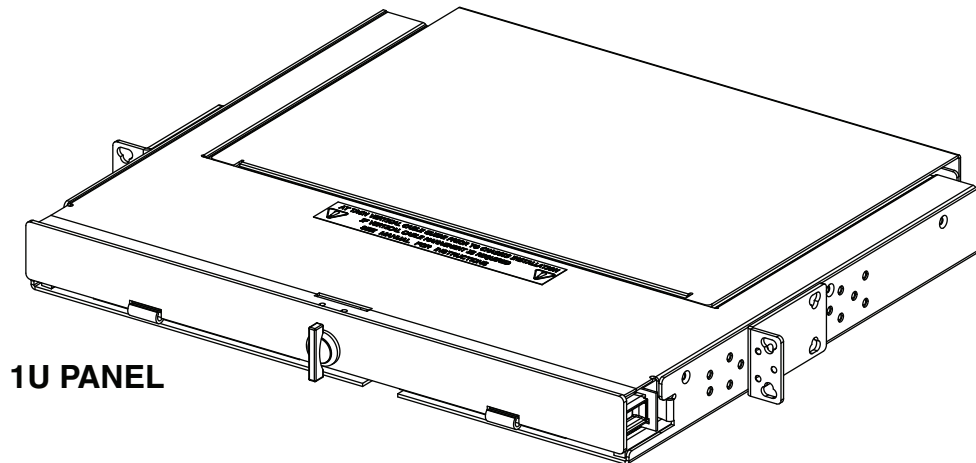
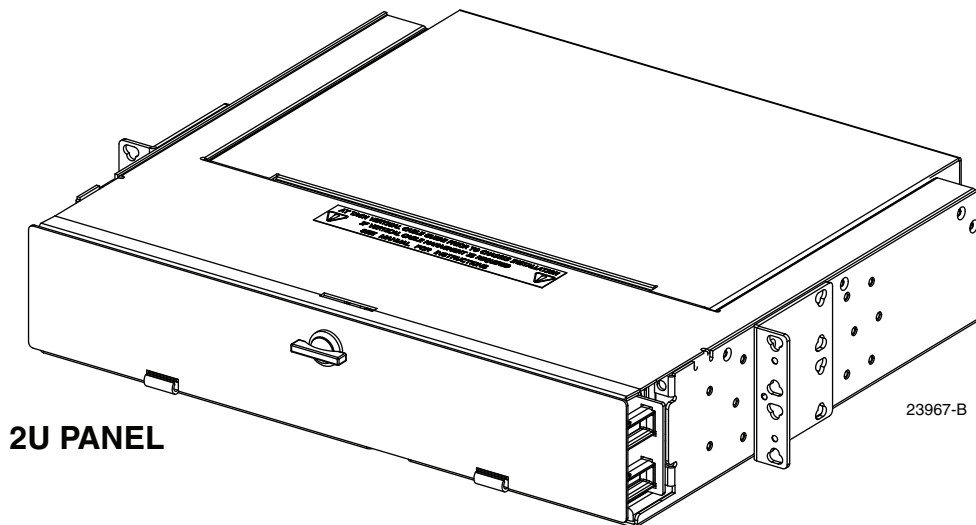


FPX Series
1U & 2U Fiber Panel



1U PANEL



2U PANEL

23967-B

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INTRODUCTION

This manual contains descriptions and installation and cable routing instructions for the TE Connectivity FPX 1U and 2U Fiber Panels.

Related Publications

Title/Description	ADCP Number
FPX MPO Trunk Cable Clamp Kit Instructions	92-080

Trademark Information

CommScope (logo and CommScope are trademarks,

Admonishments

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. These warnings are flagged by use of the triangular alert icon (seen below) and are listed in descending order of severity of injury or damage and likelihood of occurrence.



Danger: *Danger is used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



Warning: *Warning is used to indicate the presence of a hazard that **can** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



Caution: *Caution is used to indicate the presence of a hazard that **will** or **can** cause minor personal injury or property damage if the hazard is not avoided.*

1 DESCRIPTION

- **Note:** The Fiber Panel Next Generation is designed to be installed in an environmentally controlled network telecommunications facility such as a Central Office, Controlled Environmental Vault, or Data Center.

The FPX 1U and 2U Panels can accommodate up to 48 and 96 terminations, respectively. The FPX 1U and 2U Panels can be configured for termination and splice or termination only (without splice trays). [Figure 1](#) shows the external features of a typical 1U panel.

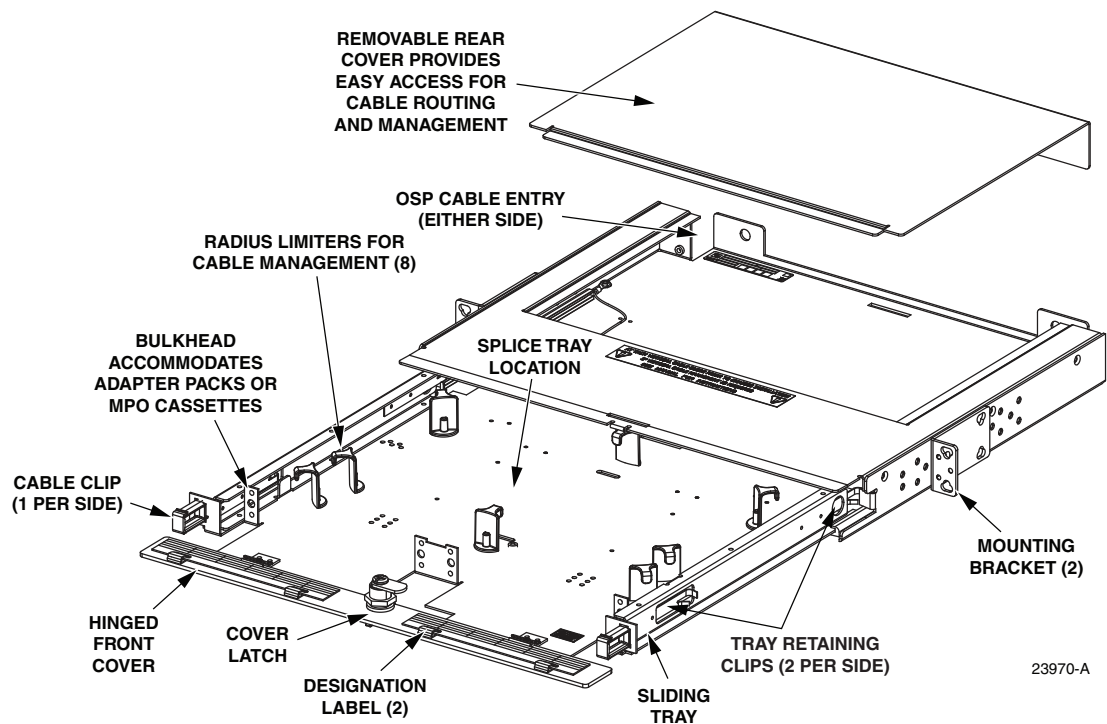


Figure 1. FPX 1U Panel External Features

Typically, these panels ship empty (without adapter packs, MPO cassettes, splice trays, or pigtails), but they may also be ordered with any of these components already installed. The panel accommodates adapter packs and MPO cassettes.



Caution: *Adapter packs and MPO cassettes should not be both used in the same panel.*

The panel may be ordered loaded with adapter packs only, or loaded with both adapter packs and pre-terminated, factory-installed cable. While not recommended, field-installed connectors can be accommodated.

The panel may be used in either single mode or multimode applications, and with either stranded or ribbon cable. Cables can be either Intrafacility Fiber (IFC) or Outside Plant (OSP). [Figure 2](#) shows a 2U panel.

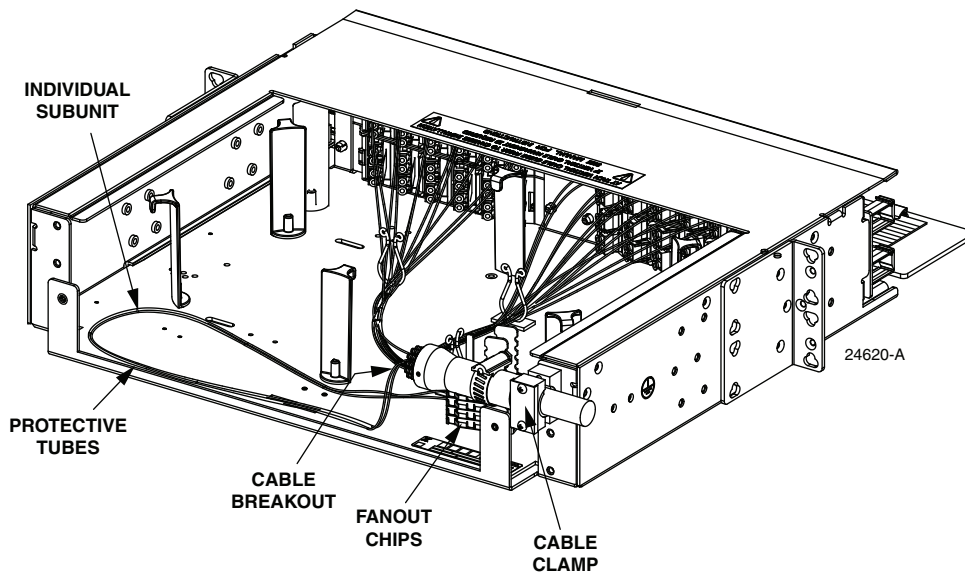


Figure 2. FPX 2U Panel with Termination Only (Rear View)

The 1U termination and splice panel has one splice tray. The 2U termination and splice panel has two splice trays. [Figure 3](#) shows the external features of a 2U panel.

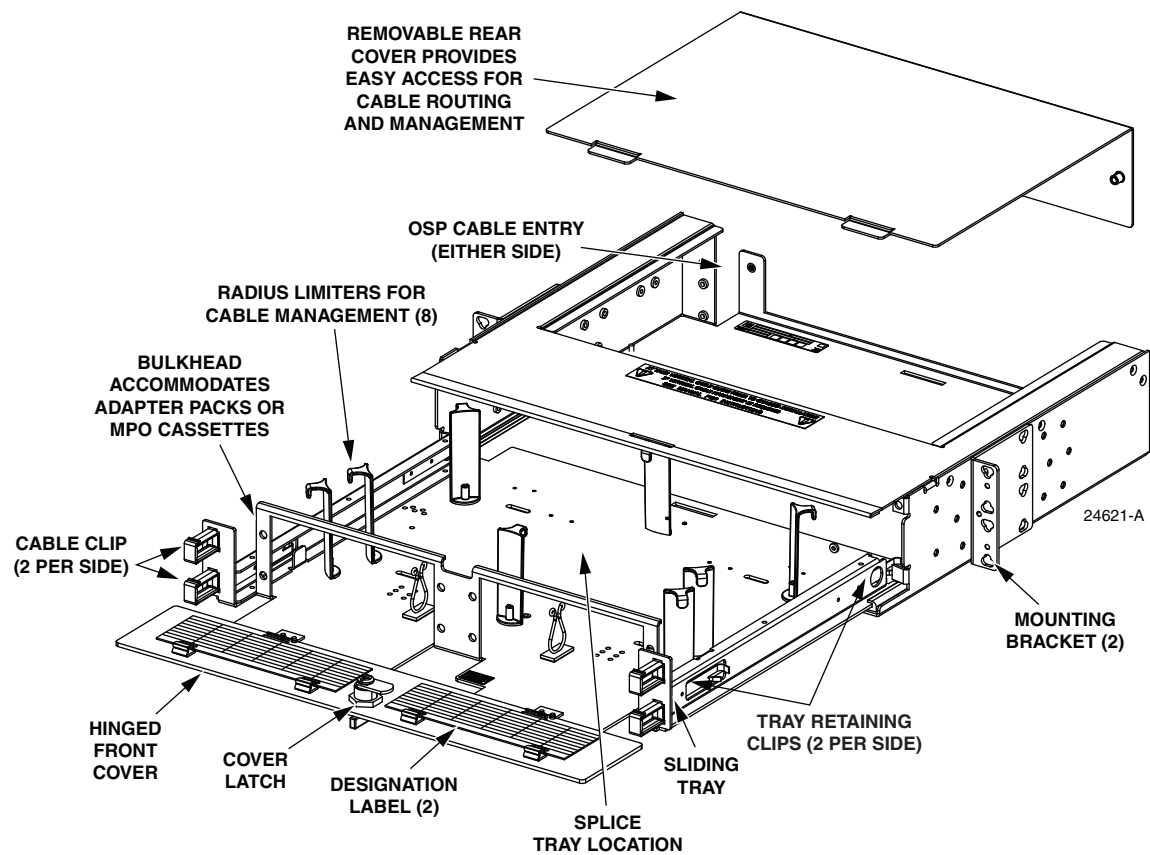


Figure 3. FPX 2U Panel External Features

2 INSTALLATION

Installation of a FPX panel involves the following tasks:

1. Selecting the mounting brackets (covered in [Section 2.1 on Page 6](#));
2. Installing the panel on the rack (covered in [Section 2.2 on Page 7](#));
3. (Optional) Installing vertical cable guides (covered in [Section 2.3 on Page 8](#));
4. (Optional) Installing adapter packs (covered in [Section 2.6 on Page 12](#));
5. (Optional) Installing MPO cassettes (covered in [Section 2.7 on Page 13](#));
6. Termination Only Installation (covered in [Section 2.8 on Page 14](#));
7. Installing a cable clamp (covered in [Section 3 on Page 15](#));
8. Routing cables and pigtailed (covered in [Section 4 on Page 17](#)).

