Removing and Replacing a CD/DVD Disk Drive

Removing and Replacing a Hard Disk Drive

Removing and Replacing a Graphics or Add-in Card

Removing and Replacing the Fan

Removing and Replacing the Front Bezel
Removing and Replacing a CD/DVD Disk Drive
Removing and Replacing a CD/DVD Disc Drive

15 TO 25 MINUTES

Before You Begin
HP recommends using a magnetic-tipped screwdriver. A flathead screwdriver can be used with the screw seen here.

1 Remove any discs from the CD/DVD drives (A), personal media drive (B), or pocket media drives (C).

2 Turn off the computer.
3 Unplug the computer.
4 Remove everything attached to the front and back of the computer, including the keyboard, mouse, Ethernet cable, memory cards, USB drives, and monitor.
5 Ground yourself (read the caution statement at the beginning of this procedure).

TOOLS NEEDED:
- Flathead screwdriver

CAUTION: This product contains components that are easily damaged by electrostatic discharge (ESD). To reduce the chance of ESD damage, work over a non-carpeted floor, use a static dissipative work surface (like a conductive foam pad), and wear an ESD wrist strap that is connected to a grounded surface, like the metal frame of the computer.

WARNING: Keep your hands away from the moving fan. Keep fingers and tools clear of the fan when power is applied. Never open the cover with the power cord attached or power applied. You may damage your computer or be injured from the spinning fan blades.

WARNING: Avoid touching sharp edges inside the computer.
Removing the Side Cover

WARNING: Before you open the computer, allow the internal system components to cool before touching.

6 Use a screwdriver to remove the two shipping screws (C) on the back cover. These screws are for shipping only.

7 Pull the handle (D) on the side panel, and slide the cover toward the rear (only about 1 inch (2.54 cm)) until it falls open. Set the cover aside.

Removing the CD/DVD Disc Drive

8 Disconnect the power and data cables by pressing down on the cable release tabs, if present.

9 Gently pull the cable connector out. Pull by the cable housing, not by the cables themselves.

Note the placement of your cables as you release them.

CAUTION: Never force a connector. Do not pull too hard. Many connectors have release tabs that must be pressed before disconnecting.
Removing and Replacing a CD/DVD Disc Drive (continued)

10 From the open side of the computer, slide the green plastic drive lock toward the front of the computer to unlock the drive.

11 From the inside of the computer, push the drive toward the front of the computer.

12 From the front of the computer, pull the disc drive the rest of the way out.
Removing and Replacing a CD/DVD Disc Drive (continued)

Replacing the CD/DVD Disc Drive

13 Ensure the orientation of the disc drive is correct (see the illustration; the top of the disc drive should look similar).

14 From the front of the computer, gently push the replacement CD/DVD disc drive into the bay until flush with the bay front.

15 Slide the plastic drive lock toward the back of the computer to locked position.

The lock travels over two raised bumps on the chassis and all the way back.

The two small holes in the bay align with holes on the side of the drive.

16 Push the drive into the bay until it locks into position.

17 Insert the power and data cables into the back of the CD/DVD drive.
Replacing the Side Cover

In this procedure, start by positioning the side panel on the computer frame so that you still need to slide it forward about 1 inch (2.54 cm) toward the front of the computer.

18 Place the lower edge of the panel onto the computer frame at an angle, as shown.

Tabs on the lower part of the side panel fit into grooves on the frame, and lock into place as the door slides forward and shuts.

19 With the panel tabs aligned in the computer slots, move the rest of the panel toward the computer frame until it shuts.

20 Slide the side panel toward the front of the computer until it snaps closed with a click.
Removing and Replacing a CD/DVD Disc Drive (continued)

After Replacing the Cover

To avoid injury and equipment damage, always follow this procedure in this order after closing the computer:

- **WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the Ethernet network interface connector.

21 Reconnect the modem/telephone cable and all other attached cables, such as the keyboard, mouse, Ethernet, and monitor cables.

