk password in UEFI BIOS to prevent unauthorized access to your computer. However, you are not prompted to enter any UEFI BIOS password when your computer resumes from sleep mode.

- Power-on password

  When a power-on password is set, you are prompted to enter a valid password each time the computer is turned on.

- Supervisor password

  Setting a supervisor password deters unauthorized users from changing configuration settings. If you are responsible for maintaining the configuration settings of several computers, you might want to set a supervisor password.

  When a supervisor password is set, you are prompted to enter a valid password each time you try to enter the BIOS menu.

  If both the power-on password and supervisor password are set, you can enter either password. However, you must use your supervisor password to change any configuration settings.

- Hard disk password (for selected models)

  Setting a hard disk password prevents unauthorized access to the data on the storage drive. When a hard disk password is set, you are prompted to enter a valid password each time you try to access the storage drive.

  Note: After you set a hard disk password, your data on the storage drive is protected even if the storage drive is removed from one computer and installed in another.

- System management password (for selected models)

  You can enable the system management password to have the same authority as the supervisor password to control security related features. To customize the authority of the system management password through the UEFI BIOS menu:

  1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
  2. Select **Security → System Management Password Access Control**.
  3. Follow the on-screen instructions.

  If you have set both the supervisor password and the system management password, the supervisor password overrides the system management password.

Set, change, and remove a password

Before you start, print these instructions.

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Select **Security**.
3. Depending on the password type, select **Set Supervisor Password**, **Set Power-On Password**, **Set System Management Password**, or **Hard Disk Password** and press Enter.
4. Follow the on-screen instructions to set, change, or remove a password.
5. Press F10 or Fn+F10 to save the changes and exit.

You should record your passwords and store them in a safe place. If you forget the passwords, contact a Lenovo-authorized service provider.

Note: If the hard disk password is forgotten, Lenovo cannot remove the password or recover data from the storage drive.

Certificate-based BIOS management

Certificate-based BIOS authentication (also called the password-less management mode) provides more secure UEFI BIOS management with password-free solution. It is used to replace the supervisor password / system management password for authentication if you have set one.

Note: Supervisor password / system management password are disabled automatically when certificate mode is enabled. But the power-on password / hard disk password still can be used normally in certificate mode if you have set one.

For certificate enrollment, see *Certificate Enrollment Guide* at: https://support.lenovo.com/docs/certificate_enrollment_guide

Enter the BIOS menu with certificate

Once you have enrolled the certificate, you can enter the BIOS menu with the certificate.

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1 to enter the BIOS menu.
2. The QR code is displayed. Scan the QR code to save the request data and send the request data to IT admin by e-mail or phone.

   Note: If you choose to authenticate without the QR code, save the request data in a USB key and send the request data to IT admin by e-mail or phone.
3. Enter the unlock code provided by IT admin and click **OK**.

Notes:

- The unlock encode is a one-time password and is valid only during logon prompt (in one power-on cycle) for up to two hours.
- If you click **Skip**, you can enter the BIOS setup menu without BIOS management authority. But certificate reset is allowed.

Reset certificate

The enrolled certificate cannot be disabled. You can reset or remove it:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Enter the BIOS menu with the certificate or skip the certification authentication process.
3. Select **Security → Certificate-based BIOS Authentication → Reset Certificate**.
4. Follow the on-screen instructions to enter the reset code provided by IT admin.

Use BIOS security solutions

This section provides BIOS solutions to secure your computer and information.

Wipe the storage drive data (for selected models)

It is recommended that you wipe the storage drive data before recycling the storage drive or the computer.

To wipe the storage drive data:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Select **Security → secure wipe → Enabled**.
3. Press F10 or Fn+F10 to save the changes and exit.
4. Restart the computer. When the logo screen is displayed, press F12 or Fn+F12.
5. Select **App Menu → secure wipe** and press Enter.
6. Select the storage drive you will wipe and click **NEXT**.
7. Select the entire storage drive or partition to wipe as desired.
8. Select the method as desired and click **NEXT**.
9. Click **Yes** to confirm your option when the prompting window is displayed.
10. If you have set a hard disk password for the storage drive, enter the password. Otherwise, set a temporary password following the on-screen instructions. Then, click **NEXT**. The wiping process begins.

    Note: Duration of the wiping process varies depending on the storage drive capacity.
11. Click **Reboot** when you are prompted to reset the system, and then one of the following will happen:
    - If the system storage drive data is wiped, you will be prompted that no operating system is found.
    - If the non-system storage drive data is wiped, the computer restarts automatically.

Cover presence switch

The cover presence switch prevents the computer from logging in to the operating system when the computer cover is not properly installed or closed.

To enable or disable the cover presence switch connector on the system board:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.
2. Select **Security → Cover Tamper Detected** and press Enter.
3. Select **Enabled** or **Disabled** and press Enter.
4. Press F10 or Fn+F10 to save the changes and exit.

If the cover presence switch is enabled and the computer cover is not correctly installed or closed, an error message will be displayed when you turn on the computer. To bypass the error message and log in to the operating system, properly install and close the computer cover, and then enable the cover presence switch connector again in the BIOS menu.

Intel BIOS guard

The Intel® BIOS Guard module cryptographically verifies all BIOS updates. This hardware-based security helps prevent software and malware attacks on the computers BIOS.

Smart USB Protection

The Smart USB Protection function is a security function that helps prevent data from being copied from the computer to USB storage devices connected to the computer. You can set the Smart USB Protection function to one of the following modes:

- **Disabled** (default setting): You can use the USB storage devices without limitation.
- **Read Only**: You cannot copy data from the computer to the USB storage devices. However, you can access data on the USB storage devices.
- **No Access**: You cannot access the USB storage devices from the computer.

To configure the Smart USB Protection function:

1. Restart the computer. When the logo screen is displayed, press F1 or Fn+F1.

2. Select **Security → Smart USB Protection** and press Enter.
3. Select the desired setting and press Enter.
4. Press F10 or Fn+F10 to save the changes and exit.

Absolute Persistence (for computers with Windows operating system and purchased outside mainland China)

Absolute Persistence technology is embedded in BIOS. It detects changes that happen on the hardware, software, or the call-in location. It keeps you always knowing what condition the computer is in. To activate the technology, you have to purchase a subscription to Absolute.

Chapter 5. UEFI BIOS

Enter the UEFI BIOS menu

Turn on or restart the computer. When the logo screen is displayed, press F1 or Fn+F1 to enter the UEFI BIOS menu.

Note: If you have set UEFI BIOS passwords, enter the correct passwords when prompted. You also can select **No** or press Esc to skip the password prompt and enter the UEFI BIOS menu. However, you cannot change the system configurations that are protected by passwords.

Navigate the UEFI BIOS menu

Follow the on-screen instructions to navigate in the UEFI BIOS menu.

The table below introduces the available settings of the UEFI BIOS menu. You can follow the on-screen instruction to navigate in the UEFI BIOS menu.

Note: The UEFI BIOS menu might vary depending on system configurations.

Menu	Introduction
Main	This category provides the general product-related and firmware information including system summary, machine type, product serial number, UUID number, etc.
Devices	This category introduces how to configure various devices such as USB ports and audio controllers.
Advanced	This category provides advanced information about the computer such as the CPU features.
Power	This category introduces power and thermal management solutions.
Security	This category introduces various passwords, locks, and software to protect your computer.
Startup	This category introduces how to set the boot priority order.
Exit	This category introduces how to exit as you prefer.

You can go to Lenovo BIOS Simulator Center https://download.lenovo.com/bsco/index.html to explore the detailed settings by your product name.