Warning: *Never install equipment in a wet location or during a lightning storm. When installing or modifying communication lines, disconnect lines at the network interface before working with uninsulated lines or terminals.*

2.1 Selecting a Mounting Bracket Option

The 1U and 2U panels are shipped with mounting brackets configured for a 19-inch EIA/WECO rack with a 5-inch recess. The mounting brackets can also be reconfigured for a 4-inch rack recess. [Figure 4](#) shows the available mounting options for both panels.

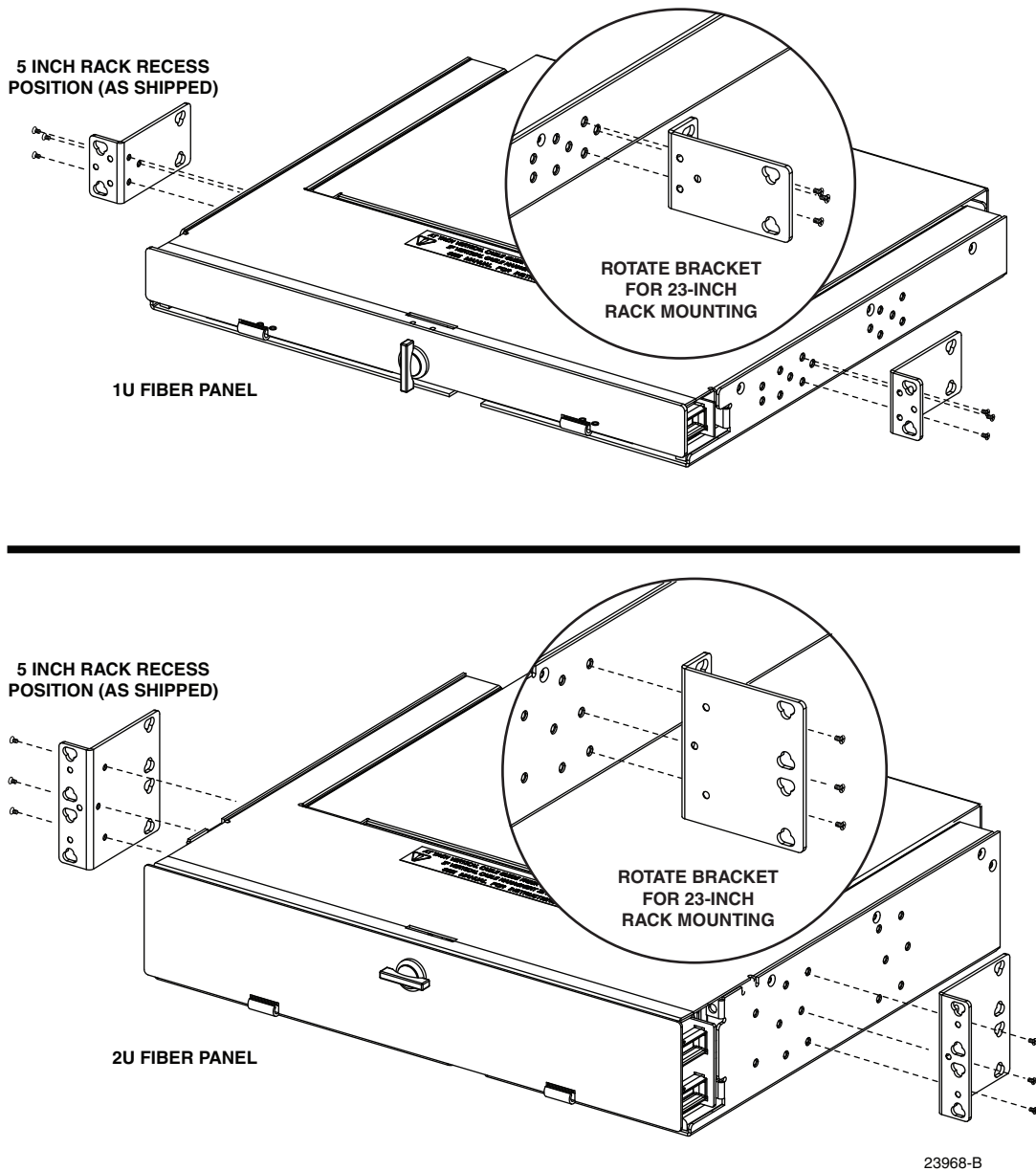


Figure 4. Selecting a Mounting Bracket Option

2.2 Installing the Panel on the Rack

Using 12-24 screws, secure the panel on the rack as shown in [Figure 5](#).

► **Note:** [Figure 5](#) shows the 1U and 2U fiber panels installed in a 19-inch rack with a 5-inch recess.

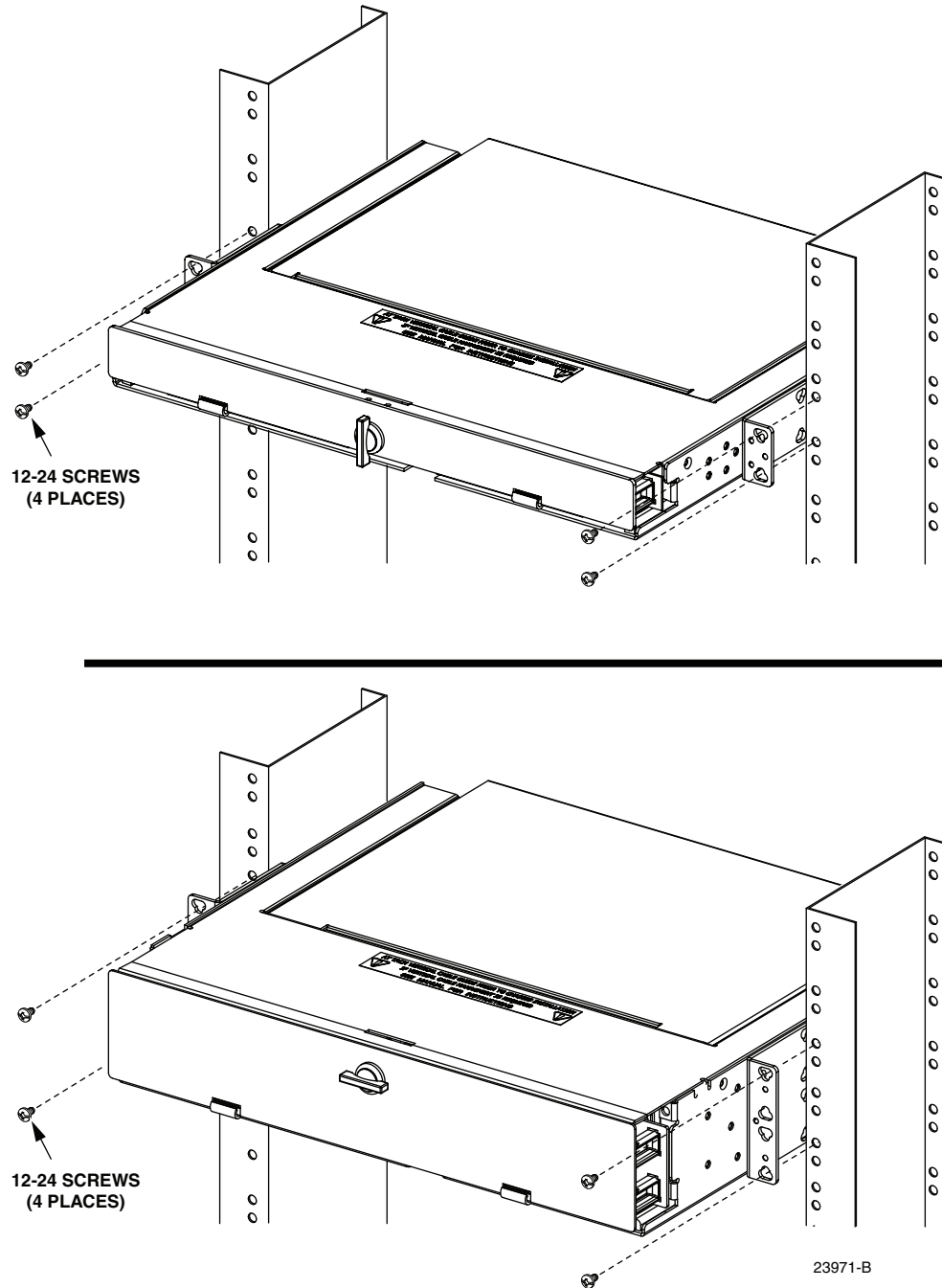


Figure 5. Installing the Panel on the Rack

2.3 Installing Vertical Cable Guides (VCGs)

Install the VCGs (one per side) as shown in [Figure 6](#).

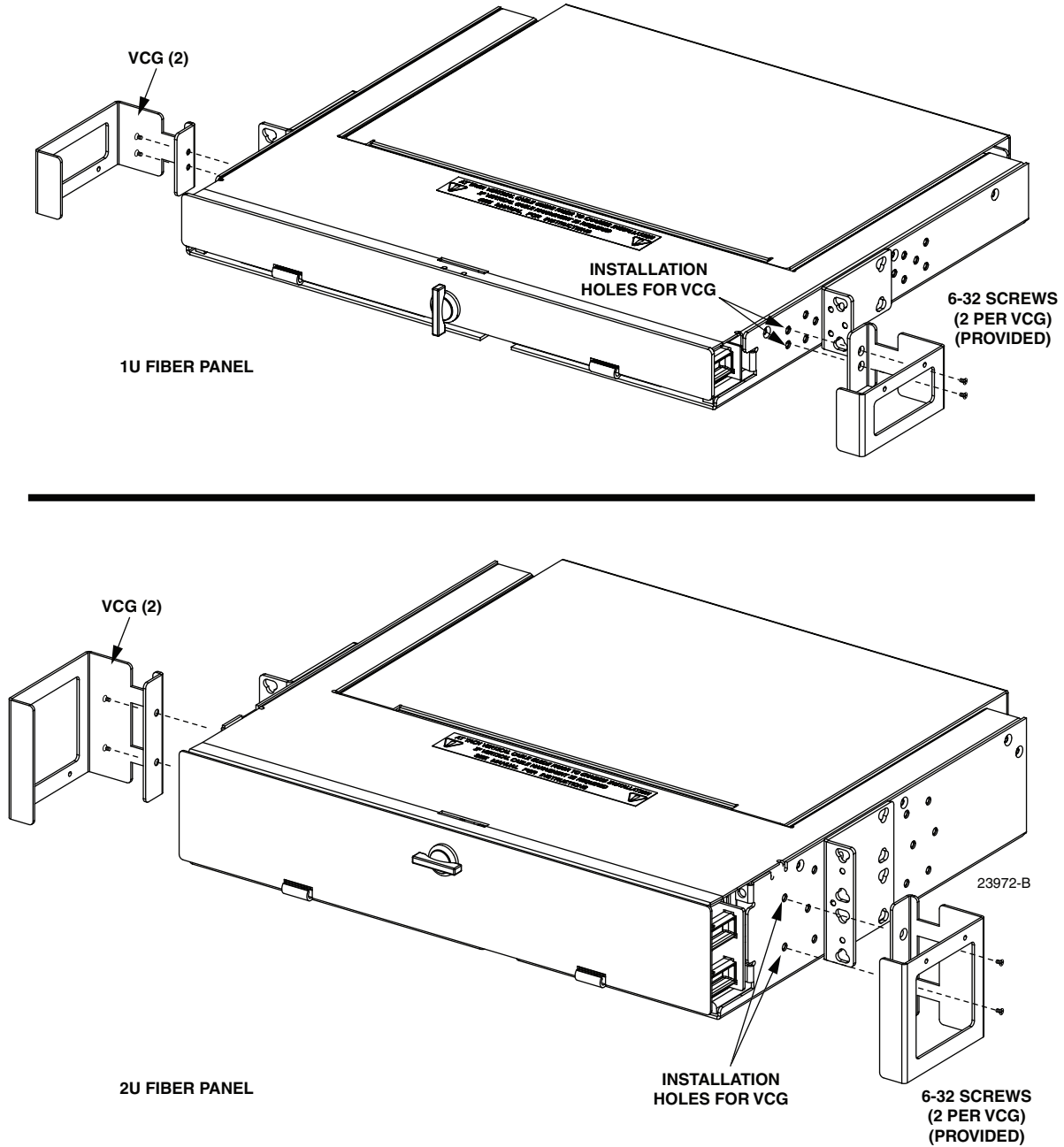


Figure 6. Installing Vertical Cable Guides

2.4 Sliding the Drawer In and Out

The panel has a tray release button and tray retainer clips designed to ensure that the drawer is opened carefully and remains open until work in the drawer is completed. These items look the same and operate the same on the 1U and 2U panels.

