# Addendum for Intelligent Clusters—IBM j-type e-series Ethernet Switches Hardware Guides

*Service Information for 0719-011/HC3, 0719-012/HC4, 0719-013/HC5*

If your IBM j-type e-series Ethernet Switch was purchased as part of the IBM Intelligent Clusters program, certain product information contained in the product documentation may or may not apply to your particular switch. Product part numbers and racking information may differs. The table below maps the Intelligent Clusters switch part numbers to the IBM Storage part numbers contained in the product documentation.

| Switch Model | Integrated Solutions (Cluster 1350 and iDataPlex) | System Storage | Juniper Product Name | Juniper Product Part Number | Brief Product Description |
|---|---|---|---|---|---|
| IBM Ethernet Switch J48E | 0719-011/HC3 | 4273-E48 | EX4200 | EX4200-48T | 1U Ethernet switch with 48 1-GbE RJ-45 ports (8 PoE ports) and 1 10-GbE uplink module bay |
| IBM Ethernet Switch J08E | 0719-012/HC4 | 4273-E08 | EX8208 | EX8208-REDUND-AC | 14U modular Ethernet switch with 8 switch line-card slots |
| IBM Ethernet Switch J16E | 0719-013/HC5 | 4274-E16 | EX8216 | EX816-REDUND-AC | 21U modular Ethernet switch with 16 switch line-card slots |

Chassis U space provided is for the switch chassis only and may or may not reflect actual U space required for the total switch solution when installed into an IBM 1410 cabinet. Refer to the rack installation instructions for total U space required.

# Addendum for Intelligent Clusters—IBM j-type e-series Ethernet Switches Hardware Guides

This document describes how to mount an IBM Ethernet Switch J48E in an iDataPlex cabinet, and how to install air baffles in an IBM 1410 cabinet for the IBM Ethernet Switch J08E and IBM Ethernet Switch J16E.

**Contents**

## Addendum Description

This addendum contains information you need to

- Mount an IBM Ethernet Switch J48E in an IBM iDataPlex four-post cabinet and to install air baffles to properly redirect the airflow.

- Install air baffles to properly redirect airflow for an IBM Ethernet Switch J08E that is mounted in an IBM 1410 cabinet.

- Install air baffles to properly redirect airflow for an IBM Ethernet Switch J16E that is mounted in an IBM 1410 cabinet.

The information in this addendum supplements the installation instructions in the *IBM Ethernet Switch J48E Hardware Guide*, *IBM Ethernet Switch J08E Hardware Guide*, and *IBM Ethernet Switch J16E Hardware Guide*, available on the documentation CD shipped with your switch.

## Mounting the IBM Ethernet Switch J48E in an IBM iDataPlex Cabinet

The *IBM Ethernet Switch J48E Hardware Guide* contains instructions for installing the switch (Figure 1) horizontally in a 19-in. rack or cabinet (see "Mounting an IBM Ethernet Switch J48E on Four Posts in a Rack or Cabinet").

This addendum provides instructions for mounting the switch *vertically* in an IBM iDataPlex cabinet.

**Figure 1: IBM Ethernet Switch J48E, Front View**
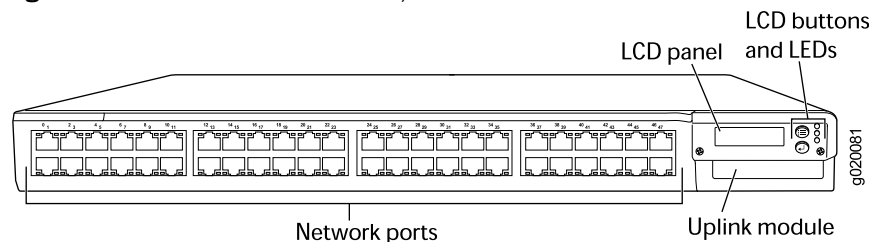


### *Installation Prerequisites*

Before mounting the switch in an IBM iDataPlex cabinet:

- Read "General Safety Guidelines and Warnings for IBM j-type e-series Ethernet Switches," and "Installation Warnings," with particular attention to "Chassis Lifting Guidelines for IBM Ethernet Switch J48E."

- Remove the switch from the shipping carton (see "Unpacking an IBM Ethernet Switch J48E").

- Unpack the 4-post rack-mount kit.

- Determine where you will install the switch in the iDataPlex cabinet.

  Switches can be installed only in the even-numbered vertical "pockets" in Column B or Column D of the cabinet (see Figure 2).

**Figure 2: Install IBM Ethernet Switch J48E in Even-Numbered Pocket in Column B or D**
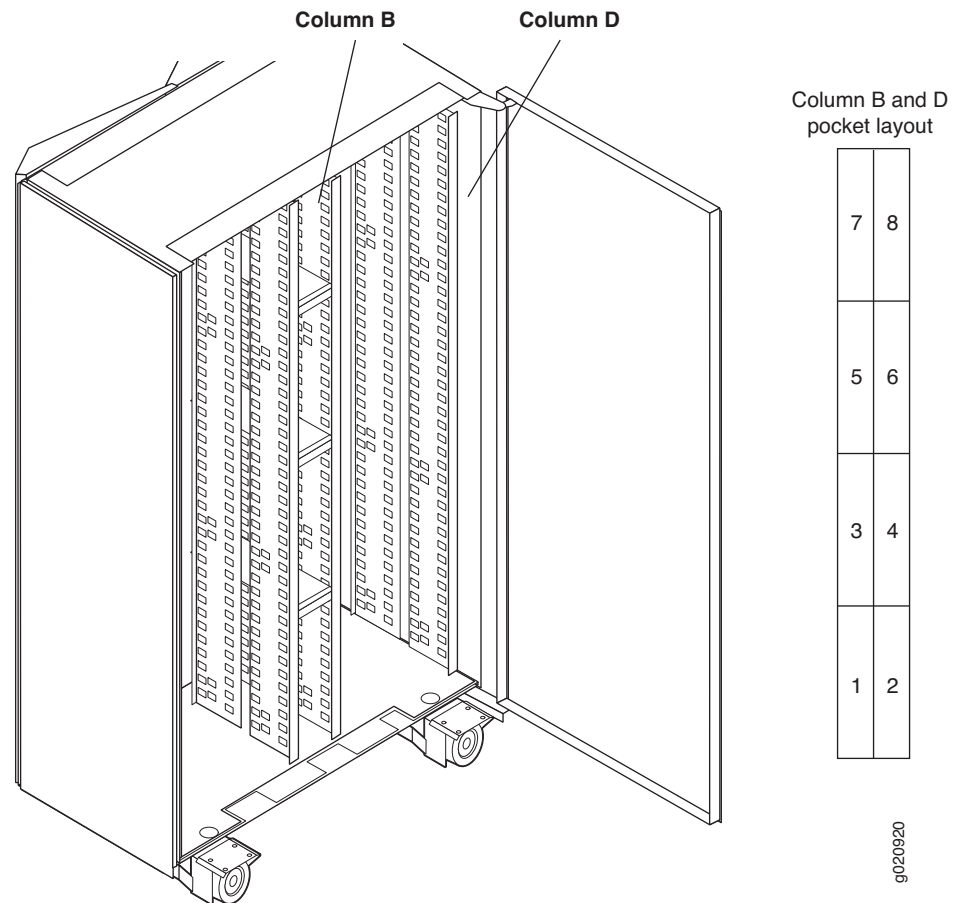


### Required Tools and Equipment

Ensure that you have the following parts and tools available to mount the IBM Ethernet Switch J48E switch in an IBM iDataPlex cabinet:

- Phillips (+) screwdriver, number 2

- Flat-head (–) screwdriver if needed for clip nuts

- 12 No. 42-029992, 110 degree countersunk Phillips screws (provided)

- 8 Phillips-head M6 bolts and 8 clip nuts

- A top and bottom rail, each with front ears (provided)

- One pair of rear rack ears (provided)

- Pocket filler appropriate for your installation:

☞ **NOTE:** If you are performing an IBM Miscellaneous Equipment Specifications (MES) upgrade, the filler is included in a box with the upgrade.

■ Short pocket filler (46C6332)—if a monitored power distribution unit (PDU) is installed in the odd-numbered pocket to the left of the switch pocket

■ Side-to-rear duct filler (44W4693)—if a nonmonitored PDU is installed in the odd-numbered pocket, or if that pocket is empty

### *Mount the Switch*

To mount the switch in an IBM iDataPlex cabinet:

1. Place the switch on a flat, stable surface, with the front panel (see Figure 1) facing you.

2. Align the top and bottom rails along each side of the switch chassis, with the rack ears at the front of the switch and facing out (see Figure 3).

**NOTE:** When the switch is installed vertically in the cabinet, the right side becomes the top, and the left side becomes the bottom.

3. Align the two holes in the front of each rail with the two holes on the front of each switch side (top and bottom) panel (see Figure 3).

**Figure 3: Attaching the Top and Bottom Rails to the Switch**
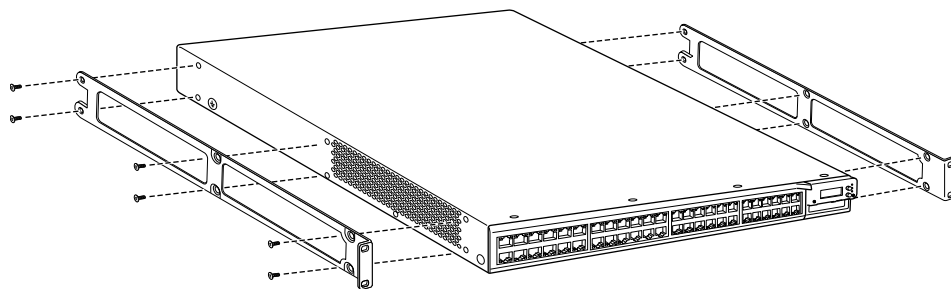


4. Insert Phillips countersunk screws into the two aligned holes, ensuring that the remaining four holes in each rail are aligned with the four holes in each side (top and bottom) of the switch (see Figure 3).

5. Tighten the screws.

6. Insert the remaining countersunk screws into the remaining four holes in each rail, and tighten the screws to secure the rail to the switch (see Figure 3).

7. In the IBM iDataPlex cabinet, in the even-numbered vertical pocket in Column B or Column D (see Figure 2) where you are installing the switch, install clip nuts in four holes in the front rack posts at locations appropriate to ensure a level chassis (see Figure 4).

8. Grasp both sides of the switch, lift the switch, and turn it vertically so that the right side is on top.

9. At the front of the cabinet, slide the switch into the vertical pocket, aligning the four holes in the front rack ears on the switch with the holes where you installed clip nuts (see Figure 4).

10. While holding the switch in place with one hand, insert an M6 bolt in each hole and screw it into the clip nut (see Figure 4).

**Figure 4: Sliding the Switch into the Cabinet and Mounting It on the Front Posts**



FRONT

q020922
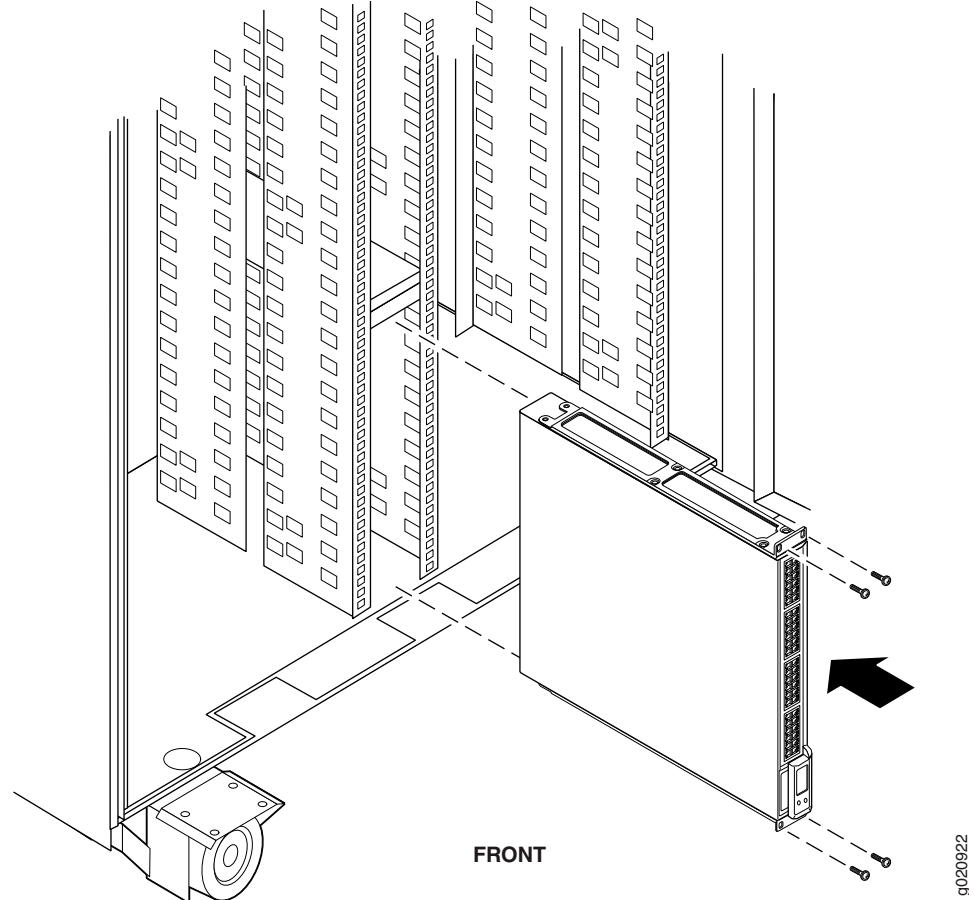
11. Use the Phillips screwdriver to tighten the bolts and secure the switch to the front rack posts (see Figure 4).

12. To ground the switch, connect the protective earthing terminal on the left side of the switch to earth ground. See the instructions in the *IBM Ethernet Switch J48E Hardware Guide*.

⚠ **CAUTION:** Using a grounding cable with an incorrectly attached lug can damage the switch.

13. At the back of the cabinet, slide the rear rack ears into the top and bottom rails on the switch (see Figure 5).

**Figure 5:  Sliding in the Rear Rack Ears and Mounting the Switch on the Rear Posts**
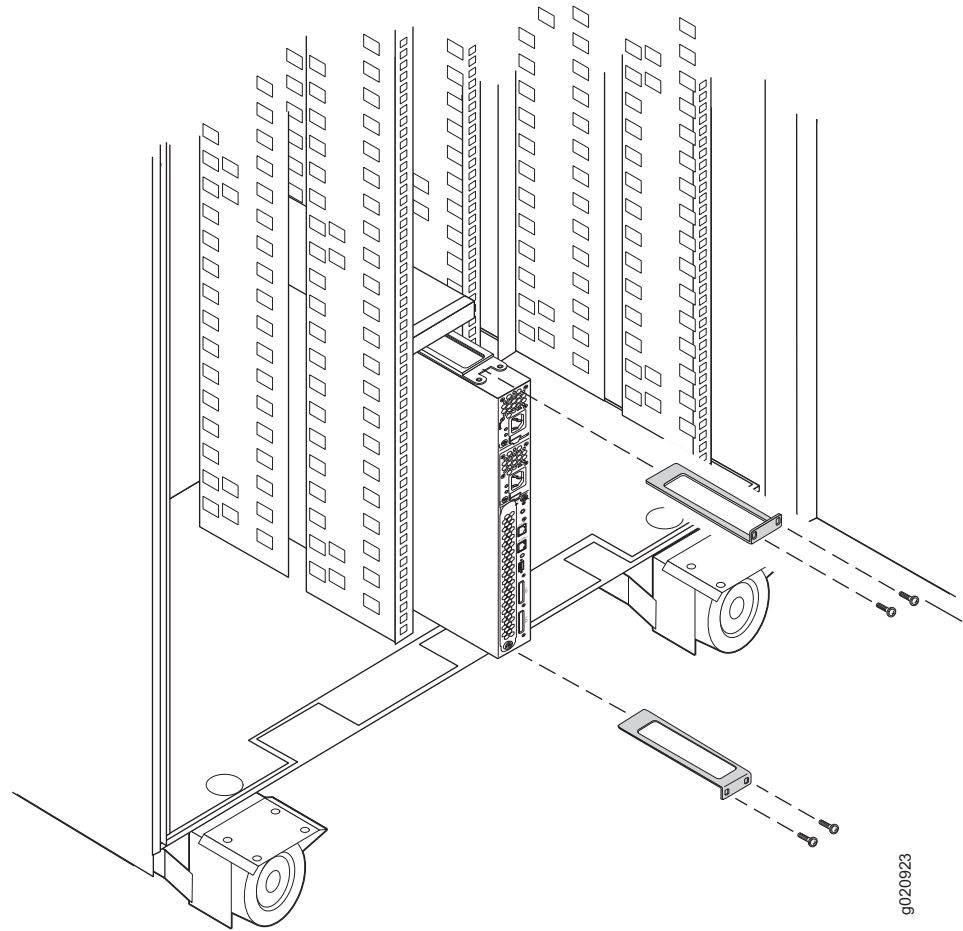


14. With the remaining M6 bolts and cage nuts, secure the rear rack ears on the switch to the rear rack posts (see Figure 5).

