

Fiber Management Tray-D (FMT-D)

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INTRODUCTION

This manual describes the CommScope Fiber Management Tray-D (FMT-D) and provides all information required to install and use this product. The FMT is a fiber optic tray that provides a variety of rack-mount and functional options. All options are covered in this manual to the extent of relevance when the FMT is installed and used. For pre-sale configuration assistance, visit our website at <http://www.commscope.com/SupportCenter>

Revision History

ISSUE	DATE	REASON FOR CHANGE
1	1/2010	ADC original.
Rev C	10/2020	Converted to CommScope format.

Trademark Information

CommScope (logo) and CommScope are trademarks of CommScope, Inc.

Admonishments

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times. 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.*

General Safety Precautions



Danger: *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.*

1 PRODUCT DESCRIPTION

The 1RU Fiber Management Tray (FMT) is a rack-mount, front-access fiber optic tray available in a variety configurations. Options listed are for reference only, for additional options contact CommScope Technical Assistance at <http://www.commscope.com/SupportCenter>. Some of these are noted below:

- 12- or 24-position termination and storage (left, right, or universal storage);
- 12- or 24-position termination and splice (left or right splice entry);
- 24-position termination with IFC;
- 24- or 32-position adapter only;
- 16-cable discrete slack storage;
- 32-, 48-, or 60-cable bulk slack storage (capacity dependent on cable diameter).

Rack-mount and recess options include:

- EIA or WECO, reversible 19- or 23-inch (48.26 or 58.42 cm) with mounting brackets for mounting in 40mm or 5-inch recess;

- ETSI, 20.28-inch (51.5 cm) with mounting brackets for mounting in 40mm recess

Customer adjustable recess configurations include:

- EIA or WECO, 19 or 23-inch (48.26 or 58.42 cm) FMT offer 40mm (1.57-inch), 2.2-inch (5.59 cm), 3.1-inch (7.9 cm), 5-inch (12.7 cm), or 6.5-inch (16.5 cm) recess;

For reference, [Figure 1](#) shows one of the FMT configurations, the 12-position termination and storage tray. Some of the features common to all FMT configurations are displayed.

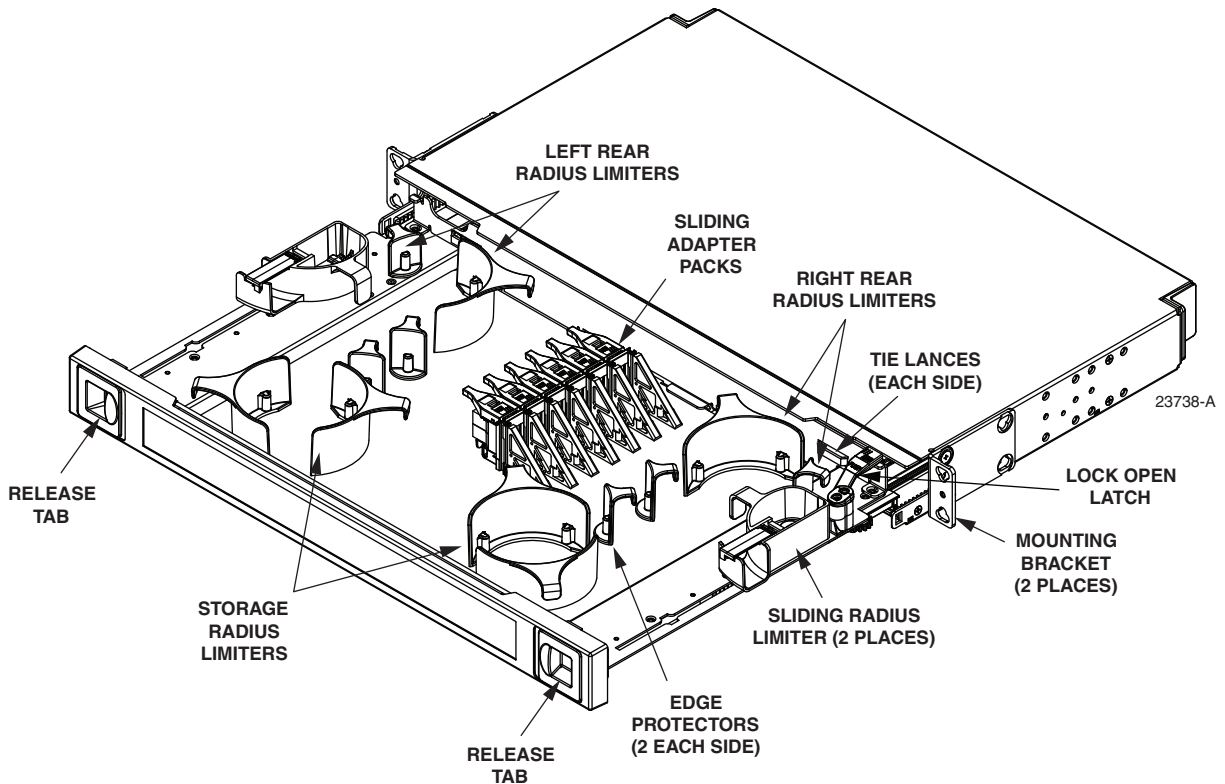


Figure 1. FMT Features (12-Position Termination and Storage Tray, Universal Entry, Shown)

The features shown include the following (from bottom left clockwise):

- **Edge Protectors**—Protect cables from sharp angles at bend points.
- **Release Tabs**—Allows the FMT tray to open.
- **Lock Open Latch**—Allows the technician to lock open the FMT while working in the tray.
- **Rear Radius Limiters (Left and Right)**—Maintain a protective, minimum-bend radius for cables routed into panel.
- **Tie Lances**—Provide anchor points for securing fibers.
- **Storage Radius Limiters**—Provide service loop storage for cable terminated in panel.
- **Mounting Brackets**—Adapt the tray for the different mounting options. Brackets may be mounted in several recess locations based on customer needs.

- **Sliding Radius Limiter**—Provides protective entry point for cables. Radius limiter slides backward when tray is pulled out and forward when tray is closed.
- **Sliding Adapters Packs**—Each adapter pack, provides easy access for connecting cables and cleaning connectors. Product offerings for adapters/connectors include most industry-standard multimode and singlemode types.

Figure 2 shows a closed tray with the sliding radius limiter in a closed position. Also shown with the optional lock.