Use the following procedure to slide the drawer in and out (2U shown):

1. To release a closed drawer, press the release button down, as shown in [Figure 7](#), and slide the drawer out to the first detent.

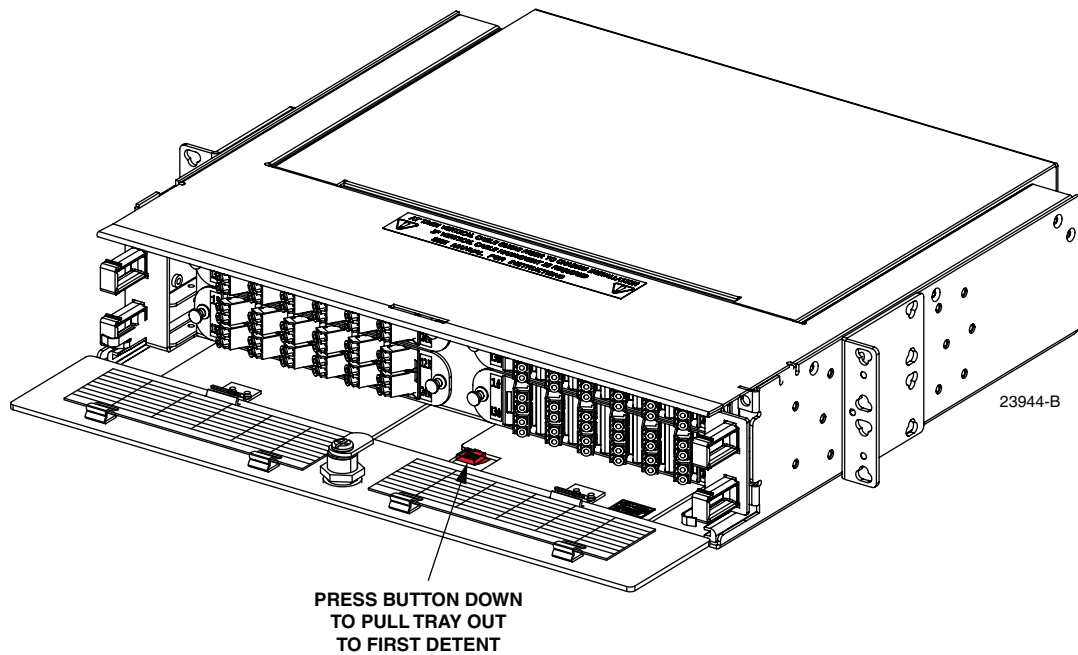


Figure 7. Releasing Closed Drawer to Open It

2. To free the drawer to open it fully, press in the retainer clips (one on each side) located as shown in [Figure 8](#). Slide the drawer out until it locks into place.

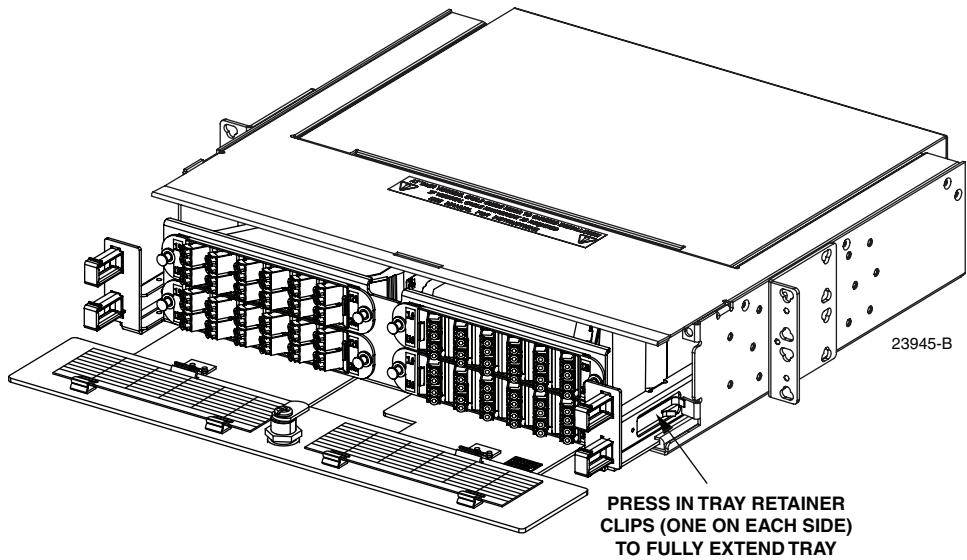


Figure 8. Freeing Drawer to Slide It Out Fully

3. To release an open drawer to close it, release the retainer clips (one on each side) located as shown in [Figure 9](#). Slide the drawer in until it locks into the closed position.

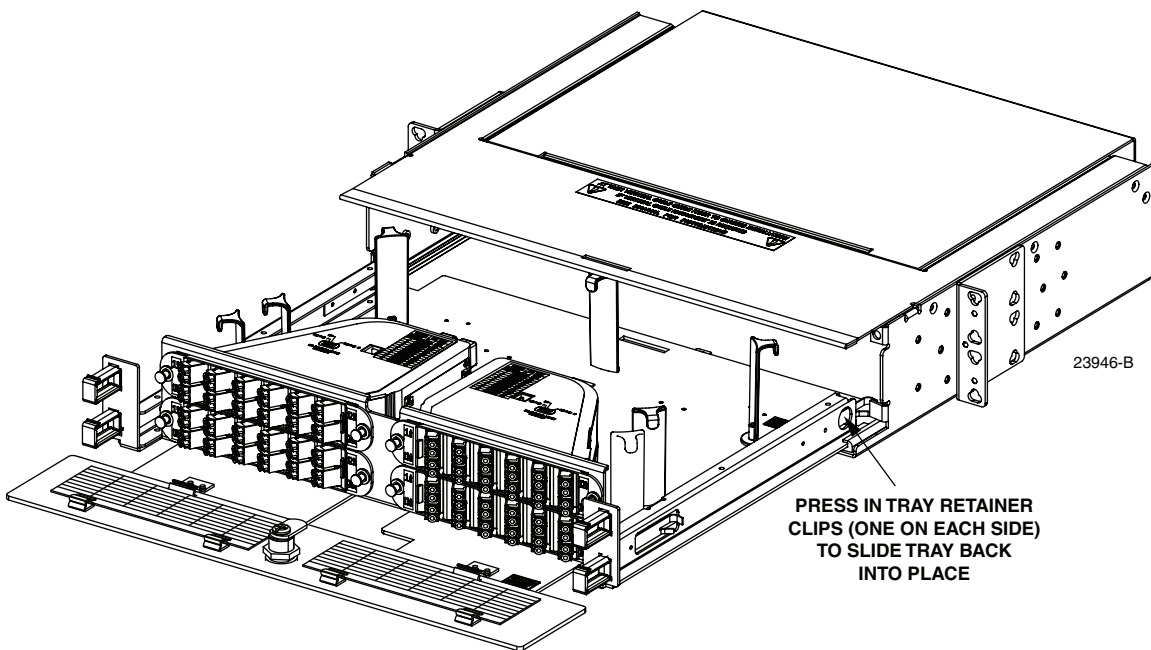
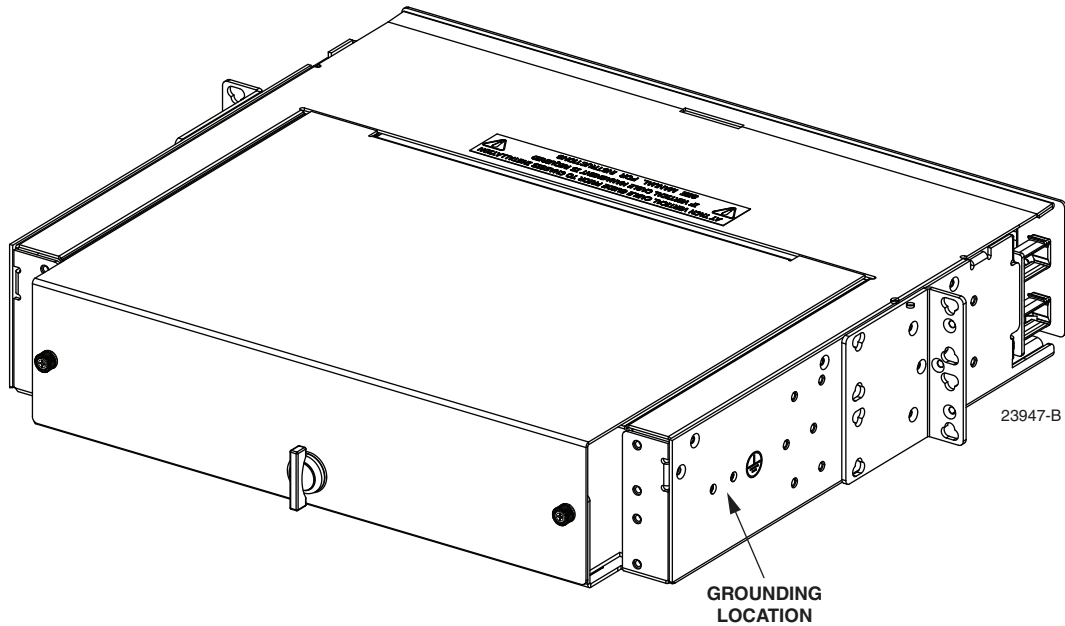


Figure 9. Releasing Open Drawer to Close It

2.5 Panel Grounding

Each panel has a grounding location marked with the standard grounding symbol. This location is on the right side of the panel (see [Figure 10](#)). Use the two 10-32 screws and star washers provided to attach a 2-hole lug terminal at the grounding location, as shown in [Figure 11](#). Follow local practice.

- ▶ **Note:** Ground the unit to the local facility CBN (Common Bonding Network) or IBN (Isolated Bonding Network) per local practice.



**Figure 10. Grounding Location
(Rear View of Panel)**

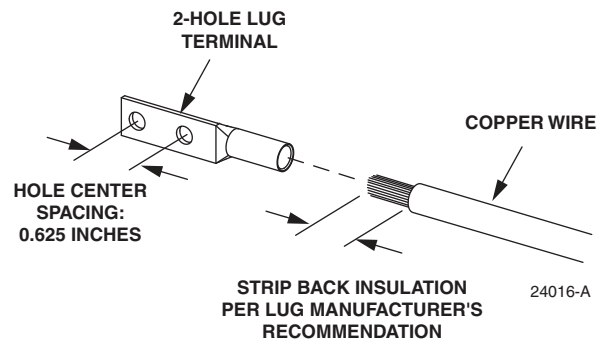


Figure 11. Ground Stud

2.6 Installing Adapter Packs

The 1U panel accommodates two adapter packs. The 2U accommodates four adapter packs. Adapter packs are installed in the same manner for both 1U and 2U panels. Adapter packs installed on left side of panel are angled left while adapter packs installed on right side are angled right. Install the adapter packs as shown in [Figure 12](#) (2U shown).