15. Install a pocket filler appropriate for your installation.

## Installing Air Baffles for the IBM Ethernet Switch J08E in an IBM 1410 Cabinet

The standard airflow through the IBM Ethernet Switch J08E (see Figure 6) is from side to side. However, the airflow of the switch installed in an IBM 1410 cabinet must be from the front to the back of the cabinet—from the cold aisle toward the hot aisle. To properly redirect the airflow through the switch, you must install side plates on the switch *before* you install it in the cabinet, and air baffle assemblies above and below the switch *after* you have installed it in the cabinet.

**Figure 6:  IBM Ethernet Switch J08E Front**
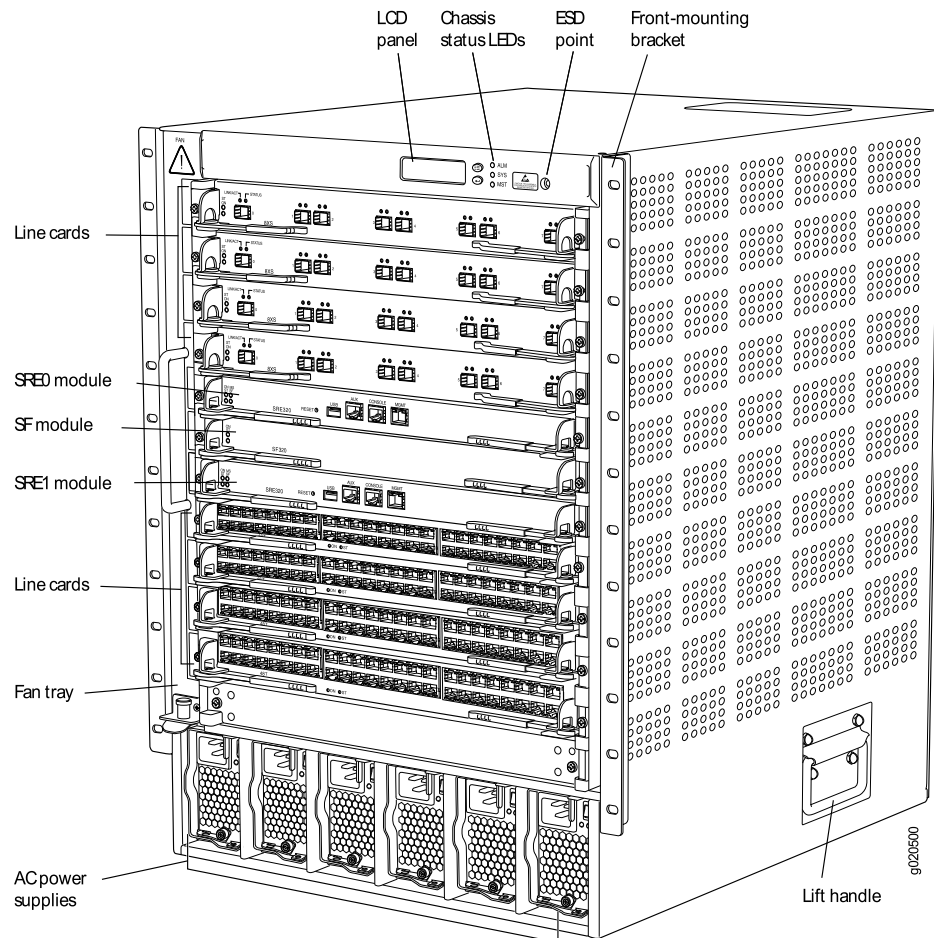


The air baffle system for the IBM Ethernet Switch J08E consists of the following components to redirect the airflow as shown in Figure 7:

- Two rear side plates installed on the switch that prevent exhaust air from exiting the front of the cabinet

- A lower air baffle assembly that redirects the side-to-side airflow through the lower portion of the chassis line cards so that exhaust air exits from the rear of the cabinet below the switch

- An upper air baffle assembly that redirects the side-to-side airflow through the upper portion of the chassis line cards so that exhaust air exits from the rear of the cabinet above the switch

**Figure 7: Switch Airflow Redirected by Baffle System**
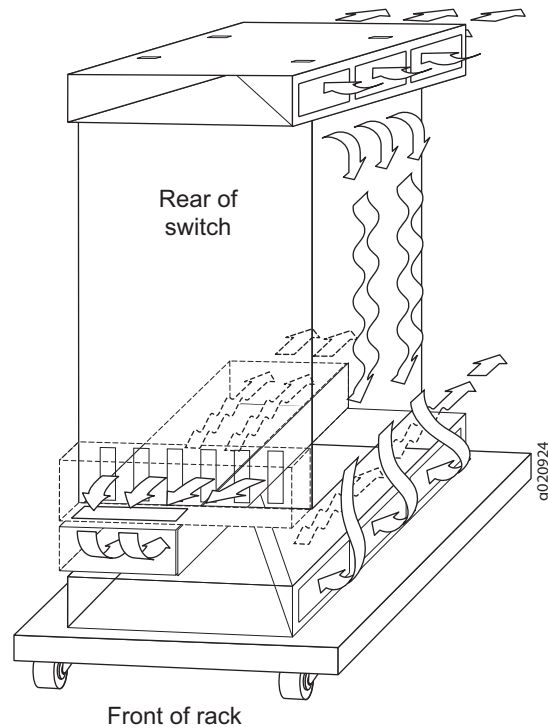


Rear of switch

Front of rack

## *Required Tools and Equipment*

Ensure that you have the following parts and tools available to install the air baffle system. For best results, install the lower baffle assembly before you install the upper one.

- **For side plates, lower baffle assembly, and upper baffle assembly:**

  - Phillips (+) screwdriver, number 2

  - Flat-head (–) screwdriver if needed for clip nuts

- **For the side plates and support plates:**

  - 2 side plates

  - 2 support plates

  - 22 Phillips flat-head screws, size 8-32 x 1/4 undercut, for the side plates

  - 22 Phillips screws and clip nuts, size 10-32, for the support plates

- **For the lower baffle assembly:**

  - 1 upper-lower baffle with 2 fixed front rack ears (provided)

    - 2 slide-in rear rack ears (provided)

    - 8 Phillips screws and clip nuts, size 10-32

    - 1 power supply unit (PSU) intake 8-slot baffle with 2 fixed rack ears (provided)

    - 1 slide-in rack ear (provided)

    - 6 Phillips screws and clip nuts, size 10-32

    - 1 PSU exhaust 8-slot baffle with 2 attached rack ears (provided)

    - 1 slide-in rack ear (provided)

    - 6 Phillips screws and clip nuts, size 10-32

    - 1 intake access panel, 8-slot, with 2 thumbscrews (provided)

- **For the upper baffle assembly:**

  - 1 upper-lower baffle with 2 fixed front rack ears (provided)

    - 2 slide-in rear rack ears (provided)

    - 8 Phillips screws and clip nuts, size 10-32

    - 2 covering sheets with thumbscrews (provided)

## *Installation Prerequisites*

Before installing the air baffle system for the IBM Ethernet Switch J08E, install the switch and its components in an IBM 1410 cabinet as described in the *IBM Ethernet Switch J08E Hardware Guide*—but be sure to do the following before and during installation:

1. **Plan for switch-and-baffle installation:**

   a. **Install the switch in the bottom of the cabinet.** Only one IBM Ethernet Switch J08E with baffle system can fit in an IBM 1410 cabinet and is the heaviest item in the cabinet.

   b. **Allow enough room for the switch plus the baffles.** The lower baffle assembly, the IBM Ethernet Switch J08E, and the upper baffle assembly together require 21 rack units (21 U) or approximately 92 cm (36.22 in.):

      - 4.5 U (approximately 20 cm or 7.8 in.) for baffles below the switch

      - 14 U (approximately 61.7 cm or 24.3 in.) for the switch chassis

      - 2.5 U (approximately 10.6 cm or 4.1 in.) for baffles above the switch

c. **Install the switch facing rearward for correct airflow.**

⚠ **CAUTION:** You must install the switch in the cabinet with the front of the switch facing the rear of the cabinet (see Figure 8) so that the upper and lower baffles correctly direct the exhaust airflow out the rear of the cabinet (Figure 6).

**Figure 8:  Install the Switch Front Facing the Rear of the Cabinet**
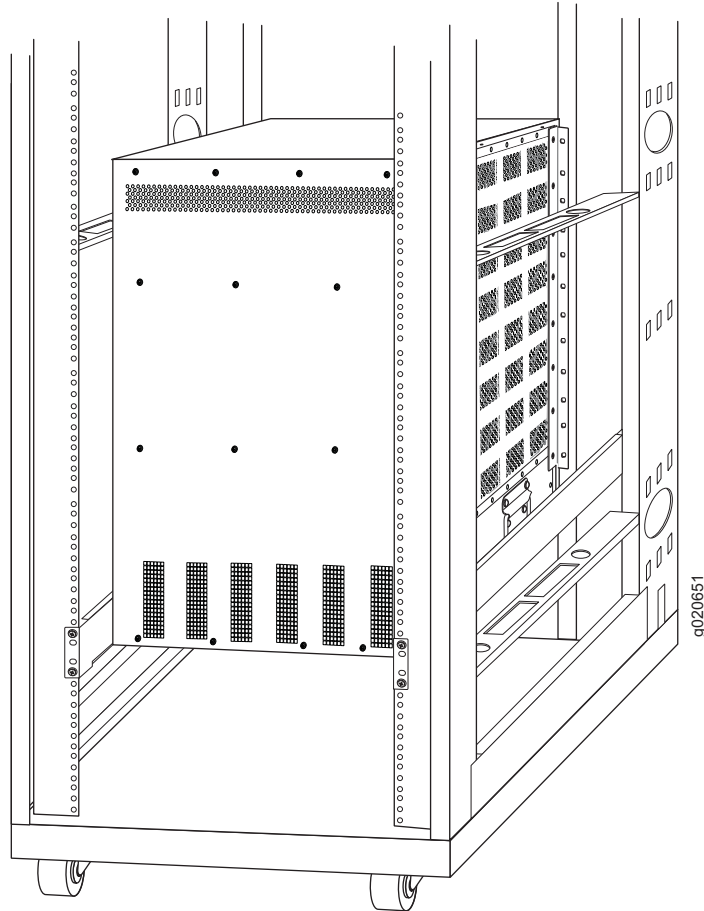
2. **Install side plates on the rear of the chassis.** Before installing the switch in the cabinet, install a plate on each side of the chassis, with countersunk screw holes facing out, using 11 screws (see Figure 9).

**Figure 9: Install Side Plates on the Switch Before Mounting in the Cabinet**
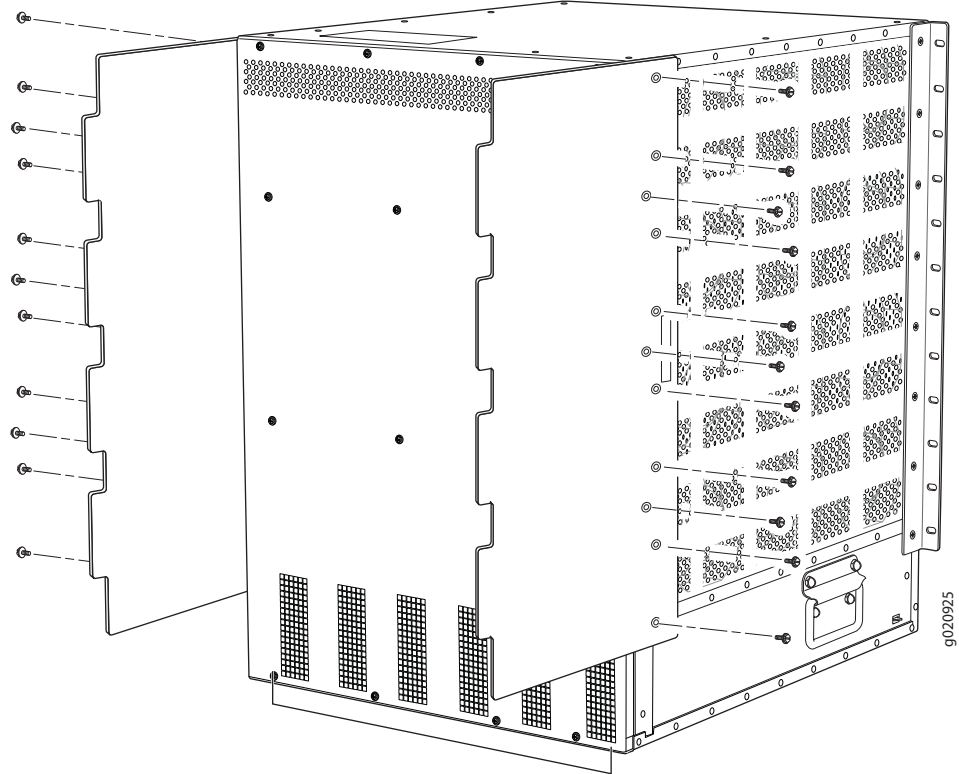


3. **Preinstall all the clip nuts required for switch and baffle installation.** For best results, install all the clip nuts you will need in the cabinet before installing the switch and baffle system. (See Table 1 and Figure 10.)

Table 1 lists the clip nut locations by rack unit (RU) number and position—top, middle, or bottom—within the RU space. *Italics* indicate clip nut locations for the adjustable mounting brackets that support the switch. RU numbers are marked on the rack posts as shown in Figure 10 on page 14.

