COMMSCOPE

User Manual

Universal Mount
Splice Cabinet

Contents

Introduction

This user manual provides general information and installation procedures for the Universal Mount Splice Cabinet, shown at right in 24 tray and 12 tray sizes with 19-inch mounting brackets. Procedures include:

- Unpacking the cabinet
- Mounting the cabinet on a rack or 4-post frame
- Mounting the cabinet on a wall
- Preparing cables for installation
- Installing cables
- Setting up splices

This manual also tells how to obtain technical assistance.

24 Tray Cabinet

12 Tray Cabinet

1   Product Description

1.1   General Description

The Universal Mount Splice Cabinet is a compact splice enclosure that provides a splicing interface between facility cables. Facility cables are high-fiber-count cables containing rollable ribbons, and of a type suitable for being routed indoors or outdoors. The splice cabinet is available in two sizes: 24 trays (ODF-SPLCAB-24, shown in Figure 1), and 12 trays (ODF-SPLCAB-12), which is analogous in features.

The splice cabinet mounts on a 19-inch or 23-inch equipment rack or four-post frame. It can also be mounted on a wall. The 24 tray splice cabinet accommodates up to 24 splice trays, each with a capacity of up to 24 rollable ribbon, mass fusion 12-fiber splices, for a total of up to 6912 spliced fibers per cabinet. The 12 tray splice cabinet has a capacity of 12 rollable ribbon, mass fusion 12-fiber splices, for a total of up to 3456 spliced fibers per cabinet.
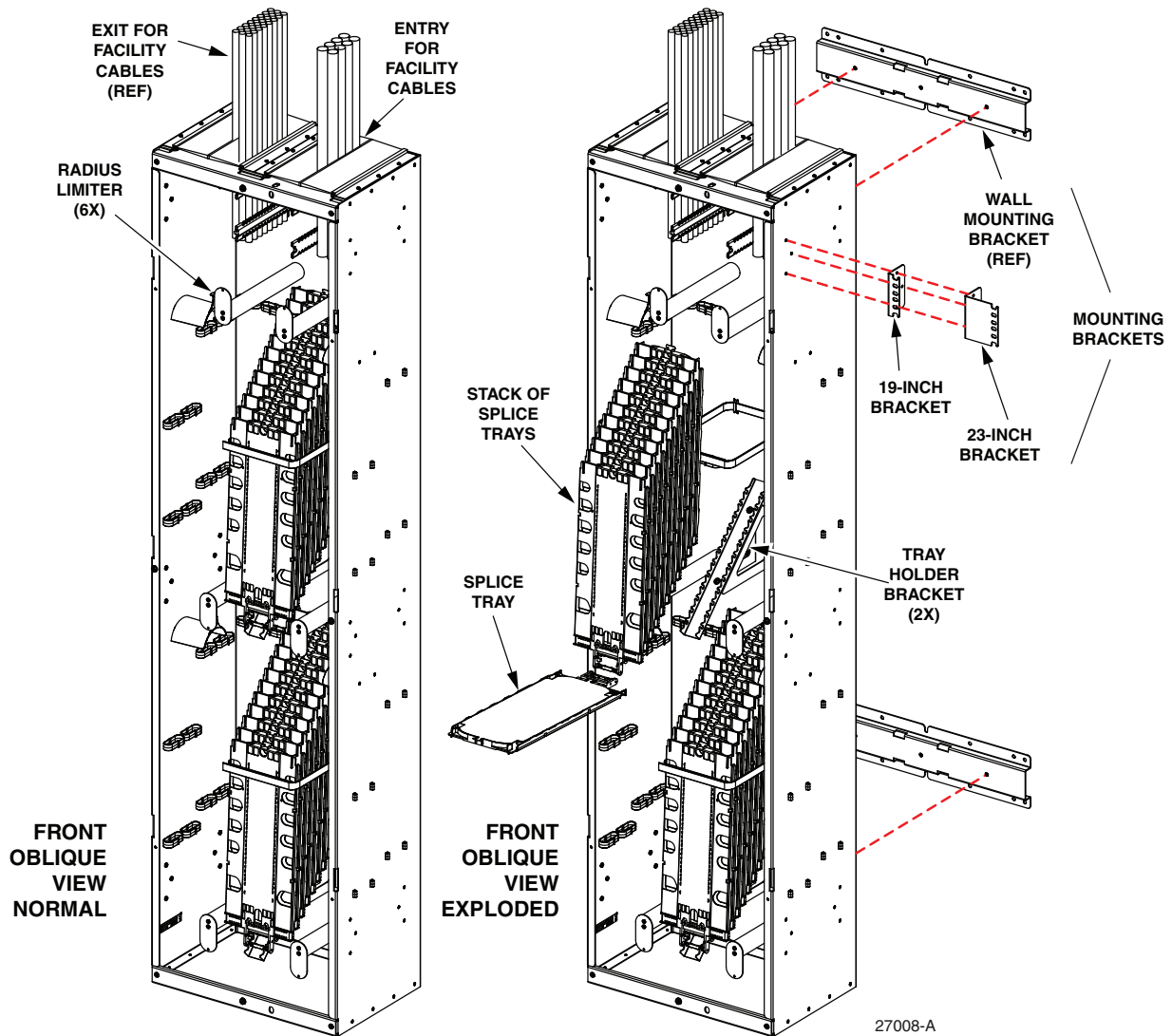

Figure 1. Interior Components of Universal Mount Splice Cabinet
(ODF-SPLCAB-24 shown)

Figure 1 shows the interior components of the splice cabinet including:

- **Splice Tray** -- is the FOST-ACC-D-TRAY-RR-288-KIT tray, which holds up to 24 mass fusion 12-fiber splices for a total of up to 288 spliced fibers per splice tray.

- **Stack of Splice Trays** -- consists of up to 12 splice trays mounted on a tray-holder bracket and held in place with a hook-and-loop strap. Unfastening the strap for a particular splice tray allows the tray to hang down for examination. A splice tray can be easily removed to a work surface for fiber routing and splicing. The ODF-SPLCAB-24 has two stacks of splice trays. The ODF-SPLCAB-12 has one stack of splice trays.

- **Entry and Exit for Facility Cables** -- are brush-lined openings through which facility cables pass in and out of the cabinet.

- **Radius Limiters** -- are cable routing guides that are used to prevent cables from being bent or kinked beyond the recommended minimum.

- **Mounting Brackets** -- provide 19-inch, 23-inch, and wall-mount options.

Figure 2 shows the top half of the 24 tray splice cabinet loaded with splice trays and cables. The 12 tray cabinet has essentially this same configuration alone.
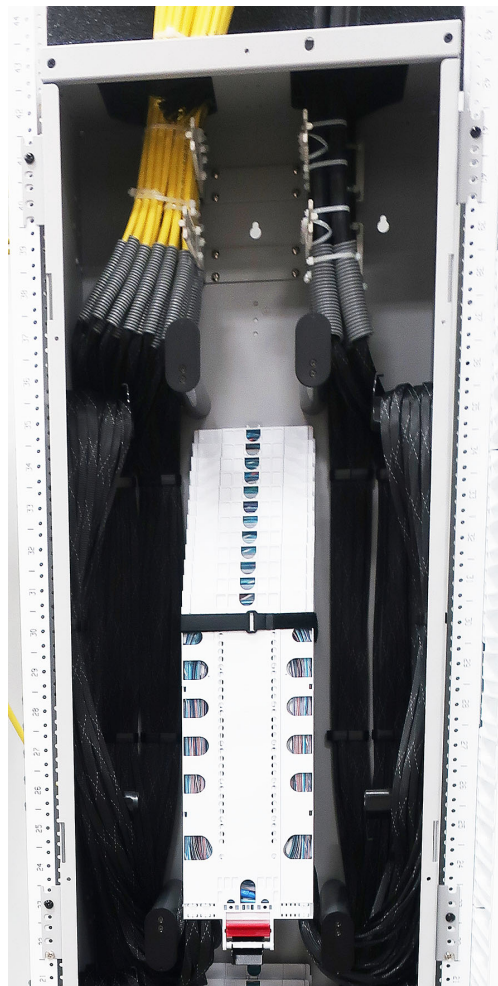

Figure 2. Top Half of Splice Cabinet
(ODF-SPLCAB-24 shown)

1.2 Dimensions and Specifications

Table 1 lists specifications for the two sizes of the splice cabinet. Figure 3 shows dimensions of the 24 tray splice cabinet (ODF-SPLCAB-24). Figure 4 shows dimensions of the 12 tray splice cabinet (ODF-SPLCAB-12).