22 Reconnect external devices, such as a printer.

23 Reconnect the power cord.

24 Turn on the computer and all peripherals, such as the monitor.

TASK COMPLETED
Removing and Replacing a Hard Disk Drive
Removing and Replacing a Hard Disk Drive

15 TO 25 MINUTES

Before You Begin

HP recommends using a magnetic-tipped screwdriver. A flathead screwdriver can be used with the screw seen here.

TOOLS NEEDED:
- Flathead screwdriver

CAUTION: This product contains components that are easily damaged by electrostatic discharge (ESD). To reduce the chance of ESD damage, work over a non-carpeted floor, use a static dissipative work surface (like a conductive foam pad), and wear an ESD wrist strap that is connected to a grounded surface, like the metal computer frame.

WARNING: Keep your hands away from the moving fan. Keep fingers and tools clear of the fan when power is applied. Never open the cover with the power cord attached or power applied. You may damage your computer or be injured from the spinning fan blades.

WARNING: Avoid touching sharp edges inside the computer.

CAUTION: A hard disk drive is not like other removable parts. It is extremely sensitive to shock impact. Do not bang or drop it. Do not touch the circuit board. Static electricity can damage the drive.

1 Remove any discs from the CD/DVD drives (A), personal media drive (B), or pocket media drives (C).

2 Turn off the computer.

3 Unplug the computer.

4 Remove everything attached to the front and back of the computer, including the keyboard, mouse, Ethernet cable, memory cards, USB drives, and monitor.

5 Ground yourself (read the caution statement at the beginning of this procedure).
Removing the Side Cover

**WARNING:** Before opening the computer cover, allow the internal system components to cool before touching.

6 Use a screwdriver to remove the two shipping screws (D) on the back cover, if they have not been removed already. These screws are for shipping only.

7 Pull the handle (E) on the side panel, and slide the side cover toward the rear (about 1 inch (2.54 cm)) until it falls open. Set the cover aside.

Removing the Hard Disk Drive

Your computer includes one or more hard disk drives.

The original hard disk drive is preloaded with the computer system recovery partition. If you remove this hard disk drive, store it in a properly sealed antistatic bag.

**CAUTION:** Before you remove the hard disk drive, back up your personal files to an external storage device, such as a DVD, CD, or USB drive. This may not be possible if the drive has been damaged.

After you replace the hard disk drive, perform the System Recovery procedure. Use the recovery discs to load the factory-installed files. Refer to the Troubleshooting and Maintenance Guide for detailed System Recovery steps.
8 Locate the hard disk drive in its green plastic carrier.

9 Press down on the latches (A) on the top of the cables before you disconnect them.

10 Using your thumb, squeeze the tab on the green hard drive carrier (1) and pull the hard drive out of the bay (2).

CAUTION: Pull the connectors straight out so as not to bend or damage the pins or connector.
11 Remove the hard drive from its flexible carrier by twisting one of the carrier ends outward (circled) until it peels away from the drive. (The hard drive carrier has pins that hold the drive in place.)

12 Place the hard drive into its carrier by aligning the four pins and holes, first on one side, and then on the other. Ensure the drive is oriented correctly, so the cable connectors are toward the green handle.

Replacing the Hard Disk Drive

During this procedure, handle the hard disk drive gently. It is sensitive to shock impact and easily damaged. Do not drop or bang it. Do not touch the circuit board.
13 Now that the hard drive is in its carrier, align the carrier with the correct bay. Slide the carrier all the way back until it is seated and it clicks into place.

14 Reconnect the power and data cables. Aim connections straight into the ports so as not to bend or damage pins. The cable release tabs face upward.

The cables click into place. Never force the connection; they should connect easily.

Replacing the Side Cover

In this procedure, start by positioning the side panel on the computer frame so that you still need to slide it forward about 1 inch (2.54 cm) toward the front of the computer.

15 Place the lower edge of the panel onto the computer frame at an angle, as shown.

Tabs on the lower part of the side panel fit into grooves on the frame, and lock into place as the door slides forward and shuts.