**Table 1: Clip Nut Locations for IBM Ethernet Switch J08E and Baffle Assembly (Sheet 1 of 2)**

| Intake—Front of Cabinet (Rear of Switch) | | Exhaust—Rear of Cabinet (Front of Switch) | |
|---|---|---|---|
| **Left Side** | **Right Side** | **Left Side** | **Right Side** |
| RU 1−bottom | RU 1−bottom | RU 1−bottom | RU 1−bottom |
| RU 3−bottom | RU 3−bottom | RU 3−bottom | RU 3−bottom |
| — | RU 3−top | — | RU 3−top |
| — | RU 4−top | — | RU 4−top |
| *RU 5−middle* | *RU 5−middle* | *RU 5−middle* | *RU 5−middle* |
| RU 5−top | RU 5−top | RU 5−top | RU 5−top |
| RU 6−middle | RU 6−middle | RU 6−middle | RU 6−middle |
| *RU 6−top* | *RU 6−top* | *RU 6−top* | *RU 6−top* |

**Table 1:  Clip Nut Locations for IBM Ethernet Switch J08E and Baffle Assembly (Sheet 2 of 2)**

| Intake—Front of Cabinet (Rear of Switch) | | Exhaust—Rear of Cabinet (Front of Switch) | |
|---|---|---|---|
| RU 8–top | RU 8–top | RU 7–top | RU 7–top |
| RU 9–top | RU 9–top | RU 8–top | RU 8–top |
| RU 10–top | RU 10–top | RU 9–top | RU 9–top |
| RU 11–top | RU 11–top | RU 10–top | RU 10–top |
| RU 12–top | RU 12–top | RU 11–top | RU 11–top |
| RU 13–top | RU 13–top | RU 12–top | RU 12–top |
| RU 14–top | RU 14–top | RU 13–top | RU 13–top |
| RU 15–top | RU 15–top | RU 14–top | RU 14–top |
| RU 16–top | RU 16–top | RU 15–top | RU 15–top |
| RU 17–top | RU 17–top | RU 16–top | RU 16–top |
| RU 18–top | RU 18–top | RU 17–top | RU 17–top |
| RU 19–middle | RU 19–middle | RU 18–top | RU 18–top |
| RU 21–middle | RU 21–middle | RU 19–middle | RU 19–middle |
| | | RU 21–middle | RU 21–middle |

**Figure 10:  Clip Nut Locations for IBM Ethernet Switch J08E and Baffle Assembly**



Front of cabinet
(rear of switch)

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Rear of cabinet
(front of switch)

g020927
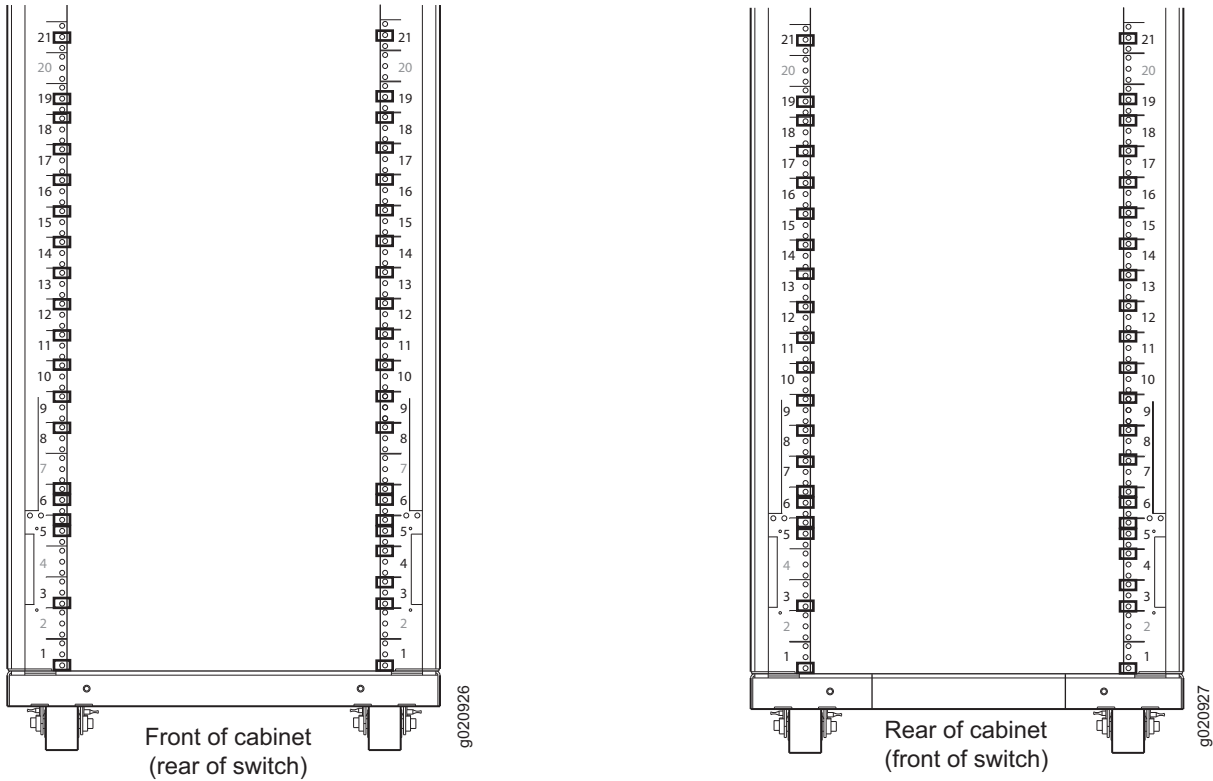
Before installing the switch, you must at minimum install a clip nut in hole 15 and hole 17 (RU 5–top and RU 6–middle) of each rack post.

👉 **NOTE:** If you install the IBM Ethernet Switch J08E without first installing a clip nut in hole 15 and in hole 17 on all four posts of the IBM 1410 cabinet, you cannot install the lower air baffle assembly.
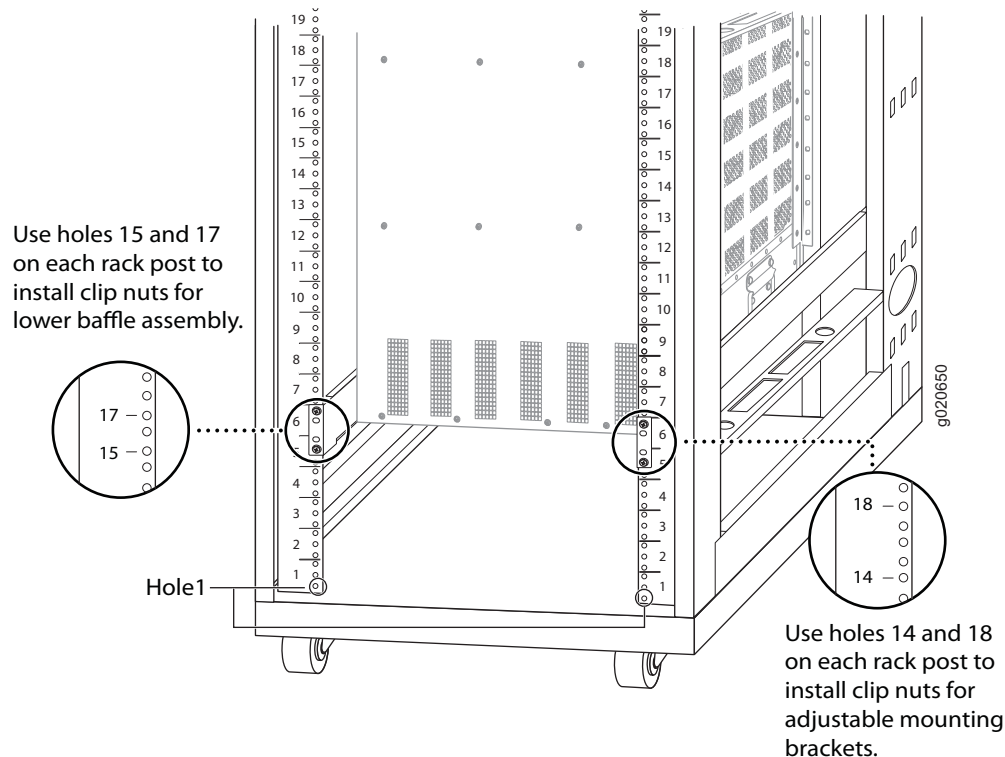
4. **Install the adjustable mounting brackets to allow for baffle installation:**

   a. When you install the adjustable mounting brackets that support the switch in the cabinet, attach the brackets to the posts with screws in only the *outside* holes—rack holes 14 and 18 (RU 5–middle and RU 6–top)—of each bracket (see Figure 11).

      You will use the *inside* holes in the brackets (holes 15 and 17) to install the lower baffle assembly.

   b. After installing each adjustable mounting bracket, make sure the clip nuts are properly centered within the bracket slots. Otherwise, the baffle assembly might be difficult to install.

**Figure 11:  Clip Nuts Required for Switch Mounting Brackets and Lower Baffle Assembly**



Use holes 15 and 17 on each rack post to install clip nuts for lower baffle assembly.

Hole 1

Use holes 14 and 18 on each rack post to install clip nuts for adjustable mounting brackets.

5. **Install support plates on the switch.** To secure the rear of the switch in the front of the cabinet (see Figure 12):

   a. Install a support plate with the angled corner facing down and slots fitting into the "teeth" of the side plate on either side of the switch.

   b. Secure each support plate to each rear rack post with 11 screws.

**Figure 12: Install Support Plates to Secure the Rear of the Switch**
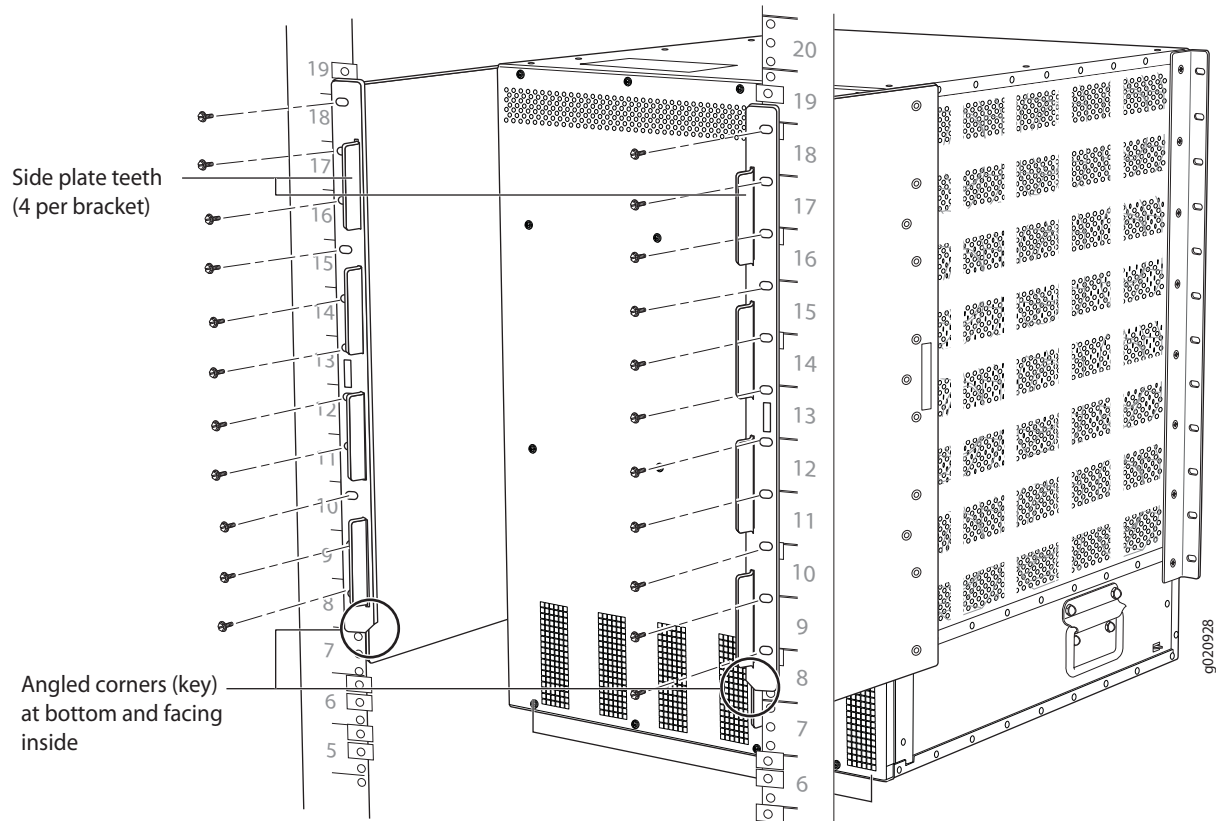


6. **Do not install the power cord tray.** The tray will interfere with baffle assembly installation.

### *Install the Lower Air Baffle Assembly*

To install the lower air baffle assembly in the IBM 1410 cabinet:

1.  For the upper-lower baffle (bottom), ensure that 1 clip nut is installed in hole 1 and in hole 7 (RU 1–bottom and RU 3–bottom) in each rack post, front and back (see Figure 13).

**Figure 13:  Clip Nut Locations for the Upper-Lower Baffle (Bottom)**
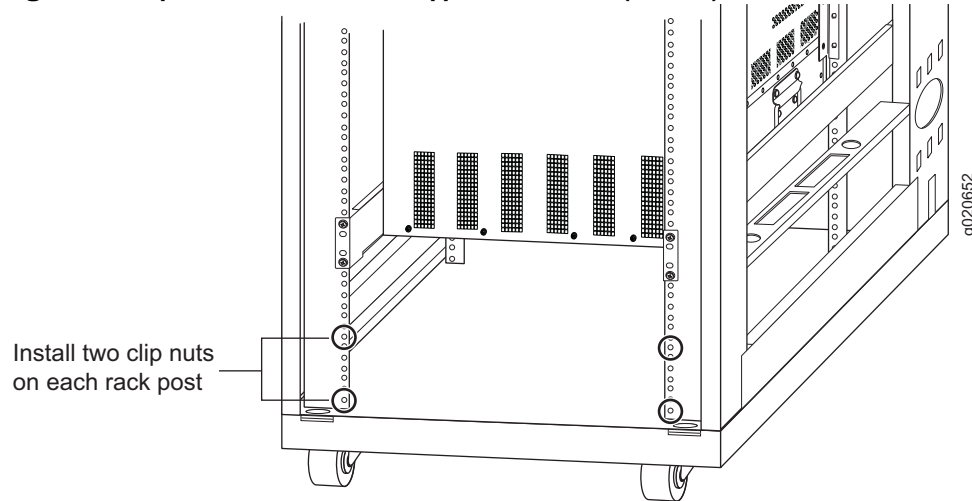


Install two clip nuts on each rack post

2.  From the rear of the cabinet, at the bottom, slide in the upper-lower baffle with the tabs on top, and attach it to the rear rack posts with 4 screws.

3.  From the front of the cabinet, slide the 2 slide-in rack ears into slots on the sides of the upper-lower baffle (see Figure 14), and attach them to the front rack posts with 4 screws (see Figure 15).

**Figure 14:  Sliding Rear Rack Ears into the Upper-Lower Baffle**



Slots for rack ears
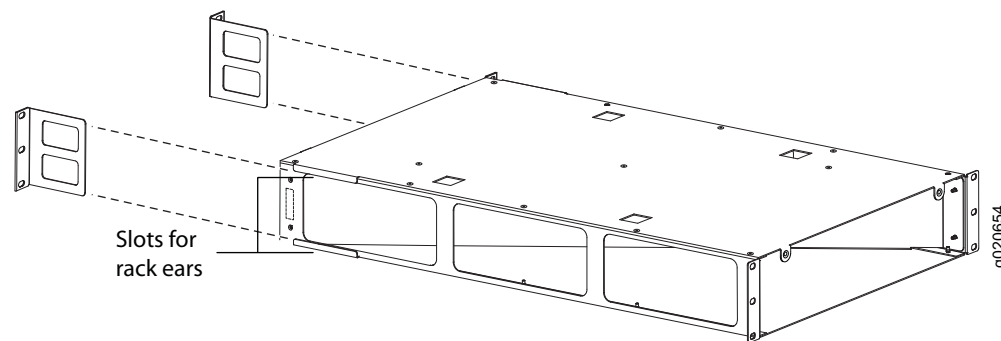
**Figure 15: Upper-Lower Baffle (Bottom) Attached to the Front Rack Posts**
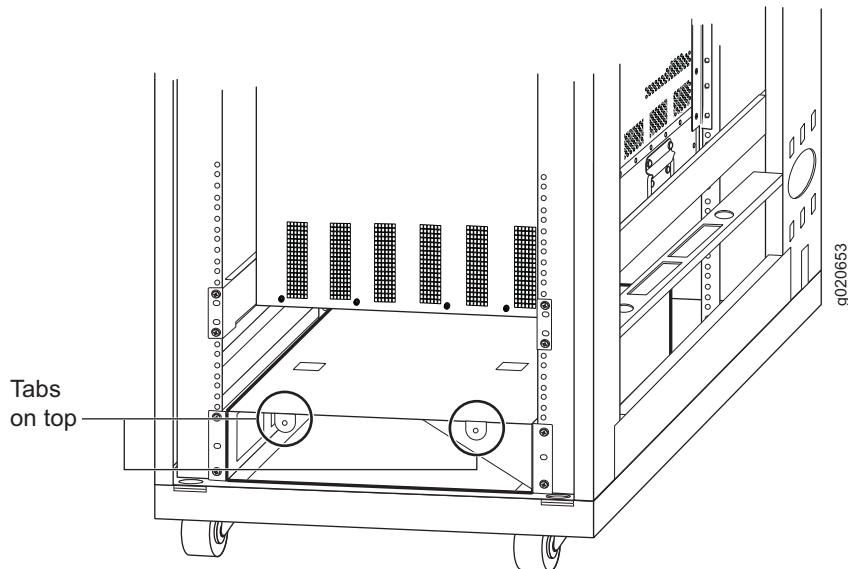


4. Tighten all 8 screws to secure the upper-lower baffle to the cabinet.

5. For the PSU intake 8-slot baffle:

   a. Ensure that a clip nut is installed in hole 15 and in hole 17 (RU 5–top and RU 6–middle) on each rear rack post inside the adjustable mounting bracket screws (see Figure 16).

