lenovo

Lenovo
B40/B50/N40/N50

User Guide

Read the safety notices and important tips in the included manuals before using your computer.

Notes

- Before using the product, be sure to read *Lenovo Safety and General Information Guide* first.

- Some instructions in this guide may assume that you are using Windows® 7 or Windows® 8.1. If you are using other Windows operating systems, some operations may be slightly different. If you are using other operating systems, some operations may not apply to you.

- The features described in this guide are common to most models. Some features might not be available on your computer and/or your computer might include features that are not described in this user guide.

- The illustrations used in this manual are for the Lenovo B50-70 unless otherwise stated.

- The illustrations in this manual may differ from the actual product. Please refer to the actual product.

Regulatory Notice

- For details, refer to **Guides & Manuals** at http://support.lenovo.com.

First Edition (December 2014)
© Copyright Lenovo 2014.

Lenovo

User Guide

Instructions and technical information in this manual are applicable to the following Lenovo notebook computers unless otherwise stated.

Model name	MT
Lenovo B40-30	20390, 80F1
Lenovo B40-70	20392, 80F3
Lenovo B40-45	20394, 80F5
Lenovo B50-30	20382, 80ES
Lenovo B50-30 Touch	20383, 80ET
Lenovo B50-70	20384, 80EU
Lenovo B50-45	20388, 80F0
Lenovo N40-30	20460, 80H4
Lenovo N40-70	20462, 80H6
Lenovo N50-70	20439, 80HA
Lenovo N40-45	20461, 80H5
Lenovo N50-45	20441, 80HC
Lenovo B40-80	20395, 80F6, 80LS
Lenovo B50-80	20386, 80EW, 80LT
Lenovo N40-80	20463, 80H7
Lenovo N50-80	20440, 80HB

Contents

Chapter 1. Getting to know your computer

∎∎ Top view

- **B40-30/N40-30/B40-70/N40-70/B40-45/N40-45/B40-80/N40-80**

■ **B50-30/B50-30 Touch/B50-70/N50-70/B50-45/N50-45/B50-80/ N50-80**
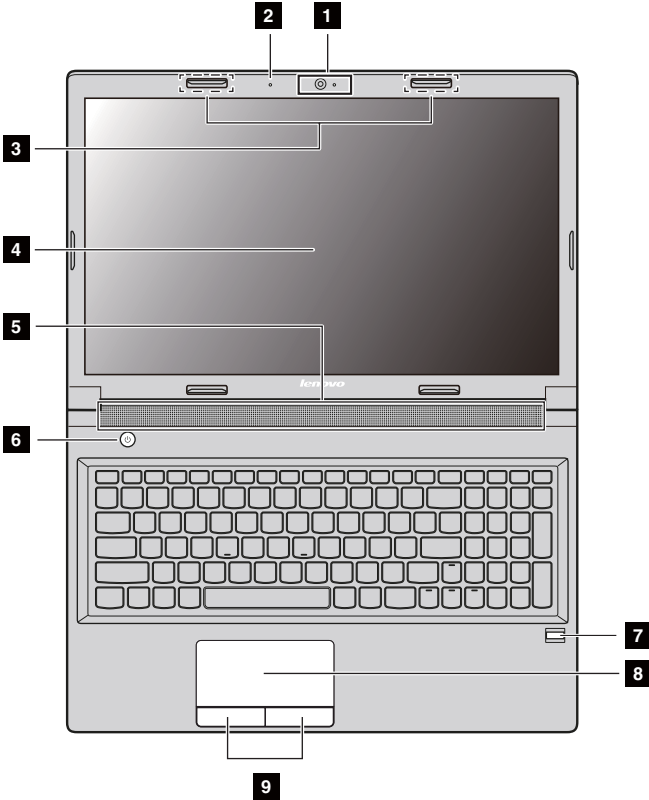
Note:

- The dashed areas indicate parts that are invisible from the outside.
- The illustrations may differ from the actual product. Please refer to the actual product.

◉ **Attention:**
  - Do *not* open the display panel beyond 130 degrees. When closing the display panel, be careful *not* to leave pens or any other objects in between the display panel and the keyboard. Otherwise, the display panel can be damaged.

a **Integrated camera (on select models)** — Used for video communication or taking photos.

b **Built-in microphone (on select models)** — Used for video conferencing, voice narration, or audio recording.

c **Wireless antennas (on select models)** — Connects to a wireless adapter to receive and send wireless radio signals.

d **Display** — Provides visual output.

e **Speakers** — Provides audio output.

f **Power button** — Press this button to turn on the computer.

g **Fingerprint reader (on select models)** — Registers fingerprints that can be used as passwords to secure your computer.

h **Touchpad** — Performs the same respective functions as a conventional mouse.
Slide your fingertip on the touch pad in the direction you wish to move the cursor.

i **Touchpad buttons** — Performs the functions of the left and right buttons as those of the left and right buttons on a conventional mouse.
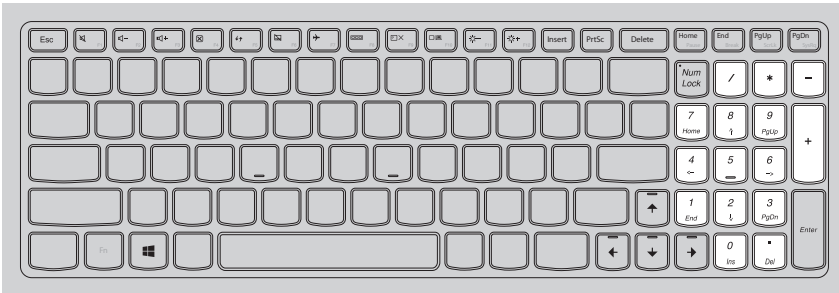
■ **Using the keyboard**

Your computer has a numeric keypad, hotkeys, and function keys incorporated in its standard keyboard.

Numeric keypad (Applicable for B50/N50 Series)

The keyboard has a separate numeric keypad. To enable or disable the keypad, press the Numeric Lock key **(Num Lock)**.

Note: The numeric lock indicator is on when the numeric keypad is enabled.

Hotkeys

You can access certain system settings quickly by pressing the appropriate hotkeys.

:	Mutes/unmutes the sound.	**:**	Enables/disables Airplane mode.
:	Decreases the volume level.	**:**	Switches the active program.
:	Increases the volume level.	**:**	Turns the LCD screen backlight on/off.
:	Closes the currently active window.	**:**	Projects to a connected display.
:	Refreshes the desktop or the currently active window.	**:**	Decreases display brightness.
:	Enables/disables the touchpad.	**:**	Increases display brightness.

Note: If you change the **HotKey Mode** from **Enabled** to **Disabled** in the BIOS setup utility, you need to press the Fn key in combination with the appropriate hotkey.