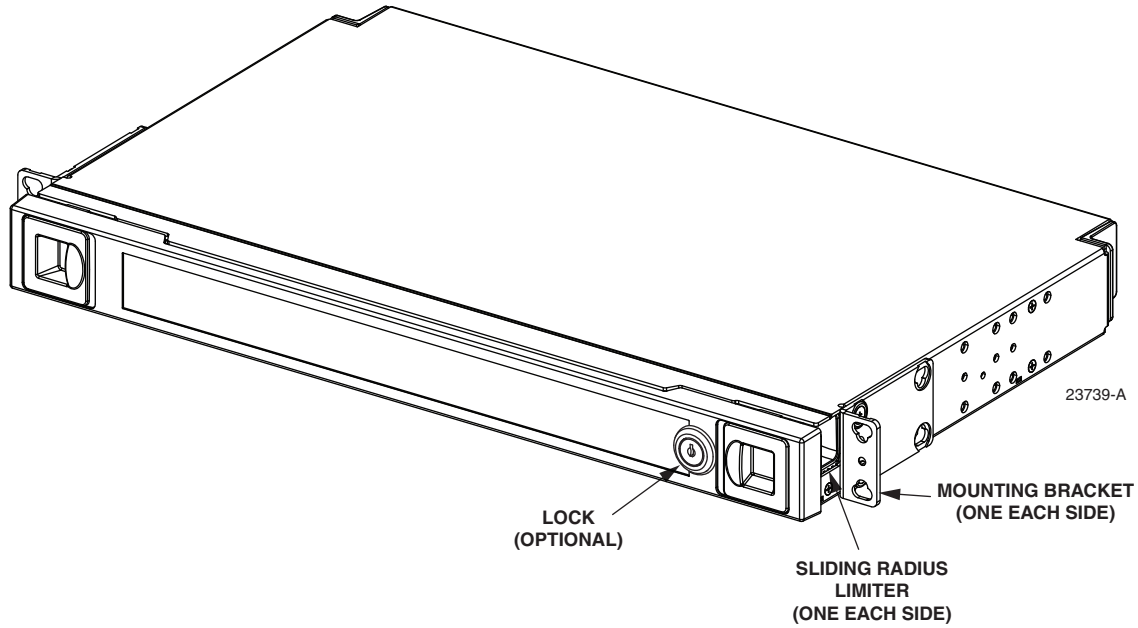


Figure 2. FMT Features (Closed Tray Shown)

2 SPECIFICATIONS

Figure 3 shows the FMT dimensions for rack type, rack width, and recess options. Table 1 lists specifications for the 1RU Fiber Management Tray.

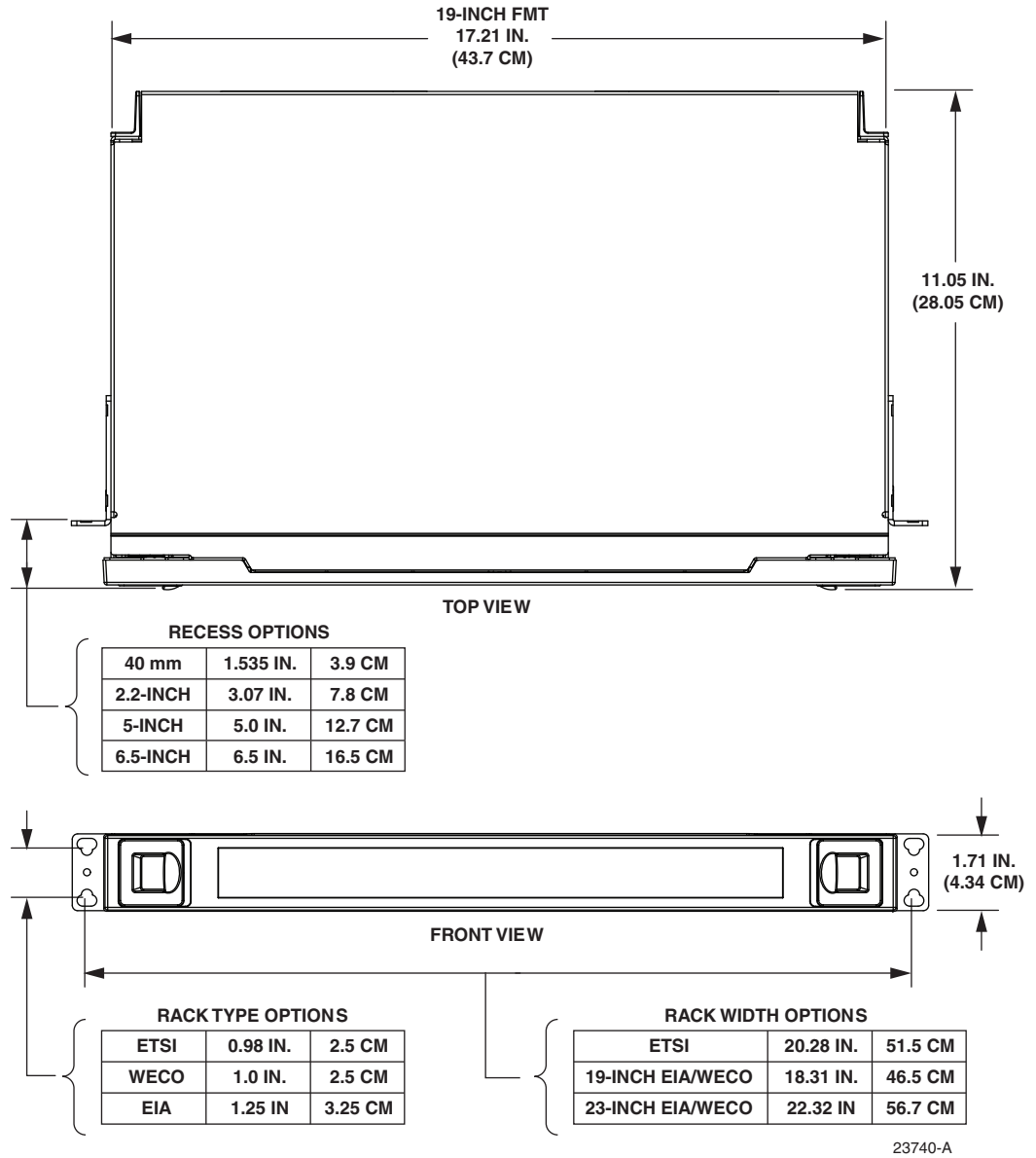


Figure 3. FMT Dimensions

Table 1. Fiber Management Tray Specifications

ITEM	DESCRIPTION
Dimensions (H × W × D)	See Figure 3 on page 5.
Approximate Weight	7.9 lbs. (3.98 Kg)
Configuration Options and Capacity	Termination/storage (12 or 24 terminations) Termination/storage (4 MicroVAMs) Termination/storage (Universal bulkhead (12, 24, or 48)) Termination/splice (Universal bulkhead (12, 24, or 48)) Bulk storage 3 mm O.D. cable: 32 cables, length 1.7 m (66 in.) each 2 mm O.D. cable: 48 cables, length 3.4 m each (132 in.) 1.7 mm O.D. cable: 60 cables, length 3.9 m (154 in.) each Termination and splice (12, 24, or 48 splices) Discrete bulk storage 3 mm O.D. cable: 16 cables, length 1.7 m (66 in.) each 2 mm O.D. cable: 16 cables, length 2 m each (79 in.) 1.7 mm O.D. cable: 16 cables, length 2.5 m (98 in.) each

3 UNPACKING THE PRODUCT

Unpack and inspect the Fiber Management Tray as follows:

1. Inspect the exterior of the shipping container for evidence of rough handling that may have damaged the contents of the container.
2. Unpack the FMT and check for possible damage.
3. If damage is detected or if parts are missing, file a claim with the commercial carrier and contact <http://www.commscope.com/SupportCenter>.

