



Installing the Switch

- [Installation Tasks](#) , page 1
- [Accessory Kit](#), page 3
- [Unpacking the Switch](#), page 4
- [L Brackets on the Chassis](#), page 5
- [Installing the Rack-Mount Shelf Kit](#), page 6
- [Rack-Mounting the Chassis](#), page 19
- [Establishing System Ground](#), page 24
- [Attaching an ESD Strap](#), page 26
- [Verifying the Switch Chassis Installation](#), page 28
- [Connecting the Supervisor Engine Console Port](#) , page 29
- [Installing Transceivers and Module Connectors](#), page 30

Installation Tasks

The process of installing the switch can be broken down into a series of tasks described in the following table:

Table 1: Installation Tasks

Task	Description
Unpacking the switch	Remove the switch from the packaging material. Note We recommend that you save the packaging material for use later if you have to move the chassis.
Installing the rack-mount shelf kit	Install the rack-mount shelves before you install the chassis in the rack. The shelf brackets help support the weight of the chassis.
Rack-mounting the chassis	Install the chassis in a standard 19-inch rack, either open or enclosed.

Task	Description
Connecting the chassis to system ground	Construct and attach a system ground wire from the building (earth) ground to the system ground point on the chassis.
Installing the supervisor engine and line cards and cabling them to the network	<p>Modules that you order with the chassis are installed on the chassis when delivered. Blank faceplates are installed on empty module slots.</p> <ul style="list-style-type: none"> • For the list of supported devices, see <ul style="list-style-type: none"> • Supervisor Engine • Modules supported by Supervisor Engine 2T • Modules supported by Supervisor Engine 6T • For detailed installation instructions, see the <i>Catalyst 6500 Series Switch Supervisor Engine Guide</i> and the <i>Catalyst 6500 Ethernet Module Installation Guide</i> available on Cisco.com.
Installing power supplies	<p>PSMs that you order with the chassis are installed on the chassis when delivered. Blank faceplates are installed on empty power supply module slots.</p> <p>For more information, see the chapter "Removing and Installing Power Supplies".</p>
Installing the fan tray	<p>The fan tray that you order with the chassis is installed on the chassis when delivered.</p> <p>For more information, see the chapter "Removing and Installing the Fan Tray".</p>
Powering up the chassis	After completing the network cabling and making sure that system ground is connected, the power supplies can be turned on. The system powers up and runs through a set of built-in diagnostics.

These warnings apply to the overall switch installation process:


Warning

Class 1 laser product. Statement 1008


Warning

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. Statement 1017


Warning

This unit might have more than one power supply connection. All connections must be removed to de-energize the unit. Statement 1028

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

**Warning**

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on modules (such as power supplies, fans, or cards); these types of handles are not designed to support the weight of the unit. Statement 1032

**Warning**

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034

**Warning**

Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040

**Warning**

This equipment must be installed and maintained by service personnel as defined by AS/NZS 3260. Incorrectly connecting this equipment to a general-purpose outlet could be hazardous. The telecommunications lines must be disconnected 1) before unplugging the main power connector or 2) while the housing is open, or both. Statement 1043

**Warning**

This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations. Statement 1045

**Warning**

When installing or replacing the unit, the ground connection must always be made first and disconnected last. Statement 1046

**Warning**

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

**Warning**

Installation of the equipment must comply with local and national electrical codes.. Statement 1074

Accessory Kit

Each Cisco Catalyst 6807-XL Switch chassis ships with an accessory kit. The following are shipped as part of the accessory kit:

- Standard 19-inch rack-mount L brackets—The L brackets are factory installed on the left-front and right-front of the chassis. Associated rack-mounting hardware is included in the kit .
Depending on the manufacturer, the rack posts might be prethreaded to accept either 10-32 or 12-24 screws. If the rack posts are not prethreaded, install 10-32 or 12-24 clip nuts or cage nuts to secure the rack-mount screws. The clip nuts or cage nuts are not included as part of the accessory kit; you must obtain them on your own.
- Rack-mount shelf kit—This kit is used to support the weight of the chassis while you secure the chassis L brackets to the rack enclosure. It consists of two shelf brackets and a crossbar.
- Two 9-slot cable management guides—The cable guides can be installed on the front of the chassis using the same sets of screws that secure the chassis rack-mount brackets to the rack posts.
- Power supply and module blank panels—The power supply and module blank panels must be installed on any unused power supply bays or module slots to maintain chassis airflow and EMI shielding.
- Right-angled grounding lug and disposable ESD wrist strap and clip.
- Screws

Table 2: Types of Screws Shipped with the Accessory Kit

Type	Quantity
12-24 x 0.75mm	22
10-32 x 0.75mm	22
M4 x 5mm	2

Related Topics

[Rack-Mounting Guidelines](#)

Unpacking the Switch



Tip

Do not discard the shipping container when you unpack the switch. Flatten the shipping cartons and store them with the pallet. You will require these containers if you have to move or ship the switch in the future. For repacking instructions, see [Repacking the Switch](#).

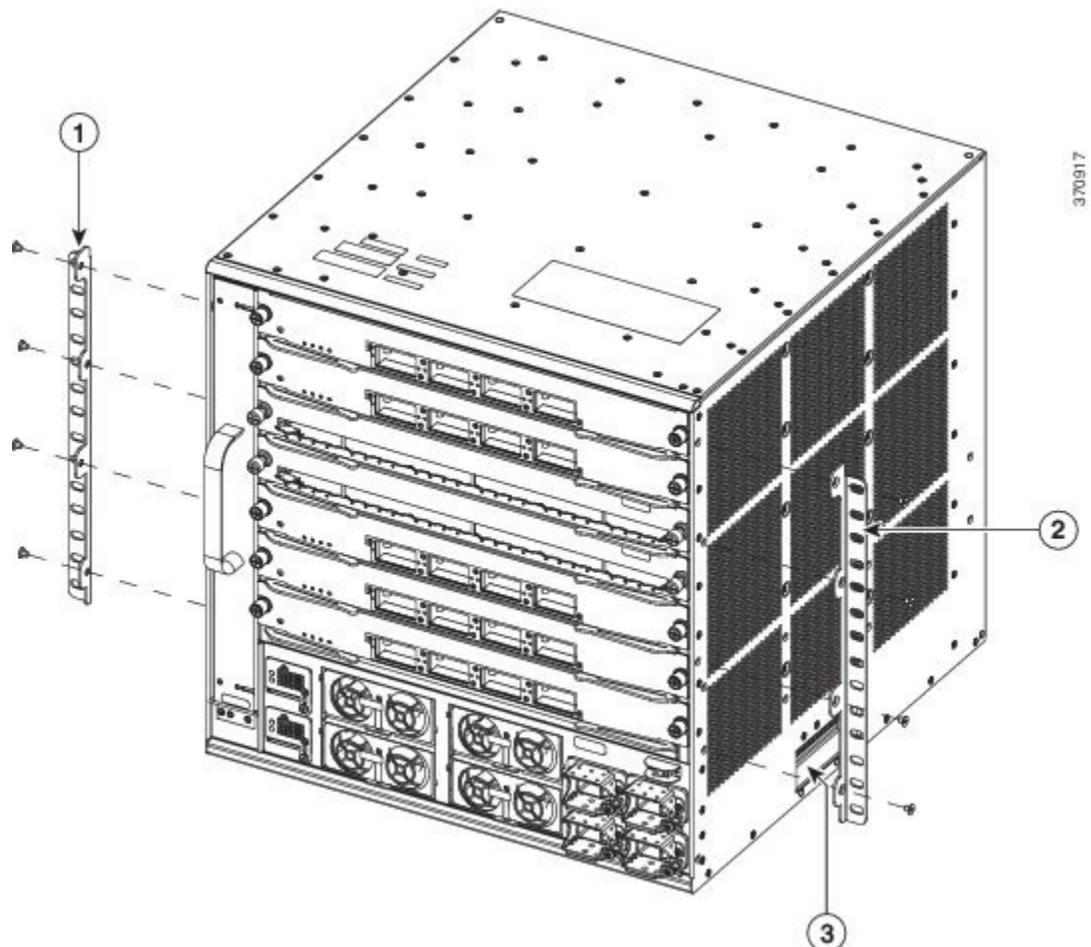
To check the contents of the shipping container, perform the following:

- Check the contents of the accessory kit. Verify that you have received all the listed equipment, including any optional equipment you may have ordered, such as, network interface cables, transceivers, or special connectors.
- Check the modules in each slot. Ensure that the configuration matches the packing list and that all of the specified interfaces are included.