Function key combinations

To use the function key combinations, press the Fn key **1** , then press one of the function keys **2** .

B40-30/N40-30/B40-70/N40-70/B40-45/N40-45/B40-80/N40-80:

B50-30/B50-30 Touch/B50-70/N50-70/B50-45/N50-45/B50-80/N50-80:
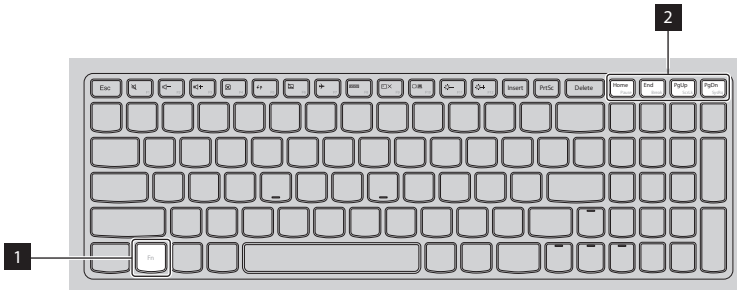
The following is a brief introduction to the function key combinations.

Fn + Home:	Activate the pause function.
Fn + End:	Activate the break function.
Fn + PgUp:	Enable/disable the scroll lock.
Fn + PgDn:	Activate the insert function.

◼◼ Left-side view

■ **B40-30/N40-30/B40-70/N40-70/B40-45/N40-45/B50-30/B50-30 Touch/B50-45/N50-45/B40-80/N40-80**
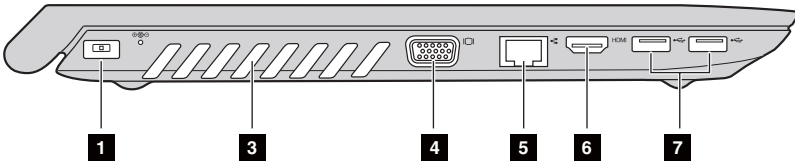
■ **B50-70/N50-70/B50-80/N50-80**
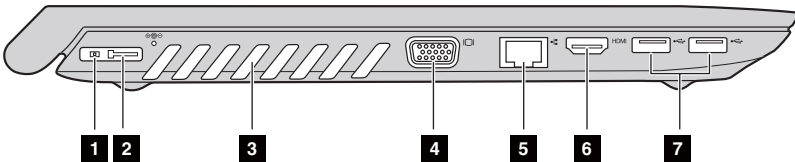
1	**AC power adapter jack**	Connects the AC power adapter.
2	**Lenovo OneLink connector (on select models)**	When the AC power adapter is connected to the AC power adapter jack, it provides power to the computer and charges the battery. When a supported ThinkPad OneLink Dock is connected to the Lenovo OneLink connector, it can not only extend the computer capabilities, but also provide AC power to the computer and charge the battery. To use the Lenovo OneLink connector, you need to remove the connector cover from the Lenovo OneLink connector first.

Note: Ensure that you keep the connector cover. Reattach it to the Lenovo OneLink connector when you are not using the Lenovo OneLink connector.

3 **Ventilation slots** Dissipates internal heat.

   ⊙ **Attention:**
- Make sure that none of the ventilation slots are blocked or else overheating of the computer may occur.

4 **VGA port** Connects to external display devices.

5 **RJ-45 port** Connects the computer to an Ethernet network.

   ✳ **Danger:**
- To avoid the risk of electrical shock, do not connect a telephone cable to the Ethernet port. You can only connect an Ethernet cable to this port.

6 **HDMI port** Connects to devices with HDMI input such as a TV or a display.

7 **USB 3.0 ports or USB 2.0 ports** Connect to USB devices. For details, see "Connecting USB devices" on page 8.

Note: The USB 3.0 connector is compatible with USB 1.1, 2.0, and 3.0.

◼ **Connecting USB devices**

You can connect a USB device to your computer by inserting its USB plug (Type A) into the USB port on your computer.
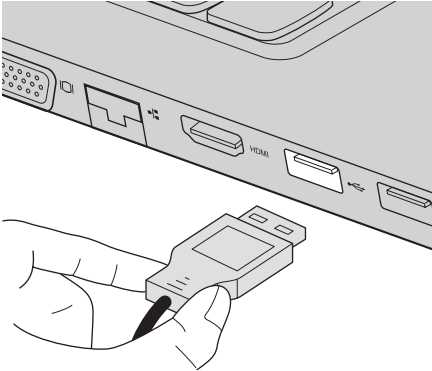
The first time you plug a USB device into a USB port on your computer, Windows automatically installs a driver for that device. After the driver is installed, you can disconnect and reconnect the device without performing any additional steps.

Note: Typically, Windows detects a newly connected device after connecting it and then installs the driver automatically. However, some devices might require you to install the driver before connecting. Check the documentation provided by the manufacturer of the device before connecting.

Before disconnecting a USB storage device, make sure your computer has finished using the device to transfer the data. Click the **Safely Remove Hardware and Eject Media** icon in the notification area of the Windows desktop screen to remove the device before disconnecting.

Note:
• If your USB device uses a power cord, connect the device to a power source before connecting it. Otherwise, the device may not be recognized.
• When the computer is in sleep mode, you can only use the keyboard instead of the mouse to wake up the computer.

■ **Connecting to a wired network**

Wired connections are a reliable and safe way to connect the computer to the Internet.

Cable	Cable Internet services use a cable modem connected to the residential cable TV line.
DSL	DSL is a family of related technologies that bring high speed network access to homes and small businesses over ordinary telephone lines.

Hardware connections:

Cables

TV cable

Splitter *

Cable modem *

DSL

Telephone line

Splitter *

DSL modem *

*
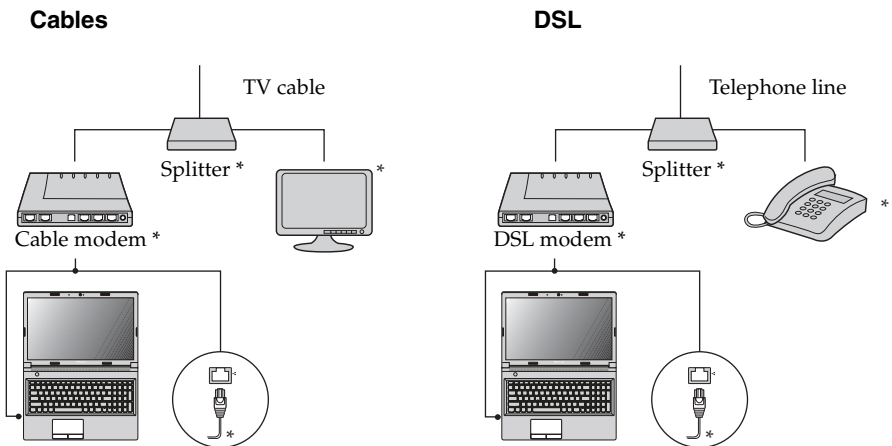
* Not supplied.

