Intel® Server System P4000GP Family Quick Installation User's Guide

Thank you for buying an Intel® Server System. The following information will help you assemble your Intel® Server System and install components.

If you are not familiar with ESD [Electrostatic Discharge] procedures used during system integration, see the complete ESD procedures described in your *Service Guide*.

This guide and other supporting documents are located on the web at: http://www.intel.com/support.

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Warning

Read all caution and safety statements in this document before performing any of the instructions. Also see the *Intel® Server Board and Server Chassis Safety Information* document at: http://www.intel.com/support/motherboards/server/sb/cs-010770.htm for complete safety information.

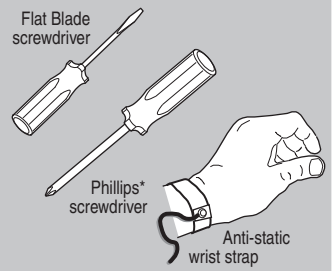
Warning

Installation and service of this product to be performed only by qualified service personnel to avoid risk of injury from electrical shock or energy hazard.

Caution

Observe normal ESD [Electrostatic Discharge] procedures during system integration to avoid possible damage to server board and/or other components.

Tools Required



Intel® Server System P4000GP Family Product Configuration

Intel® Server System	System Fan			Hard Drive		Power Supply		
	Five Hot Swap System Fans (80 x 38 mm)	One Fixed PCI Zone Fan (120 x 38 mm)	One Fixed CPU Zone Fan (120 x 38 mm)	4 x 3.5" Hot Swap	8 x 3.5" Hot Swap	Two Hot Swap 460W	Two Hot Swap 750W	Two Hot Swap 1200W
P4304GP2MHDR		■	■	■		■		
P4308GP2MHGC	■				■		■	
P4308GP2MHJC	■				■			■

■ = Configuration Feature

Thermal Operation and Configuration Requirements

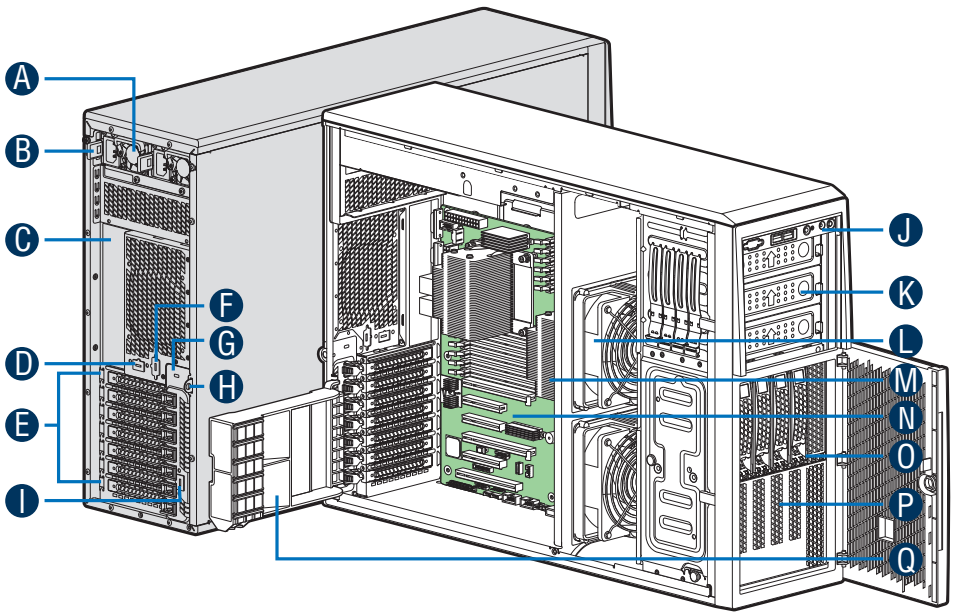
To keep the system operating within supported maximum thermal limits, the system must meet the following operating and configuration guidelines:

- Ambient in-let temperature cannot exceed 35° C and should not remain at this maximum level for long periods of time. Doing so may affect long term reliability of the system.
- The CPU-1 processor and CPU heatsink must be installed.
- DIMM Population on CPU-1: Install DIMMs in order; Channels A, B, and C. Start with 1st DIMM slot (blue) on each channel.
- DIMM Population on CPU-2: Install DIMMs in order; Channels D, E, and F. Start with 1st DIMM slot (blue) on each channel.
- All hard drive bays must be populated. Hard drive carriers either can be populated with a hard drive or supplied drive blank.
- The air duct must be installed at all times.
- In single power supply configurations, the second power supply bay must have the supplied filler blank installed at all times.
- The system top-cover must be installed at all times.