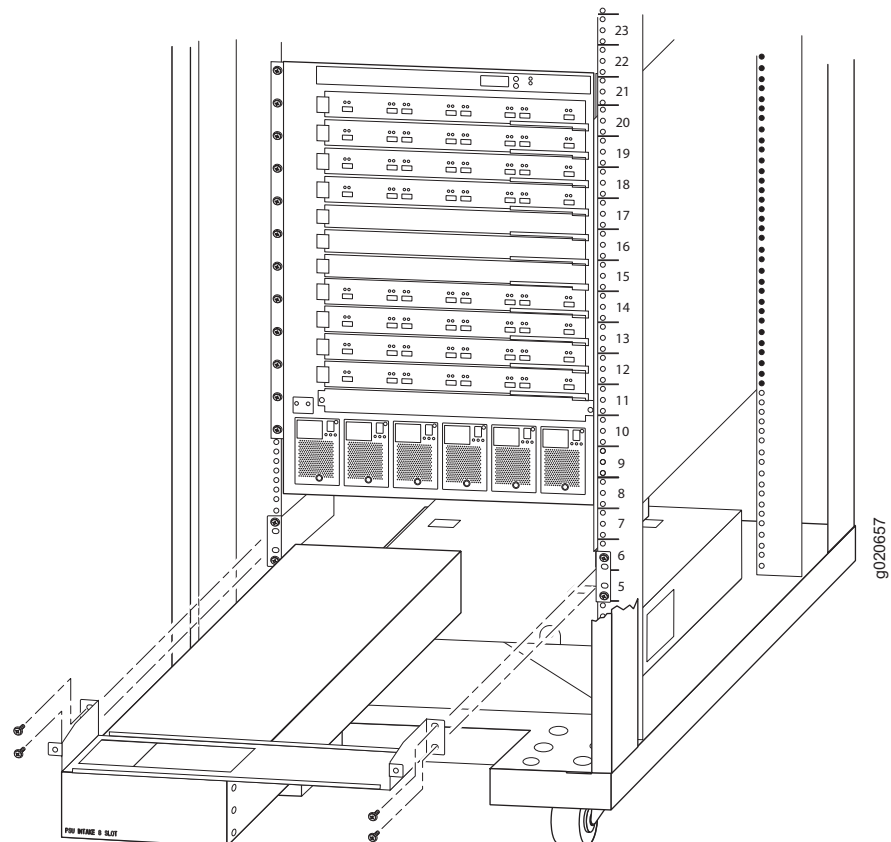**Figure 16: Rear Clip Nut Locations for the PSU Intake Baffle**
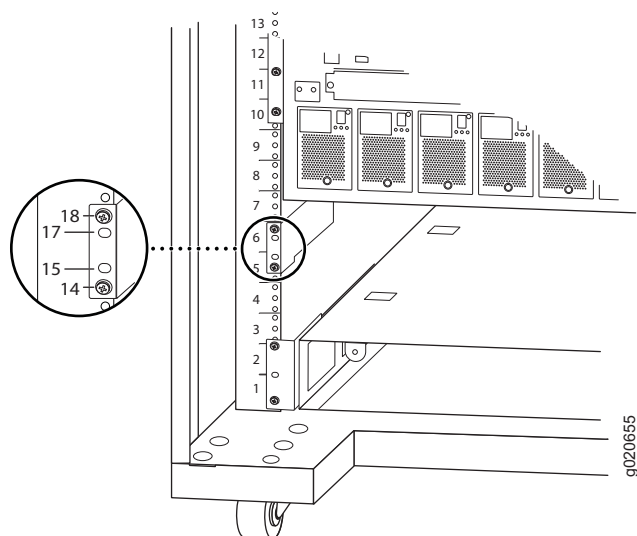
b. Ensure that a clip nut is installed in hole 9 and in hole 12 (RU 3–top and RU 4–top) above the upper-lower baffle on the right front rack post (see Figure 17).

**Figure 17:  Front Clip Nut Locations for the PSU Intake Baffle**



Install two clip nuts
on the right front post.
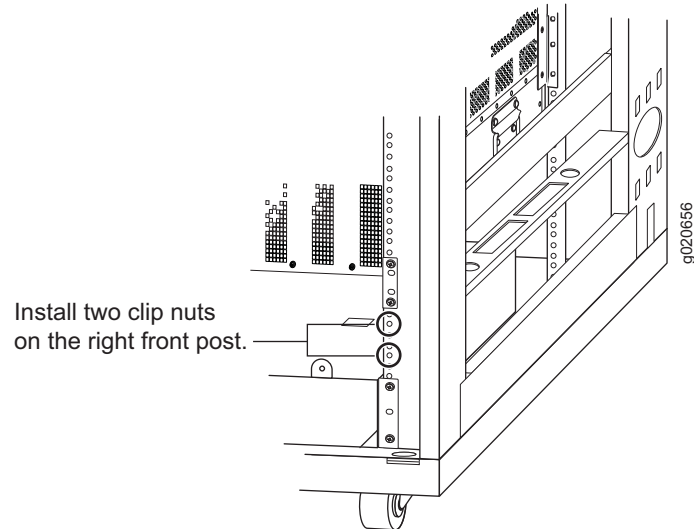
6. From the rear of the cabinet, slide the PSU intake baffle into the cabinet, and attach it to the two rear posts with 4 screws (see Figure 18).

**Figure 18:  Sliding the PSU Intake Baffle into the Rear of the Cabinet**
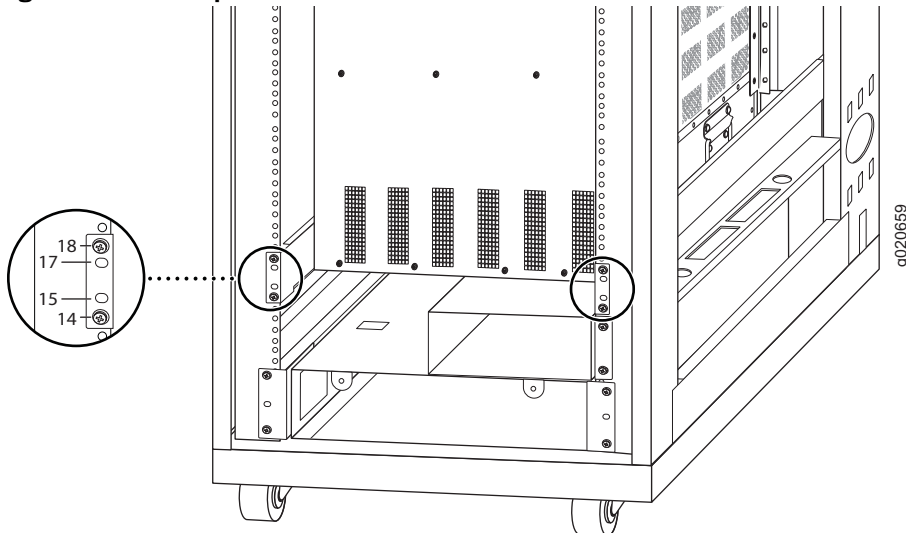
7. From the front of the cabinet, slide the single rack ear into the slots on the right side of the PSU intake baffle (see Figure 19), and attach the rack ear to the front right post with 2 screws.

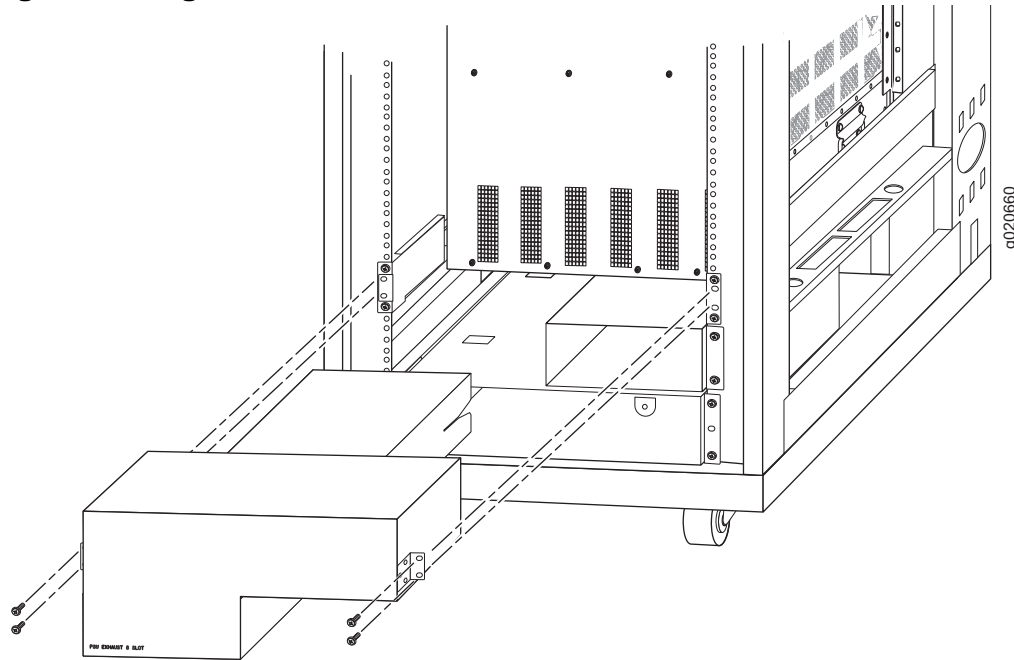**Figure 19:  Sliding the Rack Ear into the PSU Intake Baffle (Front View)**
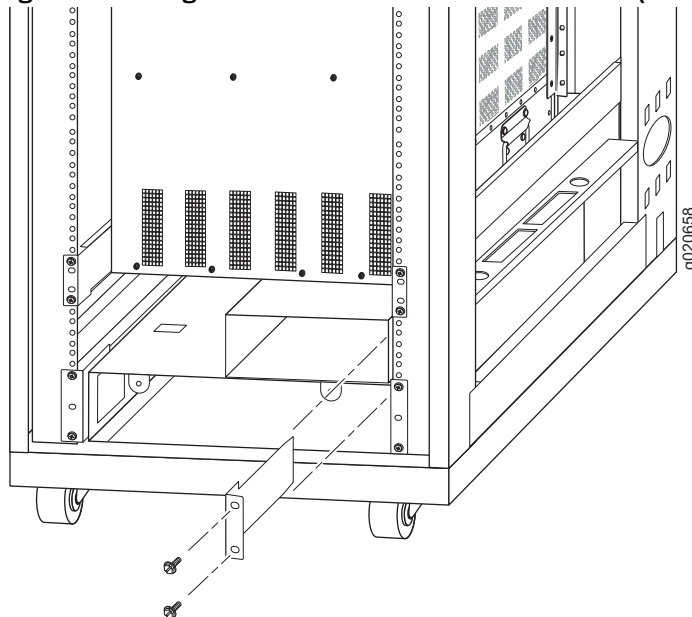


8. Tighten all 6 screws to secure the PSU intake baffle to the cabinet.

9. For the PSU exhaust 8-slot baffle:

    a. Ensure that a clip nut is installed in hole 9 and in hole 12 (RU 3–top and RU 4–top) above the upper-lower baffle on the right rear rack post.

    b. Ensure that a clip nut is installed in hole 15 and in hole 17 (RU 5–top and RU 6–middle) on each front rack post inside the adjustable mounting bracket screws (see Figure 20).

**Figure 20:  Front Clip Nut Locations for the PSU Exhaust Baffle**

10. From the front of the cabinet, slide the PSU exhaust baffle into the cabinet (see Figure 21), making sure that the slot on the exhaust baffle engages the tab on the PSU intake baffle to connect the two baffles (see Figure 22).

**Figure 21:  Sliding the PSU Exhaust Baffle into the Front of the Cabinet**



**Figure 22:  Connecting the PSU Exhaust Baffle to the PSU Intake Baffle (Front View)**
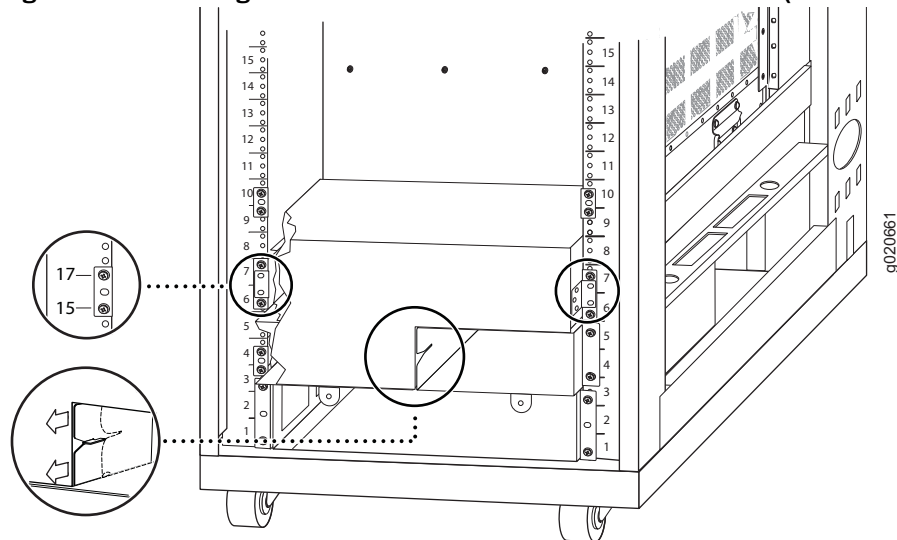


11. Attach the PSU exhaust baffle to the two front posts with 4 screws (see Figure 22).

12. From the rear of the cabinet, slide the single rack ear into the slots on the right side of the PSU exhaust baffle, and attach the rack ear to the rear post with 2 screws.

13. Tighten all 6 screws to secure the PSU exhaust baffle to the cabinet.

14. From the rear of the cabinet, slide the PSU intake access panel 8-slot into the cabinet, and position it over the power supplies in the switch (see Figure 23).