Note: The above diagrams are for reference only. Actual connections method may vary.

Software configuration

Consult your Internet Service Provider (ISP) for details about how to configure your computer.

■■ Right-side view ───────────────────────────────────

■ **B40-30/N40-30/B40-70/N40-70/B40-45/N40-45/B40-80/N40-80:**
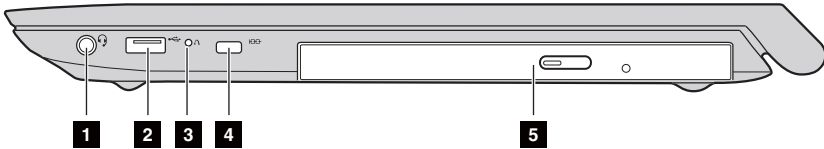
■ **B50-30/B50-30 Touch/B50-70/N50-70/B50-45/N50-45/B50-80/
N50-80:**
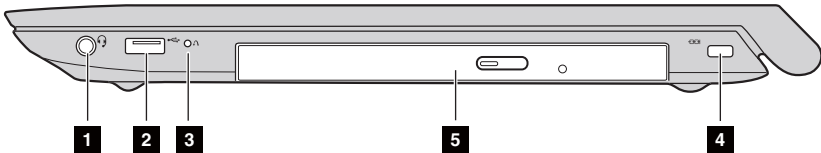
a	**Combo audio jack**	Connects to a headset.

Note:
- The combo audio jack does not support conventional microphones.
- The recording function might not be supported if third-party headphones or headsets are connected due to different industry standards.

b	**USB port**	Connects to USB devices. For details, see "Connecting USB devices" on page 8.
c	**Novo button**	When the computer is off, press this button to start the Lenovo OneKey Recovery system, or to startup normally, or the BIOS setup utility, or to enter the boot menu.

4 **Kensington lock slot**   Attach a security lock (not supplied) here to help
                               protect your computer from theft and unauthorized
                               use.
                               You can attach a security lock to your computer to
                               help prevent it from being removed without your
                               permission. For details on installing the security lock,
                               please refer to the instructions shipped with the
                               security lock that you have purchased.

Note:
- Before purchasing any security product, verify that it is compatible with this type of
  security keyhole.
- You are responsible for evaluating, selecting, and implementing the locking devices and
  security features. Lenovo offers no comment, judgment, or warranty regarding the
  function, quality, or performance of locking devices and security features.

5 **Optical drive**   Reads/Burns an optical discs.
  (on select models)

■■ Front view ———————————————————————————————————
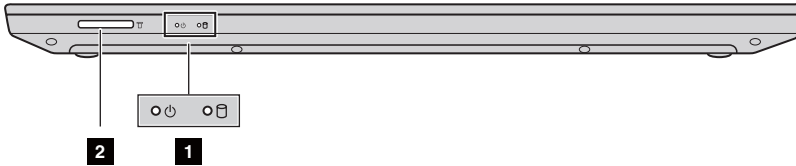
a **System status indicators**   For details, see "System status indicators" on page 12.

b **Memory card slot**   Accepts memory cards (not supplied). For details, see "Using memory cards (not supplied)" on page 13.

■ **System status indicators**

The system status indicators show the current status of your computer.

Power and battery status indicator ⏻

- **Green:** The battery has a charge between 20% and 100% and the AC adapter is not connected to the computer, or the battery has a charge between 80% and 100% and the AC power adapter is connected to the computer.
- **Blinking green:** The battery has a charge between 20% and 80% and the AC power adapter is connected to the computer or the computer is in sleep mode.
- **Amber:** The battery has a charge between 5% and 20% and the AC adapter is not connected to the computer.
- **Blinking amber:** The battery has a charge of 20% or less and the AC power adapter is connected to the computer.
- **Off:** The battery is detached, or the battery has a charge of 5% or less and the AC adapter is not connected to the computer, or the computer is powered off or in hibernate mode.

Hard disk drive indicator 🗄

When this indicator is on, the hard disk drive is reading or writing data.

⊚ **Attention:**

- When the indicator is on, do not put the computer into sleep mode or turn off the computer.
- When the indicator is on, do not move the computer. Sudden physical shock might cause hard disk drive errors.

■ **Using memory cards (not supplied)**

Your computer supports the following types of memory card:
- Secure Digital (SD) card
- Secure Digital High Capacity (SDHC) card
- SD eXtended Capacity (SDXC) card
- MultiMediaCard (MMC)

⊚ **Attention:**

- Insert *only* one card in the slot at a time.
- This card reader does not support SDIO devices (Such as SDIO Bluetooth, and so on).

Inserting a memory card

Slide a memory card in until it clicks into place.

Note: If a dummy card is shipped with the computer, push the dummy card and remove it before inserting a memory card.

Removing a memory card

❶ Push the memory card in until you hear a click.

❷ Gently pull the memory card out of the memory card slot.

⊚ **Attention:**

- Before removing a memory card, disable it through **Safely Remove Hardware and Eject Media** to avoid data corruption.

▪▪ Bottom view ─────────────────────────────────────
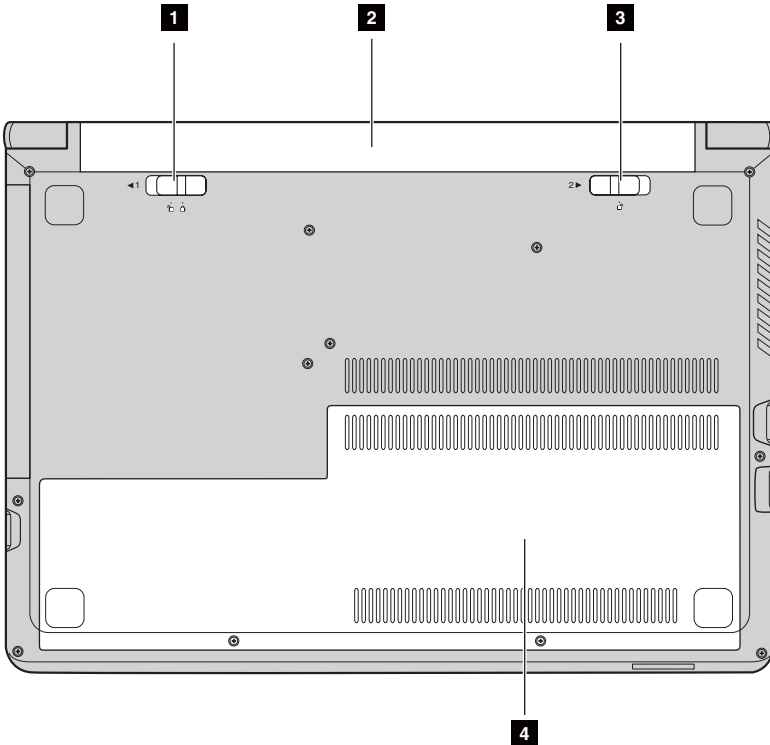
1	**Battery latch-manual**	Keeps the battery pack secured in place.
2	**Battery pack**	Provide the power for the computer.
3	**Battery latch-spring loaded**	Keeps the battery pack secured in place.
4	**Bottom slot cover**	The hard disk drive, memory module, and mini-PCI Express Card are placed underneath.

