53-1001434-01
28 July 2009

Slide Rack Mount Kit

Installation Procedure

Supporting Brocade 200E, 300, 4100, 4900, 5000, 5100, 5300, 7500 series, 7800, AP7420, and Encryption Switch

BROCADE

53-1001434-01

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Document History

Title	Publication number	Summary of changes	Date
Slide Rack Mount Kit Installation Procedure	53-0001625-01	New document.	March 2002
Slide Rack Mount Kit Installation Procedure	53-0001625-02	Added support for 3200, 3800, and 3900 switches.	November 2002
Slide Rack Mount Kit Installation Procedure	53-0001625-05	Added 2U switch installation procedures to support Fabric AP7420 switches.	September 2003
Slide Rack Mount Kit Installation Procedure	53-0001625-06	Complete reformat (including altering procedures), provided new illustrations, and added 3250/3850 support.	December 2003
Slide Rack Mount Kit Installation Procedure	53-0001625-07	Added support for 4100, minor editorial changes in text and graphics.	July 2004
Slide Rack Mount Kit Installation Procedure	53-0001625-08	Updated to clarify bracket usage and add required tool.	September 2004
Slide Rack Mount Kit Installation Procedure	53-0001625-09	Added support for 200E, minor editorial changes in text.	January 2005
Slide Rack Mount Kit Installation Procedure	53-0001625-10	Added support for 4900 and 7500.	February 2006
Slide Rack Mount Kit Installation Procedure	53-0001625-12	Added support for Brocade 5000 switch.	December 2006
Slide Rack Mount Kit Installation Procedure	53-0001625-13	Rebranded to current standards and changed title of manual to include "7500 series."	January 2008
Slide Rack Mount Kit Installation Procedure	53-0001625-14	Updated to include support for the Brocade 300, 5100, and 5300	March 2008
Slide Rack Mount Kit Installation Procedure	53-0001625-15	Updated to include support for the Brocade Encryption Switch and OEM review comments.	August 2008
Slide Rack Mount Kit Installation Procedure	53-0001625-16	Deleted all references and information to non-port side installation. Other less significant updates and changes.	September 2008
Slide Rack Mount Kit Installation Procedure	53-1001434-01	Added support for Brocade 7800 switch.	July 2009

Contents

This document provides instructions to install a 1U, 1.5U, or 2U switch (or SAN Router) in a 19-in. (48.3 cm) EIA cabinet using the Slide Rack Mount Kit. Round-hole and square-hole cabinet rails are supported. The document is organized as follows.

- Installation requirements 4
- Tool requirements and parts list. 4
- Planning the switch installation 7
- Installing the switch. 7

Installation requirements

Allow 15 to 30 minutes to complete this procedure. Note the following requirements to ensure correct installation and operation:

ATTENTION
Install the switch with the fan side facing the air-intake aisle. The chassis air intake is on the non-port side and exhaust is on the port side. Non-port side installation is not supported.

NOTE
Two persons can make installation easier, particularly with the 2U chassis.

- Provide space in a 19-in. (48.3 cm) EIA cabinet, as required for the switch type, with a minimum distance of 28.25 in. (71.76 cm) and a maximum distance of 29.88 in. (75.90 cm) between the front and back rails.
- Verify that the additional weight of the switch does not exceed the cabinet weight limits.
- Ensure that an electrical branch circuit with the following characteristics is available:
  - Required voltage and frequency as indicated in the hardware reference manual. (200-230 VAC is always preferred)
  - Protection by a circuit breaker in accordance with local electrical codes.
  - Supply circuit, line fusing, and wire size that conform to the electrical rating on the switch nameplate.
  - Grounded outlet compatible with the power cord and installed by a licensed electrician.
- Ensure that all equipment installed in the cabinet is grounded through a reliable branch circuit connection. Do not rely on a secondary connection to a branch circuit, such as a power strip.
- Ensure that the cabinet is mechanically secured to ensure stability.
- Ensure that the air temperature at the fan inlet is less than 104^{o} Fahrenheit (40^{o} Celsius) during switch operation.
- Ensure that the airflow available at the air vents meets the minimum requirements for the switch.

Tool requirements and parts list

The following tools are required to perform this procedure:

- Clamps or other means of temporarily supporting the switch in the cabinet.
- Phillips #2 screwdriver with torque capability.

- 11/32-inch wrench.
- 1/4-inch slotted-blade screwdriver with torque capability.

ATTENTION
Use the exact screws specified for use with the switch. Longer screws might damage the switch.

Ensure that the items listed in Table 1 and illustrated in Figure 1 are included in the kit.

TABLE 1 Parts list

Item	Description	Total Qty.
A	Slide assembly, containing one inner and one outer slide rail, with Items B, C, and D installed on the outer slide rail (each slide assembly is bagged separately)	2
B	Three-hole slide mount L-bracket	4
C	Locking hex nut, 8-32 (for Item D)	12
D	Slotted screw, 8-32 x 3/8 inch, zinc	16
E	Power cord clip	6
F	Phillips screw, 10-32 x 1/2 inch, black	12
G	Three-hole rack nut bar, 8-32 (for Item F)	4
H	Alignment washer	12
I	Retainer nut, 10-32 (for Item F)	12
J	Left rack mount bracket (unexpected movement safety bracket for port side)	1
K	Right rack mount bracket (unexpected movement safety bracket for port side)	1
L	Left mount bracket (unexpected movement safety bracket for port side)	1
M	Right mount bracket (unexpected movement safety bracket for port side)	1
N	Phillips screw, 8-32 x 1/4 inch, black	4
O	Back rack mount bracket (unexpected movement safety bracket for non-port side)	2
P	Phillips screw, 8-32 x 3/16 inch, zinc	12

