Installation

This section describes how to install the switch module in Cisco CGR 2010 routers. The switch module occupies two of four slots on the I/O side of the router. This chapter includes the following topics:

- Pre-Installation
- Installation
- Connecting to the Network
- Removing the Switch Module

Pre-Installation

Before installing the switch module, verify these guidelines are met:

- Clearance to the I/O-side view is such that the LEDs can be easily read
- Cabling is away from sources of electrical noise, such as radios, power lines, and fluorescent lighting fixtures. Make sure that the cabling is away from other devices that might damage the cables.
- Airflow around the switch module and through the vents is unrestricted
- Temperature around the unit does not exceed 140°F (60°C). If the switch module is installed in a closed or multirack assembly, the temperature around it might be higher than normal room temperature.
- Relative humidity around the switch module does not exceed 95 percent (noncondensing)
- Altitude at the installation site is not higher than 10,000 feet
- For 10/100 and 10/100/1000 fixed ports, cable lengths from the switch module to connected devices are not longer than 328 feet (100 meters)

Installation Warning Statements

This section includes the basic installation warning statements. Translations of these warning statements appear in the *Regulatory Compliance and Safety Information for the Cisco CGS 2520 Switches* and the *Regulatory Compliance and Safety Information for Cisco Connected Grid Router 2000 Series Routers* documents.

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

Warning **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 140°F (60°C)** Statement 1047

Warning **This equipment is supplied as "open type" equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The interior of the enclosure must be accessible only by the use of a tool.**

The enclosure must meet IP 54 or NEMA type 4 minimum enclosure rating standards. Statement 1063

Warning **This equipment is intended to be grounded to comply with emission and immunity requirements. Ensure that the switch functional ground lug is connected to earth ground during normal use.** Statement 1064

Warning **To prevent airflow restriction, allow clearance around the ventilation openings to be at least: 1.75 in. (4.4 cm)** Statement 1076

Installation

Follow these steps to install the switch module:

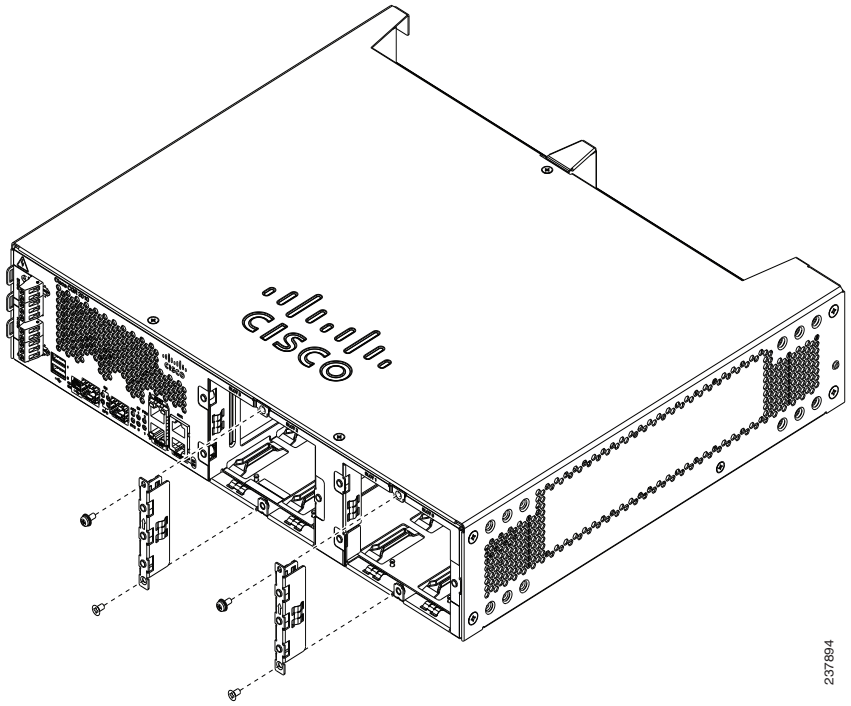
Step 1 Before you install (or remove) the switch module from the host CGR 2010 router, you must power down the router as described in the "Shutting Off Power" section in Chapter 3 of the *Cisco Connected Grid Router 2010 Hardware Installation Guide.*

Step 2 Facing the I/O side of the Cisco CGR 2010 router, use a no. 2 Phillips screwdriver to remove the slot divider between the slots where you intend to install the switch module - either slots 0 and 1 or slots 2 and 3 (see Figure 2-1).

a. Remove the two screws on the slot divider.