► **Note:** Save damaged carton for inspection by the carrier.

4. For repair, replacement, and warranty information, contact <http://www.commscope.com/SupportCenter>.
5. Save the shipping container for use if equipment requires shipment at a future date.

4 MOUNTING THE FMT ON THE RACK

For all mounting options, the FMT uses two mounting brackets, one on either side, with two mounting holes in each bracket (see [Figure 4](#)). Determine what recess is required and adjust mounting brackets for the required recess. Secure tray to rack using the screws (provided).

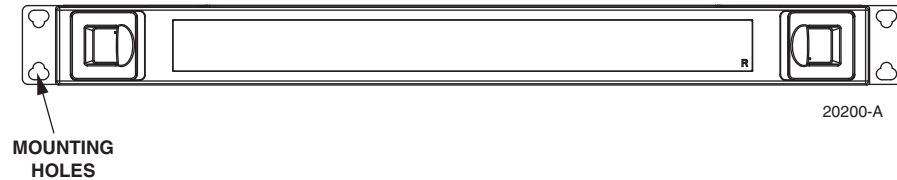


Figure 4. FMT Mounting Holes

- ▶ **Note:** In some configurations, the same screw is used for both the mounting bracket (top hole) and the vertical cable guide (see [Section 6 Installing Vertical Cable Guides](#)).

5 FMT GROUNDING

An optional grounding kit should be installed if using OSP cable with metallic cable members. The ground or bonding positions on the rear and side of the panel, see [Figure 5](#). bonding locations are used to bond or ground the panel to the frame or office (earth) ground. When grounding the panel follow local practices or use the instructions provided with the grounding kit. Do not ground the OSP cable to the panel. The cable must be grounded to either the frame or office ground.

If non metallic OSP cable is used connect the office or frame ground directly to the panel using the ground or bonding positions. Use a 14AWG conductor (minimum). Make this connection following local practices.

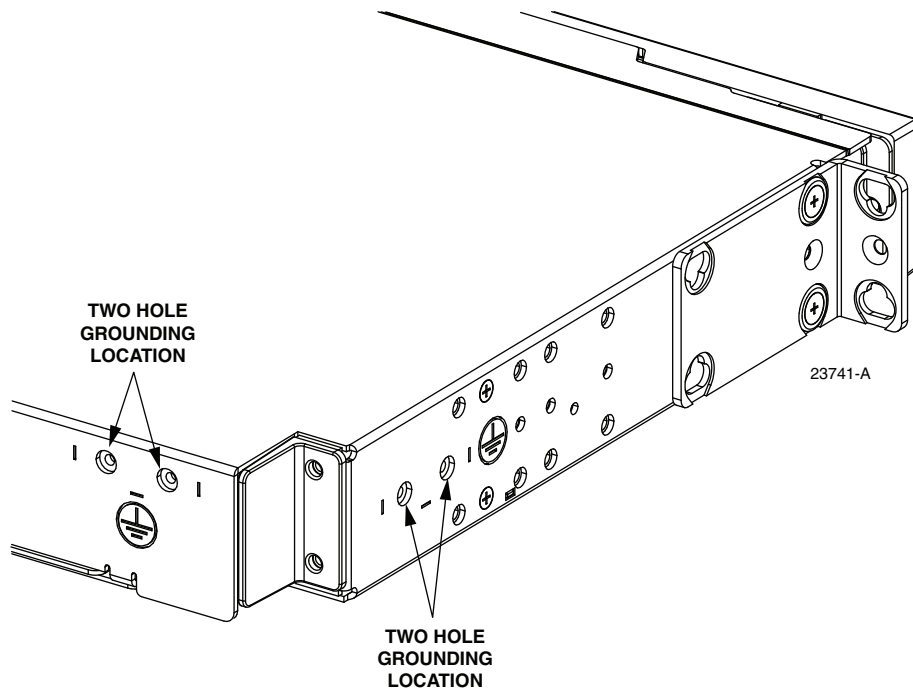


Figure 5. Ground or Bonding Screw Positions

6 INSTALLING VERTICAL CABLE GUIDES

Optional vertical cable guides (VCGs) may be installed with FMTs when space permits. VCGs do not ship with the panel, they are purchased separately (Catalog number: FMT-ACCVCG02P (putty) or FMT-ACCVCG02B (black)). [Table 2](#) summarizes possible uses of VCGs for various combinations of rack width and recess.

Table 2. Possible Uses of VCGs

RACK WIDTH	RECESS	VERTICAL CABLE GUIDE
19 inches (48.26 cm)	40 mm (1.54 inch) 2.2-inch (5.59 cm)	Figure 6
	3.1-inch (7.9 cm) 5-inch (12.7 cm) 6.5-inch (16.5 cm)	Figure 7
23 inches (58.42 cm)	40 mm (1.54 inch)	Figure 8
	2.2-inch (5.59 cm)	
	3.1-inch (7.9 cm)	
	5-inch (12.7 cm) 6.5-inch (16.5 cm)	

1. If the rack width is 19 inches (48.26 cm) or ETSI (20.28 inches, 51.5 cm) and:

- a. Recess is 40 mm (1.54 inch) or 2.2-inch (5.59 cm) and cable is routed down. Mount the VCGs on the rack narrow flange using the same screw and hole position as used for the top mounting screw on the panel mounting bracket. Refer to [Figure 6](#).

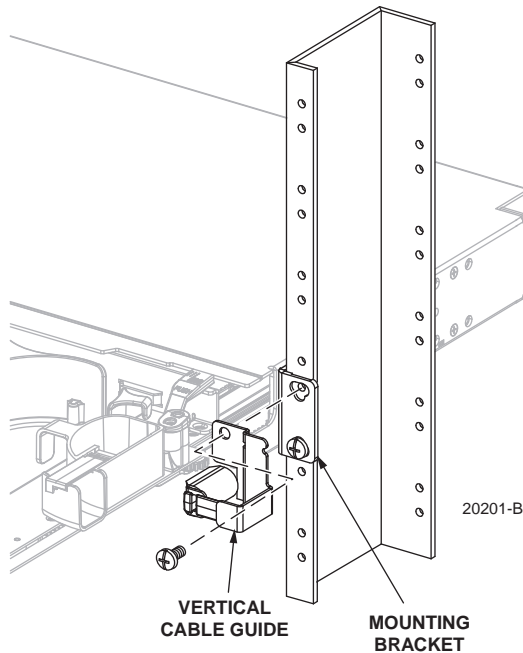


Figure 6. Installing VCGs, 40mm or 2.2-inch recess (19-Inch Rack Mount)

- b. Recess is 3.1-inch (7.9 cm), 5-inch (12.7 cm), or 6.5-inch (16.5 cm) and Mount the VCGs on the FMT using the VCG mounting bracket. Secure VCG and VCG mounting bracket to the FMT using the holes located at the front of the FMT. Refer to [Figure 7](#).
2. If rack width is 23 inches (58.42 cm) and is recessed mounted with cable routed down, mount the VCGs on the FMT using the VCG mounting bracket. Secure VCG and VCG mounting bracket to FMT using the holes located at the front of the FMT. Refer to [Figure 8](#).