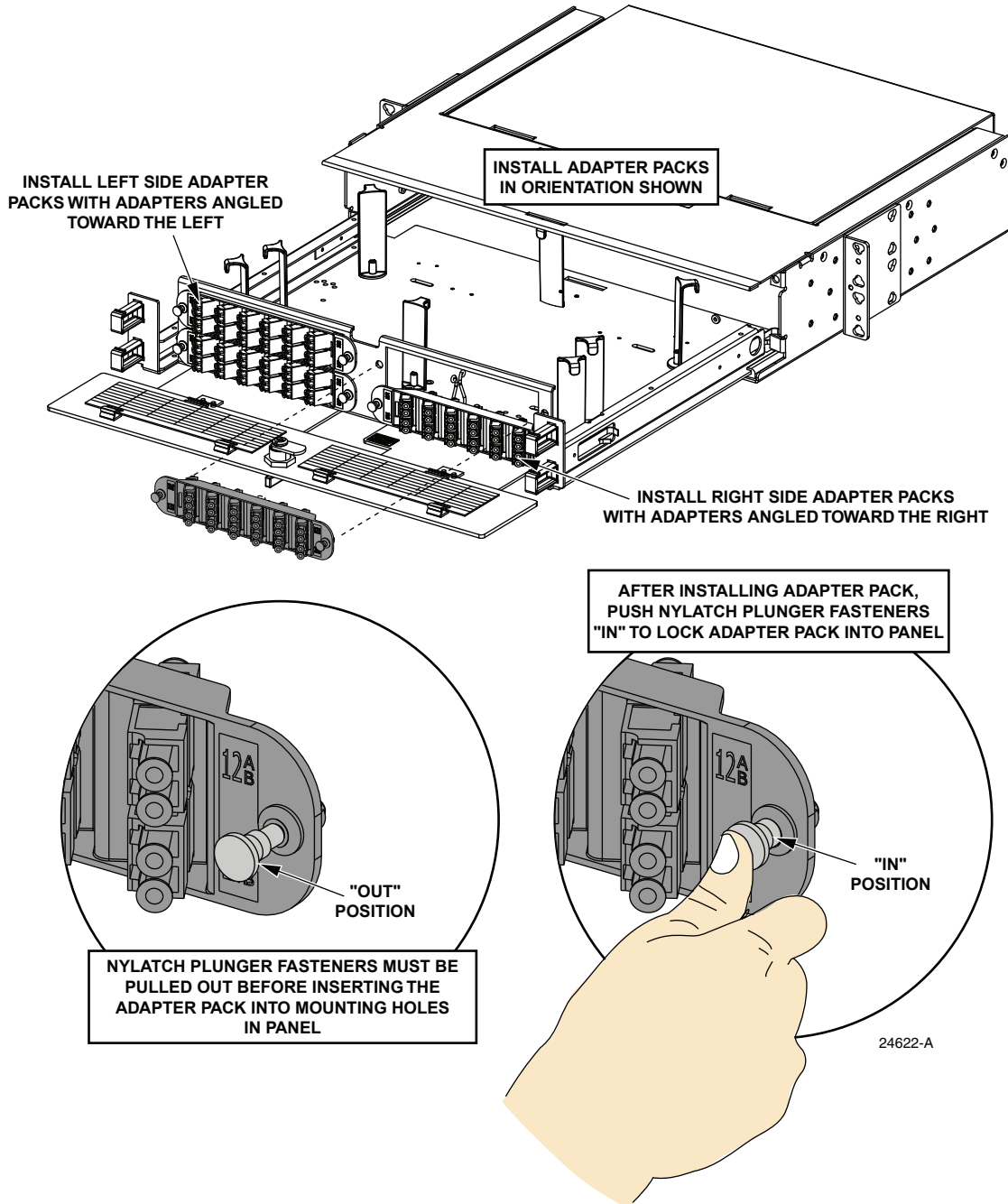


Figure 12. Installing Adapter Packs

2.7 Installing MPO Cassettes

The 1U panel accommodates two MPO cassettes, the 2U accommodates four. The procedure for the 1U and 2U is the same. To install or remove an MPO cassette, pull the Nylatch plunger fastener out, orienting the MPO as shown in [Figure 13](#).



Caution: Adapter packs and MPO cassettes should not be both used in the same panel.

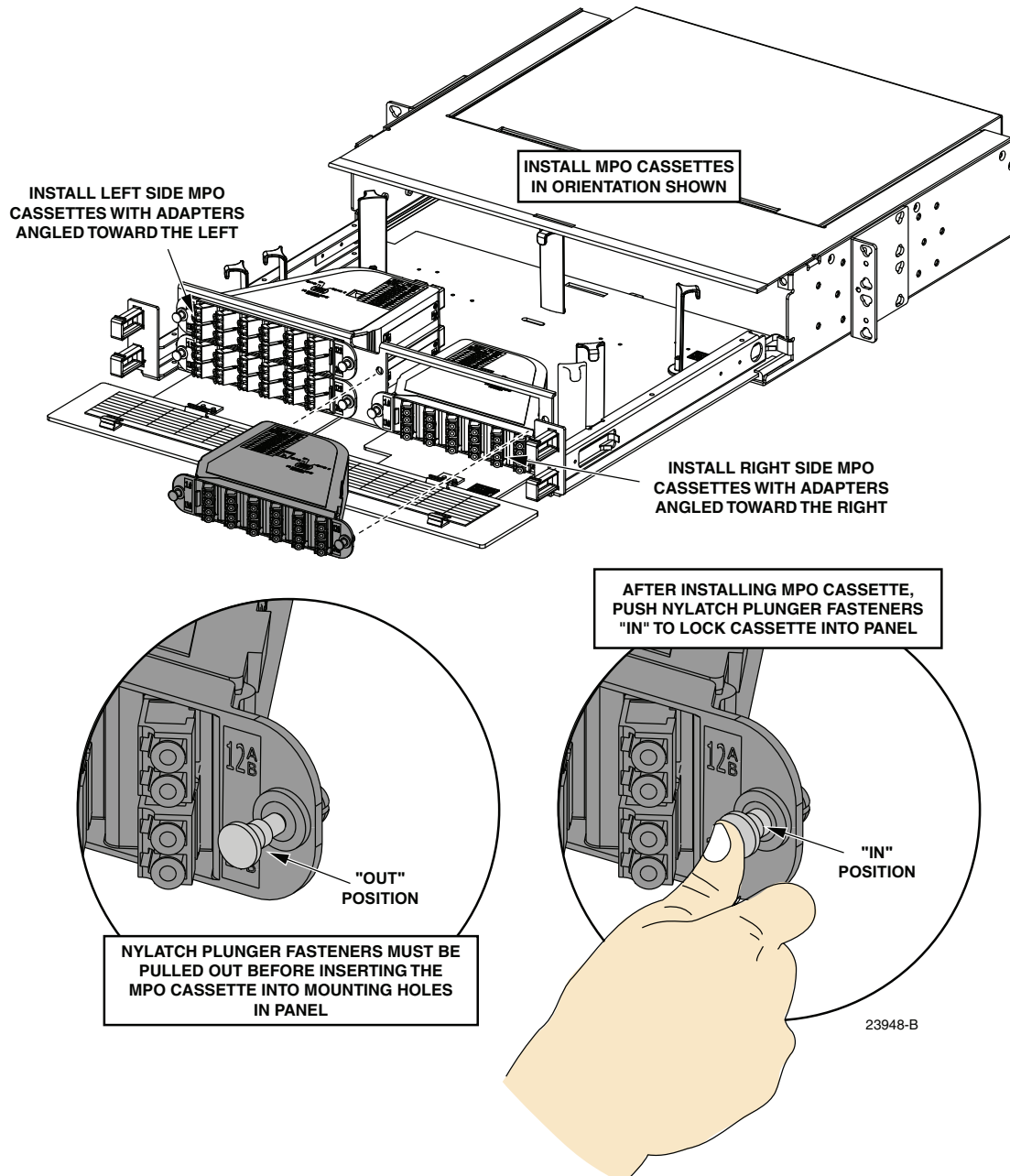


Figure 13. Installing MPO Cassettes

2.8 Termination Only Installation

Install cable after panel is mounted in the equipment rack, as described in [Section 2.2](#). Installation consists of routing cable to the panel, stripping back outside cable sheath exposing the optical fibers, installing a cable clamp to secure cable to the panel, and routing fibers to the splice tray. If cable has a metallic strength member it must be grounded following local practices.

Two clamps are provided since two cables may be installed on a single panel. Each clamp can accommodate one cable with an outside diameter of 0.2 to 0.7 inches (0.51 to 1.78 cm). Refer to [Section 3.1](#) for clamp installation. Typically, only one cable is installed per panel. The cable clamp may be installed on either side.

Allow a fiber service loop of at least 96-inches (2.5 meters) when stripping the cable sheath. This provides sufficient length for routing the buffer tubes within the panel and for splicing. After entry, the buffer tubes are routed to the splice tray. Splice tray mounts on the bottom of the panel.

Use the following procedure to secure the IFC/OSP cable at the fiber entry point and to route the optical fibers into the panel:

1. Route the IFC/OSP cable to the selected entry opening at the side of the panel.

► **Note:** Cables may enter the panel from either the left or right and may be clamped to either the left or right side. For cable mounting locations see [Figure 14](#).

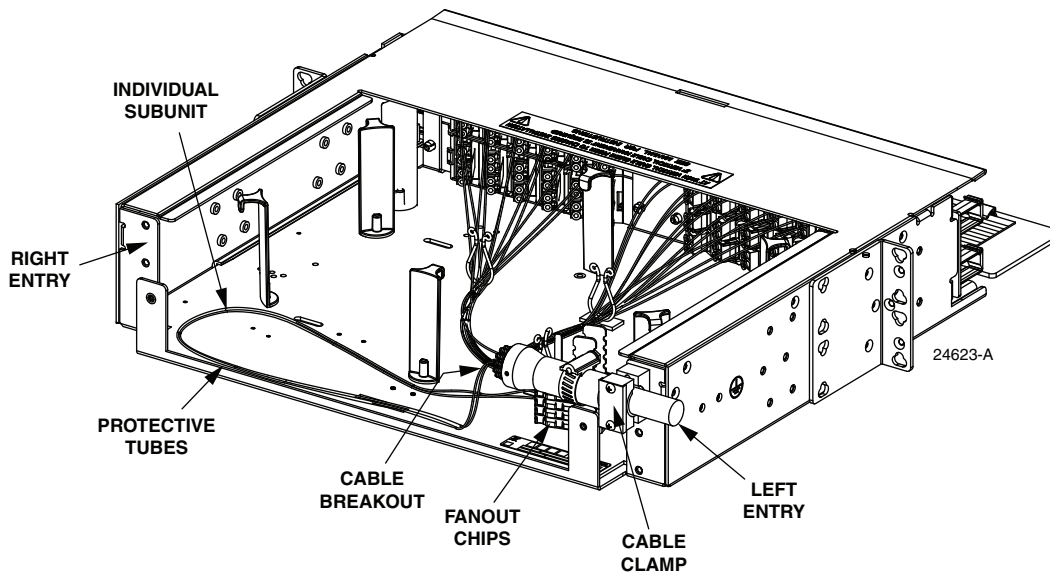


Figure 14. Typical FPX Configured with Termination Only (Rear View)

2. Strip back cable sheath approximately 96-inches (2.5 meters) to expose optical fibers. Follow cable manufacturer's recommendations when stripping the sheath.
3. Determine the correct clamp and grommet combination required to secure the cable to the panel. A rubber clamp and grommets of various sizes are provided. Select a grommet that

when placed around the cable, has a gap of nearly zero to 0.30 inches (0.76 cm). If the cable diameter is greater than 0.70 inches (1.78 cm), only the rubber clamp is required.

4. Use the rubber clamp, clamp cover, grommet (if required), and two screws to secure the cable end to the side of the panel, as shown in [Section 3.1](#) for a left or right entry cable.
5. If splicing is to be completed later coil the buffer tubes around the radius limiters on the bottom of the panel and close rear cover. If splicing now follow local practices.

3 CABLE CLAMP INSTALLATION

3.1 Installing a Cable Clamp for OSP Cable

For both termination and splice panels and termination only panels, an OSP cable must be installed and routed. The procedure is the same regardless of the type of panel being installed. The OSP cable can enter the panel from the left or right side of the panel (as viewed from the rear of the panel). Determine the direction of cable entrance and install the cable clamp as shown in the example in [Figure 15](#).