Note: The Lenovo BIOS Simulator Center makes periodic updates of the settings. The UEFI BIOS simulator interface and description of settings might be different from that on your actual user interface.

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.

Update UEFI BIOS

When you install a new program, device driver, or hardware component, you might need to update UEFI BIOS. You can update the BIOS from your operating system or a flash update disc (supported only on selected models).

Download and install the latest UEFI BIOS update package by one of the following methods:

- Using the built-in software update service:
  - For Ubuntu operating system, Ubuntu software update will check the LVFS site for any firmware updates and notify you when updates are available.
  - For IGEL operating system (for selected models), update, downgrade, or reinstall the UEFI BIOS using the IGEL Universal Management Suite (UMS). See Universal Firmware Update in the IGEL UMS.
- From the Lenovo Support Web site:
  1. Go to https://pcsupport.lenovo.com.
  2. Download the flash BIOS update driver for the operating system version or the ISO image version (used to create a flash update disc). Then, download the installation instructions for the flash BIOS update driver you have downloaded.
  3. Print the installation instructions and follow the instructions to update the BIOS.

Chapter 6. CRU replacement

What is CRU

Important: For users in mainland China, the information provided in this chapter is for reference by professional maintenance service providers or technicians authorized by Lenovo only. Users shall not perform maintenance on their own. Any faults or damage due to improper operation, modification, or failure to use parts provided by Lenovo are not covered by the warranty for this product. For product warranty information, refer to the warranty document provided with the product or go to the official Lenovo website at https://newsupport.lenovo.com.cn.

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

- **Self-service CRUs:** Refer to parts that can be replaced easily by customer themselves or by trained service technicians at an additional cost.
- **Optional-service CRUs:** Refer to parts that can be replaced by customers with a greater skill level. Trained service technicians can also provide service to 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

CRU list

The following is the CRU list of your computer.

Self-service CRUs

- Computer cover
- Dongles*
  - Dongle HDMI to VGA
  - Dongle HDMI to HDMI
  - Dongle DisplayPort to dual DisplayPort
  - Dongle DisplayPort to HDMI
  - Dongle DisplayPort to DVI
  - Dongle DisplayPort to VGA
  - Smart Cable
- Drive bay assembly
- Dummy optical drive cover*
- Front bezel
- Hard disk drive*
- Keyboard*

- M.2 solid-state drive*
- M.2 solid-state drive heat sink*
- Memory module
- Mouse*
- Optical drive*
- Optical drive bezel*
- Optical drive bracket*
- Optical drive latch*
- Pad lock*
- Power Cord
- Vertical stand*

Optional-service CRUs

- CPU cooler
- PCIe card*
- Power supply assembly

* for selected models

Vertical stand

Prerequisite

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

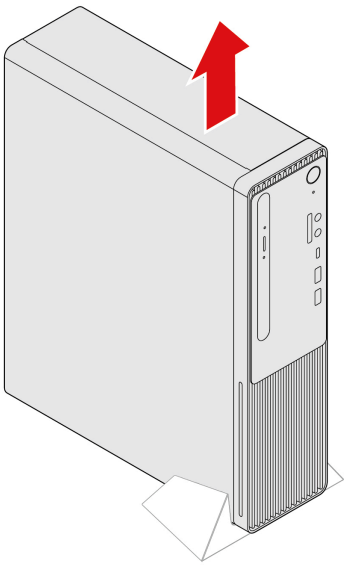
Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, do the following:

1. Remove any media from the drives and turn off all connected devices and the computer.
2. Disconnect all power cords from electrical outlets and disconnect all cables from the computer.

Removal steps

Pick up the computer and remove the vertical stand.



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.

For access, do the following:

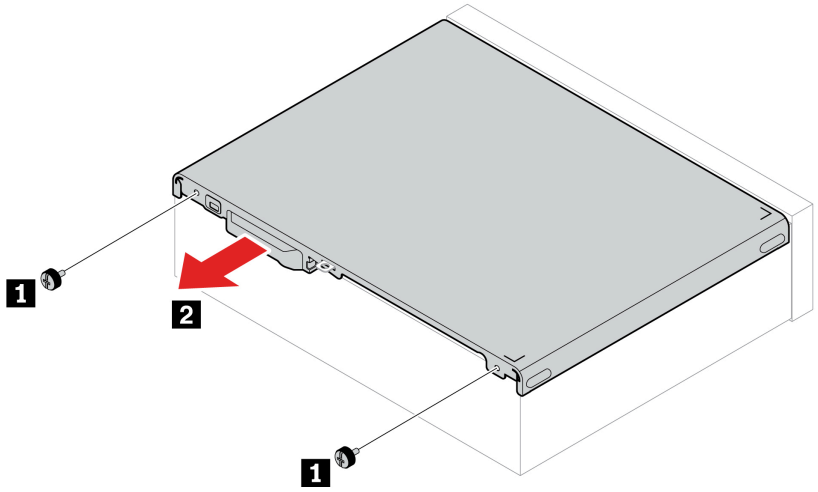
1. Remove any media from the drives and turn off all connected devices and the computer.
2. Disconnect all power cords from electrical outlets and disconnect all cables from the computer.
3. Unlock any locking device that secures the computer cover.
4. Remove the vertical stand. See “Vertical stand” on page 19.
5. Lay down the computer to place the computer cover facing up.

Removal steps

1. Remove the two screws which secure the computer cover to the chassis, one screw at each edge of the chassis. Find screw specification like torque in the following screw table.

Screw (quantity)	Torque
Screw, #6-32 x L8, Hexhead (2)	3± 0.5 lb/in

2. Pull the computer cover to remove it.



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

PCIe card

Prerequisite

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

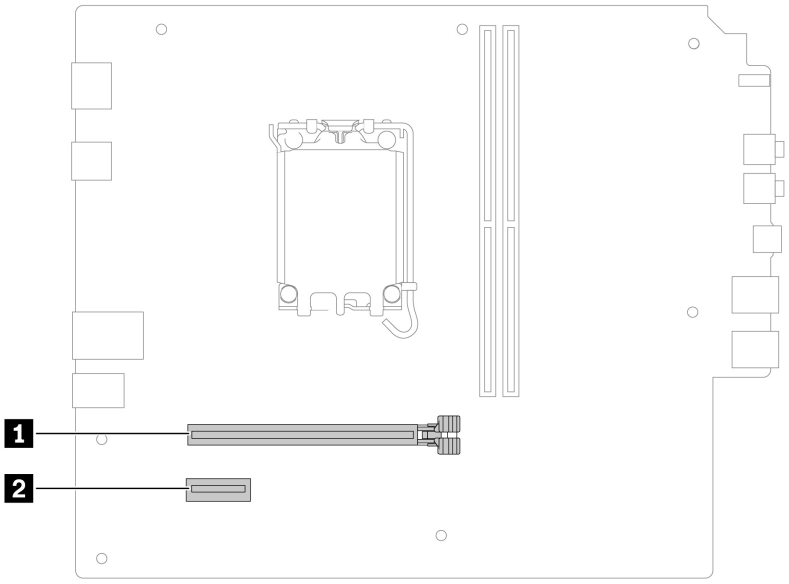
Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

For access, do the followings:

1. Remove the computer cover. See “Computer cover” on page 20.
2. Disconnect the PCI-Express cables from the system board if any.