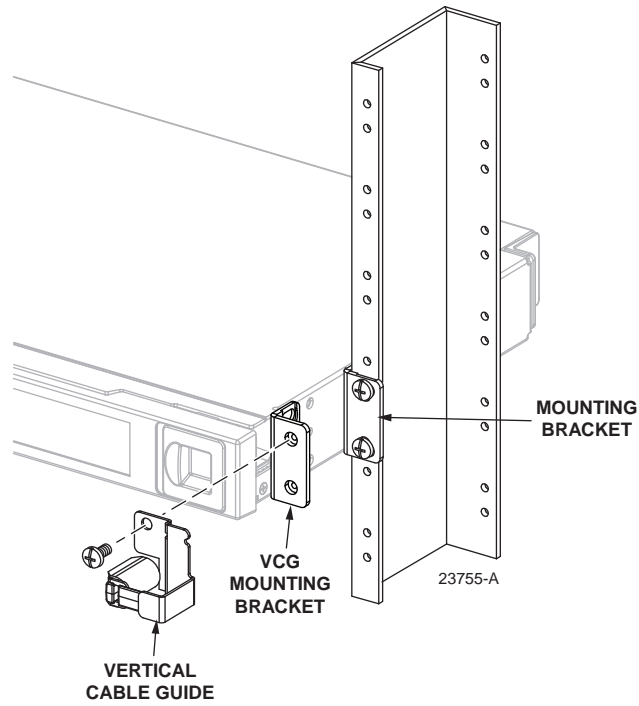


Figure 7. Installing VCGs, 3.1, 5, or 6.5-inch recess (19-Inch Rack Mount)

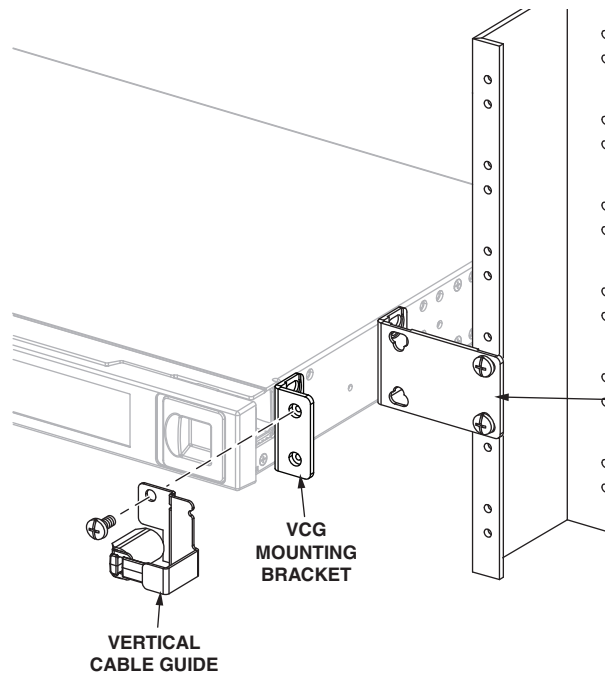


Figure 8. Installing VCGs, 3.1, 5, or 6.5-inch recess (23-Inch Rack Mount)

7 INSTALLING AND ROUTING CABLES



Danger: *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood MUST be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.*



Caution: *Placing a load in excess of 5 pounds (2.3 kg) onto an open tray will result in misalignment or damage to the tray.*

7.1 Routing and Securing Cables

The FMT may be configured to provide termination and storage, storage only, or termination and splice functions. For each configuration, the fiber optic cables or patch cords are routed to the FMT, installed within the sliding tray, and secured.

All cables enter the FMT through one of the two sliding entry points, located on the left and right sides of the FMT. When properly installed, the slack loop that forms when the FMT is closed is taken up within the FMT by movement of the sliding radius limiter.

[Figure 9](#) and [Figure 10](#) show typical cable routing. Prior to routing cables, review the installation procedure corresponding to the drawing provided with the panel. Then use the following guidelines for routing and installing the cables or patch cords:

1. Open the tray fully, the lock open latch will lock the tray in the open position (see [Subsection 8.1](#)).
2. Route the cables to the FMT. The cables may be routed from either overhead or under the floor and to the left or right side of the FMT depending on configuration requirements.
3. Secure the cable on the rack using a cable clamp such as shown in [Figure 9](#) and [Figure 10](#).
- ▶ **Note:** Install the cable clamp kit following the instructions provided in the installation drawing shipped with the kit. Ribbon blocking kits are available from ComScope in a variety of sizes to match any ribbon cable type.
4. Route the cables into the FMT through the specified sliding radius limiter(s).
5. Route and connect the cables within the FMT as required by the configuration. Refer to the installation procedure that corresponds to the FMT configuration.
6. Adjust the cables within the FMT until all excess slack is removed or stored.
7. Secure the cables to the back of the FMT at the rear tie-off point (see [Figure 9](#) and [Figure 10](#)). Note that a tie-off point is provided on both the left and right side.
8. Use the curly locks provided to bundle fibers together as needed.
9. Adjust the cable position with the cable clamp as required to remove excess slack.
10. Release the lock open latch and close the tray (see [Subsection 8.4](#)).