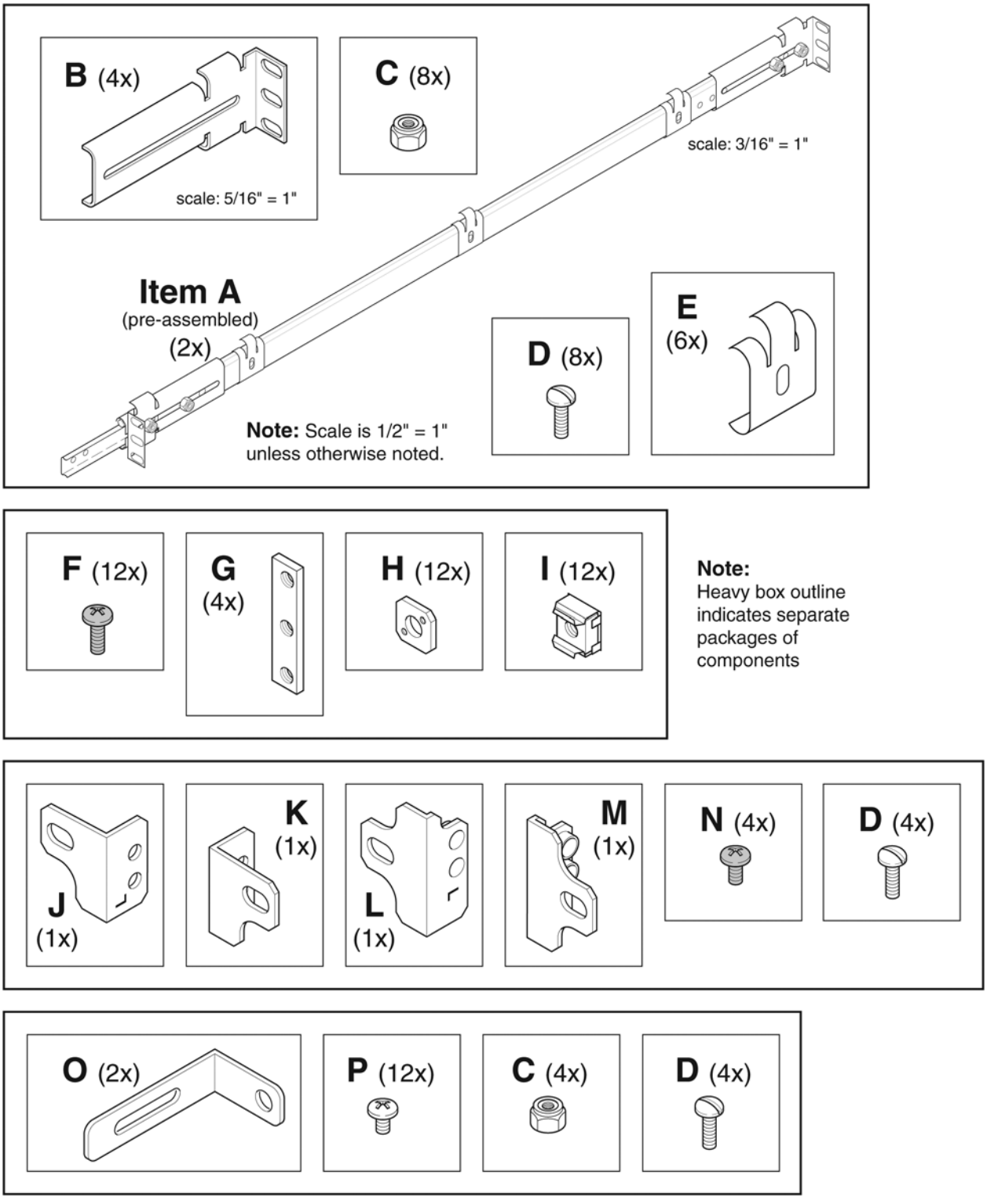

FIGURE 1 Items in the Slide Rack Mount Kit (not to scale)

Planning the switch installation

The slide rack mount kit supports 1U, 1.5U, and 2U switch sizes. Complete the following steps to plan the position of the switch in the cabinet.

1. Plan the orientation of the switch so that the non-port side faces the air-intake aisle.
2. Plan 1U, 1.5U, or 2U of rack space for the switch.

NOTE
1U represents a rack unit of space in a standard EIA cabinet. 1U equals 1.75 in. (4.44 cm).

Installing the switch

ATTENTION
The switch must be turned off and disconnected from the fabric during this procedure.

NOTE
Although this document describes how to install a 1U, 1.5U, and 2U switch, the illustrations show a 1.5U switch.

Complete these tasks to install the switch in a cabinet:

1. "Preparing slide assemblies"
2. "Attaching inner slide rails"
3. "Attaching rack mount brackets"
4. "Attaching L-brackets to cabinet rails"
5. "Inserting the switch in the cabinet"

Preparing slide assemblies

Perform the following steps to prepare both slide assemblies for installation.

1. Locate the slide assembly (Item A and pre-assembled) in the kit (Figure 1).
2. Pull the inner slide rail out until the lock engages (Figure 2).
3. Press the lock-release lever located inside the inner slide rail and pull the inner rail away from the outer rail.
4. Repeat step 1 through step 3 with the second slide assembly.

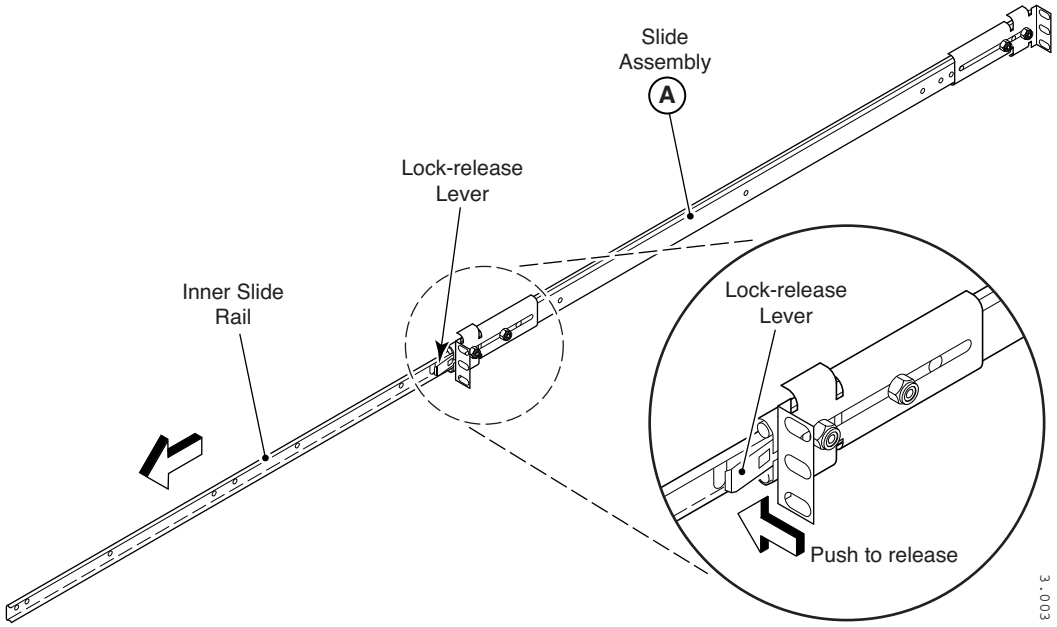

FIGURE 2 **Pulling the slide rails apart**

Attaching inner slide rails

Perform the following steps to attach the inner slide rails to the switch.