Chapter 2. Learning the basics

Configuring the operating system for the first time ——

You need to configure the operating system when it is first used. The
configuration process may include the procedures below:
• Accepting the end user license agreement
• Configuring the Internet connection
• Registering the operating system
• Creating a user account

Putting the computer to sleep or shutting it down ——

When you have finished working with your computer, you can put it to sleep
or shut it down.

■ Putting your computer to sleep

If you will be away from your computer for only a short time, put the
computer to sleep. When the computer is in sleep mode, you can quickly
wake it up to resume use, bypassing the startup process.
To put the computer to sleep, do one of the following:
• Close the display lid.
• Press the power button.
• Preform the following based on the operating system.
  For the Windows 7 operating system:
  Click **Start** → **Sleep**.
  For the Windows 8.1 operating system:
  Open the charms bar, then select **Settings** → **Power** → **Sleep**.

  ◉ **Attention:**
  • Wait until the power and battery status indicator light starts blinking green
    (indicating that the computer is in sleep mode) before you move your computer.
    Moving your computer while the hard disk drive is spinning can damage the hard
    disk, causing loss of data.

To wake up the computer, do one of the following:
• Press the power button.
• Press the Fn key on the keyboard.

■ **Shutting down the computer**

If you are not going to use your computer for a long time, shut it down.
To shut down your computer:
• **For the Windows 7 operating system:**

Click **Start** ![icon] → **Shut down**.

• **For the Windows 8.1 operating system:**

Open the charms bar and select **Settings** ![icon] → **Power** ![icon] → **Shut down**.

- Right-click the Start button in the lower-left corner and select **Shut down or sign out** → **Shut down**.

- On the Start screen, click and select **Shut down**.

Note: This operation depends on your BIOS settings. Please refer to the actual product.

Connecting to a wireless network

■ **Enabling the wireless connection**

To connect to a wireless network, do the following:

❶ Ensure the airplane mode is turned off. If the airplane mode is turned on, press the hotkey F7 (⊞) to turn this mode off.

❷ View the available wireless networks.

• **For the Windows 7 operating system:**

Click the wireless network connection status icon in the Windows notification area. A list of available wireless networks will be displayed.

• **For the Windows 8.1 operating system:**

Open the charms bar and select **Settings** ⚙ → ▇. A list of available wireless networks will be displayed.

❸ Click a network name in the list, and then click **Connect**.

Note: Some networks require a network security key or passphrase to connect. To connect to one of those networks, ask the network administrator or the Internet service provider (ISP) for the security key or passphrase.

■ **Software configuration**

Consult your Internet Service Provider (ISP) and search the Windows Help and Support Center for details on how to configure your computer.

▪▪ Help and support ──────────────────────────────

If you have questions about using the Windows operating system, refer to Windows Help and Support. To access Windows Help and Support:

• **For the Windows 7 operating system:**

 Click **Start** ▪ → **Help and Support**.

• **For the Windows 8.1 operating system:**

 - Open the charms bar and select **Settings**, and then select **Help** on the **Settings** menu.

 - Press the Windows key ▪ + **Fn + F1 or Fn + F1.**

You can read the Windows Help and Support file on your computer. You can also get online help and support by clicking on one of the two links listed under **More to explore**.

> Note: Windows 8.1 also provides an app, **Help** + **Tips**. You can find it on the Start screen, to learn more information on new features of Windows 8.1.

▪▪ Operating system interfaces (for the Windows 8.1 operating system) ───────────

Windows 8.1 comes with two main user interfaces: the Start screen and the Windows desktop.
To switch from the Start screen to the Windows desktop, do one of the following:

• Select the Desktop tile on the Start screen.

• Press the Windows key ⊞ + D.

To switch from the desktop to the Start screen, do one of the following:

• Select **Start** ▦ from the charms bar.

• Press the Windows key ⊞ .

• Move the cursor to the lower-left corner, and then select the Start screen button.

Start screen　　　　　　　**Desktop**

◼◼ Charms and the charms bar (for the Windows 8.1 operating system)

Charms are navigation buttons that let you access basic tasks quickly. Charms include: Search, Share, Start, Devices, and Settings. The **charms bar** is the menu that contains the charms. To display the charms bar, do one of the following:

• Move the cursor to the upper-right or lower-right corner until the charms bar is displayed.

• Press the Windows key ▐ + C.

Search charm

The **Search** charm is a powerful new way to find what you are looking for, including settings, files, Web images, Web videos, etc.

Share charm

The **Share** charm lets you send links, photos, and more to your friends and social networks without leaving the app you are in.

Start charm

The **Start** charm is a fast way to go to the Start screen.

Devices charm

The **Devices** charm allows you to connect or send files to connected external devices, including the devices to play, print, and project.

Settings charm

The **Settings** charm lets you perform basic tasks, such as setting the volume or shutting down the computer. Also, you can get to the Control Panel through the **Settings** charm when on the Desktop screen.

Chapter 3. Lenovo OneKey Recovery system

The Lenovo OneKey Recovery system is software designed to back up and restore your computer. You can use it to restore the system partition to its original status in case of a system failure. You can also create user backups for easy restoration as required.

Note:
- The OneKey Recovery system is not installed on some models. Please refer to the actual product.
- If your computer is preinstalled with a GNU/Linux operating system, Onekey Recovery system is not available.
- To utilize the features of the OneKey Recovery system, your hard disk already includes a hidden partition by default to store the system image file and the OneKey Recovery system program files. This default partition is hidden for security reasons, which explains why the available disk space is less than the stated capacity.

■ **Backing up the system partition**

You can back up the system partition to an image file. To back up the system partition, do the following:

❶ Click **OneKey Recovery** on the home screen to start the Lenovo One Key Recovery system.

❷ Click **System Backup**.

❸ Select a back-up location and click **Next** to start the backup.