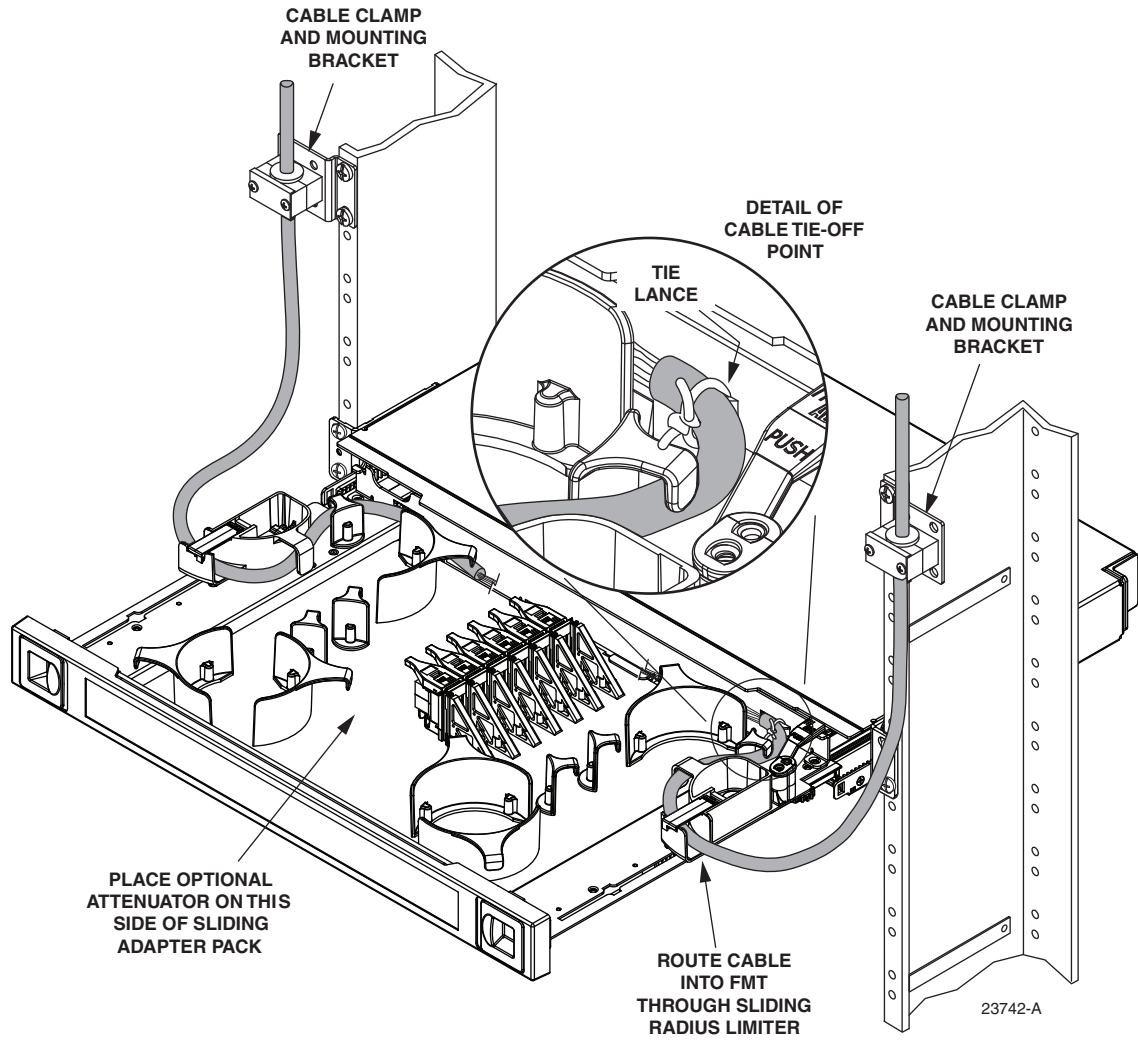


Figure 9. Routing and Securing Cable - Typical Configuration for IFC Stranded Cable

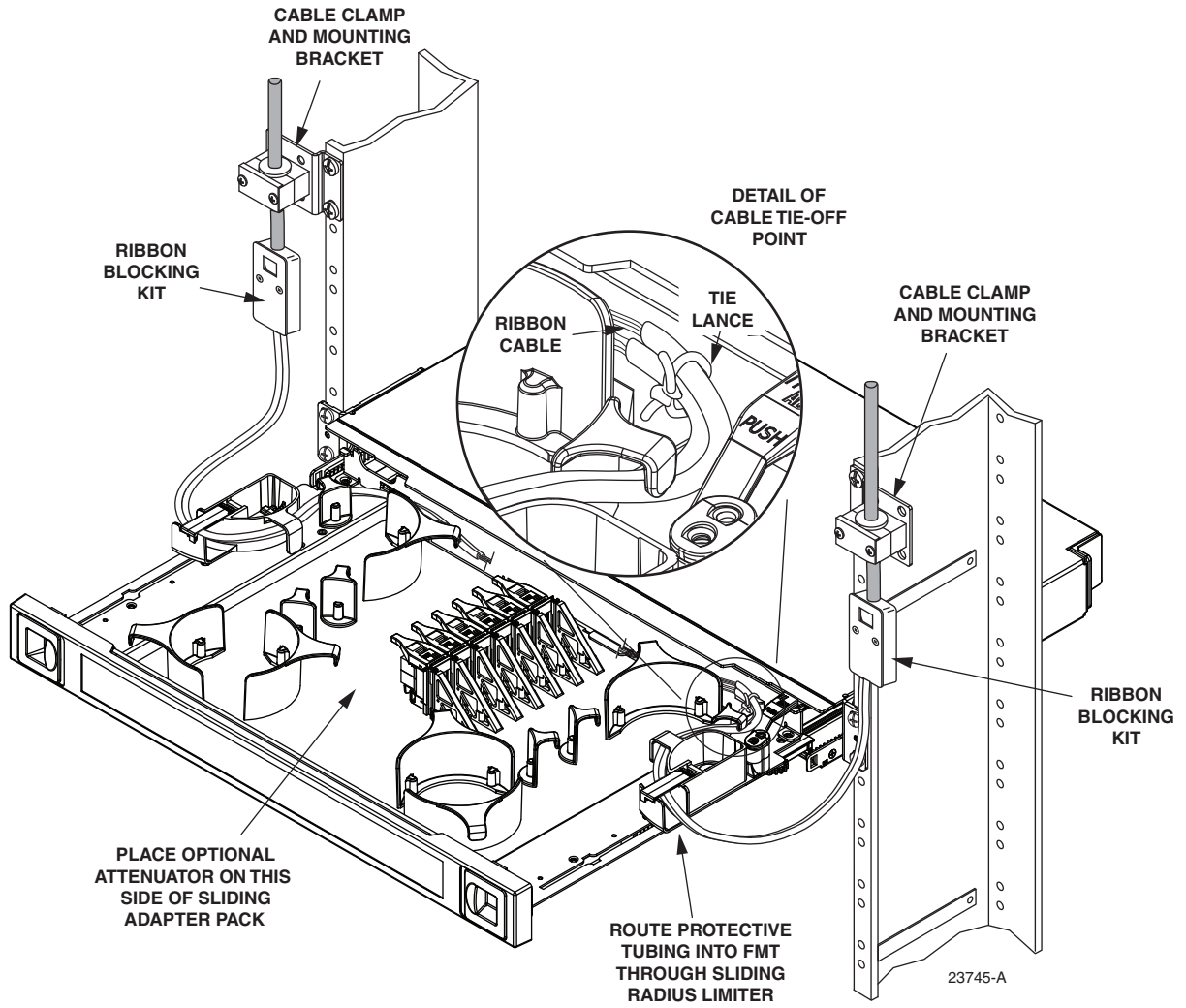


Figure 10. Routing and Securing Cable - Typical Configuration for Ribbon Cable

7.2 Attenuators

Attenuators decrease the optical power in a fiber by a specific or adjustable amount. Once the desired level of attenuation is determined, fixed attenuators may be inserted in the fiber optic line to deliver a precise output. Optional attenuators are installed on tab side of the sliding adapter packs. See [Figure 9](#).

7.3 12-Position Termination and Splice Tray

► **Note:** Splicing instructions are not included. For splicing instructions, follow local practice.

Termination and splice trays provide 12 termination and splice positions. Install the cables for a 12-position termination and splice tray as follows:

1. Break out the cable corresponding to the dimensions provided in [Figure 11](#).
2. Route the cables into the tray as shown in [Figure 12](#), and perform the splices outside the tray at an adjacent work area, as shown. Perform the splices following local practice. Refer to pigtail installation drawing (provided with FMT) for pigtail connection scheme.
3. Loop the cables three times around the radius limiters as shown in [Figure 13](#).

► **Note:** Tie off the cable at the tie off point shown in [Figure 13](#), using a one-inch section of soft wall jacket per the breakout dimensions shown in [Figure 11](#).