L Brackets on the Chassis

The switch chassis is shipped with two L brackets installed on the front sides of the chassis. The L brackets are secured to the chassis with eight M4 x 5mm flat-head screws (four on each side).

Figure 1: L Brackets on the Chassis



1	Left L bracket.	3	Handhold
2	Right L bracket.		

The L brackets should be installed in this position whether you perform a front rack-mount or a rear rack-mount.

Installing the Rack-Mount Shelf Kit

The rack-mount shelf kit is part of the accessory kit. Install this kit before you install the chassis in the rack. The shelf brackets attach directly to the rack and help support the weight of the chassis while you secure the L brackets to the rack enclosure.

Table 3: Rack-Mount Kit Contents and Description

Part	Quantity	Description
Shelf bracket	2	Is attached to the rack posts to form a shelf for the switch chassis to rest on.
Cross Bar	1	Is attached between the two side shelf brackets to secure them together.
12-24 x 0.75-inch Phillips binding head screw	8	Secures the shelf brackets to a rack that requires 12-24 screws (Four for each L bracket).
10-32 x 0.75-inch Phillips binding head screw	8	Secures the shelf brackets to a rack that requires 10-32 screws (Four for each L bracket).
M4 x 5 mm flat-head screw	2	Secures the cross bar with shelf brackets.



Note

- This rack-mount shelf kit is not suitable for use with racks that have obstructions (such as power strips) because the obstructions could impair access to switch FRUs.
- On many older equipment racks, the rack posts are prethreaded to accept either 10-32 or 12-24 screws. Newer rack enclosure posts might not be prethreaded. These rack-enclosure posts require that you install 10-32 or 12-24 clip nuts or cage nuts to secure the rack-mount screws. The clip nuts or cage nuts are not included as part of the accessory kit and must be obtained on your own.

Determine the clearance between the insides of the left and right rails of your rack system and install the shelf brackets accordingly.

Installing Shelf Brackets and Crossbar in a Four-Post Rack with 17.5-inch (44.45 cm) Opening



Important

You have to rear-mount the shelf brackets and the crossbar in a rack with a 17.5-inch rail-to-rail opening.

Perform these steps:

Before You Begin

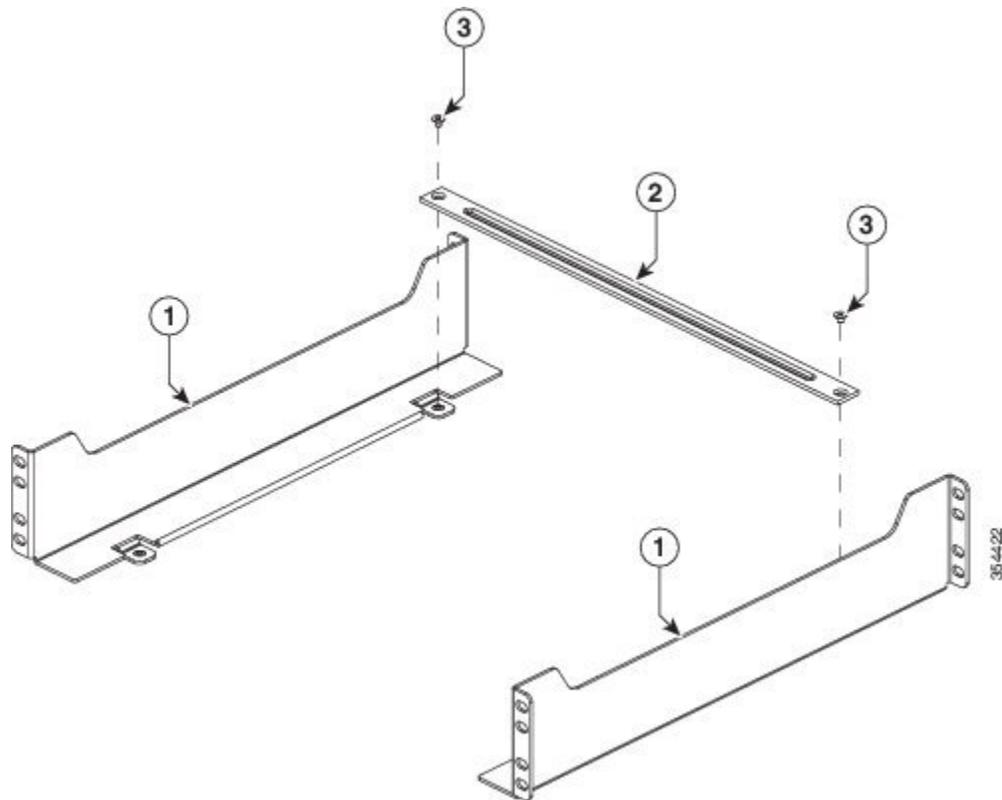
You will require:

- Number 1 and Number 2 Phillips screwdrivers
- 3/16-inch flat-blade screwdriver
- Tape measure and level

Procedure

Step 1 Secure the crossbar to the shelf brackets by using two M4 screws, with one screw on each side.

Figure 2: Securing the crossbar to the shelf brackets

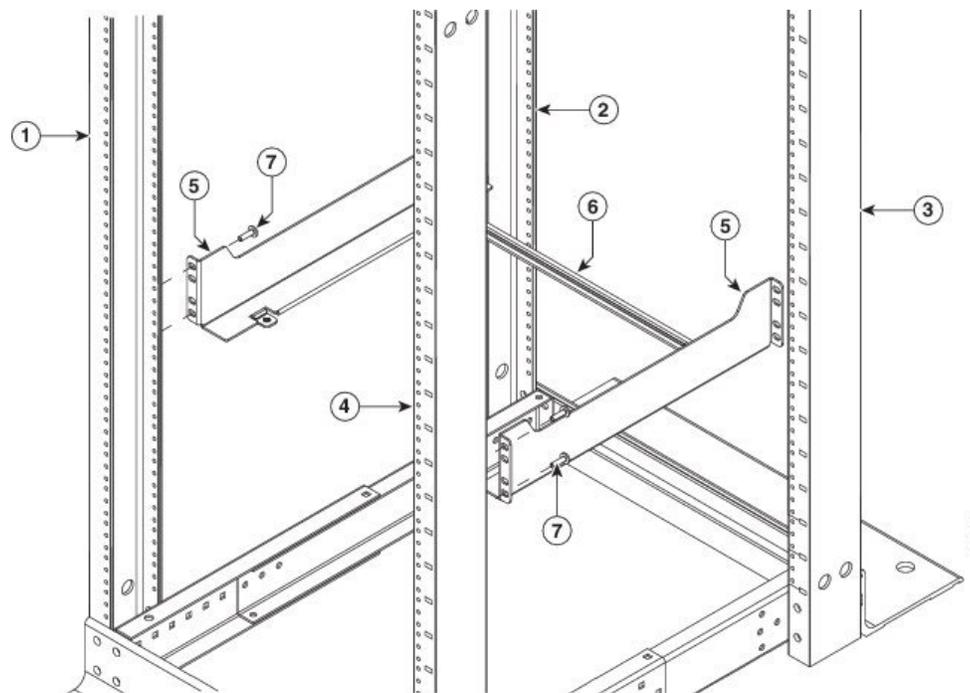


1	Shelf brackets	3	M4 x 5 mm flat-head screw
2	Crossbar		

Step 2 Position the front side of the support flanges of the shelf brackets on the fixed front-left and front-right posts of the rack and secure them by using the four EA screws (Two EA screws on each side).

Note Ensure that the crossbar attached to the shelf brackets is on the rear side of the rack post.

Figure 3: Installing Shelf Brackets and Crossbar in a 17.5-inch Opening



1	Fixed front-left rack post	5	Shelf brackets
2	Adjustable rear-left rack post	6	Crossbar
3	Adjustable rear-right rack post	7	Two EA screws
4	Fixed front-right rack post		

Step 3 Adjust the adjustable rear-left and rear-right rack posts until it touches the shelf brackets flange surface and secure by using four EA screws, two EA screws on each side.

Note We recommend to assemble the shelf brackets rear flanges with rear rack posts by using four EA screws (two EA screws on each side) to avoid the shelf brackets from overhanging at the ends.

