

Intel® SC5100 and SC5200 Rack Kit Installation Guide

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Safety Guidelines

Before you remove a server cover, observe these safety guidelines:

- Only technically qualified personnel should integrate the server.
- Turn off all peripheral devices connected to the server.
- Turn off the server using the push-button on/off power switch on the front panel of the server, and unplug the AC power cord from the power supply or wall outlet.
- Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
- Provide some electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to chassis ground of the server—any unpainted metal surface—when handling components.

Server Precautions

WARNINGS

SERVER POWER ON/OFF: The push-button on/off power switch on the front panel of the server does not turn off the AC power. To remove AC power from the server, you must unplug the AC power cord from either the power supply or wall outlet.

HAZARDOUS CONDITIONS—POWER SUPPLY: Hazardous voltage, current, and energy levels are present inside the power supply enclosure. There are no user-serviceable parts inside it; servicing should only be done by technically qualified personnel.

HAZARDOUS CONDITIONS—DEVICES AND CABLES: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect telecommunications systems, networks, modems, and the power cord attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

AVOID INJURY: To avoid personal injury when unpacking the server, use only a mechanical assist unit to lift it off the shipping pallet.

Use only a hand-truck or other mechanical assist unit to move the server from one location to another.



CAUTIONS

ELECTROSTATIC DISCHARGE (ESD) AND ESD PROTECTION: ESD can damage disk drives, add-in boards, and other components. This server can withstand normal levels of environmental ESD while hot-swapping SCSI hard disk drives. However, we recommend doing all procedures in this manual only at an ESD-protected workstation. If one is not available, you can provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground of the server—any unpainted metal surface—when handling components.

HANDLING BOARDS AND MODULES: Boards and modules can be extremely sensitive to ESD and always require careful handling. After removing a board or module from its protective wrapper or from the server, place it component-side up on a nonconductive, static-free surface. If you place the baseboard on a conductive surface, the battery leads can short out. If they do, this will result in a loss of CMOS data and will drain the battery. Do not slide a board or module over any surface.

SERVER COOLING AND AIRFLOW: Operating the server with the covers removed can damage the server components. For proper cooling and airflow, always replace the covers before turning on the server.

Equipment Rack Precautions



WARNINGS

ANCHOR THE EQUIPMENT RACK: The equipment rack must be anchored to an unmovable support to prevent it from falling over when one or more servers are extended in front of it on slide assemblies. The anchors must be able to withstand a force of up to 113 kg (250 lbs.). You must also consider the weight of any other device installed in the rack.

MAIN AC POWER DISCONNECT: You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the server(s).

GROUNDING THE RACK INSTALLATION: To avoid the potential for an electrical shock hazard, you must include a third wire safety grounding conductor with the rack installation. If server power cords are plugged into AC outlets that are part of the rack, then you must provide proper grounding for the rack itself. If server power cords are plugged into wall AC outlets, the safety grounding conductor in each power cord provides proper grounding only for the server. You must provide additional, proper grounding for the rack and other devices installed in it.

OVERCURRENT PROTECTION: The server is designed for an AC line voltage source with up to 20 amperes of overcurrent protection. If the power system for the equipment rack is installed on a branch circuit with more than 20 amperes of protection, you must provide supplemental protection for the server.



CAUTIONS

Temperature: The operating temperature of the server, when installed in an equipment rack, must not go below 5 °C (41 °F) or rise above 35 °C (95 °F). Extreme fluctuations in temperature can cause a variety of problems in your server.

Ventilation: The equipment rack must provide sufficient airflow to the front of the server to maintain proper cooling. Depending on the configuration of the server, it must also include ventilation sufficient to exhaust between 1750 BTU's and 3000 BTU's per hour. The rack selected and the ventilation provided must be suitable to the environment in which the server will be used.

Rack Installation Procedures

This manual describes the procedure to convert an Intel® SC5100 or SC5200 server chassis from the pedestal configuration to the rack configuration.

In the following procedures, chassis directions (top, bottom, left, right) refer to a chassis in rack orientation when you are facing the front of the chassis. Observe the safety and ESD precautions at the beginning of this manual.

Kit Contents

- Two unpainted access covers (SC5100 and SC5200 Base use the access cover without a fan access door; SC5200 HSRP uses the access cover with a fan access door)
- One unpainted left side cover with rack mounting holes and one right side cover with rack mounting holes
- One unpainted bottom cover
- Rack bezel assembly
- Bag of mounting hardware
- This manual
- Rail kit
- Rack handles
- 5 ¼ bay reorientation bracket

NOTE

Your chassis is designed to be compatible with the EIA-310-d rack standard. Be sure to select a rack cabinet enclosure that is EIA-310-d compliant. For additional compatibility and rack cabinet selection information, see

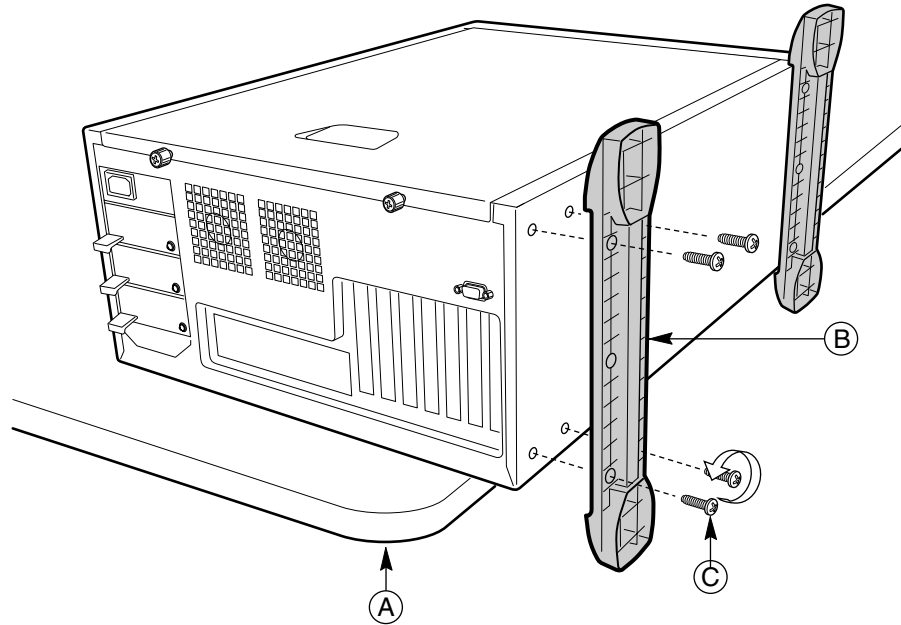
<http://support.intel.com/support/motherboards/server/chassis/sc5100>

or

<http://support.intel.com/support/motherboards/server/chassis/sc5200>

Remove Feet

1. Place the chassis on a workbench so the feet hang over the side.
2. Remove the four screws that attach the rear foot to the chassis and remove the foot.
3. Remove the four screws that hold the front foot to the chassis and remove the foot.