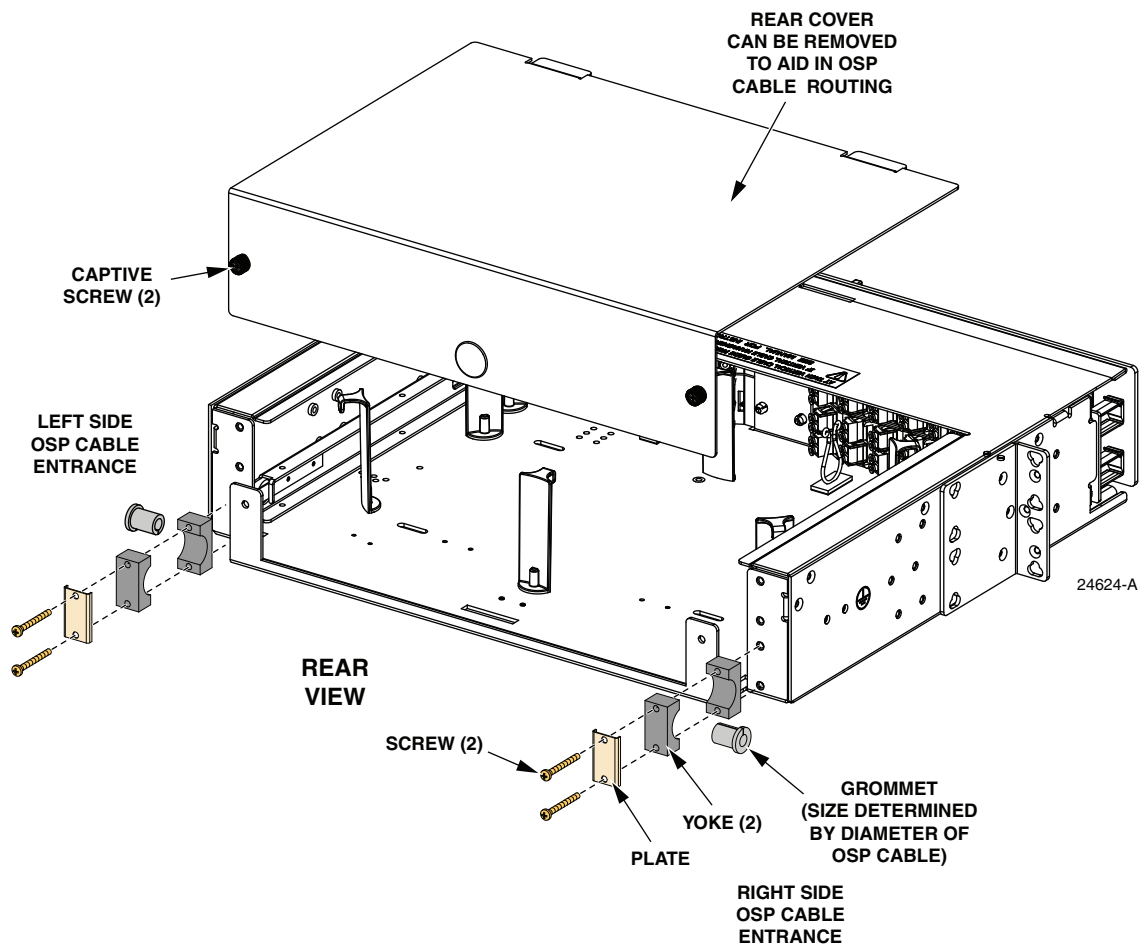


Figure 15. Cable Clamp Assembly for OSP Cable

3.2 Installing a Cable Clamp for MPO Trunk Cable

- ▶ **Note:** This procedure requires use of the MPO trunk cable clamp kit, which can be ordered from CommScope using catalog # TFP-ACC002. This kit is required for routing MPO trunk cable in panels with MPO adapter packs. This kit may also be used for routing MPO trunk cable in panels with MPO cassettes, but the kit is not required for MPO cassette applications.
- ▶ **Note:** When the MPO trunk cable clamp kit is used, there are limitations on the number of panels that can be stacked up on the rack in certain configurations. For more information, refer to the instructions (ADCP-92-080) provided with the kit.

For panels with MPO adapter packs, an MPO trunk cable must be installed and routed. The procedure is the same regardless of the type of panel being installed.

The MPO trunk cable can enter the panel from the left or right side of the panel (as viewed from the rear of the panel).

Determine the direction of cable entrance and install the cable clamp. Some orientation examples are shown in [Figure 16](#).

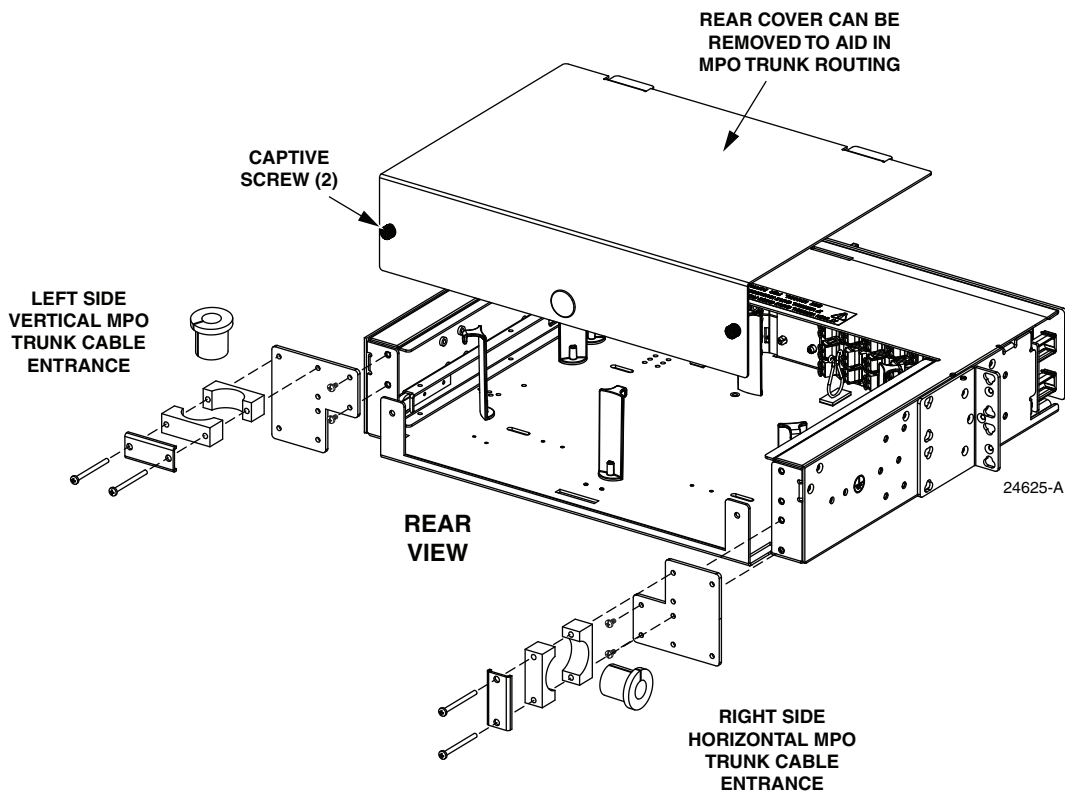


Figure 16. Cable Clamp Assembly for MPO Trunk Cable

4 CABLE ROUTING PROCEDURES

4.1 Termination and Splice Panel Procedures

4.1.1 Routing Pigtails

Typically, the termination and splice panel is shipped without adapter packs or pigtails and will therefore need to be configured as required. Alternatively, the panel may have been ordered with adapter packs pre-cabled with pigtails or with MPO cassettes already installed. If pigtails need to be routed in the panel being installed, route the pigtails corresponding to the example shown in [Figure 17](#) for a right side adapter pack or [Figure 18](#) for a left side adapter pack.

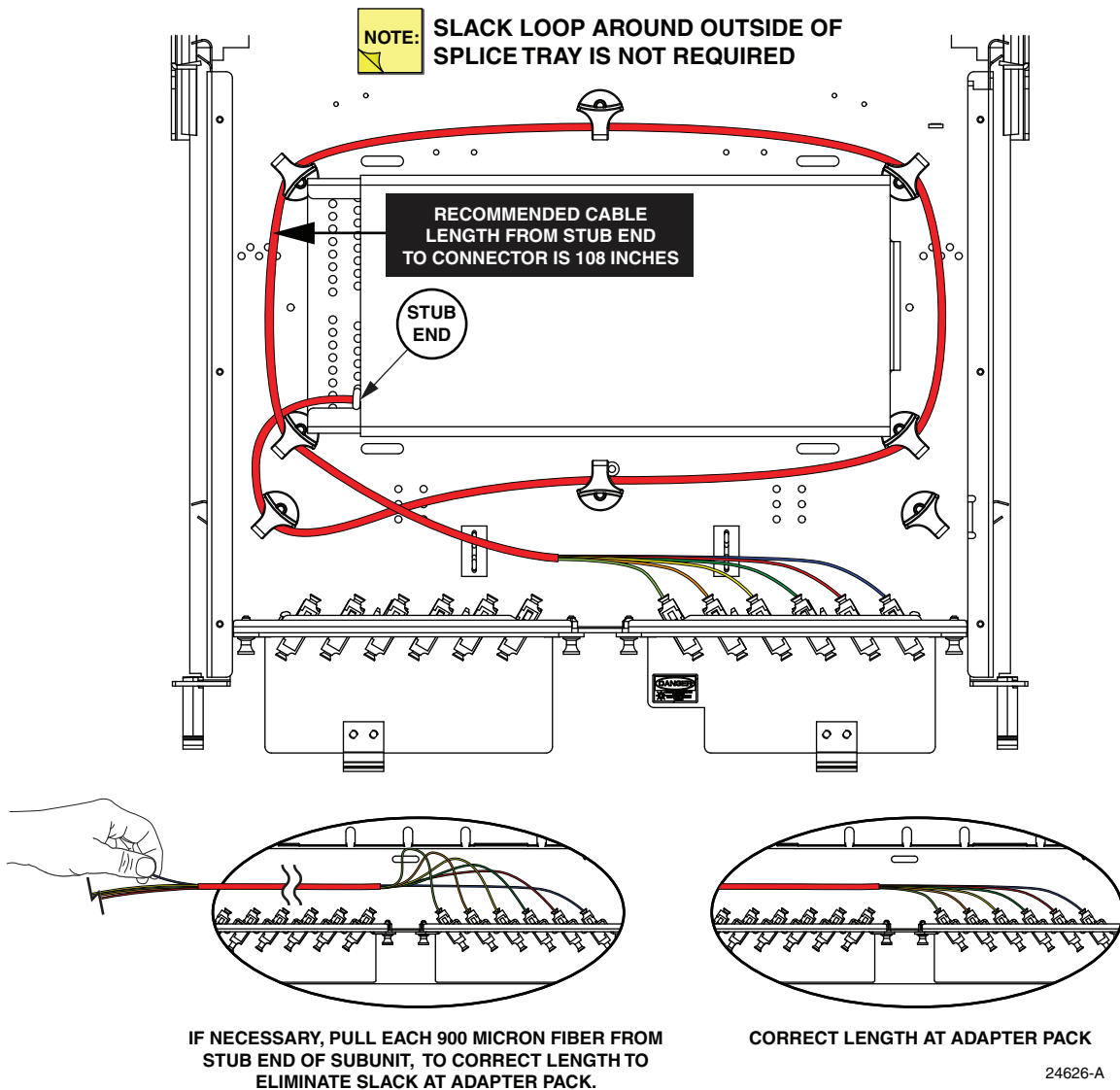


Figure 17. Routing Pigtails from Right Side (Top View)

Figure 18 shows routing from the left side.

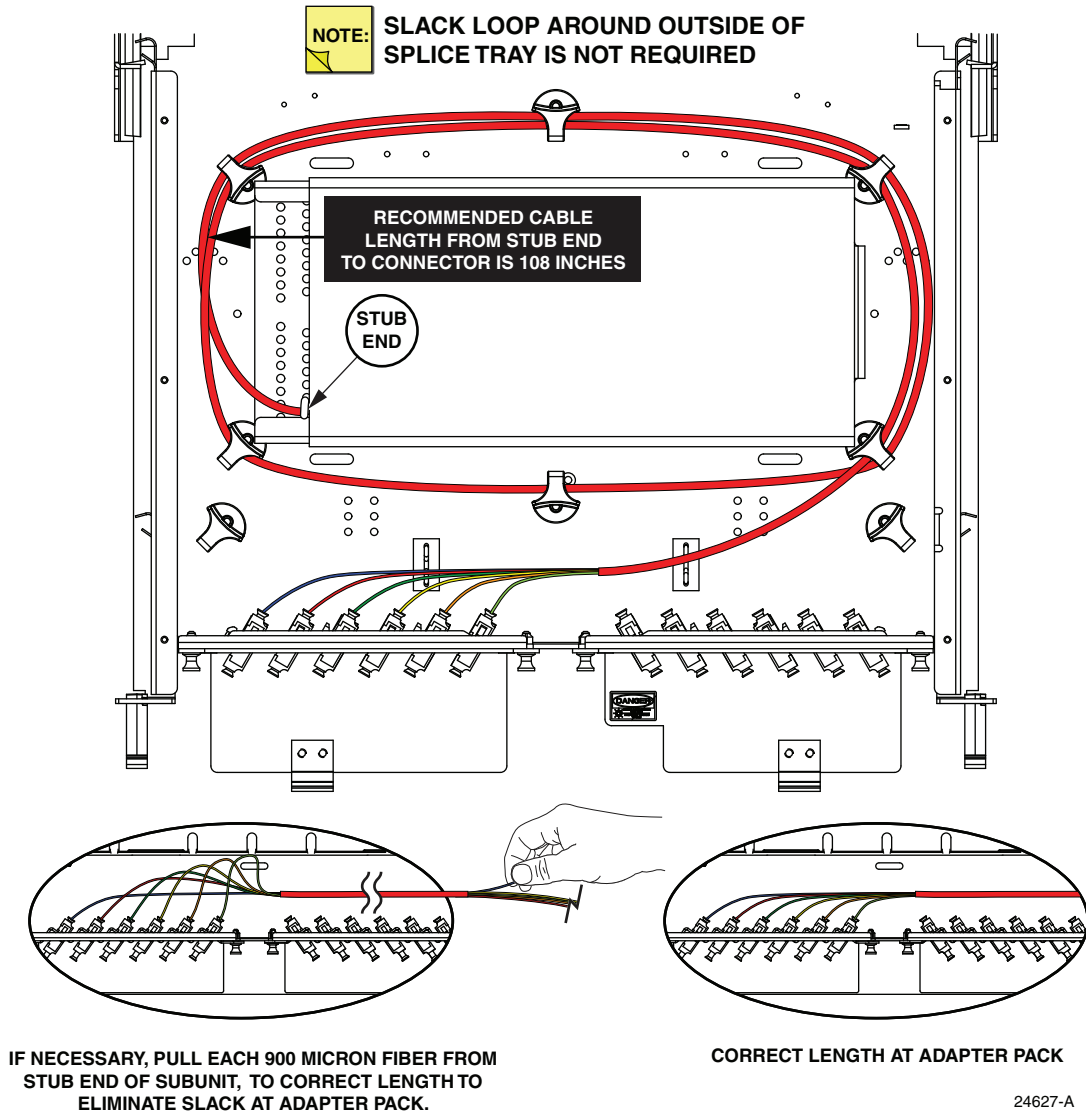


Figure 18. Routing Pigtails from Left Side (Top View)

4.1.2 Routing OSP Cable, Right Side Entry

For right side cable entry, route the OSP cable from the cable clamp position to the splice tray as shown in Figure 19. Note that “right” is defined here from the perspective of the front of the panel.