Note:
- You can choose a back-up location on the local hard disk drive or an external storage device.
- The back-up process may take a while.
- The back-up process is only available when Windows can be started normally.

■ **Restoring**

You can choose to restore the system partition to its original status or to a previously created back-up point. To restore the system partition, do the following:

❶ Press the Novo button or click **OneKey Recovery** on the home screen to start the Lenovo OneKey Recovery system.

❷ Click **System Recovery**. The computer restarts to the recovery environment.

❸ Follow the on-screen instructions to restore the system partition to its original status or to a previously created back-up point.

Note:
- The recovery process is irreversible. Make sure to back up any data you wish to save on the system partition before starting the recovery process.
- The recovery process may take a while. Make sure to connect the AC power adapter to your computer during the recovery process.
- The above instructions should be followed when Windows can be started normally.
- When the computer is in hibernation status, you can not start the Lenovo OneKey Recovery system by pressing the Novo button for Windows 7 system.

If Windows cannot be started, follow the steps below to start the Lenovo OneKey Recovery system:

❶ Shut down the computer.

❷ Press the Novo button. From the **Novo Button Menu**, select **System recovery** and press Enter.

Chapter 4. Troubleshooting

◼◼ Frequently asked questions ————————————————

This section lists frequently asked questions by category.

◼ Finding information

What safety precautions should I follow when using my computer?

> The *Lenovo Safety and General Information Guide* which came with your computer contains safety precautions for using your computer. Read and follow all the precautions when using your computer.

Where can I find the hardware specifications for my computer?

> You can find hardware specification for your computer from the printed flyers which came with your computer.

Where can I find warranty information?

> For the warranty applicable to your computer, including the warranty period and type of warranty service, see the Lenovo limited warranty flyer that came with your computer.

◼ Drivers and preinstalled software

Where are the installation discs for Lenovo preinstalled software (desktop software)?

> Your computer did not come with installation discs for Lenovo preinstalled software. If you need to reinstall preinstalled software, you can find the installation program on the D partition of your hard disk. If you cannot find the installation program there, download it from the Lenovo consumer support Web site.

Where can I find drivers for the various hardware devices of my computer?

> If your computer is preinstalled with a Windows operating system, Lenovo provides drivers for the hardware devices that you need on the D partition of your hard disk. You can also download the latest device drivers from the Lenovo consumer support Web site.

■ **Lenovo OneKey Recovery system**

Where are the recovery discs?

Your computer did not come with recovery discs. Use the recovery system if you need to restore the system to its factory status.

What can I do if the back-up process fails?

If you can start the backup but it fails during the back-up process, try the following steps:

❶ Close all open programs, and then restart the back-up process.

❷ Check to see if the destination media is damaged. Select another path and then try again.

When do I need to restore the system to its factory status?

Use this feature when the operating system fails to start up. If there is critical data on the system partition, back it up before starting recovery.

■ **BIOS setup utility**

What is the BIOS setup utility?

The BIOS setup utility is ROM-based software. It communicates basic computer information and provides options for setting boot devices, security, hardware mode, and other preferences.

How can I start the BIOS setup utility?

To start the BIOS setup utility:

❶ Shut down the computer.

❷ Press the Novo button and then select **BIOS Setup**.

How can I change the boot priority?

There are two boot priorities: **UEFI First** and **Legacy First**. To change the boot priority, start the BIOS setup utility and set **Boot Priority** to **UEFI First** or **Legacy First** in the **Boot menu**.

When do I need to change the boot priority?

The default boot priorities are **UEFI First**. If you need to install a legacy operating system (that is, an earlier version than that of your current operating system) on your computer, you will need to change the boot priority to **Legacy First**. The legacy operating system cannot be installed if you do not change the boot priority.

■ **Getting help**

How can I contact the customer support center?

See "Chapter 3. Getting help and service" of *Lenovo Safety and General Information Guide*.

▪▫ Troubleshooting ——————————————————————————

Display problems

When I turn on the computer, nothing appears on the screen.	• If the screen is blank, make sure that: - The AC power adapter is connected to the computer, and the power cord is plugged into a working electrical outlet. - The computer power is on. Press the power button again for confirmation. - If you are using the AC power adapter or the battery, and the battery status indicator is on, press **F12** ( ) to make the screen brighter. • If these items are set correctly, and the screen remains blank, have the computer serviced.
When I turn on the computer, only a white cursor appears on a blank screen.	• Restore backed-up files to your Windows environment or the entire contents of your hard disk to its original factory contents using the recovery system. If you still see only the cursor on the screen, have the computer serviced.
My screen goes blank while the computer is on.	• Your screen saver or power management might be enabled. Do one of the following to exit from the screen saver or to resume from sleep mode: - Touch the touchpad. - Press any key on the keyboard. - Press the power button. - Press **F9** ( ) to confirm whether the backlight for the LCD screen has been turned off. - If the problem persists, follow the solution in the next problem "The screen is unreadable or distorted."
The screen is unreadable or distorted.	• Make sure that: - The display device driver is installed correctly. - The screen resolution and color quality are set correctly. - The monitor type is correct.
Incorrect characters appear on the screen.	• Are the operating system or programs installed correctly? If they are installed and configured correctly, have the computer serviced.

BIOS password problems

I forgot my password.	• If you forget your user password, you must ask the system administrator to reset your user password. • If you forget your HDD password, a Lenovo authorized servicer cannot reset your password or recover data from the hard disk. You must take your computer to a Lenovo authorized servicer or a marketing representative to have the hard disk drive replaced. Proof of purchase is required, and a fee will be charged for parts and service. • If you forget your Supervisor password, a Lenovo authorized servicer cannot reset your password. You must take your computer to a Lenovo authorized servicer or a marketing representative to have the system board replaced. Proof of purchase is required, and a fee will be charged for parts and service.

Sleep problems

The critical low-battery error message appears, and the computer immediately turns off.	• The battery power is getting low. Connect the AC power adapter to the computer, or replace the battery with a fully charged one.
The computer enters sleep mode immediately after Power-on self-test (POST).	• Make sure that: - The battery is charged. - The operating temperature is within the acceptable range. See "Chapter 2. Use and care Information" in the *Lenovo Safety and General Information Guide*.

Note: If the battery is charged and the temperature is within an acceptable range, have the computer serviced.

The computer does not return from sleep mode, and the computer does not work.	• If your computer is in sleep mode, connect the AC power adapter to the computer and then press the Fn key or the power button. • If the system still does not return from sleep mode, stops responding, or cannot be turned off, reset the computer. Unsaved data may be lost. To reset the computer, press and hold the power button for 4 seconds or more.

Sound problems

No sound can be heard from the speakers even when the volume is turned up.	• Make sure that: - The mute function is off. - The combo audio jack is not used. - The speakers are selected as the playback device.