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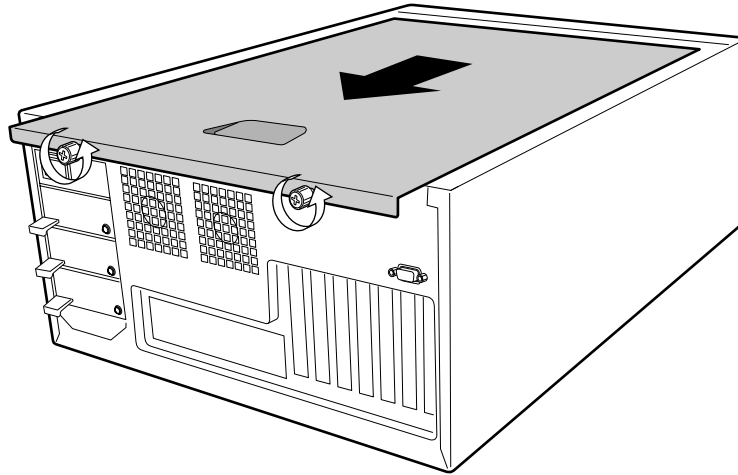
- A. Workbench
- B. Feet
- C. Screw

* Some chassis details shown may differ in your chassis.

Figure 1. Removing the Feet

Remove Top Cover

1. Loosen the two thumbscrews that attach the top cover to the chassis.
2. Slide the cover backward a short distance, until it stops.
3. Pull the entire cover outward, straight away from the chassis, to disengage the rows of tabs from the notches in the top and bottom edges of the chassis. Set the cover aside.



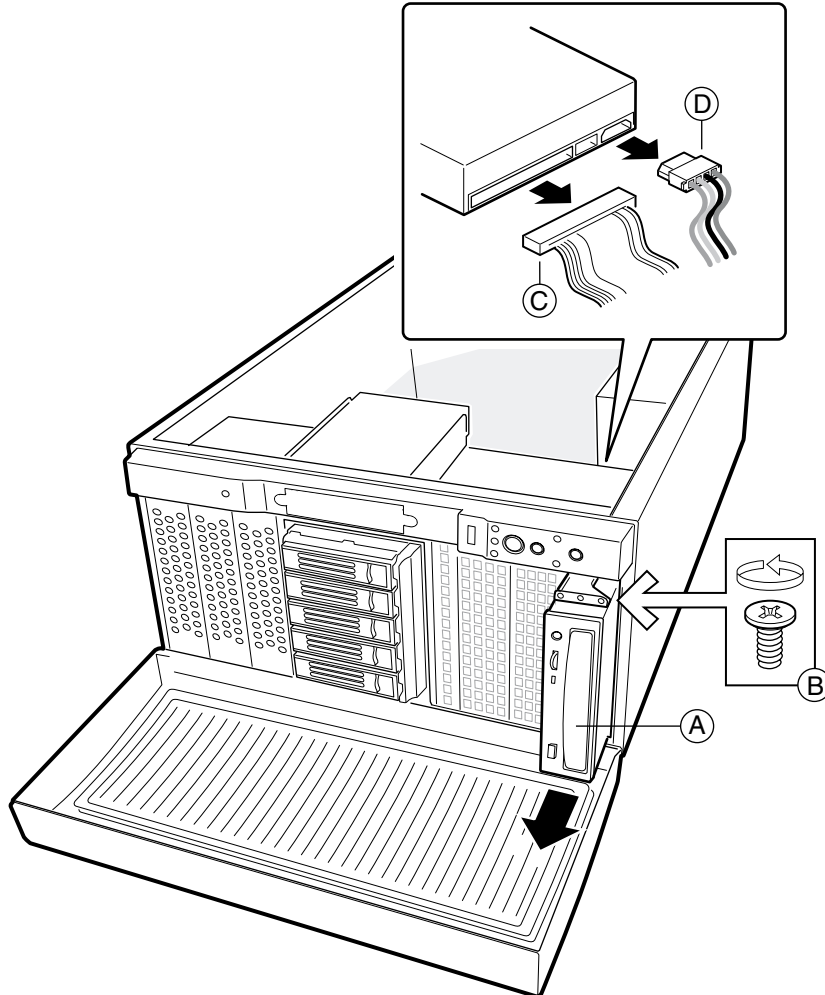
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* Some chassis details shown may differ in your chassis.

Figure 2. Removing the Cover

Remove 5 ¼-Inch Devices

1. Disconnect the data and power cables from the device.
2. Remove and save the two screws that hold the slide rails to the chassis.

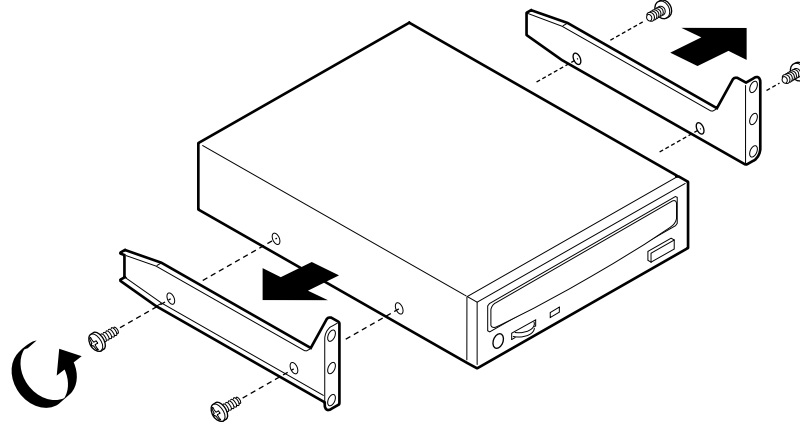


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- A. 5 ¼-inch device
- B. Screw
- C. Data cable
- D. Power cable