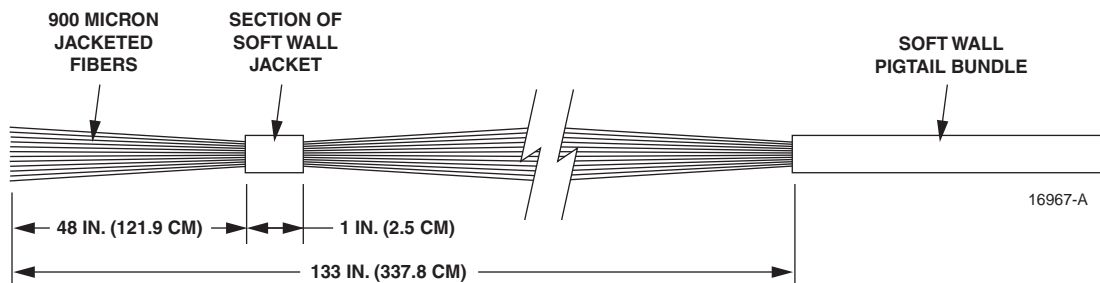


Figure 11. 12-Position Termination and Splice Tray Breakout Dimensions

4. Carefully position the tray within the splice area as shown in [Figure 14](#). Make certain that the pre-terminated and customer fiber bundles are properly routed around the appropriate radius limiters as they enter the FMT (see [Figure 14](#)).
5. Use the kurlly locks provided to bundle fibers together as needed. Place kurlly locks at locations indicated in [Figure 15](#).
6. Verify that the completed tray looks as shown (see [Figure 15](#)).

