CHAPTER 1

Installing the Switch

Revised: January 4, 2012

This chapter describes how to install the Catalyst 4900M switch. For first-time installations, perform the procedures in the following sections in the order listed.

Note Before starting the installation procedures in this chapter, complete the site planning checklist in Chapter 1, "Site Planning," to verify that all planning activities were completed.

Checking the Contents

Note Do not discard the shipping container when you unpack the switch. Flatten the shipping cartons and store them. You will need the container if you need to move or ship the switch in the future.

To check the contents of the shipping container follow these steps:

Step 1 Check the contents of the accessories kit against the packing slip. Verify that you received all listed equipment, which should include the following:

- Switch hardware and software documentation, if ordered
- Optional equipment that you ordered, such as network interface cables, transceivers, or special connectors. A console cable is not provided as part of the accessory kit. It can ordered as an option.

Step 2 To begin installation, proceed to the "Rack-Mounting the Switch" section on page 1-2.

Rack-Mounting the Switch

A rack-mount kit (69-1821-03) is included in the accessory kit for mounting the switch in a standard 19-inch (48.3 cm) four-post equipment rack where the depth of the rack (the distance measured between the front and the rear posts) does not exceed 32.5 inches (82.5 cm). This rack-mount kit is not suitable for racks with obstructions (such as a power strip) that could impair access to the switch, four-post rack enclosures that exceed 32.5 inches (82.5 cm) in depth, or for two-post equipment racks.

An optional rack-mounting kit (C4900M-BKTS-KIT=) is available for installing the chassis in two-post telco racks and in four-post equipment racks that exceed 32.5 inches (82.5 cm) in depth.

Caution Before installing the chassis in a rack, read the "Site Environmental Requirements" section on page 1-1 to become familiar with the proper site and environmental conditions. Failure to read and follow these guidelines could lead to an unsuccessful installation and possible damage to the system and components.

Caution This unit is meant to be rack-mounted, and is not intended to bear more than its own weight. Do not stack more than two on a table top, the added weight may damage the bottom chassis.

Warning **To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:**

- **This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**
- **When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**
- **If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.** Statement 1006

Rack-Mounting Guidelines

Before rack-mounting the switch, ensure the following:

- The equipment rack is the proper size.
  - The width of the rack, between the two front mounting strips or rails, must be 17.75 inches (45.09 cm).
  - The depth of the rack, between the front and rear mounting strips, must be at least 19.25 inches (48.9 cm) but not more than 32.5 inches (82.5 cm).

Note If your four-post rack enclosure exceeds 32.5 inches (82.5 cm) in depth, or you are installing the chassis in a two-post equipment rack, you must order and use the optional rack-mount kit (C4900M-BKTS-KIT=).

  - The rack must have sufficient vertical clearance to insert the chassis. The chassis height is 2 U (3.5 inches (8.9 cm)).
- The equipment rack is stable and in no danger of falling over.
  - Ensure that the shelf is constructed to support the weight and dimensions of the chassis. For physical specifications, see Appendix 1, "Specifications."
  - We recommend that you bolt the rack to the floor.
  - Mount the unit at the bottom of the rack if it is the only unit in the rack.
  - Install heavier equipment in the lower half of the rack to maintain a low center of gravity and prevent the rack from becoming top-heavy and tipping over.
  - Install the stabilizers before mounting or servicing the switch in the rack (if the rack is provided with stabilizing devices).
- The equipment rack is properly ventilated.
  - Install the chassis in an enclosed rack only if it has adequate ventilation or an exhaust fan; use an open rack whenever possible.
  - Ensure that the ambient temperature of the rack environment does not exceed a maximum temperature of 104°F (40°C). Note that if the switch is installed in a closed or multiunit rack assembly, the ambient operating temperature of the rack environment might be higher than the ambient room temperature.
  - Note that a ventilation system in a closed rack that is too powerful might also prevent cooling by creating negative pressure around the chassis and redirecting the air away from the chassis intake vent. If necessary, operate the chassis with the rack open.
  - To prevent airflow restriction, allow at least 3 inches (7.6 cm) of clearance around the ventilation openings on the sides of the chassis.
  - Use baffles correctly to assist in cooling the chassis.
  - Note that equipment near the bottom of a rack may generate excessive heat that is drawn upward and into the intake ports of equipment above, leading to overtemperature conditions in the chassis at or near the top of the rack.
  - Consider the equipment and cabling that is already installed in the rack. Ensure that cables from other equipment will not obstruct the airflow through the chassis or impair access to the power supplies or switching modules. Route cables away from field-replaceable components to avoid disconnecting cables unnecessarily for equipment maintenance or upgrades.
  - Allow at least 3 to 4 feet (91.4 to 121.9 cm) of clearance behind the rack for maintenance and removal of switch assemblies. If the rack is mobile, you can push it back within 1 foot (30.45 cm) of a wall or cabinet for normal operation and pull it out when necessary for maintenance.

Lifting the Chassis Safely

The chassis is not intended to be moved frequently. Before you install the switch, ensure that your site is properly prepared so that you can avoid moving the chassis later to accommodate power sources and network connections.

Whenever you lift a chassis or any heavy object, follow these guidelines:

- Ensure that your footing is solid, and balance the weight of the chassis between your feet.
- Lift the chassis slowly; never move suddenly or twist your body as you lift.

- Keep your back straight and lift with your legs, not your back. If you must bend down to lift the chassis, bend at the knees, not at the waist, to reduce the strain on your lower back muscles.
- Always disconnect all external cables before lifting or moving the chassis.

Required Installation Tools

The following tools and equipment are required to install the chassis:

- Number 1, number 2 Phillips, and 3/16-inch flat-blade screwdriver
- Antistatic mat or antistatic foam
- Your own ESD grounding strap or the disposable ESD strap included with the system

The following tools and equipment are required to install the chassis in a rack:

- Rack-mount kit
- Tape measure and level

Rack-Mounting the Catalyst 4900M Switch

Follow these steps to install the Catalyst 4900M switch in a four-post rack.