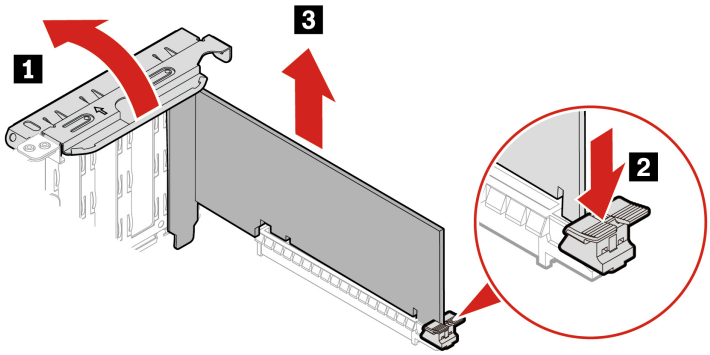
Installation rule

Install the graphics card to the PCIe slot 1 shown in the following illustration.



Removal steps

1. Pivot the PCIe latch outwards.
2. Press the retaining latch at the end of the PCIe slot to release the PCIe card.
3. Gently pull the PCIe card out of the PCIe slot.



Front bezel

Prerequisite

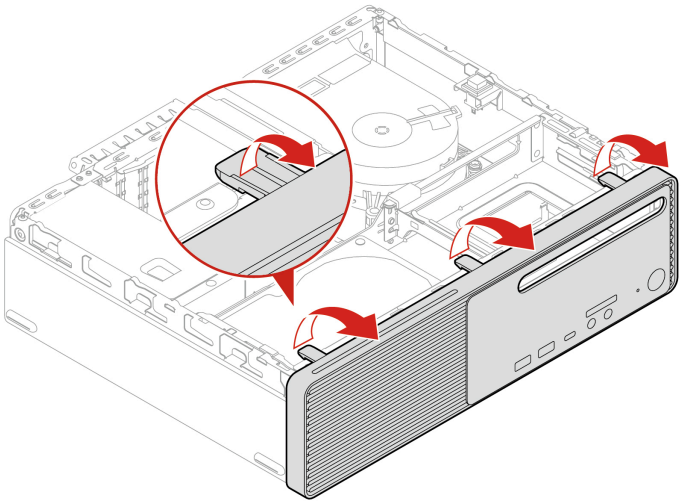
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, remove the following parts in order, if any:

- “Computer cover” on page 20
- “Optical drive and optical drive latch” on page 27

Removal steps

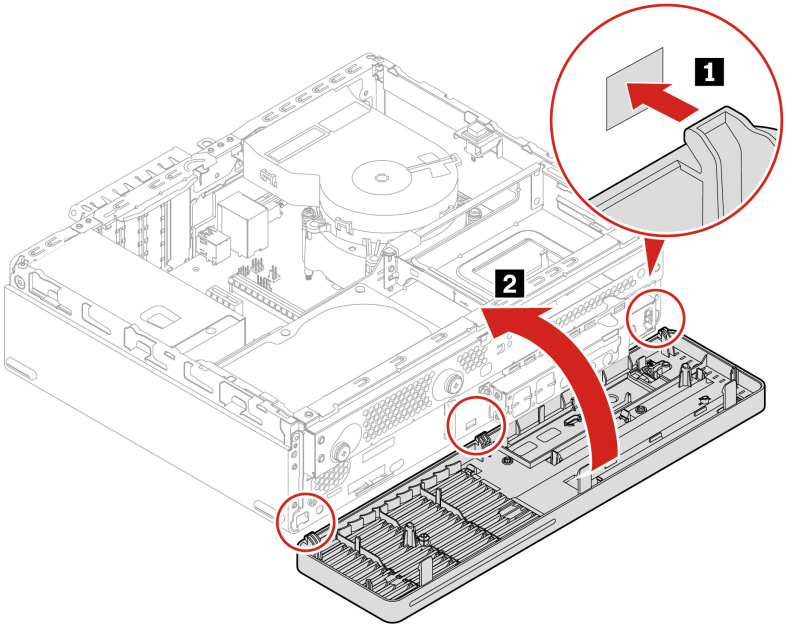
Release three elastic hooks from the top of the front bezel.



Installation steps

There are three swivel hooks at the bottom of the front bezel.

1. Insert the three swivel hooks to each hook slot.
2. Pivot the front bezel inwards to install it to the chassis.



Dummy optical drive cover

Prerequisite

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

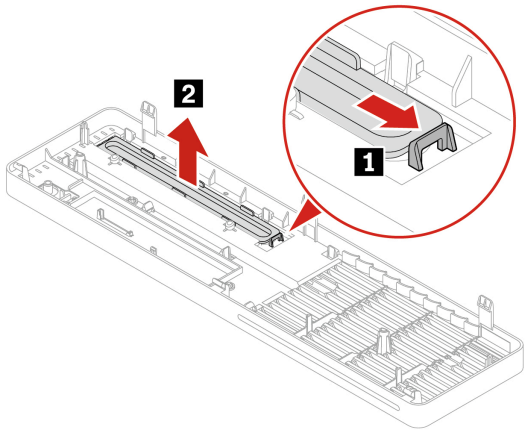
Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

Remove these parts in order:

- “Computer cover” on page 20
- “Front bezel” on page 22

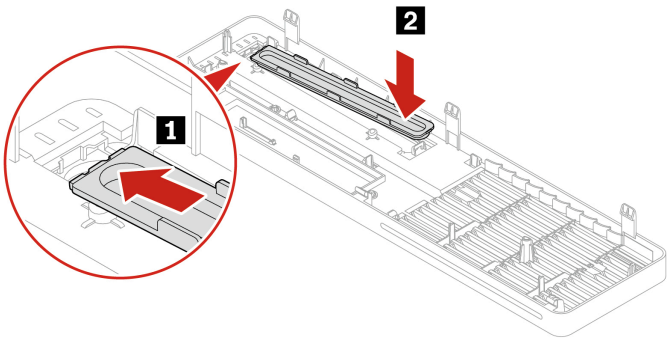
Removal steps

1. Release the dummy optical drive cover from front bezel by pushing it toward the center of the front bezel.
2. Remove it from the front bezel.



Installation steps

1. Insert the uneven side of the dummy optical drive cover to the inside slot which is close to the edge of the front bezel.
2. Press the other side of the dummy optical drive cover down.



Drive bay assembly

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.

For access, remove these parts in order:

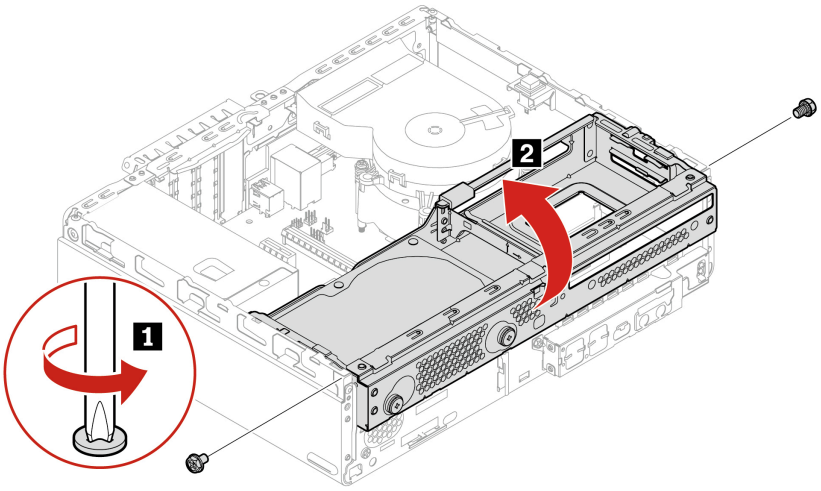
- “Computer cover” on page 20
- “Optical drive and optical drive latch” on page 27
- “Front bezel” on page 22

Removal steps

1. Remove the two screws which secure the drive bay assembly to the chassis, one screw at each corner of the chassis. Find screw specification like torque in the following screw table.