1. Position an inner slide rail with the flat side against the switch and the end containing the lock-release lever toward the non-port side of the switch.
2. Align the rail holes with the holes drilled in the side of the switch (Figure 3).
3. Attach the rail using three Phillips 8-32 x 3/16-inch screws (Item P).

ATTENTION
Using screws that are longer than the specified length can damage the switch. Use only the screws provided with the kit.

4. Tighten the screws to a torque of 15 inch-pounds (17 cm-kg).
5. Repeat step 1 through step 4 for the inner slide rail on the other side of the switch.

NOTE
Hole pattern (Figure 3) is identical for all switches: 1U, 1.5U, and 2U.

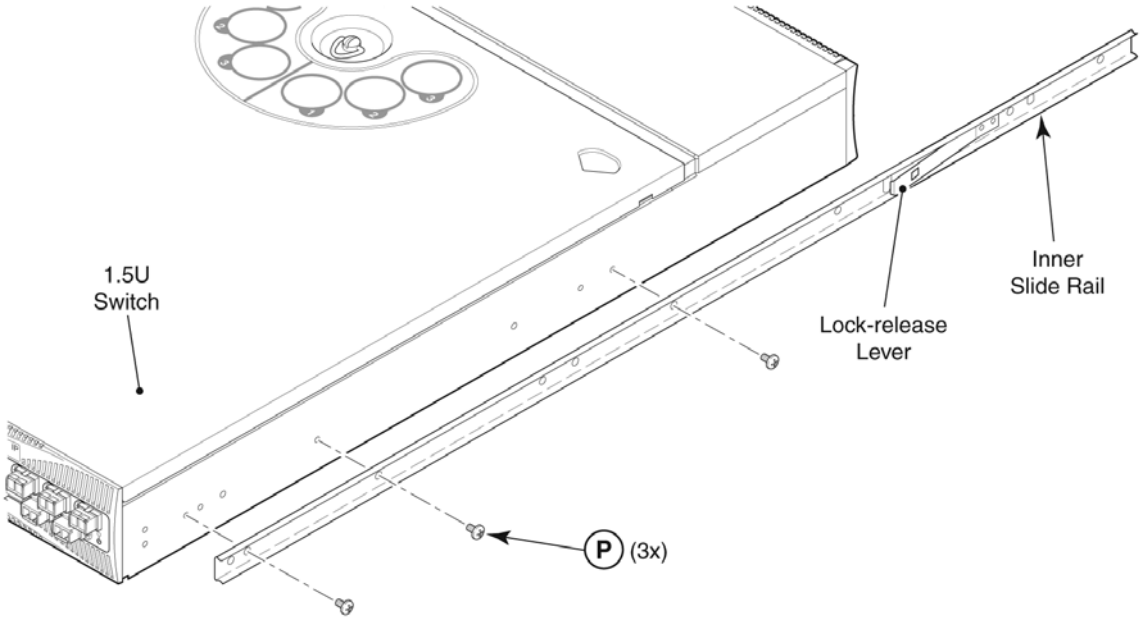

FIGURE 3 **Installing inner rail to allow a switch to slide out of port side**

Attaching rack mount brackets

NOTE
For recessed switches, use the back rack mount bracket (Item O) instead of left and right rack mount brackets.

Perform the following steps to attach rack mount brackets.

1. Position the right mount bracket next to the right side of the switch (Figure 4).
2. Attach the right rack mount bracket (Item M or K) to the switch using two slotted-head 8-32 x 3/8 inch screws (Item D).

ATTENTION
Using screws longer than the specified length can damage the switch. Use only the screws provided with the kit.

3. Tighten the screws to a torque of 15 inch-pounds (17 cm-kg).
4. Repeat step 1 through step 3 for the left rack mount bracket (Item L).

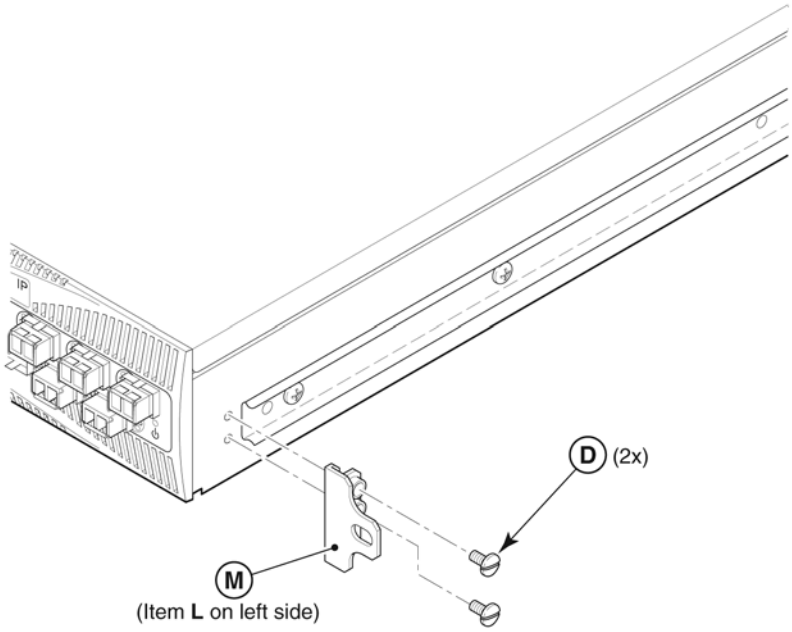

FIGURE 4 **Attaching a rack mount bracket**

Attaching L-brackets to cabinet rails

Each slide assembly (Item A) includes two L-brackets (Item B) that attach to the cabinet rails (either round-hole or square-hole). The slide rack mount kit includes hardware compatible with both cabinet rail types.