Step 1 Prepare for installation:

a. Place the chassis on the floor or on a sturdy table as close as possible to the rack. Leave enough clearance to allow you to move around the chassis.

b. Use a tape measure to measure the depth of the rack. Measure from the outside of the front mounting posts to the outside of the rear mounting strip. The four-post rack depth must be at least 19.25 inches (48.9 cm) but not more than 32.5 inches (82.5 cm). If the 4-post rack depth is greater than 32.5 inches (82.5 cm), order and use the optional rack-mount kit (C4900M-BKTS-KIT=).

c. Measure the space between the inner edges of the left front and right front mounting posts to ensure that it is 17.75 inches (45.09 cm) wide. (The chassis is 17.5 inches [44.5 cm] wide and must fit between the mounting posts.)

d. Open the standard rack-mount kit, and refer to Table 1-1 to verify that all parts are included.

Table 1-1 Standard Rack-Mount Kit Checklist

Quantity	Part Description	Received
1	Left mounting bracket	
1	Right mounting bracket	
2	Rear mounting brackets	
12	M4 Phillips Flat-head screws	
8	12-24 x 3/4-inch Phillips binder-head screws	
8	10-32 x 3/4-inch Phillips binder-head screws	

Note Figure 1-1 illustrates how to attach the front of the switch to the rack. You will also need to attach the rear of the switch to the rack.

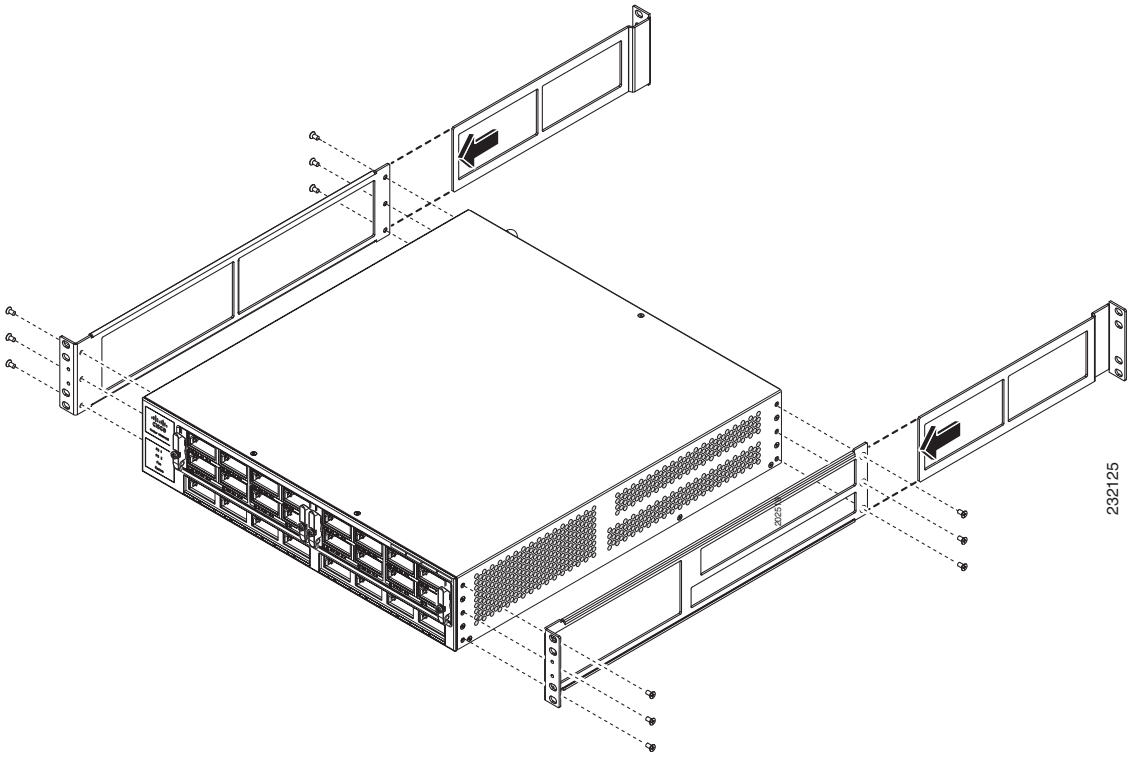
Step 2 Attach the left and right L brackets using the 12 M4 Phillips pan-head screws (six on each side) provided in the rack-mount kit. (See Figure 1-1.)

Note that the L brackets connect the chassis to the rack. You can mount the L brackets to the front or rear mounting holes of the chassis, depending on which end is in the front of the rack.

Note Some equipment racks provide a power strip along the length of one of the rear posts. If the rack has this feature, consider the position of the strip when planning fastener points. Before installing the L brackets on the chassis, determine whether to install the chassis from the front or the rear of the rack.

Step 3 Slide the rear brackets into the front brackets. (See Figure 1-1.)

Figure 1-1 Attaching the L Brackets to the Switch



Step 4 Install the chassis in the rack as follows:

a. Position the chassis in the rack (see Figure 1-2):

