



3RU/4RU Rapid Fiber Panel



Content	Page
INTRODUCTION	2
Trademark Information	2
Standards Certification	2
Admonishments	3
General Safety Precautions	3
RELATED PUBLICATIONS	3
1 DESCRIPTION	3
1.1 General Description	3
1.2 Basic Components	8
1.2.1 Panel Shell	8
1.2.2 RapidReel Cable Spool Tray	9
1.3 Specifications and Dimensions	11
1.4 Accessory Kits	12
1.5 Typical Application	13
	(continued)

Content	Page
2 UNPACKING AND INSPECTION	13
3 SHIP-ALONG PARTS	14
4 TOOLS AND MATERIALS REQUIRED FOR INSTALLATION	14
5 INSTALLING A RAPID FIBER PANEL WITHOUT EXTERNAL SPOOL	14
5.1 Mounting the Panel on the Equipment Rack.....	14
5.2 Removing the Latch Shipping Brackets.....	17
5.3 Unwinding Microcable from RapidReel Cable Spool Tray	20
6 INSTALLING A RAPID FIBER PANEL WITH EXTERNAL SPOOLS	25
6.1 Unwinding Microcable from the External Spools.....	26
6.2 Mounting the Panel Shell on the Equipment Rack	31
6.3 Mounting the RapidReel Cable Spool Trays in the Panel Shell.....	33
6.4 Unwinding Microcable from RapidReel Cable Spool Trays	37
7 MICROCABLE UNWINDING AND ROUTING ADDITIONAL GUIDELINES	41
7.1 Microcable Installed in Open Trough System	41
7.2 Microcable Pulled Through Conduit	45
8 BULKHEAD ADAPTER ACCESS PROCEDURE AND SERIAL NUMBER LOCATIONS.....	49
8.1 Accessing the Bulkhead Adapter Rear Connectors.....	49
8.2 Panel Shell, RapidReel Cable Spool Tray, and Microcable Labels	50
9 OPERATION.....	52
9.1 Connecting Patch Cords	52
9.2 RapidReel Cable Spool Tray Positions and How to Use Them	53
10 TECHNICAL ASSISTANCE	54

INTRODUCTION

This manual describes the 3 and 4 Rack Unit (3RU/4RU) Rapid Fiber Panel with RapidReel technology. Both models have a total capacity of 144 optical ports, and are available with singlemode RBR, multimode OM4 plenum-rated, or indoor/outdoor (I/O) cable. Panels with a cable length exceeding the capacity of the RapidReel cable spool trays have external spools. This manual tells how to install and operate the Rapid Fiber Panel.

Trademark Information

CommScope, CommScope (logo), Rapid Fiber, and RapidReel are trademarks. All rights reserved.

Standards Certification

Telcordia: Designed and tested to meet NEBS Level 3, GR-1435-CORE, and GR-326-CORE.

Admonishments

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. Admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times.



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



Caution: *When mounting equipment in the frame, make sure mechanical loading is even to avoid a hazardous condition, such as loading heavy equipment in the frame unevenly. The frame should safely support the combined weight of all equipment it supports.*

RELATED PUBLICATIONS

Listed below are related manuals and their publication numbers. Manuals can be downloaded from <http://www.commscope/SupportCenter>

Title/Description	Publication Number
Optical Fiber Connector Wet and Dry Cleaning Instructions	90-159
Multifiber-Push on Assembly Connector Cleaning Instructions	90-150
NG4access ODF Platform Rear Side Routing Guide	90-706

1 DESCRIPTION

1.1 General Description

- **Note:** Rapid Fiber Panel is designed to be installed in an environmentally controlled network telecommunications facility such as a central office, controlled environmental vault, or data center. Only the I/O cable is rated for both indoor and outdoor use.

The 3RU/4RU Rapid Fiber Panel is a rack-mountable fiber distribution panel that incorporates CommScope's RapidReel fiber cable spool tray. The 3RU panel has a total capacity of 144 optical ports. The 4RU panel has a total capacity of 288 optical ports.

[Figure 1](#) shows the 3RU panel. [Figure 2](#) shows the 4RU panel.

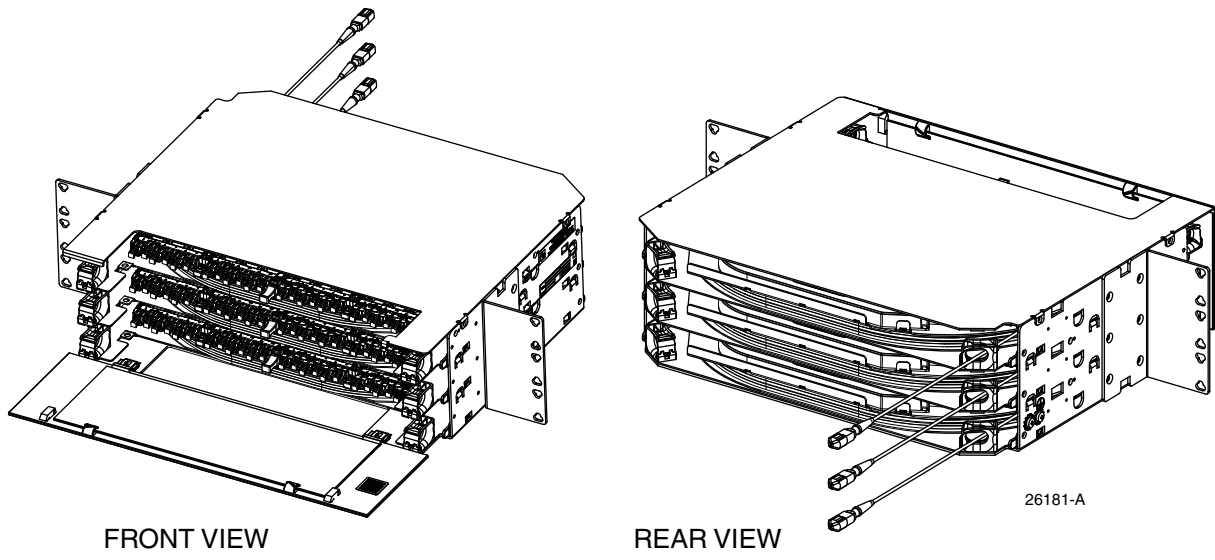


Figure 1. 3RU Rapid Fiber Panel

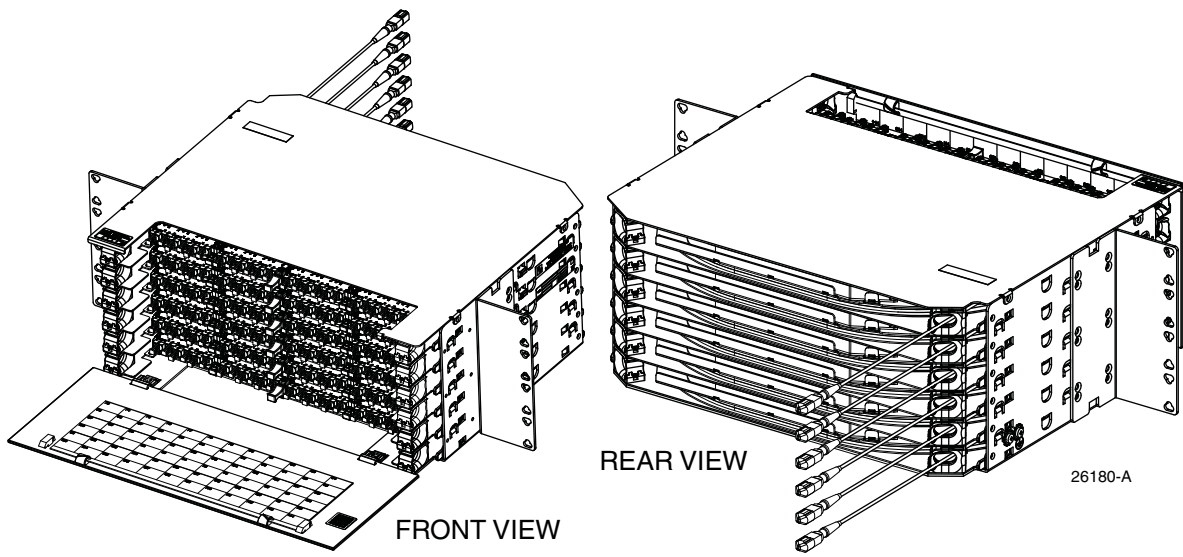


Figure 2. 4RU Rapid Fiber Panel

The Rapid Fiber Panel of a metal panel shell plus three or four RapidReel cable spool trays that are mounted within the panel shell.

The RapidReel cable spool tray is equipped with an integral adapter bulkhead and is wound with either a singlemode or multi-mode indoor plenum-rated cable or indoor/outdoor cable. The spooled cable is preterminated to the bulkhead on the rear side.

► **Note:** Plenum-rated cable may be used in both riser-rated and plenum environments.

On a more specific level, the Rapid Fiber Panel shipped to the customer will vary depending on the options ordered, as follows:

- The shipped panel will be equipped with up to four 12-fiber indoor plenum-rated microcables per RapidReel cable spool tray. This will be singlemode G657.A2 reduced bend radius (RBR), multimode OM4 microcable, or indoor/outdoor microcable.
- The optical fibers that connect internally to the adapter bulkhead will be terminated, accordingly, with single-mode SC (UPC or APC), single-mode LC (UPC or APC), multimode SC (UPC), or multimode LC (UPC) connectors.
- The spooled cable that is paid out at the installation site will be terminated on the far end with a 12-fiber single-mode or multimode microcable with any of the following per customer order:
 - Stub non-functional connector.

► **Note:** Microcables with stub end non-functional connectors look the same as microcables with MPO connectors. Like MPO connectors, they are housed inside of black pulling eyes; however, non-functional connectors are not optically terminated. They are crimped to the cable jacket and strength member yarns. Non-functional connectors are cut off after the cable has been fully unwound from the spool and is ready to be spliced.

- MPO connector.
- NG4access cabled module (CMOD): either 24-fiber module/s with single-mode LC (UPC or APC) or multimode LC (UPC); or 12-fiber module/s with single-mode SC (UPC or APC) or multimode SC (UPC).
- Breakout: 12 fibers, 2 mm or 900 micron in diameter, up to nine feet (2.74 m) in length, terminated with 12 individual connectors. These will be single-mode SC (UPC or APC), single-mode LC (UPC or APC),

Each cable spool tray with plenum rated cable holds up to 200 feet of cable. Cable lengths of up to 1000 feet are possible using a temporary external spool attached to the cable spool tray. For shipment the cable spool trays and external spools are stacked on a pallet as shown in [Figure 3](#). The cable spool trays are shipped in individual boxes such as shown, with each box attached to the top of an external spool.