Figure 3. Removing a 5 ¼-Inch Device

3. Remove and save the screws that attach the slide rails to the device.

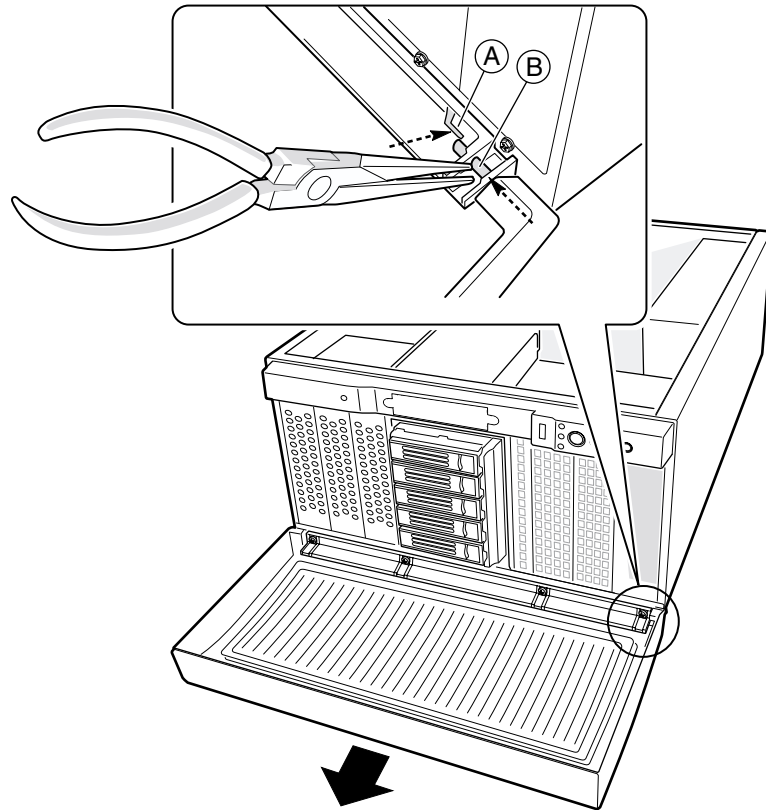


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Figure 4. Removing Slide Rails

Remove Door

1. Move the chassis so the door hangs over the edge of your workbench.
2. Open the door.
3. Press the plastic clip in towards the chassis.
4. Pull the hinge pin out with one hand while supporting the door with the other.
5. Slide the door to the left to remove it from the other hinge pin.
6. Remove the hinge pins and save for future use.

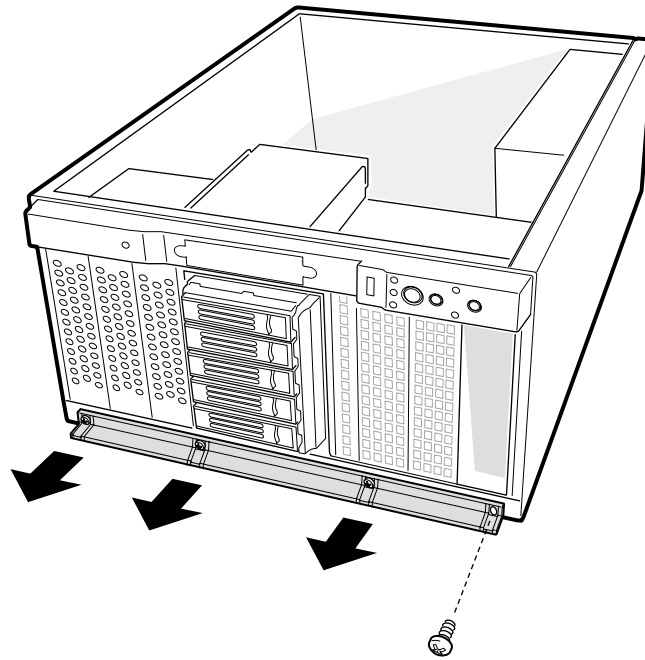


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- A. Plastic clip
- B. Hinge pin

Figure 5. Removing the Hinge Pins

7. Remove and save the four screws attaching the hinge plate to the chassis.
8. Remove the hinge plate.

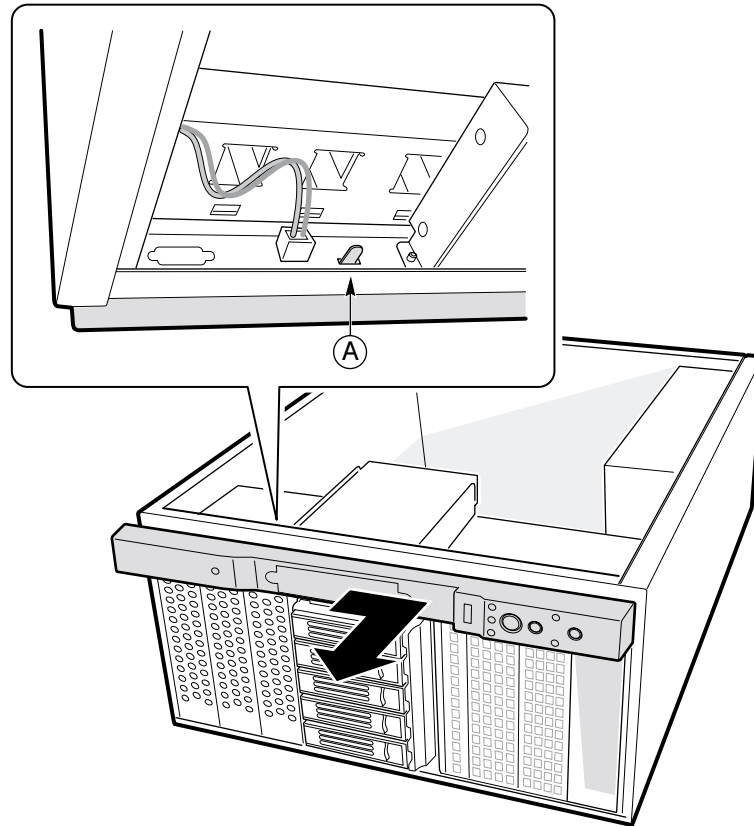


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Figure 6. Removing the Hinge Plate