Screw (quantity)	Torque
Screw, #6-32 x L8, Hexhead (2)	5 ± 0.5 lb/in

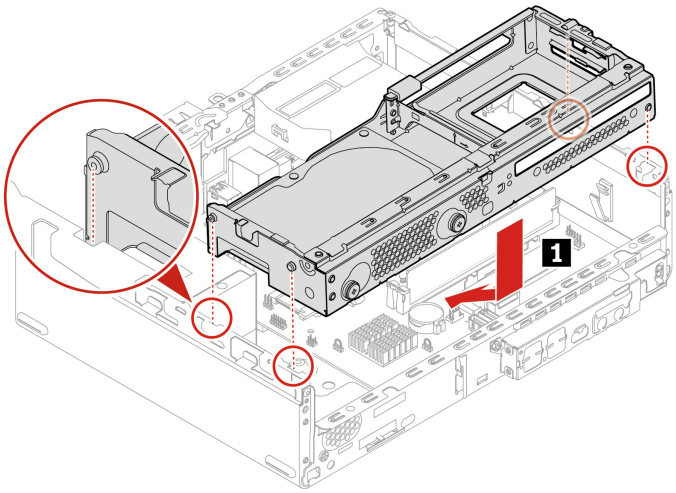
2. Pivot the drive bay assembly upward, then remove it.

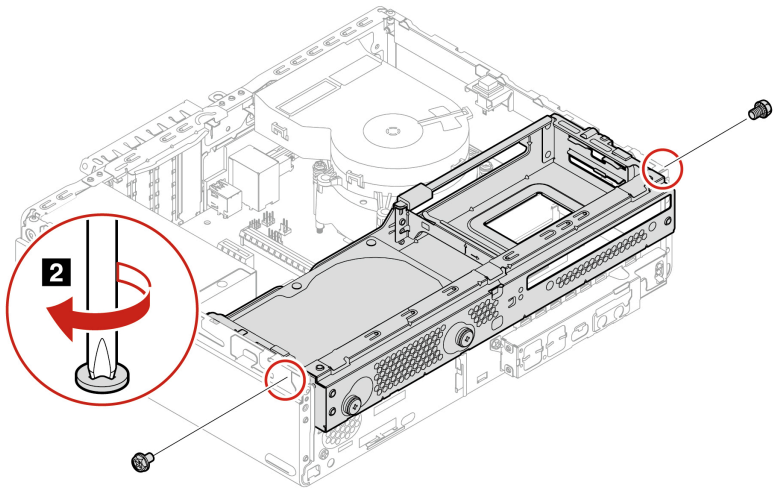


Installation steps

There are four holes on the chassis to locate the drive bay assembly.

1. Insert the drive bay assembly into the four holes. Then pivot the drive bay assembly downward to install it to the chassis.
2. Secure the two screws.





Hard disk 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 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.

For access, do the following:

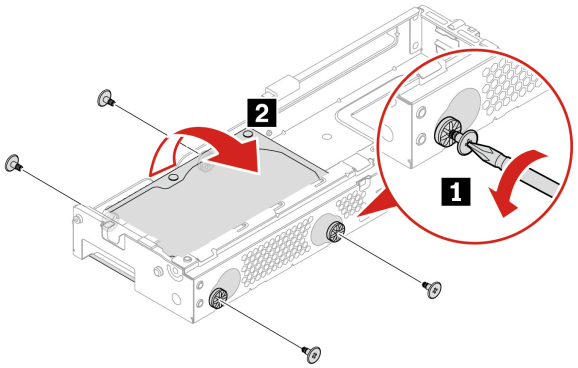
1. Remove these parts in order:
   - “Computer cover” on page 20
   - “Optical drive and optical drive latch” on page 27
   - “Front bezel” on page 22
   - “Drive bay assembly” on page 25
2. Disconnect the signal cable and the power cable from the hard disk drive.

Removal steps

1. Remove the four screws which secure the hard disk drive to the drive bay assembly, two screws at each side of the hard disk drive. Find screw specification like torque in the following screw table.

Screw (quantity)	Torque
Screw, #6-32 (4)	5 ± 0.5 lb/in

2. Remove the hard disk drive.



Optical drive and optical drive latch

Prerequisite

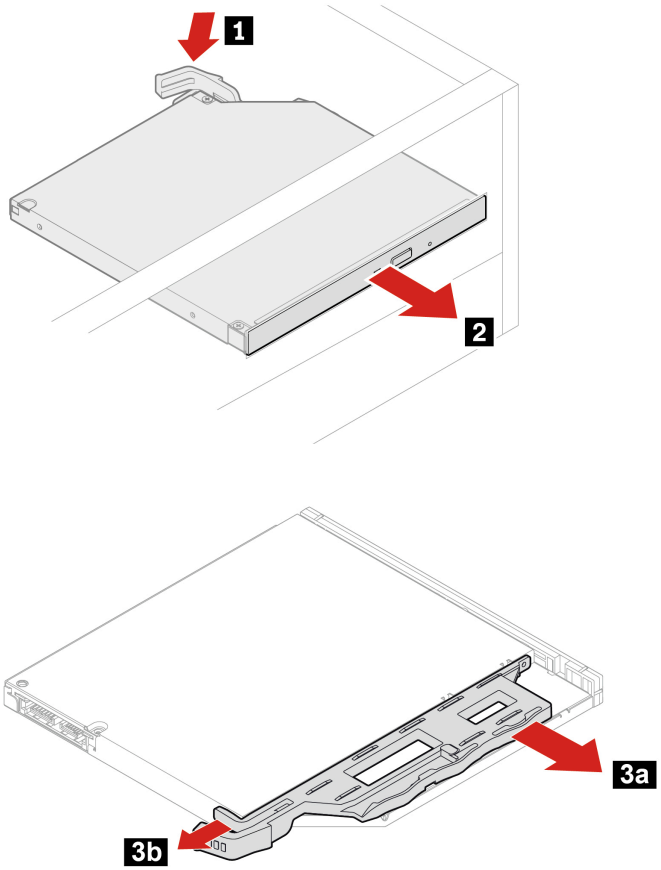
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, do the following:

1. Remove the “Computer cover” on page 20.
2. Disconnect the signal and power cable from the optical drive.

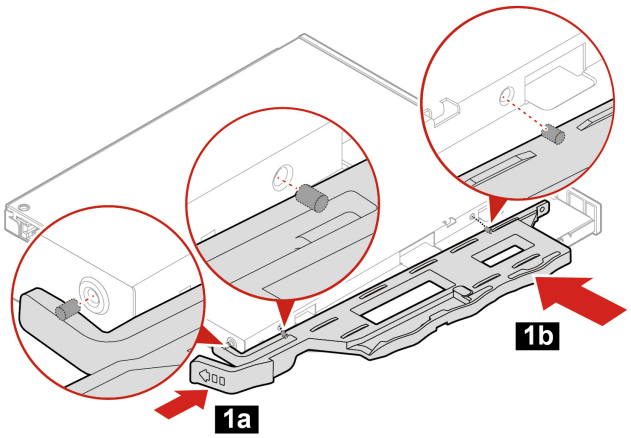
Removal steps

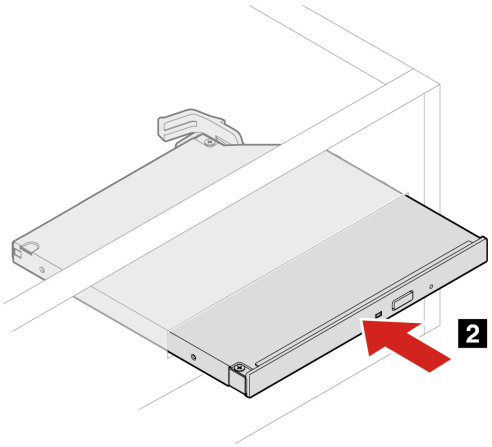
1. Push the optical drive latch toward the front panel of the computer.
2. Remove the optical drive.
3. Pull the optical drive latch out of the optical drive.