NOTE
Two methods are available for square-hole cabinet rails: one using retainer nuts (method A), and one using alignment washers and three-hole nut bars (method B).

The following sections provide installation instructions for each type of cabinet rail:

- "Round-hole cabinet rails,"
- "Square-hole cabinet rails (Method A)"
- "Square-hole cabinet rails (Method B)"

Round-hole cabinet rails

Perform the following steps to install the round-hole hardware.

1. On the port side of the outer slide rail, using the 11/32-inch wrench, loosen the nuts (Item C) securing the L-bracket (Item B) and extend the end of the bracket beyond the end of the slide rail by 5/8 inch (Figure 5).

   Repositioning allows the rack mount brackets to align with the cabinet rails.

2. Position the outer slide rail inside the cabinet rails with the closed ends of the slide rail toward the non-port side of the cabinet (Figure 6).

3. Loosen and adjust the position of the non-port side L-bracket as necessary.

NOTE
If side cabinet access is not available, measure the depth of the cabinet, loosen the L-bracket on the non-port side, and adjust the bracket position until the total rail length matches the cabinet depth.

4. Attach the L-brackets (Item B) to the cabinet rails using five Phillips 10-32 x 1/2 inch screws (Item F) and two of the three-hole nut bars (Item G).

NOTE
Leave the middle hole empty on the port side for securing the rack mount bracket (Item O or M) later ("Inserting the switch in the cabinet").

5. Tighten the screws to 15 inch-pounds (17 cm-kg).
6. Repeat step 1 through step 5 for the other rail.

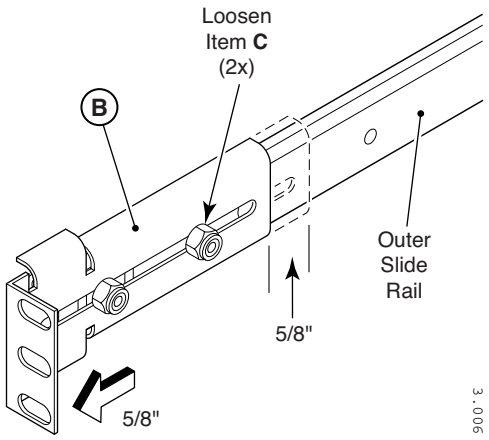

FIGURE 5 **Repositioning the L-brackets**

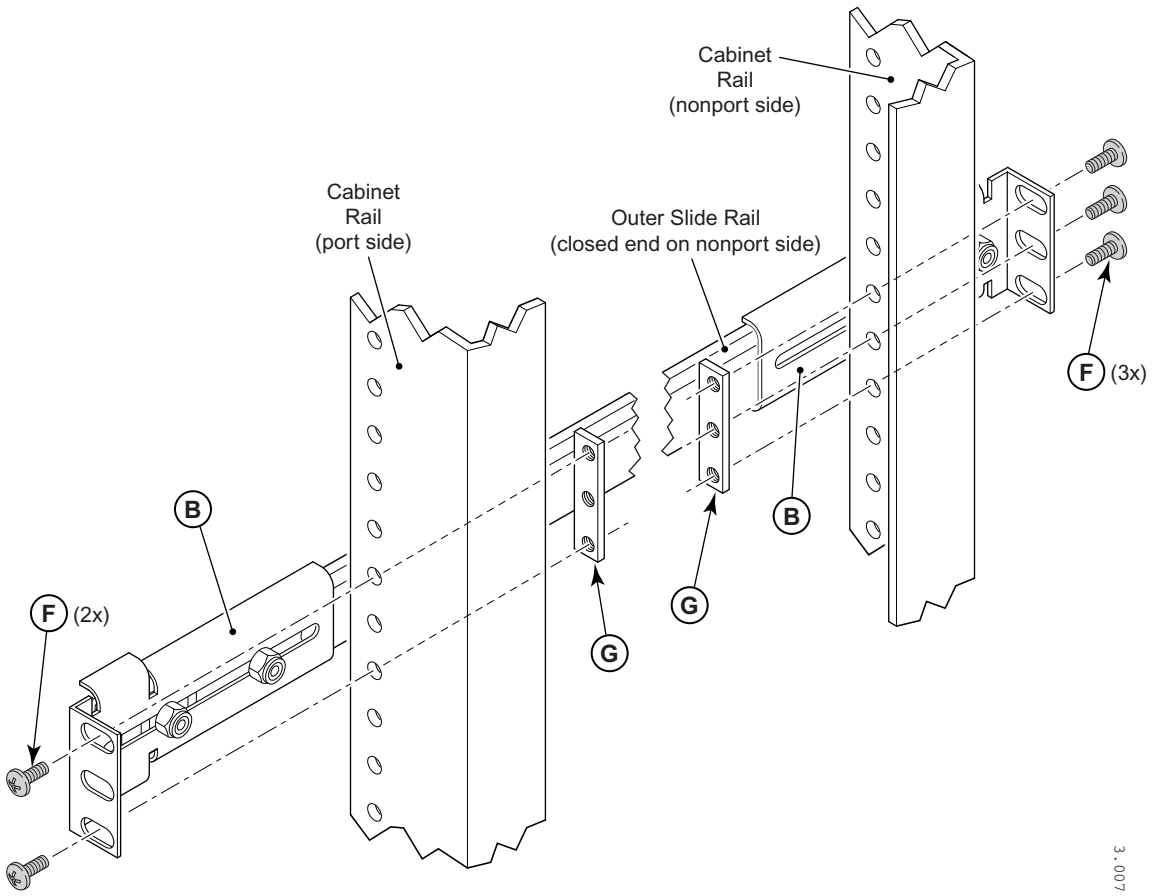

FIGURE 6 **Attaching outer slide rails to round-hole cabinet rails**

Square-hole cabinet rails (Method A)

Perform the following steps to install the square-hole hardware using method A.

1. On the port side of the outer slide rail, loosen the nuts (Item C) securing the L-bracket (Item B) and extend the end of the bracket beyond the end of the slide rail by 5/8 inch (Figure 7).

   Repositioning allows the rack mount brackets to align with the cabinet rails.

2. Position the outer slide rail inside the cabinet rails with the closed ends of the slide rail toward the non-port side of the cabinet (Figure 8).