System Overview

Intel® Server System P4304GP2MHDR

System Features and Components

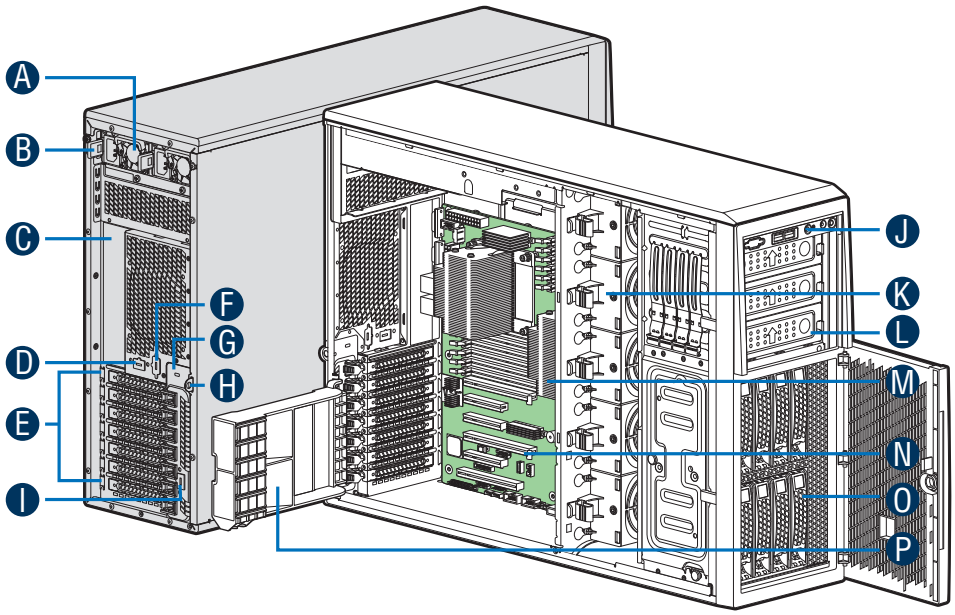


A 460-W Hot Swap Power Supply (Two)
B AC Input Power Connector (Two)
C I/O Ports
D Alternate RMM4 Knockout
E PCI Add-in Board Slot Covers
F Alternate Serial Port Knockout
G A Kensington* Cable Lock Mounting Hole
H Padlock Loop
I Alternate RMM4 Knockout
J Front Control Panel
K 5.25" Peripheral Bays
L Fixed System Fan
M Heatsink
N Server Board
O 4 x 3.5" Hot-swap HDD Cage
P EMI Filler
Q PCI retainer

NOTE: Airduct is not shown.

Intel® Server System P4308GP2MHGC

System Features and Components



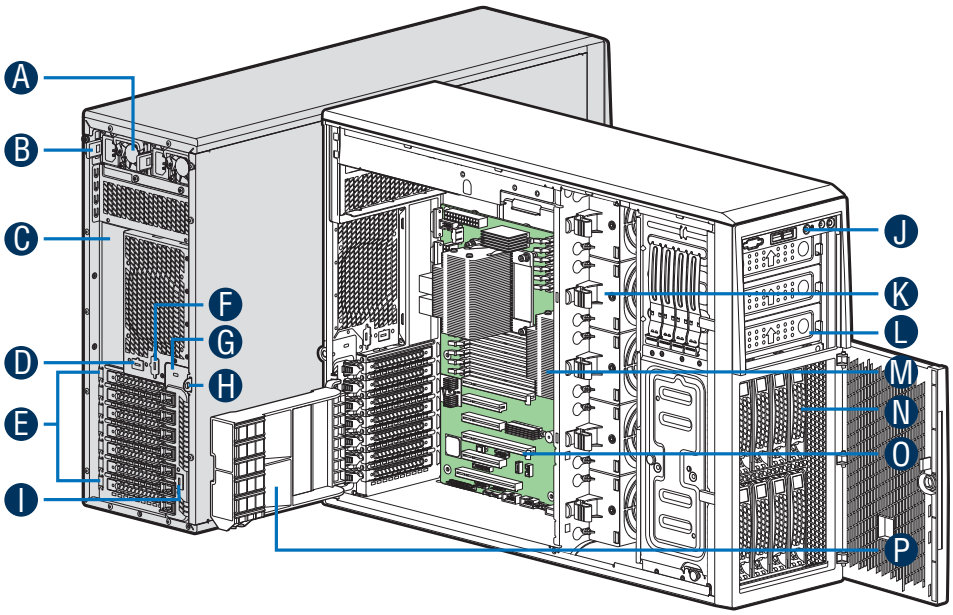
A 750-W Hot Swap Power Supply (Two)
B AC Input Power Connector (Two)
C I/O Ports
D Alternate RMM4 Knockout
E PCI Add-in Board Slot Covers
F Alternate Serial Port Knockout
G A Kensington* Cable Lock Mounting Hole
H Padlock Loop
I Alternate RMM4 Knockout
J Front Control Panel
K Hot-swap System Fan
L 5.25" Peripheral Bays
M Heatsink
N Server Board
O 8 x 3.5" Hot-swap HDD Cage
P PCI retainer