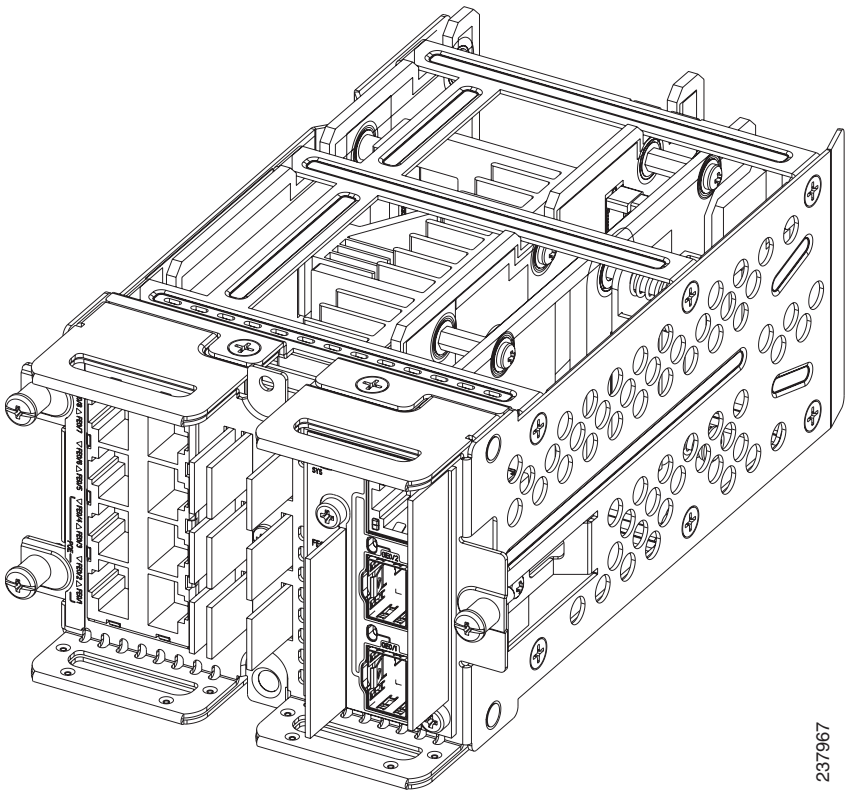
b. Remove the slot divider and set it aside.

Figure 2-1 Removing the Slot Divider From the CGR 2010 Router



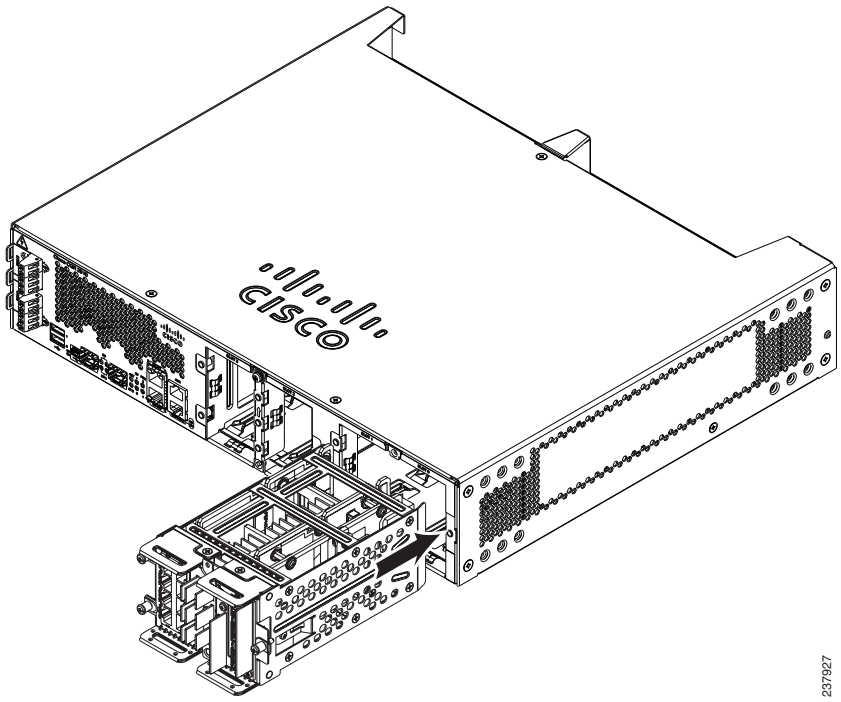
Step 3 Stand the switch module on end to install it into the Cisco CGR 2010 router slot (see Figure 2-2).