Remove Bezel

1. Press the tab up.
2. Slide the bezel to the right.
3. Remove the bezel from the chassis.



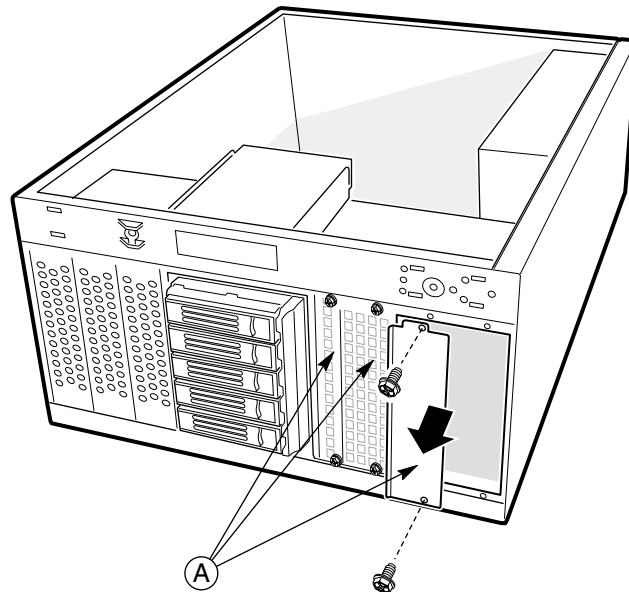
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A. Tab

Figure 7. Removing the Bezel

Remove EMI Covers

1. Remove and save the two screws that attach the EMI covers to the chassis.
2. Remove all of the EMI covers. There will be one thin cover and up to three wider covers. Do not remove any of the hard drive carriers.



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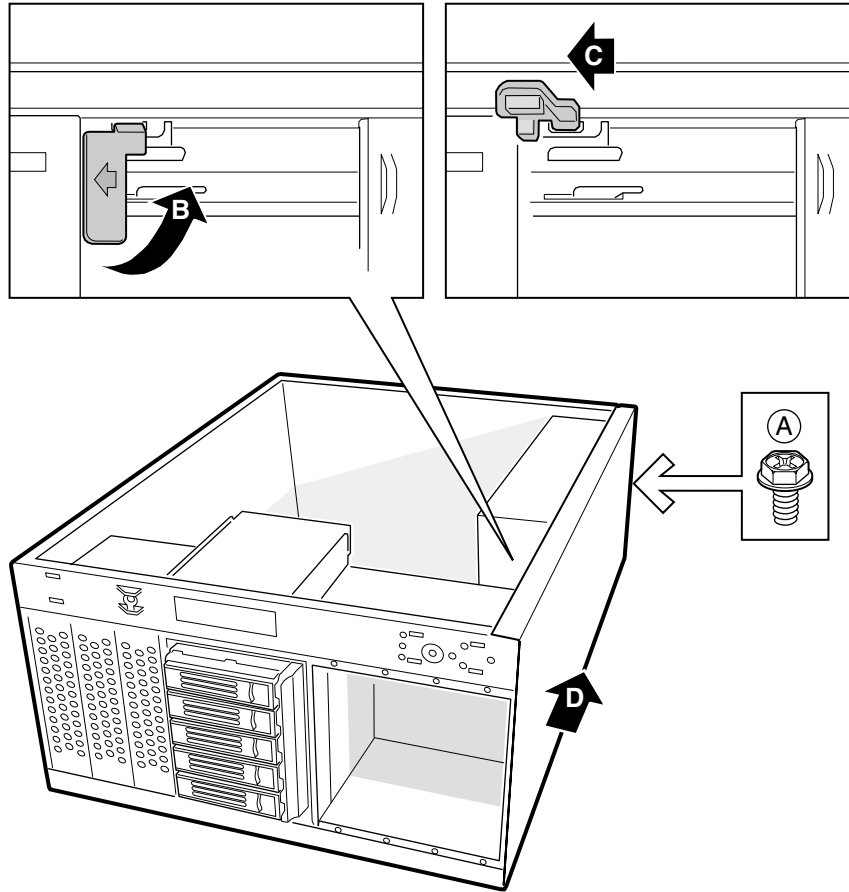
A. EMI covers

Figure 8. Removing the EMI Covers

Remove Side Covers

Remove the Right Side Cover

1. Remove and save the screw at the rear of the chassis.
2. Pull up on the black clip.
3. Remove and save the black clip.
4. Slide the cover backwards and remove it.



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- A. Screw
- B. Pull the clip up
- C. Remove the clip
- D. Slide the cover off

Figure 9. Removing the Right Side Cover

Remove the Plastic or Epac System Fan Holder

- For the SC5100 Chassis and the SC5200 Base Chassis: Remove the epac holding the system fans.
- For the SC5200 HSRP Chassis:
 1. Remove the plastic fan holder by removing the 3 retention screws that connect it to the baseplate.

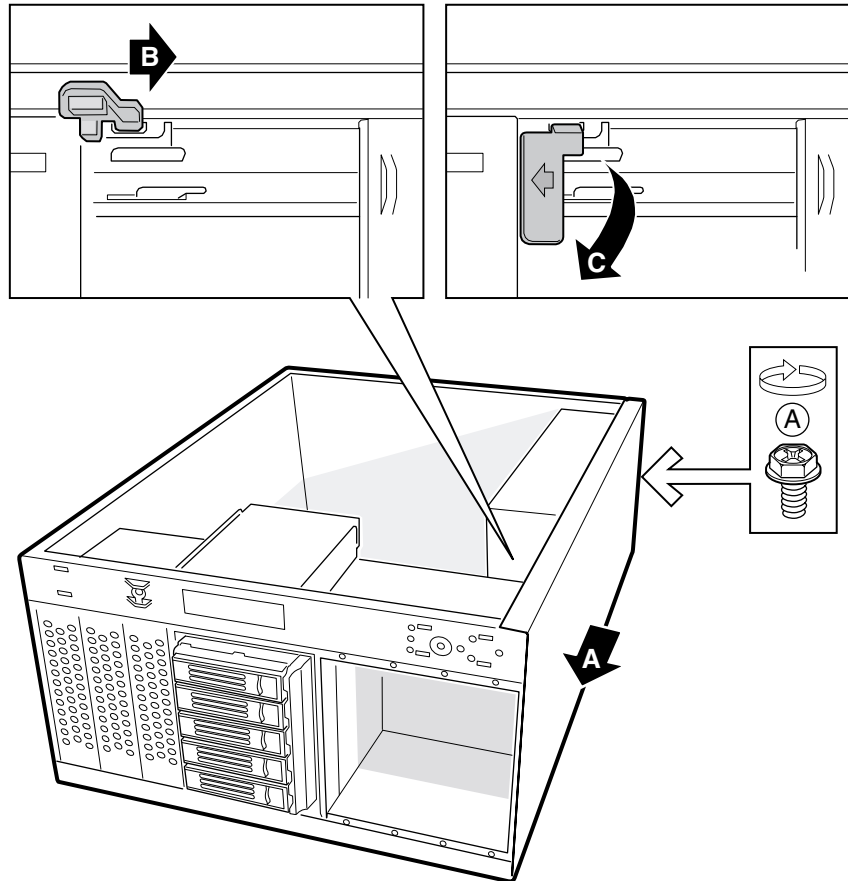
Remove the Right Side Cover

1. Remove and save the screw at the rear of the chassis.
2. Pull up on the black clip.
3. Remove and save the black clip.
4. Slide the cover backwards and remove it.