**Figure 23: Positioning the PSU Intake Access Panel over the Power Supplies (Rear View)**
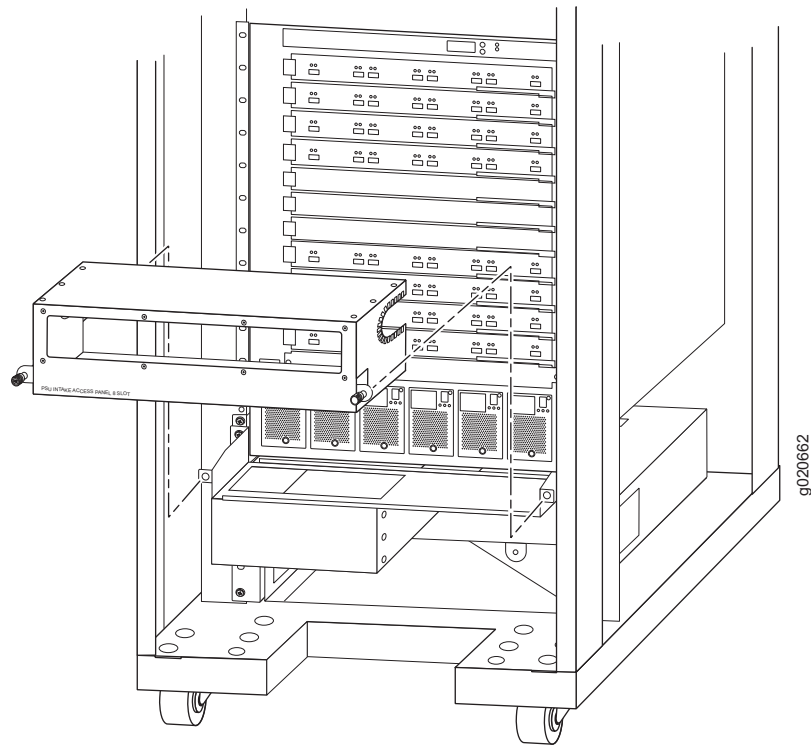


15. Secure the PSU intake access panel to the PSU intake baffle with the two thumbscrews (see Figure 23).

### Install the Upper Air Baffle Assembly

To install the upper air baffle assembly in the IBM 1410 cabinet:

1. For the upper-lower baffle (top), ensure that a clip nut is installed in each rack post, front and back, in hole 56 and in hole 62 (RU 19–middle and RU 21–middle) (see Figure 24).
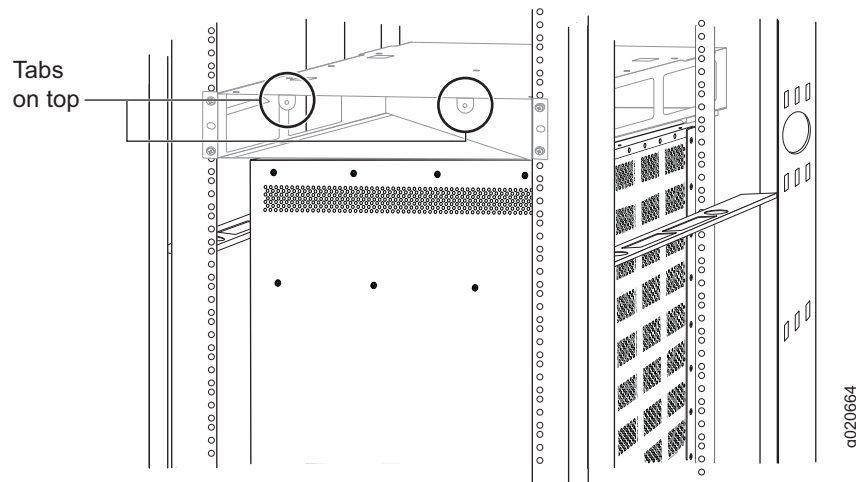
**Figure 24: Clip Nut Locations for Upper-Lower Baffle (Top)**
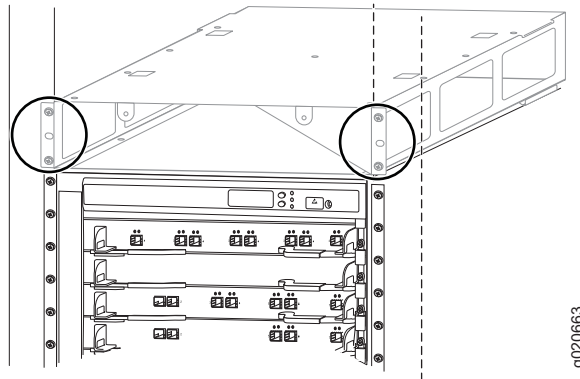


2. From the front of the cabinet, slide the upper-lower baffle assembly above the switch, with the tabs on top, and attach it to the front rack posts with 4 screws (see Figure 25).

**Figure 25: Upper-Lower Baffle (Top) Attached to Front Rack Posts**



3. From the rear of the cabinet, slide the 2 slide-in rack ears into slots on the sides of the upper-lower baffle assembly (see Figure 14), and attach them to the rear rack posts with 4 screws.

4.  From the front of the cabinet, slide one of the two covering sheets directly on top of the upper-lower baffle, with thumbscrews towards the center, carefully inserting the two raised tabs on the covering sheet (see Figure 26) into the square slots on the baffle (see Figure 27).

**Figure 26:  Covering Sheet with Raised Tabs**



Raised tabs

g020665
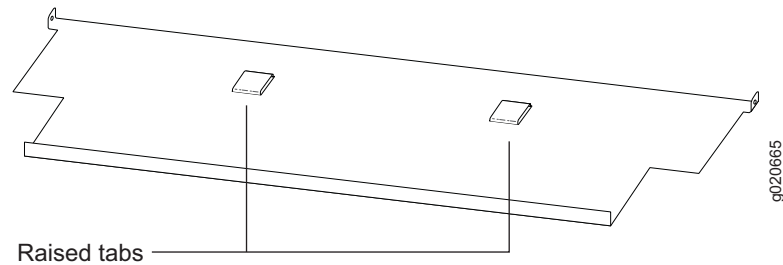
**Figure 27:  Slots on Upper-Lower Baffle**
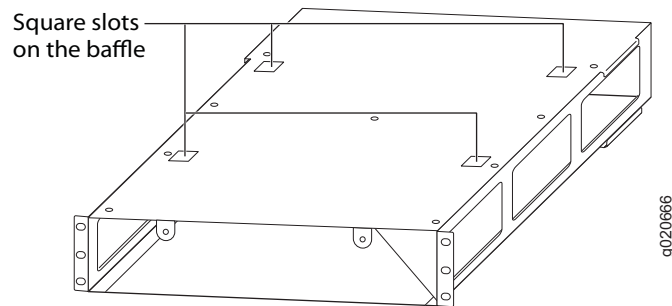


Square slots on the baffle

g020666

5.  Repeat Step 4 for the second covering sheet.

6.  Secure the covering sheets to the front and back of the upper-lower baffle with the thumbscrews.

## Installing Air Baffles for the IBM Ethernet Switch J16E in an IBM 1410 Cabinet

The standard airflow through the IBM Ethernet Switch J16E (Figure 28) is from side to side. However, the airflow of the switch installed in an IBM 1410 cabinet must be from the front to the back of the cabinet—from the cold aisle toward the hot aisle. To properly redirect the airflow through the switch, you must install side plates on the switch *before* you install it in the cabinet, and air baffle assemblies above and below the switch *after* you have installed it in the cabinet.

**Figure 28: IBM Ethernet Switch J16E Front**
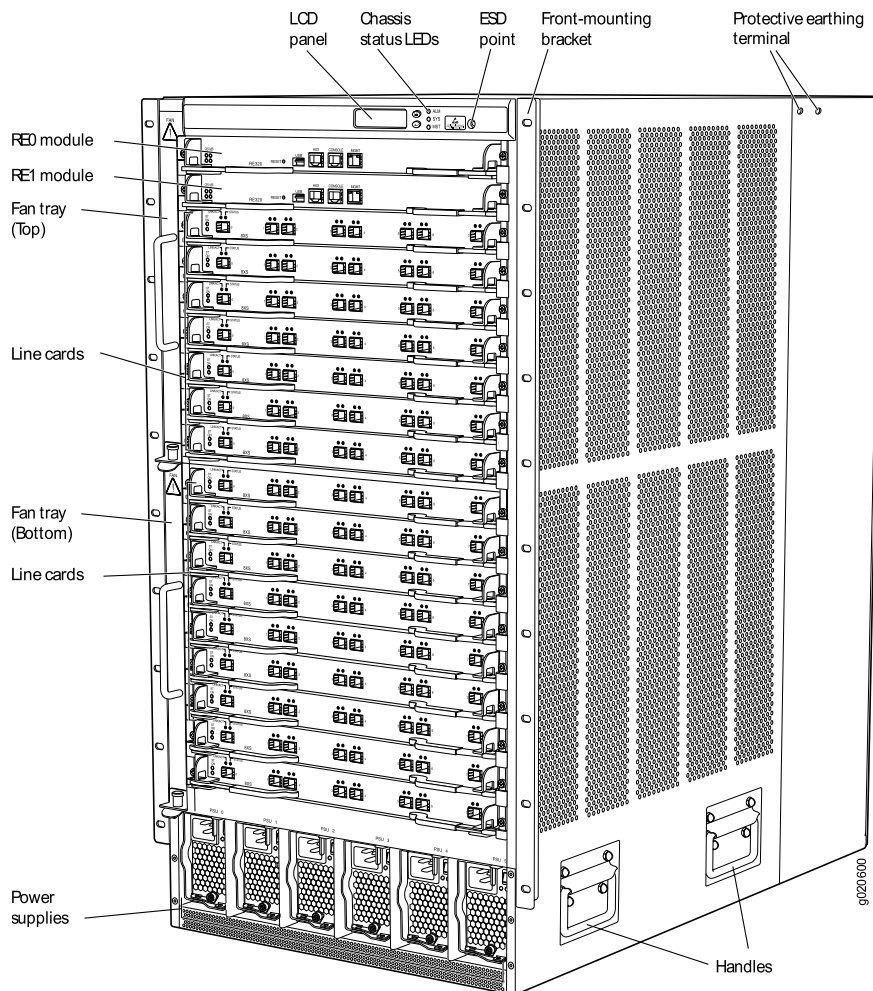


The air baffle system for the IBM Ethernet Switch J16E consists of the following components that redirect airflow as shown in Figure 29:

- Two rear side plates installed on the switch that prevent exhaust air from exiting the front of the cabinet.

- A lower baffle that redirects the side-to-side airflow through the lower portion of the chassis line cards so that exhaust air exits from the rear of the cabinet below the switch. The baffle also redirects the exhaust from the power supplies, which are located at the bottom of the chassis.

■ An upper baffle that redirects the side-to-side airflow through the upper portion of the chassis line cards so that exhaust air exits from the rear of the cabinet above the switch.

**Figure 29:  Switch Airflow Redirected by Baffle System**
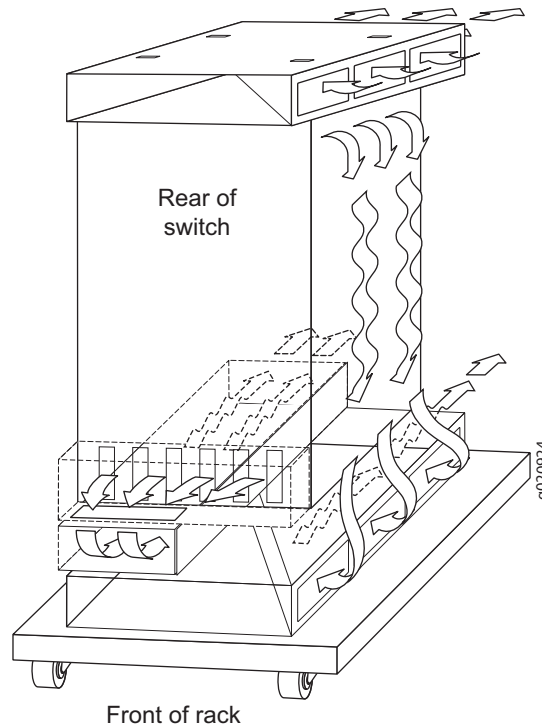


Rear of switch

g020924

Front of rack

## *Required Tools and Equipment*

Ensure that you have the following parts and tools available to install the air baffle assembly. For best results, install the lower baffle assembly before you install the upper one.

■ **For side plates, lower baffle assembly, and upper baffle assembly:**

   ■ Phillips (+) screwdriver, number 2

   ■ Flat-head (–) screwdriver if needed for clip nuts

■ **For the side plates and support plates:**

   ■ 2 side plates

   ■ 2 support plates

   ■ 22 Phillips flat-head screws, size 8-32 x 1/4 undercut, for the side plates

   ■ 22 Phillips screws and clip nuts, size 10-32, for the support plates

- **For the lower baffle assembly:**

  - 1 upper-lower baffle with 2 fixed front rack ears (provided)

    - 2 slide-in rear rack ears (provided)

    - 8 Phillips screws and clip nuts, size 10-32

  - 1 PSU intake 16-slot baffle with 2 fixed rack ears (provided)

    - 1 slide-in rack ear (provided)

    - 6 Phillips screws and clip nuts, size 10-32

  - 1 PSU exhaust 16-slot baffle with 3 attached rack ears (provided)

    - 1 slide-in rack ear (provided)

    - 8 Phillips screws and clip nuts, size 10-32

    - 1 PSU intake access panel, 8-slot, with 2 thumbscrews (provided)

- **For the upper baffle assembly:**

  - 1 upper-lower baffle with 2 fixed front rack ears (provided)

    - 2 slide-in rear rack ears (provided)

    - 8 Phillips screws and clip nuts, size 10-32

    - 2 covering sheets with thumbscrews (provided)

## *Installation Prerequisites*

Before installing the air baffle system for the IBM Ethernet Switch J16E, install the switch and its components in an IBM 1410 cabinet as described in the *IBM Ethernet Switch J08E Hardware Guide*—but be sure to do the following:

1. **Plan for switch-and-baffle installation:**

   a. **Install the switch in the bottom of the cabinet.** Only one IBM Ethernet Switch J16E with baffle system can fit in an IBM 1410 cabinet and is the heaviest item in the cabinet.

   b. **Allow enough room for the switch plus the baffles.** The lower baffle assembly, the IBM Ethernet Switch J16E, and the upper baffle assembly together require 29 rack units (29 U) or approximately 127.6 cm (50.2 in.) of rack space.

      - 5.5 U (approximately 24.3 cm or 9.5 in.) for baffles below the switch

      - 21 U (approximately 92.7 cm or 36.5 in.) for the switch chassis

      - 2.5 U (approximately 10.6 cm or 4.1 in.) for baffles above the switch

c. **Install the switch facing rearward for correct airflow.**

⚠ **CAUTION:** You must install the switch in the cabinet with the front of the switch facing the rear of the cabinet (see Figure 30) so that the upper and lower baffles correctly direct the exhaust airflow out the rear of the cabinet (Figure 29).

**Figure 30: Install the Switch Front Facing the Rear of the Cabinet**
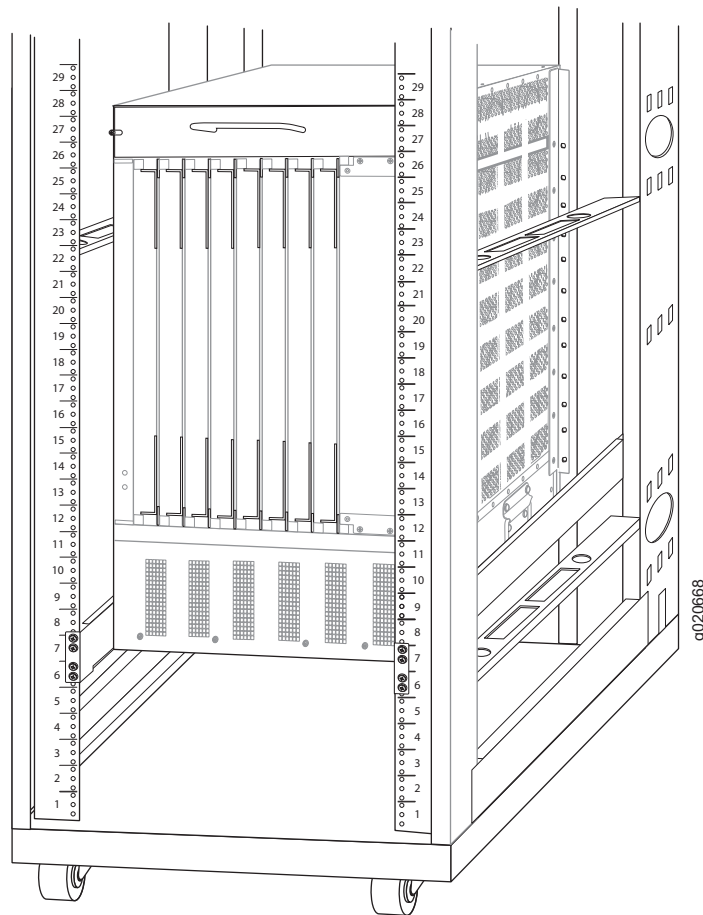
2.  **Install side plates on the rear of the chassis.** Before installing the switch in the cabinet, install a plate on each side of the chassis, with countersunk screw holes facing out, using 11 screws (see Figure 31).