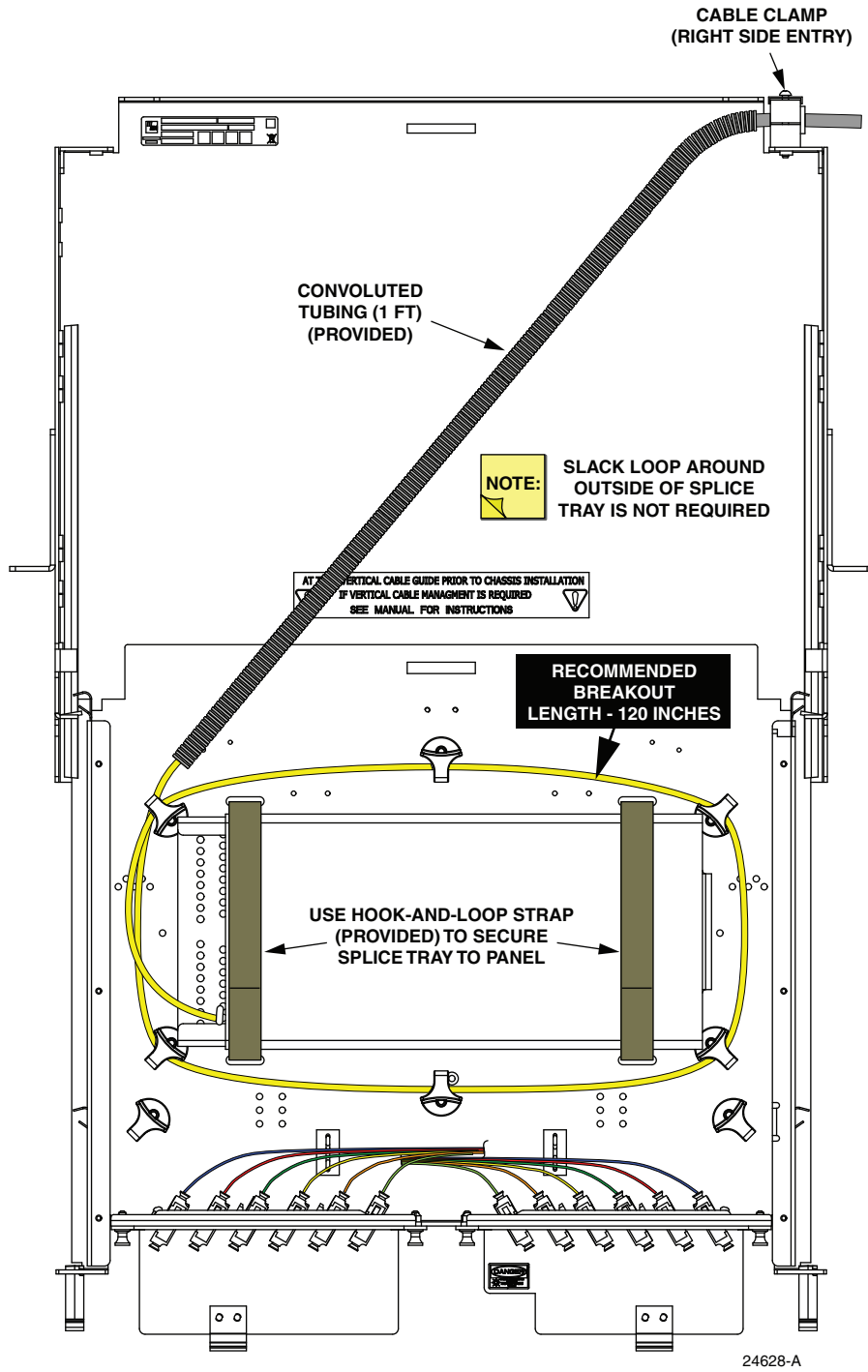


Figure 19. Routing OSP Cable, Right Side Entry

4.1.3 Routing OSP Cable, Left Side Entry

For left side cable entry, route the OSP cable from the cable clamp position to the splice tray as shown in Figure 20. “Left” is defined from the front of the panel.

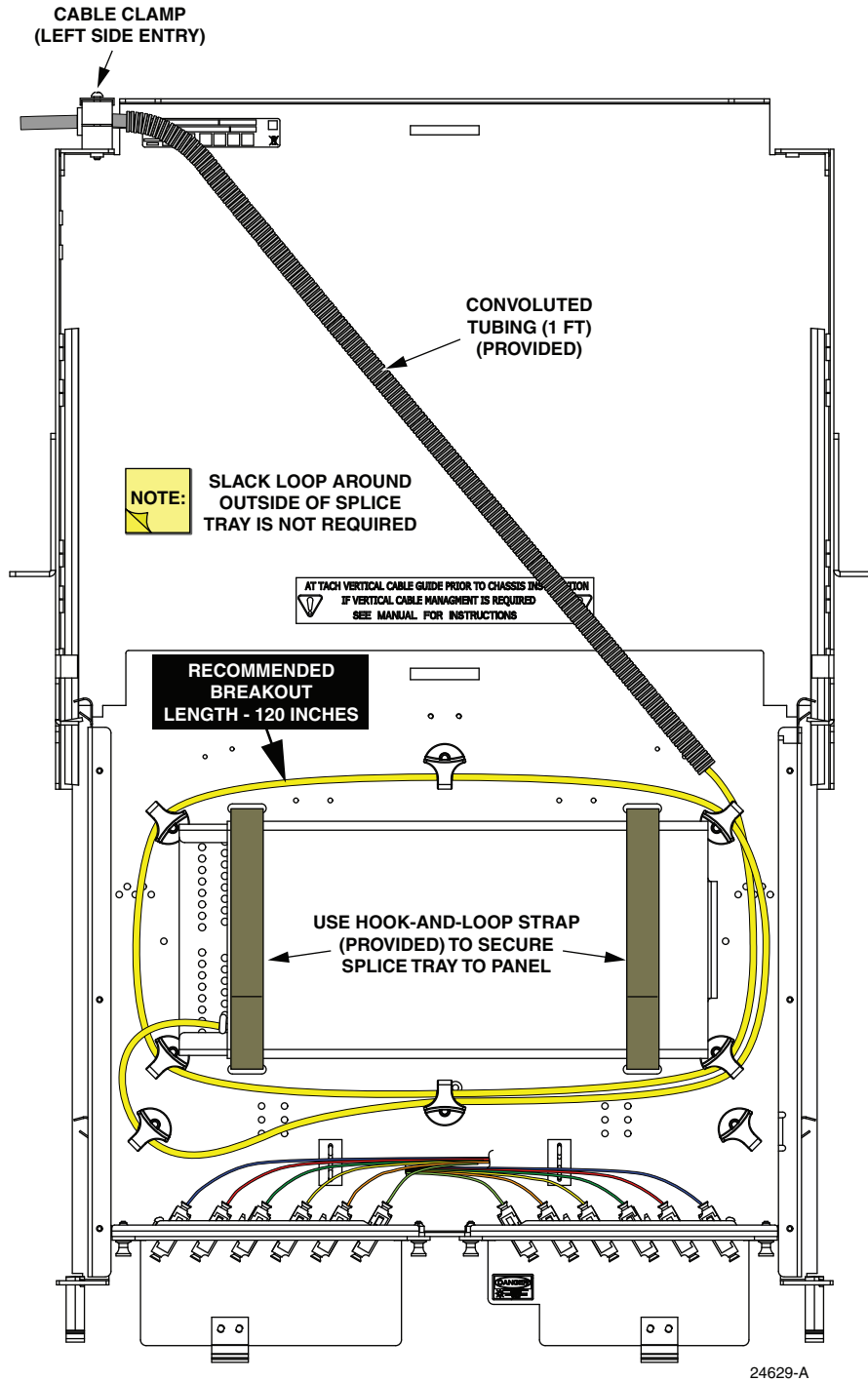


Figure 20. Routing OSP Cable, Left Side Entry

4.1.4 Routing Pigtails and OSP Fibers in Splice Tray

Route the pigtail and OSP fibers in the splice tray as shown in the [Figure 21](#).

Use hook-and-loop strap to secure the splice tray to the panel.

► **Note:** For location of the hook-and-loop strap, refer to [Figure 20](#) on the previous page.

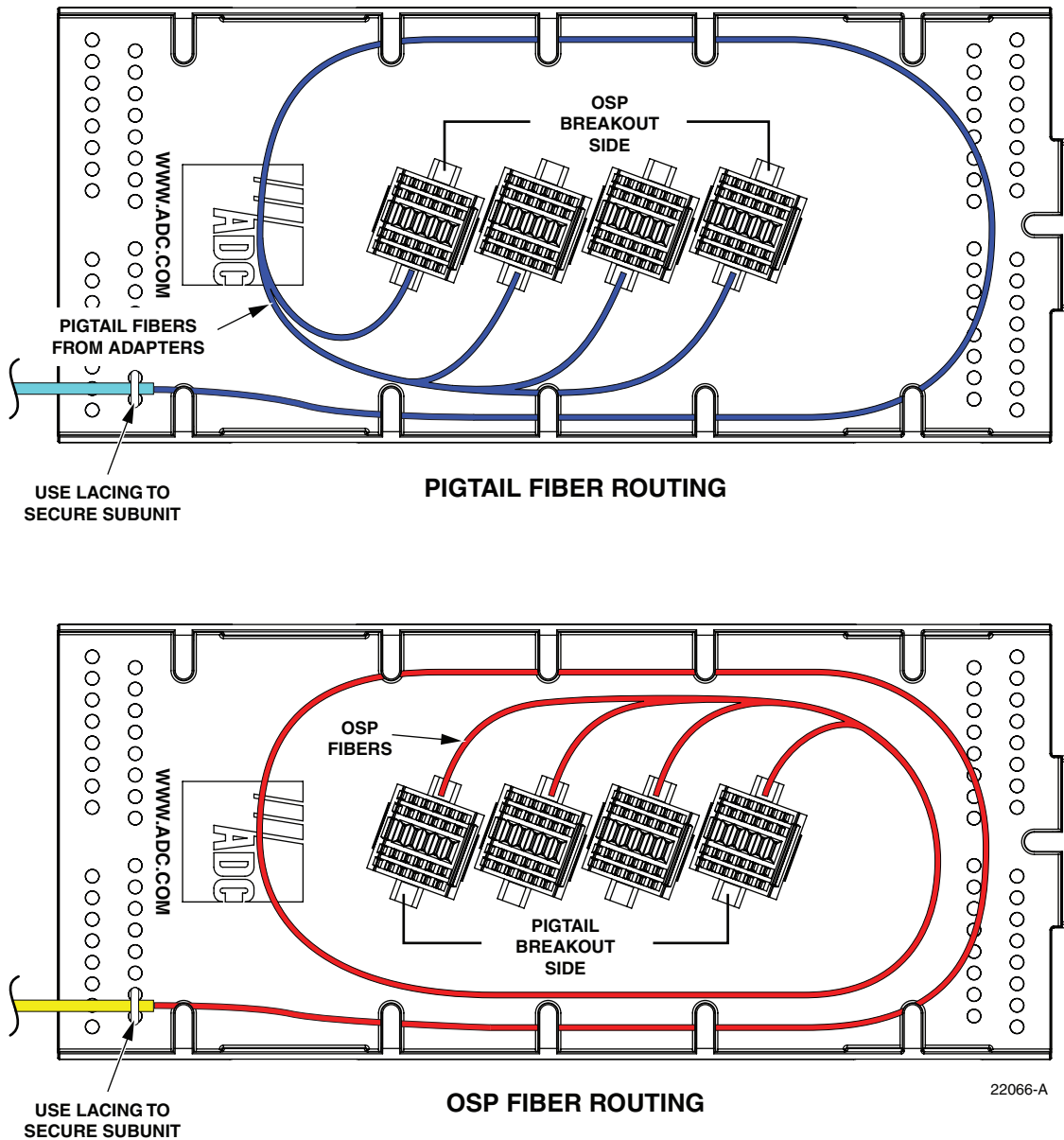


Figure 21. Routing Pigtails and OSP Fibers in Splice Tray

4.2 Termination Only Panel Procedures

4.2.1 Routing OSP Cable, Right Side Entry (Adapter Packs)

For right side cable entry in a panel with adapter packs, route the OSP cable from the cable clamp position to the splice tray as shown in Figure 22. Note that “right” is defined here from the perspective of the front of the panel.

