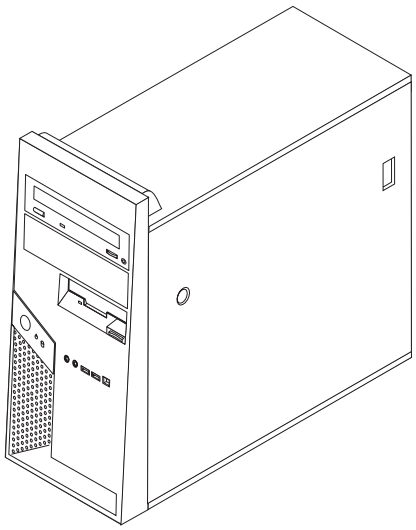
ThinkCentre

Hardware Replacement Guide
Types 8012, 8794, 8798, 8802
Types 8806, 8811, 8816



ThinkCentre

Hardware Replacement Guide
Types 8012, 8794, 8798, 8802
Types 8806, 8811, 8816

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Overview

This guide is intended to be used by customers who are replacing Customer Replaceable Units (CRUs) as well as trained service personnel who are replacing Field Replaceable Units (FRUs). In this guide CRUs and FRUs will often be referred to as parts.

This guide does not include procedures for all parts. It is expected that cables, switches, and certain mechanical parts can be replaced by trained service personnel without the need for step-by-step procedures.

Note: Use only parts provided by Lenovo™.

This guide contains procedures for replacing the following parts:
- Power supply
- System board
- Microprocessor
- Memory modules
- Optional PCI adapter
- Hard disk drive
- Optical drive
- Diskette drive
- System fan assembly
- Keyboard
- Mouse
- Internal speaker

Safety information for customers

Do not open your computer or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer. If you no longer have this copy of the Safety and warranty guide, you can obtain one online from the Support Web site at http://www.lenovo.com/think/support.

Safety information for service personnel

Do not attempt any repair before reading the "Important safety information" in the *Hardware Maintenance Manual* (HMM) for the computer. You can find the HMM on the Support Web site at http://www.lenovo.com/think/support.

Additional information resources

If you have Internet access, the most up-to-date information for your computer is available from the World Wide Web.

You can find the following information:
- CRU removal and installation instructions
- Publications
- Troubleshooting information
- Parts information
- Downloads and drivers
- Links to other useful sources of information

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- Support phone list

To access this information, go to http://www.lenovo.com/think/support.

Tools required

To replace some parts in your computer, you will need a flat-blade or Phillips screwdriver. Additional tools might be needed for certain parts.

Handling static-sensitive devices

Static electricity, although harmless to you, can seriously damage computer components.

When you are replacing a part, do *not* open the static-protective package containing the new part until the defective part has been removed from the computer and you are ready to install the new part.

When you handle parts and other computer components, take these precautions to avoid static-electricity damage:

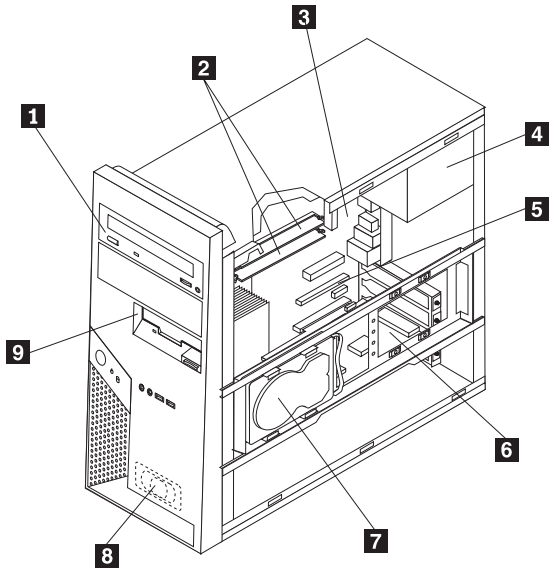
- Limit your movement. Movement can cause static-electricity to build up around you.
- Always handle parts and other computer components carefully. Handle adapters, memory modules, system boards, and microprocessors by the edges. Never touch any exposed circuitry.
- Prevent others from touching the parts and other computer components.
- Before you replace a new part, touch the static-protective package containing the part to a metal expansion-slot cover or other unpainted metal surface on the computer for at least two seconds. This reduces static electricity in the package and your body.
- When possible, remove the new part from the static-protective packaging, and install it directly in the computer without setting the part down. When this is not possible, place the static-protective package that the part came in on a smooth, level surface and place the part on it.
- Do not place the part on the computer cover or other metal surface.

Chapter 1. Locations

This chapter provides illustrations to help locate the various connectors, controls and components of the computer. To remove the computer cover, see “Removing the computer cover” on page 5.

Locating components

The following illustration will help you locate the various components in your computer.



1	Optical drive	6	Optional PCI adapter
2	Memory modules	7	Hard disk drive
3	System board	8	Internal speaker
4	Power supply	9	Diskette drive
5	PCI Express 16 adapter connector		

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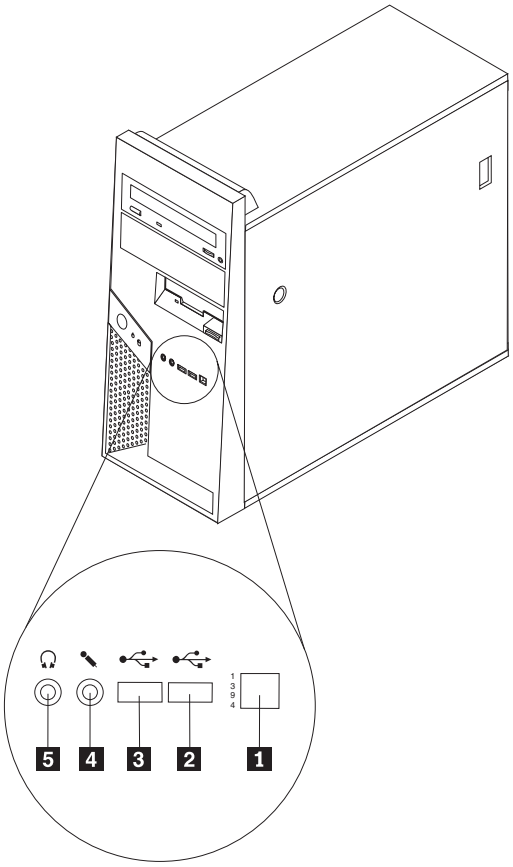
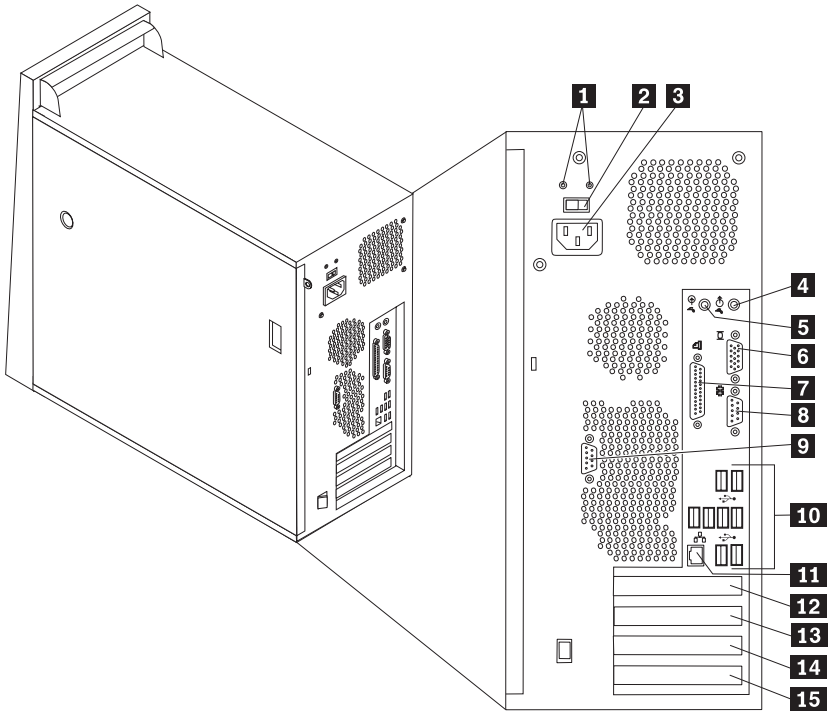
Locating controls and connectors on the front of the computer

This section shows the various external connectors on the computer to which you can attach external devices.