Installation steps

1. There are three holes on the optical drive to locate the optical drive latch. Install the optical drive latch to the optical drive and make sure that it is inserted into these holes.
2. Insert the optical drive to the chassis.





Optical drive bezel

Prerequisite

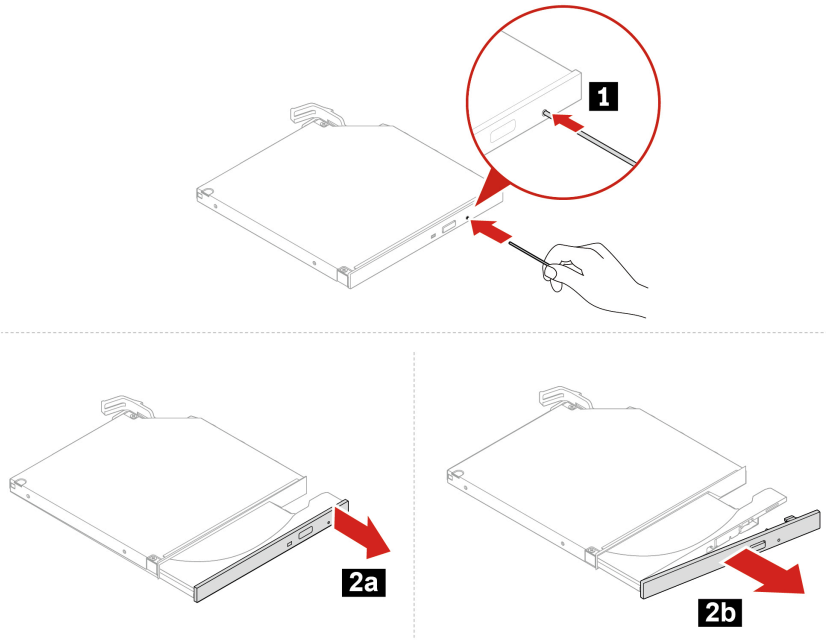
Before you start, read *Generic Safety and Compliance Notices*, and print the following instructions.

For access, do the following:

1. Remove the “Computer cover” on page 20.
2. Remove the “Optical drive and optical drive latch” on page 27.
3. Disconnect the signal and power cable from the optical drive.

Removal steps

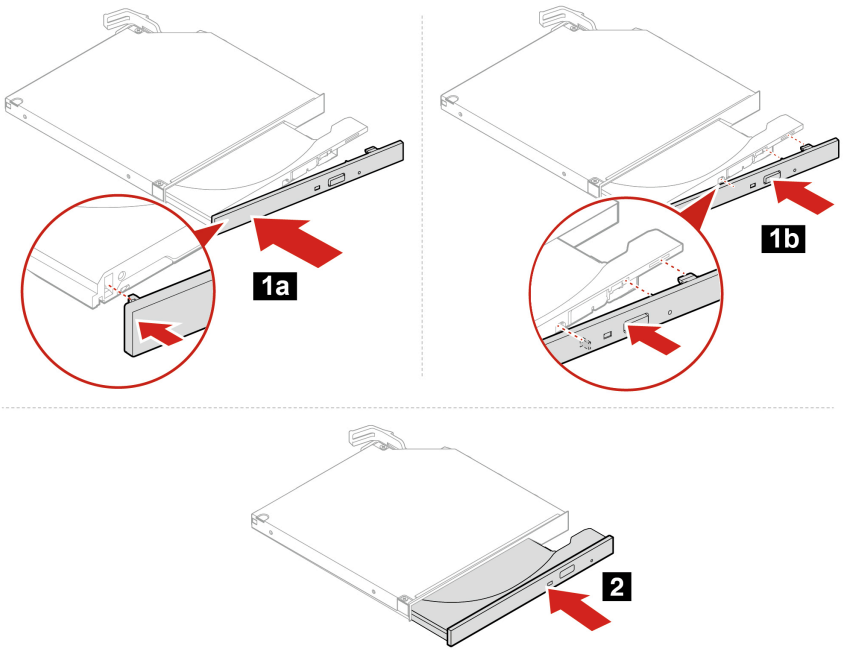
1. Use an ejector like paper clip to eject the optical drive tray.
2. Remove the optical drive bezel from the optical drive.



Installation steps

There are four holes on the optical drive tray to locate the optical drive bezel.

1. Install the optical drive bezel to the optical drive tray, and make sure that it is inserted into these holes.
2. Install the optical drive tray back to the optical drive.



Optical drive bracket

Prerequisite

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

For access, remove these parts in order:

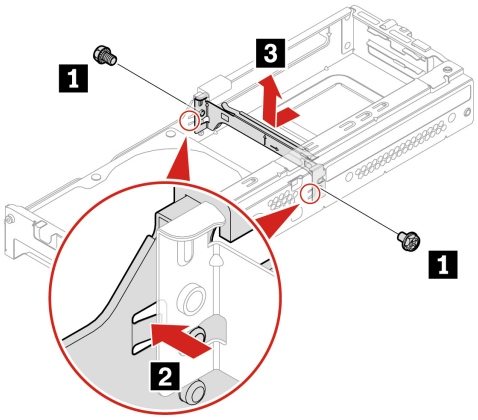
- “Computer cover” on page 20
- “Optical drive and optical drive latch” on page 27
- “Front bezel” on page 22
- “Drive bay assembly” on page 25

Removal steps

1. Remove the two screws which secure the optical drive bracket to the drive bay assembly, one screw at each side of the optical drive bracket. Find screw specification like torque in the following screw table.

Screw (quantity)	Torque
Screw, #6-32 x L8, Hexhead (2)	5 ± 0.5 lb/in

2. Remove the optical drive bracket.

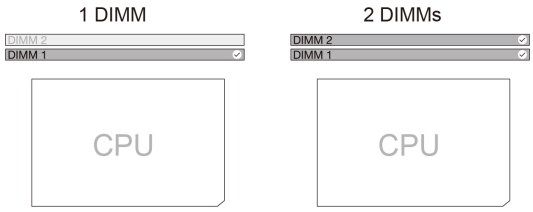


Memory module

Prerequisite

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

Ensure that you follow the installation rules shown in the following illustration.

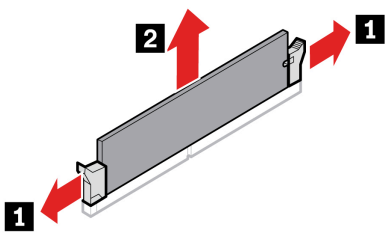


For access, remove these parts in order:

- “Computer cover” on page 20
- “Optical drive and optical drive latch” on page 27
- “Front bezel” on page 22
- “Drive bay assembly” on page 25

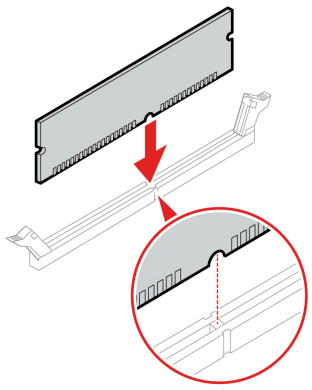
Removal steps

1. Open the two retaining clips.
2. Gently pull the memory module out of the memory slot.



Installation steps

Align the memory module to the slot and press down on both ends until the latches are fully engaged with a click.