Table 1: Splice Cabinet Specifications

| Parameter	ODF-SPLCAB-24	ODF-SPLCAB-12
Dimensions (H x W x D)	68.5 in.(174 cm) x 17.84 in.(45.3 cm) x 11.54 in. (29.3 cm)	42.3 in.(107.4 cm) x 17.84 in.(45.3 cm) x 11.54 in. (29.3 cm)
Weight	52 lbs. (23.6 Kg)	32 lbs. (14.5 Kg)
Splice tray used	FOST-ACC-D-TRAY-RR-288-KIT (760243050)	FOST-ACC-D-TRAY-RR-288-KIT (760243050)
Number of splice trays	Up to 24 (2 stacks of 12 trays)	Up to 12 total (1 stack of 12 trays)
Total number of splices	Up to 6912 fiber splices (576 mass fusion 12-fiber splices)	Up to 3456 fiber splices (288 mass fusion 12-fiber splices)
Cable type	Rollable ribbon	Rollable ribbon
Fiber count capacity	6912 in, 6912 out	3456 in, 3456 out
Mounting options	Can be mounted on a 19-inch or 23-inch equipment rack or 4-post frame or on a wall	Can be mounted on a 19-inch or 23-inch equipment rack or 4-post frame or on a wall
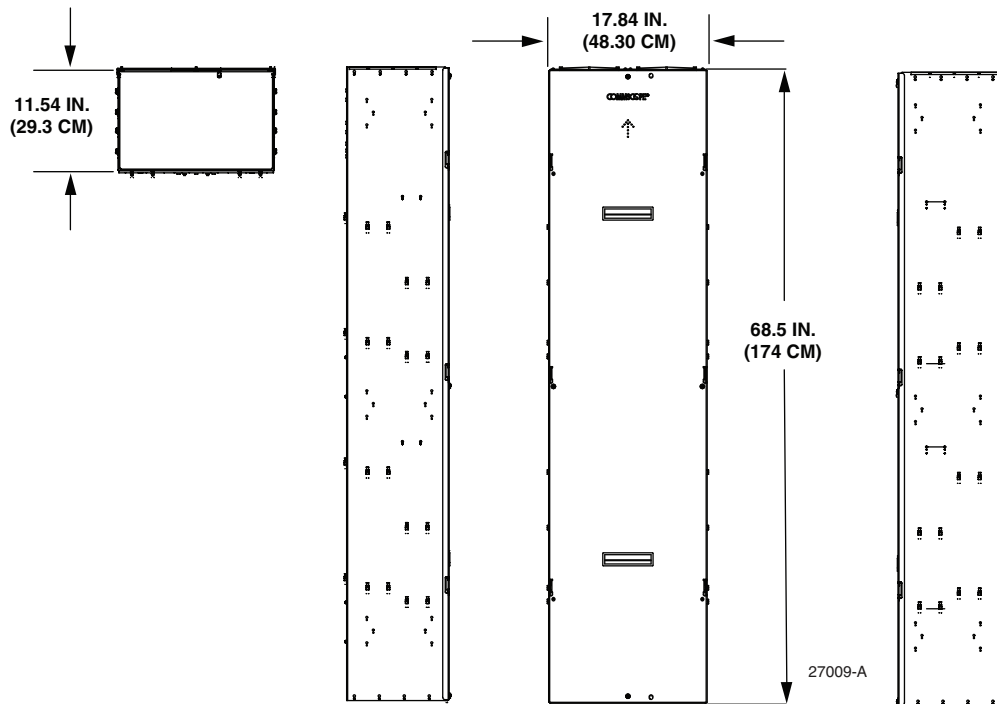
Figure 3. 24 Tray Universal Mount Splice Cabinet (ODF-SPLCAB-24) Dimensions
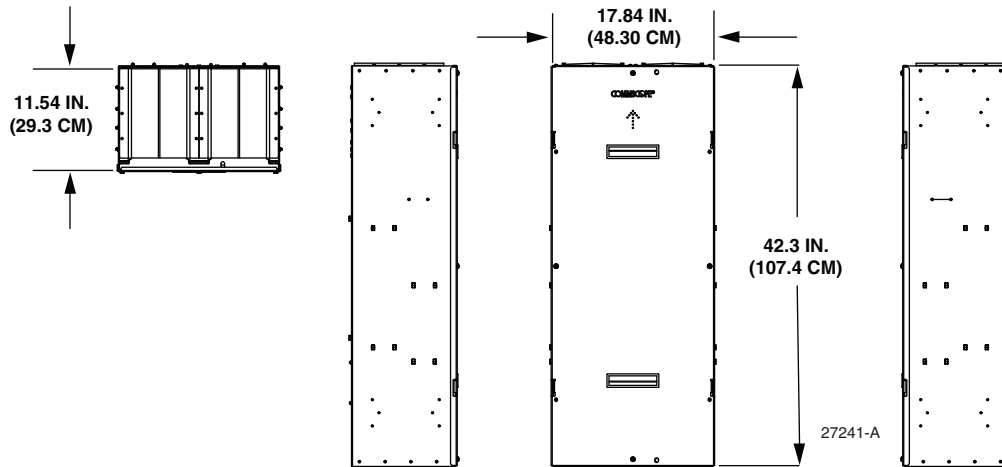
Figure 4. 12 Tray Universal Mount Splice Cabinet (ODF-SPLCAB-12) Dimensions

1.3 Typical Application

Figure 5 shows a typical splice cabinet installation with facility cables in a 24 tray cabinet. The 12 tray cabinet is analogous in routing.
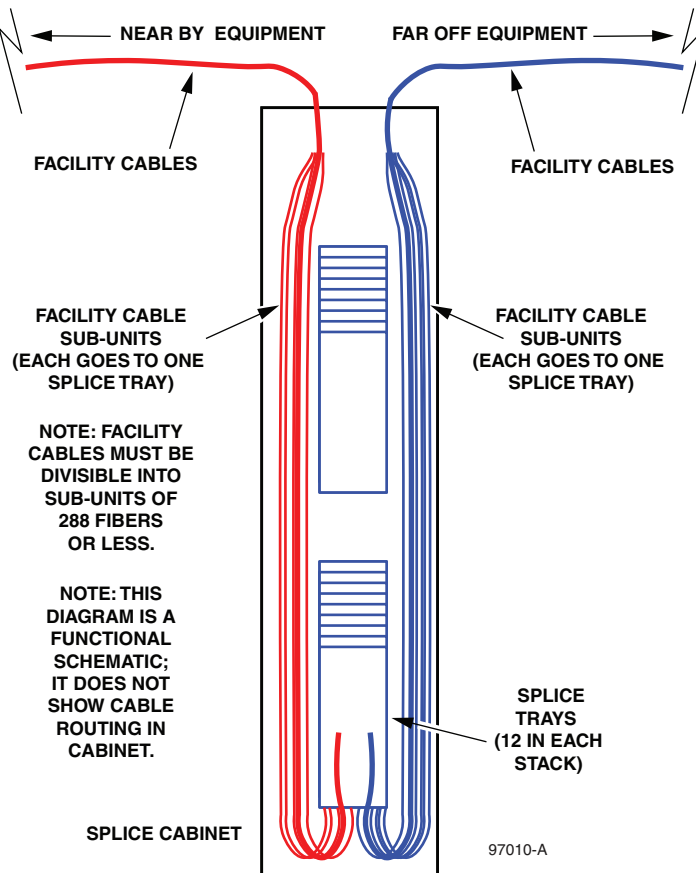

Figure 5. Universal Mount Splice Cabinet Application Example
(ODF-SPLCAB-24 shown)

2   Unpacking and Inspection

Use the following procedure to unpack and inspect the splice cabinet.

1. Inspect the exterior of the shipping container(s) for evidence of rough handling that may have damaged the components in the container.

2. Unpack each container while carefully checking the contents for damage.

3. If damage is detected or if parts are missing, file a claim with the commercial carrier and notify CommScope Support Center at http://www.commscope.com/SupportCenter

4. Save all shipping containers for use if the equipment requires shipment at a future date.

3   Mounting the Cabinet

Note: The 24 tray splice cabinet (ODF-SPLCAB-24) is shown in figures, Same process is valid for the 12 tray splice cabinet (ODF-SPLCAB-12).