1	IEEE 1394 connector (some models)	4	Microphone connector
2	USB connector	5	Headphone connector
3	USB connector		

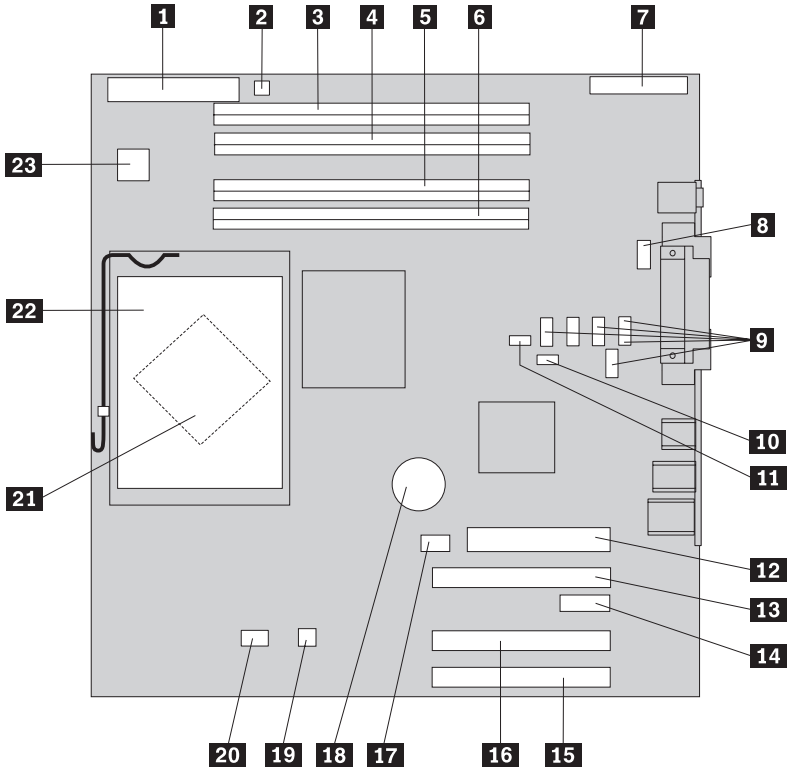
Locating connectors on the rear of the computer



1	Power supply diagnostic LEDs	9	Serial connector (COM 2) (some models)
2	Voltage selection switch	10	USB connectors (8)
3	Power connector	11	Ethernet connector
4	Audio line out connector	12	PCI Express x16 adapter connector
5	Audio line in connector	13	PCI Express x1 adapter connector
6	VGA monitor connector	14	PCI adapter connector
7	Parallel connector	15	PCI adapter connector
8	Serial connector (COM 1)		

Identifying parts on the system board

The system board (sometimes called the *planar* or *motherboard*) is the main circuit board in your computer. It provides basic computer functions and supports a variety of devices.



1	Diskette drive connector
2	Speaker connector
3	Memory connector 4
4	Memory connector 3
5	Memory connector 2
6	Memory connector 1
7	Front panel I/O connector
8	Serial connector (COM2)
9	Serial ATA IDE connectors (5)
10	Clear CMOS/Recovery jumper
11	Cover presence switch connector
12	Power supply connector
13	PCI Express (x16) graphics adapter connector (some models)
14	PCI Express (x1) adapter connector
15	PCI adapter connector 1
16	PCI adapter connector 2
17	System fan connector (not used)
18	Battery
19	Temperature sensor connector
20	Microprocessor fan connector
21	Microprocessor
22	Microprocessor heat sink
23	12v power connector

Chapter 2. Replacing hardware

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

Notes:

1. **Use only parts provided by Lenovo.**
2. Your computer might look slightly different than the illustrations in this chapter.

Removing the computer cover

Important

Turn off the computer and wait 3 to 5 minutes to let the computer cool before removing the computer cover.

1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down your operating system, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. Disconnect all cables attached to the computer. This includes power cords, input/output (I/O) cables, and any other cables that are connected to the computer. See "Locating components" on page 1.
4. Remove any locking devices such as a padlock or Kensington lock that secure the computer cover.

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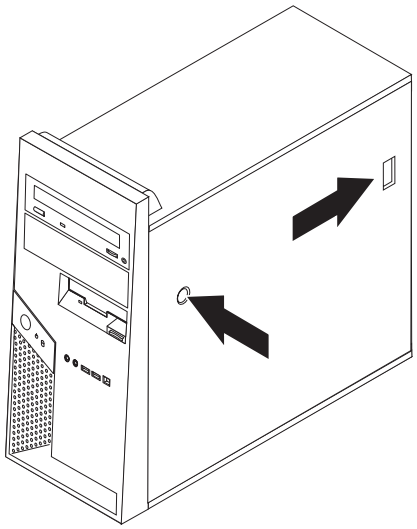
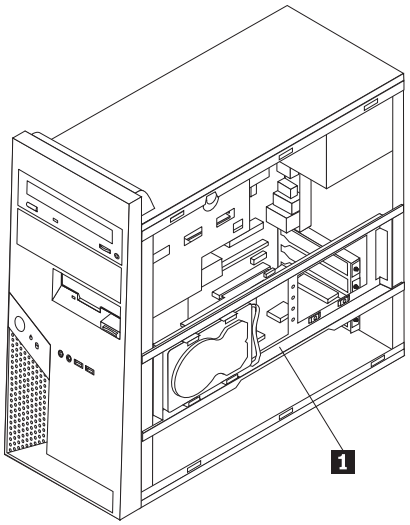
5. Press the cover-release button on the right side cover, slide the cover to the rear, and remove.



6. When the hard disk drive mounting bracket **1** is in position, access to some of the components inside the chassis is restricted. It can be easily removed for better access.

   See “Removing the hard disk drive mounting bracket” on page 7.

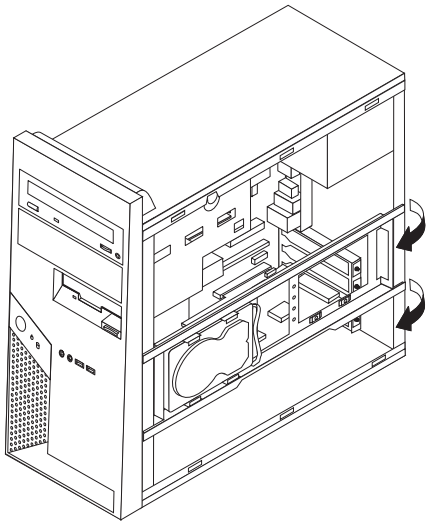


To replace the computer cover, see “Completing the installation” on page 34.

Removing the hard disk drive mounting bracket

The hard disk drive mounting bracket can easily be removed to provide better access to some CRUs and FRUs.

1. After the cover has been removed, pivot the hard disk drive bracket outward from the rear of the chassis.



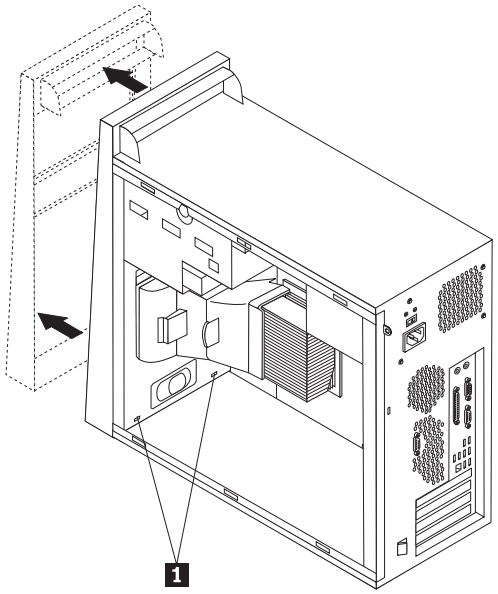
2. Remove the hard disk drive bracket by sliding it out of the chassis at the hinge end. The hard disk drive cables are long enough to allow the bracket to be set to the side without disconnecting cables.

   Note: To illustrate the internal views of the chassis more clearly, many of the illustrations in this document are shown without the hard disk drive bracket in position.

Removing and replacing the front bezel

Use this procedure only when it is necessary to remove the bezel to provide access to a CRU or FRU being replaced.

1. Remove the computer cover. See "Removing the computer cover" on page 5.
2. To release the front bezel from the chassis, press downward on the two plastic tabs **1** and push the bezel outward as shown.



3. To reinstall the bezel, align the plastic tabs **1** on the bottom of the bezel with the corresponding holes in the chassis, then snap it into position at the bottom and top of the chassis.
4. Go to "Completing the installation" on page 34.