M.2 solid-state drive and heat sink

Prerequisite

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

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

Attention:

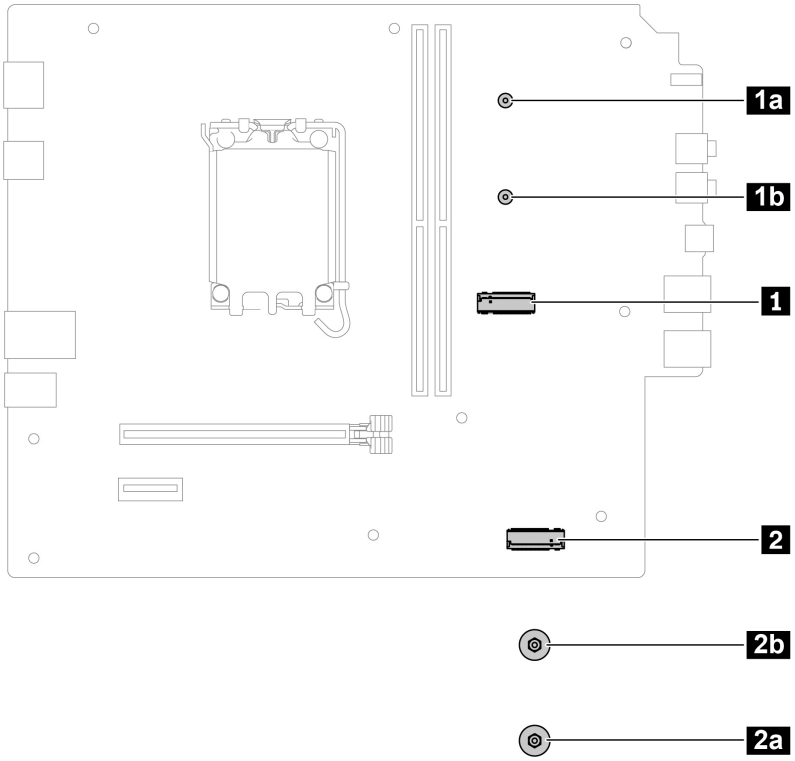
- The internal storage drive is sensitive. Inappropriate handling might cause damage and permanent loss of data. When handling the internal storage drive, observe the following guidelines:
  - Replace the internal storage drive only for repair. The internal storage drive is not designed for frequent 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.

For access, remove these parts in order:

- “Computer cover” on page 20
- “Optical drive and optical drive latch” on page 27
- “Front bezel” on page 22
- “Drive bay assembly” on page 25

M.2 solid-state drive slots

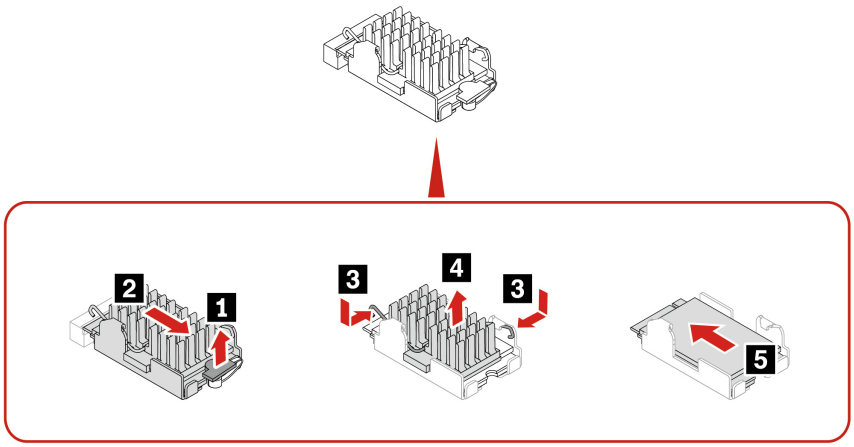
Your computer has two M.2 solid-state drive slots on the system board. You can install the M.2 solid-state drive to the slot **1** and secure the M.2 solid-state drive to the location **1a** or **1b** on the system board. You also can install the M.2 solid-state drive to the slot **2** and secure the M.2 solid-state drive to the location **2a** or **2b** on the chassis.



Removal steps for M.2 solid-state drive secured to the system board

For type-1 M.2 solid-state drive:

1. Pull out the plug that secures the heat sink module to the system board.
2. Remove the heat sink module.
3. Press down on the two latches on top of the heat sink module to release the heat sink cover.
4. Remove the heat sink cover.
5. Remove the M.2 solid-state drive and thermal pad (if any).

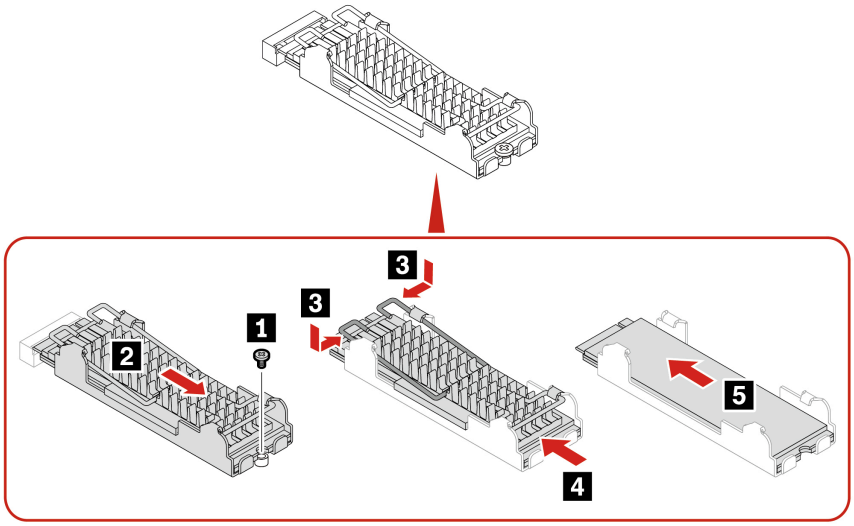


For type-2 M.2 solid-state drive:

1. Remove the screw that secures the heat sink module to the system board.

Screw (quantity)	Torque
M2 x L4, silver coated (1)	1.5 ± 0.5 lb/in

2. Remove the heat sink module.
3. Pinch the two latches on top of the heat sink module to release the heat sink cover.
4. Remove the heat sink cover.
5. Remove the M.2 solid-state drive and thermal pad (if any).