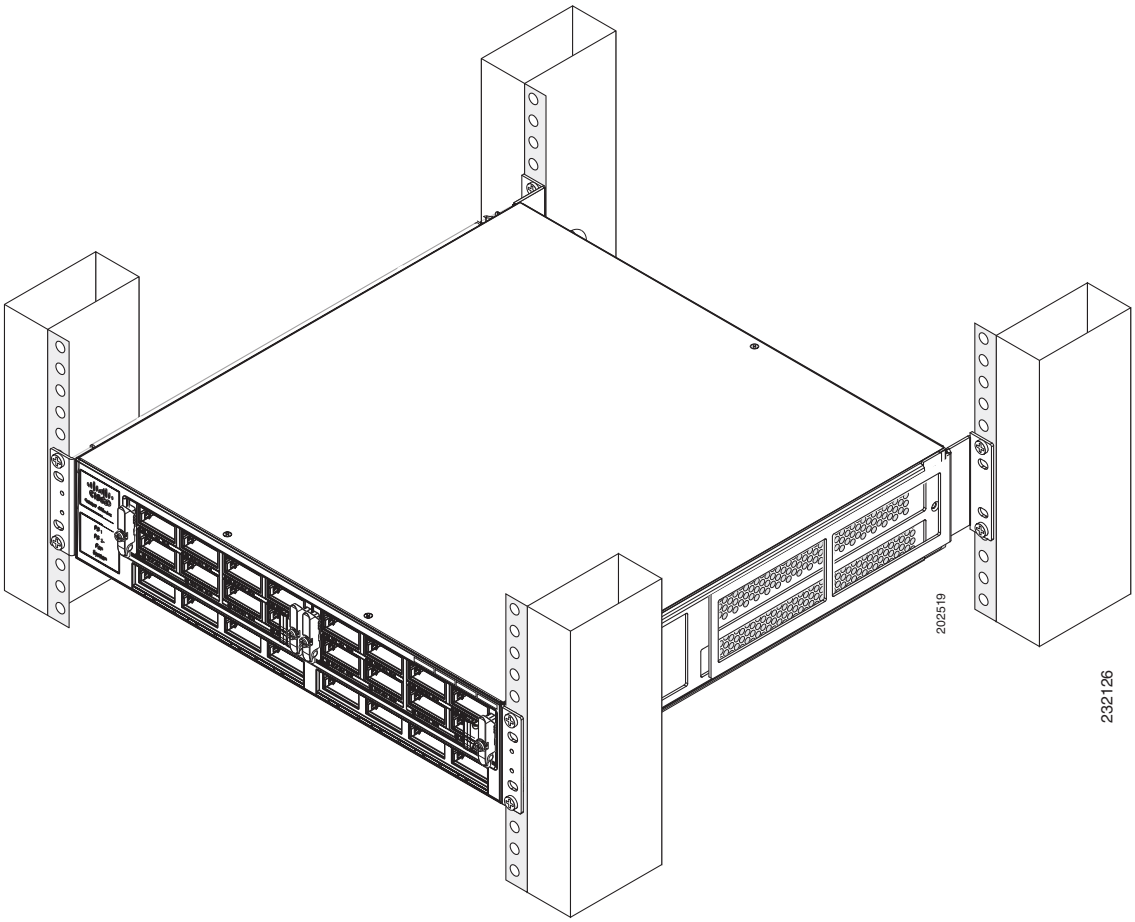
- If the chassis front panel is in the front of the rack, insert the rear of the chassis between the mounting posts.
- If the rear of the chassis is in the front of the rack, insert the front of the chassis between the mounting posts.

b. Align the mounting holes in the front and rear L brackets with the mounting holes in the equipment rack.

c. Secure the chassis using eight (two on each flange) 12-24 x 3/4-inch screws through the elongated holes in the L brackets and into the threaded holes in the mounting posts.

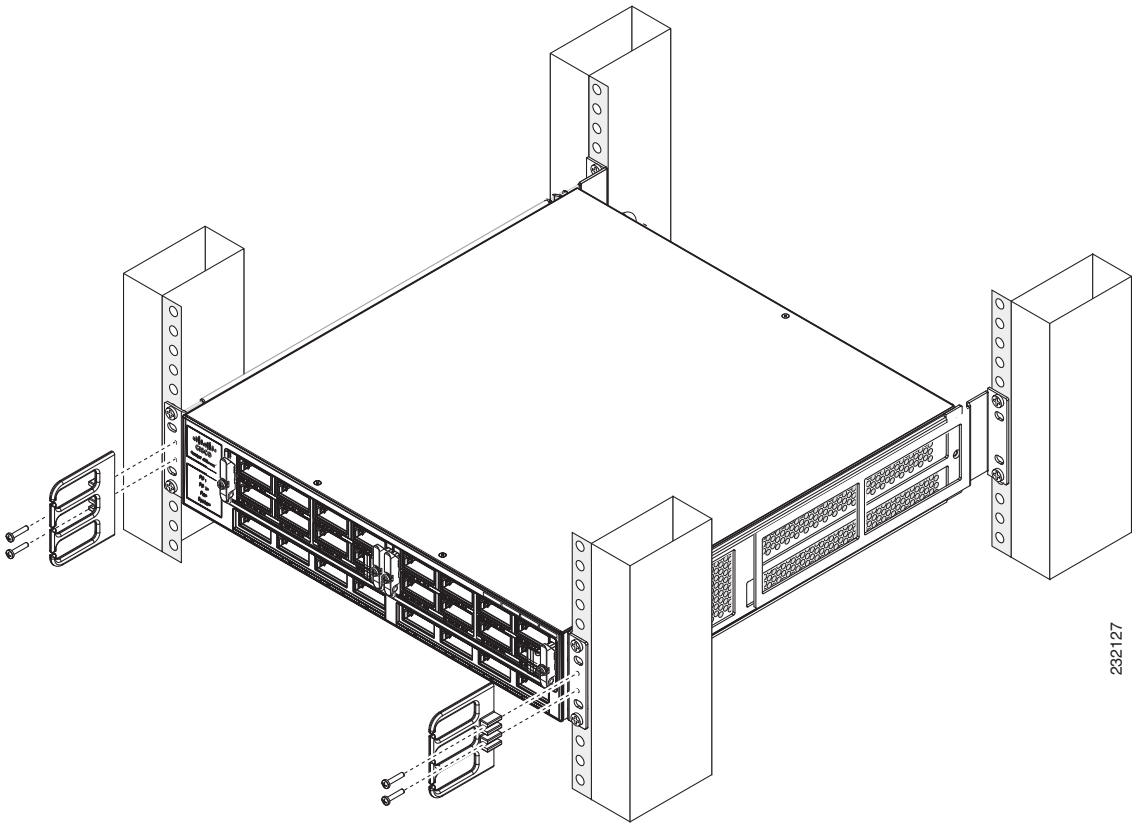
d. Use a tape measure and level to ensure that the chassis is installed straight and level.

Figure 1-2 Installing the Switch in the Rack



Step 5 Attach the cable guide to the right or left side of the chassis mount.

Figure 1-3 Installing the Cable Guide



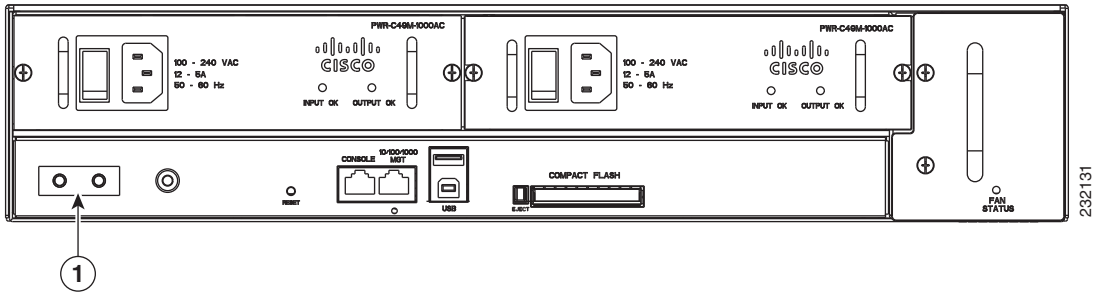
Step 6 Do not connect the power cord at this time. Proceed to the "Connecting Power to the Catalyst 4900M Switch" section on page 1-7.