3.1   Mounting Options and Tools

The Universal Mount Splice Cabinet can be mounted on a 19-inch or 23-inch equipment rack or 4-post frame. Alternatively, the cabinet can be mounted on a wall.

Mounting brackets must be separately ordered; for catalog numbers and Material IDs (MIDs), refer to Table 2.

Note: If mounting the 12 tray splice cabinet (ODF-SPLCAB-12) to an equipment rack, only 4 of the 6 brackets are used.

Table 2: Mounting Bracket Kits

Kit Catalog Number	MID	Description
ODF-ACC-BRK-19	760245549	19-inch mounting brackets kit
ODF-ACC-BRK-23	760245550	23-inch mounting brackets kit
ODF-ACC-BRK-WM	760245551	Wall mounting brackets kit

A Phillips #2 screwdriver is required in all installations. In addition, a level is required for wall mounting.

3.2   Mounting on Two-Post Equipment Rack

The cabinet can be mounted on a 2-post 19-inch or 23-inch equipment rack using the mounting brackets identified in Table 2 (separately ordered). **The door must be fastened to the cabinet when mounting the cabinet on an equipment rack.**

Use the following procedure.

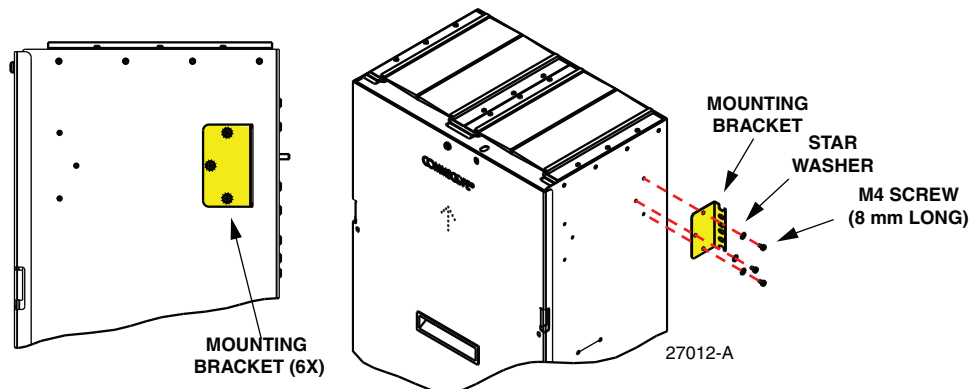1.   Select and install the appropriate mounting brackets (Figure 6).

Figure 6. Two Post Installation Mounting Bracket Location

2.   Fasten the splice cabinet to the rack with #12-24 screws and lock washers, as shown in Figure 7.
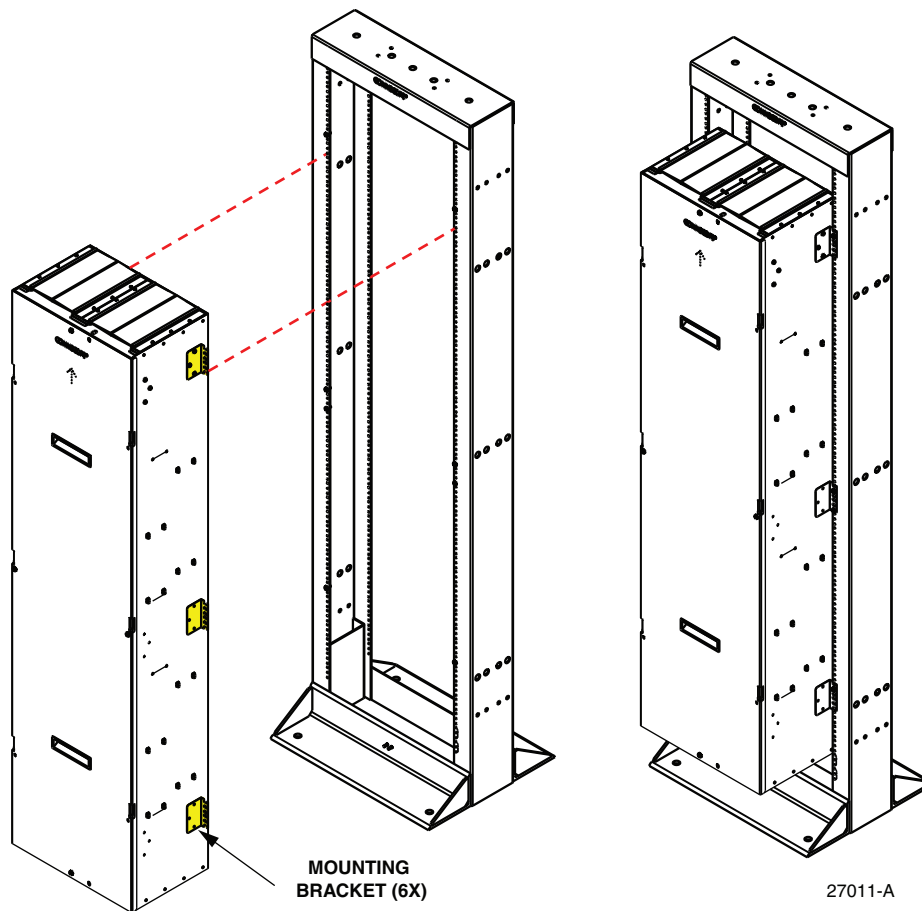

Figure 7. Mounting the Splice Cabinet on an Equipment Rack

3.3   Mounting on Four-Post Frame

The cabinet can be mounted on either a 19-inch or 23-inch four post frame using the mounting brackets identified in Table 2 on page 6 (separately ordered). **The door must be fastened to the cabinet when mounting the cabinet on a four-post frame.** Use the following procedure.

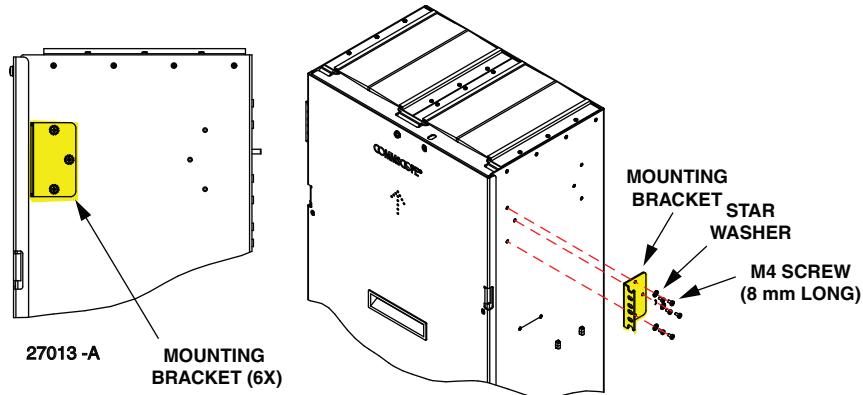1.   Select and install the appropriate mounting brackets (Figure 8).