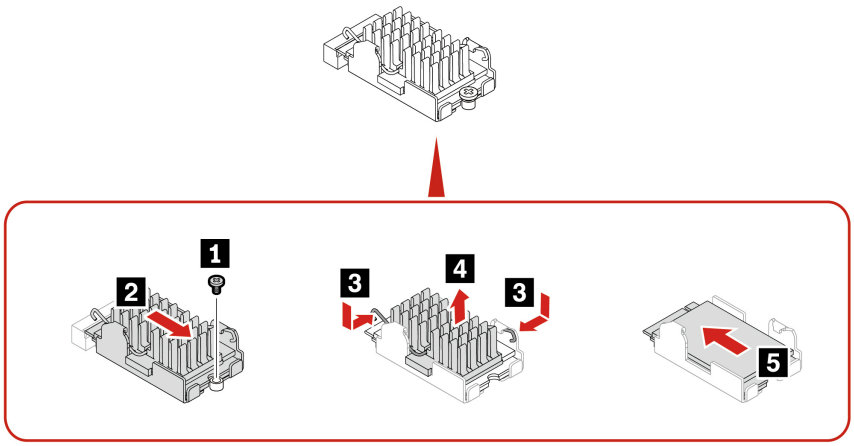
Removal steps for M.2 solid-state drive secured to the chassis

For type-1 M.2 solid-state drive:

1. Remove the screw that secures the heat sink module to the chassis.

Screw (quantity)	Torque
M2 x L4, silver coated (1)	1.5 ± 0.5 lb/in

2. Remove the heat sink module.
3. Press down on the two latches on top of the heat sink module to release the heat sink cover.
4. Remove the heat sink cover.
5. Remove the M.2 solid-state drive and thermal pad (if any).

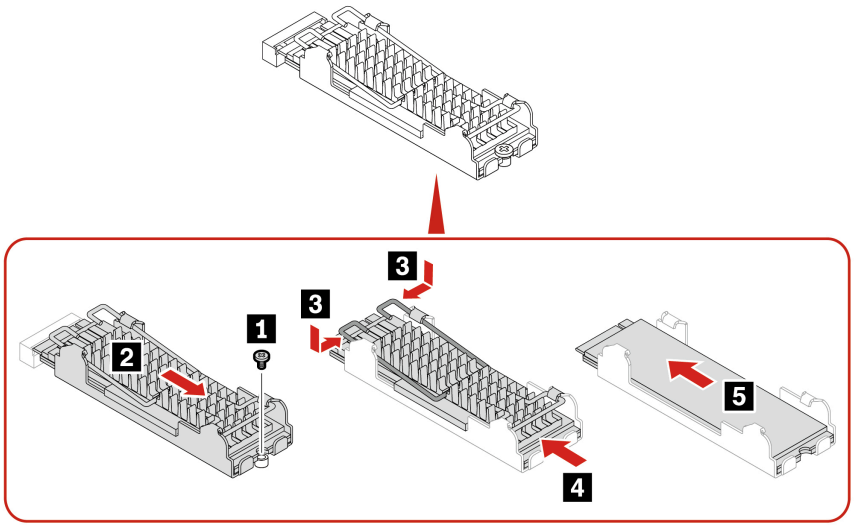


For type-2 M.2 solid-state drive:

1. Remove the screw that secures the heat sink module to the chassis.

Screw (quantity)	Torque
M2 x L4, silver coated (1)	1.5 ± 0.5 lb/in

2. Remove the heat sink module.
3. Pinch the two latches on top of the heat sink module to release the heat sink cover.
4. Remove the heat sink cover.
5. Remove the M.2 solid-state drive and thermal pad (if any).



Note: Remove the film that covers the thermal pad (if any) when installing the M.2 solid-state drive, heat sink, and thermal pad.

Power supply assembly

Prerequisite

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

Although there are no moving parts in the computer after the power cord has been disconnected, the following warnings are required for your safety.

Keep fingers and other parts of your body away from hazardous, moving parts. If you suffer an injury, seek medical care immediately. Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

For access, do the following:

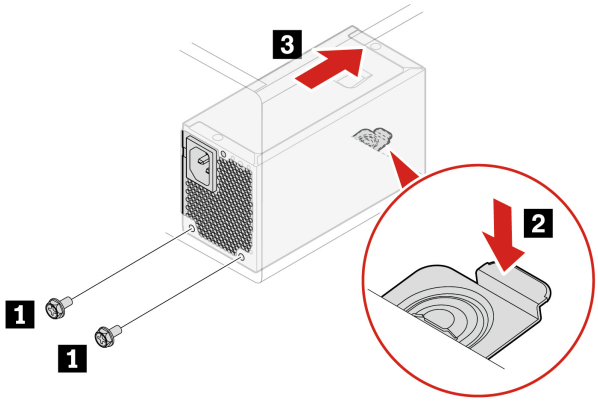
1. Remove these parts in order:
   - “Computer cover” on page 20
   - “Optical drive and optical drive latch” on page 27
   - “Front bezel” on page 22
   - “Drive bay assembly” on page 25
2. Disconnect the power supply assembly cables from the system board.

Removal steps

1. Remove the three screws which secure the power supply assembly to the chassis. Find screw specification like torque in the following screw table.

Screw (quantity)	Torque
Screw, #6-32 x L8, Hexhead (2)	5 ± 0.5 lb/in

2. Press the retaining clip from inside of the chassis.
3. Push the power supply assembly inwards to remove it.



CPU cooler

Prerequisite

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

CAUTION:

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

For access, do the following:

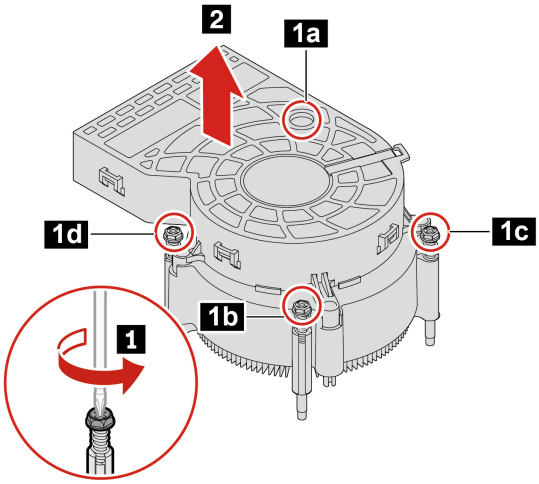
1. Remove these parts in order:
   - “Computer cover” on page 20
   - “Optical drive and optical drive latch” on page 27
   - “Front bezel” on page 22
   - “Drive bay assembly” on page 25
2. Disconnect the CPU cooler cable from the system board.

Removal steps

Notes:

- Ensure that the CPU cooler is horizontal when loosening or fastening the screws.
- Do not touch the thermal grease while handling the heat sink.

1. Partially loosen the four screws in the specified sequence as indicated in the following illustration. Then, fully loosen all screws in the same order.
2. Remove the CPU cooler.


2
1a
1d
1c
1b
1

Chapter 7. Help and support

Self-help resources

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

Resources	How to access?
Product documentation: • *Safety and Warranty Guide* • *Generic Safety and Compliance Notices* • *Setup Guide* • This *User Guide* • *Regulatory Notice*	Go to https://support.lenovo.com/documentation and search by product.
Lenovo Support Web site with the latest support information of the following: • Drivers and software • Diagnostic solutions • Product and service warranty • Product and parts details • Knowledge base and frequently asked questions	https://pcsupport.lenovo.com
Ubuntu help information	https://help.ubuntu.com/lts/ubuntu-help/index.html
IGEL support information	https://support.igel.com/

Lenovo diagnostic tools

For information about Lenovo diagnostic tools, go to:
https://pcsupport.lenovo.com/lenovodiagnosticsolutions

Call Lenovo

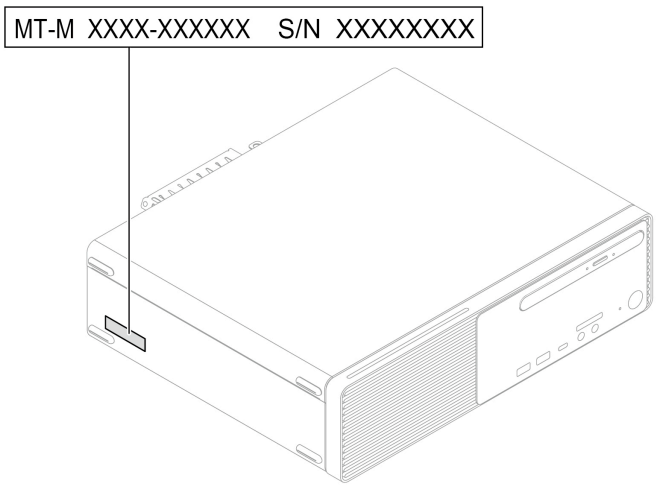
If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

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/supportphonelist

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 *Safety and Warranty Guide* that comes with your computer.