**Figure 31: Install Side Plates on the Switch Before Mounting in the Cabinet**
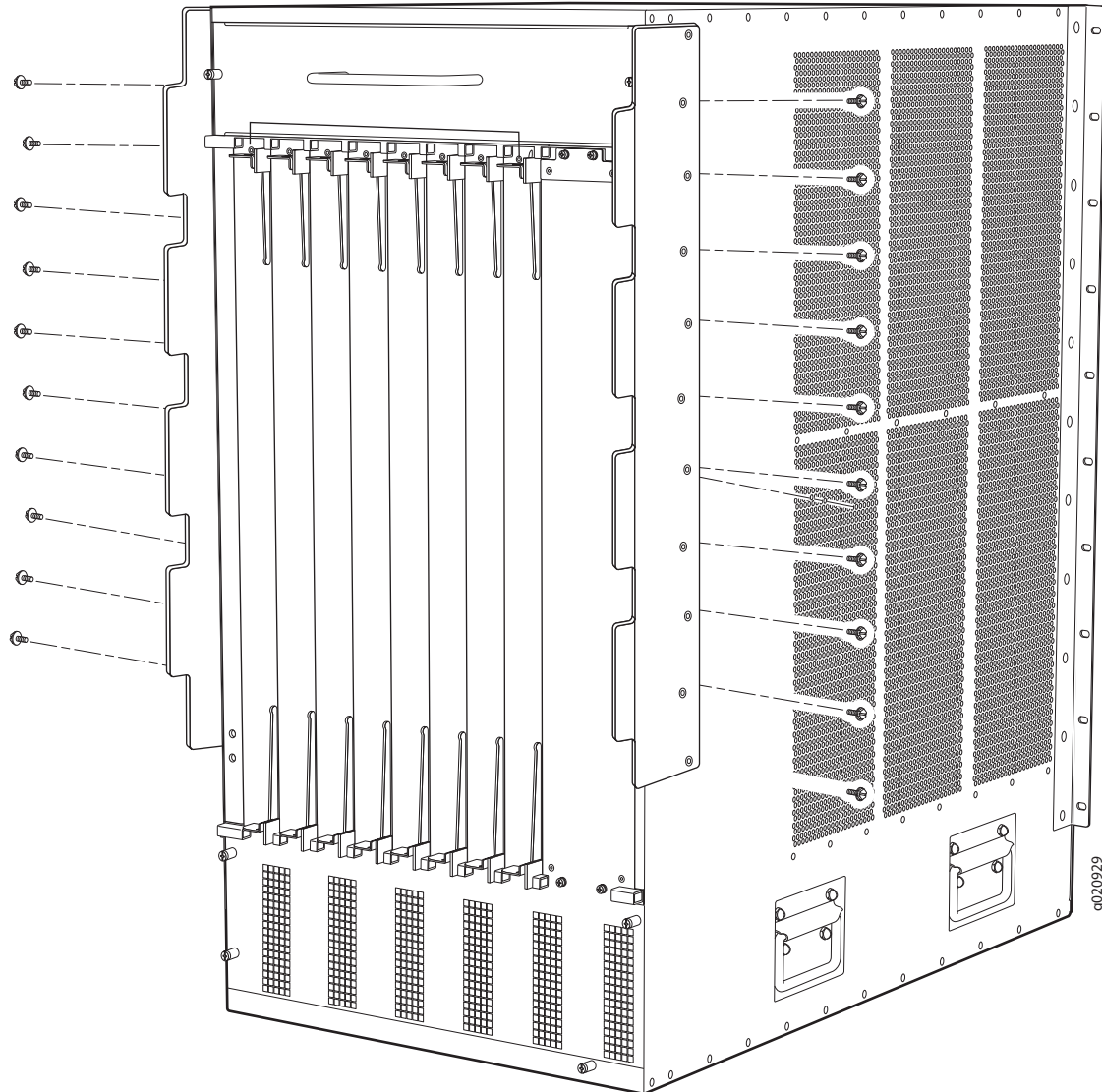
3. **Preinstall all the clip nuts required for switch and baffle installation.** For best results, install all the clip nuts you will need in the cabinet before installing the switch and baffle system. (See Table 2 and Figure 32.)

   Table 2 lists the clip nut locations by rack unit (RU) number and position—top, middle, or bottom—within the RU space. *Italics* indicate clip nut locations for the adjustable mounting brackets that support the switch. RU numbers are marked on the rack posts as shown in Figure 32 on page 31.

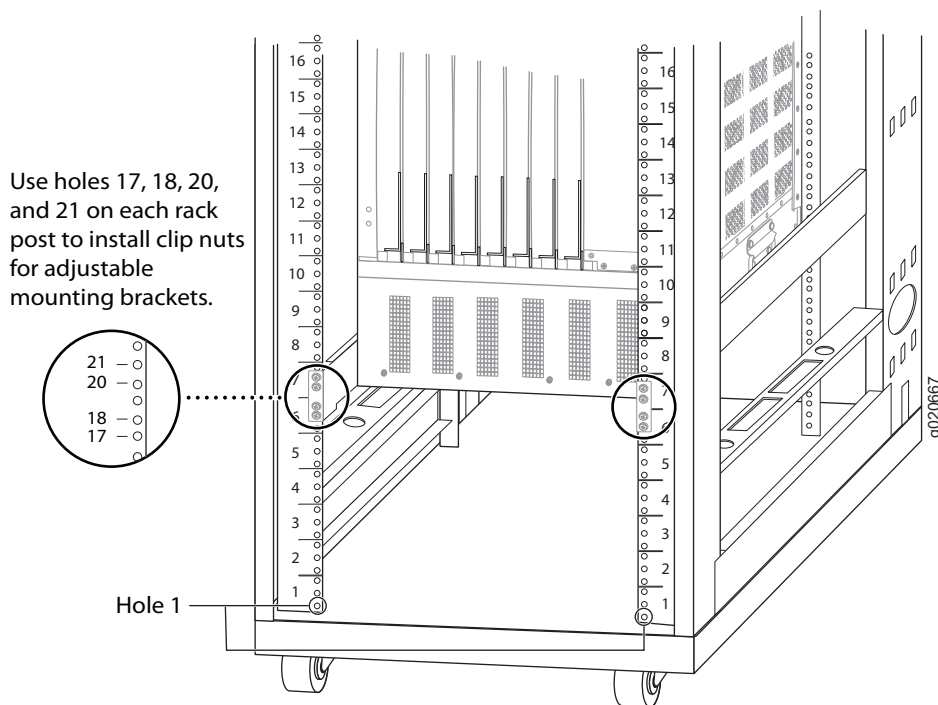**Table 2: Clip Nut Locations for IBM Ethernet Switch J16E and Baffle Assembly**

| Intake—Front of Cabinet (Rear of Switch) | | Exhaust—Rear of Cabinet (Front of Switch) | |
|---|---|---|---|
| **Left Side** | **Right Side** | **Left Side** | **Right Side** |
| RU 1–bottom | RU 1–bottom | RU 1–bottom | RU 1–bottom |
| RU 3–bottom | RU 3–bottom | RU 3–bottom | RU 3–bottom |
| RU 3–top | RU 3–top | — | RU 3–top |
| RU 4–middle | RU 4–top | — | RU 4–top |
| *RU 6–middle* | *RU 6–middle* | RU 5–middle | RU 5–middle |
| *RU 6–top* | *RU 6–top* | RU 6–bottom | RU 6–bottom |
| *RU 7–middle* | *RU 7–middle* | *RU 6–middle* | *RU 6–middle* |
| *RU 7–top* | *RU 7–top* | *RU 6–top* | *RU 6–top* |
| RU 8–middle | RU 8–middle | *RU 7–middle* | *RU 7–middle* |
| RU 9–bottom | RU 9–bottom | *RU 7–top* | *RU 7–top* |
| RU 10–top | RU 10–top | RU 8–top | RU 8–top |
| RU 12–top | RU 12–top | RU 10–top | RU 10–top |
| RU 14–top | RU 14–top | RU 12–top | RU 12–top |
| RU 16–top | RU 16–top | RU 14–top | RU 14–top |
| RU 18–top | RU 18–top | RU 16–top | RU 16–top |
| RU 20–top | RU 20–top | RU 18–top | RU 18–top |
| RU 22–top | RU 22–top | RU 20–top | RU 20–top |
| RU 24–top | RU 24–top | RU 22–top | RU 22–top |
| RU 26–top | RU 26–top | RU 24–top | RU 24–top |
| RU 27–middle | RU 26–middle | RU 26–top | RU 26–top |
| RU 29–middle | RU 29–middle | RU 27–middle | RU 27–middle |
| | | RU 29–middle | RU 29–middle |

**Figure 32: Clip Nuts Needed for IBM Ethernet Switch J16E and Baffle Assembly**



Front of cabinet
(rear of switch)

Rear of cabinet
(front of switch)
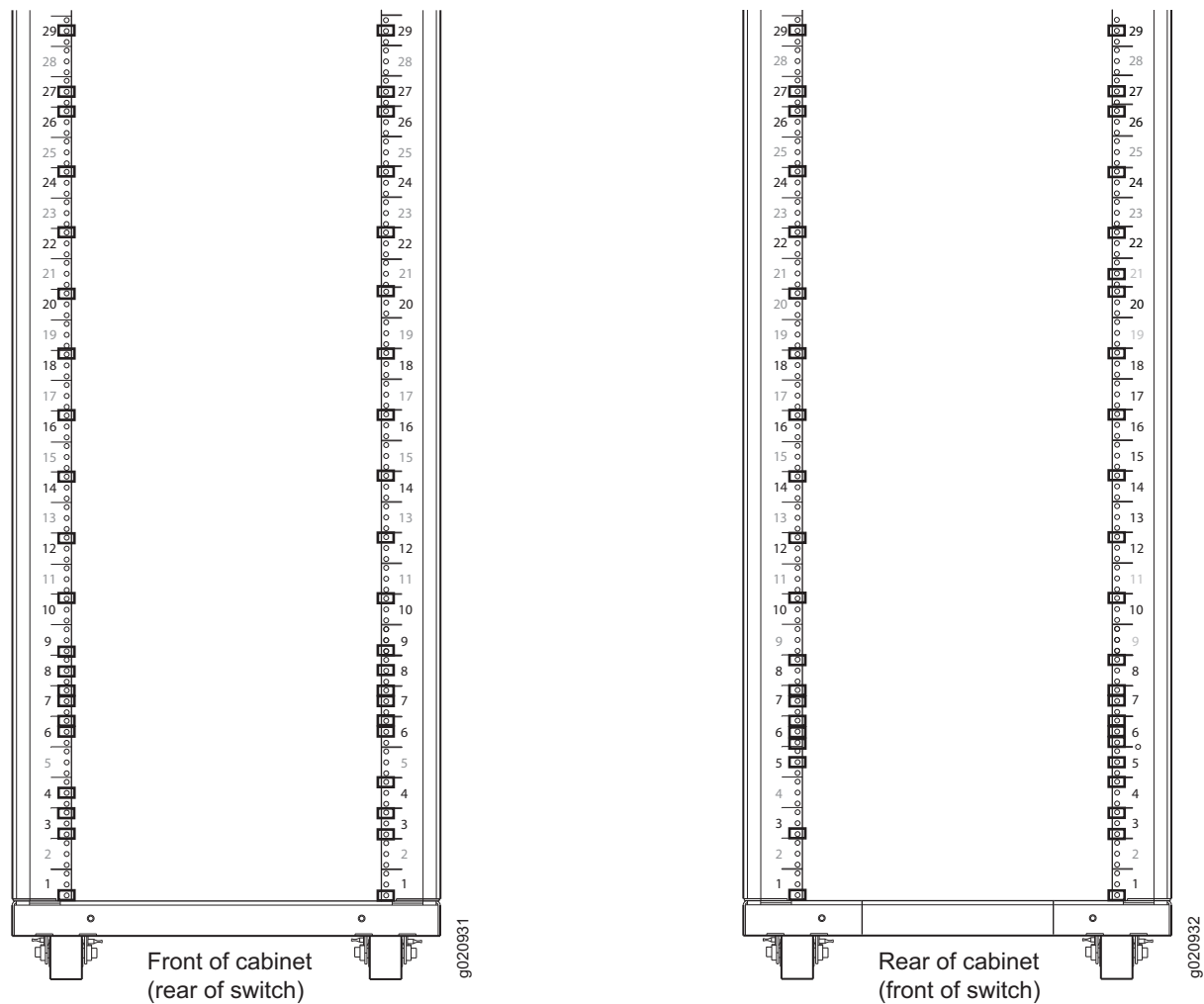
At minimum, install a clip nut in hole 17 and hole 21 (RU 6–middle and RU 7–top) of each rack post, counting from the bottom, for the adjustable mounting brackets that support the switch in the cabinet (see Figure 33).

**Figure 33: Clip Nut Locations for IBM Ethernet Switch J16E Mounting Brackets**

Use holes 17, 18, 20, and 21 on each rack post to install clip nuts for adjustable mounting brackets.

4. **Install support plates.** To secure the rear of the switch in the front of the cabinet (see Figure 34):

   a. Install a support plate with the angled corner facing down and slots fitting into the "teeth" of the side plate on either side of the switch.

   b. Secure each support plate to each rear rack post with 9 screws.

**Figure 34: Install Support Plates to Secure the Rear of the Switch**
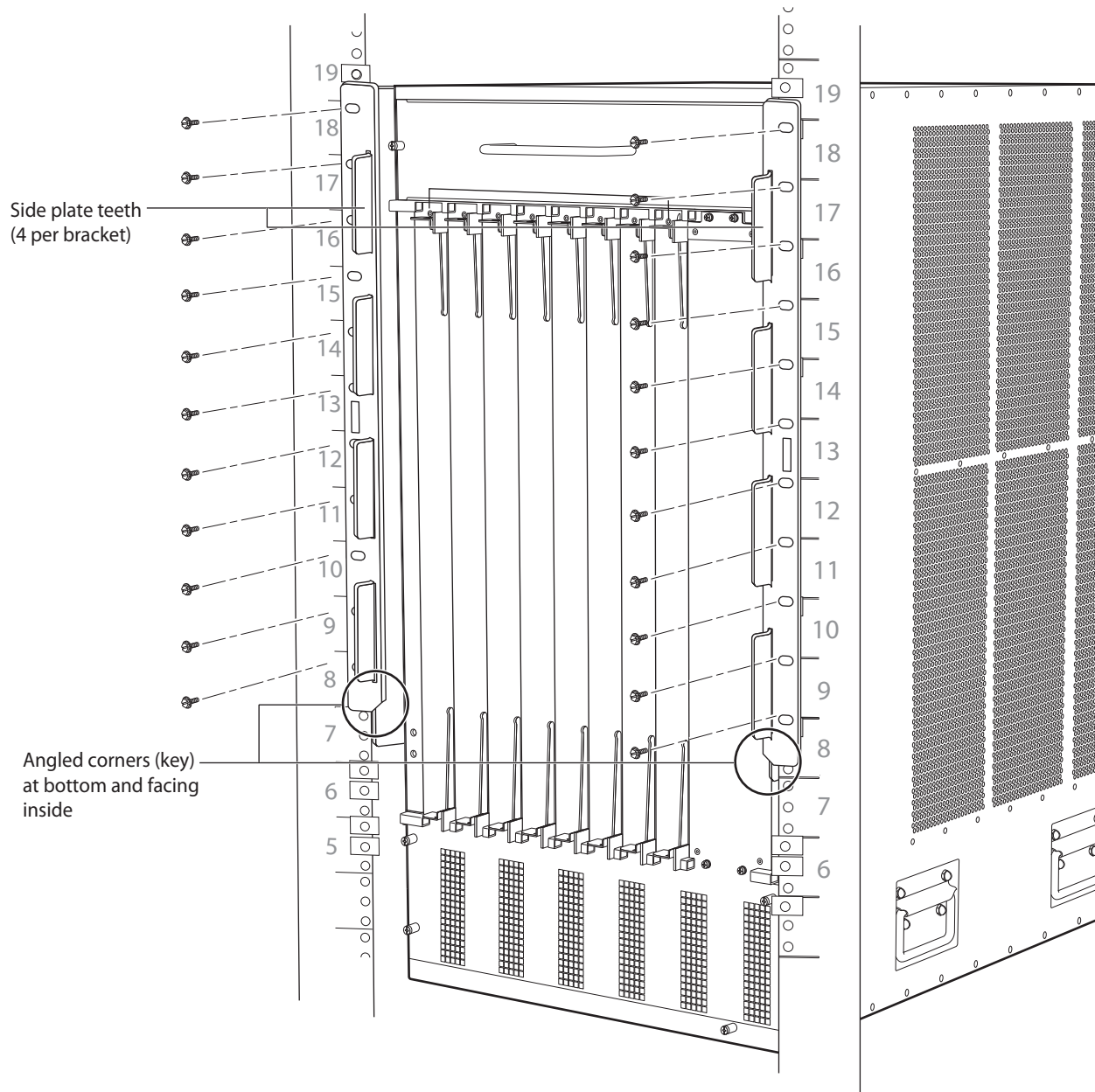


5. **Do not install the power cord tray**. The tray interferes with baffle assembly installation.