3. Loosen and adjust the position of the non-port-side L-bracket as necessary.

NOTE
If side cabinet access is not available, measure the depth of the cabinet, loosen the L-bracket on the non-port side, and adjust the bracket position until the total rail length matches the cabinet depth.

4. Attach the L-brackets (Item B) to the cabinet rails using five Phillips 10-32 x 1/2 inch screws (Item F) and five retainer nuts (Item I).

NOTE

Leave the middle hole empty on the port side for securing the rack mount bracket (Item O or M) later (“Inserting the switch in the cabinet”).

5. Tighten the retainer nuts (Item I) to 15 inch-pounds (17 cm-kg).
6. Repeat step 1 through step 5 for the other rail.

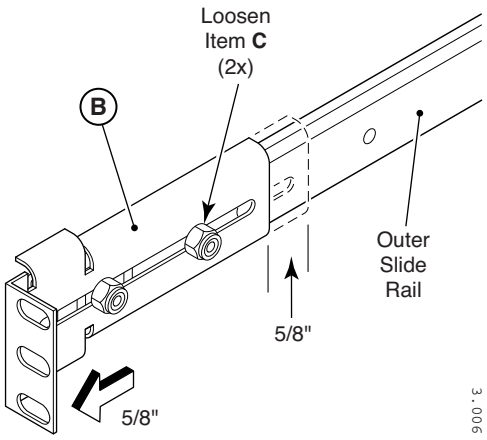

FIGURE 7 **Repositioning the L-bracket**

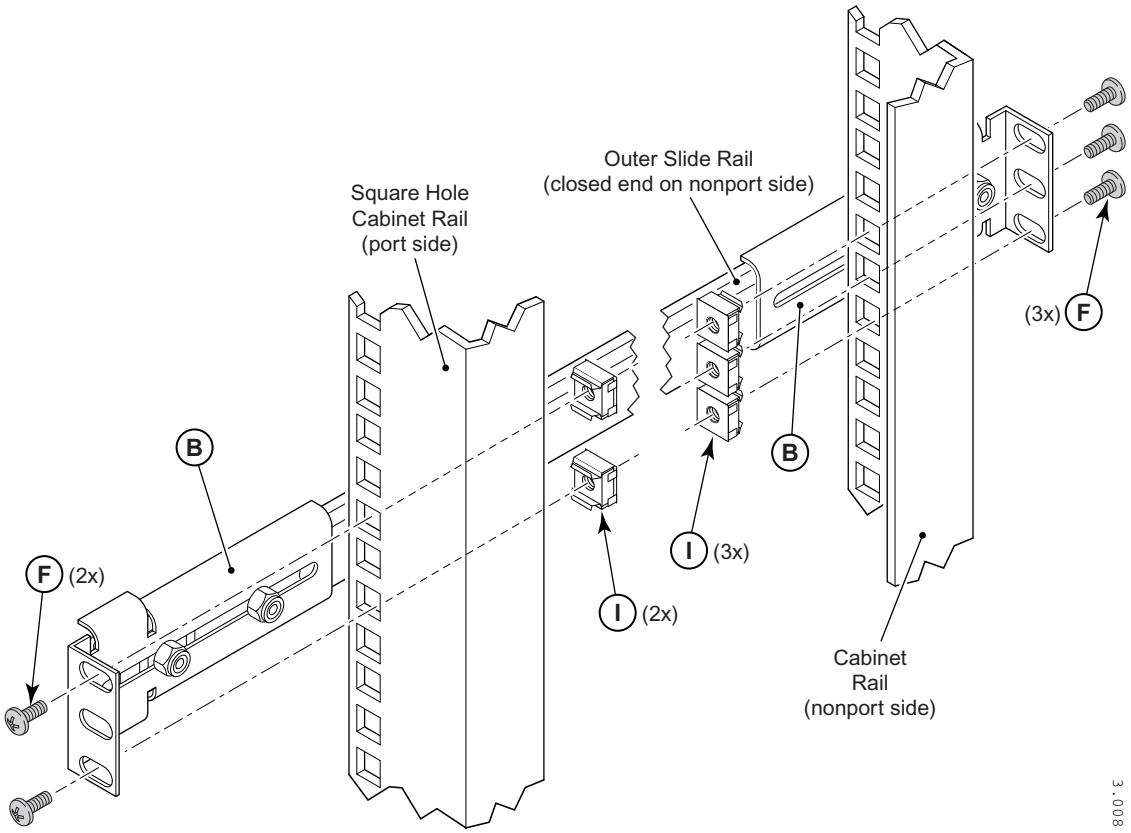

FIGURE 8 **Method A for attaching outer slide rails to square-hole cabinet rails**

Square-hole cabinet rails (Method B)

Perform the following steps to install the square-hole hardware using method B.

1. On the port side of the outer slide rail, loosen the nuts (Item C) securing the L-bracket (Item B) and extend the end of the bracket beyond the end of the slide rail by 5/8 inch (Figure 9).

   Repositioning allows the rack mount brackets to align with the cabinet rails.

2. Position the outer slide rail inside the cabinet rails with the closed ends of the slide rail toward the non-port side of the cabinet (Figure 10).

3. Loosen and adjust the position of the non-port side L-bracket as necessary.

NOTE
If side cabinet access is not available, measure the depth of the cabinet, loosen the L-bracket on the non-port side, and adjust the bracket position until the total rail length matches the cabinet depth.

4. Attach the L-brackets (Item B) to the cabinet rails using five Phillips 10-32 x 1/2 inch screws (Item F), six alignment washers (Item H), and two of the three-hole nut bars (Item G).

NOTE

Leave the middle hole empty on the port side for securing the rack mount bracket (Item O or M) later (“Inserting the switch in the cabinet”); however, position an alignment washer (Item H) between the L-bracket (Item B) and the cabinet rail.