Figure 8.   Four Post Installation Mounting Bracket Location

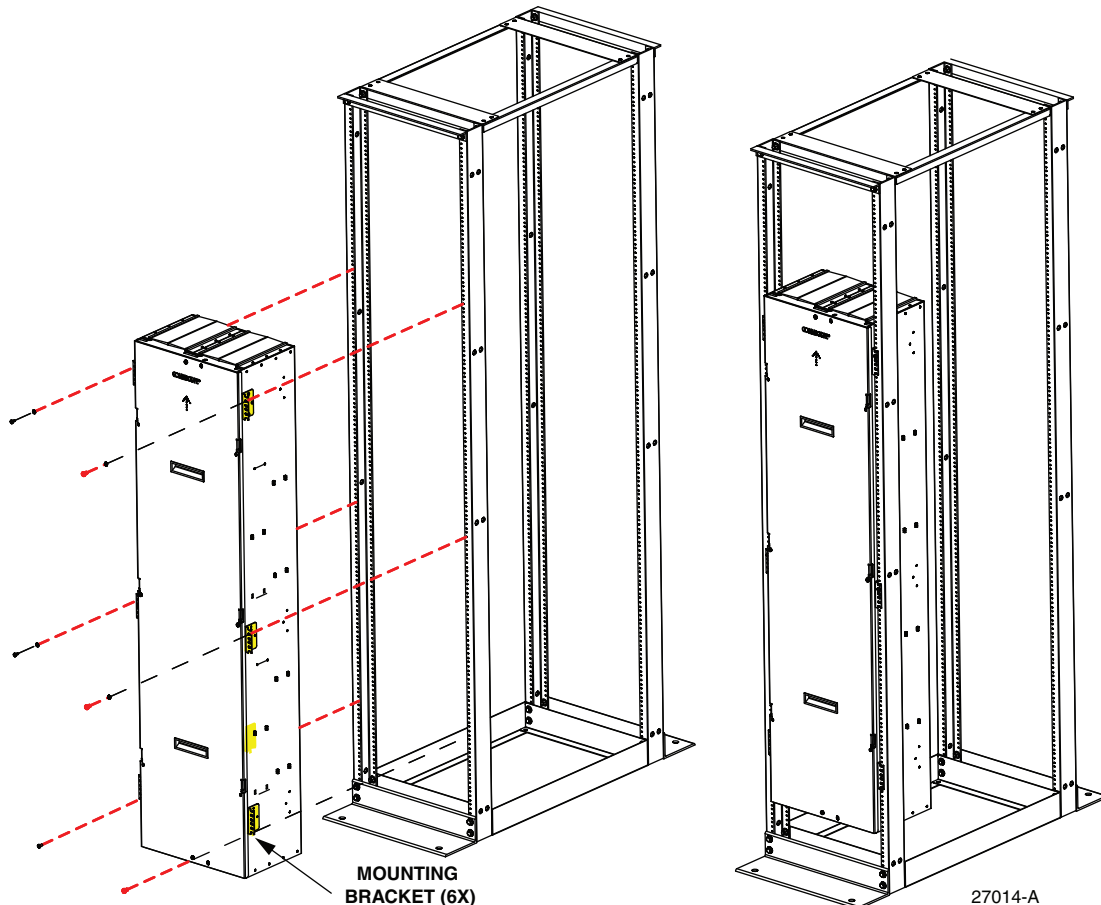2.   Fasten splice cabinet to frame with #12-24 screws and lock washers (Figure 9).

Figure 9.   Mounting the Splice Cabinet on a Four-Post Frame

3.4 Mounting Cabinet on Wall

Note: The 24 tray splice cabinet (ODF-SPLCAB-24) is shown in figures, Same process is valid for the 12 tray splice cabinet (ODF-SPLCAB-12).

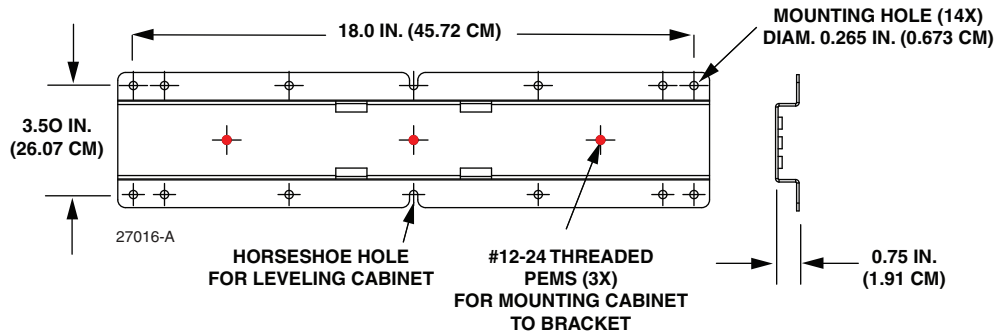Figure 10 shows the features of the wall mounting brackets.

Figure 10. Wall Mounting Bracket

Figure 11 shows the mounting dimensions for the two cabinet sizes.
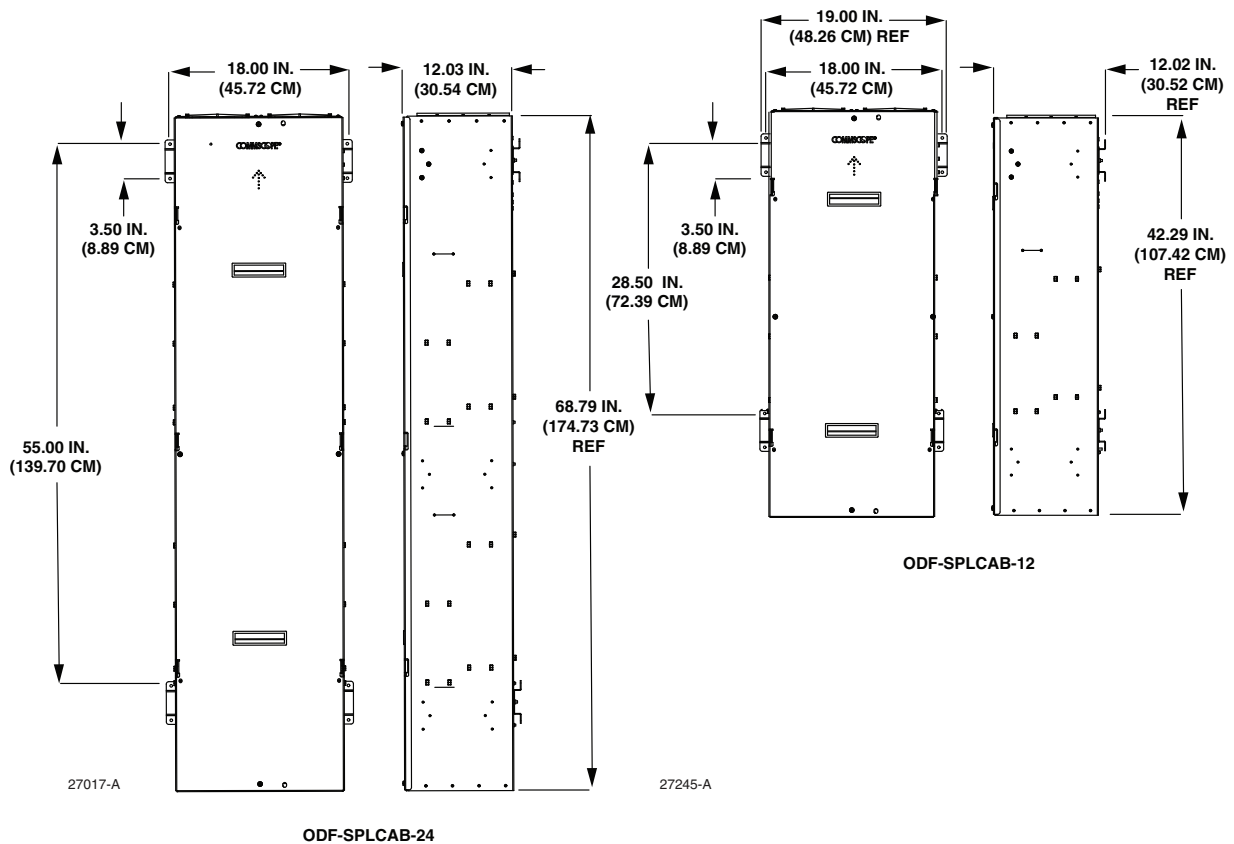

Figure 11. Wall Mounting Dimensions

Use the following procedure.

1. Remove the door from the front of the splice cabinet.

2. On the rear side of the cabinet, install the mounting bracket on the cabinet using the #12-24 screws provided. The top and bottom brackets are identical in design. Select from the possible hole configurations drilled into the back wall of the cabinet.

3. Install a single support screw in the wall to temporarily hold the top mounting bracket Place the screw in the top center of the desired cabinet location.

Note: Install the screw part way only.