NOTE: Airduct is not shown.

System Overview

Intel® Server System P4308GP2MHJC

System Features and Components



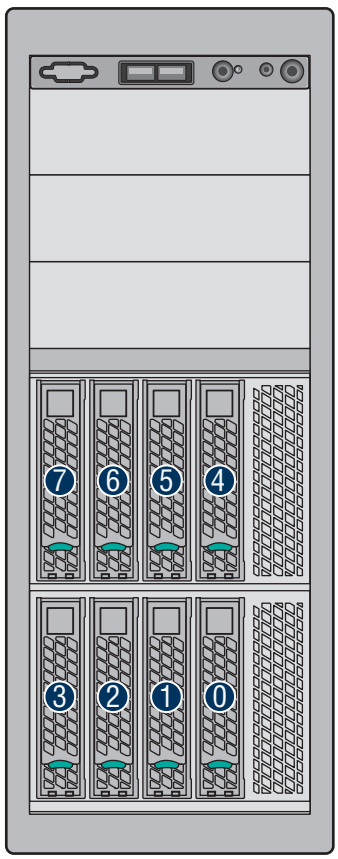
- A 1200-W Hot Swap Power Supply (Two)
- B AC Input Power Connector (Two)
- C I/O Ports
- D Alternate RMM4 Knockout
- E PCI Add-in Board Slot Covers
- F Alternate Serial Port Knockout
- G A Kensington* Cable Lock Mounting Hole
- H Padlock Loop
- I Alternate RMM4 Knockout
- J Front Control Panel
- K Hot-swap System Fan
- L 5.25" Peripheral Bays
- M Heatsink
- N 8 x 3.5" Hot-swap HDD Cage
- O Server Board
- P PCI retainer

NOTE: Airduct is not shown.

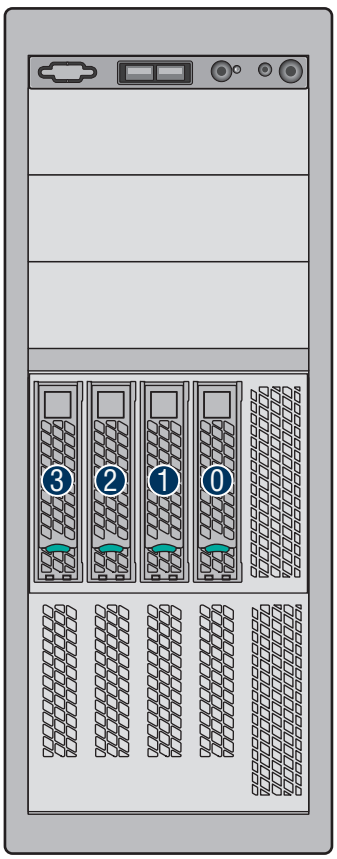
Hot Swap Hard Drive Bay Options and HDD Numbering

- A 8 x 3.5" Hot-Swap Drive Cage
- B 4 x 3.5" Hot-Swap Drive Cage

A



B



General Installation Process

The installation instructions in this section are for general components of Intel® Server System P4000MCP family, but the illustrations are based on the Intel® Server System P4304GP2MHDR.

Minimum Hardware Requirements

To avoid integration difficulties and possible damage to your system, make sure you have components from each category below.

- *Processor*
- *Heat Sink*
- *Memory*
- *Hard Disk Drives*
- *Power*
- *Air Duct*

1 Preparing the System

Observe normal ESD (Electrostatic Discharge) procedures.