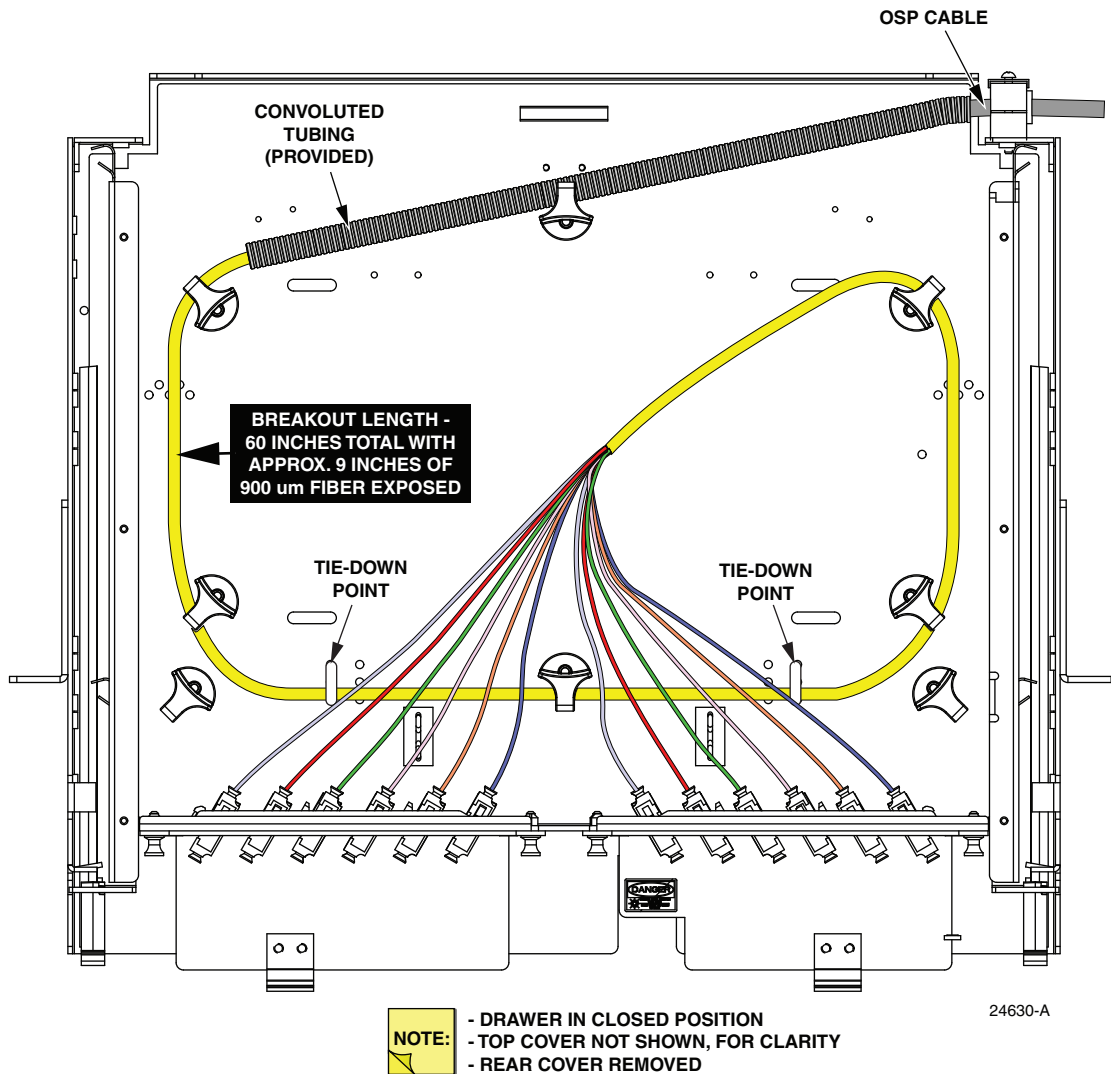


Figure 22. Routing OSP Cable, Right Side Entry (Adapter Packs)

4.2.2 Routing OSP Cable, Left Side Entry (Adapter Cassettes)

For left side cable entry in a panel with adapter packs, route the OSP cable from the cable clamp position to the splice tray as shown in Figure 23. “Left” is defined from the front of the panel.

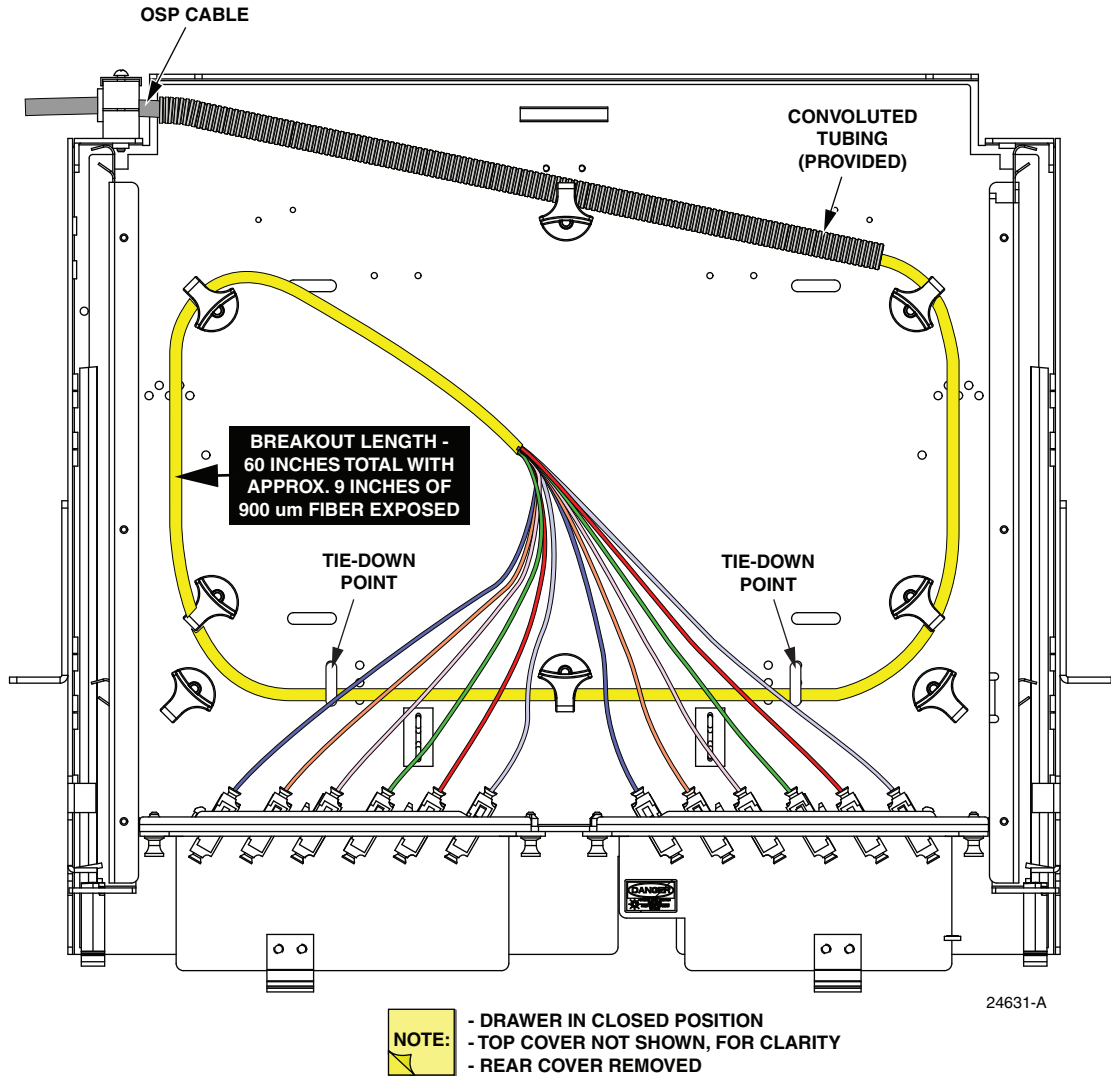


Figure 23. Routing OSP Cable, Left Side Entry (MPO Cassettes)

4.2.3 Routing OSP Cable, Left Side Entry (MPO Cassettes)

For left side cable entry in a panel with MPO cassettes, route the OSP cable from the cable clamp position to the MPO cassettes as shown in Figure 24. Note that “left” is defined here from the perspective of the front of the panel.

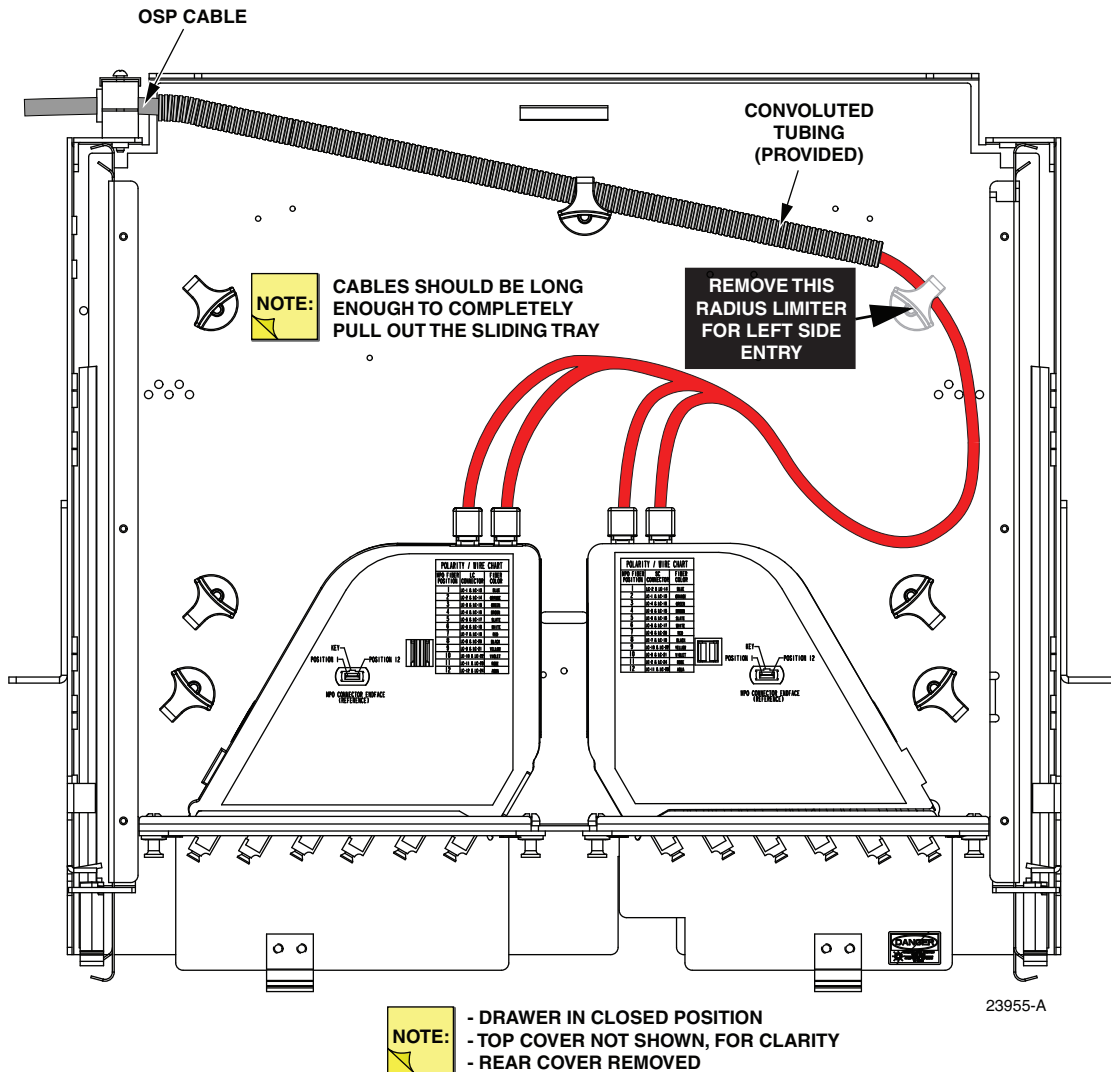


Figure 24. Routing OSP Cable, Left Side Entry (MPO Cassettes)

4.2.4 Routing OSP Cable, Right Side Entry (MPO cassettes)

For right side cable entry in a panel with MPO cassettes, route the OSP cable from the cable clamp position to the MPO cassettes as shown in Figure 25. “Right” is defined from the front of the panel.