WALL MOUNTING BRACKET (2X)

SPLICE CABINET DOOR

#12-24 SCREWS & WASHERS (6X)
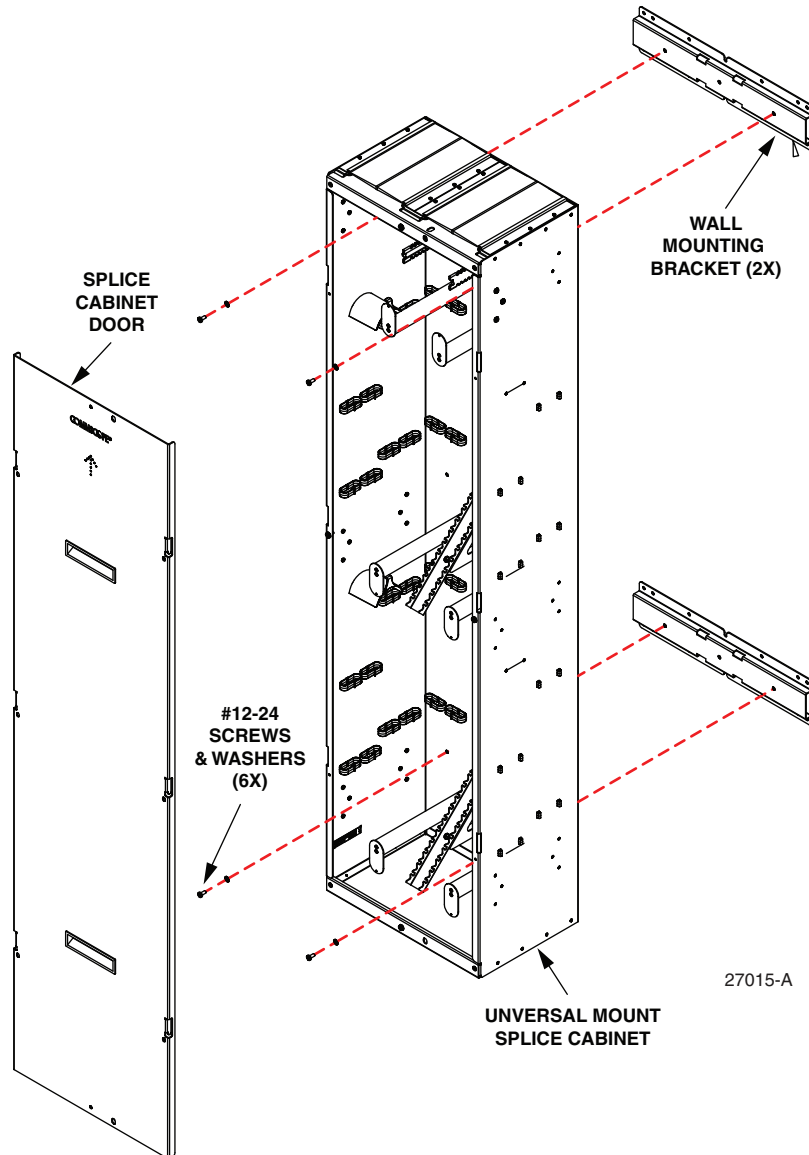
27015-A

UNVERSAL MOUNT SPLICE CABINET

Figure 12. Mounting the Splice Cabinet on a Wall

4. Hang the cabinet on the wall by positioning the middle horseshoe opening (shown in Figure 10 on Page 9) on the support screw just installed. Level the cabinet.

5. Secure the cabinet in a level position using appropriate wall mounting hardware on both sides. Install the hardware from inside of the cabinet into the wall material.

3.5 Grounding Cabinet

Figure 13 shows the grounding location in the Universal Mount Splice Cabinet. Ground per local practice.
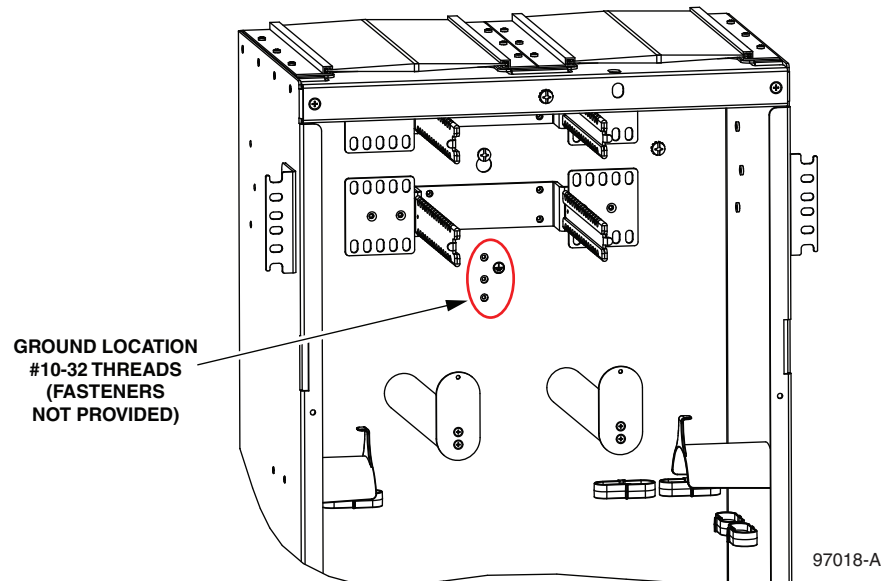

GROUND LOCATION
#10-32 THREADS
(FASTENERS
NOT PROVIDED)

97018-A

Figure 13. Grounding Location

4   Installing Cables and Loading Splice Trays

4.1 Overview

Facility cables originate in other equipment, inside or outside of the building. Facility cables come in from the top and are routed into the areas on the left and right of the splice tray stacks.

For purposes of cable routing within the cabinet, the cabinet divides into left and right sections. The 24 tray cabinet has four sections: top right, top left, bottom right, and bottom left. The 12 tray cabinet has left and right only.

Figure 14 on Page 12 shows the 24 tray cabinet top left and top right routing, which are the same except that they are mirror images of one another. Bottom left and bottom right are routed in the same way as top right and top left, except they are lower in the cabinet.

Typically each splice tray is loaded outside the cabinet on a work surface such as a table, then the tray is returned to the cabinet and the cables are routed as shown.

Facility cables must be broken out to the dimensions indicated in Section 4.4 on page 15. This may be done for all cables at the same time, before loading splice trays, or it may be done for the associated cable as each splice tray is loaded.

Breakout kits are required for facility cables. The recommended RIBCBOUT kits are described in TC-96271-IP (see "Section 5 on page 20).
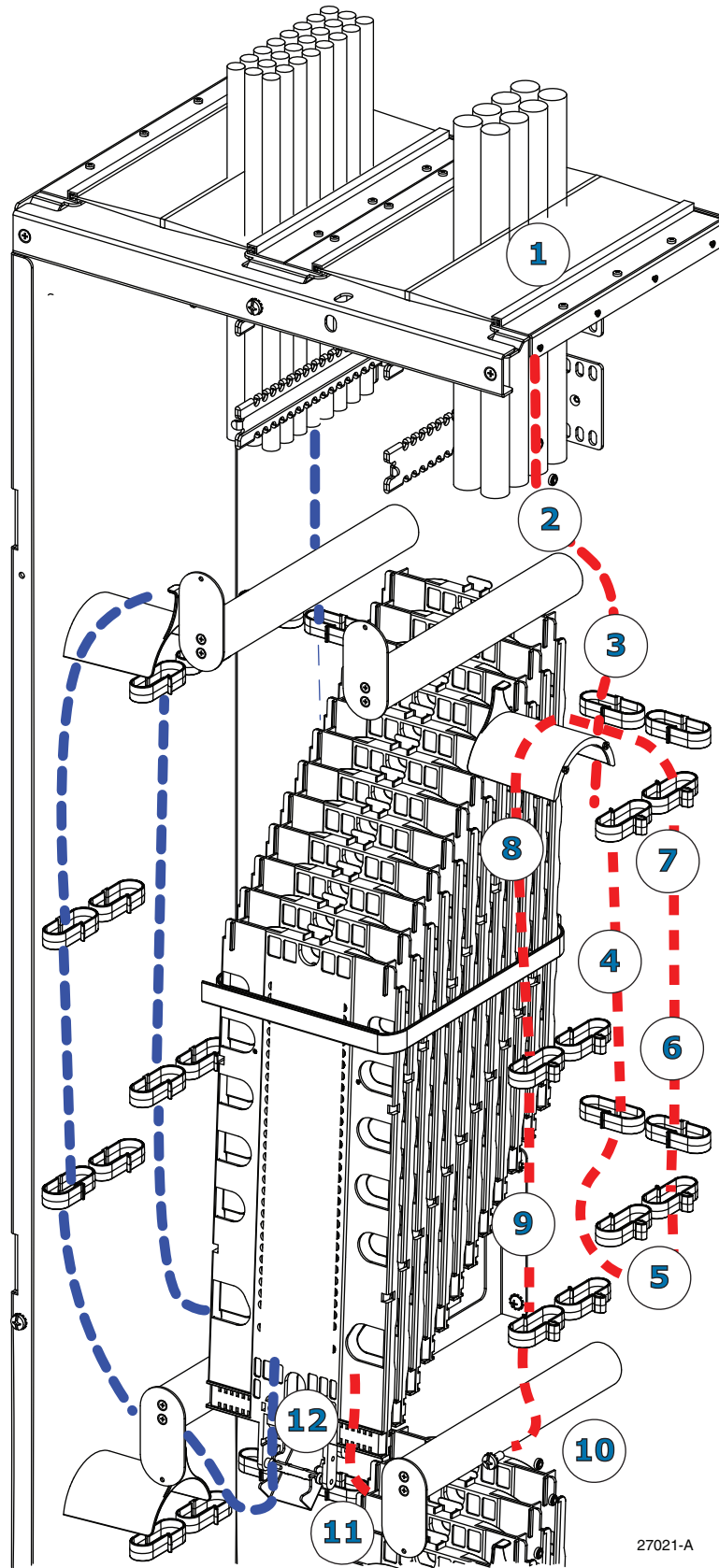
Figure 14. Cable Routing in Splice Cabinet