Install Side Covers

Install the Right Side Cover

1. Slide the new cover into position.
2. Insert the black clip.
3. Press the clip down.
4. Insert and tighten the screw you removed earlier.



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- A. Slide the cover on
- B. Install the clip
- C. Push the clip down

Figure 10. Installing the Right Side Cover

Install the Left Side Cover

1. Slide the new cover into position.
2. Insert the black clip.
3. Press the clip down.
4. Insert and tighten the screw you removed earlier.

Install the Epac or Plastic Fan Holder

- For the SC5100 Chassis and the SC5200 Base Chassis: Re-install the epac holding the system fans.
- For the SC5200 HSRP Chassis: Re-install the plastic fan holder by re-installing it in the system and tightening the 3 retention screws that connect it to the baseplate.

Remove the Bottom Cover

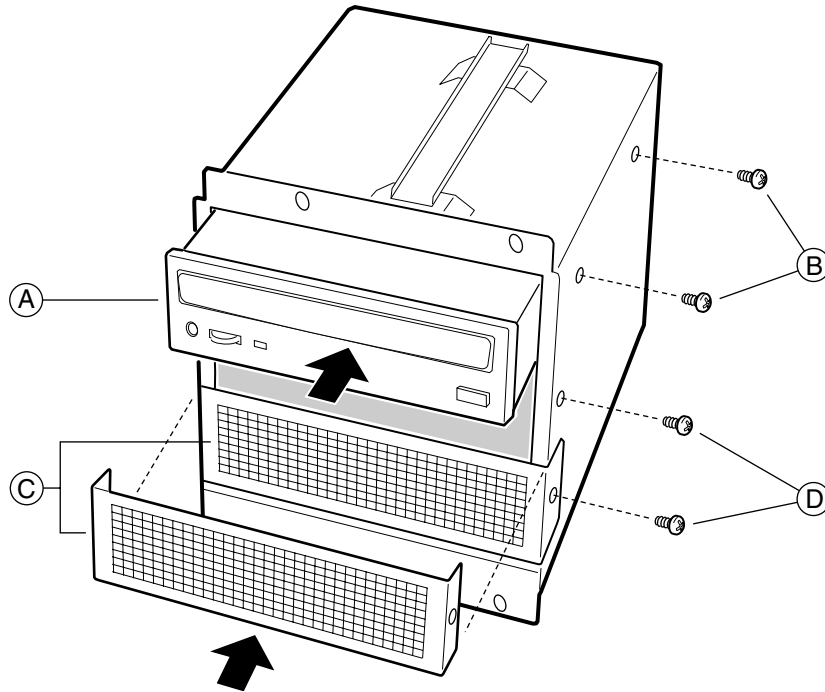
1. Remove and save the two screws that attach the top cover to the chassis.
2. Slide the cover backward a short distance, until it stops.
3. Pull the entire cover outward, straight away from the chassis, to disengage the rows of tabs from the notches in the top and bottom edges of the chassis. Set the cover aside.

Install the Bottom Cover

1. Place the new cover so the tabs go into the slots on the server. The cover should be flush against the chassis.
2. Slid the cover forward until it stops.
3. Tighten the two screws into the rear of the chassis.

Install 5 ¼-Inch Devices into the Reorientation Bracket

1. Remove the two screws that hold the EMI shield in place.
2. Remove the EMI shield.
3. Slide the device into the bracket.
4. Insert and tighten the four screws removed when you removed the slide rails.



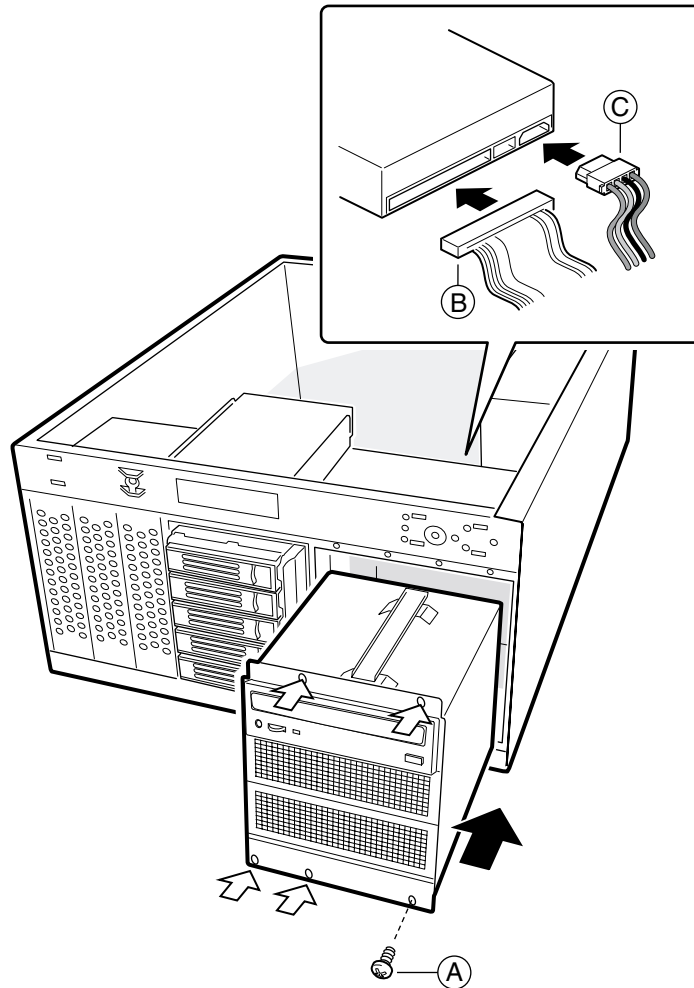
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- A. 5 ¼-inch device
- B. Screws that hold the device
- C. EMI shields
- D. Screws that hold the EMI shields

Figure 11. Installing 5 ¼-Inch Devices

Install the 5 ¼-Inch Reorientation Bracket

1. Slide the bracket into the chassis.
2. Insert and tighten five screws.
3. Connect data and power cables to the devices.