5. Tighten the screws to 15 inch-pounds (17 cm-kg).
6. Repeat step 1 through step 5 for the other rail.

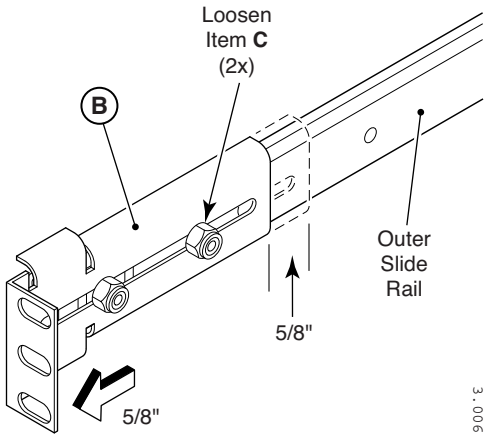

FIGURE 9 **Repositioning the L-bracket**

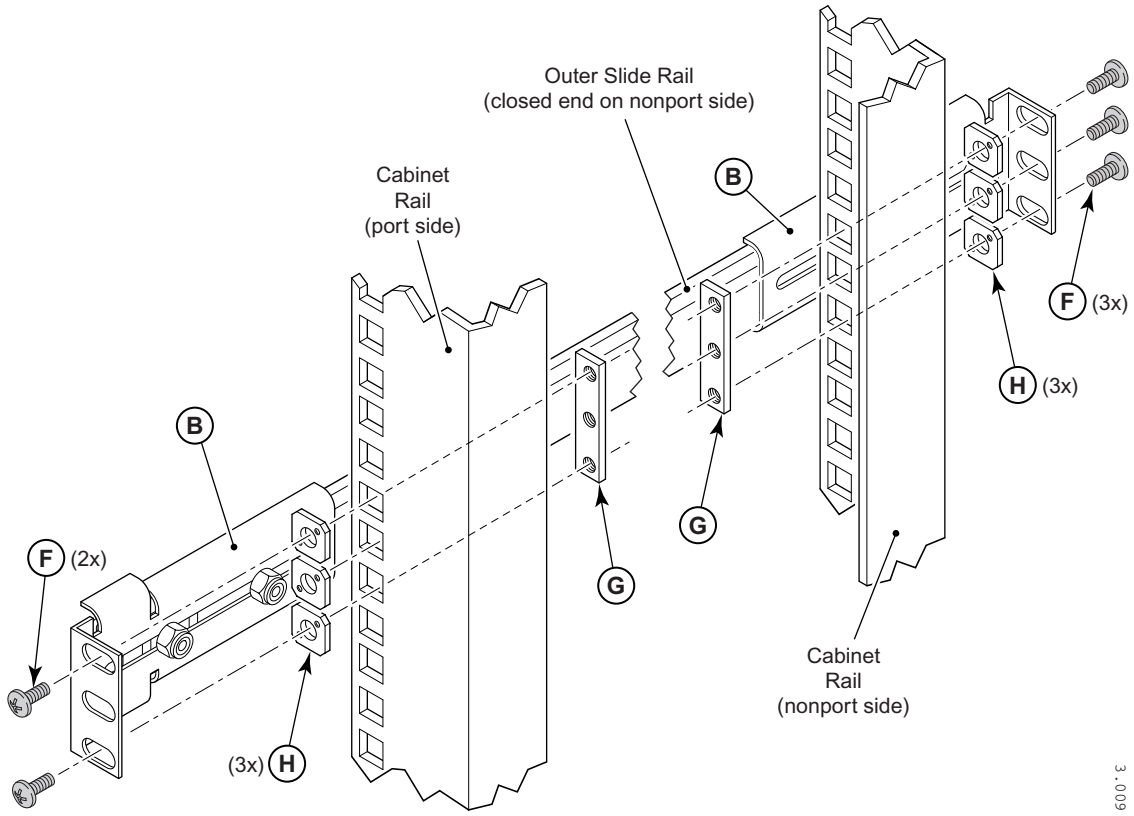

FIGURE 10 **Method B for attaching outer slide rails to square-hole cabinet rails**

Inserting the switch in the cabinet

Perform the following steps to install the switch in the cabinet.

1. Position the power cord clips (Item E) on the outer surface of both outer slide rails (Figure 11).

   Ensure that the clips do not interfere with the movement of the rails. Position all the clips either with the tabs above or with the tabs below the rail.

2. Insert the power cords into the power cord clips, with the power cord prongs pointing toward the power source (Figure 12).

NOTE
Allow a minimum service loop of 6 inches at the switch to ensure freedom to plug and unplug the power cords. Ensure that the power cords route completely outside of the slide rails.

NOTE
Ensure that the power cords align in the clips and do not fall inside the slide rails. To prevent the cords from being pulled out of the clips, unplug the cords from the switch before moving the switch on the slide rails.

3. Position the switch next to the cabinet; align and insert the inner rails inside the outer rails (Figure 13).

4. Gently slide the switch into the cabinet; check rail alignment by sliding the switch out and back into the cabinet. If there is any resistance, pull the switch out of the cabinet and realign the slide rails.
5. Secure the rack mount brackets (Items L and M, Items J and K, or Item O) to the cabinet rails using one Phillips 10-32 x 1/2 inch screw (Item F) per bracket and tighten the screws to a torque of 25 inch-pounds (29 cm-kg).

   For square-hole cabinet rail method A installations, use the remaining retainer nut (Item I) to secure the screw.

   See Figure 14 for a round-hole cabinet rail; see Figure 15 (Method A) or Figure 16 (Method B) for a square-hole cabinet rail.

ATTENTION
Do not connect the switch to the network until the IP address is correctly set. For power-on and configuration instructions, refer to the hardware reference manual for the switch.