4.2 Installing Splice Trays

The FOST-ACC-D-TRAY-RR-288-KIT trays used in the splice cabinet are shipped in separate packages. Use the following procedure to install the splice trays in the cabinet.

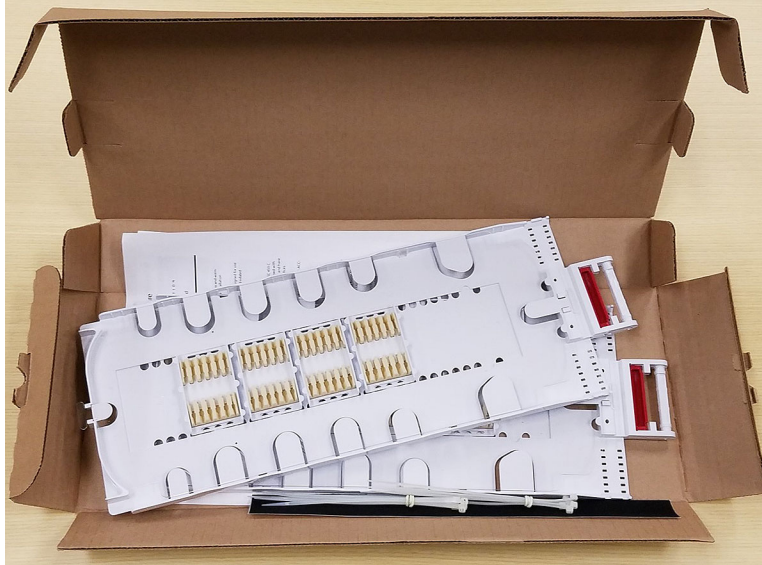1. Unpack the splice tray. Refer to Figure 15. There are two per box.

Figure 15. Unpacking the Splice Tray

2. Hold the splice tray vertically over the tray holder bracket, and insert the tray hinge into the designated slot on the tray holder bracket. Lift the red tray support latch up to lower the tray. Refer to Figure 16.
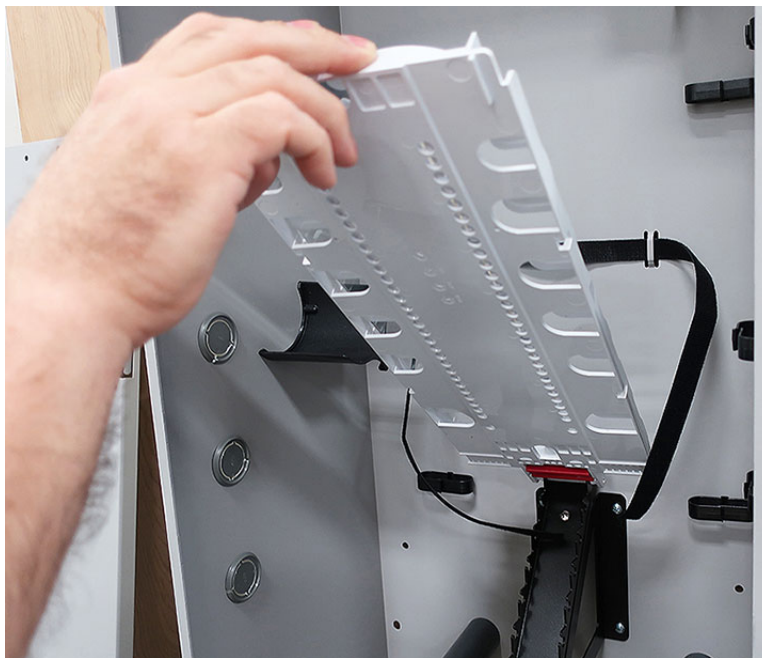
Figure 16. Inserting the Splice Tray in the Tray Holder Bracket

3. Take the second splice tray and in a similar manner install it in the designated slot. Refer to Figure 17.
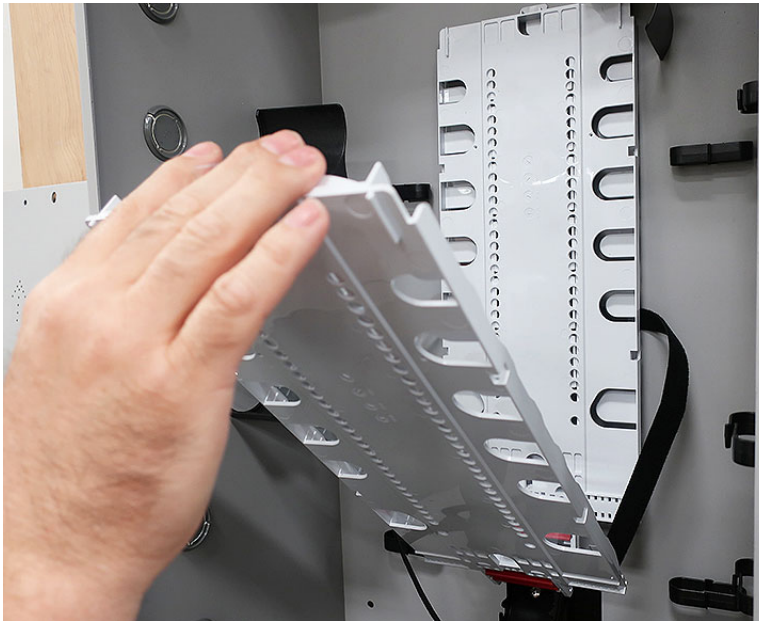

Figure 17. Installing the Second Splice Tray

4. When done installing trays in a particular tray holder bracket, lift the trays up together and fasten them in place using the hook-and-loop strap. Refer to Figure 18.
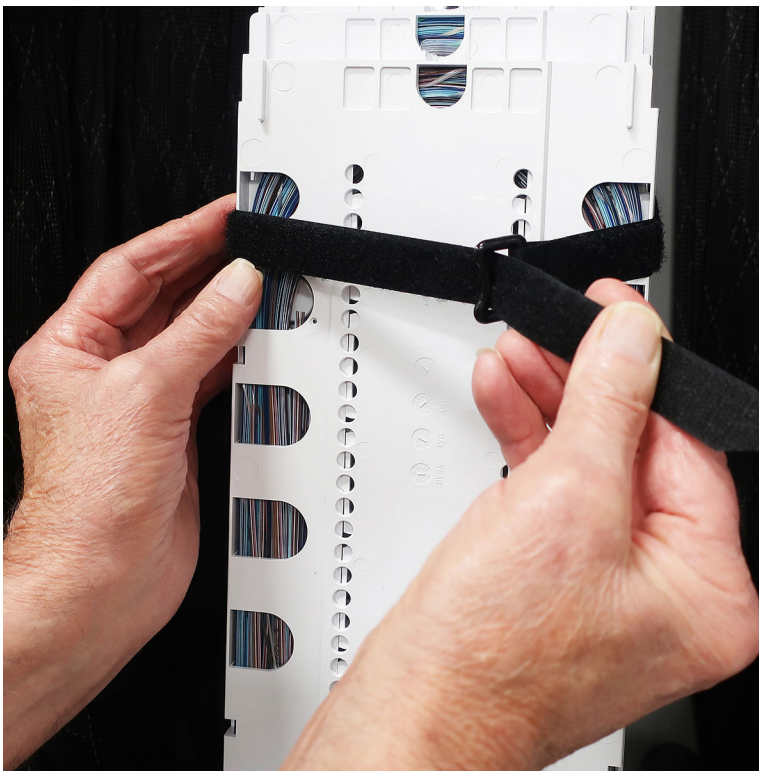

Figure 18. Securing Tray With Hook-and-Loop Strap

4.3 Removing Splice Trays

After being installed, a splice tray can be removed. For example, this is done when moving the splice tray to a work surface to perform splices.To remove a splice tray from the tray holder bracket, use the following procedure.