Replacing the power supply

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

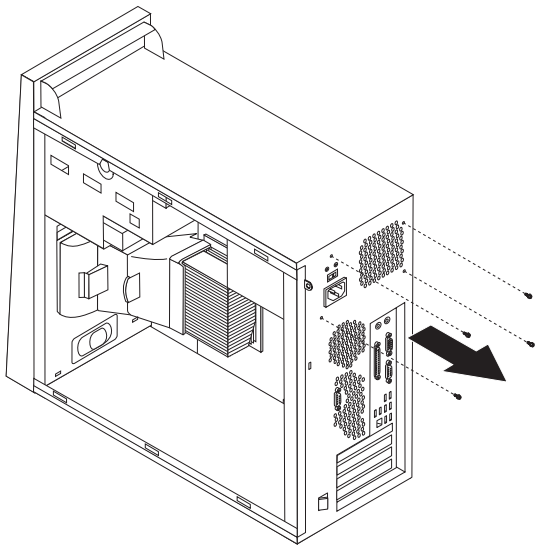
Notes:

1. You will need a flat-blade screwdriver.
2. Your computer might look slightly different than the illustrations.

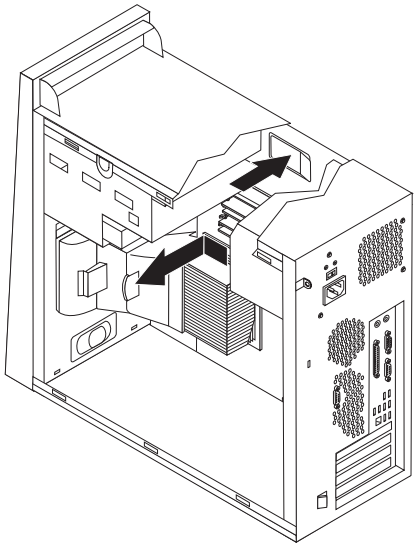
1. Remove the computer cover and the hard disk drive mounting bracket. See "Removing the computer cover" on page 5.

   Note: For this procedure, it helps to lay the computer on its side.
2. Disconnect the power supply cables from the system board and from all drives. See "Identifying parts on the system board" on page 4.
3. Disconnect the power cable from each of the drives. Note the location of each cable that is disconnected.

4. Remove the power supply cables from the cable clips and ties.
5. Remove the four screws that secure the power supply at the rear of the chassis.



6. Press inward on the metal retainer inside the chassis and slide the power supply toward the front of the chassis and lift it out of the chassis as shown.



7. Install the new power supply into the chassis so that the screw holes in the power supply align with those in the chassis.
8. Install and tighten the four screws that secure the power supply.

   Note: Use only the screws provided by Lenovo.
9. Reconnect power supply connectors to the system board. See "Identifying parts on the system board" on page 4.
10. Reinstall the hard disk drive mounting bracket.
11. Reconnect a power supply connector to each of the drives.
12. Go to "Completing the installation" on page 34.

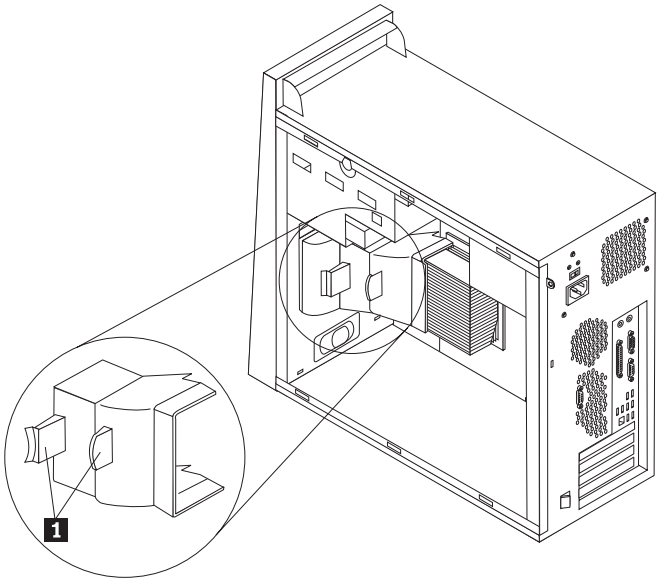
Replacing the system board

Attention:

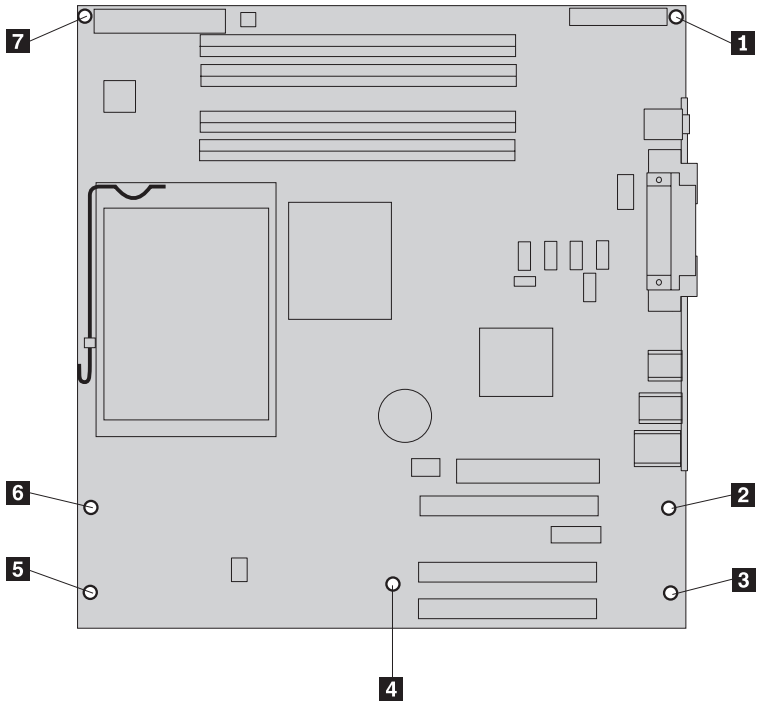
Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

Note: The system board in your computer might look different than those shown in the following illustrations.

1. Turn off the computer and allow it to cool for one hour.
2. Remove the computer cover and the hard disk drive mounting bracket. See "Removing the computer cover" on page 5.
3. To access the system board, lay the computer on its side.
4. Remove the air baffle by squeezing the two tabs **1** together and pulling it out of the chassis.

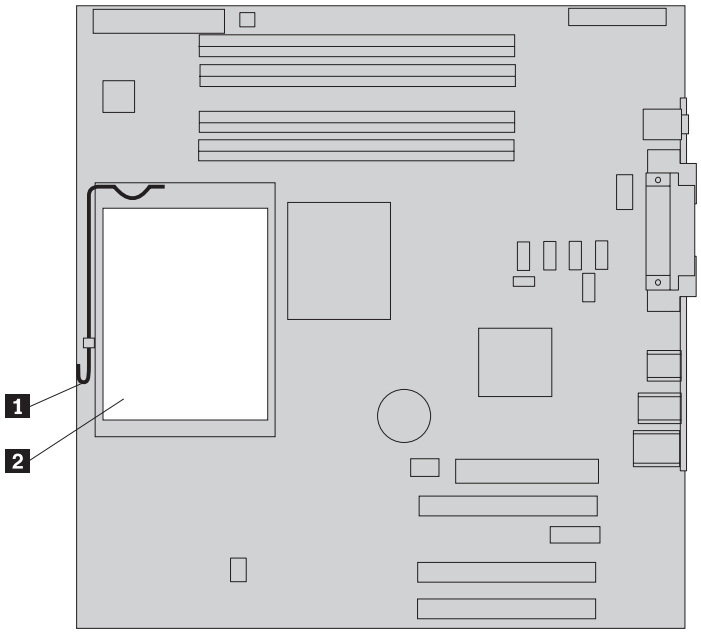


5. Remove any PCI adapter cards. See “Replacing an adapter” on page 24.
6. Carefully note the cable routing. It is important to route the cables the same way after you install the new system board.
7. Disconnect all cables connected to the system board. See “Identifying parts on the system board” on page 4.
8. Remove screws **1** through **7**.

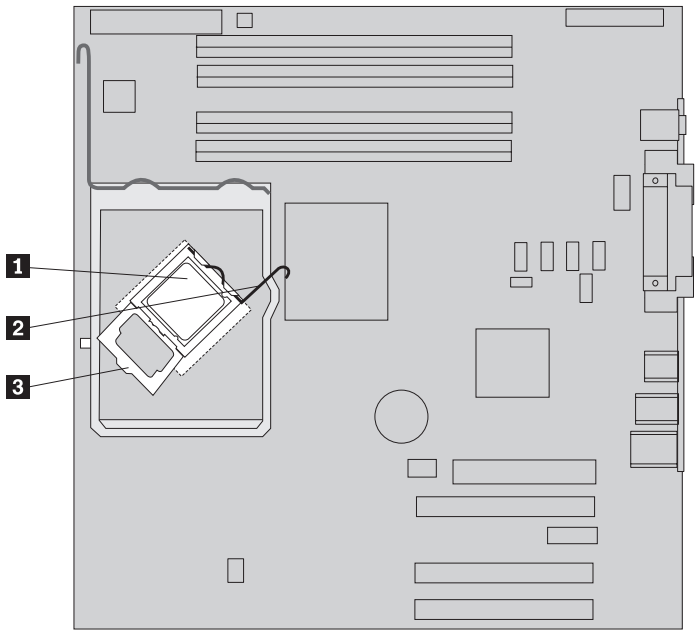


9. Slide the system board toward the front of the computer to disengage it from the mounting tabs and lift it out.
10. Place the defective system board next to the new system board on a clean, flat surface.
11. Remove all memory modules from the defective system board and install them in the same connector on the new system board. See “Replacing a memory module” on page 23. Return here after installing the memory modules on the new system board.