Connecting Power to the Catalyst 4900M Switch

Follow these steps and warnings when connecting power to the Catalyst 4900M switch:

Step 1 Prior to connecting the power supply to a power source, ensure that all of the site power and grounding requirements described in Chapter 1, "Site Planning," have been met and the chassis is properly grounded as described in the "Grounding Requirements" section on page 1-7. The grounding pad for the switch is shown in Figure 1-4.

Figure 1-4 Grounding Pad Location

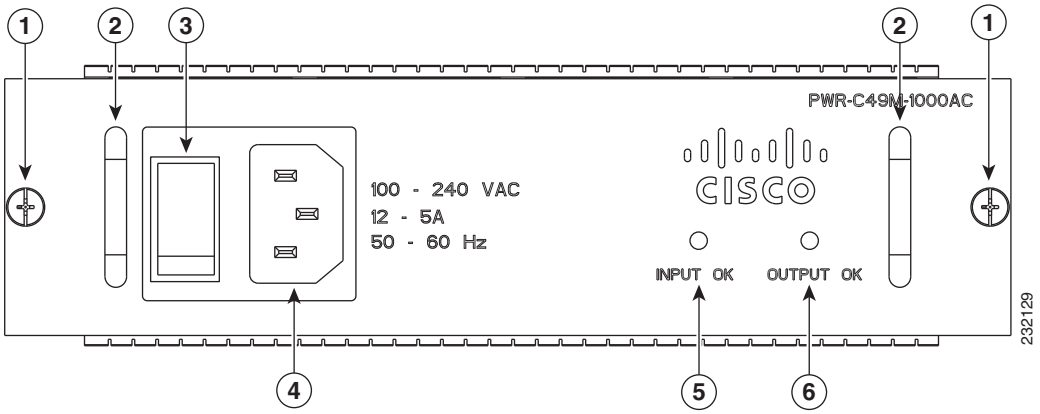


1	Grounding pad

Warning **The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.** Statement 1019

Step 2 Plug the power cords into the power supplies. Refer to Figure 1-5 for the plug location.

Figure 1-5 AC-Input Power Supply



1	Captive screw	4	AC power connection
2	Handle	5	INPUT OK LED
3	On/off switch	6	OUTPUT OK LED

Step 3 Connect the other end of the power cords to an AC power source. If both power supplies will be used, make sure they are on different source AC circuits.

Step 4 Turn the power switches to the ON position.

Step 5 Verify power supply operation by looking at the power supply LEDs:

- The INPUT OK LED is lit green when the source AC voltage is within operating limits.
- The OUTPUT OK LED is lit green when the measured DC output from the power supply is within operating limits.

Step 6 Verify power supply operation by looking at the chassis front panel power supply LEDs:

- The PS1 or PS2 LED is lit green when the power supply and fans are functioning normally.
- The PS1 or PS2 LED is lit red when the power supply is not functioning normally. The on/off switch may be set to off while the power supply is plugged in, or the power supply may be defective and not providing DC power to the switch. There may also be a fan failure.
- The PS1 or PS2 LED is off when there is no power supply installed.

From the system console, enter the **show power** command to display the power supply and system status. For more information on this command, see the command reference publication for your software release.

If the LEDs or **show power** command indicate a power or other system problem, see Chapter 1, "Troubleshooting the Installation," for troubleshooting information.

Connecting DC-Input Power to the Catalyst 4900M Switch

Before you connect the power supply to a power source, ensure that all of the site power and grounding requirements described in Chapter 1, "Site Planning," have been met and the chassis is properly grounded as described in the "Grounding Requirements" section on page 1-7.

Warning **Before performing any of the following procedures, ensure that power is removed from the DC circuit.** Statement 1003

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 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 **Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place.** Statement 1075

To connect source DC to the DC-input power supply, perform the following steps:

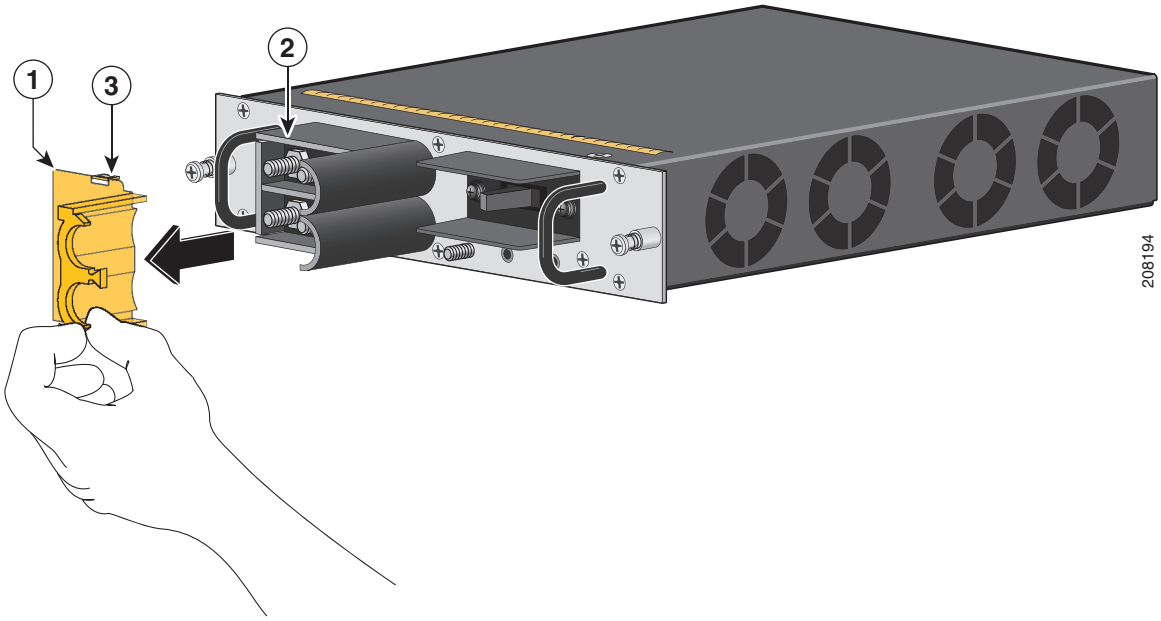
Step 1 Set the power switch or circuit breaker to the off (0) position on the source DC circuit that feeds the power supply that you are installing.