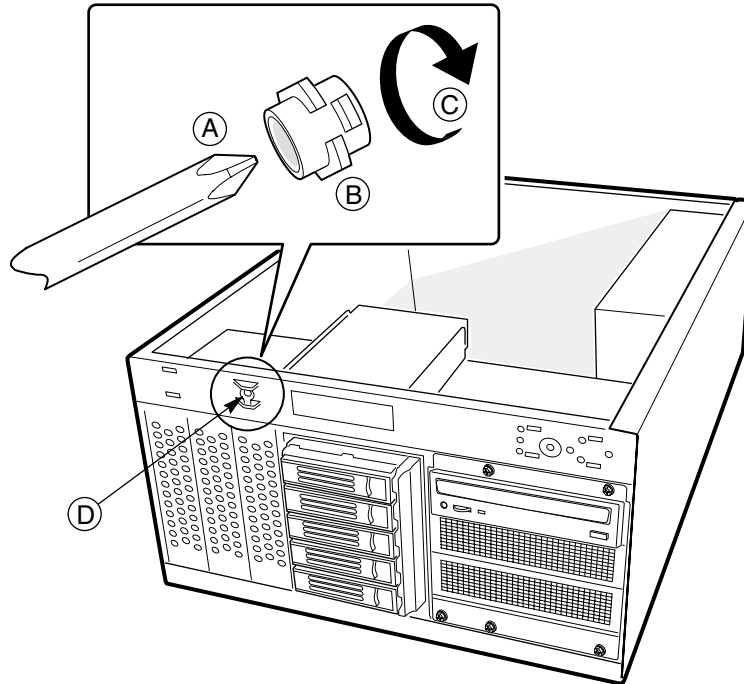
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- A. Screw
- B. Data cable
- C. Power cable

Figure 12. Installing the 5 ¼-Inch Reorientation Bracket

Install Bezel

1. Position the chassis intrusion switch lock.
2. Using a Philips† screwdriver, rotate the switch lock ½ turn clockwise.

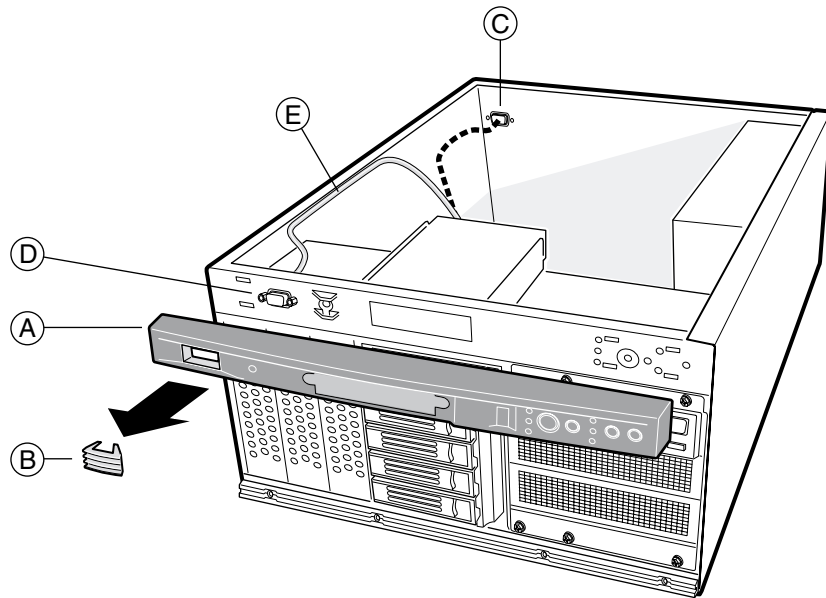


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- A. Philips screwdriver
- B. Chassis intrusion switch lock
- C. Direction of rotation
- D. Chassis intrusion switch

Figure 13. Installing the Chassis Intrusion Lock

3. If desired, move the serial port cable to the front and remove the serial port filler panel (B).

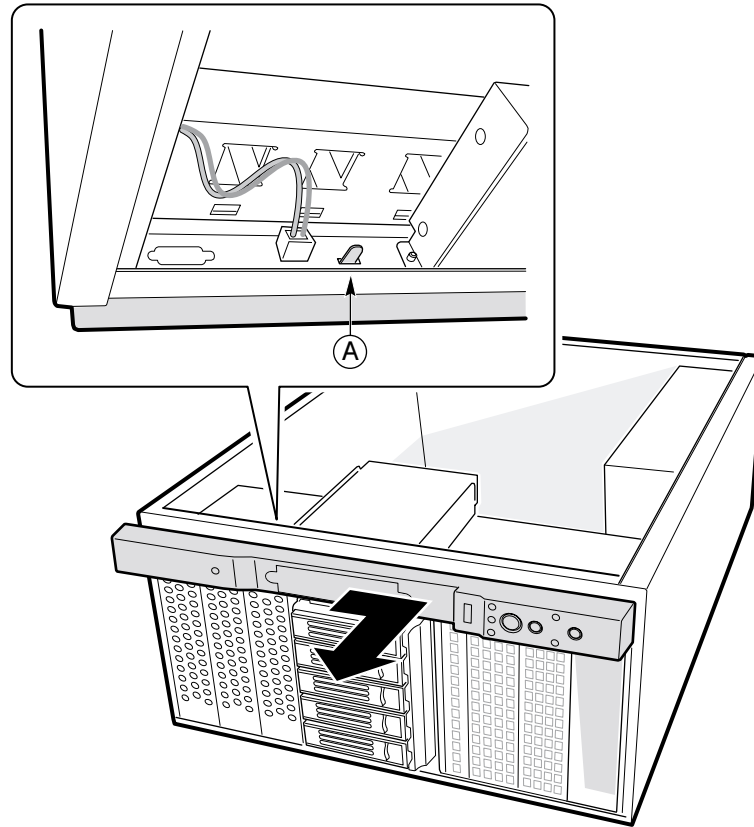


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- A. Bezel
- B. Serial port filler panel
- C. Rear panel serial port
- D. Front panel serial port
- E. Serial port cable

Figure 14. Moving the Serial Port Cable

4. Position the bezel. Make sure all of the plastic tabs are aligned with their holes.
5. Slide it to the left until the tab locks in place.