12. Make sure that the heat sink is cool enough to handle safely.
13. Release and pivot lever **1** upward. Remove the heat sink **2** from the system board by carefully lifting it up and off the mounting bracket. Place the heat sink on its side on a clean, flat surface so the thermal material on the bottom of the heat sink does not touch the surface and become contaminated.



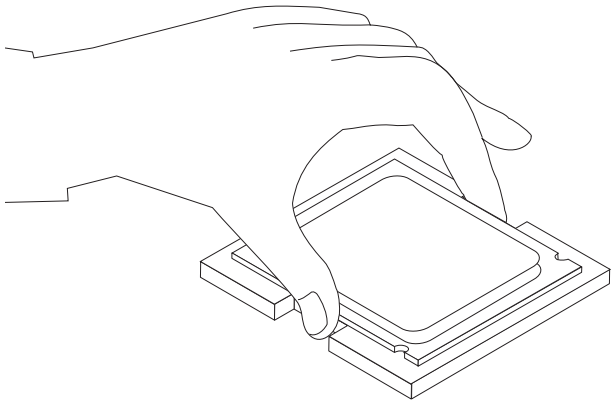
14. Release and pivot locking lever **2** securing the microprocessor **1**, then pivot the microprocessor retainer **3** until it is open.



Important

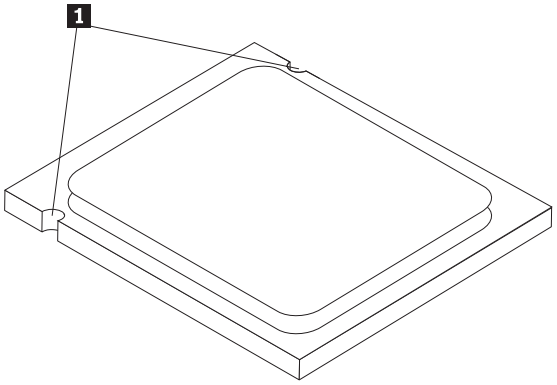
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

15. Lift the microprocessor straight up and out of the socket.



Notes:

a. Note the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the new system board.



b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

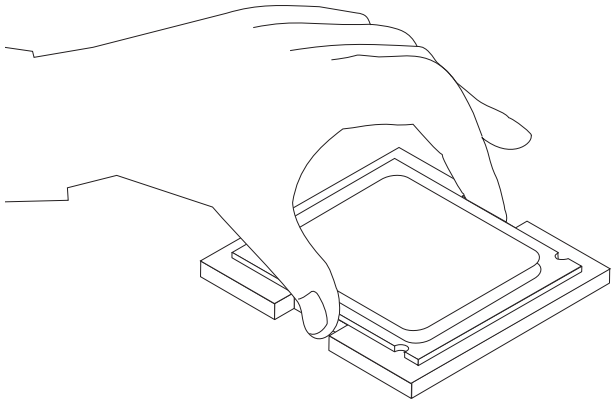
16. On the new system board, release and pivot the locking lever, then pivot the microprocessor retainer until it is open.

    Note: There will be a black plastic cover on the retainer to protect the microprocessor socket. Remove the black plastic cover and place it on the microprocessor socket of the defective system board.

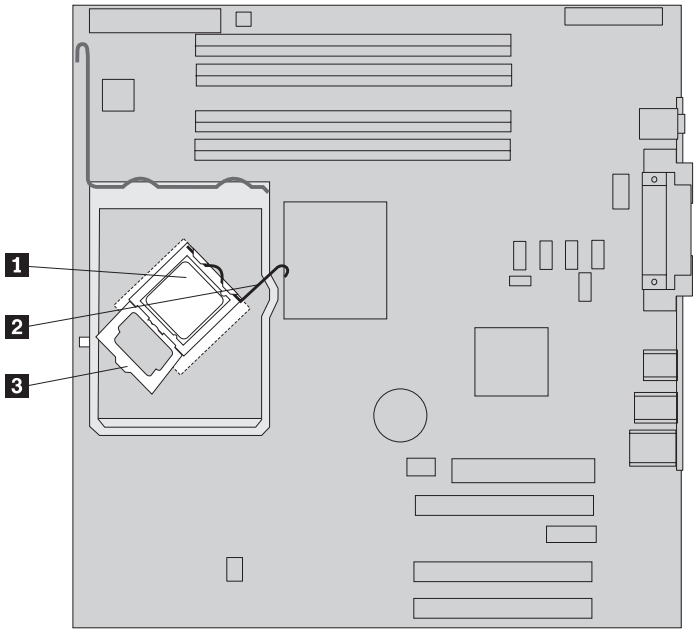
17. Position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

> **Important**
> To avoid damaging the microprocessor contacts, do not tilt the microprocessor when installing it into the socket.

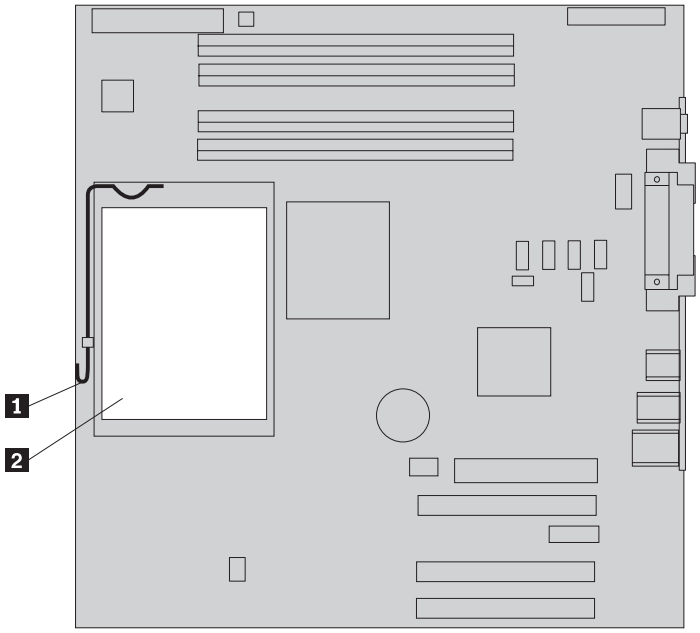
18. Lower the microprocessor straight down into the microprocessor socket.



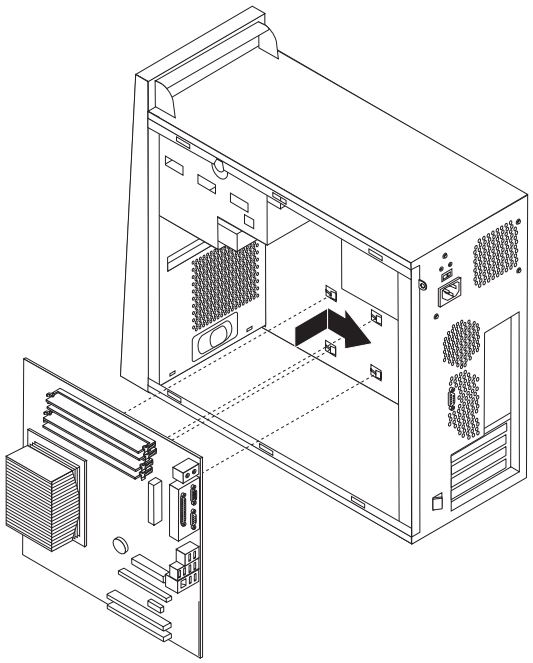
19. Pivot the microprocessor retainer **3** to the closed position and rotate the locking lever **2** to secure the microprocessor **1**. Make sure the locking lever is engaged with the retainer tab when securing the microprocessor.



20. Align the beveled corners of the heat sink and the mounting bracket. Then position the heat sink **2** on the heat sink mounting bracket. Lower the lever **1** to secure the heat sink.



21. Install the new system board assembly into the computer chassis by aligning the four slots in the metal plate on the bottom of the system board with the tabs in the chassis. Then slide the system board toward the rear of the chassis.



Important

Make sure to correctly align the metal plate on the bottom of the system board with the tabs in the chassis. Otherwise, the system board might be damaged when you install the screws.

22. Align the seven screw holes, and install the screws.

    Note: Use only the screws provided by Lenovo.
23. Reconnect all cables that were disconnected from the system board. Make sure all cables are routed correctly. See "Identifying parts on the system board" on page 4 for cable locations.
24. Reinstall all adapter cards. See "Replacing an adapter" on page 24.
25. Reinstall the air baffle.
26. Go to "Completing the installation" on page 34.

Replacing the microprocessor

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

Note: The system board in your computer might look different than those shown in the following illustrations.

This section provides instructions on how to replace the microprocessor.