Battery problems

Your computer shuts down before the power and battery status indicator shows empty. *-or-* Your computer operates after the power and battery status indicator shows empty.	• Reset the battery gauge using Lenovo Energy Management. If the problem persists, replace with a new battery pack.
The computer does not operate with a fully charged battery.	• The surge protector in the battery might be active. Turn off the computer for one minute to reset the protector; then turn on the computer again.

Hard disk drive problem

The hard disk drive does not work.	• In the **Boot** menu in the BIOS setup utility, make sure that the hard disk drive is included in the **EFI** list.

Other problems

Your computer does not respond.

- To turn off your computer, press and hold the power button for 4 seconds or more. If the computer still does not respond, remove the battery pack and the AC power adapter.
- Your computer might lock when it enters sleep mode during a communication operation. Disable the sleep timer when you are working on the network.

The computer does not start from a device you want.

- See the **EFI** list of the BIOS setup utility. Make sure that the BIOS setup utility is set so that the computer starts from the device you want.
- Also make sure that the device from which the computer starts is enabled. Make sure that the device is included in the **EFI** list in the BIOS setup utility correctly.
- Press **F12** when the Lenovo logo appears on the screen while the computer is starting up to select the device you want the computer starts from.

The connected external device does not work.

- Do not connect or disconnect any external device cables other than USB while the computer power is on; otherwise, you might damage your computer.
- When using a high power consumption external device such as an external USB optical disk drive, use an external device power adapter. Otherwise, the device might not be recognized, or system shut down might result.

Appendix A. CRU instructions

Customer Replaceable Units (CRUs) are parts that can be upgraded or replaced by the customer. If a CRU is determined to be defective during the warranty period, a replacement CRU will be provided to the customer. Customers are responsible for installing the self-service CRUs for this product. Customers also can install optional-service CRUs, which might require some technical skills or tools, or request that a technician install the optional-service CRU under the terms of the applicable warranty service type for your country or region.

Notes:
- The illustrations used in this chapter are of the Lenovo B50-70, unless otherwise stated.
- The illustrations in this manual might differ from the actual product. Please refer to the actual product.

■■ Replacing the battery pack ─────────────────────

Note:
- Use only the battery provided by Lenovo. Any other batteries could ignite or explode.
- Make sure the computer is turned off and all the cables disconnected from the computer before you replace the battery pack.
- Make sure the computer display is closed to avoid being damaged.

To replace the battery pack, do the following:

❶ Unlock the manual battery latch **1** . While holding the spring-loaded battery latch in the unlocked position **2** , remove the battery pack in the direction shown by the arrow **3** .
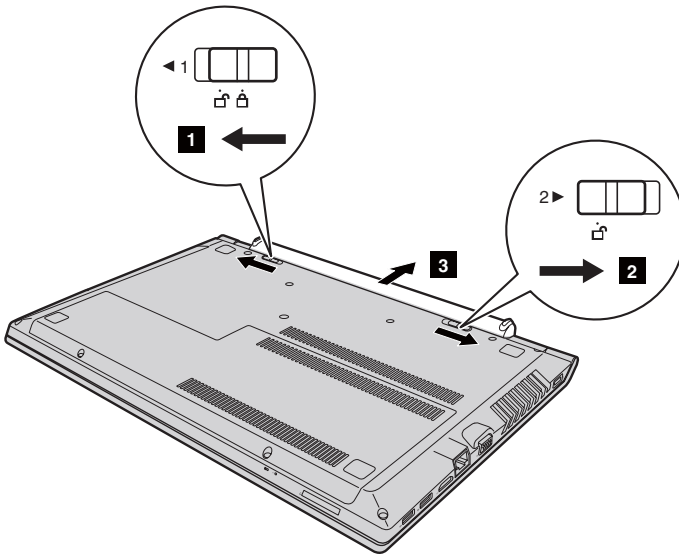
❷ Install a fully charged battery pack.
❸ Slide the manual battery latch to the locked position.

Replacing the hard disk drive

You can increase the storage capacity of your computer by replacing the hard disk drive with one of greater capacity. You can purchase a new hard disk drive from your reseller or Lenovo marketing representative.

Notes:
- Replace the hard disk drive only for upgrading or repair. The connectors and bay of the hard disk drive were not designed for frequent changes or drive swapping.
- The preinstalled software are not included on an optional hard disk drive.
- Make sure the computer is turned off and all the cables disconnected from the computer before you replace the hard disk drive.
- Make sure the computer display is closed to avoid being damaged.

Handling a hard disk drive

- Do not drop the drive or subject it to physical shock. Put the drive on a material, such as soft cloth, that absorbs any physical shock.
- Do not apply pressure to the cover of the drive.
- Do not touch the connector of the drive.

The hard disk drive is very sensitive. Incorrect handling can cause damage and permanent loss of data on the hard disk. Before removing the hard disk drive, make a backup copy of all the information on the hard disk, and then turn the computer off. Never remove the hard disk drive while the system is operating or in sleep mode.
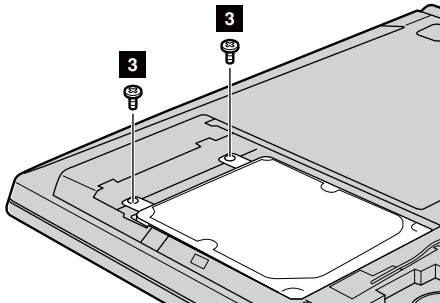
To replace the hard disk drive, do the following:

❶ Remove the battery pack. For details, see "Replacing the battery pack" on page 33.

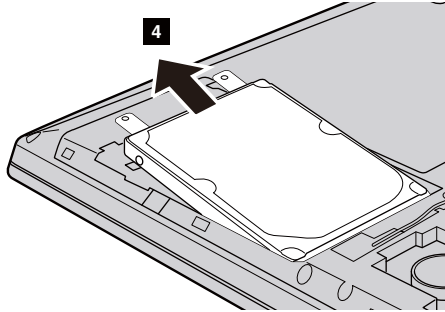❷ Remove the screws **1** , and then remove the bottom slot cover **2** .
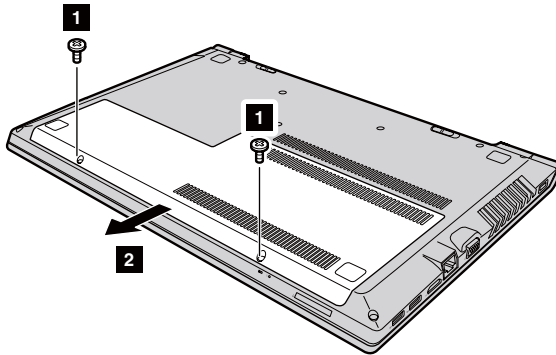
❸ Remove the frame fixing screws **3** .