Not shown in [Figure 3](#) is the panel shell, which is shipped in a box on top of the stacked cable spool trays and external spools. The cable spool trays can be installed in the panel shell from front or rear side, as shown in [Figure 4](#).

A carousel for unwinding the external spools is also provided. The carousel allows the microcable on the external spools to be paid out together with the cable spool trays still mounted on the pallet.



Figure 3. Cable Spool Trays and Externals Spools Stacked on Pallet

NOTE: IF THE MICROCABLE ROUTES FROM THE FRONT, INSERT THE CABLE SPOOL TRAY FROM THE FRONT. IF THE MICROCABLE ROUTES FROM THE REAR, INSERT THE CABLE SPOOL TRAY FROM THE REAR. (WHEN INSTALLING THE TRAY INTO A 4RU PANEL SHELL, IT MAY BE NECESSARY TO LIFT THE UPPER TRAY TO ALLOW THE TRAY TO SLIDE IN.)

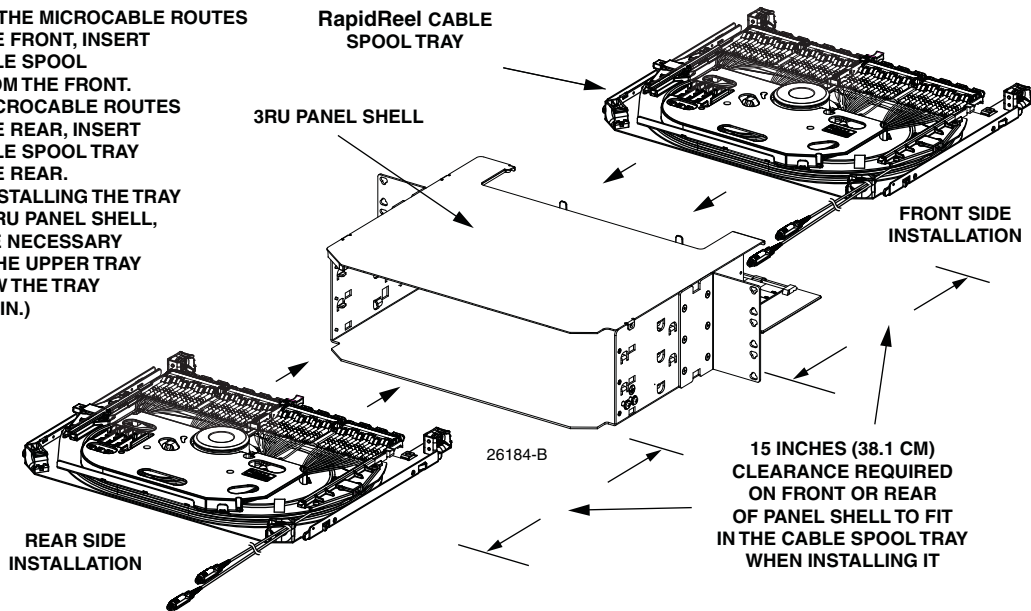


Figure 4. RapidReel Cable Spool Tray and Panel Shell

- ▶ **Note:** Before installing the spool tray, verify that the adapter bulkhead is in the payout position. For further details, refer to [Topic 9.2 on Page 53](#).

When all of the microcable has been unwound from the external spool, the RapidReel cable spool tray is removed from the shipping box and then installed in the panel. The cable remaining on the cable spool tray may then be unwound and routed to an Optical Distribution Frame (ODF) or fiber panel.

A cable spool locking tab that protrudes through the panel shell when the panel is in an operating position holds the RapidReel cable spool tray in a fixed position with the bulkhead adapter panel facing toward the front. When the locking tab is retracted (by sliding in the tray), the bulkhead adapter panel rotates with the tray to prevent the cable from twisting. Cable slack is stored on the spools. The microcable may be withdrawn from either the front or rear side of the panel shell.

Each RapidReel cable spool tray is equipped with an integral adapter bulkhead and is wound with a singlemode or multi-mode indoor plenum rated cable. The bulkhead is pre-loaded with adapter packs. The spooled cable is preterminated to the same bulkhead on the rear side.

The Rapid Fiber Panel mounts in either a 19- or 23-inch, WECCO or EIA, equipment rack and requires 1.75 inches of rack space per RU. A grounding point is provided on the left side of the panel shell for connecting a two-hole grounding lug.

- ▶ **Note:** If a Rapid Fiber Panel is installed above or below a non-Rapid fiber panel, 1RU of open space must be left between the panels. This space is required for accessing the rear connectors if cleaning is required.
- ▶ **Note:** When mounting multiple Rapid Fiber Panels into a rack or cabinet, be sure to calculate the total weight of all the equipment being mounted to verify it does not exceed the rack or cabinet manufacturer's maximum weight allowance. In Zone 4 Earthquake applications, exceeding the weight rating can compromise the integrity of the rack during an earthquake.

1.2 Basic Components

The Rapid Fiber Panel has two high-level components: the panel shell and the RapidReel cable spool tray. These components are described in the following topics.

1.2.1 Panel Shell

The panel shell (Figure 5) provides a mounting point for the RapidReel cable spool tray.

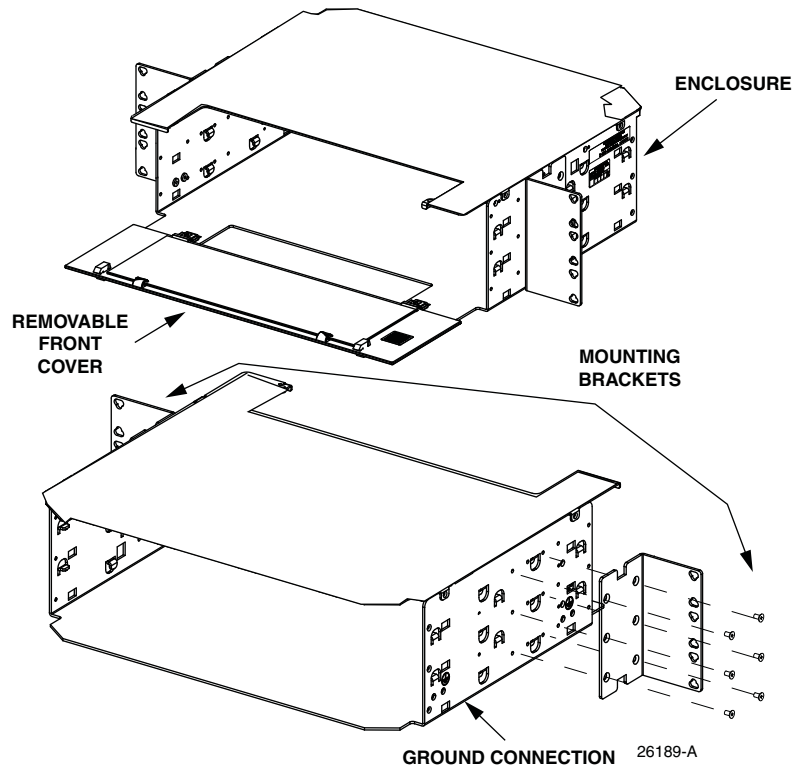


Figure 5. Panel Shell (3RU Shown)

The panel shell consists of the following components:

- **Enclosure** – Houses RapidReel cable spool trays and protects the microcable assemblies.
- **Removable Front Cover** – Protects the equipment patch cords at the point where they enter the panel and connect to the adapter bulkhead. One or two designation card are attached to inside of cover providing a means for identifying and recording connections.
- **Ground Connection** – Provides a point for securing a two-hole lug (used for connecting a grounding cable) to the side of the enclosure.
- **Mounting Brackets** – Secure the panel shell to the equipment rack. Two sets of mounting brackets are provided, one set for 19-inch racks and one set for 23-inch racks. The mounting brackets may be installed to provide a 2-, 4-, or 5-inch recess.

- ▶ **Note:** The factory pre-installs the 23-inch mounting brackets on the panel in the 5-inch recess position. If a 2- or 4-inch recess is required, the brackets must be removed and repositioned. If the panel will be installed in a 19-inch rack, the 23-inch brackets must be removed and replaced with the 19-inch brackets.

1.2.2 RapidReel Cable Spool Tray

The 3RU Rapid Fiber Panel has three RapidReel cable spool trays. The 4RU Rapid Fiber Panel has six RapidReel cable spool trays. Each tray consists of the components shown in [Figure 6](#).