1. Unfasten the hook-and-look strap.

2. Lift up the splice trays above the tray of interest and fasten them in place using the hook and hook-and-loop strap.

3. Take hold of the tray of interest and pull the tray hinge out of the tray holder bracket.

4. If the splice tray has already been loaded with fibers, be sure to carefully free up any stored cable as you move away from the cabinet.

4.4 Breaking Out Facility Cables

Table 3 lists the RIBCBOUT series breakout kits available for use with facility cables. All facility cables are broken out to the same dimensions (shown in Figure 19). These dimensions allow approximately 6 feet (1.83 m) of working length for moving the splice tray to a convenient work surface. When the splice tray is returned to the cabinet, the cable management features in the cabinet are used to store slack as needed.

Note: For more on these kits, refer to TC-96271-IP (see Section 5 on page 20).

Table 3: Cable Breakout Kits

Breakout Kit Catalog Number	Fiber Count	Material ID
RIBCBOUT-3/8-50-144/288/432/576	144-576	760244150
RIBCBOUT-3/8-50-864/1152	864-1152	760244144
RIBCBOUT-3/8-75-1728	1728	760244149
RIBCBOUT-3/8-125-3456	3456	760244147

Use the following procedure to break out facility cables.

1. Strip back the cable jacket to expose the internal fiber ribbons. Strip the cable at a distance of 166 in. (421.6 cm) from the lead end of the cable as shown in Figure 19.
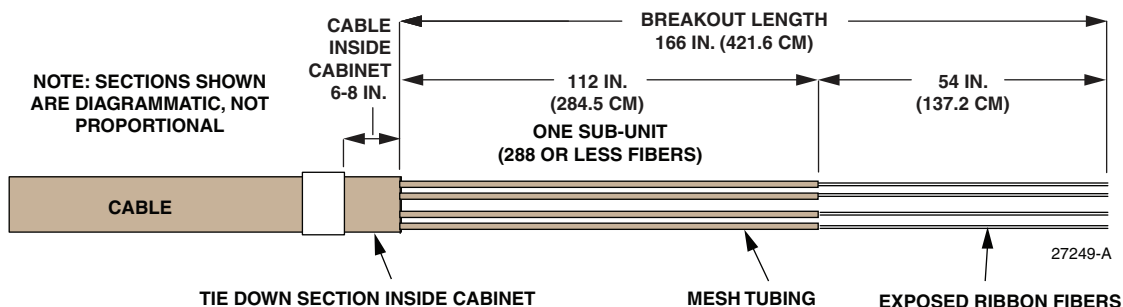

Figure 19. Facility Cable Breakout Exploded View

2. Prepare a piece of mesh tubing for each sub-unit of fibers. Cut the pieces of mesh sleeve to a length of 112 inches (284.cm).

3. Prior to insertion into the mesh, trim and tape together the fiber ends to prevent them from snagging and breaking while being inserted.

4. Install a single piece of mesh tubing over each sub-unit of fibers and slide the mesh sleeve back to the cable jacket.

Note: When the mesh tubing is installed, there will be a length of 54 in. (137.2 cm) of exposed ribbon fibers, as shown in the breakout diagram.

5. As each single piece of mesh tubing is installed, wind a section of vinyl tape around the cable sheath to secure the mesh tube to the sheath.

4.5 Securing Facility Cables Inside Cabinet

1. Use appropriate length cable ties.

2. Plan for spatial placement of the cables being installed. The cables that will populate the upper splice trays should be located nearer the center of the cabinet. The cables that will populate the lower splice trays should be located nearer the sidewalls of the cabinet. Refer to Figure 20.

Figure 20. Example of Facility Cable Clamping

4.6 Securing Facility Cables Outside Cabinet

1. Mount the cable clamp bracket 6-8 inches above splice cabinet, as shown in Figure 21. For the cable clamp bracket kit catalog number, refer to Table 4.

2. Use appropriately sized cable clamps (refer to Figure 21 and Table 5).

3. Plan for spatial placement of cables being installed referring to Figure 21. The cables that will populate the upper splice trays should be located nearer the center of the bracket. The cables that will populate lower splice trays should be located nearer outer edges of bracket.
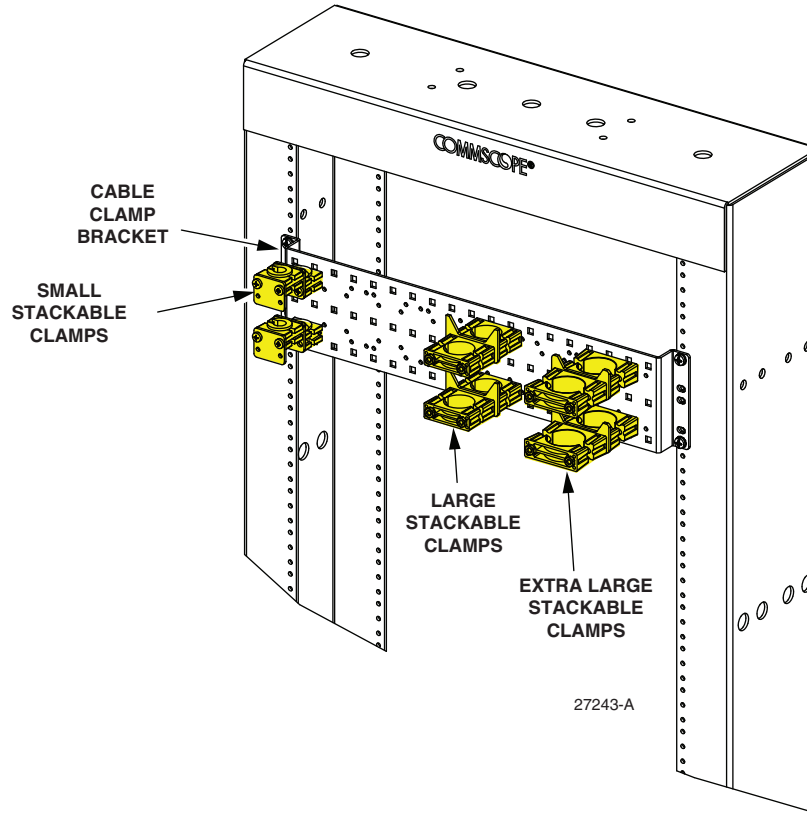

Figure 21. Example of Facility Cable Clamping

Table 4: Cable Clamp Bracket Kit

Clamp Bracket Catalog Number	Applications	Material ID
ODF-ACCCBLCLMP-19	19" Rack Mounting, Wall Mounting	760249074

Table 5: Cable Clamp Kits

Clamp Catalog Number	Size/Max Cable Outer Diameter	QTY	Material ID
NG4-FLXACCSMCMP	Small / 0.4 - 0.75 in [10 - 19 mm]	1	760242717
FEC-ACCCLMP01	Large / 0.4 - 1.2 in [10 - 30 mm]	1	FEC-ACCCLMP01
OSP-CLPFEC-LG	Large / 0.4 - 1.2 in [10 - 30 mm]	3	OSP-CLPFEC-LG
OSP-CLPFEC-XL-1	Extra Large / 1.25 - 1.5 in [32 - 38 mm]	1	OSP-CLPFEC-XL-1
OSP-CLPFEC-XL	Extra Large / 1.25 - 1.5 in [32 - 38 mm]	6	OSP-CLPFEC-XL

4.7   Loading Splice Trays

The Universal Mount Splice Cabinet uses the FOST-ACC-D-TRAY-RR-288-KIT splice tray. Each splice tray accommodates four splice chips, each with six 12-fiber mass fusion splices, for a capacity of twenty four 12-fiber mass fusion splices (288 spliced fibers) per tray. Use the following procedure.