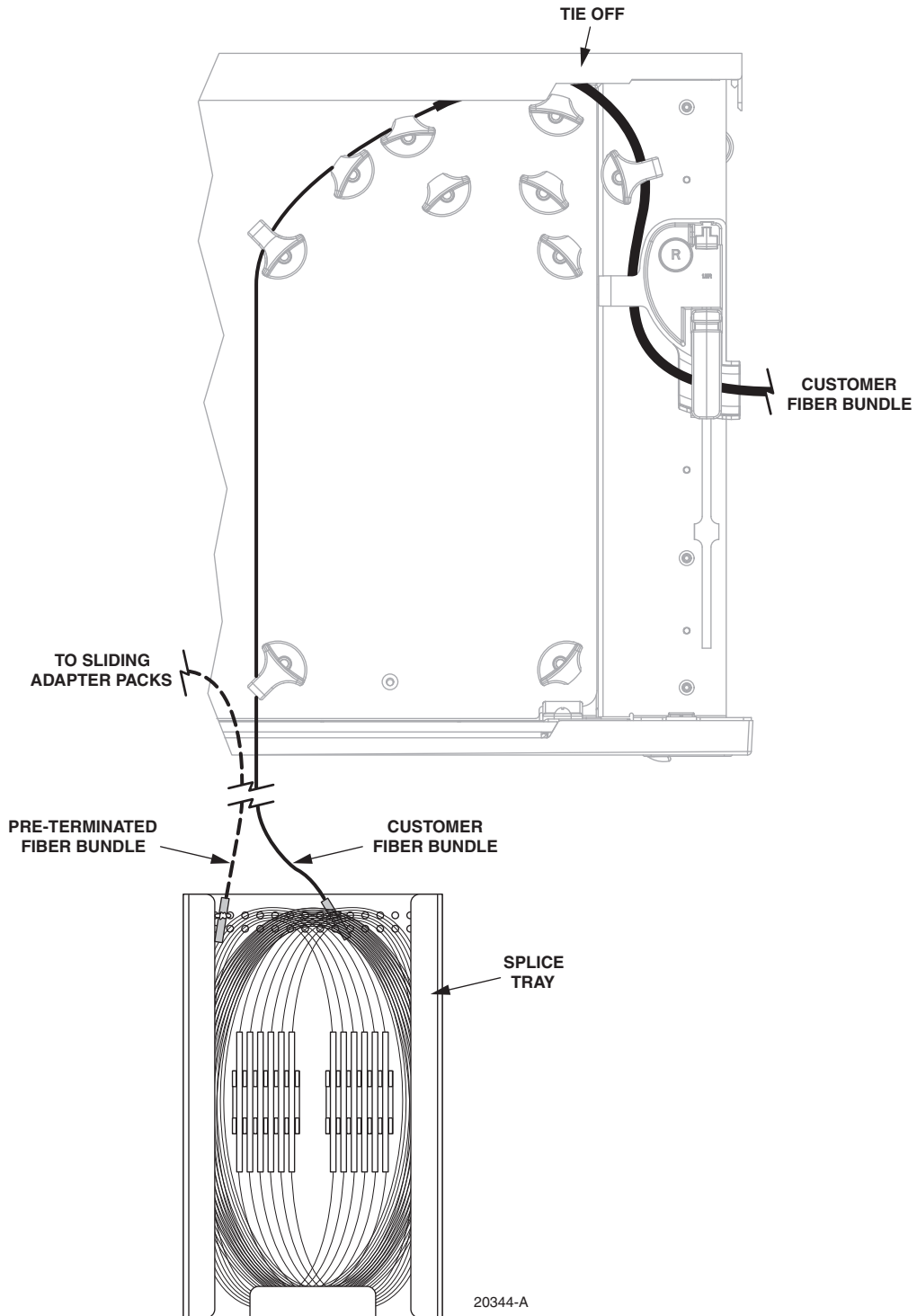


Figure 12. Cable Routing for 12-Position Termination and Splice Tray, Step 2

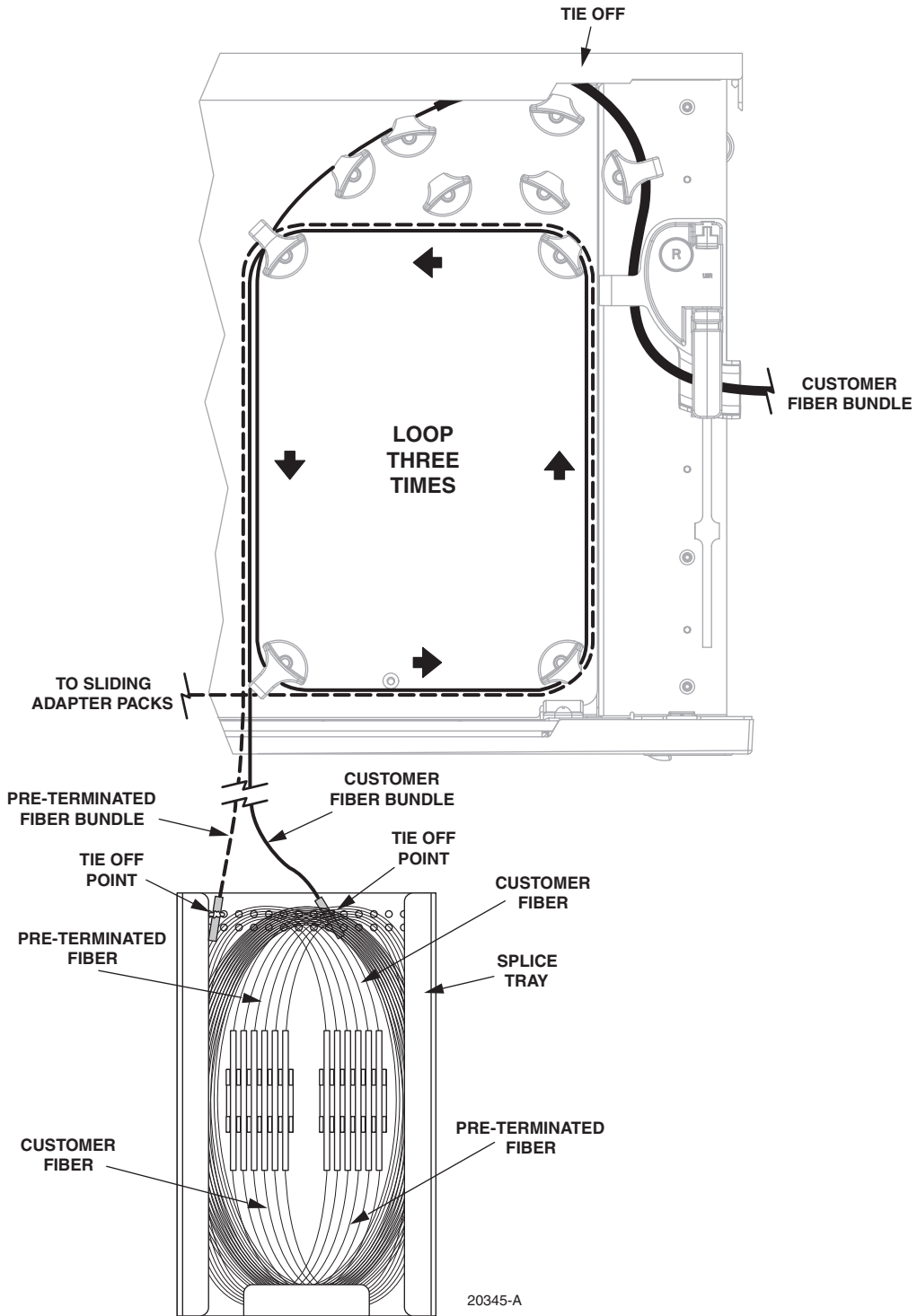


Figure 13. Cable Routing for 12-Position Termination and Splice Tray, Step 3

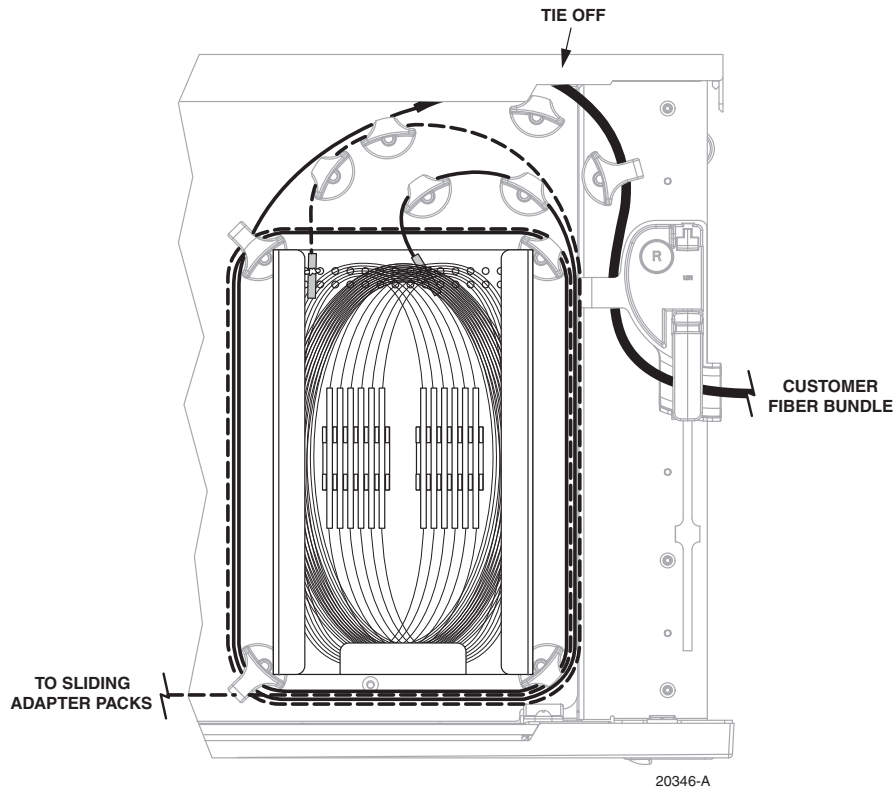


Figure 14. Cable Routing for 12 Termination and Splice Tray, Step 4

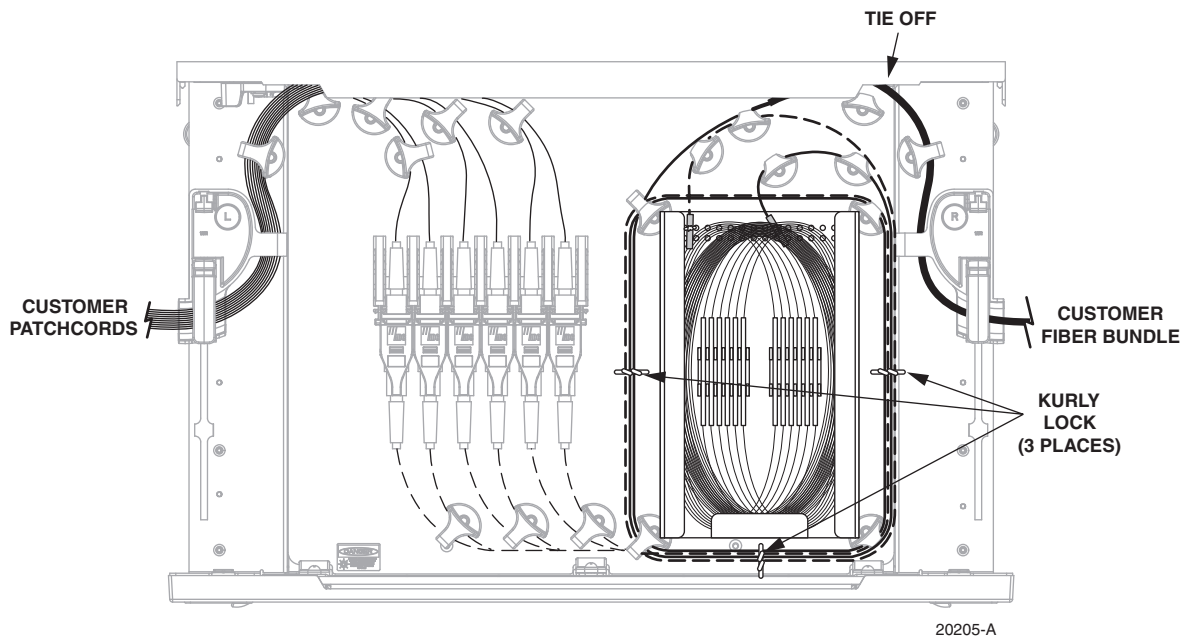


Figure 15. Completed Cable Routing for 12-Position Termination and Splice Tray

8 OPERATION

The term “operation” refers to procedures performed on an ongoing basis after the FMT is installed. The only FMT trays that require operation are those having a termination function. Patch cords may be installed in such trays for use in connecting or testing equipment. When routing patch cords, refer to the routing diagrams provided in [Section 7 Installing and Routing Cables](#). For instructions on accessing adapters, refer to the following instructions.

