G40/G50/Z40/Z50

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® 8.1. If you are using other Windows operating system, 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 may not be available on your computer or your computer may include features that are not described in this user guide.
- The illustrations used in this manual are for Lenovo Z50-70 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 (September 2014)

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Lenovo

G40/G50/Z40/Z50

User Guide

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

Model name	MT
Lenovo G40-30	20417, 80FY
Lenovo G40-45	20374, 80E1
Lenovo G40-70	20369, 80DX
Lenovo G40-70m	20422, 80G3
Lenovo G40-80	80KY, 80E4
Lenovo G50-30	20418, 80G0
Lenovo G50-45	20375, 80E3
Lenovo G50-70	20351, 80DY
Lenovo G50-70m	20423, 80G4
Lenovo G50-80	80L0, 80E5
Lenovo G50-80 Touch	80KR, 80L4
Lenovo Z40-70	20366, 80E6
Lenovo Z40-75	20360, 80DW
Lenovo Z50-70	20354, 80E7
Lenovo Z50-75	20356, 80EC

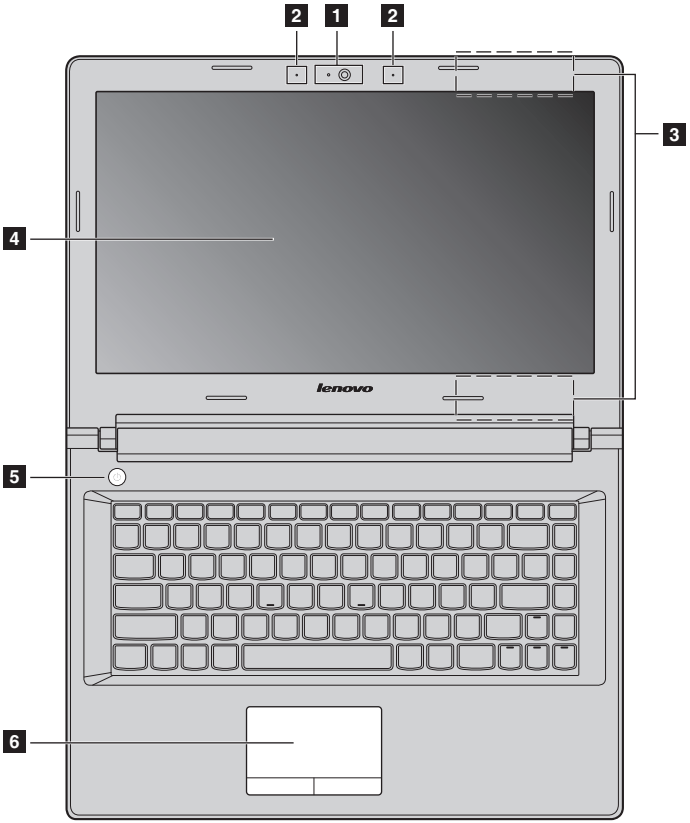
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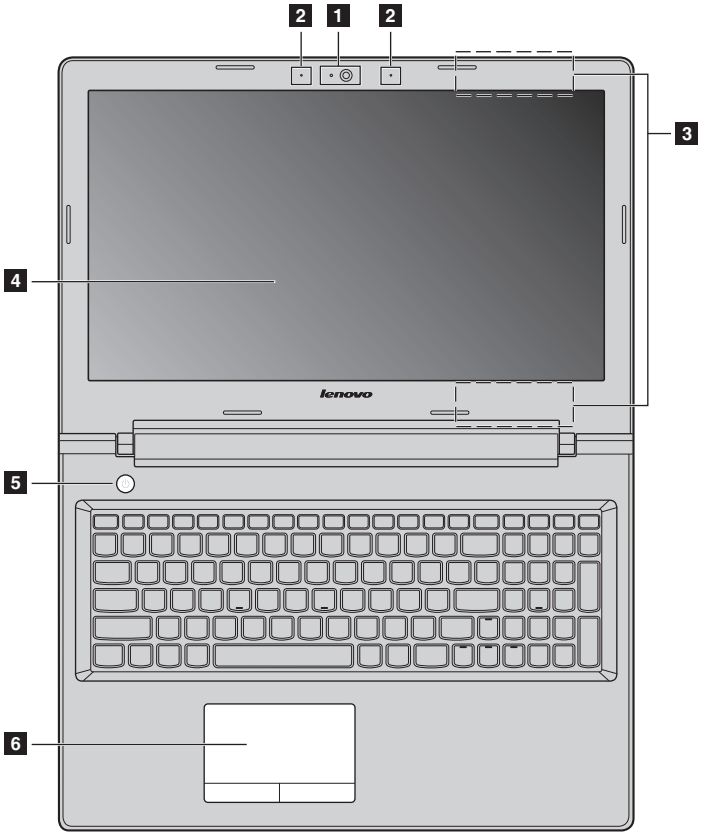
Chapter 1. Getting to know your computer

Top view

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75



Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75



Note: The dashed areas indicate parts that are not visible externally.

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 may be damaged.

1	**Integrated camera**	Use the camera for video communication or taking photos.
2	**Built-in microphone**	Captures sound which can be used for video conferencing, voice narration, or audio recording.

Note: Select models may have only one microphone, please refer to the actual product.

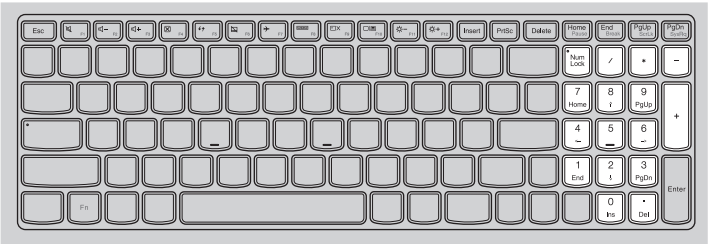
3	**Wireless LAN antennas**	Connect to a wireless LAN adapter to send and receive wireless radio signals.
4	**Computer display**	Provides brilliant visual output.
5	**Power button**	Press this button to turn on the computer.
6	**Touchpad**	The touchpad functions as a conventional mouse. **Touchpad:** To move the pointer on the screen, slide your fingertip over the pad in the direction in which you want the pointer to move. **Touchpad buttons:** The functions of the left/right side correspond to that of the left/right mouse button on a conventional mouse.

Note: You can enable/disable the touchpad by pressing .

Using the keyboard

Numeric keypad (Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75)

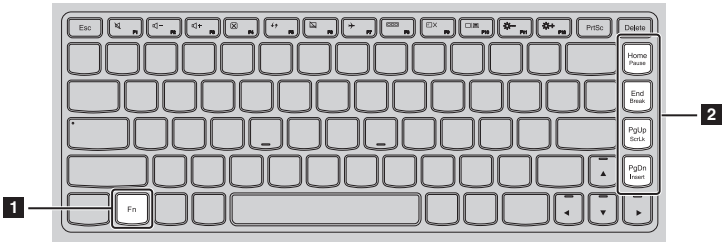
The keyboard has a separate numeric keypad. To enable or disable the numeric keypad, press the **Num Lock** key.



Function key combinations

Through the use of the function keys, you can change operational features instantly. To use this function, press and hold **Fn** **1** ; then press one of the function keys **2** .

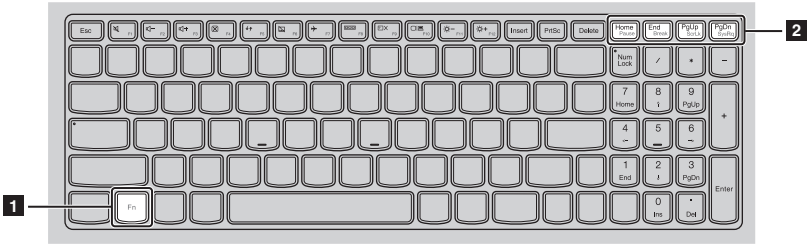
Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75



The following describes the features of each function key.

Fn + Home:	Activates the pause function.
Fn + End:	Activates the break function.
Fn + PgUp:	Enables/disables the scroll lock.
Fn + PgDn:	Activates the insert function.

Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75



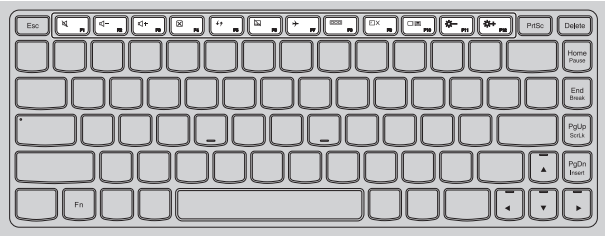
The following describes the features of each function key.