Figure 4: Before adjusting the rear rack posts

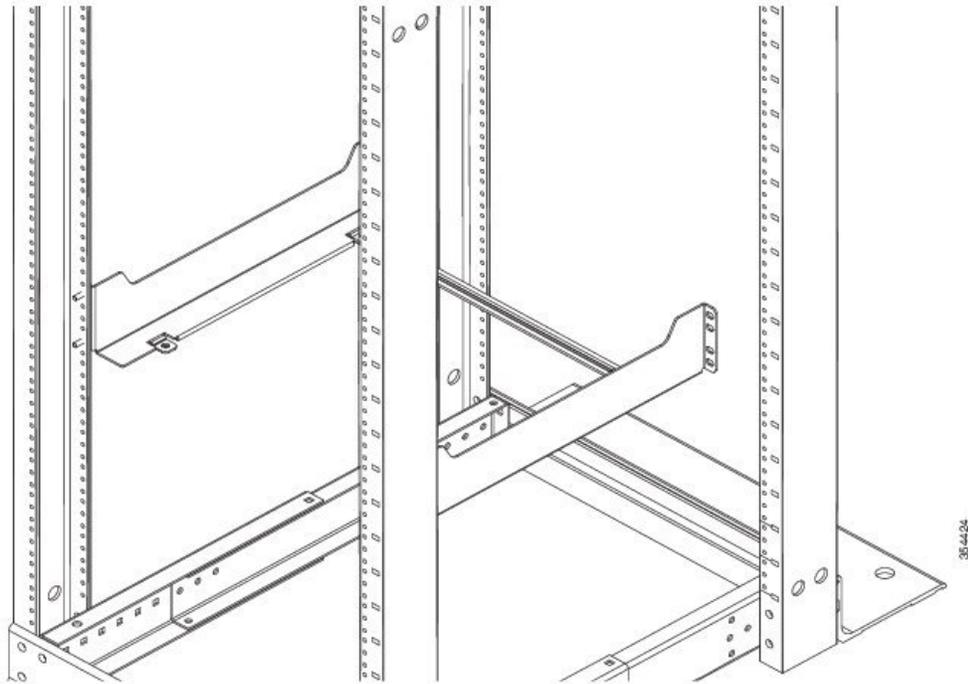
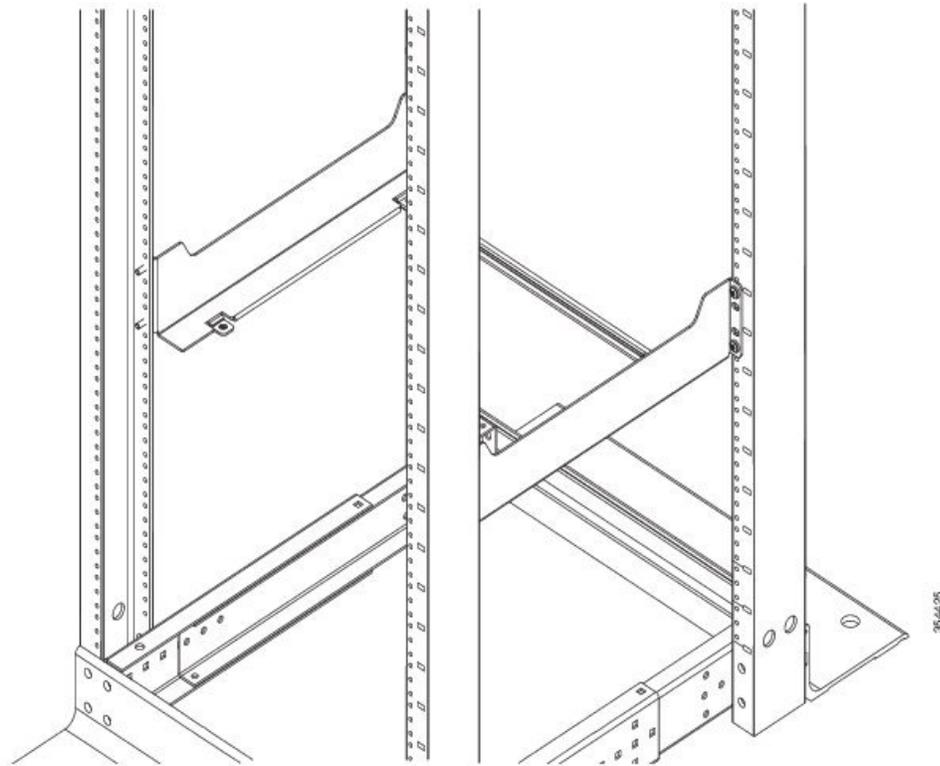


Figure 5: After adjusting the rear rack posts



Installing Shelf Brackets and Crossbar in a Four-Post Rack with 17.75 inch (45.09 cm) Opening



Important You have to front-mount the shelf brackets and crossbar on a rack with a 17.75-inch rail-to-rail opening.

Perform these steps:

Before You Begin

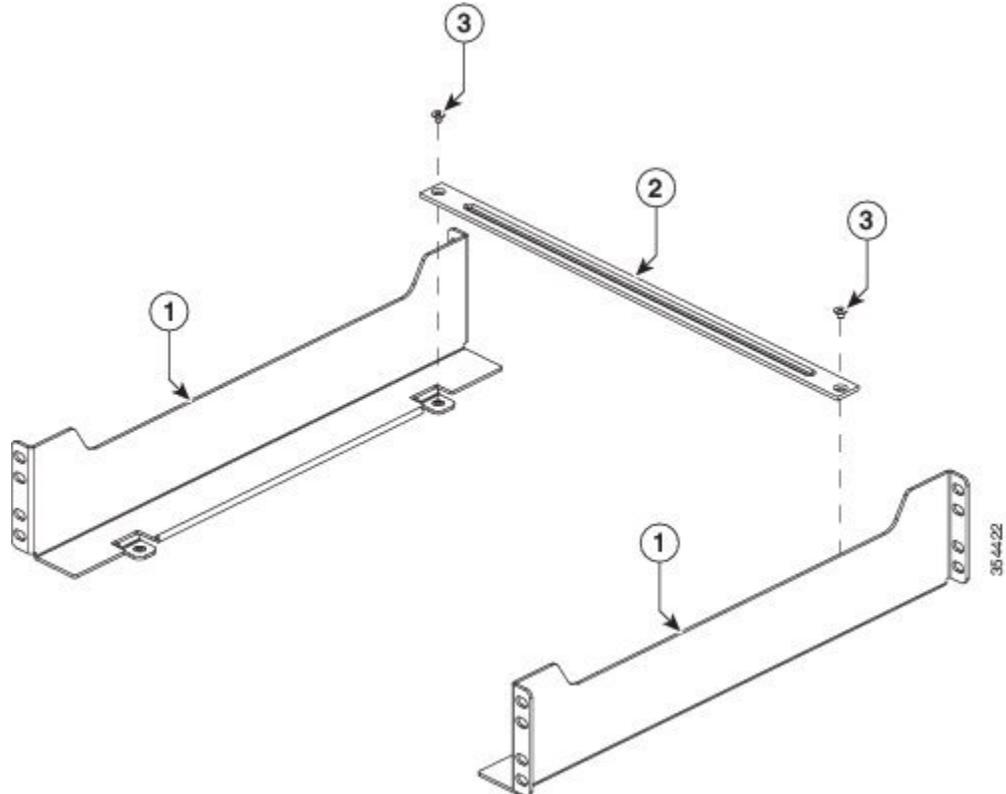
You will require:

- Number 1 and Number 2 Phillips screwdrivers
- 3/16-inch flat-blade screwdriver
- Tape measure and level

Procedure

- Step 1** Secure the crossbar to the shelf brackets by using two M4 screws, with one screw on each side.