16 With the panel tabs aligned in the computer slots, move the rest of the panel toward the computer frame until it shuts.
Removing and Replacing a Hard Disk Drive (continued)

17 Slide the side panel toward the front of the computer until it snaps closed with a click.

After Replacing the Cover
To avoid injury and equipment damage, always follow this procedure in this order after closing the computer:

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the Ethernet network interface connector.

18 Reconnect the modem/telephone cable and all other attached cables, such as the keyboard, mouse, Ethernet, and monitor cables.

19 Reconnect external devices, such as a printer.

20 Reconnect the power cord.

21 Turn on the computer and all peripherals, such as the monitor.

TASK COMPLETED
Removing and Replacing a Graphics or Add-in Card
Removing and Replacing a Graphics or Add-in Card

20 TO 30 MINUTES

Before You Begin

HP recommends using a magnetic-tipped screwdriver. A flathead screwdriver can be used with the screw seen here.

CAUTION: This product contains components that are easily damaged by electrostatic discharge (ESD). To reduce the chance of ESD damage, work over a non-carpeted floor, use a static dissipative work surface (like a conductive foam pad), and wear an ESD wrist strap that is connected to a grounded surface, like the metal frame of the computer.

WARNING: Keep your hands away from the moving fan. Keep fingers and tools clear of the fan when power is applied. Never open the cover with the power cord attached or power applied. You may damage your computer or be injured from the spinning fan blades.

WARNING: Avoid touching sharp edges inside the computer.

TOOLS NEEDED:
- Flathead screwdriver
- Phillips screwdriver

1 Remove any discs from the CD/DVD drives (A), personal media drive (B), or pocket media drives (C).

2 Turn off the computer.

3 Unplug the computer.

4 Remove everything attached to the front and back of the computer, including the keyboard, mouse, Ethernet cable, memory cards, USB drives, and monitor.

5 Ground yourself (read the caution statement at the beginning of this procedure).
Removing and Replacing a Graphics or Add-in Card (continued)

Removing the Side Cover

**WARNING:** Before opening the computer cover, allow the internal system components to cool before touching.

6 Use a screwdriver to remove the two shipping screws (D) on the back cover, if they have not been removed already.

   These screws are for shipping only.

7 Pull the handle (E) on the side panel, and slide the side cover toward the rear (about 1 inch (2.54 cm)) until it falls open. Set the cover aside.

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Removing a Graphics Card

If you are removing an add-in card, skip to “Removing an Add-in Card” on page 4.

8 Inside the computer, locate the graphics card to be replaced.

9 Make a note of any internal cables attached to the card, before you disconnect them. Note the location and orientation of cables; they will be replaced in the same location and orientation.

10 Disconnect the cables.

   You may have to pull out the card first to get access to the cables, and then disconnect them. In this case, follow the next steps to pull out the card.

   **CAUTION:** Familiarize yourself with how the cables disconnect. Some cables have metal tabs that have to be pressed to unlock the cable. Other cables have side tabs that need to be squeezed before you pull. Do not force a cable.
11 Remove the screw or screws that hold the card to the frame (1).

12 Unlock the card by releasing the latch connecting the card to the motherboard.

The latch may be hidden behind the card. The following illustration shows an example tab.

CAUTION: Take care with sharp edges around the graphics card slots.
13 Grasp the card at the top and carefully pull it straight out of the slot.

14 Remove the screw or screws that hold the card to the frame.

15 Make a note of any internal cables attached to the card, and then disconnect them.

16 Hold the top of the card, and carefully pull it straight out of the card slot.

WARNING: Handle the graphics card by its edges only. Be careful to not touch any memory module contacts. Touching the gold contacts may damage the module. Avoid touching the memory chips.

To replace a graphics card, skip to “Replacing a Graphics or Add-in Card” on page 5.
Removing and Replacing a Graphics or Add-in Card (continued)

Replacing a Graphics or Add-in Card

17 Align the card tab (A) with the slot on the chassis (B), and gently but firmly press the card straight down into the card slot. The whole card should be properly seated in the slot.