Fn + Home:	Activates the pause function.
Fn + End:	Activates the break function.
Fn + PgUp:	Enables/disables the scroll lock.
Fn + PgDn:	Activates the system request.

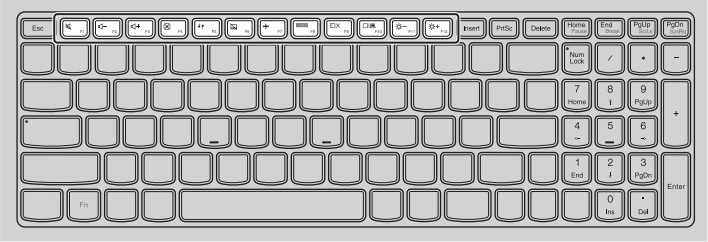
Hotkeys

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

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75



Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

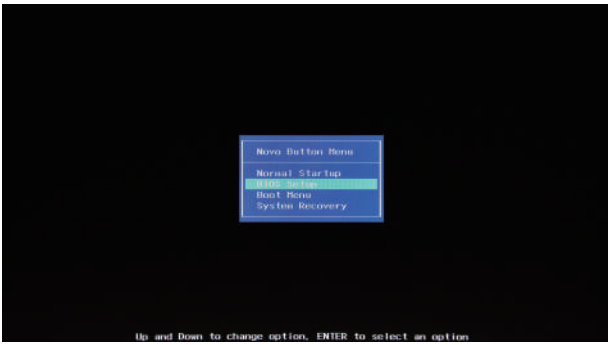


F1 :	Mutes/unmutes the sound.	F7 :	Enables/disables Airplane mode.
F2 :	Decreases the volume level.	F8 :	Displays all currently active apps.
F3 :	Increases the volume level.	F9 :	Turns on/off the backlight of the LCD screen.
F4 :	Closes the currently active window.	F10 :	Toggles the display between the computer and an external device.
F5 :	Refreshes the desktop or the currently active window.	F11 :	Decreases the display brightness.
F6 :	Enables/disables the touchpad.	F12 :	Increases the display brightness.

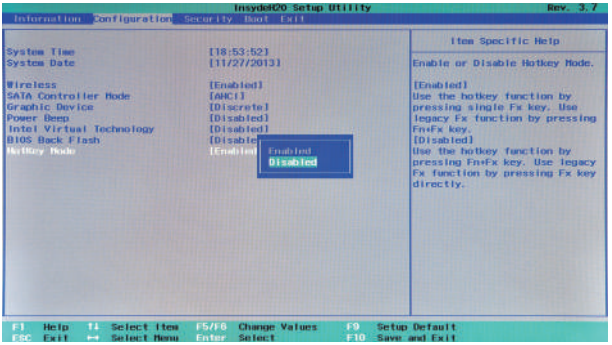
Setting hotkey mode

By default, the hotkey functions are accessible by pressing the appropriate hotkey. However, you can disable the hotkey mode in the BIOS setup utility. To disable the hotkey mode:

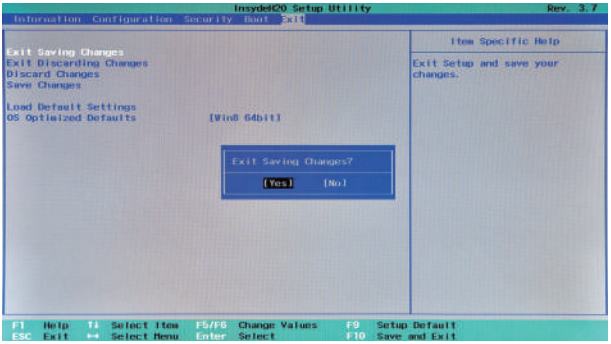
1. Shut down the computer.
2. Press the Novo button and then select **BIOS Setup**.



3. In the BIOS setup utility, open the **Configuration** menu, and change the setting of **HotKey Mode** from **Enabled** to **Disabled**.

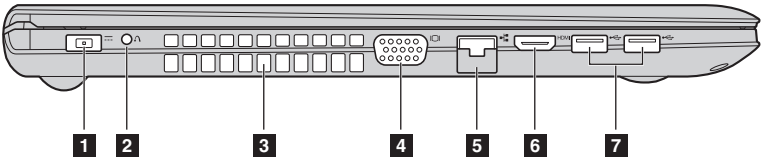


❹ Open the **Exit** menu, and select **Exit Saving Changes**.



Note: When hotkey mode is disabled, press the **Fn** key and the appropriate hotkey to access the corresponding hotkey function.

Left-side view



1 AC power adapter jack — Connect the AC power adapter here.

2 Novo button — When the computer is off or in hibernation mode, press this button to start the Lenovo OneKey Recovery System or the BIOS setup utility, or to enter the boot menu.

Note: For details, see "Lenovo OneKey Recovery System" on page 26.

3 Ventilation slots — Dissipate internal heat.

Note: Make sure that the ventilation slots are not blocked or else the computer may overheat.

4 VGA port — Connects to external display devices.

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

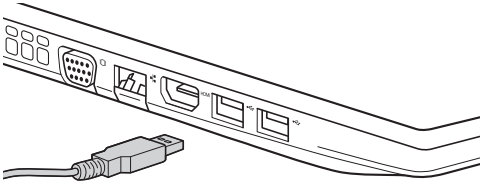
6 HDMI port — Connects to devices with HDMI input such as a TV or an external display.

7 USB port — Connects to USB devices.

Notes:
- The blue port is a USB 3.0 port.
- For details, see "Connecting USB device" on page 10.

Connecting USB device

Your computer comes with three USB ports compatible with USB devices.



The first time you plug a USB device into a particular USB port on your computer, Windows automatically installs a driver for that device. After the driver has been installed, you can disconnect and reconnect the device without performing any additional steps.

Note: Typically, Windows detects a new device after it has been connected, and then installs the driver automatically. However, some devices may require you to install the driver before connecting. Check the documentation provided by the device's manufacturer before connecting the device.

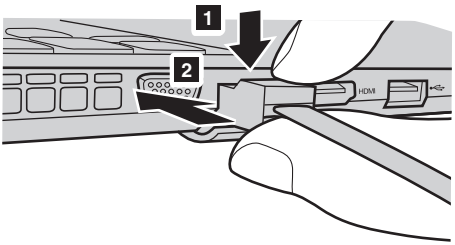
Before disconnecting a USB storage device, make sure your computer has finished transferring data to that device. Click the **Safely Remove Hardware and Eject Media** icon in the Windows notification area to remove the device before disconnecting.

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.

Connecting network cables

To insert a network cable, do the following:

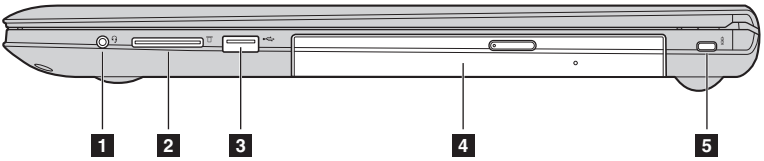
1. Hold one connector of the network cable to press the RJ-45 cover down gently 1.
2. Insert the connector into the RJ-45 port 2.



Software configuration

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

Right-side view



1 Combo audio jack — Connects to headset.

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

2 Memory card slot — Insert memory cards (not supplied) here.

Note: For details, see "Using memory cards (not supplied)" on page 13.

3 USB port — Connects to USB devices.

Notes:
- The blue port is a USB 3.0 port.
- For details, see "Connecting USB device" on page 10.

4 Optical drive — Reads/burns optical discs.

5 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.

Notes:
- 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.

Using memory cards (not supplied)

Your computer supports the following types of memory cards:

- Secure Digital (SD) card
- MultiMediaCard (MMC)

Notes:

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

Inserting a memory card

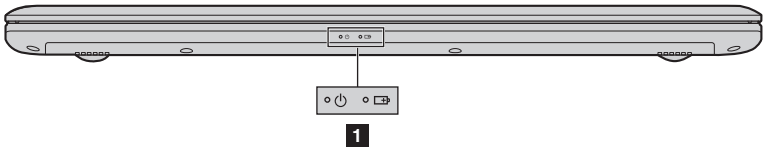
Slide the memory card in until it clicks into place.