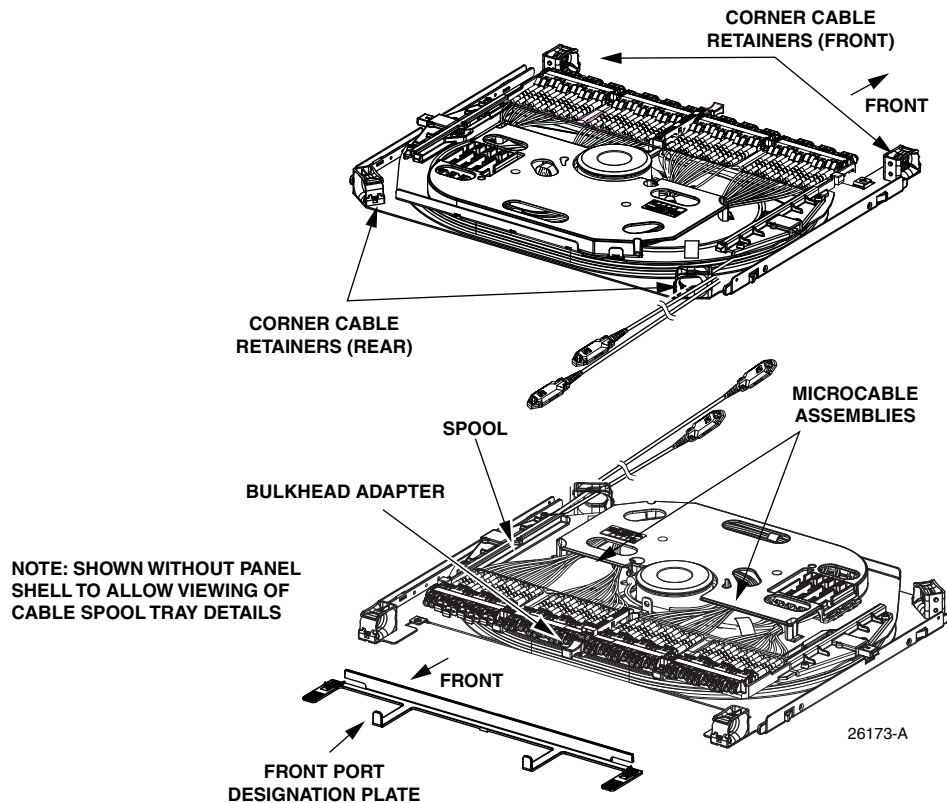
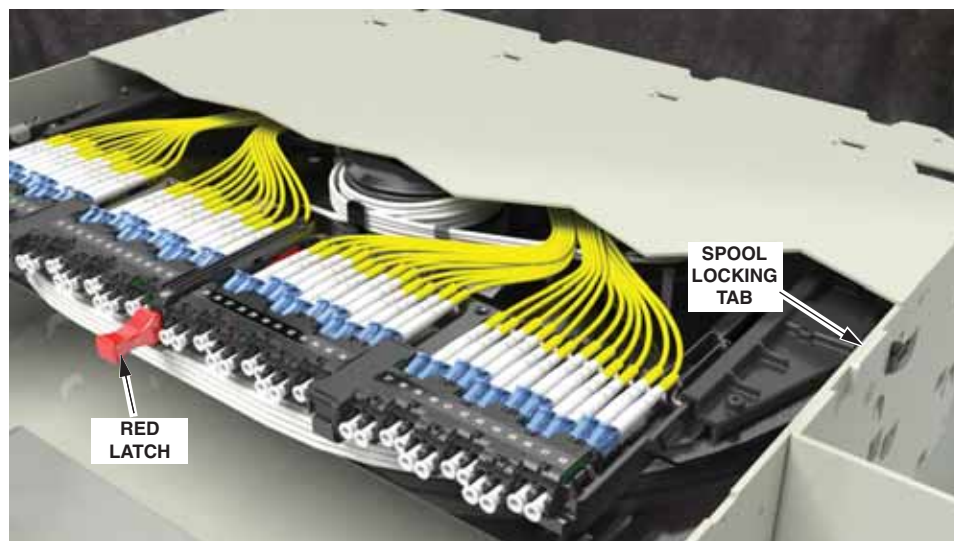


Figure 6. RapidReel Cable Spool Tray (Shown Without Panel Shell or External Spool)

The components shown are as follows:

- **Corner Cable Retainers** – Provide cable management and radius limiting functions for patch cords routed to the adapter bulkhead and for spooled cables routed to an Optical Distribution Frame (ODF) or fiber panel.
- **Spool** – Stores microcable. The 3RU spool can store up to 200 feet of cable when loaded with one dual 3.0 mm plenum cable or one 12-fiber I/O cable. The 4RU spool can store up to 100 feet when loaded with one dual 3.0 mm plenum cable, one 12-fiber plenum or I/O cable, or one 24-fiber plenum cable. When the spool is unwound, the cables are routed to an ODF or fiber panel. Excess slack may be wound back onto the spool.

- **Adapter Bulkhead** – Provides a point for connecting the equipment patch cords to the cable assemblies.
- **Front Port Designation Plate** – Identifies the optical port numbers on the adapter bulkhead. The designation plate must be removed before the cables can be unwound from the spool.
- **Red Latch** – (Shown in [Figure 7](#)) is used to engage and disengage the spool locking tab to allow the internal spool to rotate and to actuate the inner linkage to allow the cable spool tray to be slid inward or outward into three positions: operation (home); cable payout (inward); and full connector access (outward). For a description of tray positions, refer to [Topic 9.2 on Page 53](#).
- **Spool Locking Tab** – (Shown in [Figure 7](#)) is a black tab that protrudes from the panel shell when the cable spool tray is in the operation (home) position. For a description of tray positions, refer to [Topic 9.2 on Page 53](#).



26178-A

Figure 7. Red Latch and Spool Locking Tab

- **Microcable Assemblies** – Are loaded into each panel based on customer order. Options for a particular panel include either single 12-fiber microcables or a dual microcable consisting of two 12-fiber subunits. The microcables may be either single-mode reduced bend radius (RBR) or multimode.

The internal cable ends may be terminated with single-mode SC (UPC or APC), single-mode LC (UPC or APC), multimode SC (UPC), or multimode LC (UPC) connectors. The external cable ends may be terminated with connector fanout assemblies, NG4access cabled modules, MPO connectors, or stub end non-functional connectors.

The fanout assemblies will be 12-fiber single-mode SC (UPC or APC), single-mode LC (UPC or APC), multimode SC (UPC), or multimode LC (UPC). The NG4access cabled modules will be either one 24-fiber LC module (UPC or APC) or two 12-fiber SC modules (UPC or APC). The MPO connectors are of 12-fiber construction and equipped with a

pulling eye for use in paying out the cable. The stub end non-functional connectors are of similar construction and appearance as MPO connectors, and also equipped with pulling eyes, only the connectors are not connected optically and are designed to be cut off after the cable is paid out. Each fanout assembly and NG4access cabled module is equipped with a pulling sock.

1.3 Specifications and Dimensions

Table 1 lists specifications the 3RU and 4RU Rapid Fiber Panel. Figure 8 shows dimensions.

Table 1. Rapid Fiber Panel Specifications

PARAMETER	SPECIFICATION	REMARKS
Mechanical		
Dimensions (HxWxD)		
3RU	5.25 x 17.42 x 14.73 in.	(13.3 x 44.24 x 37.4 cm)
4RU	7.0 x 17.42 x 14.73 in.	(17.8 x 44.24 x 37.4 cm)
Weight		
3RU	26.5 lb. (12.0 kg)	With 100 ft. of two dual 12-fiber microcables or with 200 feet of one dual 12-fiber microcable
4RU	37.7 lb. (17.1 kg)	With 100 feet of dual 12-fiber microcable or with 75 feet of single 24-fiber microcable
Mounting rack	19-inch or 23-inch	EIA or WECCO
Recess options	2, 4, or 5 inches (5.08, 10.16, or 12.7 cm)	
Number of ports per RU	12 (SC or LC), 24 (SC or LC), or 48 LC	
Front panel connectors		
3RU	SC (72 fibers maximum); LC (144 fibers maximum)	
4RU	SC (144 fibers maximum) or LC (288 fibers maximum)	
Microcable	Single-mode RBR, multimode OM4, or Indoor/Outdoor	
Maximum pull force	40 lbs. (18.14 kg)	
Pulling eye diameter (MPO connector)	0.72 in. (1.83 cm)	2 pulling eyes can be pulled through a 1.1 in. (2.8 cm) diameter opening
Microcable far-end connectors	MPO, stub, fanout with SC or LC (24 fibers maximum)	MPO (receptor); single-mode SC (UPC or APC); single-mode LC (UPC or APC); multimode SC or LC (UPC)
	NG4access LC cabled module	one 24-fiber LC (UPC or APC); or two 12-fiber SC (UPC or APC)

Table 1. Rapid Fiber Panel Specifications, continued

PARAMETER	SPECIFICATION	REMARKS
Environmental		
Operating conditions	+23°F to +131°F (-5°C to +55°C) 5% to 85% RH	No condensation
Storage conditions	-40°F to +158°F (-40°C to +70°C) 10% to 95% RH	No condensation