### Install the Lower Air Baffle Assembly

To install the lower air baffle assembly in the IBM 1410 cabinet:

1.  For the upper-lower baffle (bottom), ensure that a clip nut is installed in hole 1 and in hole 7 (RU 1–bottom and RU 3–bottom) of each rack post, front and back (see Figure 35).

**Figure 35: Clip Nut Locations for the Upper-Lower Baffle (Bottom)**
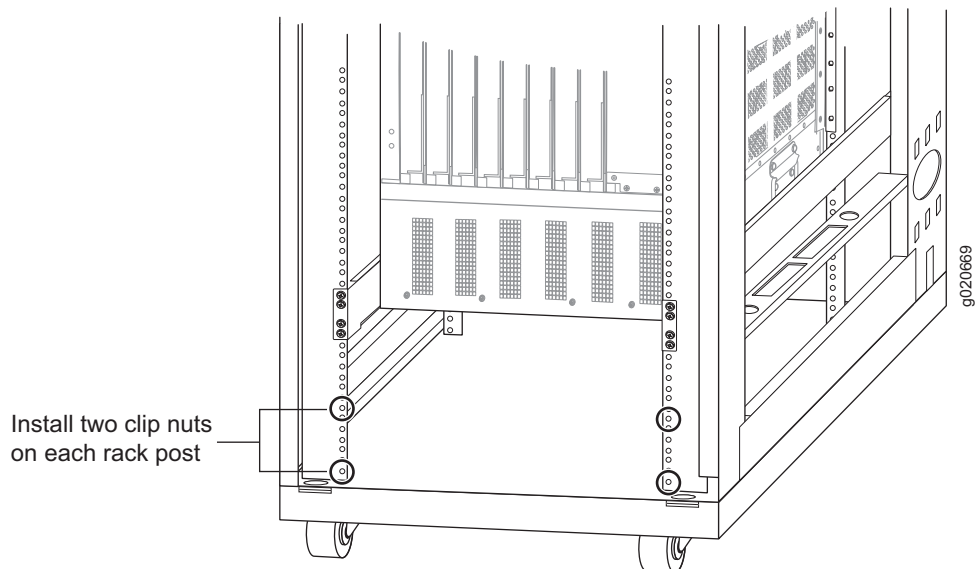


Install two clip nuts on each rack post

2.  From the rear of the cabinet, at the bottom, slide in the upper-lower baffle with the tabs on top, and attach it to the rear rack posts with 4 screws.

3.  From the front of the cabinet, slide the 2 slide-in rack ears into slots on the sides of the upper-lower baffle (see Figure 36), and attach them to the front rack posts with 4 screws (see Figure 37).

**Figure 36: Sliding Rear Rack Ears into the Upper-Lower Baffle**



Slots for rack ears
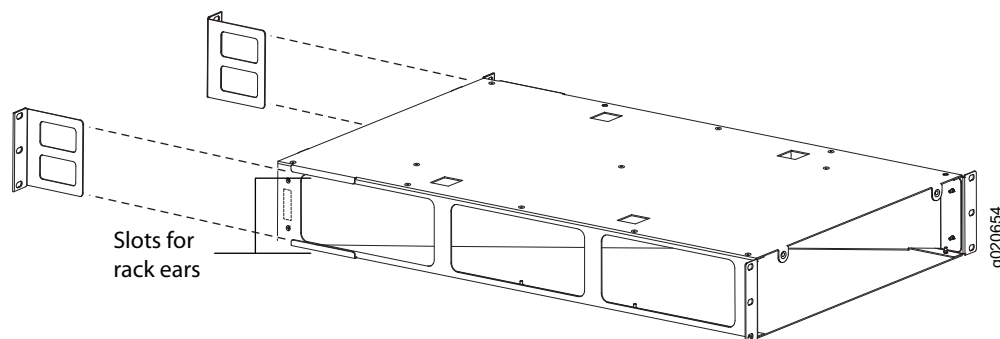
**Figure 37:  Upper-Lower Baffle (Bottom) Attached to the Front Rack Posts**
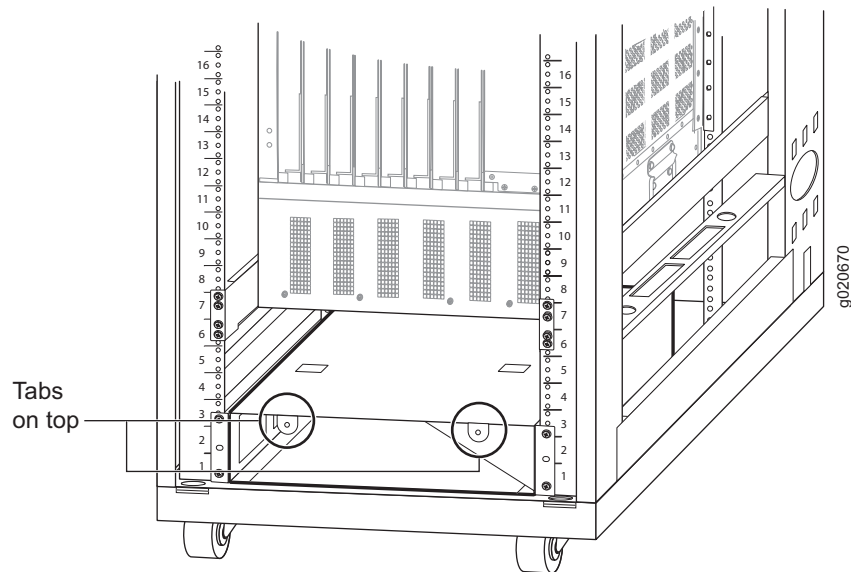


4.  Tighten all 8 screws to secure the upper-lower baffle to the cabinet.

5.  For the PSU intake 16-slot baffle:

    a.  Ensure that a clip nut is installed in hole 14 and in hole 16 (RU 5–middle and RU 6–bottom) on each rear rack post directly below the adjustable mounting brackets that support the switch (see Figure 38).

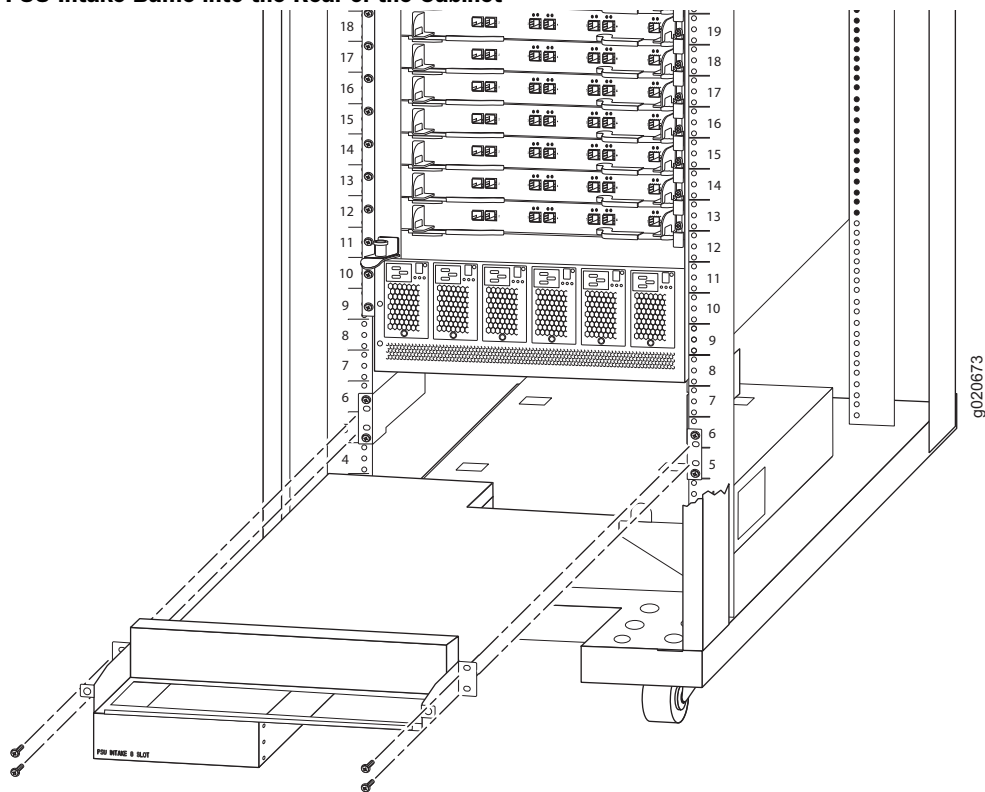**Figure 38:  Rear Clip Nut Locations for PSU Intake Baffle**
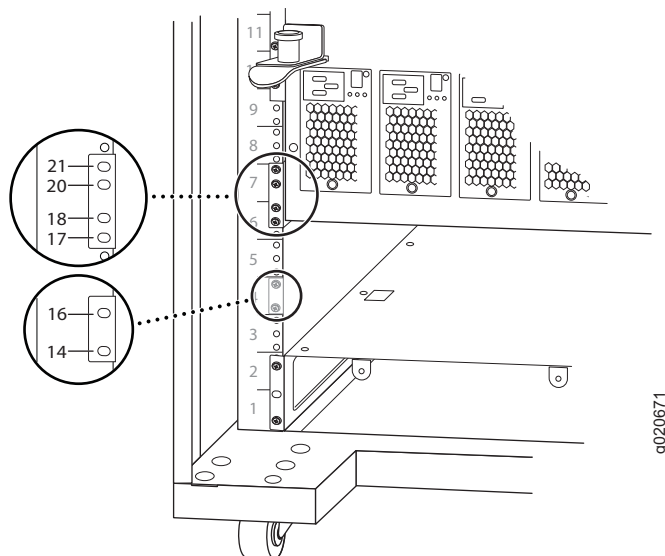
b.  Ensure that a clip nut is installed in hole 9 and in hole 12 (RU 3–top and RU 4–top) in the right front rack post (see Figure 39).

**Figure 39:  Front Clip Nut Locations for PSU Intake Baffle**
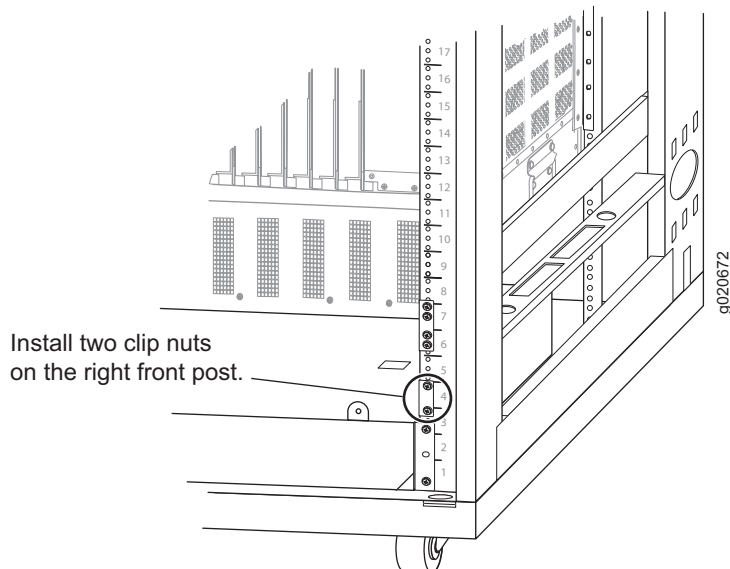


6.  From the rear of the cabinet, slide the PSU intake baffle into the cabinet, lifting it so that the rack ears align with holes 14 and 16 on the rear posts, and attach the ears to the posts with 4 screws (see Figure 40).

**Figure 40:  Sliding the PSU Intake Baffle into the Rear of the Cabinet**

7. From the front of the cabinet, slide the single rack ear into the slots on the right side of the PSU intake baffle (see Figure 41).

8. Lift the baffle to align the rack ear with holes 9 and 12 on the right front post, and attach the ear to the post with 2 screws.

**Figure 41:  Sliding the Front Rack Ear into the Right Side of the PSU Intake Baffle**
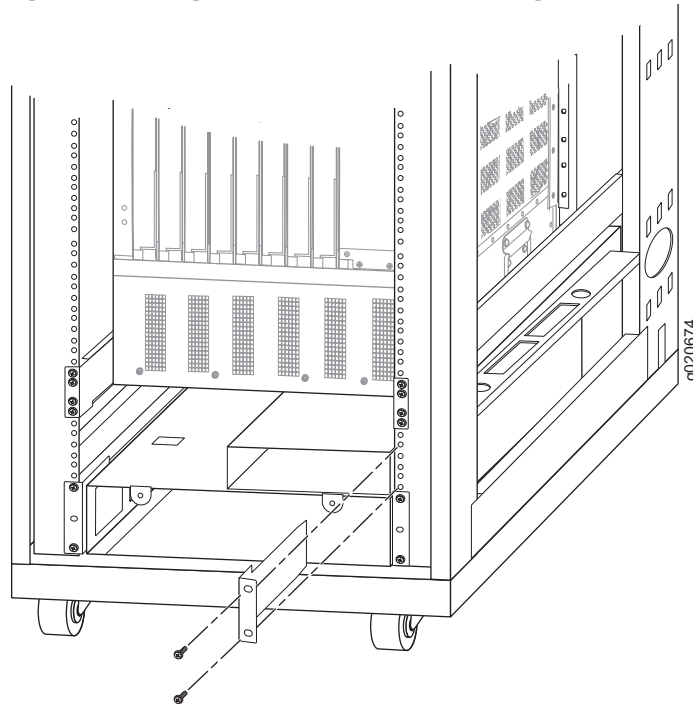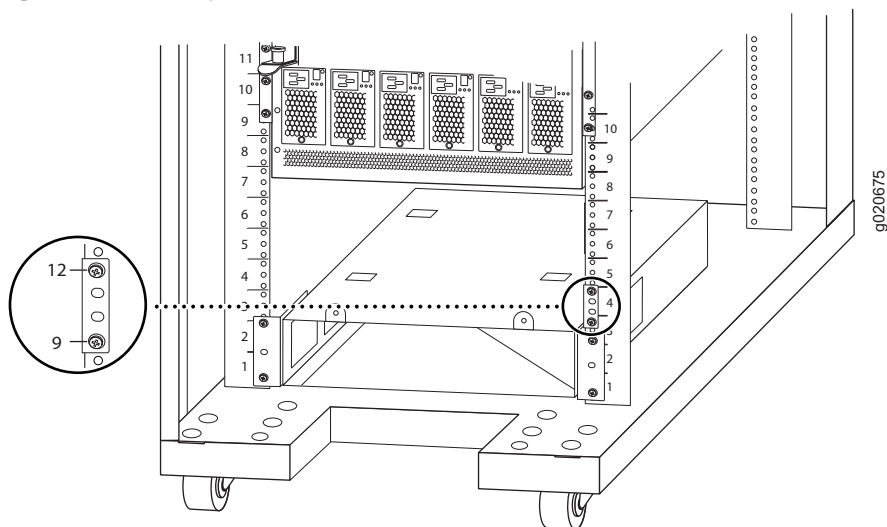


9. Tighten all 6 screws to secure the PSU intake baffle to the cabinet.

10. For the PSU exhaust 16-slot baffle:

    a. Ensure that a clip nut is installed in hole 9 and in hole 12 (RU 3–top and RU 4–top) on the right rear rack post (see Figure 42).

**Figure 42:  Rear Clip Nut Locations for the PSU Exhaust Baffle**



    b. Ensure that a clip nut is installed in hole 23 and in hole 25 (RU 8–middle and RU 9–bottom) on each front rack post above the adjustable mounting bracket screws (see Figure 43).

    c. Ensure that a clip nut is also installed in hole 9 and in hole 11 (RU 3–top and RU 4–middle) on only the *left* front rack post (see Figure 43).