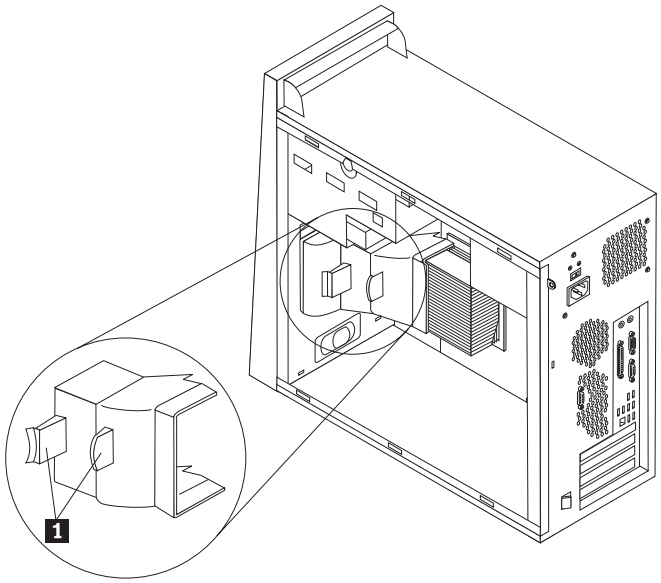
Important

Leave your computer turned off for at least one hour before removing the microprocessor to allow the thermal interface between the microprocessor and the heat sink time to cool down.

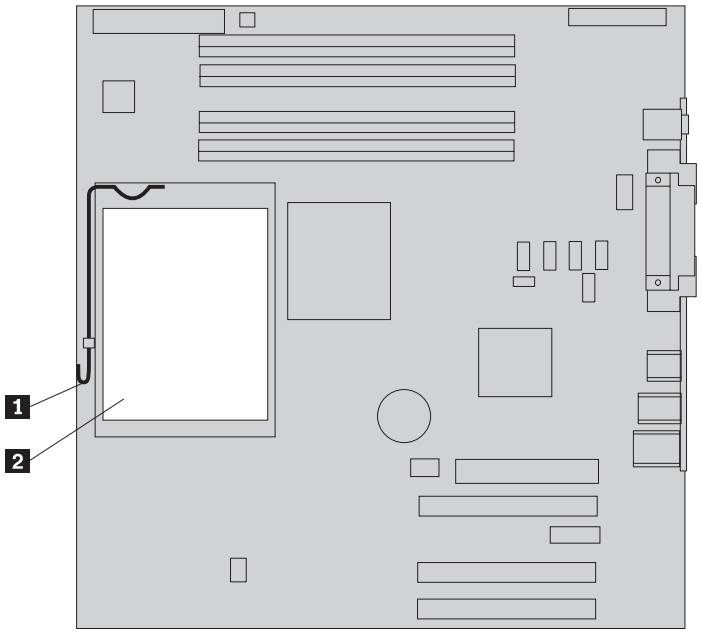
Important

Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

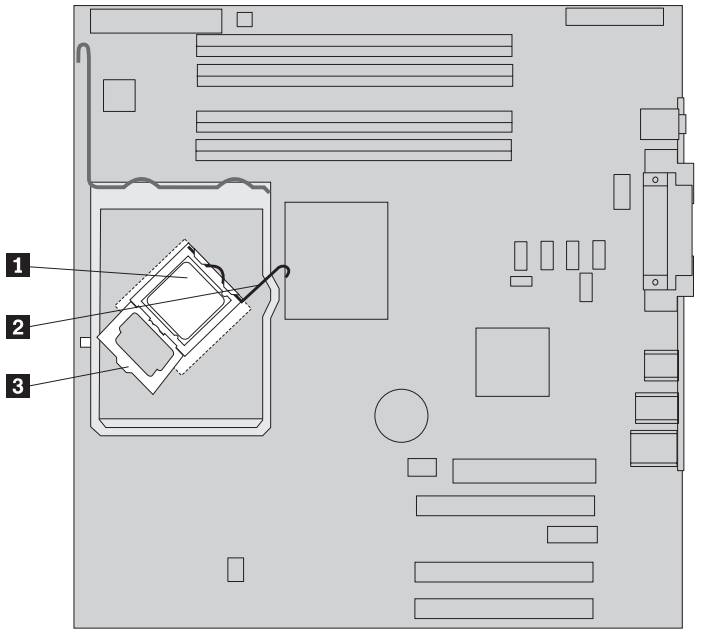
1. Remove the computer cover and the hard disk drive mounting bracket. See "Removing the computer cover" on page 5.
2. To access the system board and microprocessor, lay the computer on its side.
3. Remove the air baffle by squeezing the tabs **1** together and pulling it out of the chassis.



4. Make sure that the heat sink is cool enough to handle safely.
5. Release and pivot lever **1** upward. Remove the heat sink **2** from the system board by carefully lifting it up and off the mounting bracket.



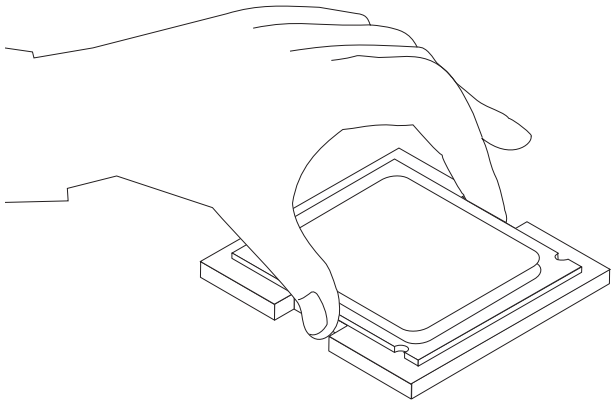
6. Release and pivot locking lever **2** securing the microprocessor **1**, then pivot the microprocessor retainer **3** until it is open.



Important

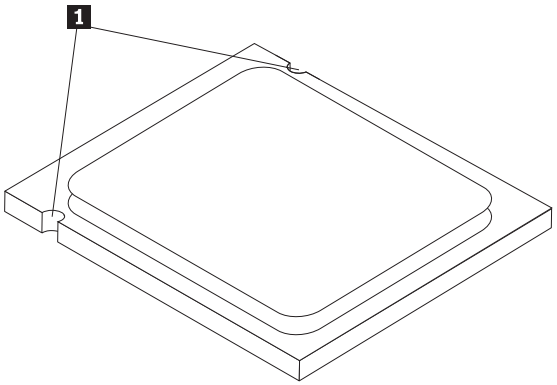
Touch only the sides of the microprocessor. Do not touch the gold contacts on the bottom.

7. Lift the microprocessor straight up and out of the socket.



Notes:

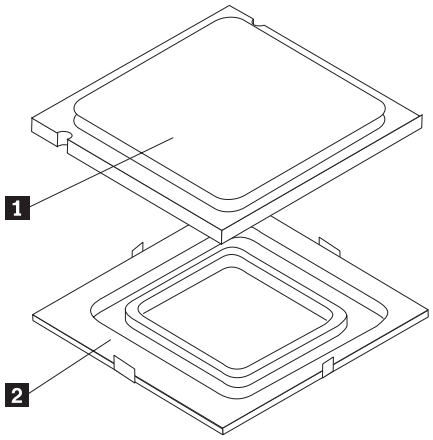
a. Note the orientation of the notches **1** on the microprocessor. This is important when reinstalling the microprocessor on the system board.



b. Do not drop anything onto the microprocessor socket while it is exposed. The socket pins must be kept as clean as possible.

8. Make sure that the microprocessor retainer is fully open.

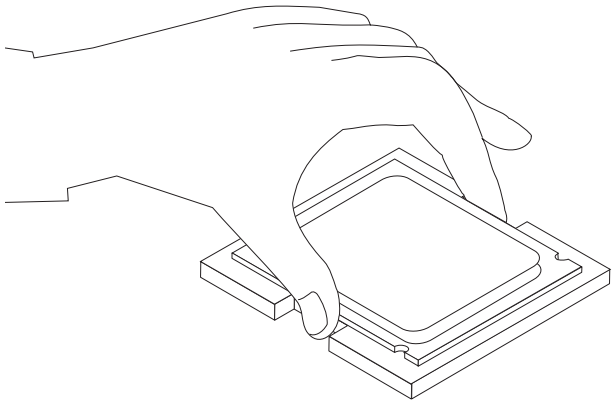
9. Holding the microprocessor with your fingers, remove the protective cover **2** that protects the gold contacts on the new microprocessor **1** .



10. Position the microprocessor so that the notches on the microprocessor are aligned with the tabs in the microprocessor socket.