Figure 2-2 Positioning the Switch Module to Install in the Router



Step 4 Grasp the handles and carefully slide the module into the card guide, then push with both hands until the module is flush against the router chassis (see Figure 2-3).

Figure 2-3 Installing the Switch Module in the CGR 2010 Router



Step 5 Tighten the screws:

a. Tighten the lower flathead screw to the bottom center hole.

b. Tighten the second panhead screw to the top center hole.

Step 6 Tighten the three captive screws on the front of the switch module:

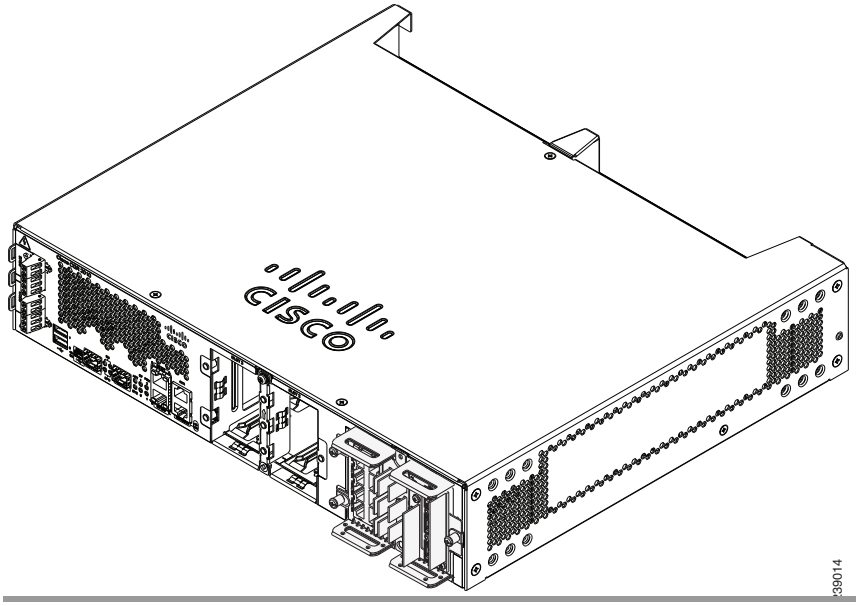
a. Tighten the captive screw on the lower left of the module.

b. Tighten the single captive screw on the right side of the module.

c. Finally, tighten the captive screw on the upper left of the module.

The switch module is now successfully installed in the router (see Figure 2-4).

Figure 2-4 Switch Module Installed in the CGR 2010 Router



Connecting to the Network

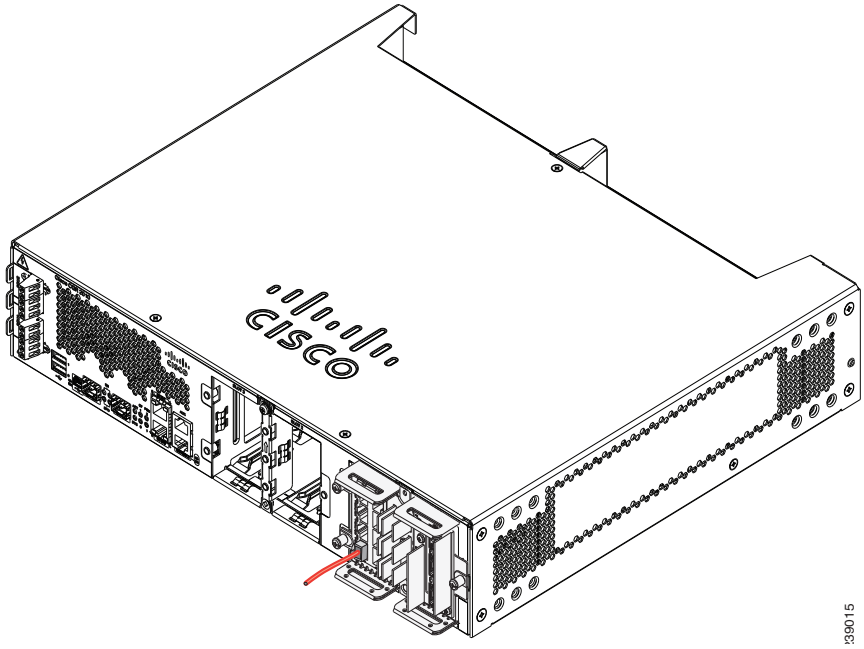
- Connecting the Copper Switch Module, page 2-5
- Connecting the Fiber Switch Module, page 2-6