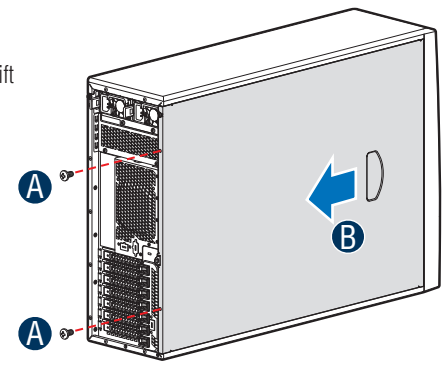
Place your Intel® Server System on a flat anti-static surface to perform the following integration procedures. Observe ESD procedures before reaching inside to make server board connections or install components.

2 Remove the Side Cover

A Remove the screws.

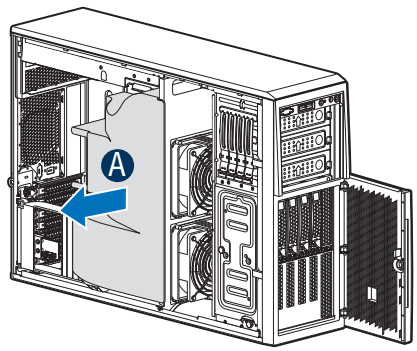
B Slide the side cover back and lift the cover outward to remove it.

Note:
A non-skid surface or a stop behind the chassis may be needed to prevent the chassis from sliding on your work surface.



3 Remove the Air Duct

A Remove the air duct.



4 Remove Processor Heatsink(s)

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. *Use gloves to avoid sharp edges.*

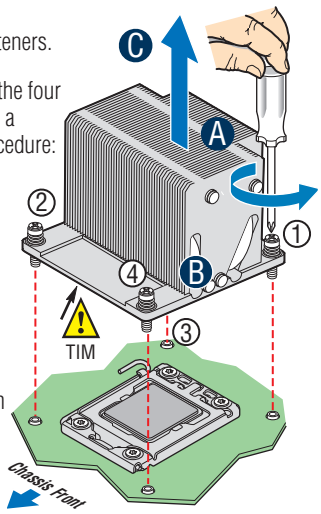
The heatsink is attached to the server board / processor socket with captive fasteners.

Using a #2 Phillips* screwdriver, loosen the four screws located on the heatsink corners in a diagonal manner using the following procedure:

A Using a #2 Phillips* screwdriver, start with screw 1 and loosen it by giving it two rotations and stop. (IMPORTANT: Do not fully loosen.)

B Proceed to screw 2 and loosen it by giving it two rotations and stop. Similarly, loosen screws 3 and 4. Repeat steps A and B by giving each screw two rotations each time until all screws are loosened.

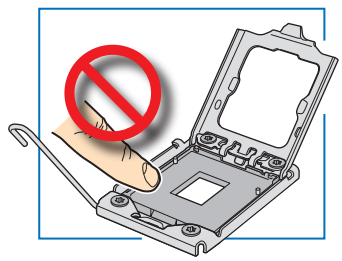
C Lift the heatsink straight up.

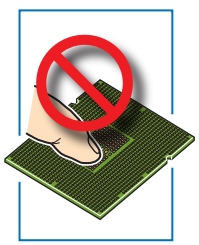


5 Install the Processor(s)

Cautions:

1. When opening a socket, DO NOT TOUCH the gold socket wires.



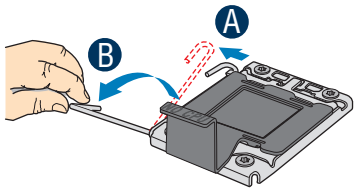


2. When unpacking a processor, hold by the edges only to avoid touching the gold contact wires.

A. Open the Socket Lever

A Push the lever handle down and away from the socket to release it.

B Rotate the lever open all the way.

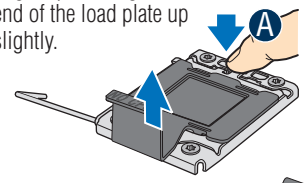


General Installation Process

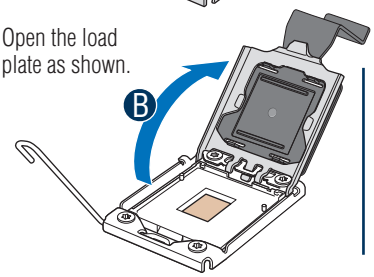
Install the Processor(s) ... *continued*

B. Open the Load Plate

A Push the rear tab with your finger tip to bring the front end of the load plate up slightly.