As an added precaution, place the appropriate safety flag and lockout devices at the source power circuit breaker, or place a piece of adhesive tape over the circuit breaker handle to prevent accidental power restoration while you are working on the circuit.

Step 2 Verify that the power switch is in the off (0) position on the power supply that you are installing.

Step 3 Remove the terminal block cover by simultaneously squeezing the top and bottom sides of the cover, and at the same time, use a fingernail to carefully pry up on the top and bottom clips on the terminal block cover to release the cover from the terminal block. Pull the cover off of the terminal block and set the cover aside. (See Figure 1-6.)

Figure 1-6 Removing the Terminal Block Cover



1	Terminal block cover	**3**	Terminal block cover clip
2	Terminal block		

Step 4 Using a 5/16-inch nutdriver, loosen and remove the four nut and lockwasher pairs on the terminal block posts. Set the nuts and lockwashers aside.

Step 5 Using an M4 nutdriver, loosen and remove the nut and lockwasher from the power supply ground terminal.

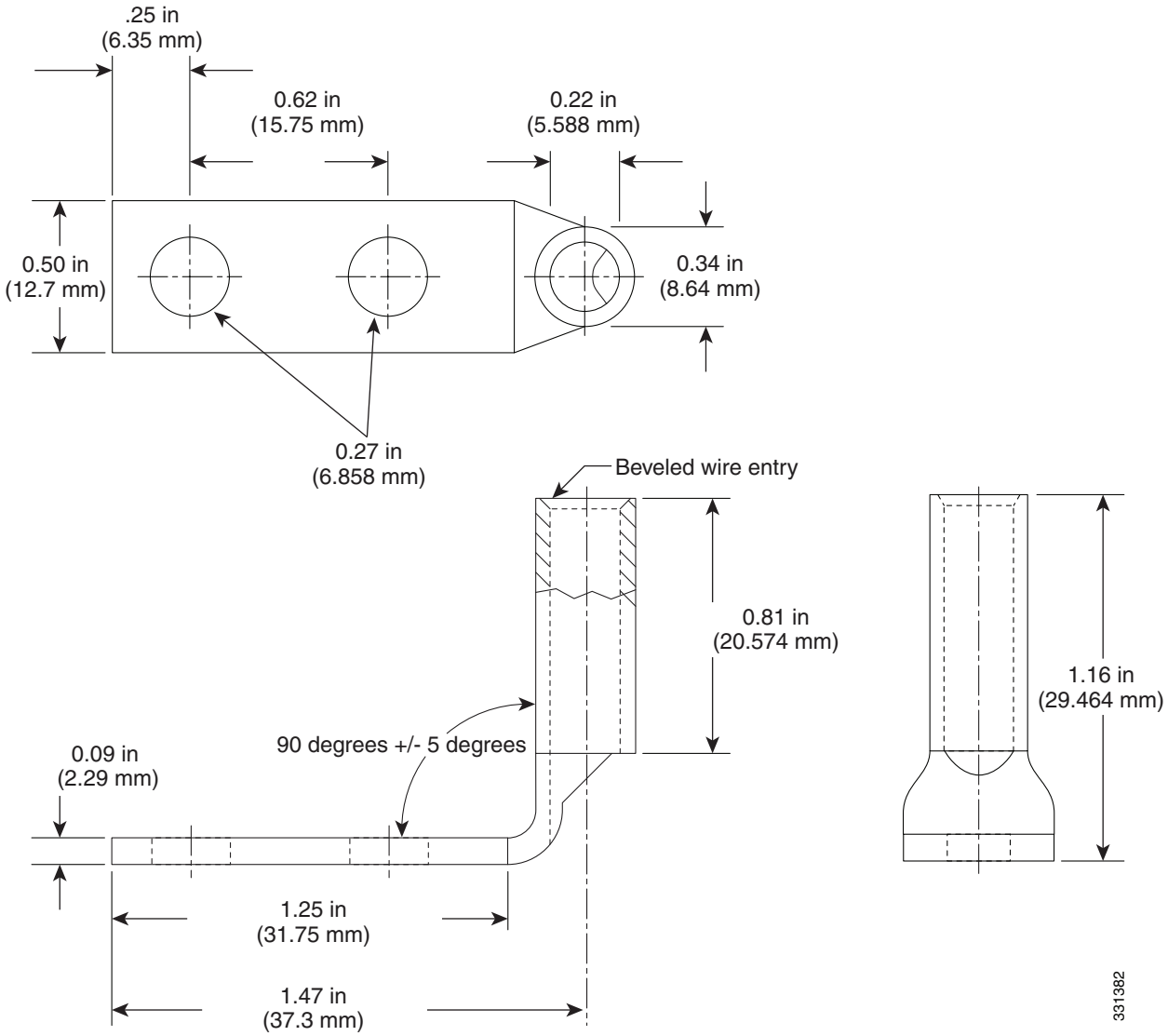
Step 6 Attach appropriate type and sized lugs to the source DC cables.

Note The lugs are not supplied as part of the chassis accessory kit; you need to purchase them separately. See Figure 1-7 for the physical dimensions of a suitably-sized DC power cable lug.

The lugs must have:

- Two holes with 0.62 ±0.02-inch spacing between the hole centers to accommodate the power supply terminal posts.
- A 90-degree bend in the barrel to allow the source DC cables to exit the terminal block.
- Suitable DC power cable lugs include:
  - For 4 AWG-sized cable—Panduit LCD4-14AF-L or Burndy YA4C-2L-90
  - For 6 AWG-sized cable—Panduit LCD6-14AF-L

Figure 1-7 DC Power Cable Lug Dimensions



Note The source DC cables and the terminal block lugs should be sized according to local and national installation requirements and electrical codes. Use only copper wire.