Connecting the Copper Switch Module

Follow these steps to connect the switch module's copper model (GRWIC-D-ES-2S-8PC) to the network:

Step 1 Connect one end of the cable to one of the Fast Ethernet ports on the switch module (see Figure 2-5).

Figure 2-5 Connecting the Copper Model to the Network



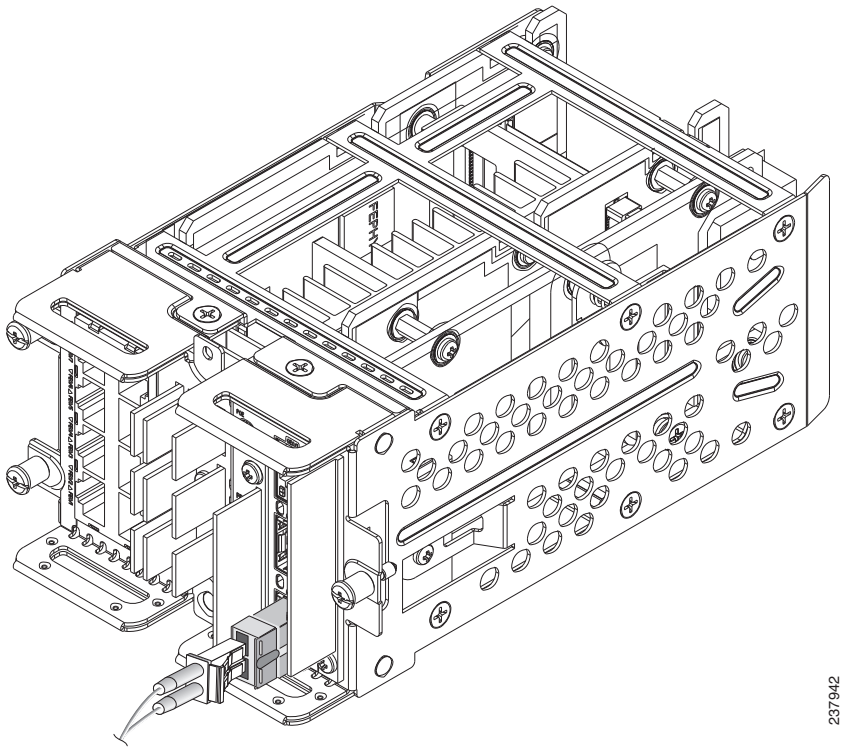
Step 2 Connect the other end of the cable to the RJ-45 connector of the target device.

Connecting the Fiber Switch Module

Follow these steps to connect the switch module's fiber model (GRWIC-D-ES-6S) to the network:

Step 1 Connect one end of the cable to one of the six fiber ports on the fiber model Ethernet switch module (see Figure 2-6).

Figure 2-6 Connecting the SFP Fiber Model to the Network



Step 2 Connect the other end of the cable to the standard LC-type optical connector on the target device.

Removing the Switch Module

Caution The Cisco CGR 2010 router does not support removing modules when the chassis is powered on. Removing the switch module when the router is running can result in undesirable behavior, such as resetting the router or damage to the router.

Follow these steps to remove the switch module from the host router:

Step 1 Power down the CGR 2010 router as described in "Shutting Off Power" in Chapter 3 of the *Cisco Connected Grid Router 2010 Hardware Installation Guide*.

Step 2 Remove the three captive screws and the two screws at the top and bottom center of the module.

Step 3 Grasp the handles firmly with both hands and carefully pull out the switch module.

Step 4 Power up the router when ready to do so.