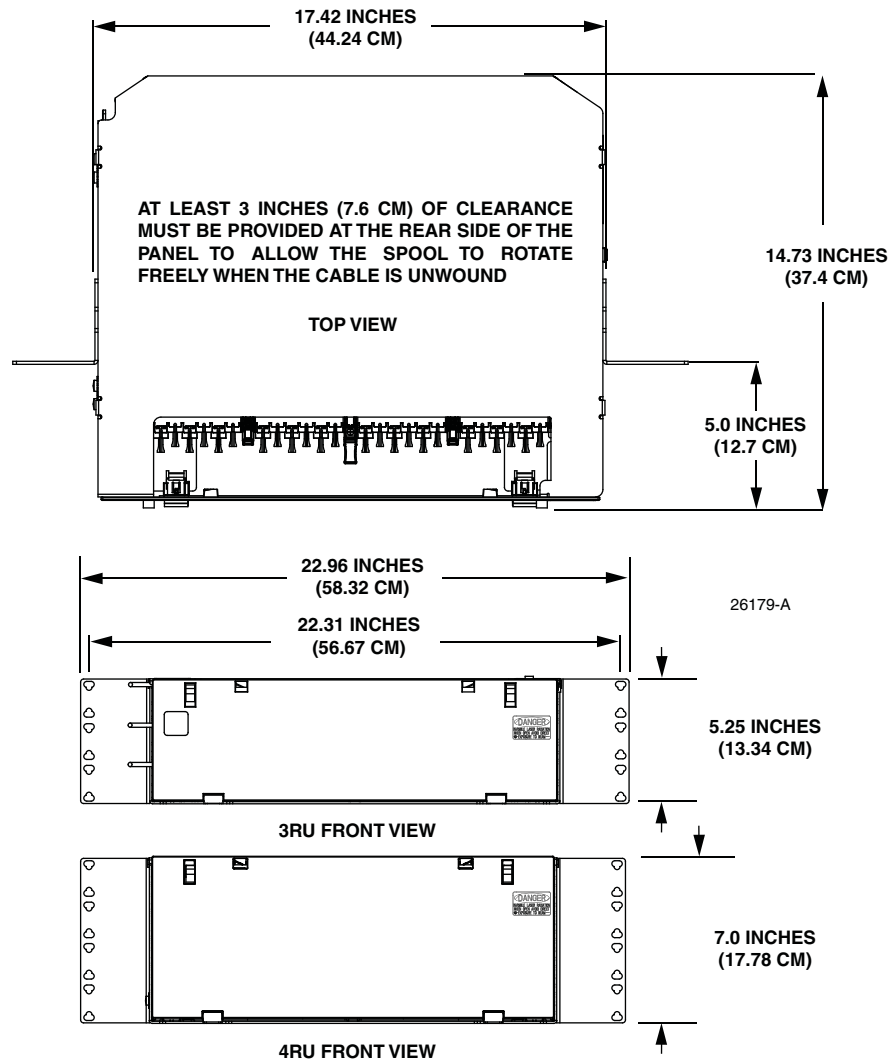


Figure 8. 3RU and 4RU Rapid Fiber Panel Dimensions

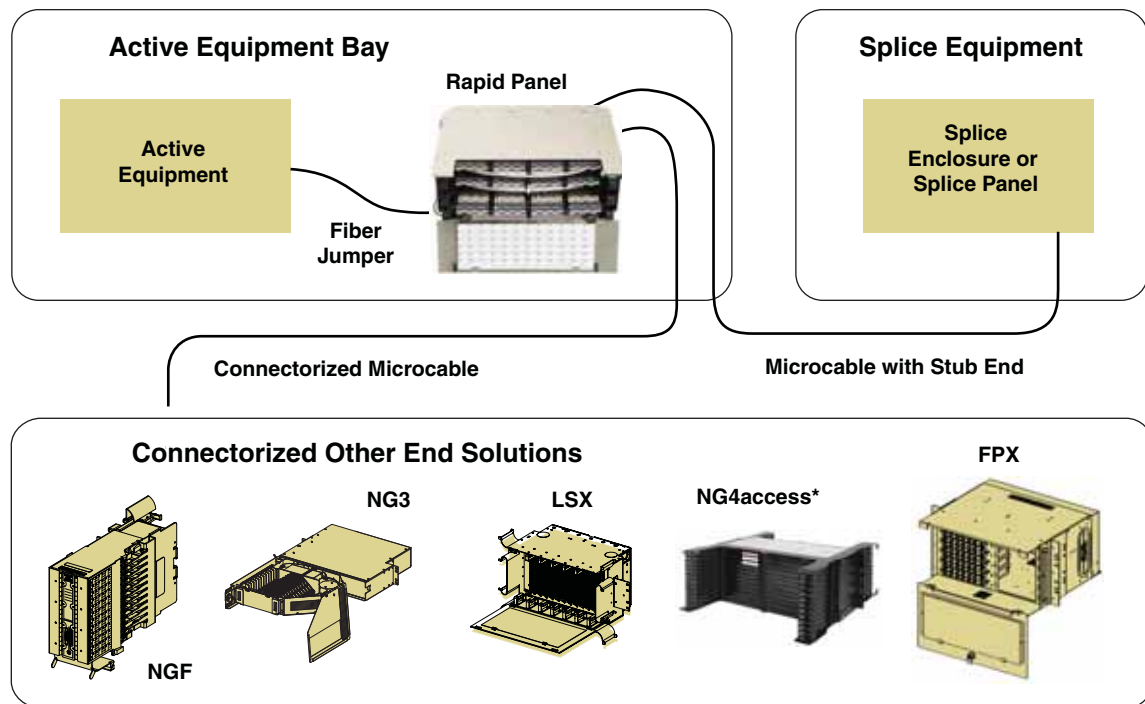
1.4 Accessory Kits

For cables equipped with 12-connector fanout assemblies, kits are available for securing the fanouts to an Optical Distribution Frame including NGF, NG3, LSX, FCM, and NG4access. A universal kit is also available for attaching 9 foot long 2 mm fanout assemblies to a Glide or interbay management panel.

1.5 Typical Application

Figure 9 shows a typical application for the Rapid Fiber Panel. In the example shown, the Rapid Fiber Panel is installed adjacent to an active equipment rack. In the example shown, the Rapid Fiber Panel is installed adjacent to an active equipment rack.

The Rapid Fiber Panel microcables are unwound from the spool and routed to an “other end” solution such as a termination panel or splice panel. The termination panel in this configuration could be a NGF, NG3, LSX, or NG4access panel in an Optical Distribution Frame or a stand-alone FPX panel. Fiber jumper patch cords are used to connect the Rapid Fiber Panel to the active equipment.



*See NG4access Optical Distribution frame (ODF) Platform catalog (314120AE Rev 9/12)
See 109156 Rev 9/10

26214-A

Figure 9. Typical Rapid Fiber Panel Application

2 UNPACKING AND INSPECTION

1. Before installing the product, open the shipping carton(s) and carefully unpack the contents.
2. Check the panel for damages or missing ship-along parts (per the list provided in [Topic 3](#)). If there are damages, contact TE Connectivity for an RMA (Return Material Authorization) and to reorder if replacement is required.

3 SHIP-ALONG PARTS

- 19-inch mounting brackets
- Front port designation plates (3RU 3X, 4RU 6X)
- #12-24 mounting screws (4)
- #12-24 lock washers (4)
- #10-32 screws (4) and lock washers (4)

4 TOOLS AND MATERIALS REQUIRED FOR INSTALLATION

- #1 Phillips screwdriver; #2 Phillips screwdriver
- Torque wrench with #1 and #2 Phillips screwdriver bits
- 2-hole grounding lug (0.625 inch hole spacing)
- Equipment and supplies for connecting the panel to the local facility ground bus
- Equipment and supplies for cleaning SC and/or LC connectors
- Equipment and supplies for cleaning MPO connectors (if ordered)

5 INSTALLING A RAPID FIBER PANEL WITHOUT EXTERNAL SPOOL

There are three main activities involved in installing a Rapid Fiber Panel without an external spool: mounting the panel on an equipment rack, removing the latch shipping bracket, and unwinding the RapidReel cable spool tray.

- ▶ **Note:** The Rapid Fiber Panel is designed to be installed in an environmentally controlled network telecommunications facility such as a Central Office, Controlled Environmental Vault, or Data Center. Only the I/O cable is rated for both indoor and outdoor use.
- ▶ **Note:** If a Rapid Fiber Panel is installed above or below a non-Rapid fiber panel, 1RU of open space must be left between the panels. This space is required for accessing the rear connectors if cleaning is required.
- ▶ **Note:** When mounting multiple Rapid Fiber Panels into a rack or cabinet, be sure to calculate the total weight of all the equipment being mounted to verify that it does not exceed the rack or cabinet manufacturer's maximum weight allowance. In Zone 4 Earthquake applications, exceeding the weight rating can compromise the integrity of the rack during an earthquake.

5.1 Mounting the Panel on the Equipment Rack

Use the following procedure to mount the panel.

1. If mounting a 3RU panel, remove the three foam shipping inserts from the rear side of the panel, as shown in [Figure 10](#), and discard.

- ▶ **Note:** The foam shipping inserts are not present in a 4RU panel.

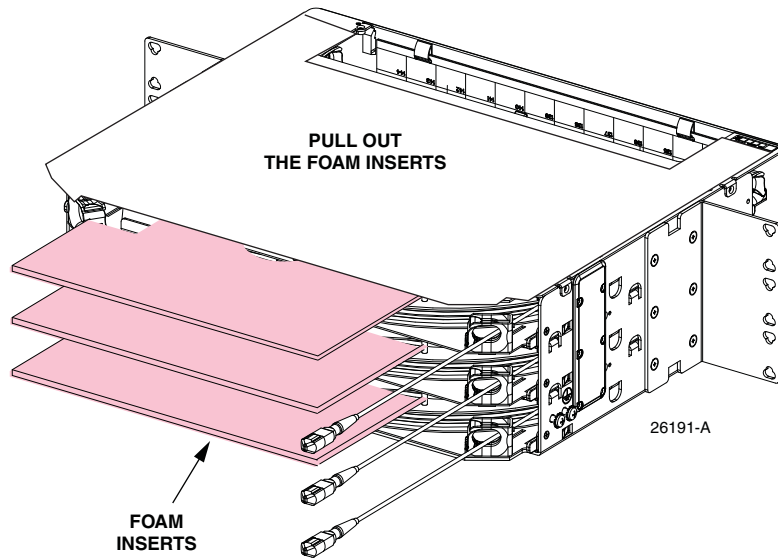


Figure 10. Removing Foam Shipping Inserts

- Determine if the rack or cabinet width is 19 or 23 inches. Also, determine recess required (2, 4, or 5 inches) for mounting the panel. Refer to [Figure 11](#).

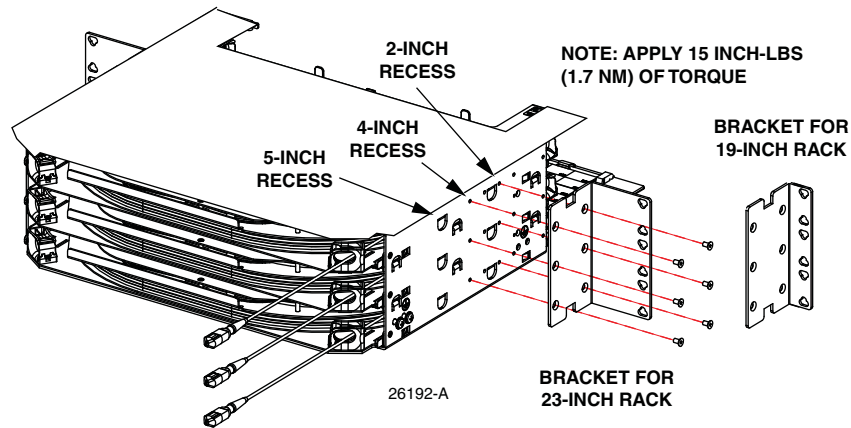


Figure 11. Removing the Mounting Brackets

- If the panel is being installed in a 23-inch rack or cabinet in other than the 5-inch recess position, remove the 23-inch mounting brackets and re-install them at the required (2- or 4- inch) recess position. Tighten screws to the torque specification shown in [Figure 11](#).
- If the panel is being installed in a 19-inch rack or cabinet, remove the 23-inch mounting brackets and install 19-inch brackets at the required recess (2, 4, or 5 inches) position, as shown in [Figure 11](#). Tighten screws to the torque specification shown in [Figure 11](#)
- Secure the panel to the rack or cabinet using the four #12-24 screws and #12-24 lock washers provided (per local practice) as shown in [Figure 12](#).

- ▶ **Note:** When mounting the panel, provide at least 3 inches (7.6 cm) of clearance at the panel's rear side, as shown in [Figure 12](#) to allow the spool to rotate freely when unwound.