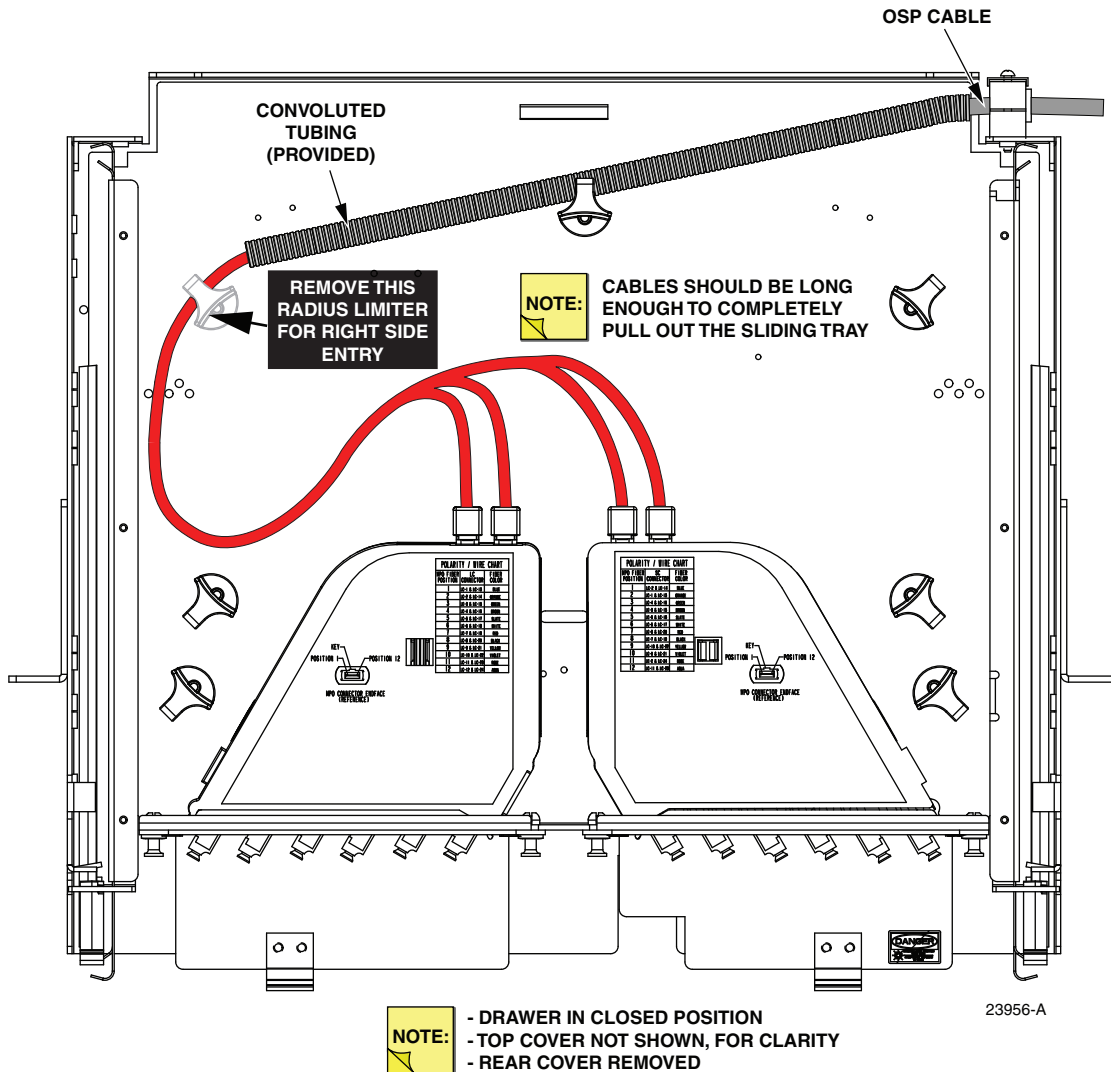


Figure 25. Routing OSP Cable, Right Side Entry (Adapter Packs)

4.3 MPO Termination Only Panel Procedures

4.3.1 Routing MPO Trunk Cable, Right Side Entry (MPO Adapter Packs)

For right side cable entry in a panel with MPO adapter packs, route the MPO trunk cable from the cable clamp position to the splice tray as shown in [Figure 26](#). Note that “right” is defined here from the perspective of the front of the panel.

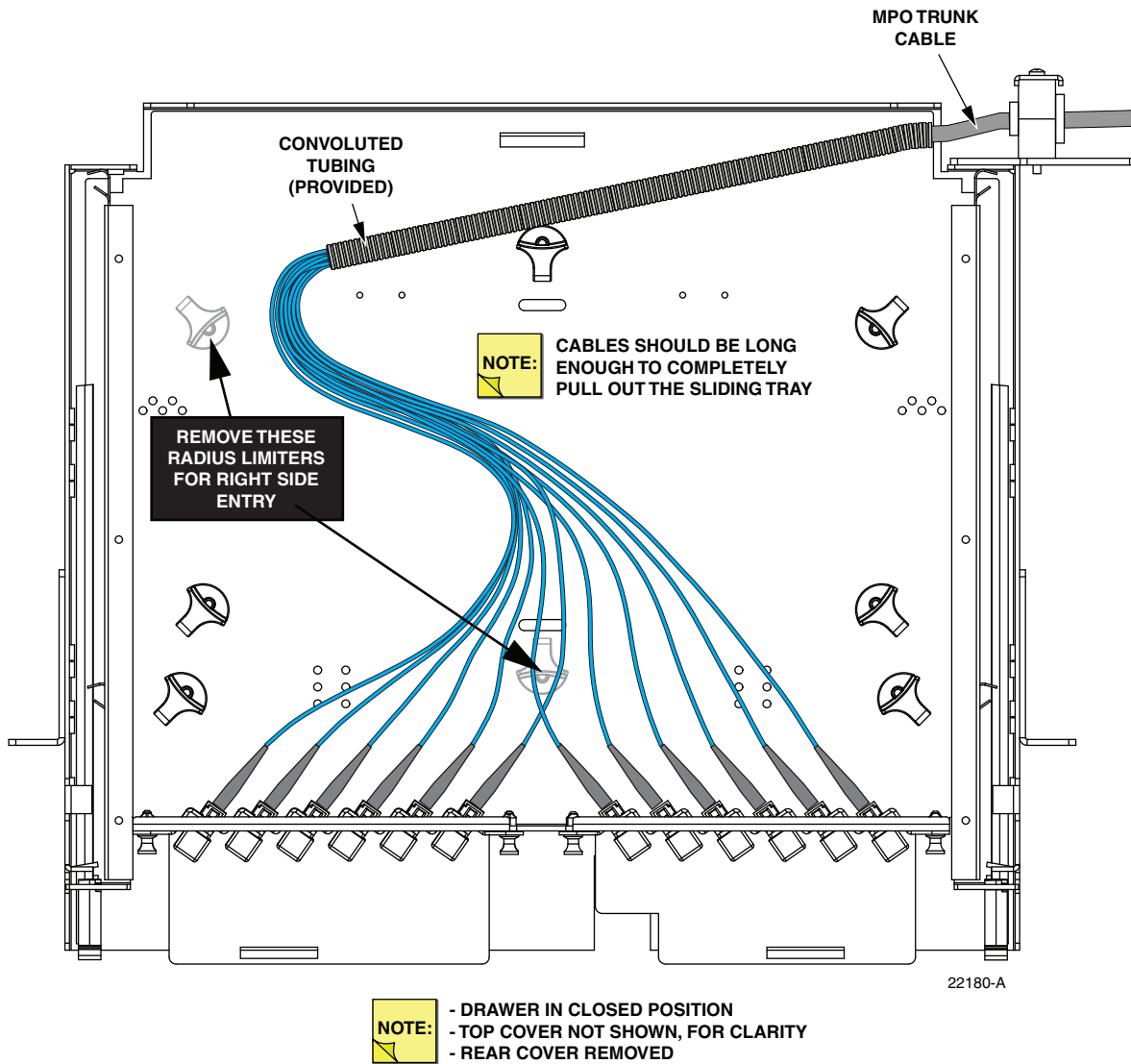


Figure 26. Routing MPO Trunk Cable, Right Side Entry (MPO Adapter Packs)

4.3.2 Routing MPO Trunk Cable, Left Side Entry (MPO Adapter Packs)

For left side cable entry in a panel with MPO adapter packs, route the MPO trunk cable from the cable clamp position to the splice tray as shown in [Figure 27](#). “Left” is defined from the front of the panel.

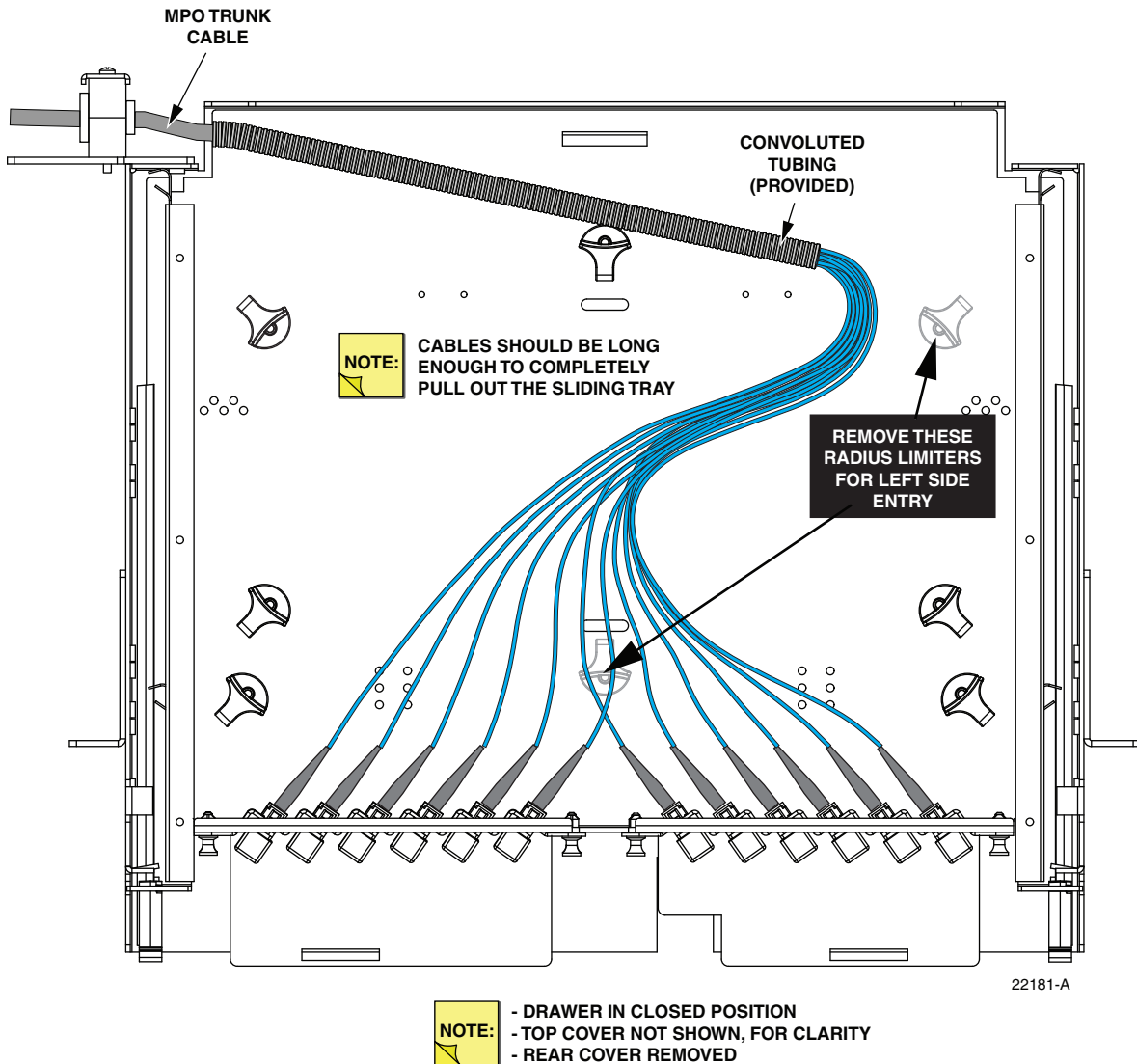


Figure 27. Routing MPO Trunk Cable, Left Side Entry (MPO Adapter Packs)

5 CONTACT INFORMATION

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- For technical assistance, customer service, or to report any missing/damaged parts, visit us at <http://www.commscope.com/SupportCenter>