With the graphics card, the locking tab will click as the card seats properly.

18 Replace the screw on the add-in card slot.

19 Replace all cables in the same location and orientation in which they were removed.

Replacing the Side Cover

In this procedure, start by positioning the side panel on the computer frame so that you still need to slide it forward about 1 inch (2.54 cm) toward the front of the computer.

20 Place the lower edge of the panel onto the computer frame at an angle, as shown.

Tabs on the lower part of the side panel fit into grooves on the frame, and lock into place as the door slides forward and shuts.

21 With the panel tabs aligned in the computer slots, move the rest of the panel toward the computer frame until it shuts.
Removing and Replacing a Graphics or Add-in Card (continued)

22 Slide the side panel toward the front of the computer until it snaps closed with a click.

After Replacing the Cover

To avoid injury and equipment damage, always follow this procedure in this order after closing the computer:

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**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the Ethernet network interface connector.

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23 Reconnect the modem/telephone cable and all other attached cables, such as the keyboard, mouse, Ethernet, and monitor cables.

24 Reconnect external devices, such as a printer.

25 Reconnect the power cord.

26 Turn on the computer and all peripherals, such as the monitor.

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**TASK COMPLETED**
Removing and Replacing the Fan
Removing and Replacing the Fan

20 TO 30 MINUTES

Before You Begin

HP recommends using a magnetic-tipped screwdriver. A flathead screwdriver can be used with the screw seen here.

CAUTION: This product contains components that are easily damaged by electrostatic discharge (ESD). To reduce the chance of ESD damage, work over a non-carpeted floor, use a static dissipative work surface (like a conductive foam pad), and wear an ESD wrist strap that is connected to a grounded surface, like the metal frame of the computer.

TOOLS NEEDED:
- Flathead screwdriver
- Phillips screwdriver

WARNING: Keep your hands away from the moving fan. Keep fingers and tools clear of the fan when power is applied. Never open the cover with the power cord attached or power applied. You may damage your computer or be injured from the spinning fan blades.

WARNING: Avoid touching sharp edges inside the computer.
Removing and Replacing the Fan (continued)

1 Remove any discs from the CD/DVD drives (A), personal media drive (B), or pocket media drives (C).

2 Turn off the computer.

3 Unplug the computer.

4 Remove everything attached to the front and back of the computer, including the keyboard, mouse, Ethernet cable, memory cards, USB drives, and monitor.

5 Ground yourself (read the caution statement at the beginning of this procedure).

Removing the Side Cover

WARNING: Before opening the computer cover, allow the internal system components to cool before touching.

6 Use a screwdriver to remove the two shipping screws (D) on the back cover, if they have not been removed already.

These screws are for shipping only.
Removing and Replacing the Fan (continued)

7 Pull the handle (E) on the side panel, and slide the side cover toward the rear (about 1 inch (2.54 cm)) until it falls open. Set the cover aside.

Removing the Fan
Only one of the fans is replaceable within the chassis.

8 Locate the replaceable fan in its carriage.
9 Remove the four screws that attach the fan carriage to the back of the computer.

10 Pull the fan in its carriage carefully to the side to access the fan cable, and disconnect the cable from the motherboard by pulling up on the cable connector.

   Take note exactly where the connector attaches to the computer. You will need to reconnect it at this same location.

11 Slide the fan and its carrier out of the computer.

12 Two small tabs (A) hold the fan in the carriage; pry the tabs up to slide out the fan.
Removing and Replacing the Fan (continued)

Replacing the Fan

13 Slide the fan back into the carrier.

14 Connect the fan cable to the motherboard in the same orientation in which it was connected before.

15 Place the fan carriage in place in the chassis, and align the four screw holes.

16 Replace the four fan screws.

Replacing the Side Cover

In this procedure, start by positioning the side panel on the computer frame so that you still need to slide it forward about 1 inch (2.54 cm) toward the front of the computer.