Step 7 Attach the appropriate size lug to the source DC ground wire. The lug must have:

- A single hole able to accommodate the 4 mm ground post.
- The barrel can be either straight or bent as necessary.

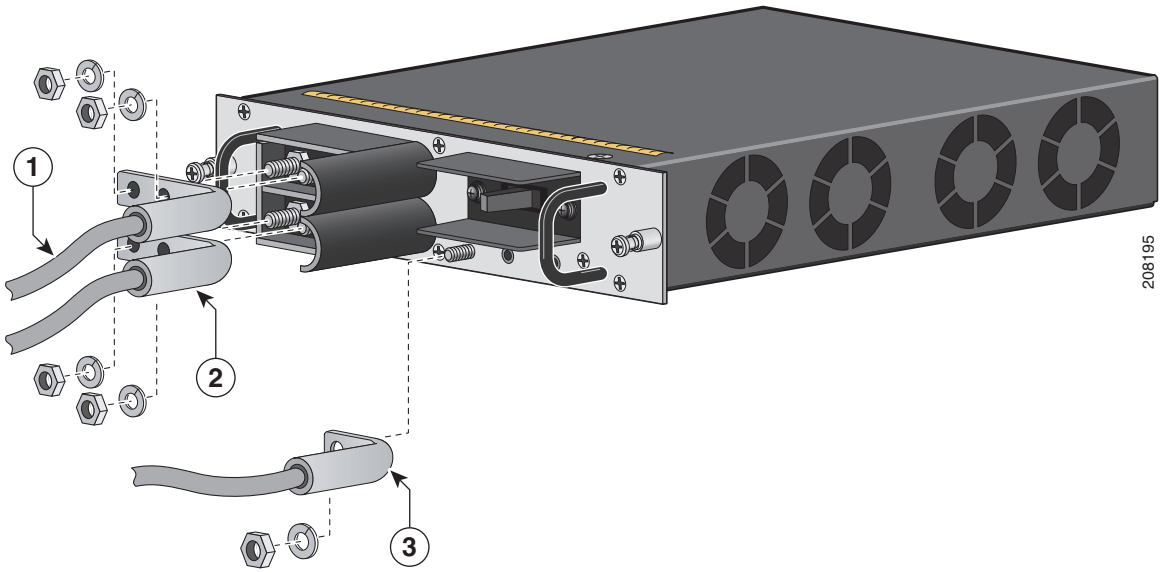
The ground lug is not supplied as part of the chassis accessory kit; you need to purchase it separately.

Step 8 Connect the source DC cables to the teminal block in this order (see Figure 1-8):

- Position the ground cable lug on the power supply ground terminal post. Slide the lockwasher over the ground post and tighten the nut to secure the source DC ground wire. Do not overtighten the nut. (15 in-lbs (1.7 Nm))
- Position the negative (–) source DC cable lug on the power supply negative (–) terminal posts. Slide the lockwashers over the terminal posts and tighten the nuts to secure the source lug to the posts. Do not overtighten the nuts. (35 in-lbs (3.6 Nm))
- Position the positive (+) source DC cable lug to the power supply positive (+) terminal posts. Slide the lockwashers over the terminal posts and tighten the nuts to secure the source lug to the posts. Do not overtighten the nuts. (35 in-lbs (3.6 Nm))

Note The terminal block on the 1000 W DC-input power supply is labeled positive(+) (top two posts) and negative (–) (bottom two posts). The ground post is located on the DC-input power supply faceplate, separate from the terminal block.

Figure 1-8 Attaching the Source DC Cables to the Power Supply

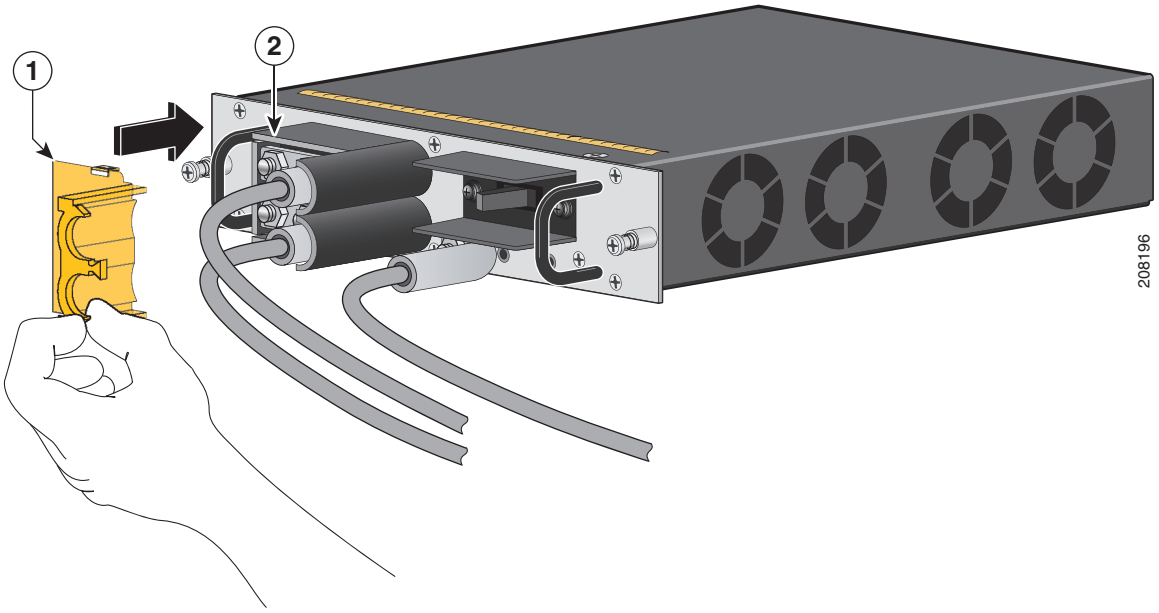


1	Source DC positive (+) cable	**3**	Source DC ground cable
2	Source DC negative (–) cable		

Step 9 Route the two source DC cables out of the terminal block, position the terminal block cover over the terminal block, and snap the cover into place. (See Figure 1-9.) Make sure that both the top and the bottom clips on the terminal block cover have fully engaged the tabs on the terminal block.