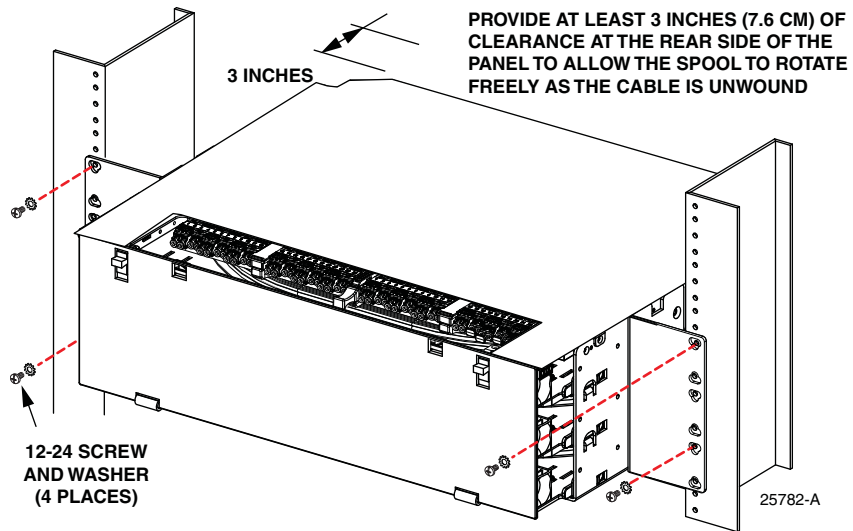


Figure 12. Mounting the Panel in a Rack

6. Connect a grounding wire to the panel in either of the two locations shown in [Figure 13](#) using the two screws and star washers provided. A two-hole grounding lug (not provided) is recommended for this connection.
- ▶ **Note:** Ground the unit to the local facility CBN (Common Bonding Network) or IBN (Isolated Bonding Network) per local practice.



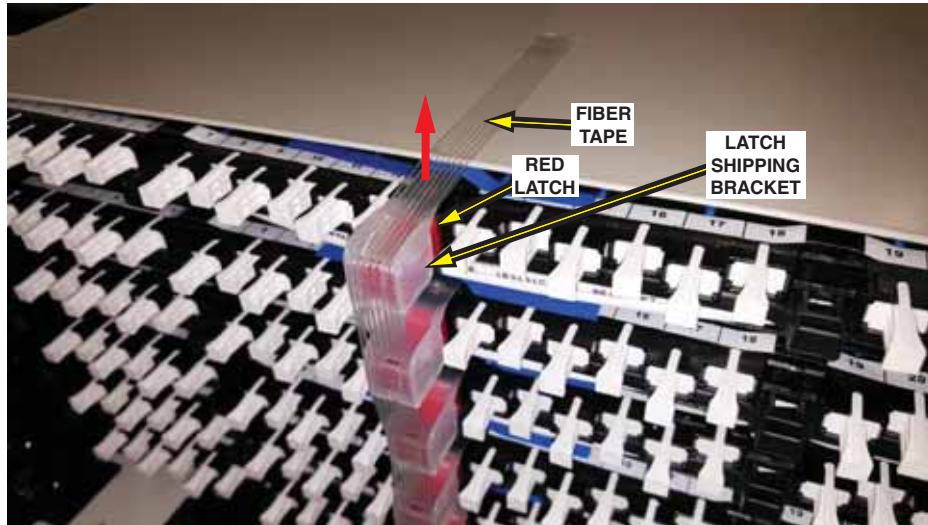
Figure 13. Grounding the Rapid Fiber Panel

5.2 Removing the Latch Shipping Brackets

Plastic latch shipping brackets such as shown in [Figure 14](#) are used to prevent damage during shipping to the red latches on the cable spool trays.

When a latch shipping brackets are present, remove them using the following procedure.

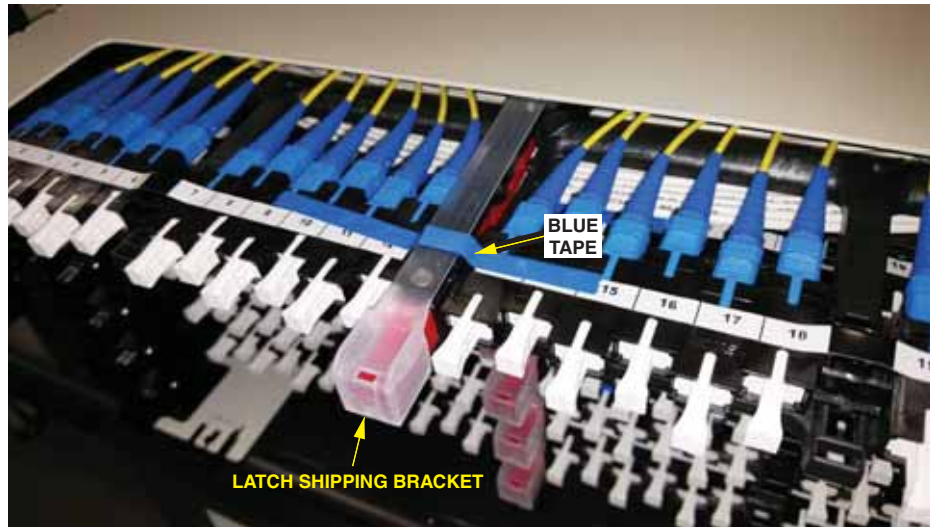
1. Remove the fiber tape from the front center of the panel as shown in [Figure 14](#). Note that a single piece of tape straddles the multiple red latches of cable spool trays in the panel.



26185-A

Figure 14. Removing Fiber Tape from Latch Shipping Brackets

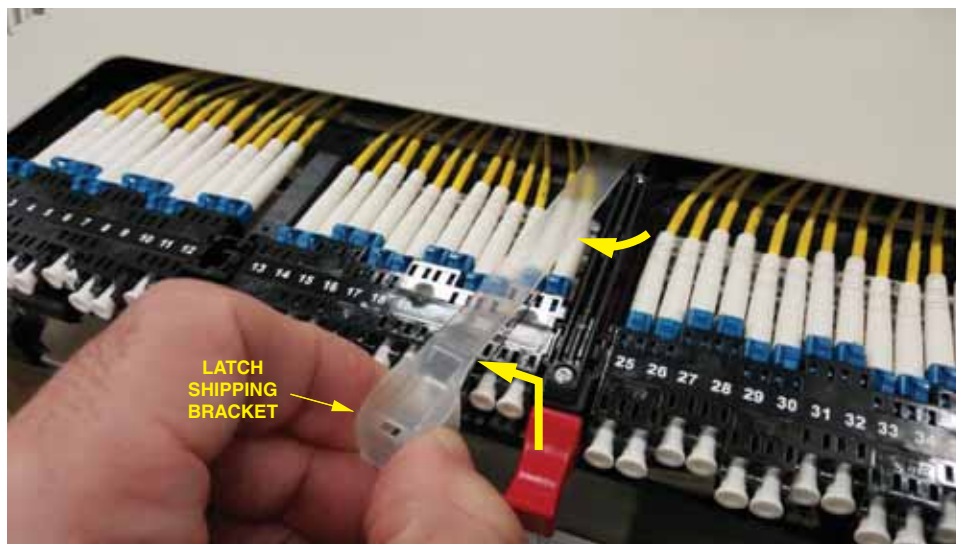
2. Grab onto the latch shipping bracket and pull out the cable spool tray; then remove the blue tape. Refer to [Figure 15](#).



26186-A

Figure 15. Pulling Out Tray and Removing Blue Tape

3. Withdraw the latch shipping bracket slightly (enough to clear it from the red latch), and move the shipping bracket to one side, as shown in [Figure 16](#).



26176-A

Figure 16. Withdrawing Latch Shipping Bracket

4. Press down gently on the fibers (A) to hold them in place while withdrawing the top tray latch shipping bracket (B) to prevent damage of fibers, as shown in [Figure 17](#).

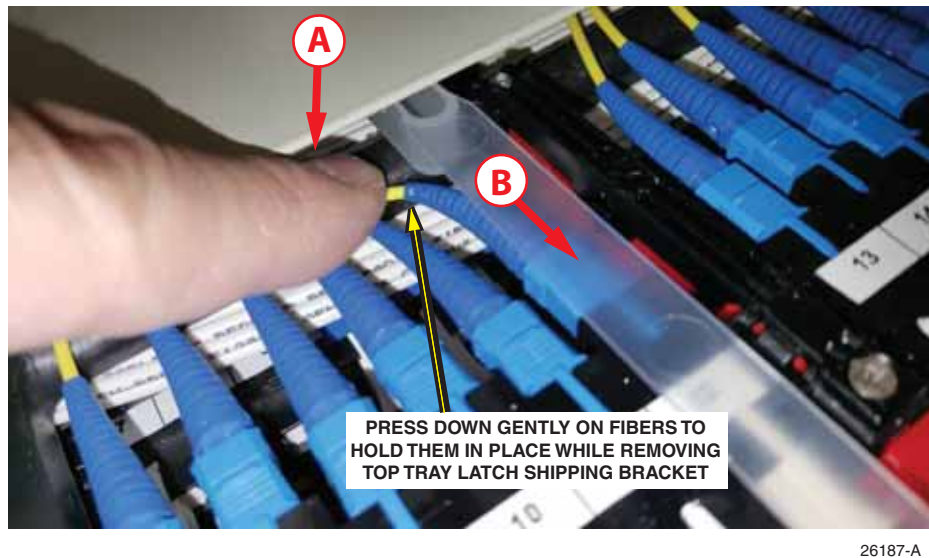


Figure 17. Holding Down Fibers

5. Withdraw the latch shipping bracket (A) from the cable spool tray and lift it off (B) from the Rapid Fiber panel, as shown in [Figure 18](#).

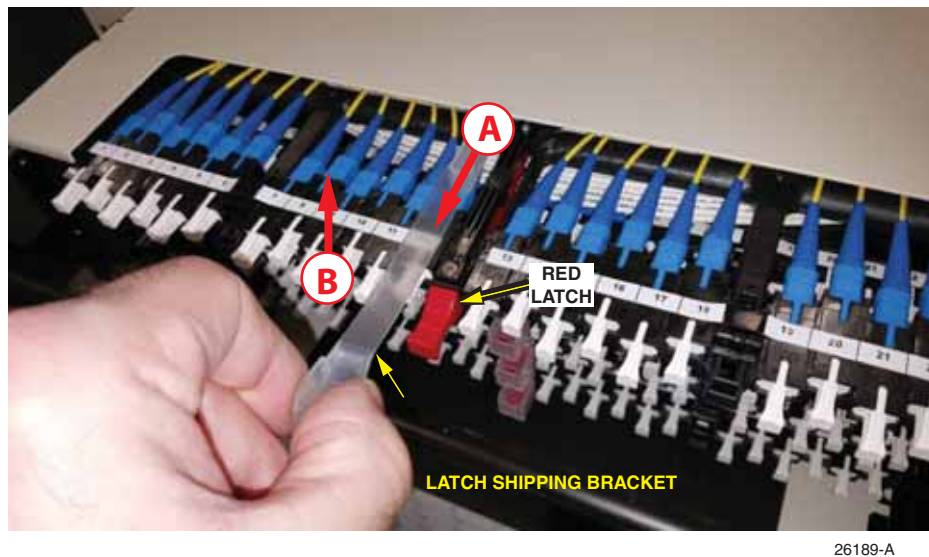


Figure 18. Removing Latch Shipping Bracket from Tray

6. Push the red latch forward to return the cable spool tray back into the operational position
7. Continue down through the remaining cable spool trays, removing the blue tape and latch shipping bracket from each of the trays.