❹ Remove the hard disk drive by gently pulling it in the direction of the arrow 4 .

❺ Remove the screws and detach the metal frame from the hard disk drive.

❻ Attach the metal frame to a new hard disk drive and tighten the screws.

❼ Slide the new hard disk drive firmly into place, and then reinstall the frame fixing screws to secure the drive.

❽ Reinstall the bottom slot cover and tighten the screws.

❾ Reinstall the battery pack. For details, see "Replacing the battery pack" on page 33.

▪▪ Replacing the memory ─────────────────────────

You can increase the amount of memory in your computer by installing double data rate three synchronous dynamic random access memory (DDR3 SDRAM)-available as an option-in the memory slot of your computer. DDR3 SDRAM modules are available in various capacities.

> **Note:**
> - Use only the memory types supported by your computer. If you incorrectly install optional memory, or install an unsupported memory type, a warning beep will sound when you try to start the computer.
> - Make sure the computer is turned off and all the cables disconnected from the computer before you replace the memory.
> - Make sure the computer display is closed to avoid being damaged.
> - Two memory channels are supported. Both channels should have a memory of the same size and rank. You should install the ram in Slot 1 if there is only ONE ram module. (B40-30/N40-30/B50-30)

To install a DDR3 SDRAM module, do the following:

❶ Touch a metal table or a grounded metal object to reduce any static electricity in your body, which could damage the DDR3 SDRAM. Do not touch the contact edge of the DDR3 SDRAM module.

❷ Remove the battery pack. For details, see "Replacing the battery pack" on page 33.

❸ Remove the screws ▌1▐ , and then remove the bottom slot cover ▌2▐ .
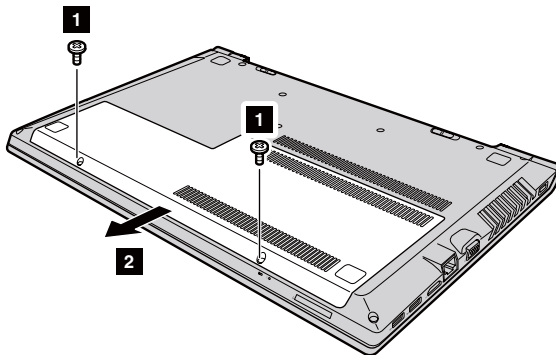
❹ If two DDR3 SDRAM modules are already installed in the memory slot, remove one of them to make room for the new one by pulling out on the latches on both edges of the socket at the same time. Be sure to save the old DDR3 SDRAM for future use.
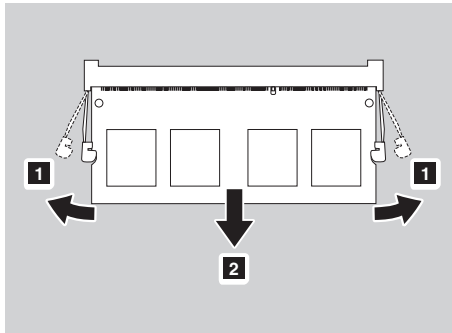
❺ Align the notch of the DDR3 SDRAM module with the protrusion of the socket and gently insert the new module at a 30-45° angle.

❻ Push the DDR3 SDRAM module down until the latches on both sides of the socket lock into its position.
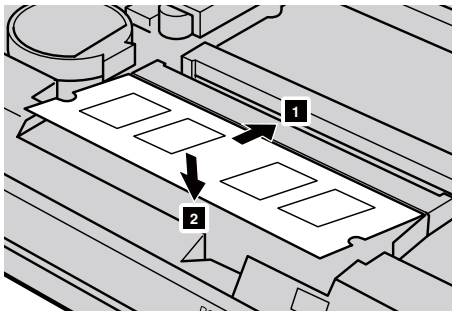
❼ After aligning the attachment clips with their matching gaps, reinstall the bottom slot cover.

❽ Reinstall the battery pack. For details, see "Replacing the battery pack" on page 33.

To make sure that the DDR3 SDRAM module is installed correctly, do as follows:

❶ Press the Novo button to open the Novo button menu.

❷ Select the **BIOS Setup**. The **System Memory** item shows the total amount of memory installed in your computer.

▪▪ Replacing the wireless LAN card ────────

To replace the wireless LAN card, do the following:

Note:
- Make sure the computer is turned off and all the cables disconnected from the computer before you replace the LAN card.
- Make sure the computer display is closed to avoid being damaged.

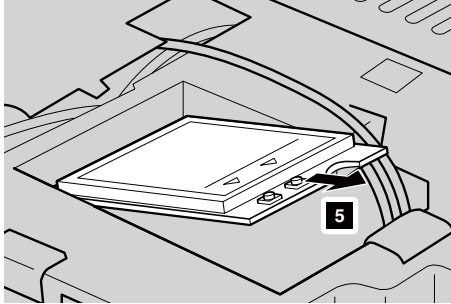❶ Remove the battery pack. For details, see "Replacing the battery pack" on page 33.

❷ Remove the screws `1`, and then remove the bottom slot cover `2`.
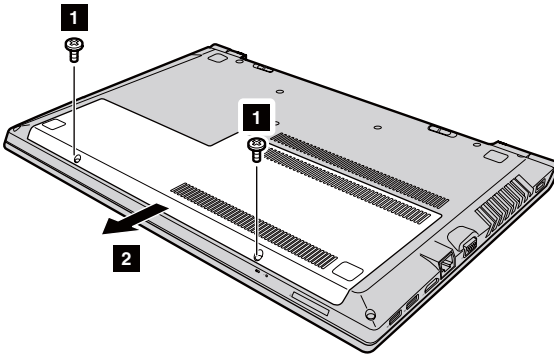
❸ Disconnect the two wireless LAN cables (one black, one white) `3`.
Remove the screw that secures the wireless LAN card `4`.
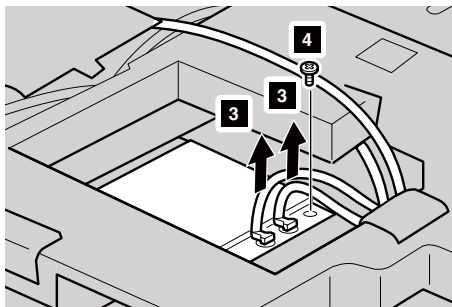
❹ Remove the wireless LAN card 5 .

❺ Install the new wireless LAN card and tighten the screw to secure the LAN card.

❻ Reconnect the two wireless LAN cables (one black, one white).

Note: When installing or reinstalling the wireless LAN card, make sure to plug the black cable into the jack labeled **AUX** and the white cable into the jack labeled **MAIN**.