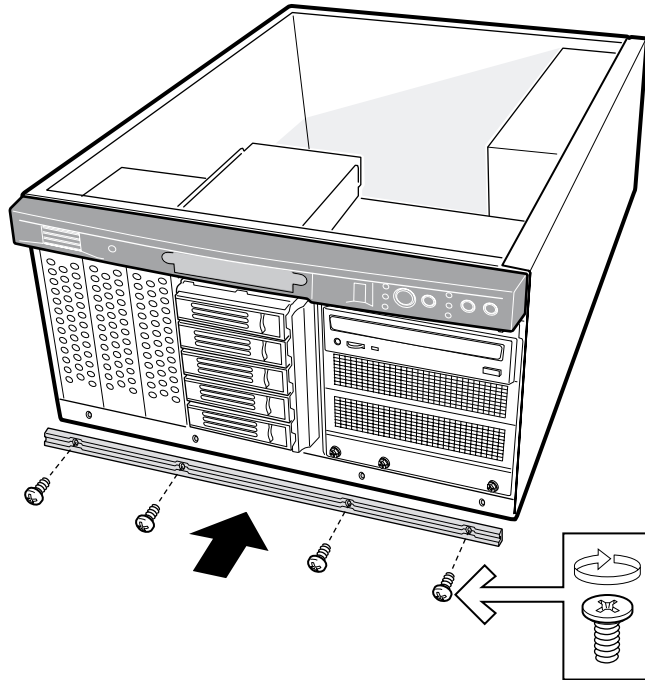
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A. Tab

Figure 15. Installing the Bezel

Install Screw Plate

1. Position the Screw Plate.
2. Insert and tighten the four screws you removed when you removed the door hinge plate.

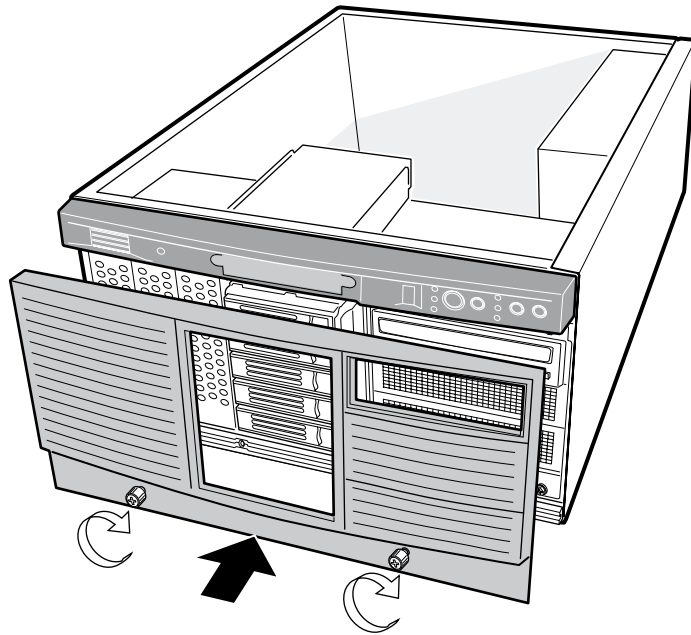


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Figure 16. Installing the Screw Plate

Install Front Cover

1. For each 5 ¼-inch peripheral, remove the corresponding plastic cover.
2. If you have a hot swap bay installed, remove that plastic cover.
3. Position the bezel by sliding the tabs on the top under the bezel.
4. Tighten the thumbscrews.



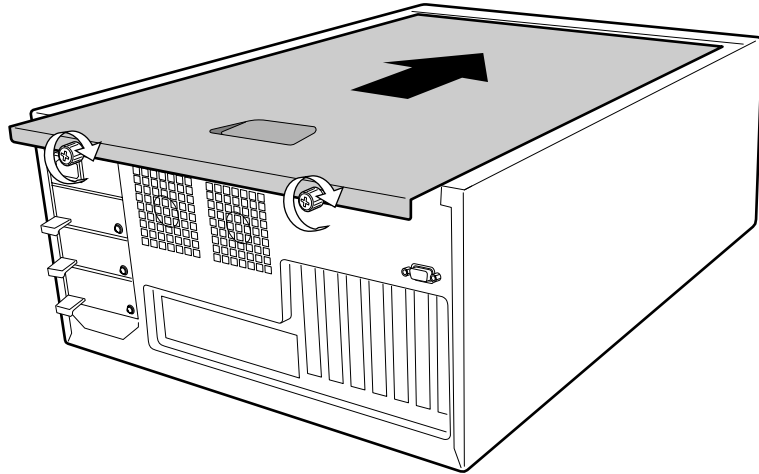
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Figure 17. Installing the Front Cover

Install Top Cover

The Rack Kit contains two unpainted top covers. The SC5100 server chassis and the SC5200 Base server chassis use the top cover without a fan access door. The SC5200 HSRP server chassis uses the top cover with a fan access door.

1. Place the cover so the tabs go into the slots on the server. The cover should be flush against the chassis.
2. Slid the cover forward until it stops.
3. Tighten the two captive screws into the rear of the chassis.

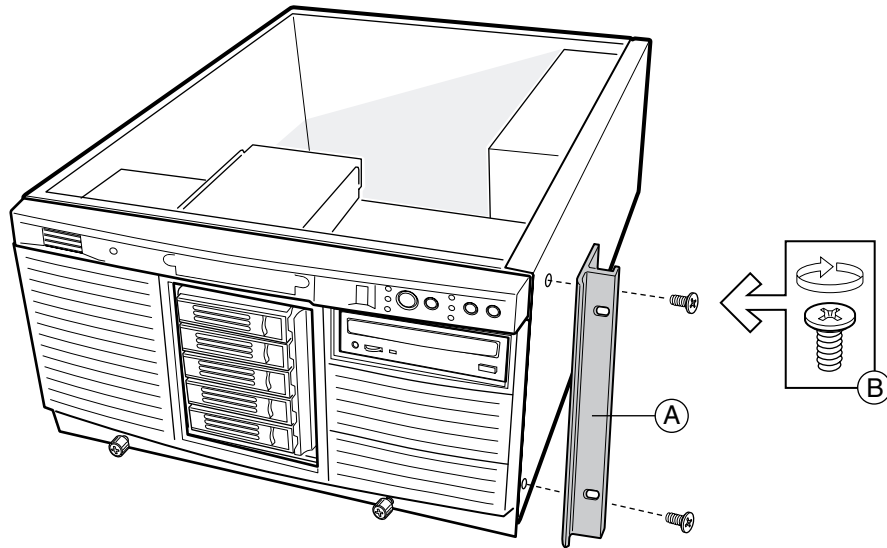


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Figure 18. Installing the Top Cover