Removing a memory card

1. Push the memory card in until you hear a click.
2. Gently pull the memory card out of the memory card slot.

Note: Before removing the memory card, disable it by using the Windows safely remove hardware and eject media utility to avoid data corruption.

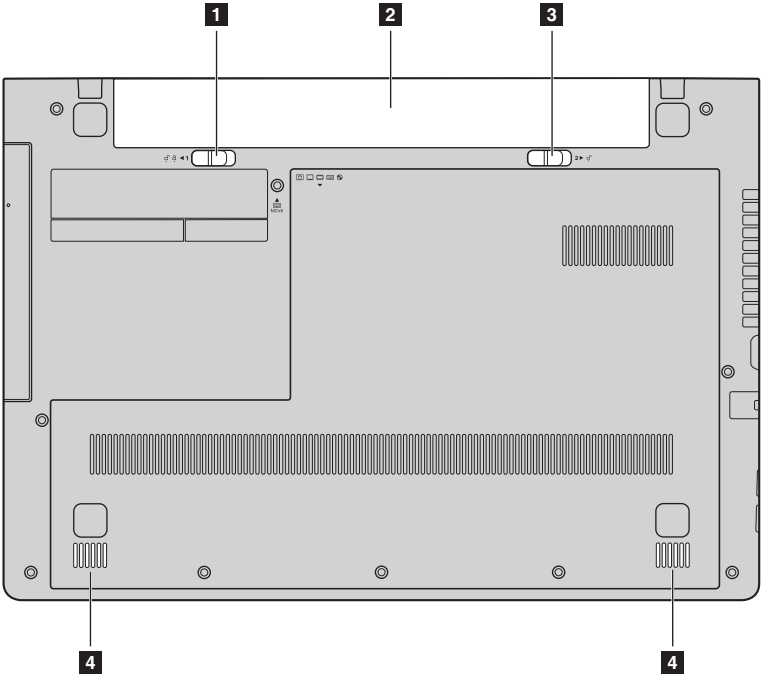
Front view



1 System status indicators

Symbol	Indicator	Indicator status	Charge status	Meaning
⏻	Power	On (solid white)	---	The computer is powered on.
		Blinking	---	The computer is in sleep mode.
		Off	---	The computer is powered off.
🔋	Battery	On (solid white)	Charging	The battery has more than 80% charge.
			Discharging	The battery has more than 20% charge.
		On (solid amber)	Discharging	The battery has between 5% and 20% charge.
		Blinking slowly (white)	Charging	The battery has between 20% and 80% charge. When the battery reaches 80% charge, the light will stop blinking. However, charging will continue until the battery is fully charged.
		Blinking slowly (amber)	Charging	The battery has less than 20% charge. When the battery charge reaches 20%, the blinking color will change to white.
		Blinking quickly (amber)	Charging/ Discharging	The battery has less than 5% charge.

Bottom view



1	**Battery pack latch - manual**	The manual battery pack latch is used to keep the battery pack secured in place.
2	**Battery pack**	
3	**Battery pack latch - spring-loaded**	The spring-loaded battery pack latch keeps the battery pack secured in place.
4	**Speakers**	The stereo speakers provide rich and powerful sound.

Note: For sound effects and speaker locations specific to your model, refer to the actual product.

Chapter 2. Starting to use Windows 8.1

Configuring the operating system for the first time

You may 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

Operating system interfaces

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 Windows 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** button.

Start screen



Desktop



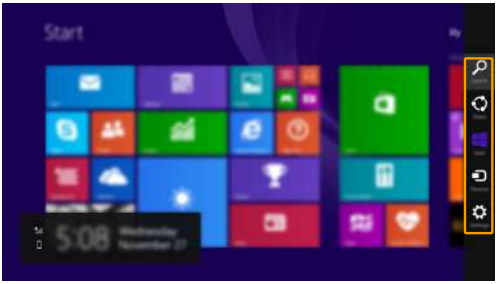
The charms

Charms are navigation buttons that let you control your Windows® 8.1 experience. Charms include: Search, Share, Start, Devices, and Settings. The **Charms Bar** is the menu that contains the charms.

The five charms provide new and faster ways to perform many basic tasks, and are always available regardless of whichever app you are currently in.

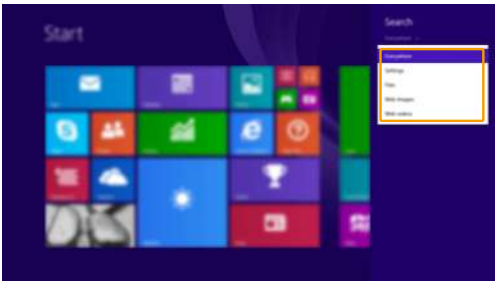
To display the charms, do one of the following:

- Move the cursor to the upper-right or lower-right corner until the charms bar is displayed.
- Use one finger to swipe in from the right edge of the screen until the charms bar is displayed. (G50-80 Touch)
- Press 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 any 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.



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 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.
- Open the charms, and then select **Settings** → **Power** → **Sleep**.

Note: Wait until the power indicator light starts blinking (indicating that the computer is in sleep mode) before you move your computer. Moving your computer while the hard disk is spinning can damage the hard disk, causing loss of data.

To wake the computer, do one of the following:

- Press any key on the keyboard.

Note: If the computer does not awaken after pressing a key on the keyboard, this means that the computer has entered an enhanced power-saving mode.

- Press the Power button.

Shutting down the computer

If you are not going to use your computer for a long time, shut it down.
To shut down the computer, do one of the following:

- Open the charms, and then select **Settings** → **Power** → **Shut down**.
- Press and hold or right-click the **Start** button in the lower-left corner and select **Shut down or sign out** → **Shut down**.
- Select → **Shut down** in the upper-right corner of the Start screen.

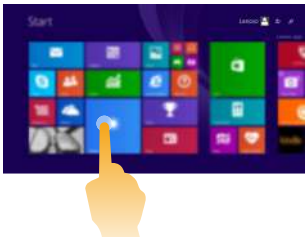
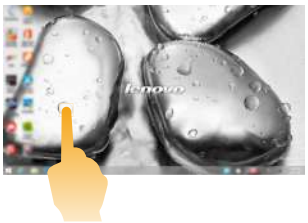
Note: The operation depends on the BIOS setup. Please refer to the actual product.

Touch screen operation (G50-80 Touch)

The display panel can accept inputs like a tablet, using the multi-touch screen, or like a traditional notebook computer, using the keyboard and touchpad.

Multi-touch gestures

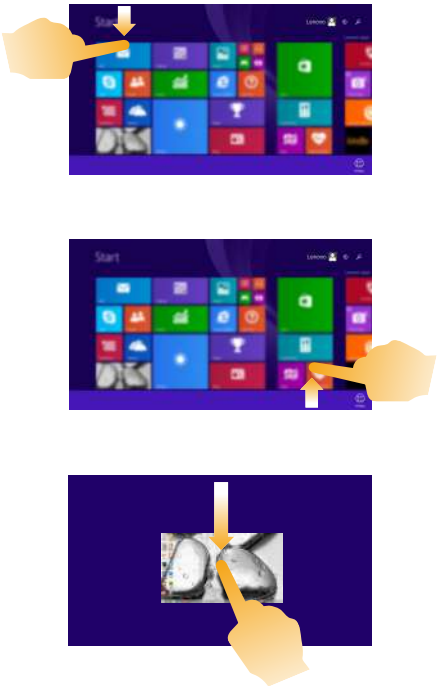
You can touch the screen with one or more fingertips to perform a variety of tasks.

Frequently used gestures	Tasks performed
Tap Tap once on an item. 	Performs an action, such as starting an app, opening a link, or performing a command. Similar to left-clicking with a mouse.
Press and hold Press your finger down and leave it there for a moment. 	Enables you to see detailed information before selecting an action. Can also open a menu with more options. Similar to right-clicking with a mouse.

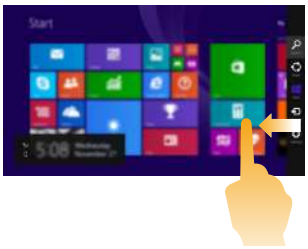
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Frequently used gestures	Tasks performed
Zoom Move two fingers together or apart while touching the screen. 	Zooms in and out on visual apps, such as pictures and maps. Can also jump to the beginning or end of a list.
Rotate Place two or more fingers on an item and then turn your hand. 	Rotates an object (Note: Not all items can be rotated, depending upon the app.).
Slide Drag your finger across the screen. 	Pans or scrolls through lists and pages. Can also move an object or be used to draw or write, depending upon the app. Similar to pressing and holding to pan and to scrolling with a mouse.