Purchase accessories or additional services

This topic provides instructions on how to purchase accessories or additional services.

Accessories

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

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

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 names might vary by country or region.

Accessibility features

Lenovo is committed to making information technology accessible to everyone, including those with hearing, vision, or mobility limitations. Lenovo supports accessibility features in the following ways to help all users better engage with Lenovo products.

Accessible documentation

Lenovo documentation is designed to meet users' accessibility needs. Users can read the documentation with assistance as needed. For example:

- Text and images are in high contrast. Color contrast can enhance the visual experience. In this mode, all contents are highlighted to be more visible.
- Text is logical and readable. Images are also readable with alternative text provided. A screen reader can enhance the hearing or listening experience. In this mode, all contents are clearer and easier to understand.

- Text is large and clear, making it easier to read. A magnifier can enlarge the text to improve readability.

For more information, watch the video at:
https://support.lenovo.com/docs/pc_pub_accessibility

Accessible product design

Lenovo product design also supports accessibility features.

Note: The accessibility features vary by product. Depending on the product model, some accessibility features listed below might not be applicable to the product. To get the most up-to-date accessibility information for the product, go to https://www.lenovo.com/accessibility. For additional support from Lenovo, users can find phone numbers for their country or region from https://support.lenovo.com/supportphonelist.

- **Keyboards**

  Lenovo keyboards support various accessibility features. For example:

  - Consistent layout of keyboards for easier use
  - Tactile markings on some keys for easier identification
  - Appropriate spacing between keys for typing efficiency
  - Sufficient contrast of keys, controls, and labels for better visibility
  - On-screen notification or lighted notification for some keys for ease of use
  - Keys and controls that can be reached and operated using one hand and require minimal dexterity for ease of use

- **Industry-standard connectors**

  The industry-standard connectors on Lenovo products enable better compatibility with peripheral devices.

- **Operating systems**

  The accessibility features of the operating systems can be configured to assist users in the following ways:

  - Vision features make the screen contents easier to see.
  - Hearing features make the screen contents easier to hear.
  - Interaction features make the product easier to control.

  To access the accessibility features of the Ubuntu or Fedora operating system, go to **Settings** → **Accessibility**.

Appendix A. Supplemental information about the Ubuntu operating system

In limited countries or regions, Lenovo offers customers an option to order computers with the preinstalled Ubuntu® operating system.

If the Ubuntu operating system is available on your computer, read the following information before you use the computer. Ignore any information related to Windows-based programs, utilities, and Lenovo preinstalled applications in this documentation.

Access the Lenovo Limited Warranty

This product is covered by the terms of the Lenovo Limited Warranty (LLW), version L505-0010-02 08/2011. You can view the LLW in a number of languages from the following Web site. Read the Lenovo Limited Warranty at:
https://www.lenovo.com/warranty/llw_02

The LLW also is preinstalled on the computer. To access the LLW, go to the following directory:

```
/opt/Lenovo
```

If you cannot view the LLW either from the Web site or from your computer, contact your local Lenovo office or reseller to obtain a printed version of the LLW.

Access the Ubuntu help system

The Ubuntu help system provides information about how to use the Ubuntu operating system. To access the help system from Home Screen, move your pointer to the Launch bar, and then click the **Help** icon. If you cannot find the **Help** icon from the Launch bar, click the **Search** icon on the bottom left, and type Help to search it.

To learn more about the Ubuntu operating system, go to:
https://www.ubuntu.com

Access IGEL distributions

To learn more about the IGEL operating system, go to https://www.igel.com/support.

Get support information

If you need help, service, technical assistance, or more information about the Ubuntu operating system or other applications, contact the provider of the Ubuntu operating system or the provider of the application. If you need the service and support for hardware components shipped with your computer, contact Lenovo. For more information about how to contact Lenovo, refer to the *User Guide* and *Safety and Warranty Guide*.

To access the latest *User Guide* and *Safety and Warranty Guide*, go to:
https://pcsupport.lenovo.com

Access open-source information

This device includes software made publicly available by Lenovo, including software licensed under the General Public License and/or the Lesser General Public License (the open source software).

You may obtain a copy of the corresponding source code for any such open source software licensed under the General Public License and/or the Lesser General Public License (or any other license requiring us to

make a written offer to provide corresponding source code to you) from Lenovo for a period of three years without charge except for the cost of media, shipping, and handling, upon written request to Lenovo. This offer is valid to anyone in receipt of this device.

You may send your request in writing to the address below accompanied by a check or money order for $15 to:

Lenovo Legal Department
Attn: Open Source Team / Source Code Requests
8001 Development Dr.
Morrisville, NC 27560

Please include the version of the OS and the version of the Linux Kernel pre-shipped on this Device as part of your request. Be sure to provide a return address.

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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.

Certification-related information

Product name: ThinkCentre neo 50s Gen 6

Machine types: 13DL, 13DM, 13DN, and 13DQ

The latest compliance information is available at:
https://www.lenovo.com/us/en/compliance

Operating environment

Maximum altitude (without pressurization)

- Operating: From 0 m (0 ft) to 3048 m (10 000 ft)
- Storage: From 0 m (0 ft) to 12192 m (40 000 ft)

Temperature

- Operating: From 5°C (41°F) to 35°C (95°F)
- Storage:
  - For common desktop computers: From -40°C (-40°F) to 60°C (140°F)
  - For all-in-one desktop computers: From -20°C (-4°F) to 60°C (140°F)

Relative humidity

- Operating: 20%-80% (non-condensing)
- Storage: 10%–90% (non-condensing)

Appendix C. Notice for USB connector name update

The USB Implementers Forum published a revision of the guideline for USB connector names in September, 2022. Lenovo follows the revised guideline and updates USB connector names accordingly. You can refer to the table below for naming update details.

Current name	Previous name
USB-A connector (Hi-Speed USB)	USB-A 2.0 connector
USB-A connector (USB 5Gbps)	USB-A 3.2 Gen 1 connector
USB-A connector (USB 10Gbps)	USB-A 3.2 Gen 2 connector
USB-A connector (USB 5Gbps, Always On USB)	Always on USB-A 3.2 Gen 1 connector
USB-A connector (USB 10Gbps, Always On USB)	Always on USB-A 3.2 Gen 2 connector
USB-C connector (USB 5Gbps)	USB-C (3.2 Gen 1) connector
USB-C connector (USB 10Gbps)	USB-C (3.2 Gen 2) connector
USB-C connector (USB 20Gbps)	USB 3.2 Gen 2x2
USB-C connector (USB4 20Gbps)	USB 4 Gen 2x2
USB-C connector (USB4 40Gbps)	USB-C (USB 4) connector
USB-C connector (Thunderbolt 3)	USB-C (Thunderbolt 3) connector
USB-C connector (Thunderbolt 4)	USB-C (Thunderbolt 4) connector

Appendix D. Notices and trademarks

Notices

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https://pcsupport.lenovo.com

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