Figure 6: Securing the crossbar to the shelf brackets

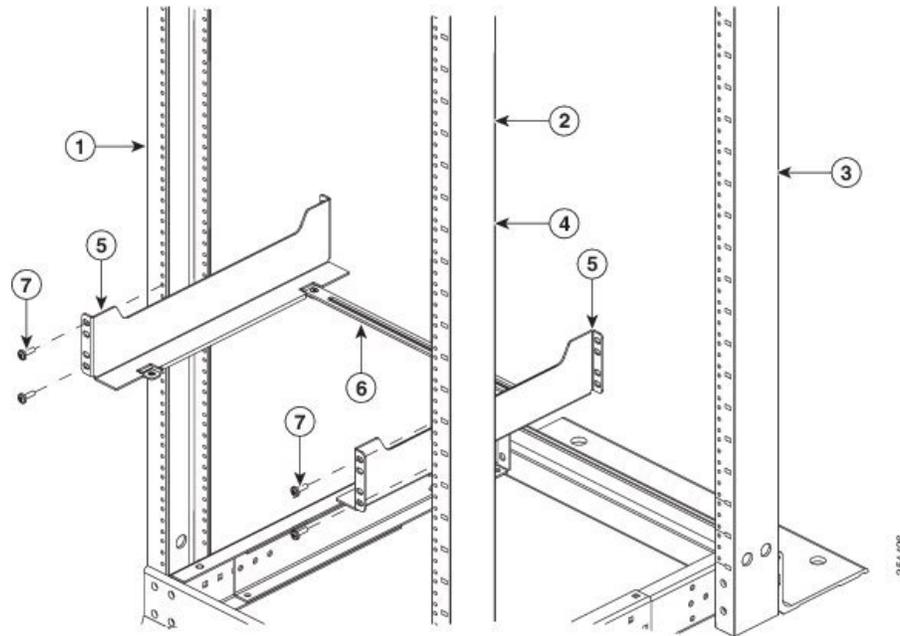


1	Shelf brackets	3	M4 x 5 mm flat-head screw
2	Crossbar		

- Step 2** Position the rear side of the support flanges of the shelf brackets on the front side of the fixed front-left and front-right posts of the rack. Align and secure the bracket to the rack by using the four EA screws (Two EA screws on each side).

Note Ensure that the crossbar attached to the shelf brackets is on the rear side of the rack post.

Figure 7: Installing Shelf Brackets and Crossbar in a 17.5-inch Opening



1	Fixed front-left rack post	5	Shelf brackets
2	Fixed front-right rack post	6	Crossbar
3	Adjustable rear-right rack post	7	Two EA screws
4	Adjustable rear-left rack post		

Step 3 Adjust the adjustable rear-left and rear-right rack posts until it touches the shelf brackets flange surface and secure by using four EA screws, with two EA screws on each side.

Note We recommend to assemble the shelf brackets rear flanges with rear rack posts by using the four EA screws (two EA screws on each side) to avoid the shelf brackets from overhanging at the ends.

Figure 8: Before adjusting the rear rack posts

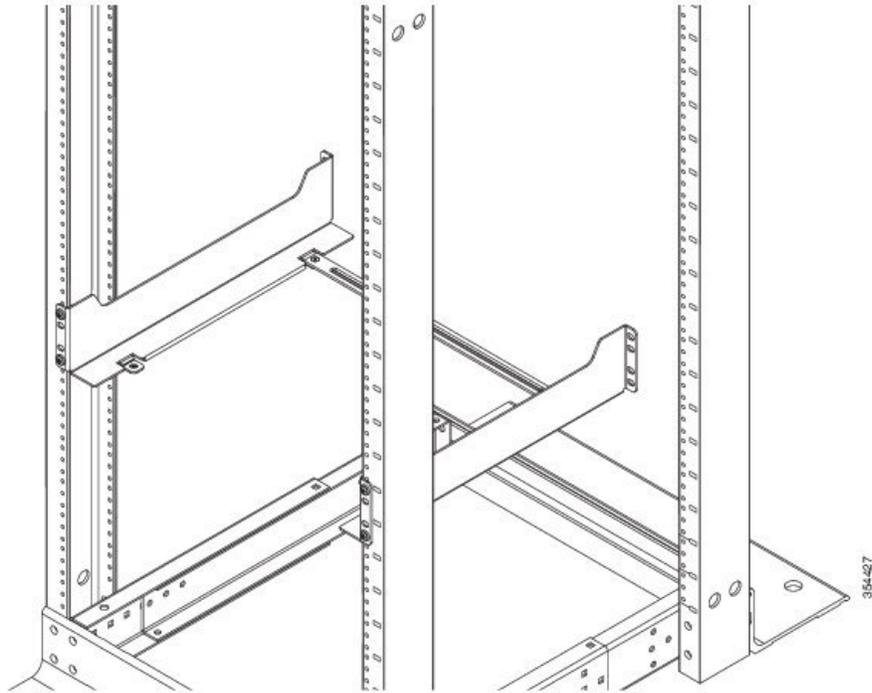
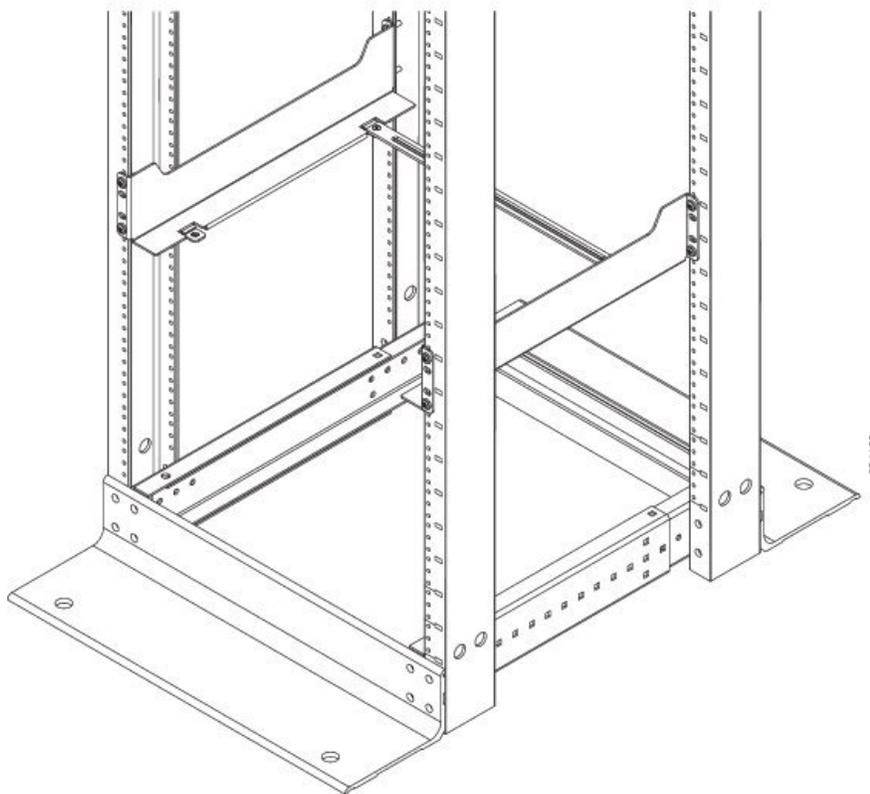


Figure 9: After adjusting the rear rack posts



Installing Shelf Brackets and Crossbar in a Two-Post Rack with 17.5-inch (44.45 cm) Opening



Important You have to rear-mount the shelf brackets and the crossbar for a rack with a 17.5-inch rail-to-rail opening.

Perform these steps:

Before You Begin

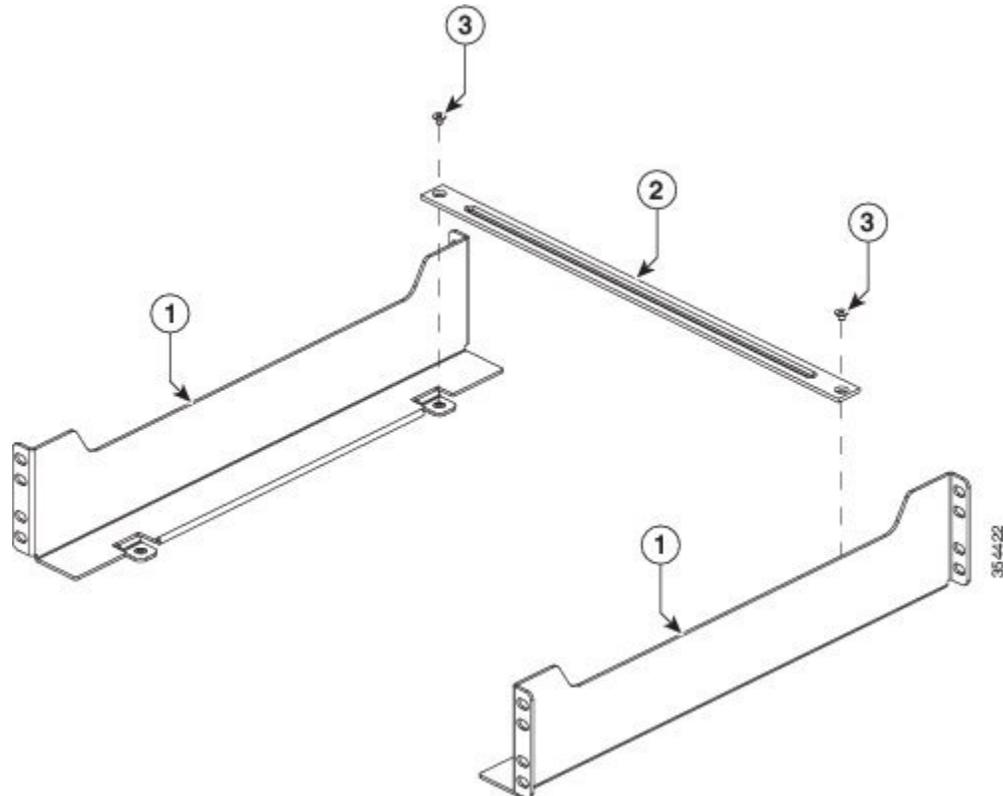
You will require:

- Number 1 and Number 2 Phillips screwdrivers
- 3/16-inch flat-blade screwdriver
- Tape measure and level

Procedure

- Step 1** Secure the crossbar to the shelf brackets by using two M4 screws, with one screw on each side.