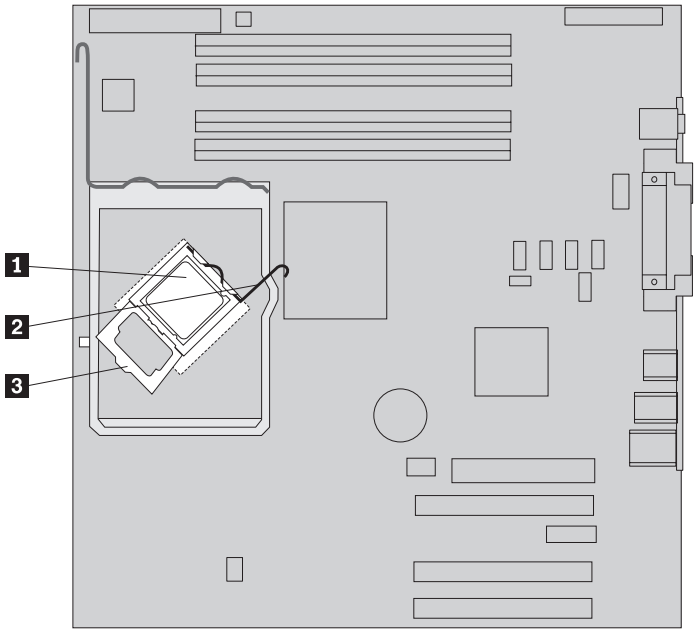
> **Important**
> To avoid damaging the microprocessor contacts, do not tilt the microprocessor when installing it into the socket.

11. Lower the microprocessor straight down into the microprocessor socket.

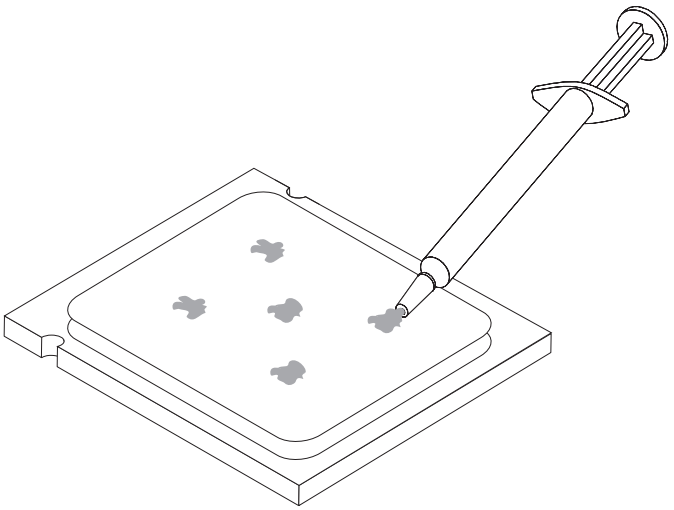


Note: Install the black protective cover that was removed from the new microprocessor onto the defective microprocessor after the installation is complete.

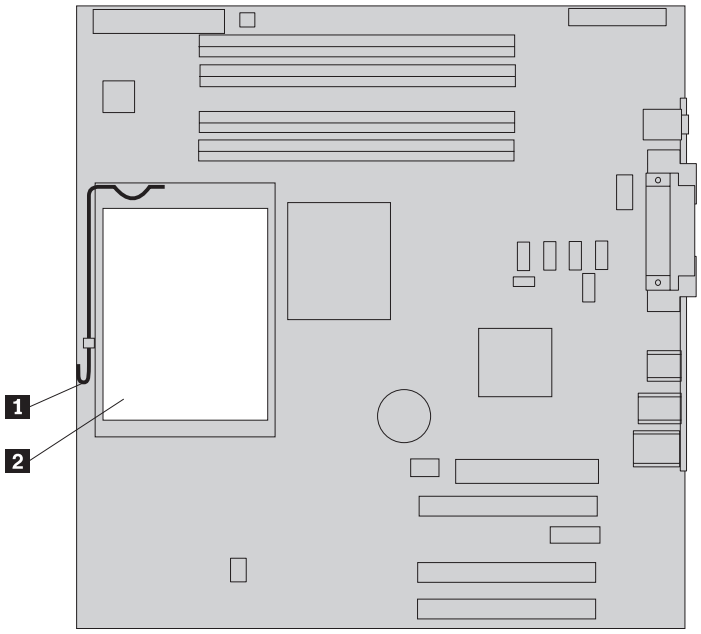
12. Pivot the microprocessor retainer **3** to the closed position and pivot the locking lever **2** to secure the microprocessor **1**. Make sure the locking lever is engaged with the retainer tab when securing the microprocessor.



13. Use the thermal grease syringe to place five drops of grease on the top of the microprocessor. Each drop of grease should be 0.03ml (3 tick marks on the grease syringe).



14. Align the beveled corners of the new heat sink and the mounting bracket. Then position the heat sink **2** on the heat sink mounting bracket. Lower the lever **1** to secure the heat sink.



15. Reinstall the air baffle.
16. Go to "Completing the installation" on page 34.

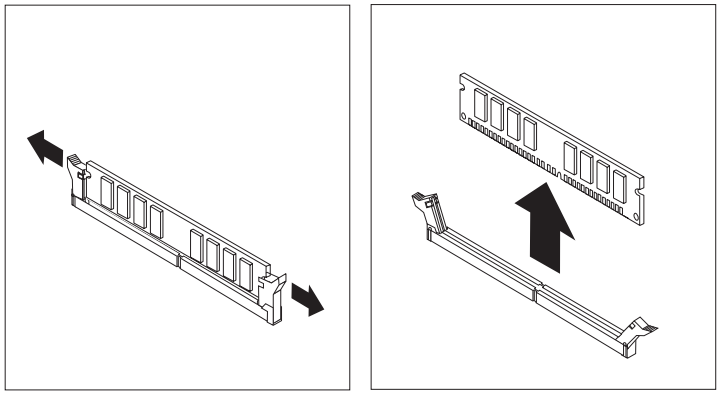
Replacing a memory module

Attention:

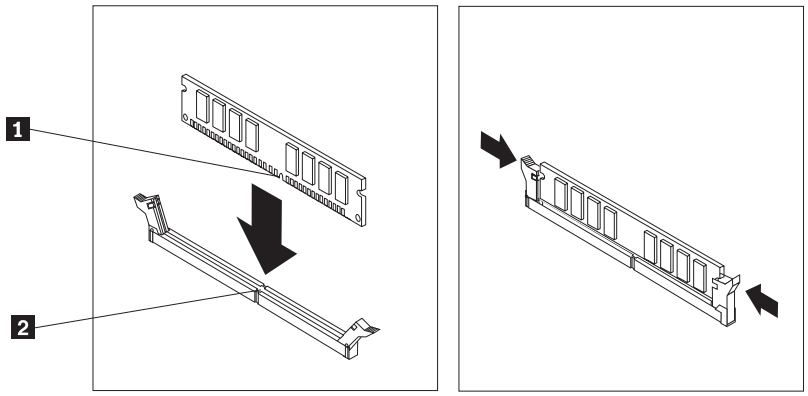
Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove the computer cover. See "Removing the computer cover" on page 5.

   Note: For this procedure, it helps to lay the computer on its side.
2. Locate the memory module connectors. See "Identifying parts on the system board" on page 4.
3. Open the retaining clips, and lift the memory module out of its connector.



4. Ensure that the notch on the new memory module 1 aligns correctly with the connector key 2 on the system board. Push the memory module straight down into the connector until the retaining clips close.



5. Go to "Completing the installation" on page 34.

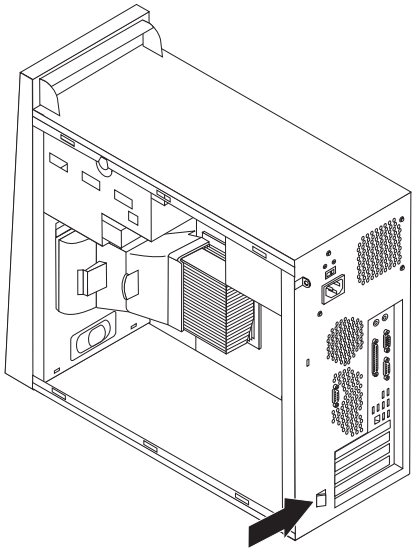
Replacing an adapter

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

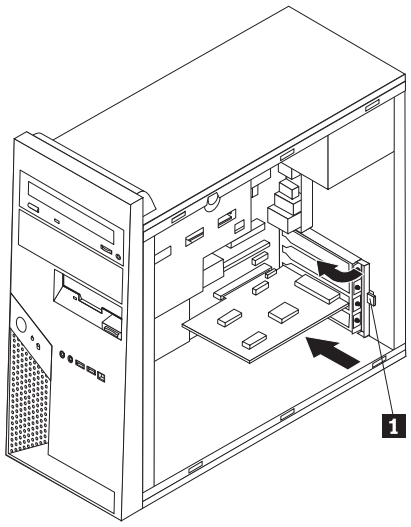
1. Remove the computer cover. See "Removing the computer cover" on page 5.

   Note: For this procedure, it helps to lay the computer on its side.
2. At the rear of the computer, push the blue adapter latch **1** as indicated and pivot it to the open position.



3. Remove the adapter by pulling it straight out of the adapter connector.
4. Install the new adapter into the same adapter connector. Ensure the adapter is fully seated into the adapter connector.