Install Handles and Rails

1. Using two screws for each handle, attach the handles to the chassis.

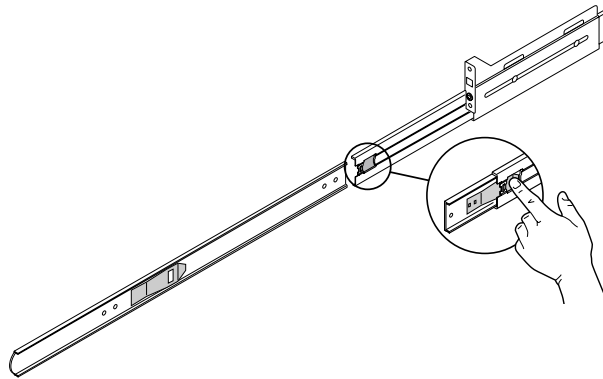


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- A. Handle
- B. Screw

Figure 19. Installing the Handles

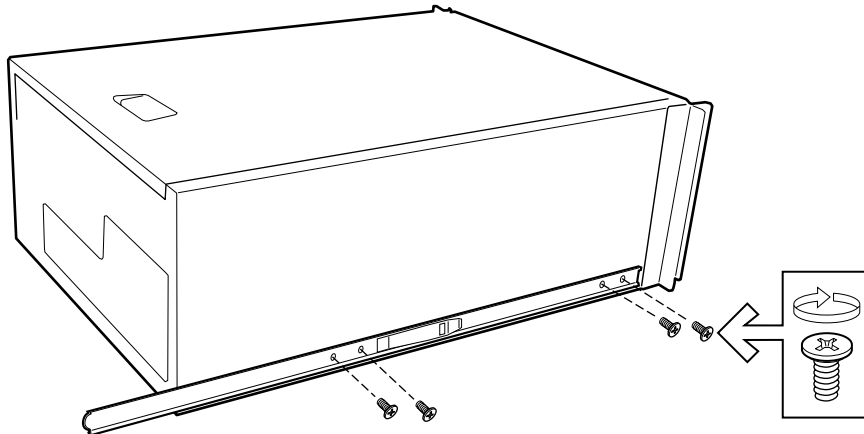
2. Fully extend the rails.
3. Remove the smallest, inner-most rail.



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Figure 20. Removing the Smallest Rail

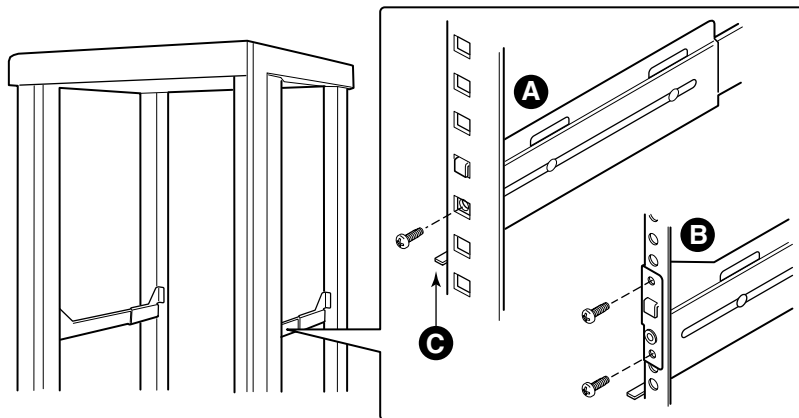
4. Position the rail.
5. Insert and tighten four screws.



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Figure 21. Attaching the Rail to the Chassis

6. Install the outer rail into the rack.
 - a. If your rack has square holes, mount the rail brackets on the inside of the rack pillar. Put the square hook through the desired hole and secure the bracket with an M4 x 8mm screw included with your chassis.
 - b. If your rack has round holes, mount the rail brackets on the outside of the rack pillar. Use mounting hardware appropriate for your rack. Refer to your rack documentation for mounting information.
7. Do the same for the other rail.



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- A. Rack with square holes
- B. Rack with round holes
- C. Anti-rotation tab

Figure 22. Rails Installed in a Rack

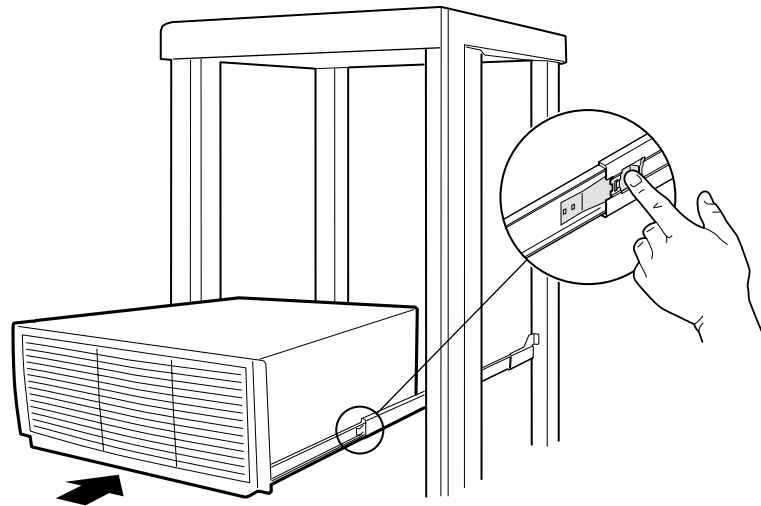
 **NOTE**

Your rack may vary from the illustration. Refer to your rack documentation for information specific to your rack.

8. Check to ensure that the slide rail assemblies are mounted perpendicular to the rack mounting flange and that the assemblies are parallel to each other.
9. Hold the chassis so the rails on the chassis engage the rails in your rack. You will need someone to help you at this point.
10. Disengage the locking tab on each rail and slide the server into the rack.

 **CAUTION**

If you encounter resistance while sliding the server into the rack, remove the server from the rack and re-align the rails.



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Figure 23. Installing the Server into a Rack

11. Secure the server to the rack. See your rack documentation for more information.