8.1 Opening Tray



Caution: *Placing a load in excess of 5 pounds (2.3 kg) onto an open tray will result in misalignment or damage to the tray.*

To open the FMT tray, slide the release tabs inward with both hands and pull the drawer straight out as far as it goes. The latch locks the tray in the open position as shown in [Figure 16](#).

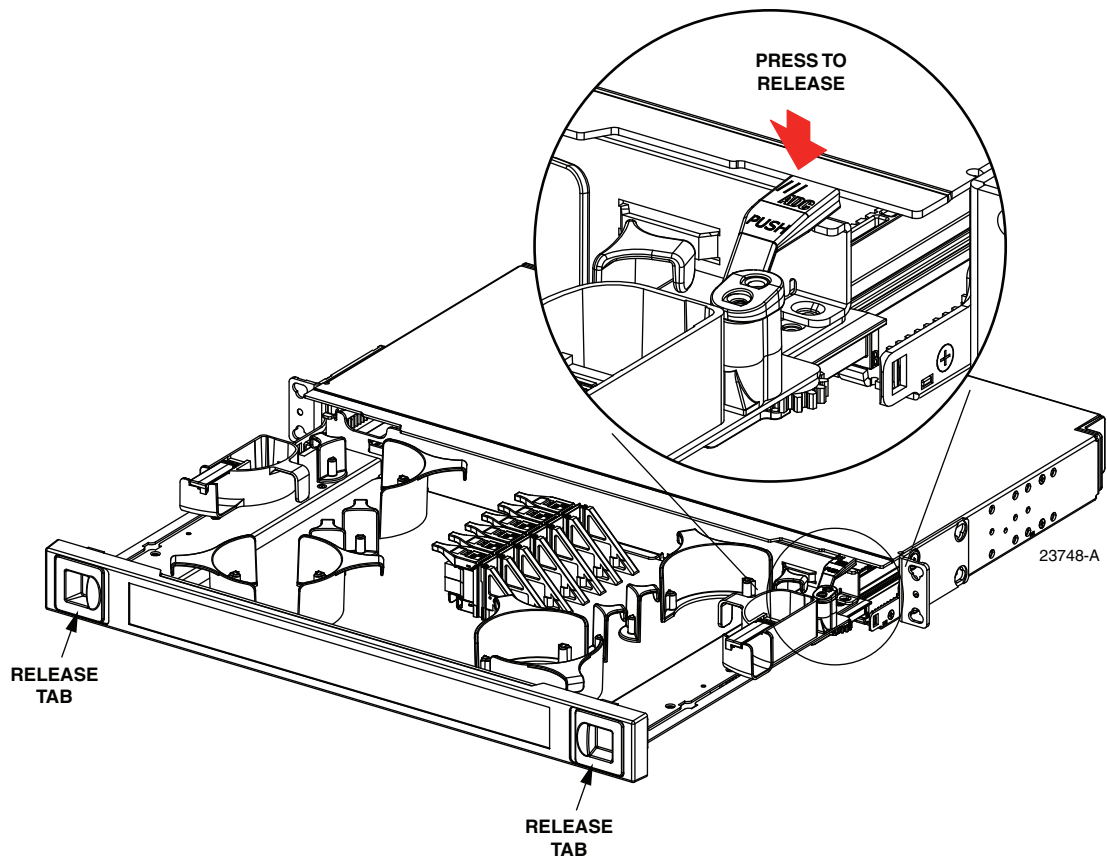


Figure 16. Tray Locked in Open Position

8.2 Accessing Sliding Adapter Packs



Danger: Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.

► **Note:** Always inspect connectors and adapters when connecting connectors to adapters. For cleaning procedures, refer to ADCP-90-139.

To access a sliding adapter pack (Figure 17):

1. Route the patch cord into the tray as shown in the appropriate diagram in [Section 7 Installing and Routing Cables](#).
2. Lift up the release tab and slide up the adapter pack.

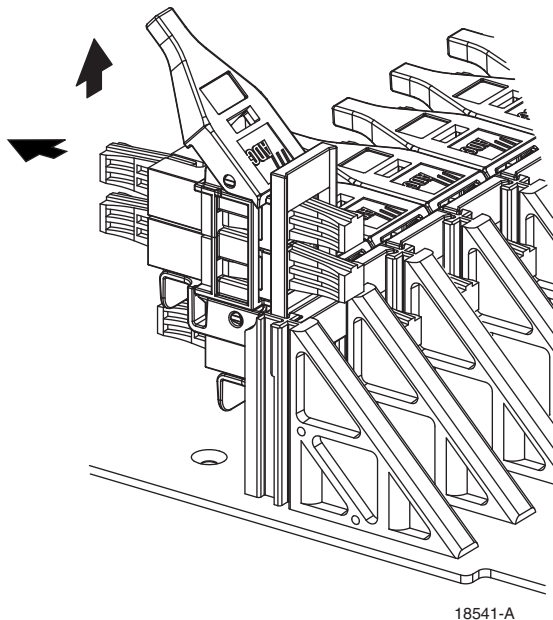


Figure 17. Removing Dust Cap From Sliding Adapter

3. Pull the dust cap straight out.
4. Connect the patch cord connector to the adapter.
5. Slide down the adapter back to its home position.
6. Close the tray.

8.3 Accessing Bulkhead Plate Adapters



Danger: *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood MUST be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.*

► **Note:** Always inspect connectors and adapters when connecting connectors to adapters. For cleaning procedures, refer to ADCP-90-139.

Use the following procedure to connect a patch cord to an FMT having bulkhead plate adapters:

1. Route the patch cord into the tray as shown in the appropriate diagram in [Section 7 Installing and Routing Cables](#).
2. Pull the dust cap straight out.
3. Connect the patch cord connector to the adapter.
4. Close the tray.

8.4 Closing the Tray

Close the tray using the following procedure:

1. If closing a tray with sliding adapter pack, fully lower and seat all adapter packs.
2. Assure that all cables and fibers are properly secured and located below the top surface of the tray.
3. Assure that all unused adapters are covered with dust caps.
4. Release the lock open latch (“unlocked position” shown in [Figure 16 on page 18](#)).
5. Slowly close tray, observing that no fiber kinks or microbends occur as a result of fiber routing.

9 CUSTOMER INFORMATION AND ASSISTANCE

- To find out more about CommScope® products, visit us on the web at www.commscope.com
- For technical assistance, customer service, or to report any missing/damaged parts, visit us at <http://www.commscope.com/SupportCenter>
- For information on patents, refer to <http://www.cs-pat.com>