Figure 10: Securing the crossbar to the shelf brackets

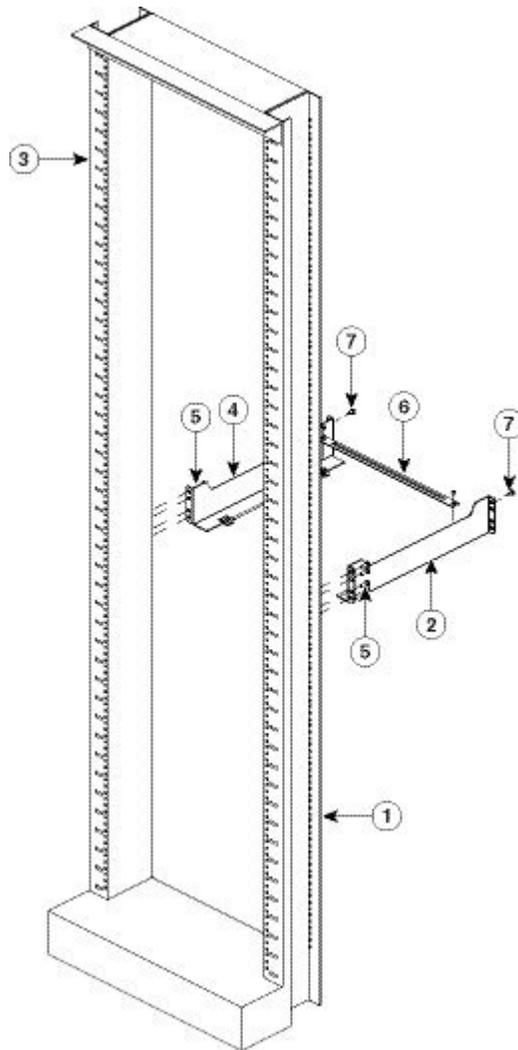


1	Shelf brackets	3	M4 x 5 mm flat-head screw
2	Crossbar		

- Step 2** Position the front side of the support flanges of the shelf brackets on the rear side of the left and the right posts of the rack. Align and secure the bracket to the rack by using the eight EA screws (four EA screws on each side).

Note Ensure that the crossbar attached to the shelf brackets is on the rear side of the rack post.

Figure 11: Installing Shelf Brackets and Crossbar in a Two-Post Rack with 17.5-inch Opening



1	Right rail	4	Crossbar
2	Left rail	5	Four EA screws on each side, to secure the shelf brackets to the rack
3	Shelf brackets		

Installing Shelf Brackets and Crossbar in a Two-Post Rack with 17.75 inch (45.09 cm) Opening



Important

You have to front-mount the shelf brackets and crossbar in a rack with a 17.75-inch rail-to-rail opening.

Perform these steps:

Before You Begin

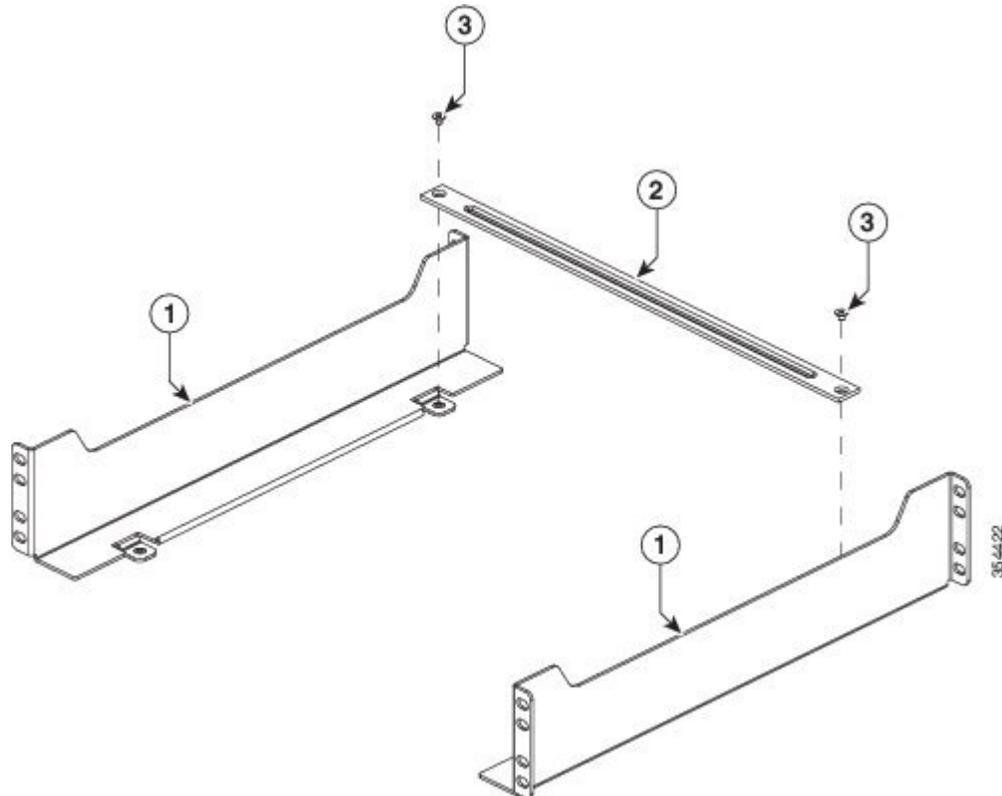
You will require:

- Number 1 and Number 2 Phillips screwdrivers
- 3/16-inch flat-blade screwdriver
- Tape measure and level

Procedure

- Step 1** Secure the crossbar to the shelf brackets by using two M4 screws, with one screw on each side.

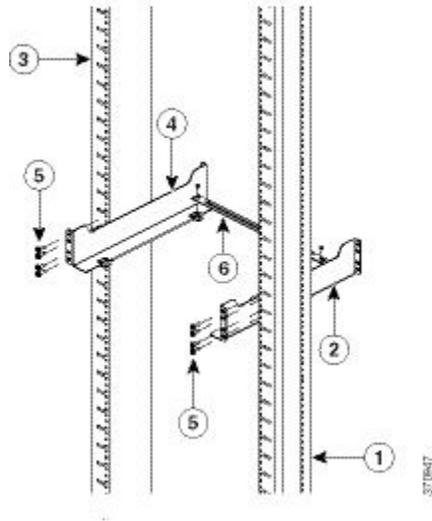
Figure 12: Securing the crossbar to the shelf brackets



1	Shelf brackets	3	M4 x 5 mm flat-head screw
2	Crossbar		

Step 2 Position the rear side of the support flanges of the shelf brackets on the front side of the left and the right posts of the rack. Align and secure the bracket to the rack by using the four EA screws (two EA screws on each side).

Figure 13: Installing Shelf Brackets and Crossbar in a 17.75-inch Opening



1	Right rail	4	Crossbar
2	Left rail	5	Four EA screws on each side, to secure the shelf bracket to the rack
3	Shelf brackets		

Rack-Mounting the Chassis

Warning

Two people are required to lift the chassis. To prevent injury, keep your back straight and lift with your legs, not your back. Statement 164

Tip

We recommend that you have a third person to assist in this procedure.

To install the switch chassis in the equipment rack, perform these steps:

Before You Begin

- Read the [Rack-Mounting Guidelines](#).
- Install the rack-mount shelf kit. See [Installing the Rack-Mount Shelf Kit](#), on page 6.