B Open the load plate as shown.

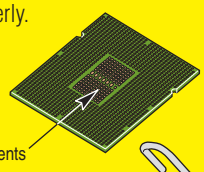


C. Remove the Processor Protective Cover

A Take the processor out of the box and remove the protective shipping cover.

D. Install the Processor

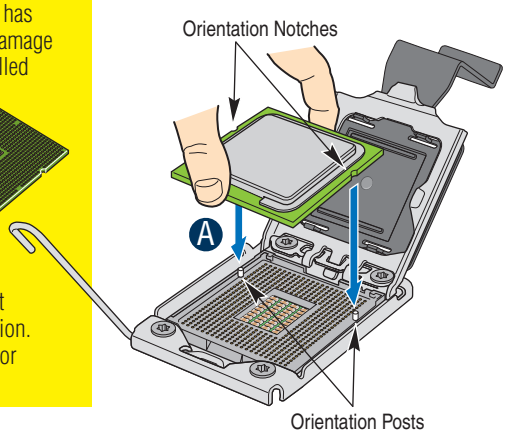
⚠ CAUTION: The underside of the processor has components that may damage the socket wires if installed improperly.



Processor must align correctly with the socket opening before installation. DO NOT DROP processor into the socket!

A Orient the processor with the socket so that the orientation notches on the processor align with the two orientation posts on the socket.

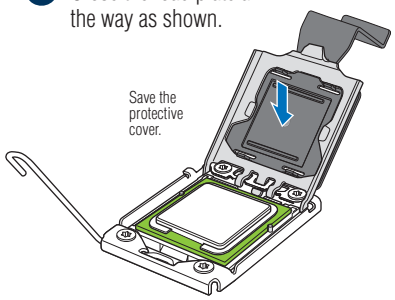
Install the processor as shown.



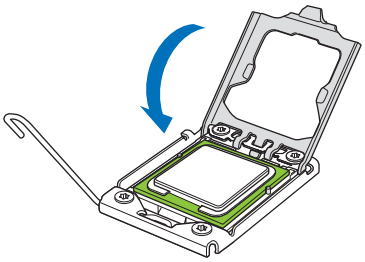
Install the Processor(s) ... *continued*

E. Close Load Plate and Socket Lever

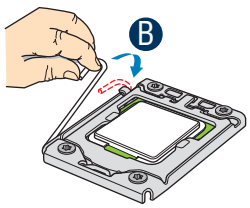
A Close the load plate all the way as shown.



B With your finger, push down on the load plate as shown.



C Close the socket lever and ensure that the load plate tab engages under the socket lever when fully closed.



6 Install Heat Sink(s)

A Get heat sink from the shipping position.

B Remove the protective film on the TIM if present.

C Align heat sink fins to the front and back of the chassis for correct airflow.
Airflow goes from front-to-back of chassis.

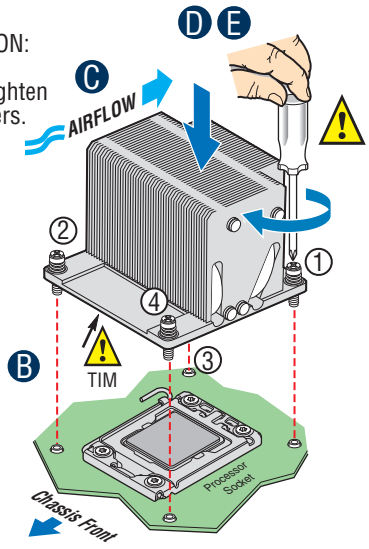
The heat sink has four captive fasteners and should be tightened using the following procedure:

D Using a #2 Phillips* screwdriver, finger-tighten each fastener diagonally, according to the numbers shown.

E Securely re-tighten each fastener again in the same order as performed in Step E.

⚠ CAUTION: The heat sink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. *Use gloves to avoid sharp edges.*

⚠ CAUTION: Do not over-tighten fasteners.