(Continued)

Frequently used gestures	Tasks performed
Swipe Start from any edge of the screen, then swipe inwards toward the center. 	Swiping down from the top edge or up from the bottom edge displays a task bar on the bottom of the screen with app commands, including save, edit, and delete. If you have an app currently open, you can also: • Swipe from the top edge to halfway down the screen without lifting your finger to dock that app on the left or right side of the screen. This enables you to keep two apps open simultaneously in a split-screen format. • Swipe from the top edge straight down to the bottom edge of the screen continuously without lifting your finger to close the currently open app.

(Continued)

Frequently used gestures	Tasks performed
	Swiping in from the left edge can: • Bring in and open an app currently running in the background. If there is more than one currently open app, you can: • Swipe in from the left to bring in an app and, without lifting your finger, push that app quickly back off the left edge of the screen. This displays a list of the apps currently running in the background.
	Swiping in from the right edge of the screen displays the charms.

Connecting to a wireless network

Enabling wireless connection

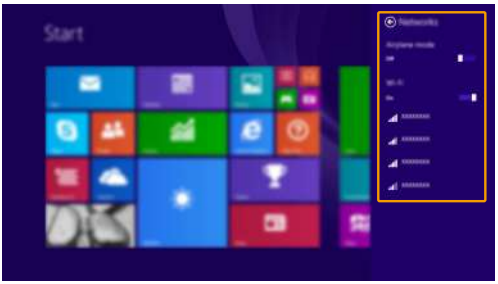
To enable wireless functions, do one of the following:

- Press  to disable airplane mode.
- Open the charms and select **Settings**  →  to open the network configuration page. Then toggle the airplane mode switch to **off**.

Connecting to a wireless network

After wireless has been enabled, the computer will automatically scan for available wireless networks and display them in the wireless network list. To connect to a wireless network, click the network name in the list, and then click **Connect**.

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



Help and support

If you have a problem with the operating system, see the Windows Help and Support file. To open the Windows Help and Support file, do one of the following:

- Select **Settings** charm, then select **Help**.
- Press **F1** or **Fn + F1** (depending on your keyboard layout).

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.

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.

Notes:
- 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:

1. Press the Novo button to start the Lenovo OneKey Recovery System.
2. Click **System Backup**.
3. Select a back-up location and click **Next** to start the backup.

Notes:
- You can choose a back-up location on the local hard disk drive or an external storage device.
- Remove the removable hard disk drive before starting the Lenovo OneKey Recovery System. Otherwise, data from the removable hard disk drive might be lost.
- 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:

1. Press the Novo button to start the Lenovo OneKey Recovery System.
2. Click **System Recovery**. The computer will restart to the recovery environment.
3. Follow the on-screen instructions to restore the system partition to its original status or to a previously created back-up point.

Notes:
- 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. So be 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.

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

1. Shut down the computer.
2. Press the Novo button. From the Novo button menu, select the Lenovo OneKey Recovery System 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 the hardware specification for your computer on 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 *Safety, Warranty, and Setup Guide (SWSG)* 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 any preinstalled software, you can find the installation program on the D partition of your hard disk. If you cannot find the installation program there, you can also download it from the Lenovo consumer support website.

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 all 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 website.

Lenovo OneKey Recovery System

Where are the recovery discs?

Your computer did not come with any recovery discs. Use the Lenovo OneKey Recovery System if you need to restore the system to its original 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:

1. Close all open programs, and then restart the back-up process.
2. 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 a ROM-based software. It displays 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:

1. Shut down the computer.
2. Press the Novo button and then select **BIOS Setup**.

How can I change the boot mode?

There are two boot modes: **UEFI** and **Legacy Support**. To change the boot mode, start the BIOS setup utility and set boot mode to **UEFI** or **Legacy Support** on the boot menu.

When do I need to change the boot mode?

The default boot mode for your computer is **UEFI** mode. If you need to install a legacy operating system, such as Windows, Linux or Dos, etc (that is, any operating system before Windows 8) on your computer, you must change the boot mode to **Legacy Support**. The legacy operating system, such as Windows, Linux or Dos, etc cannot be installed if you don't change the boot mode.

Getting help

How can I contact the customer support center?

See "Chapter 3. Getting help and service" in the 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 battery pack is installed correctly.
  - 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.)
  - The memory is installed correctly.
- If these items are properly set, 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 Lenovo OneKey Recovery System. If you still see only the cursor on the screen, have the computer serviced.

The screen goes blank while the computer is on.

- Your screen saver or power management may 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 of the LCD screen has been turned off.

BIOS password problems

I forgot my password.

- If you forget your user password, ask the system administrator to clear your user password.
- If you forget your hard disk drive 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 administrator 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 pack with a fully charged one.
The computer enters sleep mode immediately after Power-on self-test (POST).	• Make sure that: - The battery pack 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 pack is charged and the temperature is within 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, then press any 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 four seconds or more. If the computer is still not reset, remove the AC power adapter and the battery pack.

Display panel problems

The screen is blank.	• Do the following: - If you are using the AC power adapter or the battery pack, and the battery status indicator is on, press **F12** ( ) to make the screen brighter. - If the power indicator is blinking, press the Power button to resume from sleep mode. - If the problem persists, follow the solution in the next problem "The screen is unreadable or distorted." - Press **F9** ( ) to confirm whether the backlight of the LCD screen has been turned off.
The screen is unreadable or distorted.	• Make sure that: - The display device driver is installed correctly. - The screen resolution and color quality are correctly set. - 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.

Sound problems

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

Battery pack problems

Your computer shuts down before the battery status indicator shows empty. *-or-* Your computer operates after the battery status indicator shows empty.	• Discharge and recharge the battery pack.
The computer does not operate with a fully charged battery pack.	• The surge protector in the battery pack might be active. Turn off the computer for one minute to reset the protector; then turn on the computer again.

A hard disk drive problem

The hard disk drive does not work.	• Make sure that the hard disk drive is included in the **Boot** menu in the BIOS setup utility correctly.

OneKey Recovery System problems

Backup cannot be made.	• Make sure that you are currently using a Windows operating system. • There may not be enough space to store the backed-up data. You will need to free more hard disk space on your backup's partition.
Failure to restore system partition to factory default.	• The system partition (e.g. the partition size or the drive capacity of C) has been modified.

Other problems

Your computer does not respond.	• To turn off your computer, press and hold the Power button for four seconds or more. If the computer still does not respond, remove the AC power adapter and the battery pack. • 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 **Boot** menu 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 **Boot** menu in the BIOS setup utility correctly. • While turned off, press the Novo button to select the device you want the computer to start 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 high power consumption external devices such as an external USB optical disk drive, use an external device power adapter. Otherwise, the device may not be recognized, or the system may shut down as a result.

Appendix A. CRU instructions

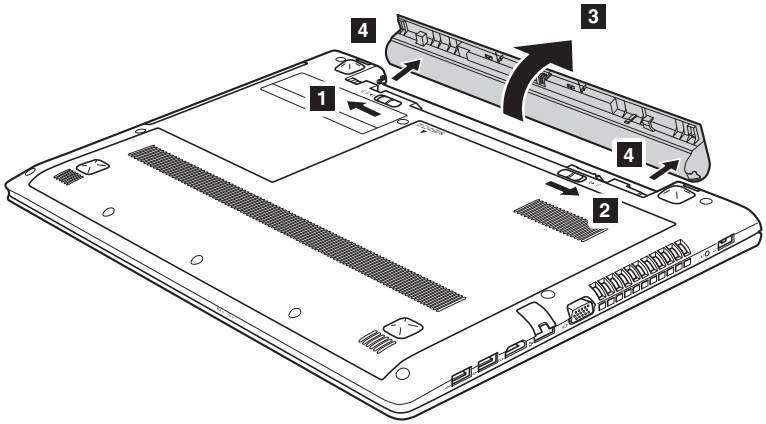
Notes:
- The illustrations used in this appendix are for the Lenovo Z50-70, unless otherwise stated.
- The following steps about upgrading and replacing devices are the same for the Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/Z40-70/Z40-75/Z50-70/Z50-75.
- Make sure the battery pack has been removed before replacing any devices.