1.   Remove the splice cabinet cover.

2.   Route the fiber cables to be spliced through the overhead cable pathway and to the location of the splice cabinet. Ensure that there is a minimum of 15 feet of cable stub available to work with from the point at which the cables will enter the top of the splice cabinet.

3.   Remove the cable access bar from the top of the splice cabinet by removing the two Phillips head screws and place the bar and the screws aside for re-installation later. Refer to Figure 22.
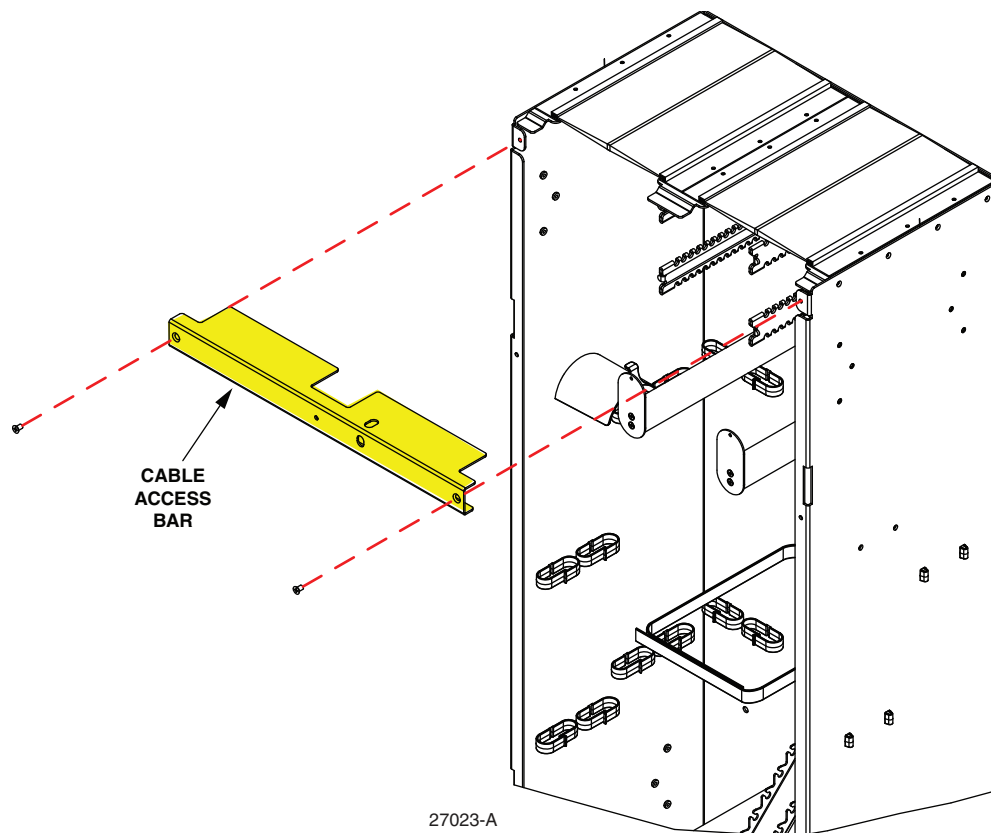

CABLE
ACCESS
BAR

27023-A

Figure 22. Removing Cable Access Bar

4.   Break out each cable to be spliced as described in Section 4.4 on page 15 and in the installation instructions for the mesh breakout kits (CommScope document number TC-96271-IP). 144-fiber cables will have 12 ribbons (144-fibers) per mesh tube subunit. All other cables will have 24 ribbons (288-fibers) per subunit. The cable sheath entry point should fall between 6"-8" from the top of the splice cabinet once the cables have been installed in the cabinet.

5. Once all cables are broken out, load the cables into the cabinet through the cable access slots and arrange them such that the cables that will populate the upper bank of splice trays are located toward the center of the cabinet and the cables that will occupy the lower bank of splice trays are located toward the sides of the cabinet.

6. Secure the cables to the cable tie-down bars as described in Section 4.5 on page 16 using plastic cable ties or, alternatively, waxed lacing cord.

7. Re-install the cable access bar to the top of the splice cabinet. Refer to Figure 22.

8. Unpackage the splice trays and adjust the four splice chips to the center of each tray to allow for maximum space for routing the ribbons around the outside of the trays.

Note: The splice trays can be prepared for splicing and loaded into the cabinet in any order, but the best results regarding the routing of the mesh sleeve material are achieved if the trays are populated from bottom-to-top within the cabinet.

9. Locate the first group of fibers to be spliced (288 fibers from the left side of the cabinet and 288 fibers from the right side of the cabinet) and secure the mesh sleeves to the splice tray (Figure 23). The fibers from the left side of the cabinet are represented in red and the fibers from the right side are represented in blue in this illustration.
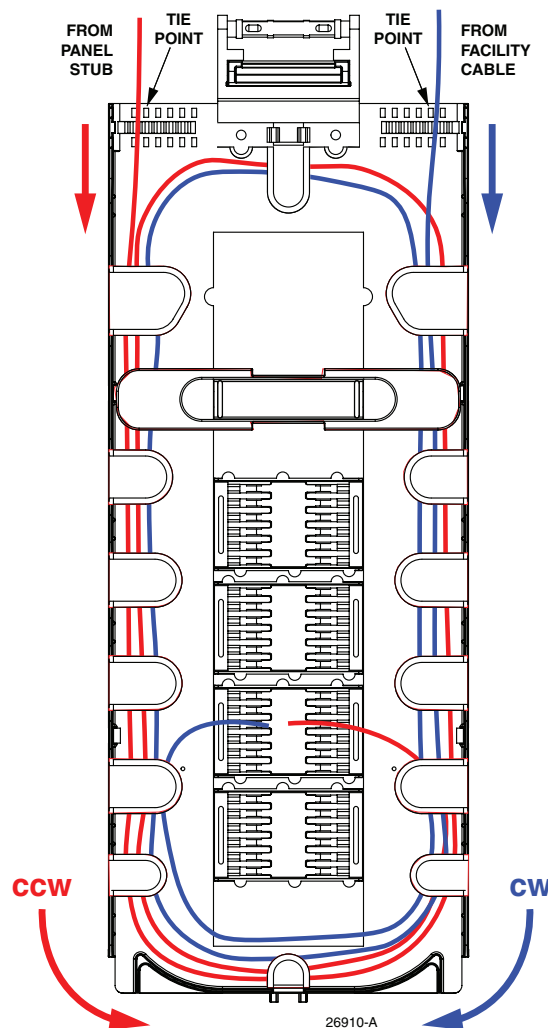

Figure 23. Routing on Splice Tray

10. Route the bare fibers ribbons from the left side of the cabinet counterclockwise around the splice tray and the ribbons from the right side of the cabinet clockwise as illustrated in Figure 23.

11. If the fibers are to be spliced at this time, prepare the ribbons to the proper length and splice according to local practice, then install the plastic cover on the splice tray. If splicing is to be performed at a later time, install the plastic cover on the splice tray.

12. Install the splice tray into the proper position on the tray tower as described in Section 4.2 on page 13.

13. Route the mesh sleeve material for the splice tray into the routing path within the cabinet as illustrated in Figure 14 on Page 12.

14. Repeat steps 9-14 for the remaining cables.

15. Re-install the splice cabinet cover.

4.8 Performing Splices

A procedure for splicing is not provided in this document. Perform splices per local practice.

4.9 Changing Splice Trays

Any splice tray in the splice cabinet can be isolated for removal or for adding or removing splices by allowing the splice trays in front of it to hang down while holding up the splice trays behind it using the hook-and-loop strap.

5 Related Publications

The following related publications are available at https://www.commscope.com/SupportCenter

- **Ribbon Cable Breakout (RIBCBOUT) Kits User Manual (TC-96271-IP)** -- provides a high-level overview of and basic installation instructions for the CommScope RIBC-BOUT (Ribbon Cable Breakout) series ribbon fiber cable breakout kits.

- **Cable Clamp 19-Inch Bracket Kit Installation Drawing (660105113)** -- contains installation instructions for the Cable Clamp 19-Inch Bracket Kit.

6 Contact Information

- To find out more about CommScope® products, visit us on the web at http://www.commscope.com

- For technical assistance, customer service, or to report any missing/damaged parts, go to https://www.commscope.com/SupportCenter

- For information on product patents, go to http://www.cs-pat.

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