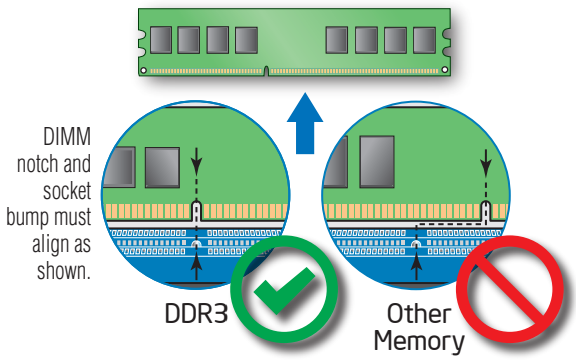
General Installation Process

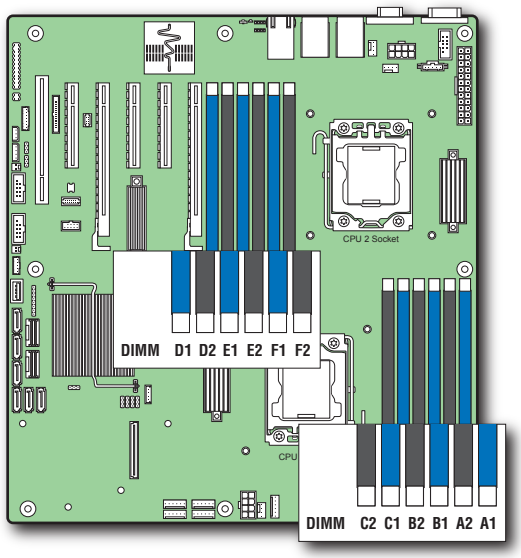
7 Install DIMM Memory Modules

DDR3 DIMM Memory Identification:

CAUTION: Observe normal ESD (ElectroStatic Discharge) procedures to avoid possible damage to system components.

This server board supports up to 12 DDR3 800/1066/1333/1600 ECC UDIMM/RDIMM/LRDIMM.





Memory Type: Minimum of one 1 GB, DDR3 800/1066/1333/1600 MHz ECC UDIMM/RDIMM/LRDIMM.

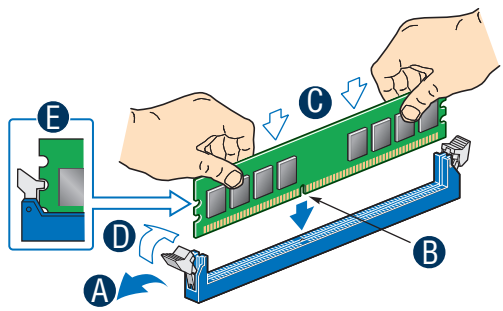
Memory sizing and configuration is supported only for qualified DIMMs approved by Intel. For a list of supported memory, see the tested memory list at http://serverconfigurator.intel.com/default.aspx

Install DIMM Memory Modules ... *Continued*

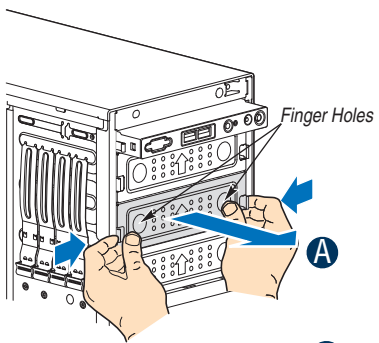
To Install DIMMs:

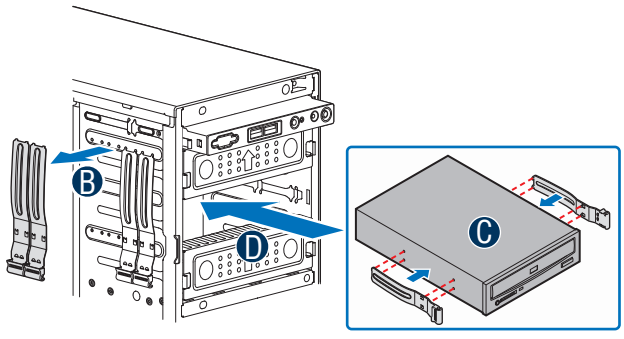
CAUTION: Avoid touching contacts when handling or installing DIMMs.

- **A** Open both DIMM socket levers.
- **B** Note location of alignment notch.
- **C** Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.
- **D** Push down firmly on the DIMM until it snaps into place and both levers close.
- **E** IMPORTANT! Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot.



8 Install Tool-less CD-ROM or DVD-ROM Drive





- **A** Press the release latch and use the finger holes to Pull out the EMI shield.
- **B** Get the slides from the chassis side.
- **C** Attach slides to the DVD or CD-ROM drive by pressing the slides firmly into the side dimples on the DVD or CD-ROM drive.
- **D** Insert the drive/slide assembly into the device bay until the slides lock into place.