Replacing the battery pack

Note: Use only the battery pack provided by Lenovo. Any other battery pack could ignite or explode.

To replace the battery pack, do the following:

1. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
2. Close the computer display and turn the computer over.
3. Unlock the manual battery pack latch **1**. Slide the spring-loaded latch to the unlocked position to eject the battery pack **2**. Lift up the inner edge of the battery pack, pivoting it on the outer edge **3**. Gently raise the battery pack in the indicated direction **4** to remove it.



4. Install a fully charged battery pack.
5. Slide the manual battery pack latch to the locked position.
6. Turn the computer over again.
7. Connect the AC power adapter and the cables to the computer.

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 if you upgrade it or have it repaired. The connectors and bay of the hard disk drive were not designed for frequent changes, or drive swapping.
- The preinstalled softwares are not included on an optional hard disk drive.

Handling a hard disk drive

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

The 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 drive while the system is operating or in sleep mode.

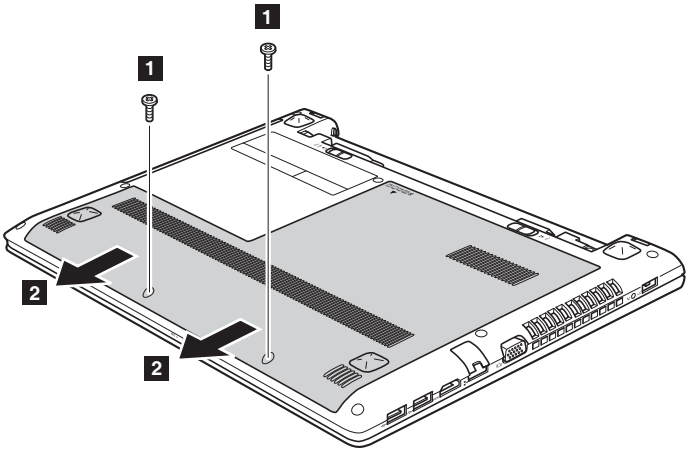
To replace the hard disk drive, do the following:

1. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
2. Close the computer display and turn the computer over.
3. Remove the battery pack.
4. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.

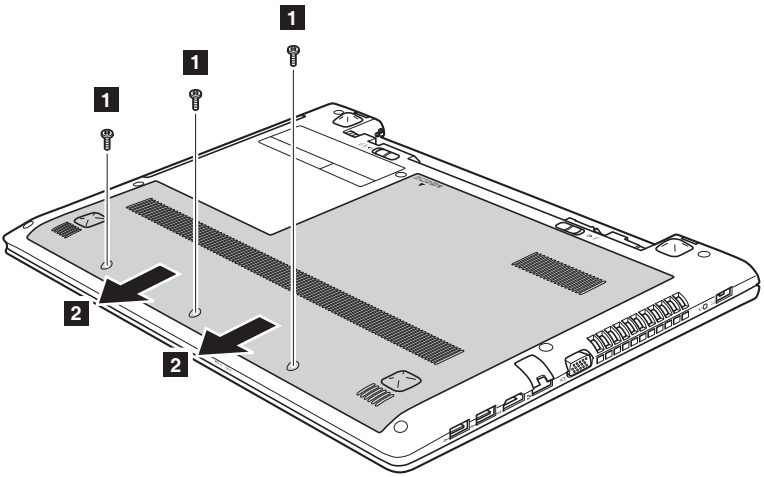
   a. Remove the screws that secure the compartment cover **1**.

   b. Remove the compartment cover **2**.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

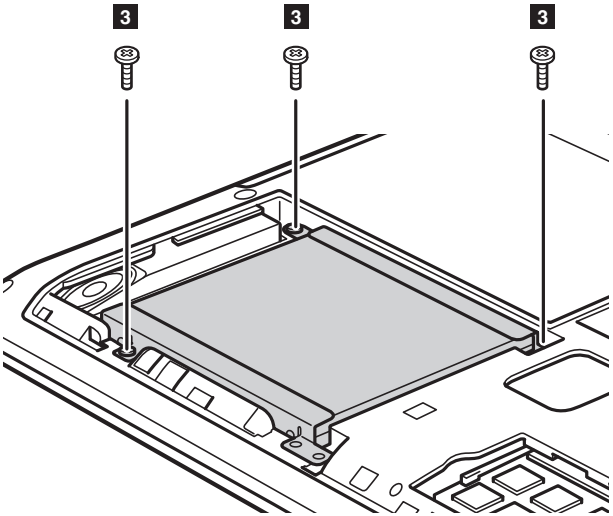


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

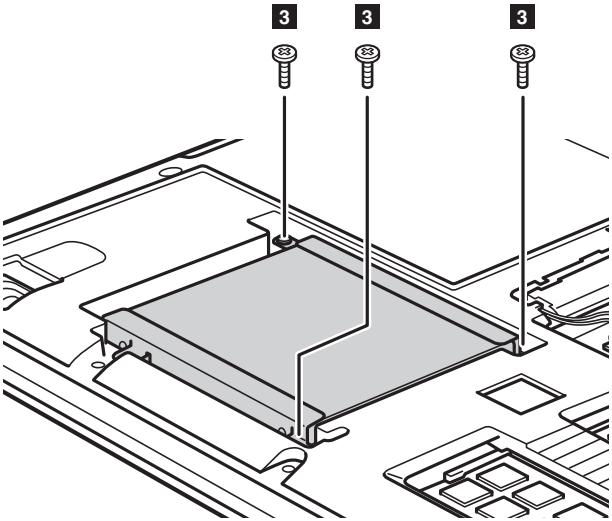


❺ Remove the frame fixing screws **3** .

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

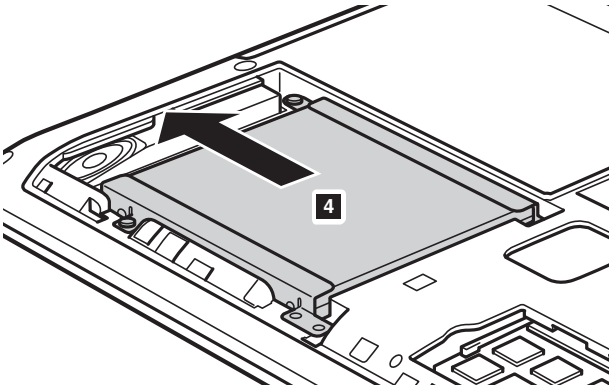


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

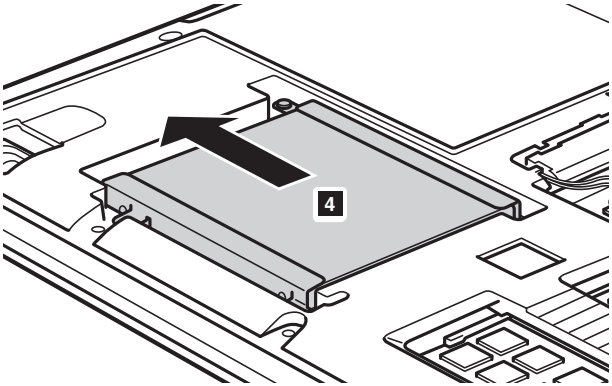


❻ Pull the hard disk drive tab in the direction shown by arrow **4**.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

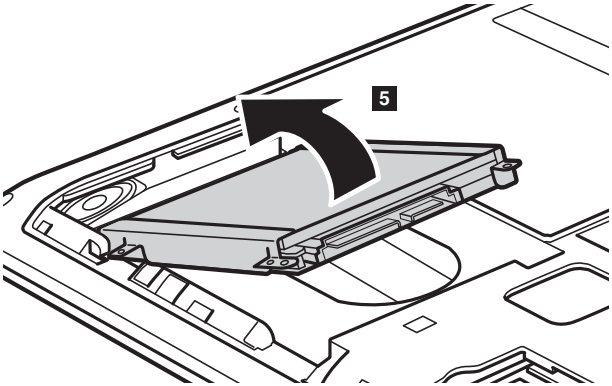


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

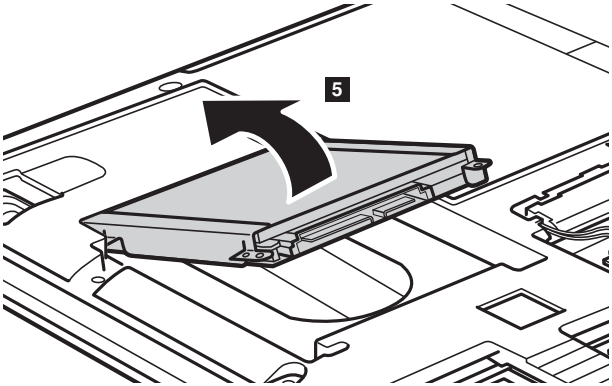


❼ Take out the hard disk drive secured in a metal frame **5**.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75



Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75



❽ Remove the screws and detach the metal frame from the hard disk drive.
❾ Attach the metal frame to a new hard disk drive and tighten the screws.
❿ Put the hard disk drive gently into the hard disk drive bay with the tab facing upwards and the connectors facing each other; then push it firmly into space.
⓫ Reinstall the frame fixing screws.
⓬ After aligning the attachment clips with their matching gaps, reinstall the compartment cover.
⓭ Reinstall and tighten the screws.
⓮ Reinstall the battery pack.
⓯ Turn the computer over again.
⓰ Connect the AC power adapter and the cables to the computer.