❼ Reinstall the bottom slot cover and tighten the screws.

❽ Reinstall the battery pack. For details, see "Replacing the battery pack" on page 33.

■■ Replacing the optical drive ─────────────
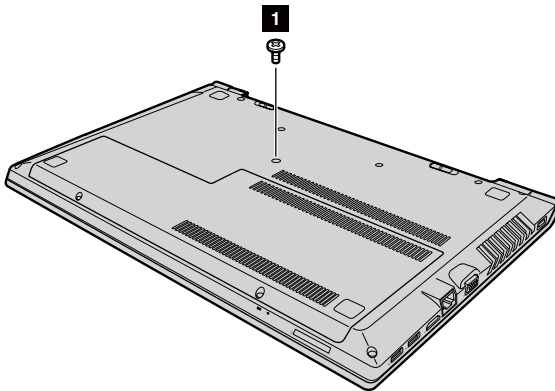
To replace the optical drive, do the following:

Note:
- Make sure the computer is turned off and all the cables disconnected from the computer before you replace the optical drive.
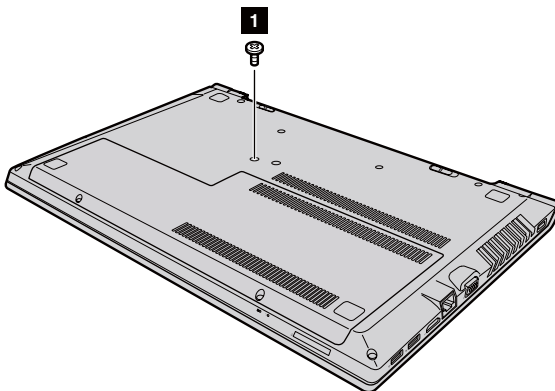- Make sure the computer display is closed to avoid being damaged.

❶ Remove the battery pack. For details, see "Replacing the battery pack" on page 33.

❷ Remove the screw **1** .
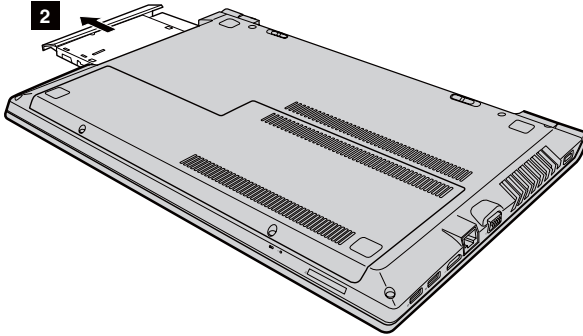**B40-30/N40-30/B40-70/N40-70/B40-45/N40-45/B40-80/N40-80:**

B50-30/B50-30 Touch/B50-70/N50-70/B50-45/N50-45/B50-80/N50-80:

❸ Gently pull the optical drive out from its cavity **2** .

❹ Insert a new optical drive and tighten the screw to secure the drive.
❺ Reinstall the battery pack. For details, see "Replacing the battery pack" on page 33.

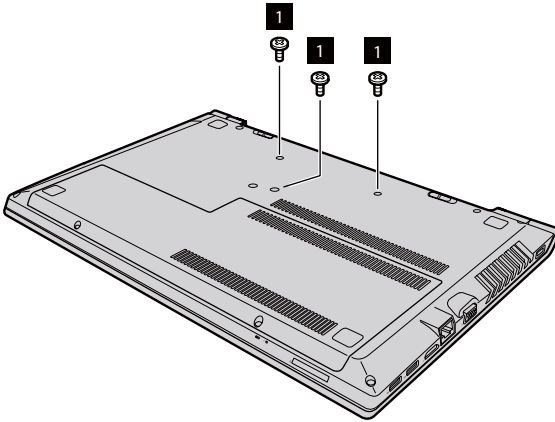## ▪▫ Replacing the keyboard ─────────────────────────────

To replace the keyboard, do the following:

> **Note:**
> • Make sure the computer is turned off and all the cables disconnected from the computer before you replace the keyboard.
> • Make sure the computer display is closed to avoid being damaged.

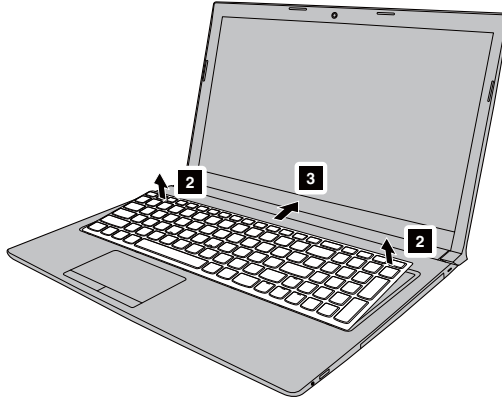❶ Remove the battery pack. For details, see "Replacing the battery pack" on page 33.
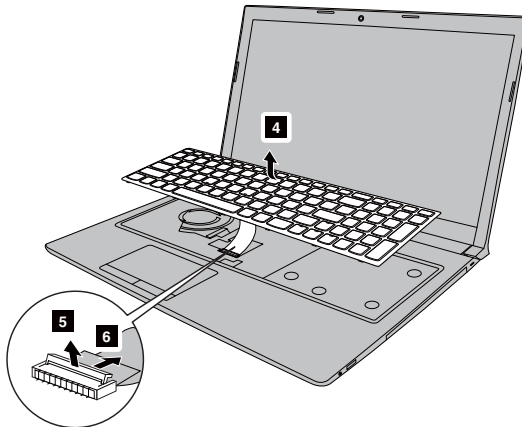
❷ Remove the screws **1** .

❸ Turn the computer over and open the display panel.

❹ Pull to unsnap the keyboard in the direction as shown by the arrows ▨
▨ .

❺ Lift up the keyboard ▨ and detach the connector in the direction shown
by the arrows ▨ ▨ .

❻ Reinstall the new keyboard and tighten the screws.
❼ Reinstall the battery pack. For details, see "Replacing the battery pack" on
page 33.

Appendix A. CRU instructions

The following table provides a list of CRUs for your computer, and informs you of where to find replacement instructions.

Self-service CRUs

	Safety, Warranty, and Setup Guide	User Guide
AC power adapter	×	
Power cord	×	
Battery pack	×	×
Memory		×

Optional-service CRUs

	Safety, Warranty, and Setup Guide	User Guide
Hard disk drive		×
Wireless LAN card		×
Keyboard		×
Optical drive		×

Trademarks

The following terms are trademarks or registered trademarks of Lenovo in the United States, other countries, or both.

Lenovo
OneKey
VeriFace

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, products, or service names may be trademarks or service marks of others.

$C \epsilon$

lenovo