Caution To prevent short circuit or shock hazard after wiring the DC-input power supply, you must reinstall the terminal block cover.

Figure 1-9 Reinstalling the Terminal Block Cover



1	Terminal block cover	**2**	Terminal block

Step 10 Remove any safety flag and lockout devices or any tape from the source DC circuit breaker switch handle, and restore power by moving the circuit breaker switch handle to the on (|) position.

Step 11 Turn the 1000 W DC-input supply on/off switch to ON.

Step 12 Verify that the power supply operation is correct by looking at the power supply front panel power supply LEDs:

- The INPUT OK LED is green when the source DC voltage measured at the power supply is within specifications.
- The OUTPUT OK LED is green when the voltages provided by the power supply are within specifications.

You should also check the chassis front panel LEDs:

- The PS1 or PS2 LED is green.
- The PS1 or PS2 LED is red when the power supply is not functioning normally.
- The PS1 or PS2 LED is off when the power supply is not connected to a power source.

From the system console, enter the **show power** command to display the power supply and system status. For more information on this command, see the command reference publication for your software release.

If the LEDs or **show power** command indicate a power problem or other system problem, see Chapter 1, "Troubleshooting the Installation," for troubleshooting information.

Optical Connections

The Cisco 4900M switch has up to 24 ports that can be configured with X2 modules with SC connectors. Module types supported are documented at:

http://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/compatibility/matrix/OL_6974.html

Generic connection instructions for the X2 modules are at:

http://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/installation/note/OL_23589.html

Installation documentation for Cisco TwinGig converter modules can be found at:

http://www.cisco.com/en/US/docs/switches/lan/catalyst3750e_3560e/hardware/install/notes/1757202.html

Configurable Modules

All Catalyst 4900M modules support hot swapping, which lets you install, remove, replace, and rearrange switching modules without turning off the system power. When the system detects that a switching module has been installed or removed, it runs diagnostic and discovery tests automatically, acknowledges the presence or absence of the module, and resumes system operation with no operator intervention.

This section describes the following topics:

Required Tools

You will need these tools to install switching modules in the Catalyst 4900M series switches:

- Number 1 and number 2 Phillips screwdrivers for the captive installation screws
- 3/16-inch flat-blade screwdriver for the captive installation screws
- Antistatic mat or antistatic foam
- Wrist strap or other grounding device

Note Whenever you handle switching modules, use a wrist strap or other grounding device to prevent ESD damage.

Removing Switching Modules

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

Warning **Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

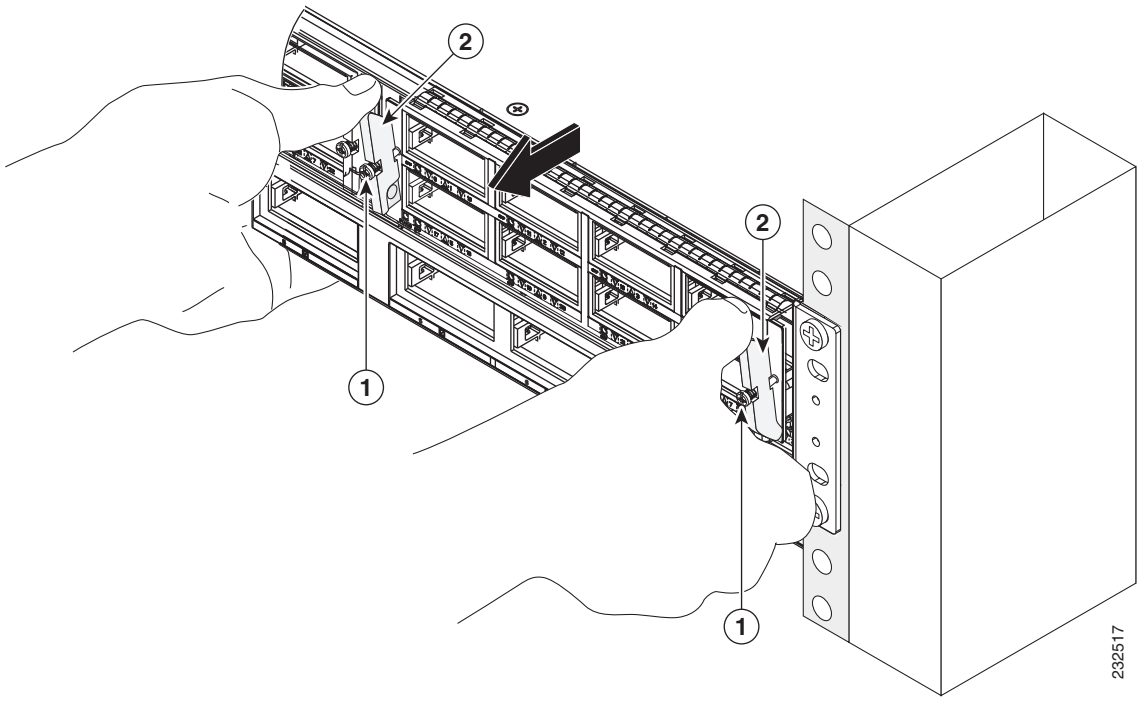
Caution To prevent ESD damage, handle switching modules by the carrier edges only.

To remove a switching module from a Catalyst 4900M series switch, perform the following steps:

Step 1 Disconnect any network interface cables attached to the ports on the switching module that you intend to remove.

Step 2 Loosen the captive installation screws. (See Figure 1-10.)

Figure 1-10 Captive Installation Screws and Ejector Levers



1	Captive screw	**2**	Ejector lever

Step 3 Grasp the left and right ejector levers, and simultaneously pivot the levers downward to release the switching module from the backplane connector.

Step 4 Grasp the front panel of the switching module with one hand, and place your other hand under the carrier to support and guide it out of the slot. Do not touch the printed circuit boards or the connector pins.

Step 5 Carefully pull the switching module straight out of the slot, keeping your other hand under the carrier to guide it.

Step 6 Place the switching module on an antistatic mat or antistatic foam, or immediately install it in another slot.

Step 7 If the slot is to remain empty, install a switching-module filler plate.

Warning **Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.** Statement 1029

Installing Switching Modules

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 **Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

Caution To prevent ESD damage, handle switching modules by the carrier edges only.