Replacing 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 is available in various capacities.

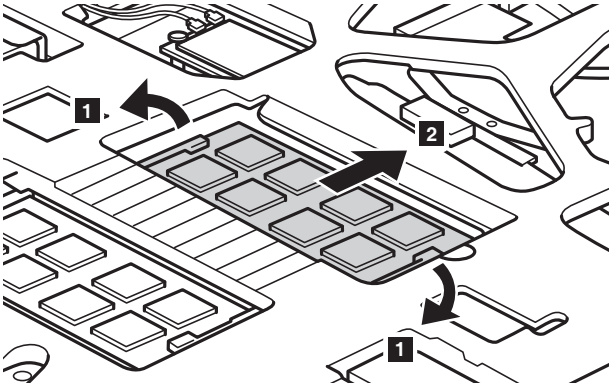
Notes:

- 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.
- Select models of the computer may have only one memory slot. Refer to the actual product. However, the procedure for replacing the memory is the same as listed below.

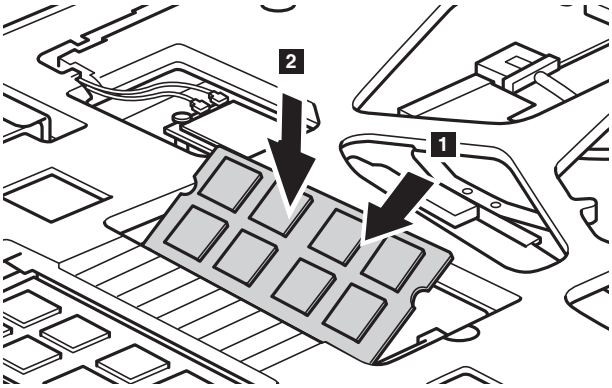
To install DDR3 SDRAM, do the following:

1. 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.
2. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
3. Close the computer display and turn the computer over.
4. Remove the battery pack.
5. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.

❻ Remove the DDR3 SDRAM by pressing 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.



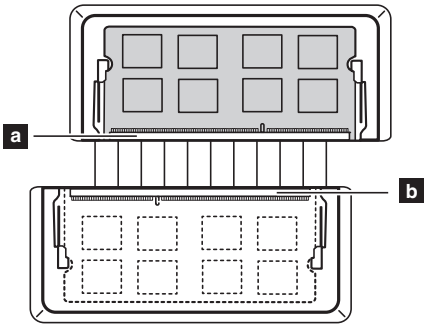
❼ Align the notch of the DDR3 SDRAM with the protrusion of the socket and gently insert the DDR3 SDRAM into the socket at a 30-45° angle.
❽ Push the DDR3 SDRAM inward toward the socket until the latches on both edges of the socket are pushed into the closed position.



❾ After aligning the attachment clips with their matching gaps, reinstall the compartment cover.
❿ Reinstall and tighten the screws.
⓫ Reinstall the battery pack.
⓬ Turn the computer over again.

⓭ Connect the AC power adapter and the cables to the computer.

Notes:
- When replacing the memory is completed, you need to restart the computer after the first reboot.
- If only one DDR3 SDRAM module is used on the computer you are servicing, it must be installed in SLOT-1 (**a**), but not in SLOT-2 (**b**).



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

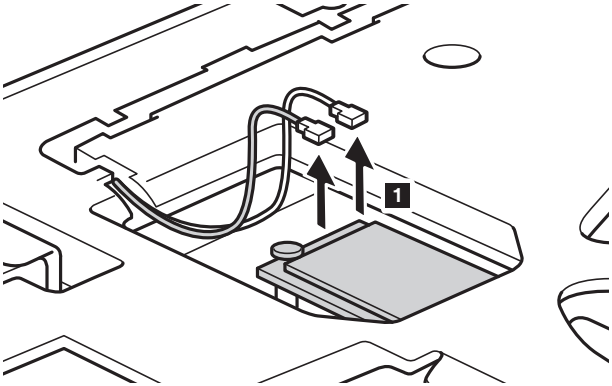
❶ Shut down the computer.

❷ Press the Novo button and then select **BIOS Setup**. The BIOS setup utility screen opens. The **System Memory** item shows the total amount of memory installed in your computer.

Replacing the wireless LAN card

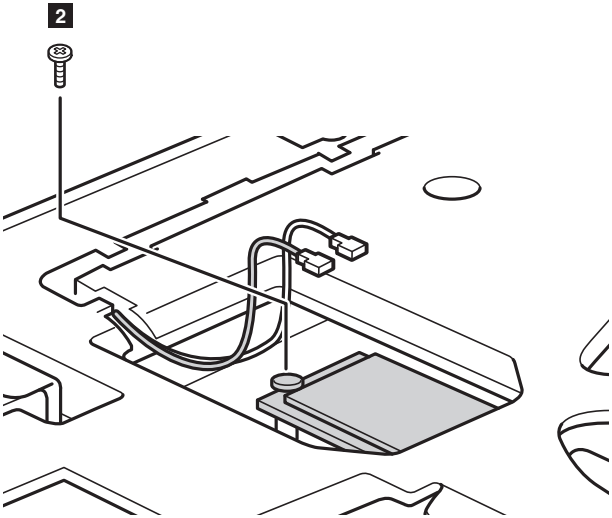
To replace the wireless LAN card, do the following:

1. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
2. Close the computer display and turn the computer over.
3. Remove the battery pack.
4. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.
5. Disconnect the two wireless LAN cables (one black, one grey) **1** .

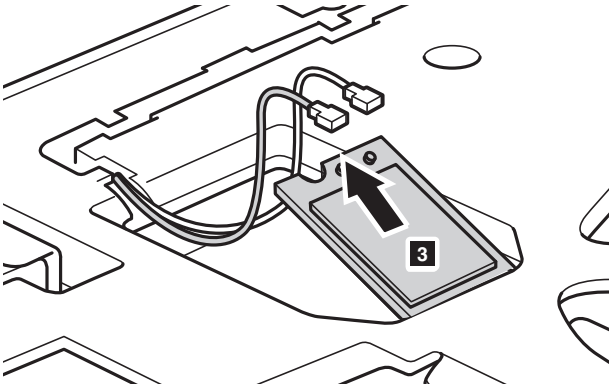


Note: The wireless LAN card in select models may have only one cable (black).

❻ Remove the screw that secures the wireless LAN card **2**.

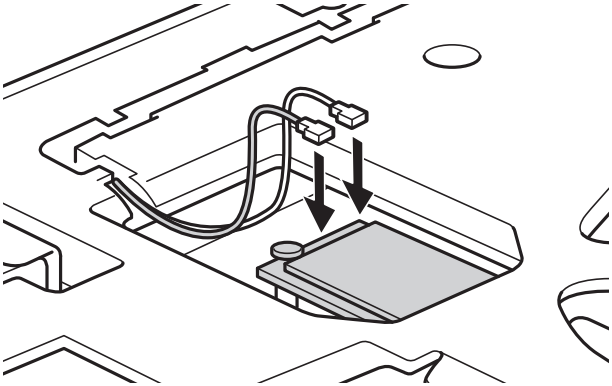


❼ Take out the wireless LAN card **3**.



❽ Install the new wireless LAN card.
❾ Reinstall and tighten the screw.

❿ Reconnect the two wireless LAN cables (one black, one grey).



Note: When installing or reinstalling the wireless card:

- In models with a wireless LAN card that has two cables:
  - **a** Plug the black cable (MAIN) into the jack labeled M(Main).
  - **b** Plug the grey cable (AUX) into the jack labeled A(Aux).
- In models with a wireless LAN card that has only one cable, plug the black cable (MAIN) into the jack labeled M(Main).