17 Place the lower edge of the panel onto the computer frame at an angle, as shown.

   Tabs on the lower part of the side panel fit into grooves on the frame, and lock into place as the door slides forward and shuts.

18 With the panel tabs aligned in the computer slots, move the rest of the panel toward the computer frame until it shuts.

19 Slide the side panel toward the front of the computer until it snaps closed with a click.
Removing and Replacing the Fan (continued)

After Replacing the Cover
To avoid injury and equipment damage, always follow this procedure in this order after closing the computer:

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**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the Ethernet network interface connector.

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20 Reconnect the modem/telephone cable and all other attached cables, such as the keyboard, mouse, Ethernet, and monitor cables.

21 Reconnect external devices, such as a printer.

22 Reconnect the power cord.

23 Turn on the computer and all peripherals, such as the monitor.

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**TASK COMPLETED**
Removing and Replacing the Front Bezel
Removing and Replacing the Front Bezel

15 TO 25 MINUTES

TOOLS NEEDED:
- Flathead screwdriver
- Phillips screwdriver

Before You Begin

Tools Needed:
- Flathead screwdriver

HP recommends using a magnetic-tipped screwdriver. A flathead screwdriver can be used with the screw seen here.

CAUTION: This product contains components that are easily damaged by electrostatic discharge (ESD). To reduce the chance of ESD damage, work over a non-carpeted floor, use a static dissipative work surface (like a conductive foam pad), and wear an ESD wrist strap that is connected to a grounded surface, like the metal frame of the computer.

WARNING: Keep your hands away from the moving fan. Keep fingers and tools clear of the fan when power is applied. Never open the cover with the power cord attached or power applied. You may damage your computer or be injured from the spinning fan blades.

WARNING: Avoid touching sharp edges inside the computer.

1 Remove any discs from the CD/DVD drives (A), personal media drive (B), or pocket media drives (C).

2 Turn off the computer.

3 Unplug the computer.

4 Remove everything attached to the front and back of the computer, including the keyboard, mouse, Ethernet cable, memory cards, USB drives, and monitor.

5 Ground yourself (read the caution statement at the beginning of this procedure).
Remove Side Cover

6 Use a screwdriver to remove the two shipping screws (D) on the back cover, if they have not been removed already.

These screws are for shipping only.

7 Pull the handle (E) on the side panel, and slide the side cover toward the rear (only about 1 inch (2.54 cm)) until it falls open. Set the cover aside.

WARNING: Before opening the computer cover, allow the internal system components to cool before touching.
Removing and Replacing the Front Bezel (continued)

8 From the inside of the chassis, pull each tab toward you to release the three tabs (2) forward through the slots (1).

Releasing two tabs at once, and then the third works best.
Removing and Replacing the Front Bezel (continued)

9 Swing open the front bezel, and lift it off the chassis.
Replacing the Front Bezel

10 Align the hooks on the right side of the front panel with the slots on the right side of the chassis front, and press the right side of the front panel into place.

11 Swing the front panel closed, and then press the left side of the front panel to latch it into place.

Replace the Side Cover

In this procedure, start by positioning the side panel on the computer frame so that you still need to slide it forward about 1 inch (2.54 cm) toward the front of the computer.

12 Place the lower edge of the panel onto the computer frame at an angle, as shown.

Tabs on the lower part of the side panel fit into grooves on the frame, and lock into place as the door slides forward and shuts.

13 With the panel tabs aligned in the computer slots, move the rest of the panel toward the computer frame until it shuts.
Removing and Replacing the Front Bezel (continued)

14 Slide the side panel toward the front of the computer until it snaps closed with a click.

After Replacing the Cover

To avoid injury and equipment damage, always follow this procedure in this order after closing the computer:

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**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the Ethernet network interface connector.

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15 Reconnect the modem/telephone cable and all other attached cables, such as the keyboard, mouse, Ethernet, and monitor cables.

16 Reconnect external devices, such as a printer.

17 Reconnect the power cord.

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**TASK COMPLETED**