Procedure

- Step 1** With a person standing at each side of the chassis, insert one hand into the handhold groove and the other hand near the back of the chassis for balance. Slowly lift the chassis. Avoid sudden twists or moves to prevent injury.
- Step 2** Rest the back end of the chassis on the edges of the rack-mount shelf kit rails and carefully slide the chassis fully into the rack.
- Step 3** Locate the rack post holes that align with the chassis L bracket holes. If the rack post holes are prethreaded, determine if the threads are 10-32 or 12-24 and install 14 screws (seven on each side).

If the rack post holes are unthreaded, install either 10-32 or 12-24 clip or cage nuts over the rack post holes to accept the installation screws.

Note Clip nuts or cage nuts are not included as part of the accessory kit that comes with the chassis. You must obtain them yourself.

Figure 14: Installing the Chassis in a Two-Post Rack

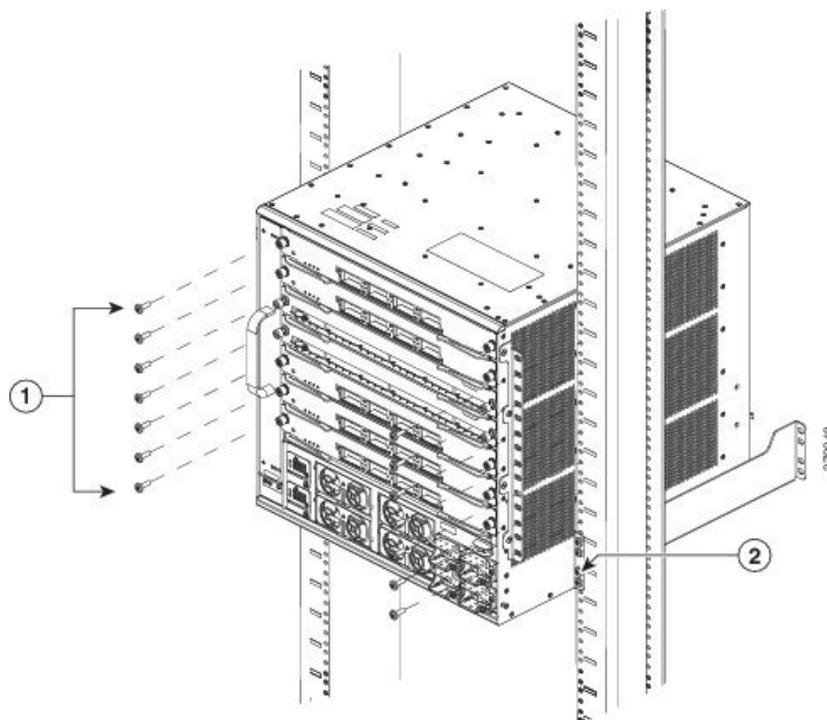
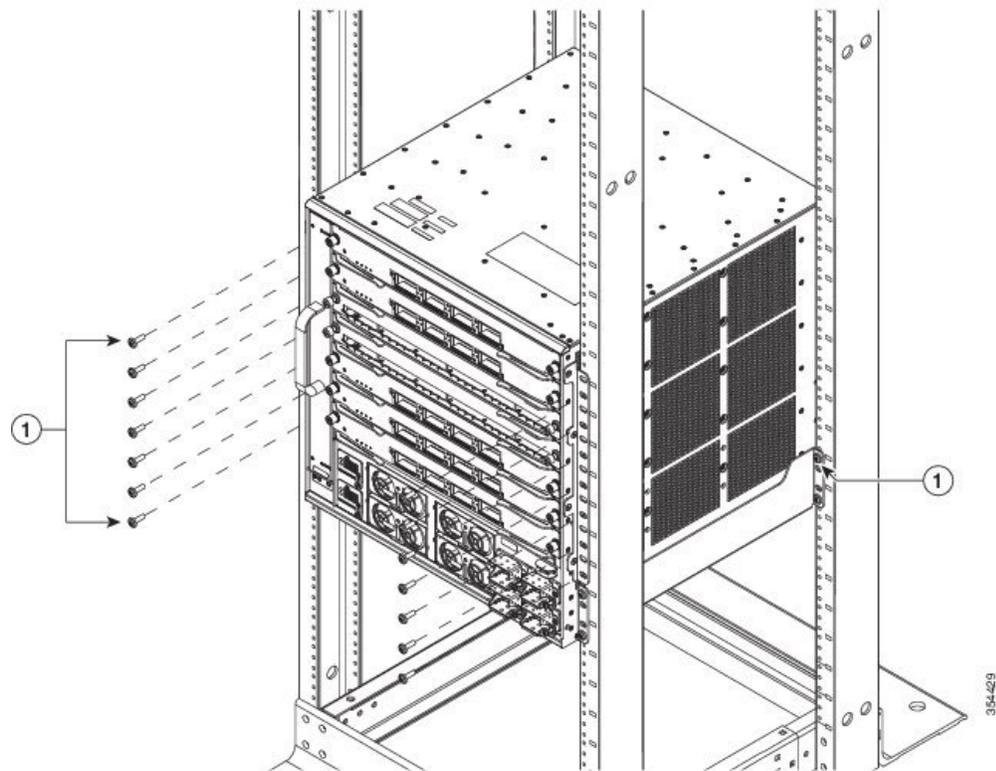


Figure 15: Installing the Chassis in a Four-Post Rack



1	Seven screws on each side to secure the L bracket ears to the rack	2	Shelf brackets secured to the rack using four EA screws
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- Step 4** (Optional) To install one or both of the optional cable guide assemblies, position the cable guides such that the cable guide mounting holes are aligned with the L bracket holes and the rack rail holes, as shown in the following figure:

Figure 16: Installing the Cable Guide in a Two-Post Rack

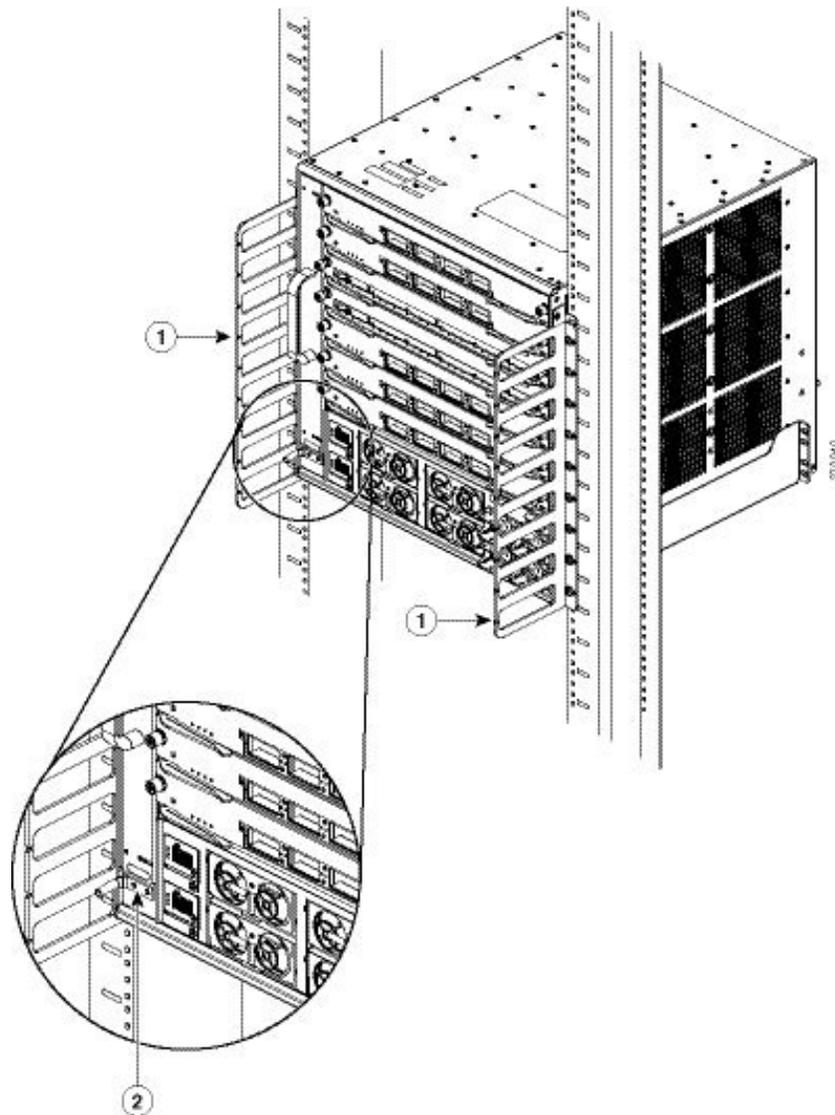
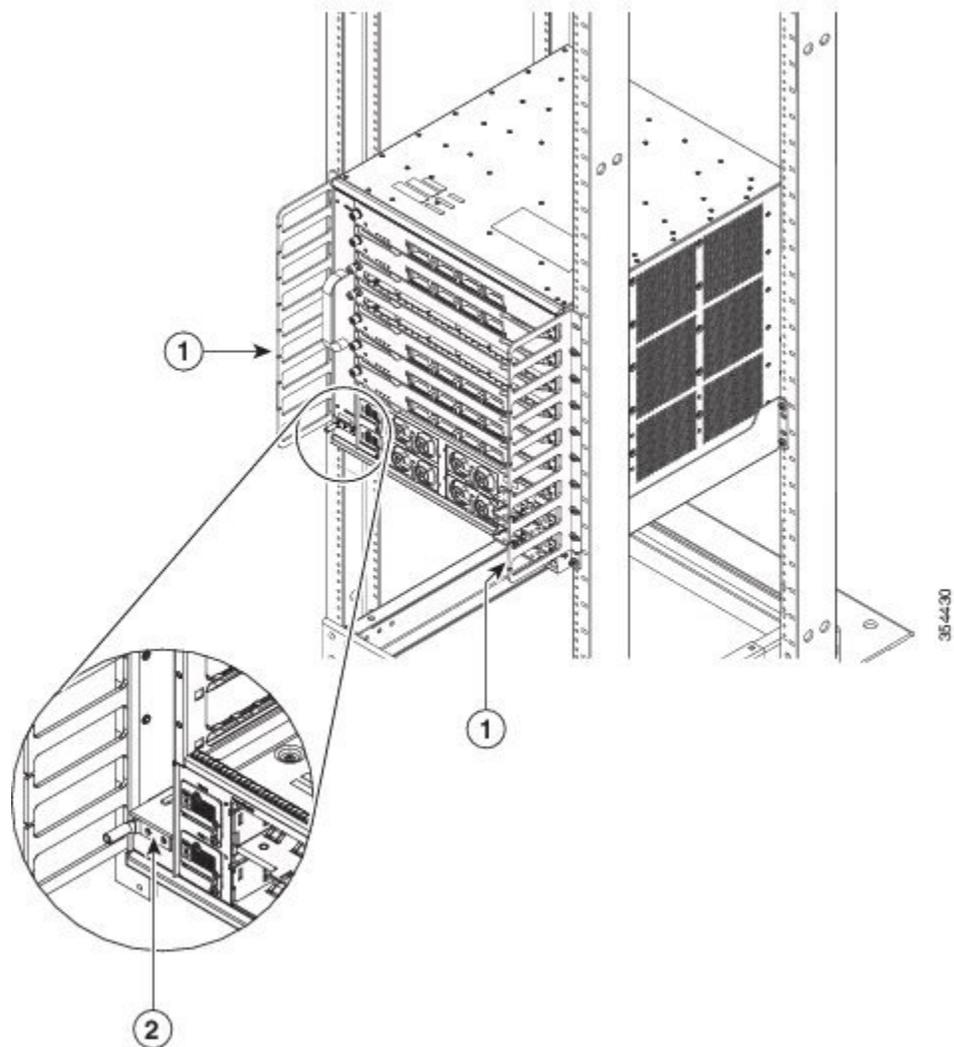


Figure 17: Installing the Cable Guide in a Four-Post Rack



1	Cable guide installed on each side.	2	Location and position of the right-angled ground lug with the cable guide installed.
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What to Do Next

After installing the chassis in its location, complete the installation process by:

- 1 Connecting the chassis to system ground.
- 2 Installing and connecting the power supplies to the power source.

- 3 Connecting the network interface cables to the supervisor engine and modules. This may involve installing transceivers before you attach the network interface cables.
- 4 Powering up the chassis and verifying the installation.

Related Topics[Chassis](#)[Environmental Specifications](#)[Physical Specifications](#)[Finding Serial Numbers](#)

Establishing System Ground

To attach the grounding lug and cable to the grounding pad, perform these steps

Before You Begin

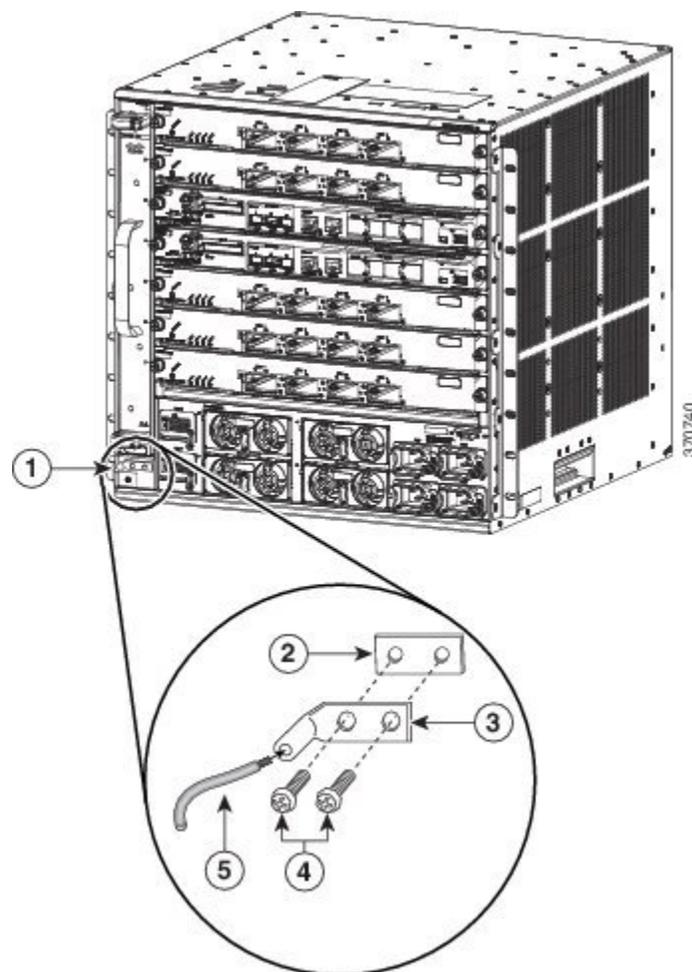
To connect the system ground, you require the following tools and materials:

- Grounding lug—A two-hole right-angled lug. Supports up to 6 AWG wire. Supplied as part of accessory kit.
- Grounding screws—Two M4 x 8 mm (metric) pan-head screws. Supplied as part of the accessory kit.
- Grounding wire—Not supplied as part of accessory kit. The grounding wire should be sized according to local and national installation requirements. Depending on the power supply and system, a 12 to 6 AWG copper conductor is required for U.S. installations. Commercially available 6-AWG wire is recommended. The length of the grounding wire depends on the proximity of the switch to proper grounding facilities.
- No. 1 Phillips screwdriver.
- Crimping tool to crimp the grounding wire to the grounding lug.
- Wire-stripping tool to remove the insulation from the grounding wire.

Procedure

- Step 1** Use a wire-stripping tool to remove approximately 0.75 inches (19 mm) of the covering from the end of the grounding wire.
- Step 2** Insert the stripped end of the grounding wire into the open end of the right-angled grounding lug.
- Step 3** Crimp the grounding wire in the barrel of the grounding lug. Verify that the ground wire is securely attached to the ground lug.
- Step 4** Secure the grounding lug to the system ground connector with two M4 screws. Ensure that the grounding lug and the grounding wire do not interfere with other switch hardware or rack equipment.