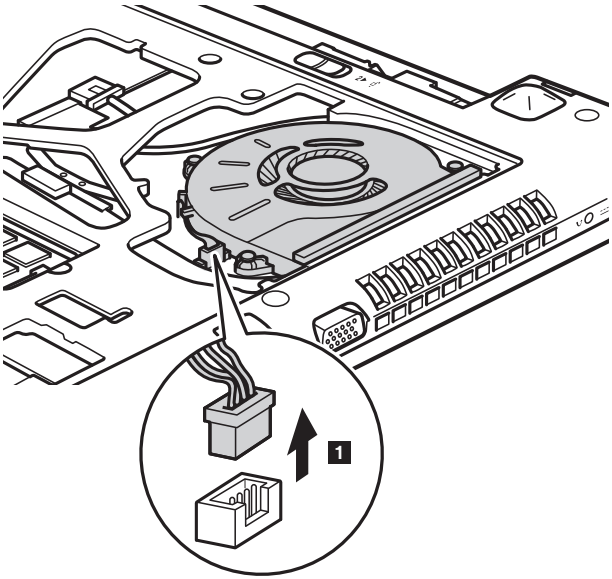
⓫ Reinstall the compartment cover and tighten the screws.
⓬ Reinstall the battery pack.
⓭ Turn the computer over again.
⓮ Connect the AC power adapter and the cables to the computer.

Replacing the thermal fan (Lenovo G50-30/ G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75)

Note: For the Lenovo G40-30/G50-30, select models (computers with UMA architecture) do not have a thermal fan.

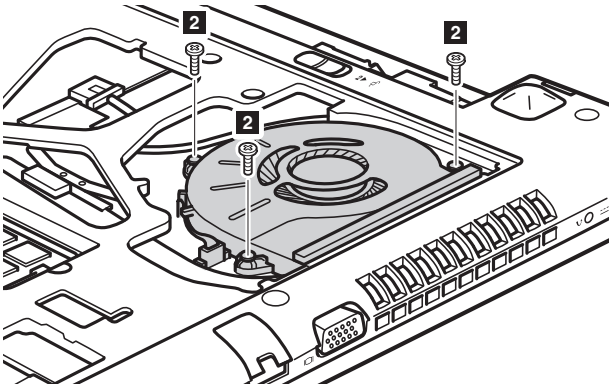
To replace the thermal fan, do the following:

1. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
2. Close the computer display and turn the computer over.
3. Remove the battery pack.
4. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.
5. Disconnect the thermal fan connector in the direction shown by arrow **1**.

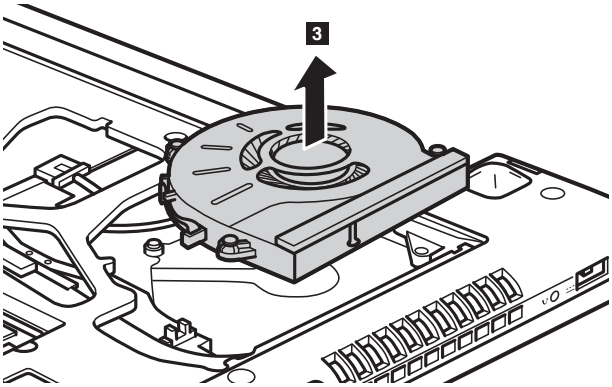


Note: Be careful not to damage the thermal fan connector.

❻ Remove the screws that secure the thermal fan **2**.



❼ Remove the thermal fan **3**.



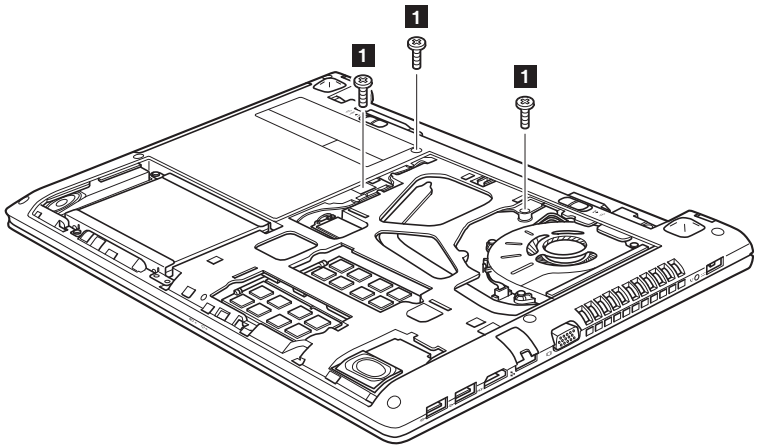
❽ Install the new thermal fan and reconnect the thermal fan connector. Make sure that the connector is attached firmly.
❾ Reinstall and tighten the screws.
❿ Reinstall the compartment cover and tighten the screws.
⓫ Reinstall the battery pack.
⓬ Turn the computer over again.
⓭ Connect the AC power adapter and the cables to the computer.

Replacing the keyboard

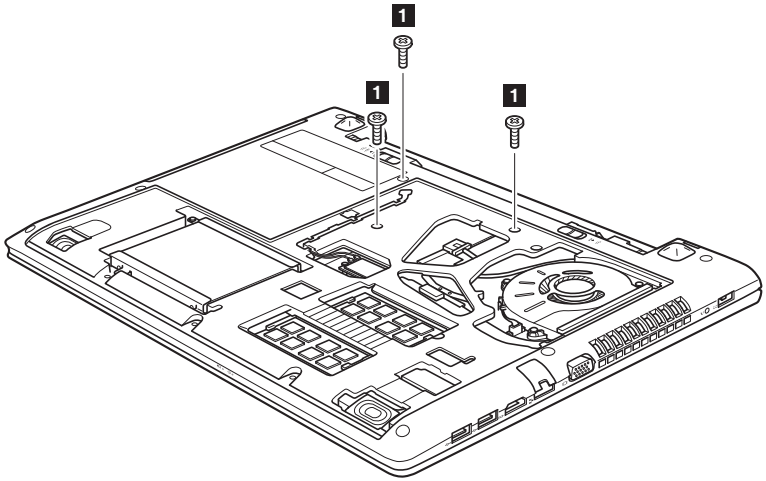
To replace the keyboard, do the following:

1. Turn off the computer. Disconnect the AC power adapter and all cables from the computer.
2. Close the computer display and turn the computer over.
3. Remove the battery pack.
4. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.
5. Remove the screws that secure the keyboard **1**.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

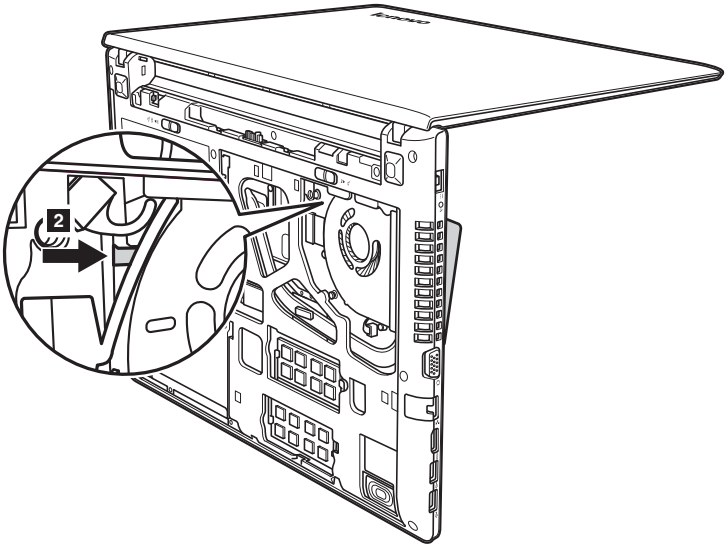


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

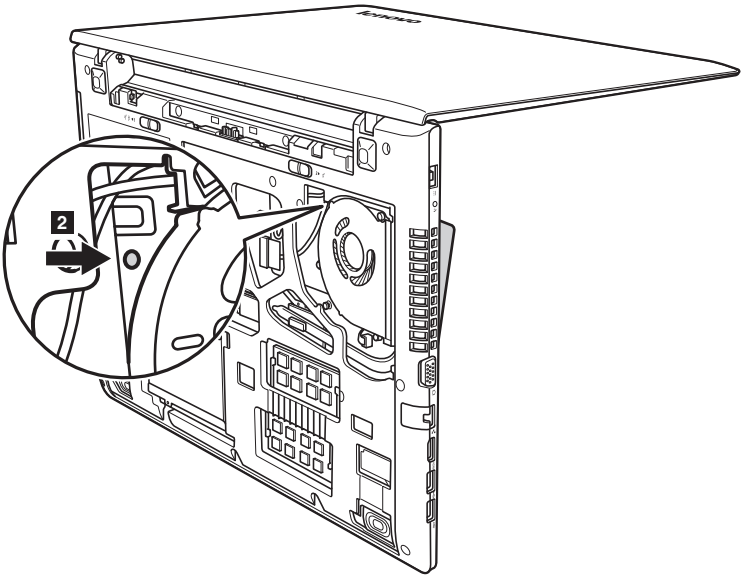


❻ Push the area of the keyboard highlighted and shown by arrow **2** to loosen.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