**Figure 43:  Front Clip Nut Locations for the PSU Exhaust Baffle**
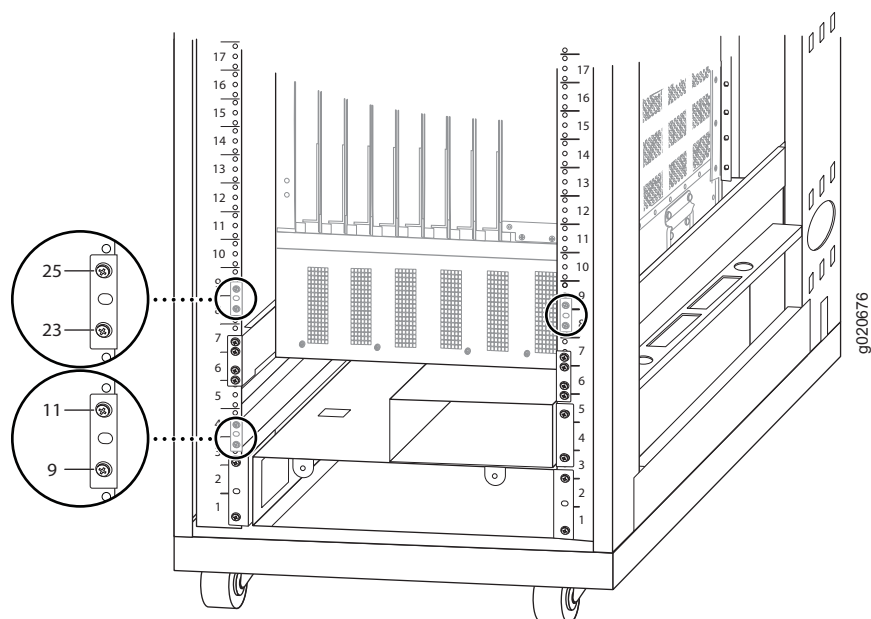
11. From the front of the cabinet, slide the PSU exhaust baffle into the cabinet (see Figure 44), making sure the slots on the exhaust baffle engage the tabs on the PSU intake baffle to connect the two baffles (see Figure 45).

**Figure 44:  Sliding the PSU Exhaust Baffle into the Front of the Cabinet**
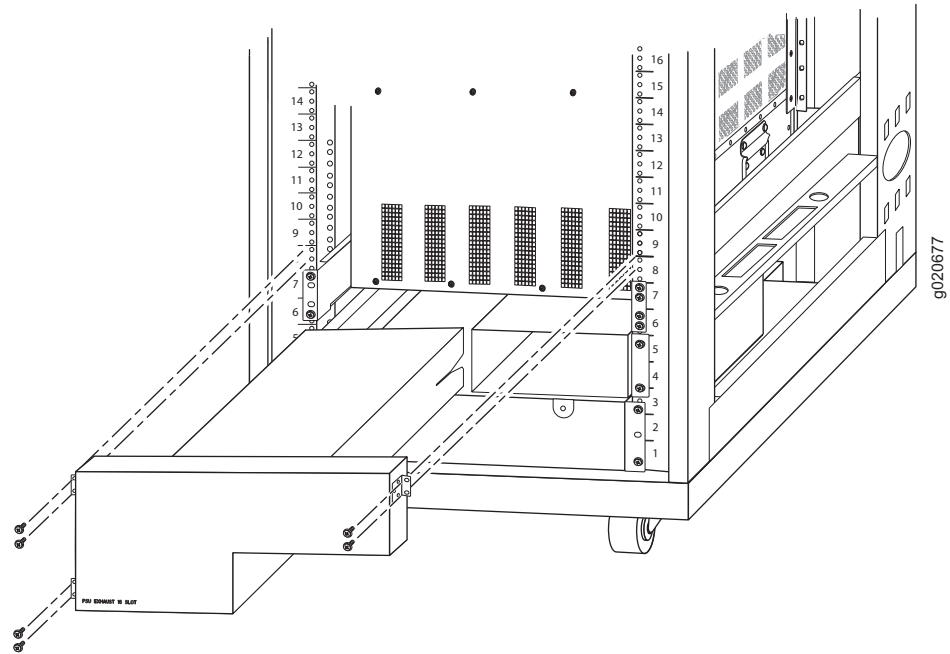


**Figure 45:  Connecting the PSU Exhaust Baffle to the PSU Intake Baffle (Front View)**
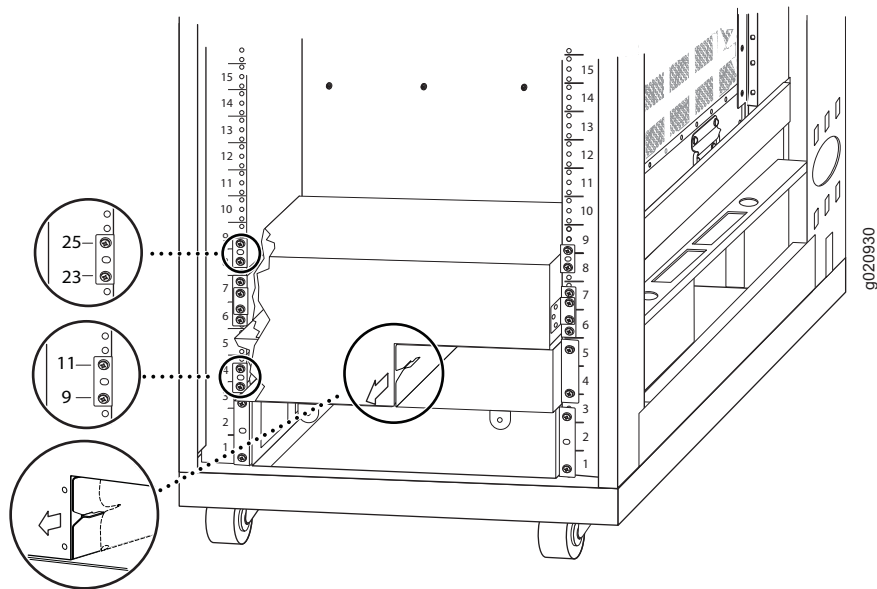


12. Attach the PSU exhaust baffle to the two front posts with 6 screws (see Figure 44).

13. From the rear of the cabinet, slide the single rack ear into the slots on the right side of the PSU exhaust baffle, and attach the rack ear to the rear post with 2 screws.

14. Tighten all 8 screws to secure the PSU exhaust baffle to the cabinet.

15. From the rear of the cabinet, slide the PSU intake access panel 16-slot into the cabinet, and position it over the power supplies in the switch (see Figure 46).

**Figure 46: Positioning the PSU Intake Access Panel over the Power Supplies**
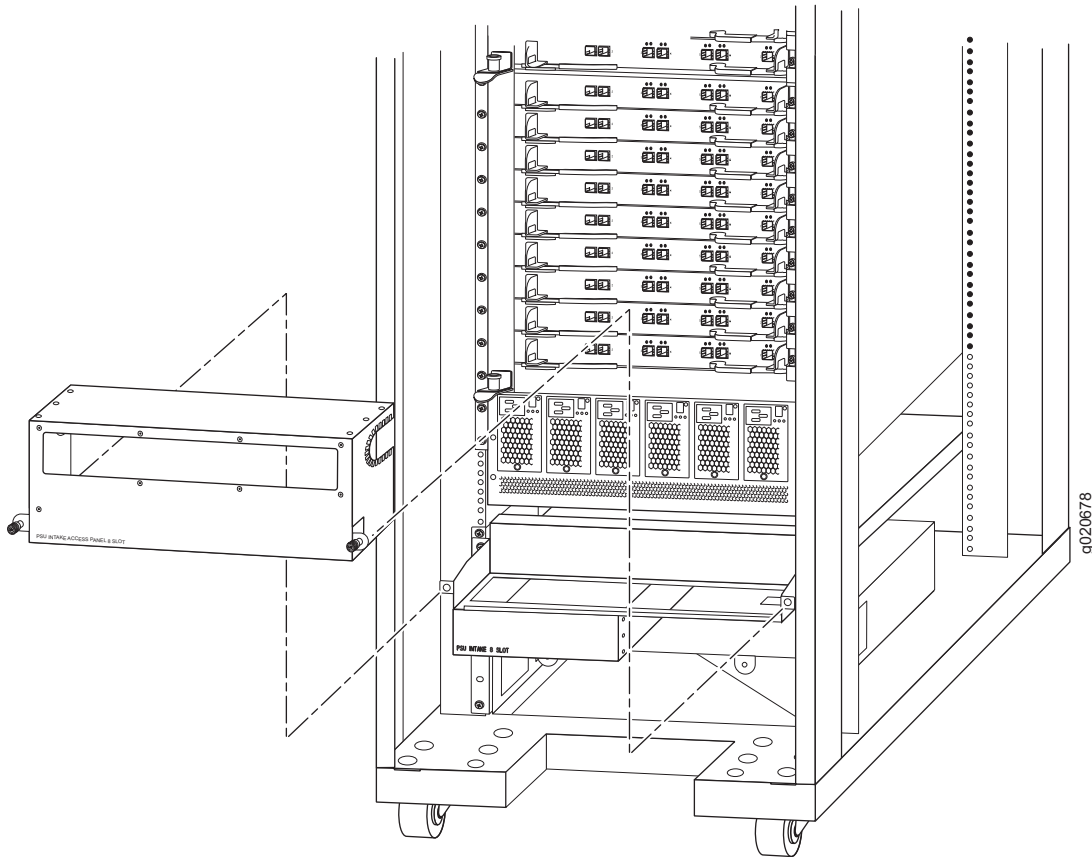


16. Secure the PSU intake access panel to the PSU intake with the two thumbscrews (see Figure 46).
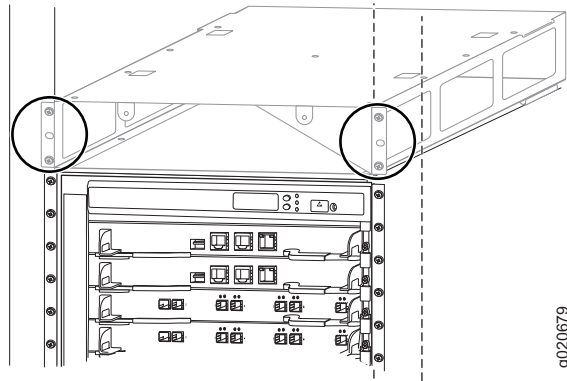
### Install the Upper Air Baffle Assembly

To install the upper air baffle assembly in the IBM 1410 cabinet:

1.  For the upper-lower baffle (top), ensure that a clip nut is installed in hole 83 and hole 86 (RU 27–middle and RU 29–middle) in each rack post, front and back (see Figure 47).

**Figure 47:  Clip Nut Locations for Upper-Lower Baffle (Top)**



2.  From the front of the cabinet, slide the upper-lower baffle assembly above the switch, with the tabs on top, and attach it to the front rack posts with 4 screws (see Figure 48).

**Figure 48:  Upper-Lower Baffle (Top) Attached to Front Rack Posts**
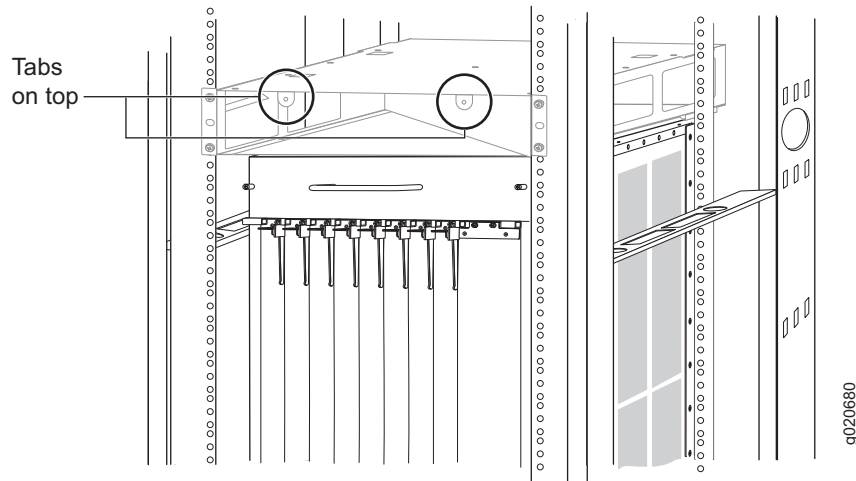


3.  From the rear of the cabinet, slide the 2 slide-in rack ears into slots on the sides of the upper-lower baffle assembly (see Figure 36 on page 34), and attach them to the rear rack posts with 4 screws.

4.  From the front of the cabinet, slide one of the two covering sheets directly on top of the upper-lower baffle, with thumbscrews towards the center, carefully inserting the two raised tabs on the covering sheet (see Figure 49) into the square slots on the baffle (see Figure 50).

**Figure 49:  Covering Sheet with Raised Tabs**



Raised tabs

g020665
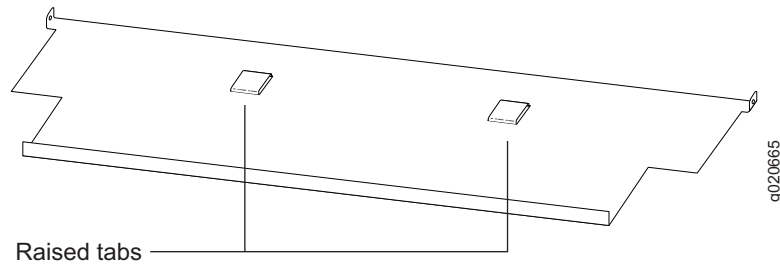
**Figure 50:  Slots on Upper-Lower Baffle**
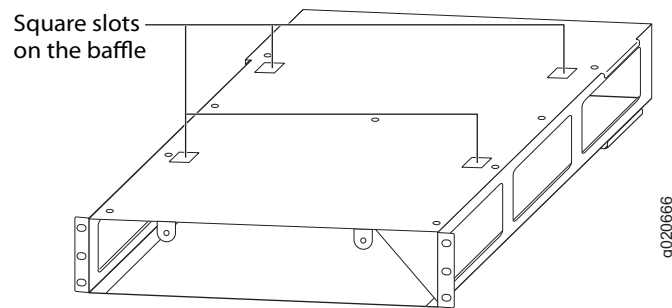


Square slots on the baffle

g020666

5.  Repeat Step 4 for the second covering sheet.

6.  Secure the covering sheets to the front and back of the upper-lower baffle with the thumbscrews.

## Hardware Warranty Support

For contacting IBM on the switches sold as part of the Intelligent Cluster Solution, please follow the customer support plan provided by your IBM sales representative. If you were not provided with a customer support plan, please contact your sales representative for a full copy.

To find the telephone number for the Level 1 hardware in your country please visit http://www.ibm.com/planetwide.

- **You must use machine type 1410 when calling in for hardware warranty support.** This identifies your system as an IBM Intelligent Cluster solution and will determine if upgrades and/or fixes are applicable for your customized solution.

- Each rack has a unique serial number which must be provided to support when you call in. For example model type 1410 serial number 11A1111

- As part of the Problem Determination process of your Intelligent Cluster Solution, you may need to provide the machine type and serial number information for the nodes in your solution.

- The following are needed in order to perform problem determination and diagnostics: monitor, keyboard, and mouse. You may also need a USB CD-ROM drive or USB diskette drive or a USB key.

When calling for Remote Support, it is important to notify the support representative of any changes to the solution, such as BIOS or firmware updates.

The Remote Support Representative will then work with you on problem determination of the **1410 cluster** to isolate the problem to a single node or component. Either a **CRU (customer replaceable unit)** part will be sent to you for customer installation or a SSR (system services representative) may be dispatched to your location to continue working on your issue.

If the problem cannot be isolated to a single node or other component, remote problem determination will continue in an effort to assist in isolating the issue down to hardware or software. If the HelpCenter determines the issue to be a **configuration, how to, or a software problem**, you will be transferred to the SupportLine team for assistance. A previously purchased SupportLine contract will be required to continue problem determination.

**IBM**

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