5. At the rear of the computer, pivot the blue adapter latch **1** to the closed position to secure the adapters.



6. Go to "Completing the installation" on page 34.

Replacing the hard disk drive

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

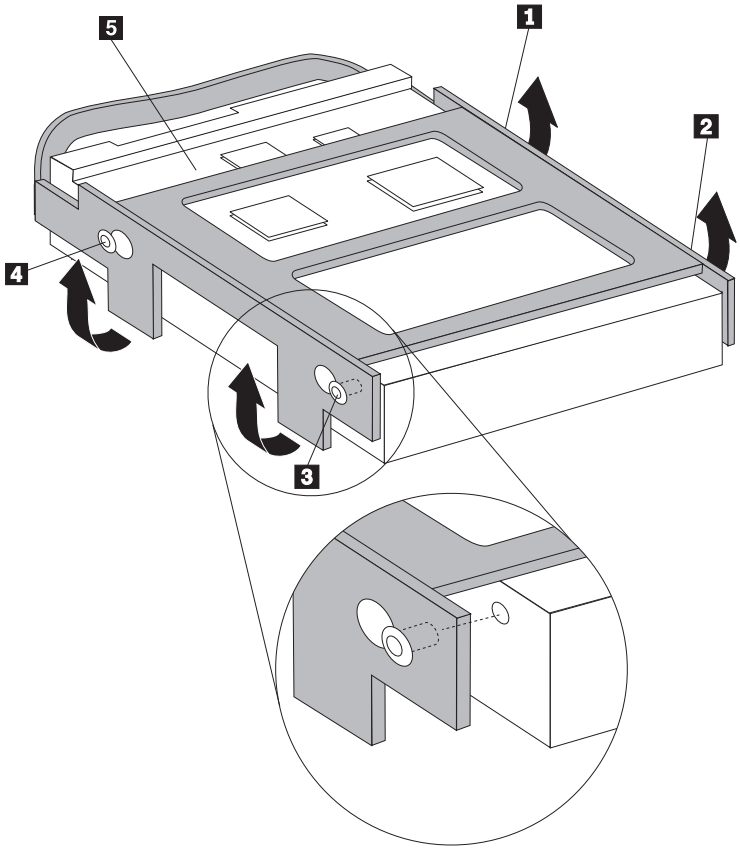
Important

When you receive a new hard disk drive, you will also receive a set of *Product Recovery CD*. The set of *Product Recovery CD* will enable you to restore the contents of the hard disk to the same state as when your computer was originally shipped from the factory. For more information on recovering factory-installed software, refer to "Recovering Software" in the *User guide*.

1. Remove the computer cover. See "Removing the computer cover" on page 5.

   Note: Do not remove the hard disk drive mounting bracket.
2. Disconnect the signal and power cables from the hard disk drive.
3. Remove the hard disk drive from the hard disk drive mounting bracket by pulling the blue handle outward.
4. Remove the defective hard disk drive from the blue bracket by flexing the bracket.

5. To install the new hard disk drive into the blue bracket, flex the bracket and align the pins 1 through 4 on the bracket with the holes in the hard disk drive. Do not touch the circuit board 5 on the bottom of the hard disk drive.



6. Insert the new hard disk drive into the hard disk drive mounting bracket with its circuit board side facing inward and snap into position.
7. Connect the power and signal cables to the new hard disk drive.
8. Go to "Completing the installation" on page 34.

Replacing an optical drive

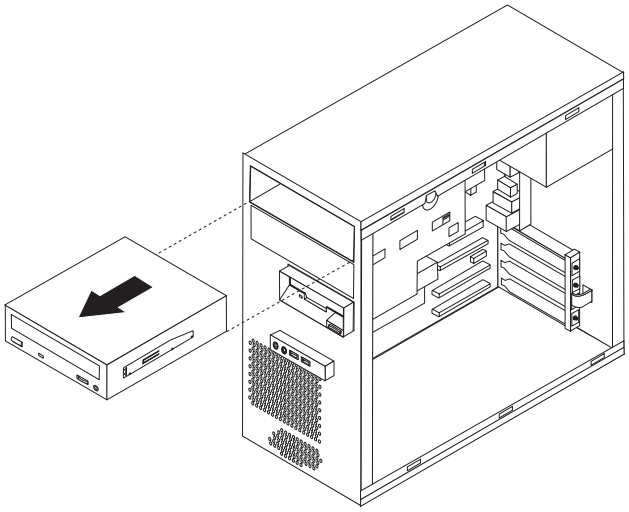
Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove the computer cover. See "Removing the computer cover" on page 5.

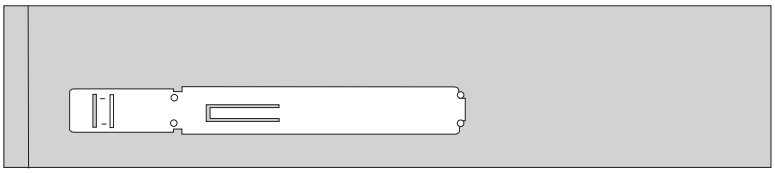
   Note: For this procedure, it helps to lay the computer on its side.
2. Disconnect the signal and power cables from the rear of the optical drive.

3. Release the optical disk drive by pressing on the blue retainer lever at the side of the drive and removing it from the front of the computer.



Note: The removal of the optical drive might require that front bezel be removed. See “Removing and replacing the front bezel” on page 8

4. Remove the retainer bracket from the failing drive and install it on the new drive.



5. Slide the new optical drive into the bay from the front until it snaps into position.
6. Reconnect the signal and power cables to the drive.
7. Reinstall the front bezel if it was removed. See “Removing and replacing the front bezel” on page 8.
8. To complete the installation, go to “Completing the installation” on page 34.

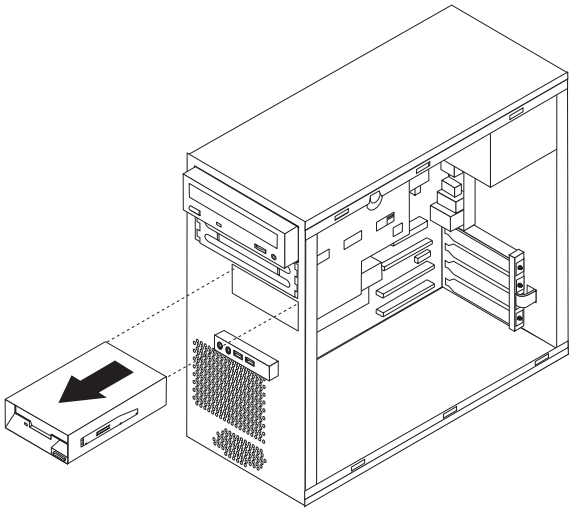
Replacing the diskette drive

Attention:

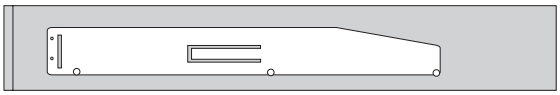
Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove the computer cover. See "Removing the computer cover" on page 5.
2. Remove the front bezel. See "Removing and replacing the front bezel" on page 8.

   Note: For this procedure, it helps to lay the computer on its side.
3. Disconnect the signal and power cables from the rear of the diskette drive.
4. Release the diskette drive by pressing on the blue retainer lever at the side of the drive bay and slide it out the front of the computer.



5. Remove the retainer bracket from the failing drive and install it on the new drive.



6. Slide the new diskette drive into the drive cage until it snaps into position.
7. Reconnect the signal and power cables to the drive.
8. To install the bezel, align the tabs on the bottom of the bezel with the corresponding holes in the chassis. Pivot the bezel until it snaps into position at the bottom and top of the chassis.
9. Go to "Completing the installation" on page 34.

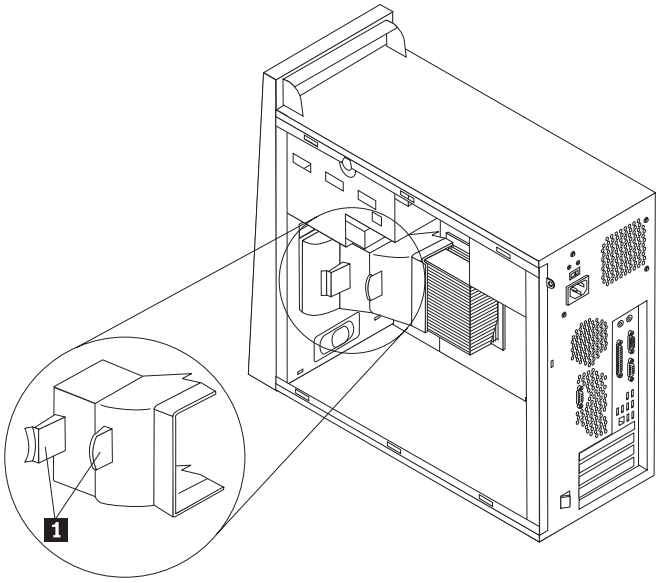
Replacing the system fan assembly

Attention:

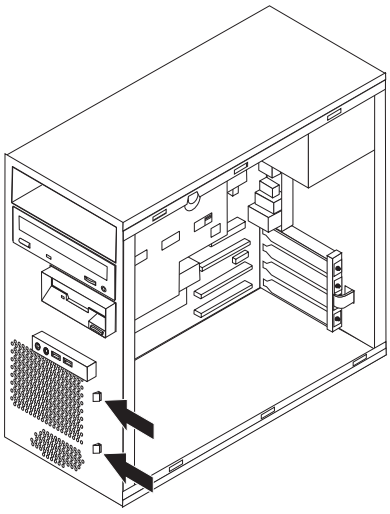
Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove the computer cover and hard disk drive mounting bracket. See "Removing the computer cover" on page 5.
2. Remove the front bezel. See "Removing and replacing the front bezel" on page 8.
3. Disconnect the system fan cable from the system board fan connector. See "Identifying parts on the system board" on page 4.