To install a switching module in a Catalyst 4900M series switch, perform the following steps:

Step 1 Take the necessary precautions to prevent ESD damage as described in Appendix B and in Chapter 2.

Step 2 Choose a slot for the new switching module. Ensure that you have enough clearance to accommodate any interface equipment that you will connect directly to the switching module ports.

Step 3 Loosen the captive installation screws that secure the switching-module filler plate (or the existing switching module) to the desired slot.

Step 4 Remove the switching-module filler plate (or the existing switching module). Save the switching-module filler plate for future use. If you are removing an existing switching module, see the "Removing Switching Modules" section on page 1-15.

Step 5 To install the new switching module, grasp the switching-module front panel with one hand, and place your other hand under the carrier to support the switching module, as shown in Figure 1-11. Do not touch the printed circuit boards or connector pins.

Step 6 Align the edges of the circuit board with the slot guides on the sides of the switch chassis, as shown in Figure 1-11.

Figure 1-11 Installing the Switching Module in the Chassis

1	Captive screw

Step 7 Carefully slide the switching module into the slot until both ejector levers engage the chassis sides equally and the module is seated in the backplane.

Step 8 Use a screwdriver to tighten the captive installation screws on each end of the switching module faceplate.

To check the status of the module, perform the following steps:

Step 1 Ensure that the STATUS LED is green (module operational).

Step 2 When the switch is online, enter the **show module** command. Verify that the system acknowledges the new module and that the module's status is listed as good in the command output.

Step 3 If the module is not operational, reseat it. If the module is still not operational, contact your customer service representative.

Removing and Replacing the Power Supply

This section describes how to remove and install the AC and DC-input power supplies. This information is presented in the following sections:

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

Locate your power supply and notice the location of the captive installation screws.

Note The power supplies are hot-swappable, so in redundant mode you will not need to power down the switch to replace most power supplies. In combined mode some slots may lose power during power supply replacement.

Required Tools

You will need a flathead or Phillips screwdriver or 5/16” nut driver or socket to perform these procedures.

Removing a Power Supply

Follow these steps to remove a power supply:

Step 1 Set the power switch to the off (O) position.

Caution For DC installations, the DC power source or panel breaker should be powered down before disconnecting input power cables from the 1000W DC power supply.

Step 2 Disconnect the power cord or cords from the power supply being removed.

Step 3 Loosen the captive screws.

Caution Use both hands to remove a power supply.

Step 4 Grasp the power supply handles and pull the power supply out an inch to unseat the backplane connections. Place one hand underneath to support the bottom of the power supply.

Step 5 Pull the power supply out of the bay and set it aside.

Warning **Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.** Statement 1029

Step 6 If the power supply bay is to remain empty, install a blank power supply filler plate over the opening. Secure the filler plate with the two mounting screws and tighten them with a screwdriver.

Installing a Power Supply

Warning **The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.** Statement 1019

Follow these steps to install a power supply:

Step 1 Make sure that the power supply you are installing is not connected to a power source and that a power cord is not connected to the power supply.

Step 2 Loosen the two Phillips-head screws from the power supply filler plate (if a filler plate is present).

Step 3 Remove the power supply filler plate (if one is present) and set it aside.

Caution Use both hands to grasp a power supply.

Step 4 Grasp a power supply handle with one hand. Place your other hand underneath to support the bottom of the power supply.

Step 5 Slide the power supply almost all the way into the power supply bay. Press with both thumbs evenly to correctly seat the power supply into the connections inside.

Step 6 Using a screwdriver, tighten the two captive installation screws on the front panel of the power supply.

Step 7 Make sure the power supply power switch is in the off position (O).

Step 8 Before you connect the power supply to a power source, ensure that all site power and grounding requirements have been met.

Step 9 Plug the power cord or cords into the power supply.

Step 10 Connect the other end of the power cord to a power input source.

Caution In a system with multiple power supplies, connect each power supply to a separate power source. In the event of a power source failure, if the second source is still available, it can maintain maximum overcurrent protection for each power connection.

Step 11 Press the power switch to the on (|) position.

Step 12 Verify power supply operation by checking the power supply's front-panel LEDs. You should see the following:

- The LED labeled INPUT OK is green.
- The LED labeled OUTPUT OK is green.

Step 13 Check the power supply and system status from the system console by entering **show power** command. For more information on this command, refer to the command reference publication for your switch.

Step 14 If the LEDs or **show power** command output indicate a power problem or other system problem, see Chapter 1, "Troubleshooting the Installation," for more information.

Removing and Replacing the Fan Assembly

This section describes how to remove and install the fan assembly.

Required Tools

You will need a Phillips screwdriver for the following two procedures.

Removing the Fan Assembly

Warning **When removing the fan tray, keep your hands and fingers away from the spinning fan blades. Let the fan blades completely stop before you remove the fan tray.** Statement 258

Caution Never operate the system for an extended period if the fan assembly is removed or if it is not functioning properly. An over-temperature condition can cause severe equipment damage.

To remove the existing fan assembly, perform the following steps:

Step 1 Loosen the two captive installation screws on the fan assembly by turning them counterclockwise.

Step 2 Grasp the fan assembly with both hands and pull it outward; gently move it side to side if necessary to unseat it from the backplane. Slide it out of the chassis and place it in a safe place.

Installing the Fan Assembly

To install the new fan assembly, perform the following steps:

Step 1 Hold the fan assembly with the captive screws on the left.

Step 2 Place the fan assembly into the fan assembly bay so it rests on the chassis, and then lift the fan assembly up slightly, aligning the top and bottom guides.

Step 3 Slide the fan assembly into the chassis until the two captive installation screws make contact with the chassis.

Step 4 Using a screwdriver, tighten the two captive installation screws by turning them clockwise.

Verifying the Installation

Note To check the operation of the fans, you need to power up the chassis.

To verify that the new fan assembly was installed correctly, perform the following steps:

Step 1 Listen for the fans; you should immediately hear them operating. If you do not hear them, ensure that the fan assembly is inserted completely in the chassis and that the faceplate is flush with the switch back panel.

Step 2 The fan tray LED should be lit green.

Step 3 If after several attempts the fans do not operate, or if you experience trouble with the installation (for instance, if the captive installation screws do not align with the chassis holes), contact the Cisco TAC for assistance.