Caution: When removing the latch shipping brackets, use caution to avoid damaging fibers.

5.3 Unwinding Microcable from RapidReel Cable Spool Tray

Use the following procedure to unwind the microcables from the internal spool:

1. Open the Rapid Fiber Panel front cover to provide clearance for the spool to rotate.
2. Pull the red latch out to release the tray, as shown in [Figure 19](#).



25916-A

Figure 19. Pulling Red Latch Out to Release Tray

3. While holding the red latch out, push the tray back slightly. Continue pushing until the tray locks into pay out position as shown in [Figure 20](#).



25939-A

Figure 20. Locking Tray Into Pay Out Position

4. Remove the blue tape that secures the cable to the right rear of the panel as shown in [Figure 21](#).



25940-A

Figure 21. Removing Blue Tape



Figure 22. Hand-Wrap Method for Pulling Directly On Cable

5. Based on the location of other equipment at the site, determine whether the cable would be best routed from the rear or front of the panel.
6. If the cable will be routed from the rear of the panel, start unwinding the internal spool by pulling on both the microcable connector pulling eye and/or cable, causing the internal spool and attached bulkhead panel to rotate.

- ▶ **Note:** Provide at least 3 inches (7.6 cm) of clearance at the rear side of the panel to allow the spool to rotate freely as the microcable is unwound.



Caution: Avoid using excessive force when unwinding microcable from the internal spool. Use the hand-wrap method (see [Figure 22](#)) if pulling on the cable by hand.



Caution: If the cable fails to unwind, check for obstacles or obstructions that would prevent the spool from turning. The maximum recommended pull force that may be applied to the MPO connector pulling eye, fanout assembly pulling sock, stub connector pulling eye, or to the cable itself is 40 lbs. (18.14 kg).

7. To re-route a cable with MPO connectors or a stub end with non-functional connectors to the front of the panel:
 - a. Pull out enough microcable to rotate the internal spool 90° as shown in [Figure 23](#).
 - b. Remove the microcable from the rear cable retainer and then push the connectors back into the space between the left side of the panel and the bulkhead panel. This will form a slack loop at the front of the panel.
 - c. Pull on the slack loop to draw the connectors through to the front.

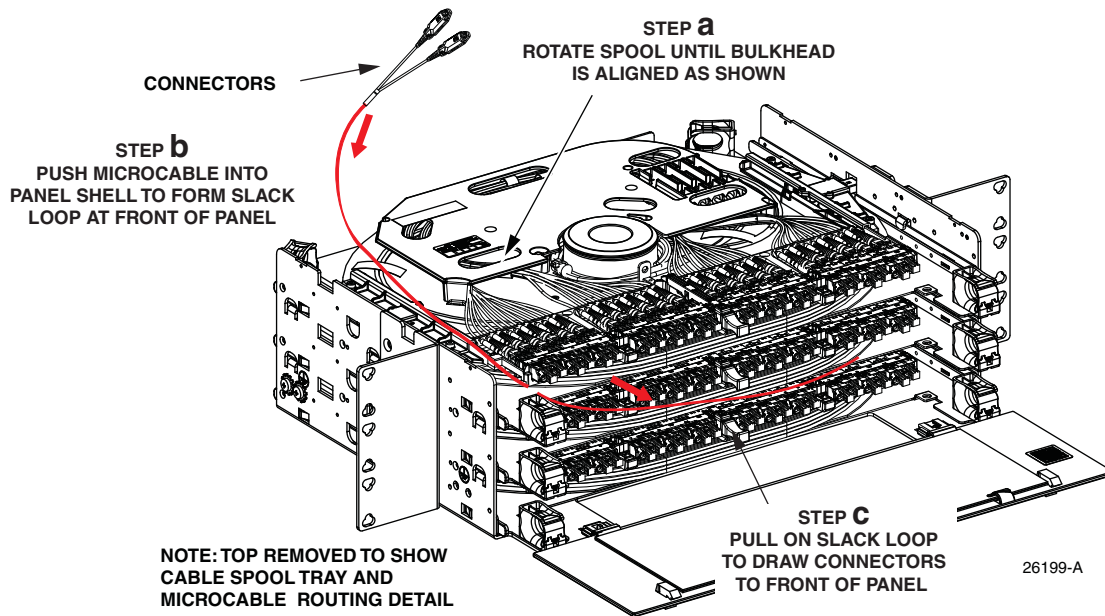


Figure 23. Pulling Microcable to the Front of the Panel Shell for Front Routing

8. To re-route a cable with fanout assemblies (with individual connectors) or cabled modules to the front of the panel:
 - a. Remove the #4-40 bonding screws located on either side of the panel shell at the points indicated in [Figure 24](#). Save screws for reuse.

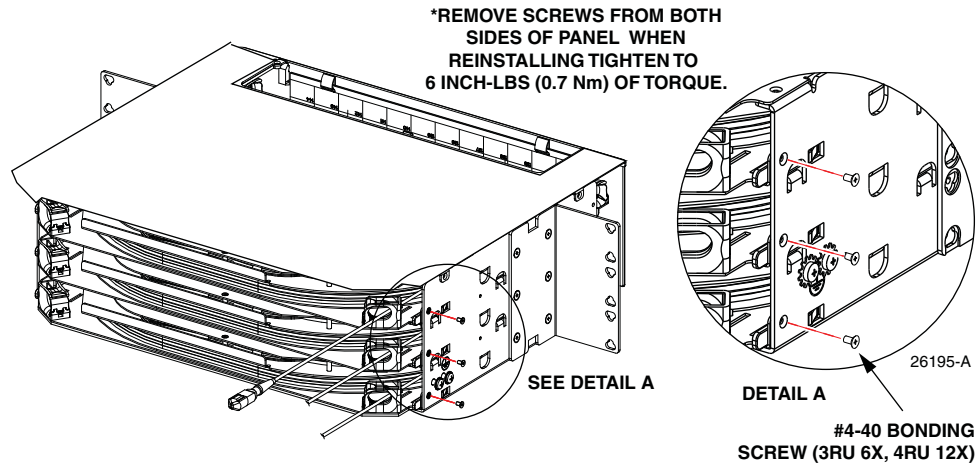


Figure 24. Location of #4-40 Bonding Screws

- b. Working from the **rear** side of the panel, press the two release tabs located on the left and right sides of the RapidReel cable spool tray as shown in [Figure 25](#). With both tabs held down, withdraw the cable spool tray from the rear side of the panel shell.

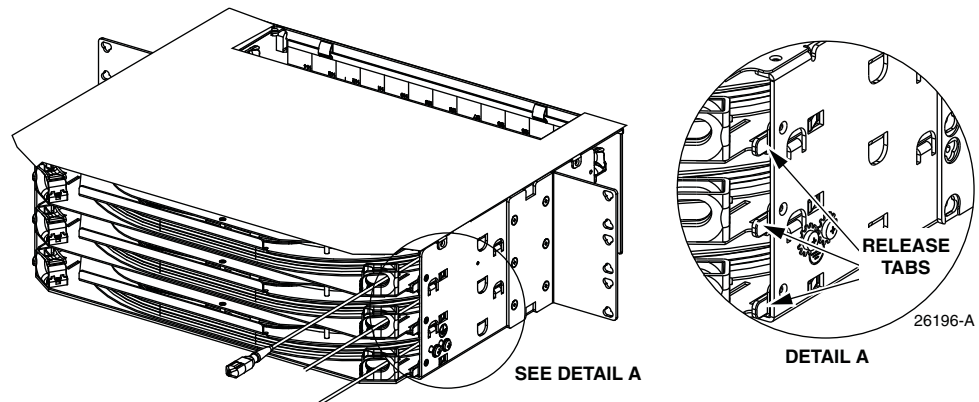


Figure 25. Press Release Tabs To Withdraw Spool Assembly

- c. Remove the microcable from the cable retainer at the rear side of the RapidReel cable spool tray and route the cable to the front as shown in [Figure 26](#).

► **Note:** There is a cable retainer on each corner of the panel. Any retainer can be used.

- d. Guide the fanout assemblies or cabled module(s) into the empty panel (from rear side) and pull them through to the front. It may be necessary to flatten the assembly within the pulling sock to allow it to pass through the panel.
- e. Align the slide-in RapidReel cable spool tray with the rear of the panel shell.

- f. Press the release tabs on both the left and right side of the panel shell and with both tabs held down, slide the tray into the mounting slot until it locks into place.

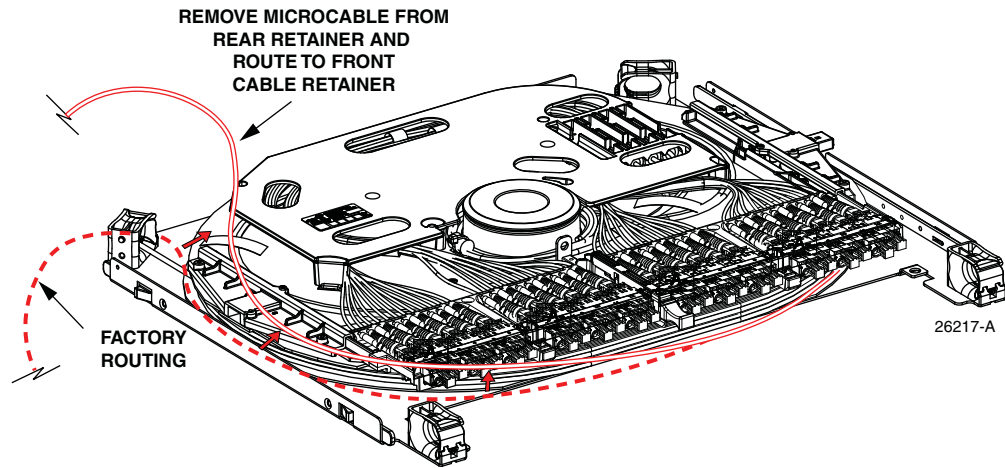


Figure 26. Remove Microcable From Rear Cable Retainer

- ▶ **Note:** Be sure the microcable is pulled snug around the RapidReel cable spool tray to avoid snags as the cable spool tray is re-inserted into the panel shell.
- g. Re-install the #4-40 bonding screws (removed in step 8a) on either side of the panel shell (see [Figure 24](#)) and tighten to 6 inch-lbs (0.7 Nm) of torque.
 9. After unwinding the microcable, ensure that the microcable is still within the cable retainer at the point where the microcable exits the panel.
 10. Using the red latch, rotate the tray clockwise and pull the tray forward to the locked operation position as shown in [Figure 27](#).