4. The system fan assembly is made up of two pieces: an air baffle and the system fan. Remove the air baffle by squeezing the two tabs **1** and pulling it out of the chassis.



5. Remove the system fan by pressing the two tabs.



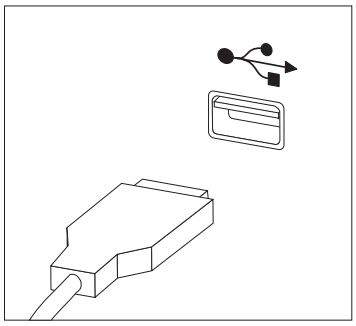
6. Insert the new system fan.
7. Reinstall the air baffle.
8. Reconnect the fan cable to the system board connector. See “Identifying parts on the system board” on page 4.
9. Reinstall the front bezel.
10. Go to “Completing the installation” on page 34.

Replacing the keyboard

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down the computer, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. The keyboard is connected to a USB connector at either the front or rear of the computer. See "Locating components" on page 1.



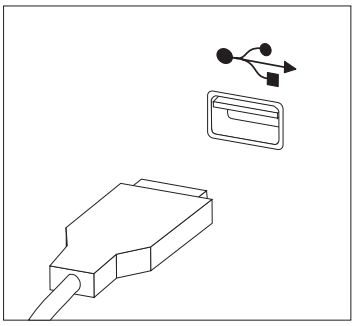
4. Disconnect the failing keyboard cable from the computer and connect the new keyboard cable to the appropriate connector.
5. Go to "Completing the installation" on page 34.

Replacing the mouse

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

1. Remove any media (diskettes, CDs, or tapes) from the drives, shut down the computer, and turn off all attached devices.
2. Unplug all power cords from electrical outlets.
3. The mouse is connected to a USB connector at either the front or rear of the computer. See "Locating components" on page 1.



4. Disconnect the failing mouse cable from the computer and connect the new mouse cable to the appropriate connector.
5. Go to "Completing the installation" on page 34.

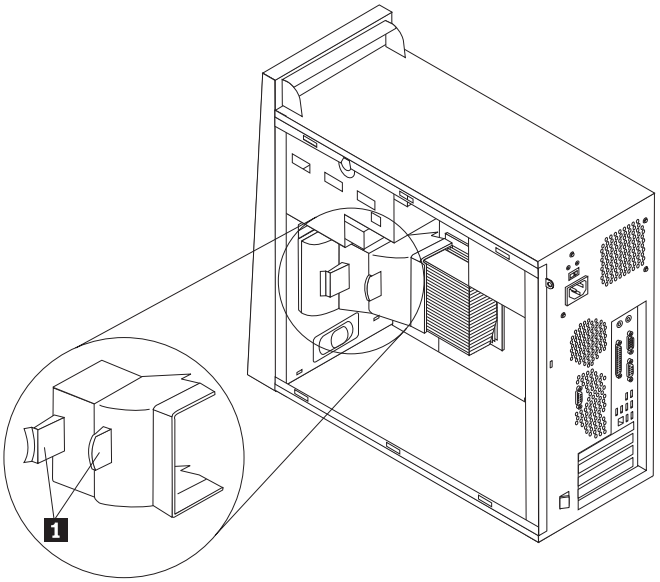
Replacing the internal speaker

Attention:

Do not remove the computer cover or attempt any repair before reading the "Important safety information" in the *Safety and warranty guide* that was included with your computer or in the *Hardware Maintenance Manual* (HMM) for the computer. To obtain copies of the *Safety and warranty guide* or *HMM*, go to the Support Web site at http://www.lenovo.com/think/support.

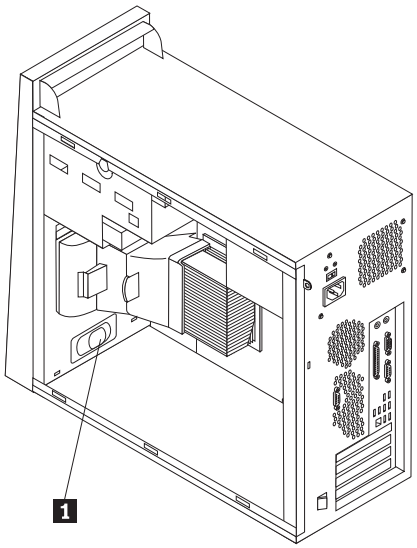
1. Remove the computer cover. See "Removing the computer cover" on page 5.

   Note: For this procedure, it helps to lay the computer on its side.
2. Remove the air baffle by squeezing the two tabs **1** together and pulling it out of the chassis.



3. Locate the internal speaker connector, see "Identifying parts on the system board" on page 4.
4. Disconnect the speaker cable from the system board.

5. Slide the speaker **1** upward until it is free from the metal tabs that secure it at the bottom. Then pivot the bottom of the speaker outward and remove it from the chassis.



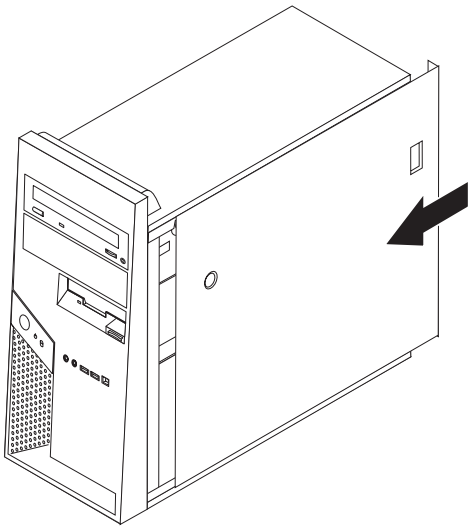
6. Position the bottom of the new speaker into the metal tabs and pivot the top of the speaker inward until it snaps into position.
7. Reconnect the speaker cable to the system board. See “Identifying parts on the system board” on page 4.
8. Reinstall the air baffle.
9. Go to “Completing the installation.”

Completing the installation

After replacing a failed part, you need to install any other removed parts, install the computer cover, and reconnect any cables, including telephone lines and power cords. Also, depending on the part that was replaced, you might need to confirm the updated information in the Setup Utility program. See "Using the Setup Utility" in your *User guide* or *Hardware Maintenance Manual*.

To complete the installation:

1. Ensure that all components have been reassembled correctly and that no tools or loose screws are left inside your computer. See “Locating components” on page 1 for the location of the various components.
2. Place the hard disk drive bracket back into position and reconnect any cables that were disconnected from the optional hard disk drive. See “Removing the hard disk drive mounting bracket” on page 7.
3. Reposition any cables that might impede the replacement of the computer cover.
4. Position the computer cover on the chassis so that the rail guides on the bottom of the computer cover engage the rails. Then, push the computer cover closed until it latches.



5. Reconnect the external cables. Plug the power cord into the computer then into a properly grounded power receptacle. See “Locating components” on page 1.
6. If you are replacing the system board or microprocessor, you must update (flash) the BIOS. See “Updating (flashing) BIOS from a diskette or CD-ROM” on page 36.
7. To update your configuration, see "Using the Setup Utility" in the *User guide* or *Hardware Maintenance Manual* for your computer.

Note: In most areas of the world, Lenovo requires the return of the defective CRU. Information about this will come with the CRU or will come a few days after the CRU arrives.

Updating (flashing) BIOS from a diskette or CD-ROM

Important

Start the Setup Utility program to view your system information. See "Using the Setup Utility" in your *User guide* or *Hardware Maintenance Manual*. If the serial number and the machine type/model listed on the Main menu do not match what is printed on the label of your computer, you must update (flash) the BIOS to change the serial number and the machine type/model.

To update (flash) the BIOS from a diskette or CD-ROM, do the following:

1. Insert a system program update (flash) diskette or CD-ROM into the appropriate drive. System program updates are available at http://www.lenovo.com/think/support on the World Wide Web.
2. Turn on the computer. If it is on already, you must turn it off and back on again. The update begins.
3. When you are prompted to select a language, press the number on your keyboard that corresponds to the language and then press Enter.
4. When prompted to change the serial number, press Y.
5. Type in the seven character serial number of your computer and then press Enter.
6. When prompted to change the machine type/model, press Y.
7. Type in the seven character machine type/model of your computer and then press Enter.
8. Follow the instructions on the screen to complete the update.

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vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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