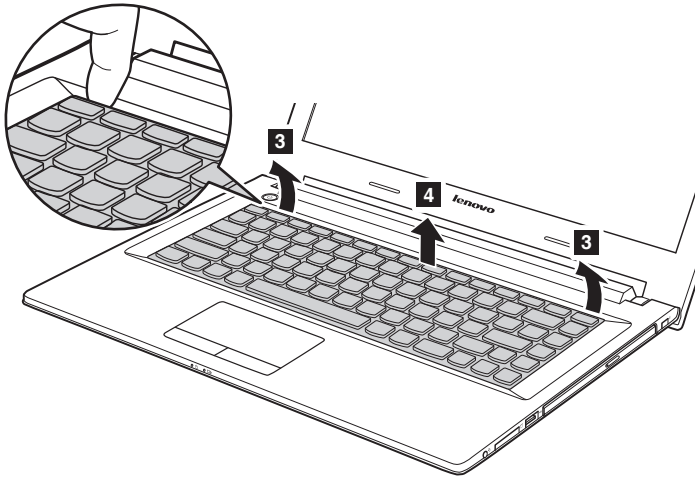


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

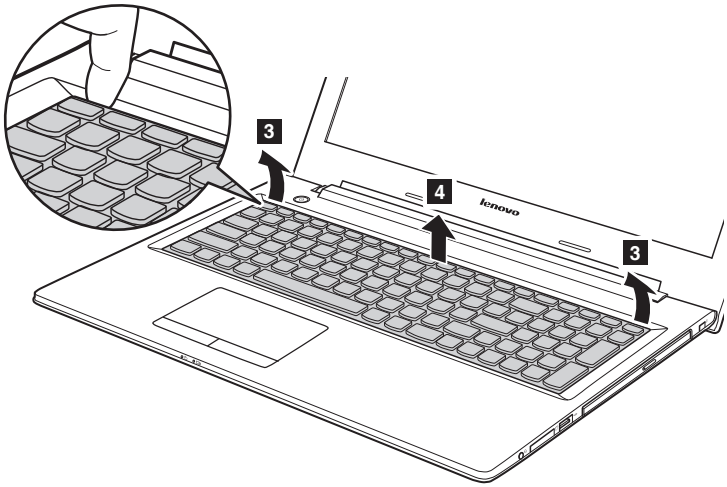


❼ Loosen the keyboard with fingers **3**, and then lift the keyboard slightly **4**.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75

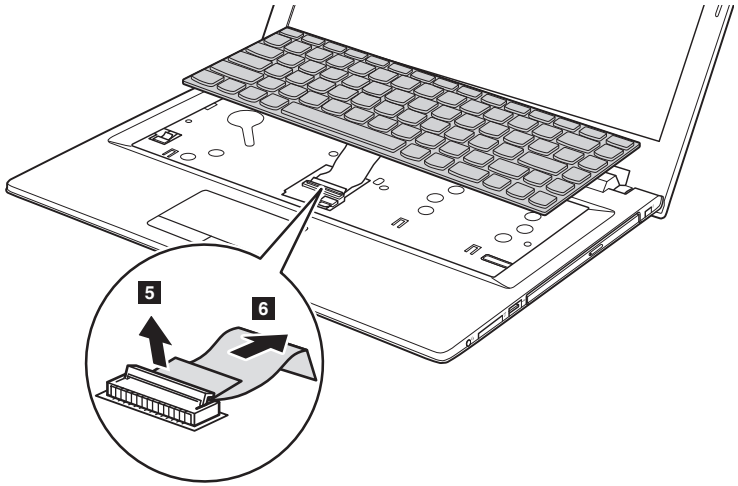


Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75

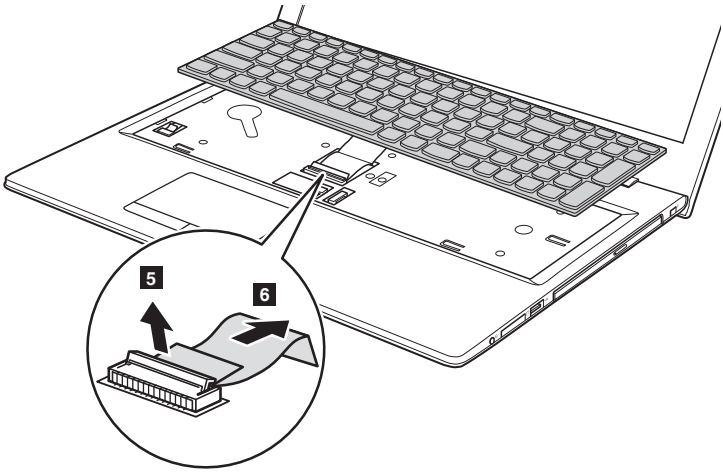


❽ Disconnect the keyboard connector in the direction shown by arrows **5** and **6**. Then remove the keyboard.

Lenovo G40-30/G40-45/G40-70/G40-70m/G40-80/Z40-70/Z40-75



Lenovo G50-30/G50-45/G50-70/G50-70m/G50-80/G50-80 Touch/ Z50-70/Z50-75



❾ Reconnect the keyboard connector and install the new keyboard. Push the keyboard in gently until it clicks into place.

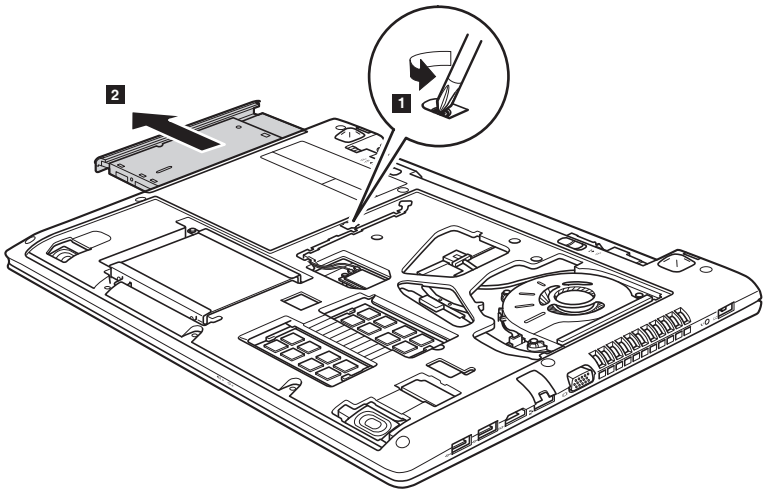
Note: Make sure that the keyboard connector is attached firmly.

❿ Close the computer display and turn the computer over.
⓫ Reinstall and tighten the screws.
⓬ Reinstall the compartment cover and tighten the screws.
⓭ Reinstall the battery pack.
⓮ Turn the computer over again.
⓯ Connect the AC power adapter and the cables to the computer.

Removing the optical drive

To remove the optical drive, do the following:

1. Remove the Optical drive/Hard disk drive/Memory/Central processing unit/Mini PCI Express Card slot compartment cover.
2. Remove the screw shown in the illustration **1**.
3. Gently pull the optical drive out **2**.



Appendix A. CRU instructions

The following table provides a list of CRUs (Customer Replaceable Units) for your computer and informs you of where to find replacement instructions.

	Safety, Warranty, and Setup Guide	User Guide
AC power adapter	O	
Power cord for AC power adapter	O	
Battery pack	O	O
Bottom access doors		O
Hard disk drive		O
Memory		O
Wireless LAN card		O
Thermal Fan		O
Keyboard		O
Optical drive		O

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