Figure 27. Pulling Tray Forward to Locked Operation Position

11. Locate and install the front port designation plates as shown in [Figure 28](#). Slide in the designation plates until they reach the detents and snap into place.

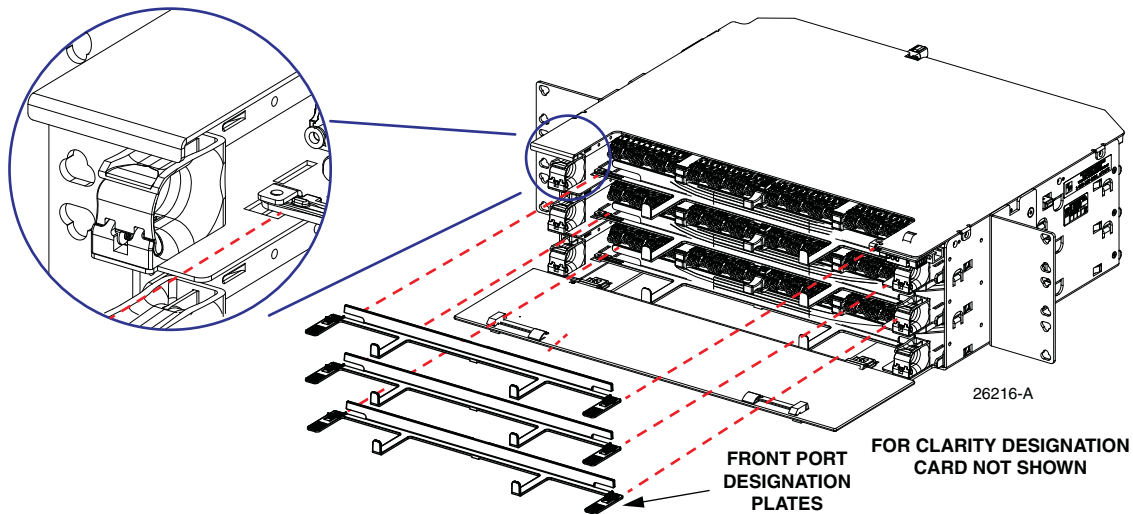


Figure 28. Installing Front Designation Plates

12. Proceed to [Topic 7 on Page 41](#) for guidelines on routing the microcable through an trough or conduit.

6 INSTALLING A RAPID FIBER PANEL WITH EXTERNAL SPOOLS

Installation of a panel with an external spools involves four procedures:

- The microcable is unwound from the external spools ([Topic 6.1 on Page 26](#));
- The panel shell is installed on the equipment rack ([Topic 6.3 on Page 33](#));
- The cable spool trays are mounted within the panel shell ([Topic 6.3 on Page 33](#));
- The remaining microcable is unwound from the cable spool trays ([Topic 6.4 on Page 37](#)).

► **Note:** When mounting multiple Rapid Fiber Panels into a rack or cabinet, be sure to calculate the total weight of all the equipment being mounted to verify that it does not exceed the rack or cabinet manufacturer's maximum weight allowance. In Zone 4 Earthquake applications, exceeding the weight rating can compromise the integrity of the rack during an earthquake.

► **Note:** The Rapid Fiber Panel is designed to be installed in an environmentally controlled network telecommunications facility such as a Central Office, Controlled Environmental Vault, or Data Center. Only the I/O cable is rated for both indoor and outdoor use.

6.1 Unwinding Microcable from the External Spools

When cable lengths longer than the maximum capacity of the RapidReel cable spool trays is ordered, the excess length for each RapidReel cable spool tray is coiled around an external spool that is temporarily attached to the RapidReel cable spool tray.

The external spools and cable spool trays are then packaged with the empty Rapid panel shell in a cardboard shipment container mounted on a pallet (Figure 29).

Use the following procedure to unwind and route the cable from the external spool to an ODF or fiber panel.



Figure 29. Hand Carrying Shipment Container

1. Position the shipping pallet as close as possible to the equipment rack where the panel shell is to be installed. The shipment container has hand holes on either side intended for use by two persons carrying the package as shown in Figure 29.

► **Note:** If the microcable will exit the panel from the rear, place the pallet at the rear side of the rack. If the microcable will exit the panel from the front, place the pallet at the front side of the rack.

2. Cut the two banding straps shown in [Figure 30](#).



Figure 30. Cutting Banding Straps

3. Remove the straps as shown in [Figure 31](#).



Figure 31. Removing Straps

Begin unpacking the shipment container as follows, referring to [Figure 32](#).

- a. Open the top of the shipping container and remove the boxed panel shell.
- b. Lift off the shipping divider.

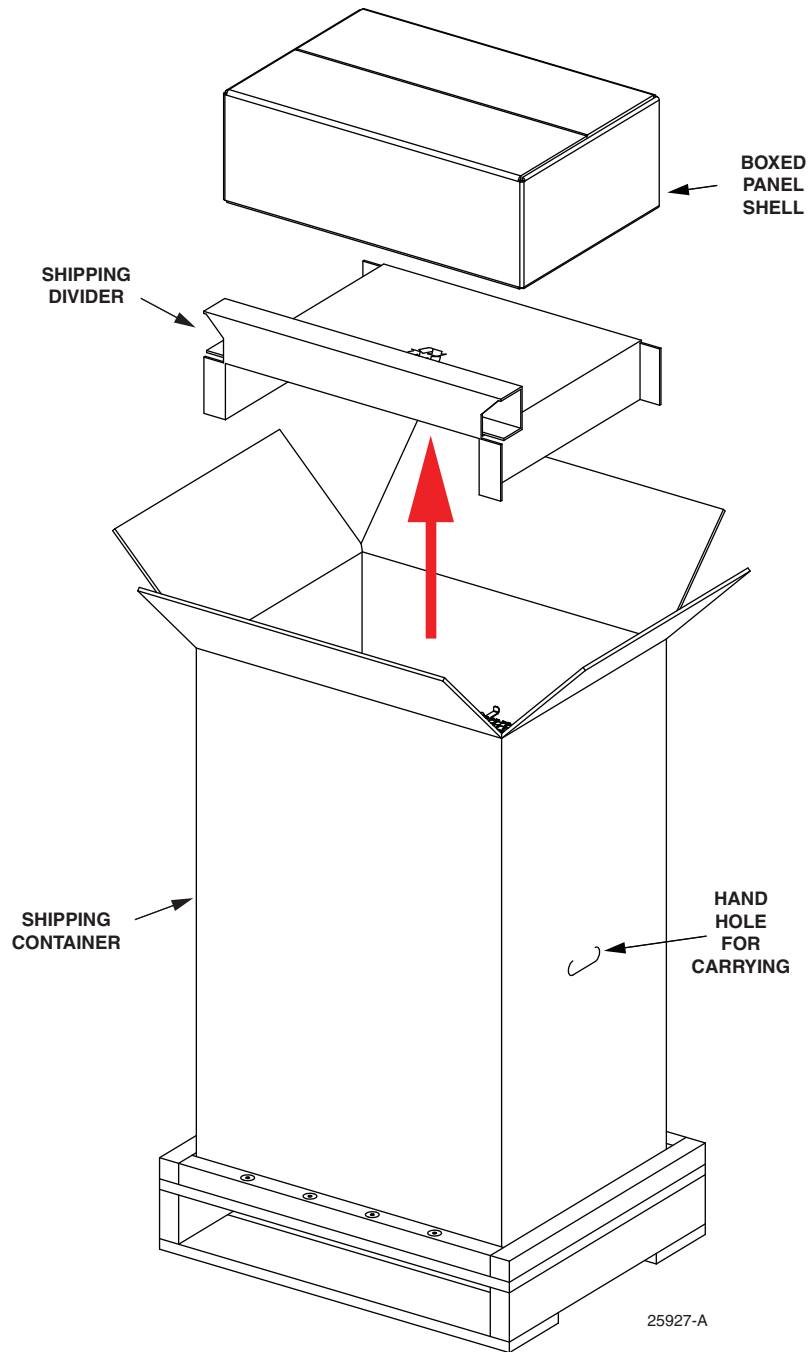


Figure 32. Unpacking Boxed Panel Shell and Shipping Divider

4. Lift up the shipment container and set it aside as shown in [Figure 33](#). The external spools and RapidReel cable spool trays will remain on the pallet as shown.



Figure 33. Removing Shipping Container

5. Remove the spool stop/fork lift protection ([Figure 34](#)).



Figure 34. Removing Stop/Lift Fork Protection

6. Grasp the cables together as shown in [Figure 35](#). Using a fist wrap such as [Figure 22](#) on [Page 21](#), pull all the far end connectors or cabled modules toward the termination location.



Figure 35. Proper Pulling Technique

- ▶ **Note:** Each RapidReel cable spool tray has single or dual microcables depending on configuration order.
- ▶ **Note:** A small tag is attached to each microcable near the far end connector to identify the cable number and corresponding ports on the RapidReel cable spool tray.

7. Determine whether the cable will be routed through a trough or conduit, and select the corresponding procedure in [Topic 7 on Page 41](#). Following the instructions provided, route the microcable to as close as possible to the appropriate ODF or fiber panel, then return to [Topic 6.2](#) to mount the panel shell on the equipment rack.
- ▶ **Note:** Due to space constraints in conduit, only cables with MPO connectors or MPO-like non-functional connectors should be routed through conduit.
 - ▶ **Note:** After the cables have been completely unwound from the external spool, an additional length of up to 200 feet of cable will be left on the RapidReel cable spool.
 - ▶ **Note:** When the microcable has been completely unwound from the external spool, STOP ROTATING THE SPOOLS.

6.2 Mounting the Panel Shell on the Equipment Rack

- ▶ **Note:** The Rapid Fiber Panel is designed to be installed in an environmentally controlled network telecommunications facility such as a Central Office, Controlled Environmental Vault, or Data Center. Only the I/O cable is rated for both indoor and outdoor use.
- ▶ **Note:** If a Rapid Fiber Panel is installed above or below a non-Rapid fiber panel, 1RU of open space must be left between the panels. This space is required for accessing the rear connectors if cleaning is required.