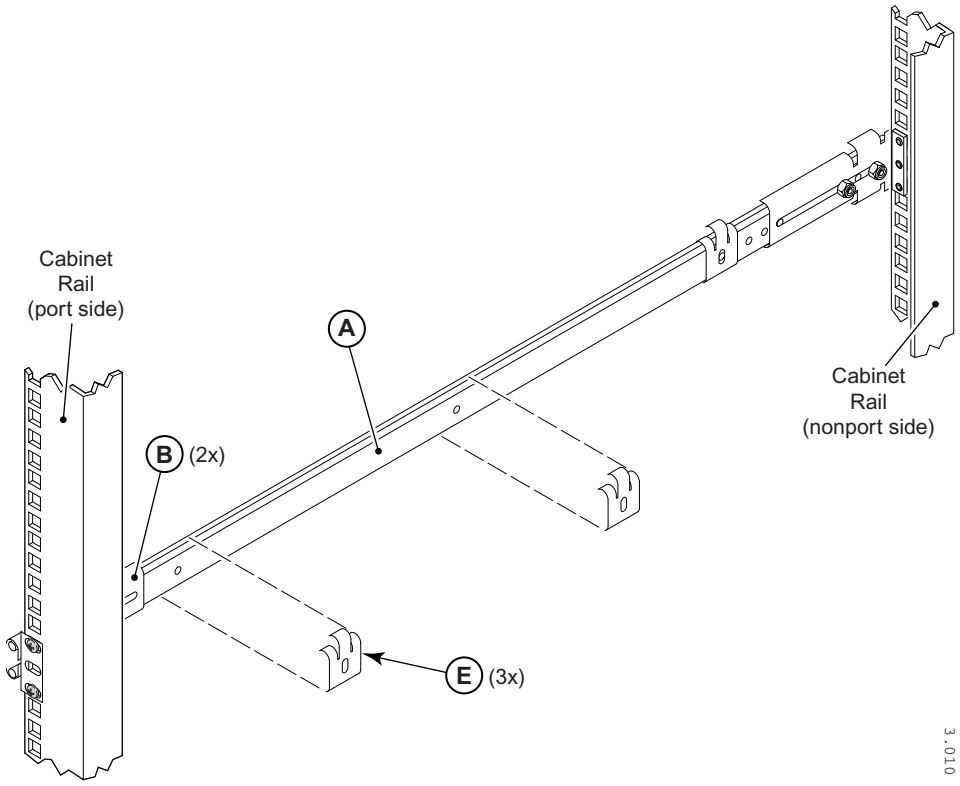

FIGURE 11 **Attaching power cord clips**

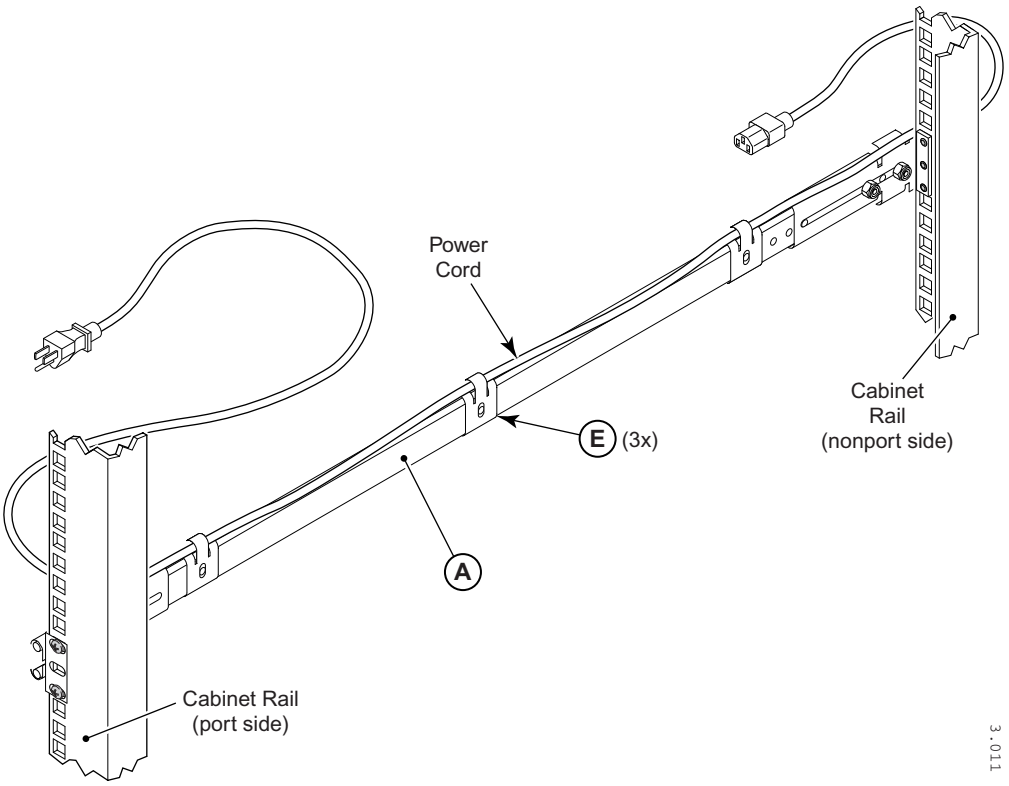

FIGURE 12 Inserting power cords in clips

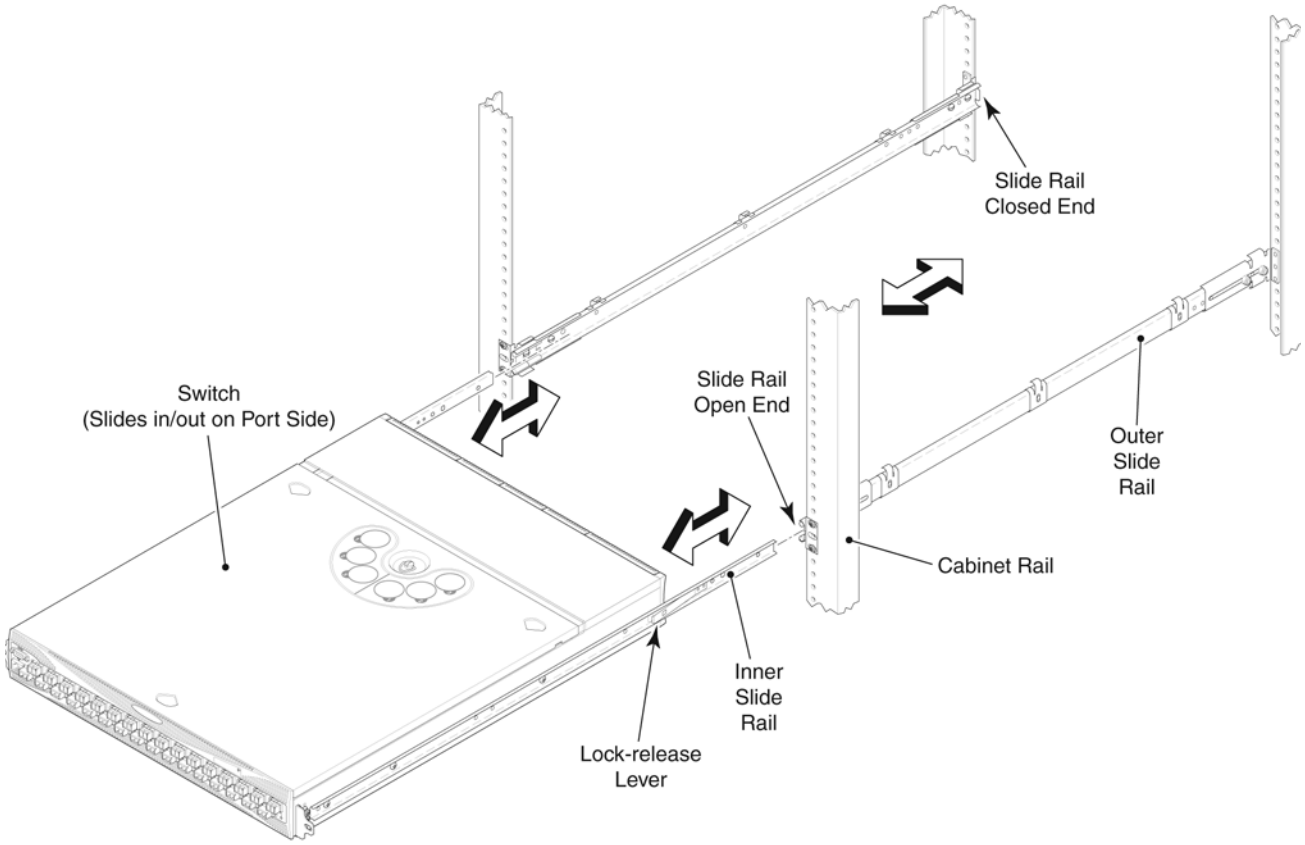

FIGURE 13 Inserting the switch

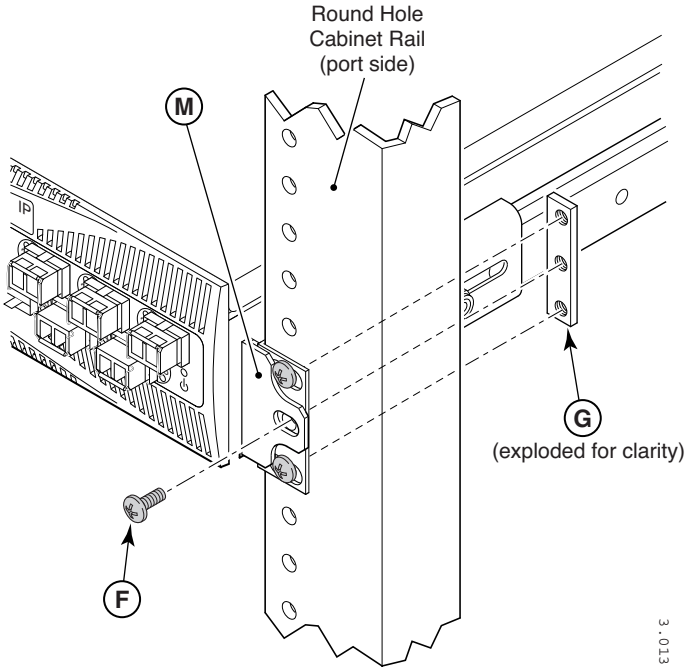