Figure 18: Locating and Connecting System Ground



1	System ground location	4	M4 screws to secure the lug to the connector
2	System ground connector	5	Stripped end of the grounding wire inserted into the open end of the right-angled grounding lug

3	Right-angled grounding lug	
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- Step 5** Prepare the other end of the grounding wire, and connect it to an appropriate grounding point in your site to ensure adequate earth ground for the switch.
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Related Topics

[Preventing Electrostatic Discharge Damage](#)

Attaching an ESD Strap

After you install the system ground lug, follow these steps to correctly attach the ESD wrist strap:

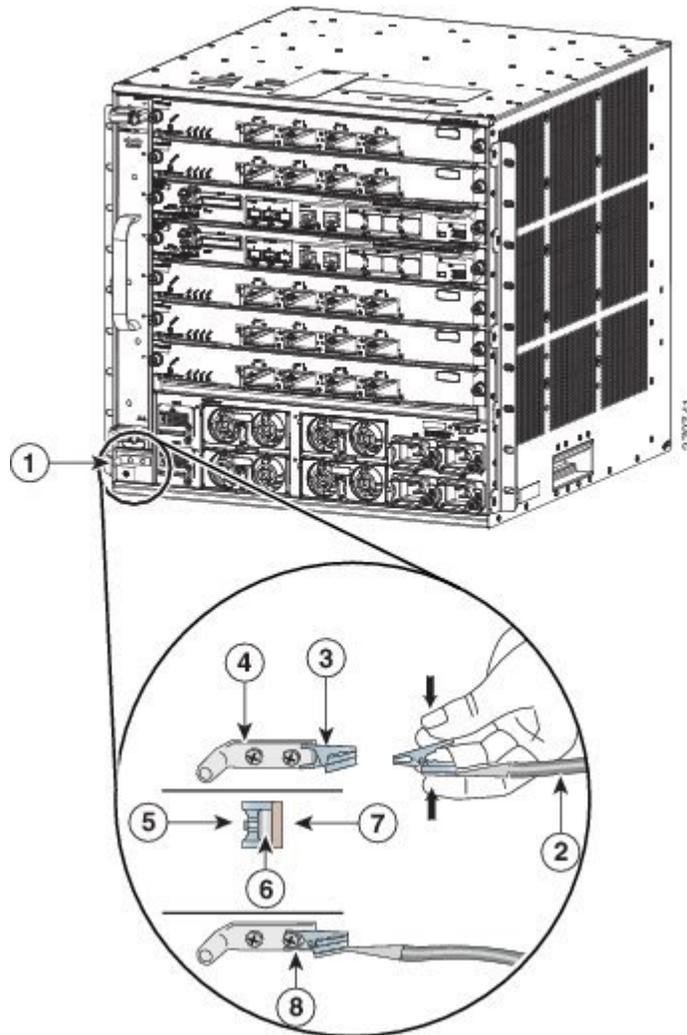
Procedure

- Step 1** Attach the ESD wrist strap to bare skin as follows:
- a) If you are using the ESD wrist strap supplied with the FRUs, open the wrist strap package and unwrap the ESD wrist strap. Place the black conductive loop over your wrist and tighten the strap such that it touches your bare skin well.
 - b) If you are using an ESD wrist strap equipped with an alligator clip, open the package and remove the ESD wrist strap. Locate the end of the wrist strap that attaches to your body and secure it to your bare skin.
- Step 2** Grasp the spring or alligator clip on the ESD wrist strap and momentarily touch the clip to a bare metal spot (unpainted surface) on the rack. We recommend that you touch the clip to an unpainted rack rail so that any built-up static charge is then safely dissipated to the entire rack.
- Step 3** Attach either the spring clip or the alligator clip to the ground lug screw as follows:
- a) If you are using the ESD wrist strap that is supplied with the FRUs, squeeze the spring clip jaws open, position the spring clip to one side of the system ground lug screw head, and slide the spring clip over the lug screw head so that the spring clip jaws close behind the lug screw head.

Note The spring clip jaws do not open wide enough to fit directly over the head of the lug screw or the lug barrel.

- b) If you are using an ESD wrist strap that is equipped with an alligator clip, attach the alligator clip directly over the head of the system ground lug screw or to the system ground lug barrel.

Figure 19: Attaching the ESD Wrist Strap Clip to the System Ground Lug Screw



1	System ground connector	5	Side clip behind the screw
2	ESD ground strap	6	Screw
3	Clip	7	Side view of grounding lug
4	Right-angled grounding lug	8	Clip installed behind the screw

When handling modules, follow these guidelines:

- Handle carriers using the available handles or edges only; avoid touching the printed circuit boards or connectors.
- Place a removed component boardside up on an antistatic surface or in a static shielding container. If you plan to return the component to the factory, immediately place it in a static shielding container.
- Never attempt to remove the printed circuit board from the metal carrier.

Caution For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohm (Mohm).

Related Topics

[Preventing Electrostatic Discharge Damage](#)

Verifying the Switch Chassis Installation

To verify the switch chassis installation, perform these steps:

Procedure

- Step 1** Verify that the ejector levers of each module are fully closed (parallel to the faceplate) to ensure that the supervisor engine and all the switching modules are fully seated in the backplane connectors.
- Step 2** Check the captive installation screws of each module, power supply, and power supply converter. Tighten loose captive installation screws.
- Step 3** Verify that all empty module slots have blank faceplates installed properly. The blank faceplates optimize the air flow through the chassis and contain EMI.
- Warning** Blank faceplates and cover panels serve three important functions— They prevent exposure to hazardous voltages and currents inside the chassis; they contain EMI that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system until all cards, face plates, front covers, and rear covers are in place. Statement 1029
- Step 4** Turn on the power supply switches to power up the system. During the power-up sequence, the system performs a series of bootup diagnostic tests.
-

What to Do Next

Additional system diagnostic tests are available. These tests allow you to perform a complete sanity check on the system prior to inserting the system into your network and to monitor the health of the system while the system is running.



Tip

When prestaging systems in a nonproduction environment, we recommend that you run all the diagnostic tests, including the disruptive tests, to prescreen the systems for failures, if any.

Online Diagnostics

The Cisco Catalyst 6807-XL switches running Cisco IOS have many levels of online diagnostic capabilities. The online diagnostics are divided into the following categories:

- **Bootup**—Bootup diagnostics automatically run during bootup, module OIR, or switchover to a backup supervisor engine.
- **Background health**—Monitoring diagnostic tests are continuously run by the system to monitor system health.
- **On-demand online diagnostics**—On-demand online diagnostics can be used to run any test from the CLI. You can also run on-demand online diagnostics to perform a sanity check on the system hardware. Some of these tests are disruptive and will impact traffic flow. You must follow the on-demand diagnostic guidelines exactly to avoid false failures.
- **Scheduled diagnostics**—Scheduled diagnostics can be used to run any of the above tests at user-designated intervals.

Connecting the Supervisor Engine Console Port

The console port on the supervisor engine allows you to perform the following functions:

- Configure the switch from the CLI.
- Monitor network statistics and errors.
- Configure SNMP agent parameters.
- Download software updates to the switch, or distribute software images residing in flash memory to attached devices.

**Note**

You have to order the necessary cable and adapters to connect a terminal or modem to the console port.

To connect a terminal to the console port and then connect a modem to the console port using the cable and adapters, follow these steps:

Procedure

- Step 1** Connect to the port using the RJ-45-to-RJ-45 cable and the RJ-45-to-DB-25 DTE adapter or the RJ-45-to-DB-9 DTE adapter (labeled Terminal).
- Step 2** Check the corresponding terminal documentation to determine the baud rate. The baud rate of the terminal must match the default baud rate (9600 baud) of the console port. Set up the terminal as follows:
 - 9600 baud
 - 8 data bits

- No parity
- 2 stop bits

- Step 3** Connect to the port using the RJ-45-to-RJ-45 rollover cable and the RJ-45-to-DB-25 DCE adapter (labeled Modem).
The console port mode switch should be in the IN position (factory default).
- Step 4** Position the cable in the cable guide (if installed). Make sure there are no sharp bends in the cable.
-

Related Topics

- [Supervisor Engine](#)
- [Console Cables](#)

Installing Transceivers and Module Connectors

Some Ethernet modules require that pluggable transceivers be installed in the module port sockets. These transceivers are normally shipped separately from the module and must be installed after the module is installed in the chassis slot.

For detailed instructions about installing the various kinds of pluggable transceivers and module connectors, see the following:

Transceiver or Module Connector Type	Installation Procedure Document and Link
SFP and SFP+	Cisco SFP and SFP+ Transceiver Module Installation Notes
QSFP+	Cisco CVR-4SFP10G-QSFP Reverse Adapter Installation Note
Cisco OneX Converter	Installation Notes for the Cisco OneX Converter Modules
X2	Cisco 10-Gigabit Ethernet X2 Transceiver Modules Installation Note
Cisco TwinGig and OneX	Installation Notes for the Cisco TwinGig and OneX Converter Modules

Related Topics

- [Modules supported by Supervisor Engine 2T](#)
- [Modules supported by Supervisor Engine 6T](#)
- [Pluggable Transceivers](#)
- [Module Connectors](#)
- [Cable Specifications](#)