FIGURE 14 Securing rack mount brackets for round-hole cabinet rails

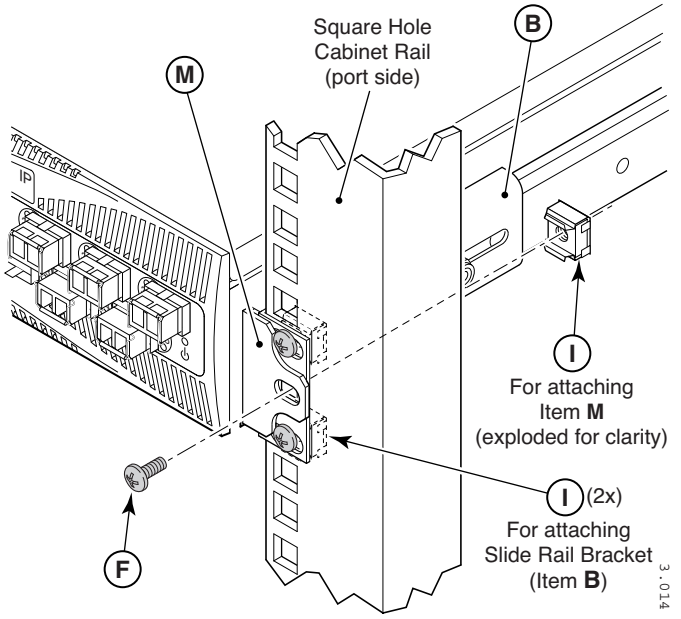

FIGURE 15 Method A for securing rack mount brackets for square-hole cabinet rails

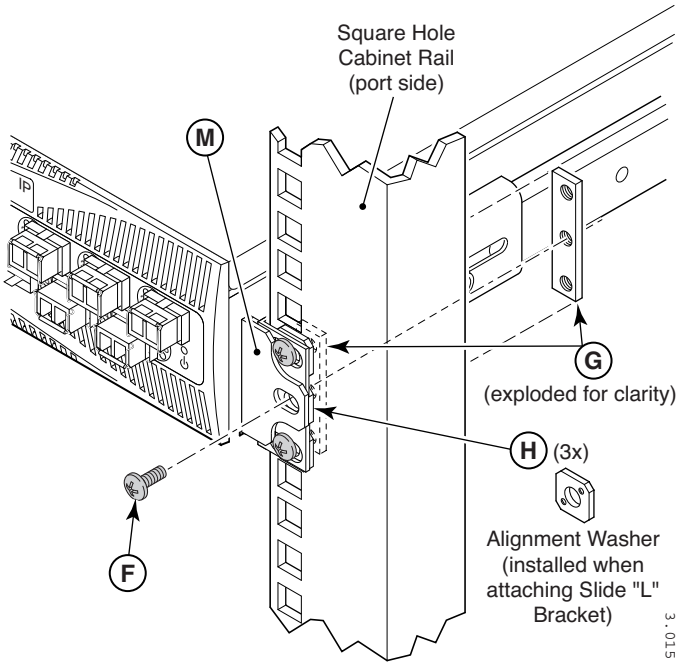

FIGURE 16 Method B for securing rack mount brackets for square-hole cabinet rails