Use the following procedure to mount the panel.

1. Select a suitable location for mounting the panel shell in the rack. Provide a minimum of 15 inches clearance at the front or rear for installing the RapidReel cable spool tray.
2. Remove the panel shell from the shipment box (see [Figure 32 on Page 28](#)).
3. Determine if the rack or cabinet width is 19 or 23 inches. Also, determine recess required (2, 4, or 5 inches) for mounting the panel. Refer to [Figure 36](#).

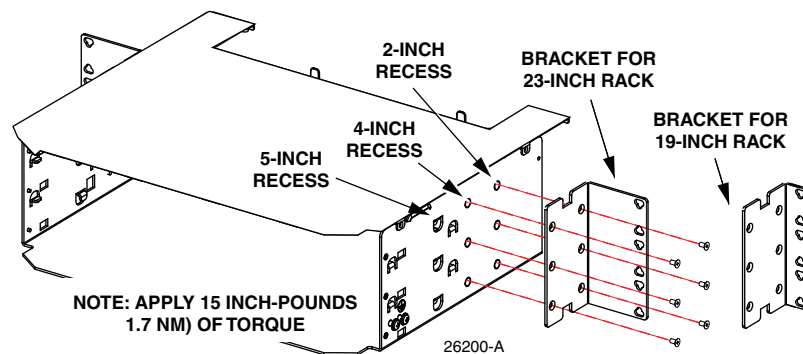


Figure 36. Mounting Bracket Installation (3RU Panel Shell Shown)

4. If the panel is being installed in a 23-inch rack or cabinet in other than the 5-inch recess position, remove the 23-inch mounting brackets and re-install them at the required (2- or 4- inch) recess position. Tighten screws to the torque specification shown in [Figure 36](#).

5. If the panel is being installed in a 19-inch rack or cabinet, remove the 23-inch mounting brackets and install 19-inch brackets at the required recess (2, 4, or 5 inches) position, as shown in [Figure 36](#). Tighten screws to the torque specification shown in [Figure 36](#).
6. Secure the panel shell to the rack or cabinet using the four 12-24 screws and star washers (per local practice) provided, as shown in [Figure 37](#).

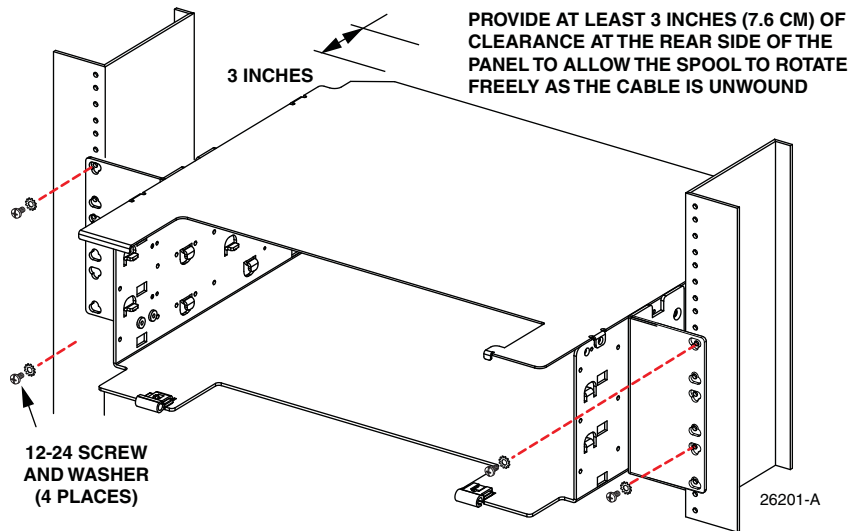


Figure 37. Mounting the Panel Shell in the Rack

7. Connect a grounding wire to the panel shell as shown in [Figure 38](#) using the two screws and star washers provided. (Two locations are available; see [Figure 13 on Page 16](#).) A two-hole grounding lug (shown here for reference) is recommended for the connection.

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

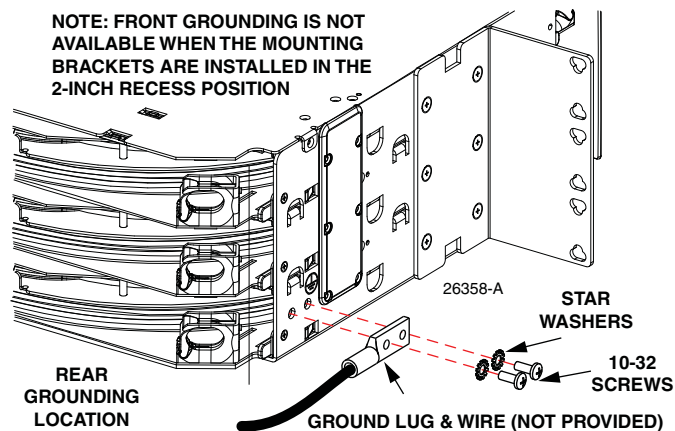


Figure 38. Grounding the Rapid Fiber Panel Chassis

6.3 Mounting the RapidReel Cable Spool Trays in the Panel Shell

After the microcables have been completely unwound from the external spool, each RapidReel cable spool tray must be mounted in the panel shell. The spool assemblies may be installed in the panel shell from either the front or rear side. After unwinding the microcables as far as possible toward the far end termination point, return to the shipment pallet and unpack and install the RapidReel cable spool trays as follows:

1. Use a box cutter to open the box on top of the external spool as shown in [Figure 39](#).



Figure 39. Opening Box on Top of External Spool

2. Open the box as shown in [Figure 40](#).



Figure 40. Opening Box and Removing Tray

- Remove the fiber tape, blue tape, and latch shipping bracket identified in [Figure 41](#).

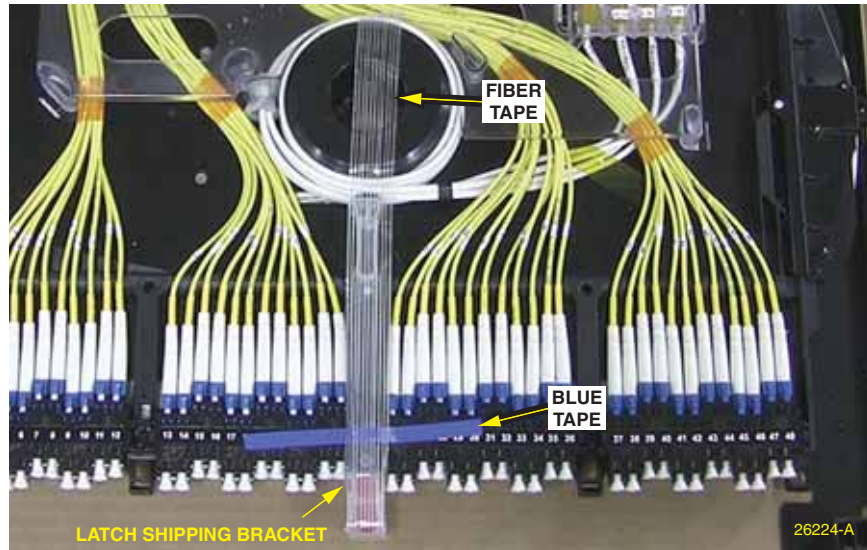


Figure 41. Removing Fiber Tape, Blue Tape, and Latch Shipping Bracket

- Select which panel shell mounting slot will be used for mounting the RapidReel cable spool tray as shown in [Figure 42](#) (3RU), [Figure 43](#) (4RU 144 fibers option), or [Figure 44](#) (4RU 288 fibers option).

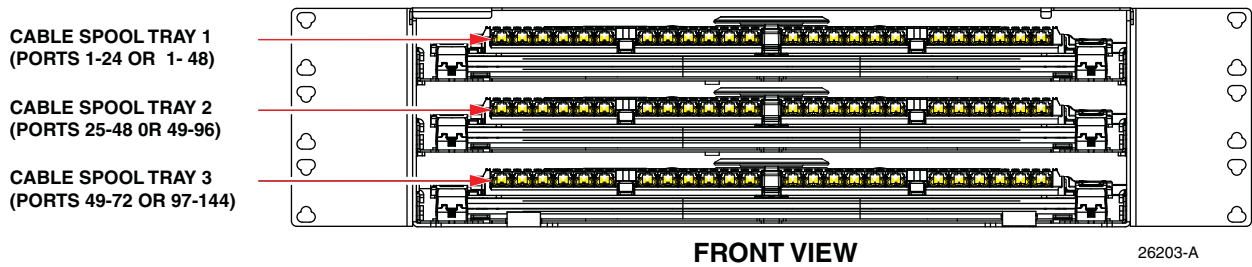


Figure 42. 3RU Panel Cable Spool Tray Mounting Slots and Port Designations

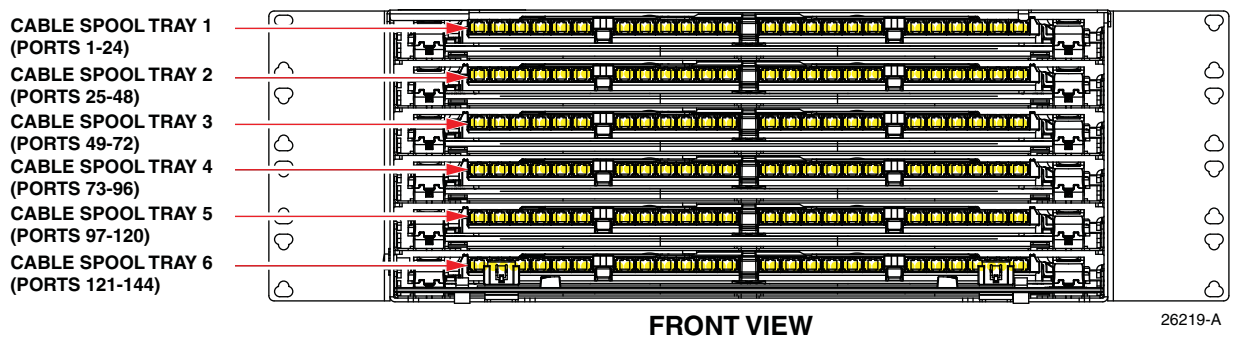


Figure 43. 4RU Panel Cable Spool Tray Mounting Slots and Port Designations (144 Fibers Option)

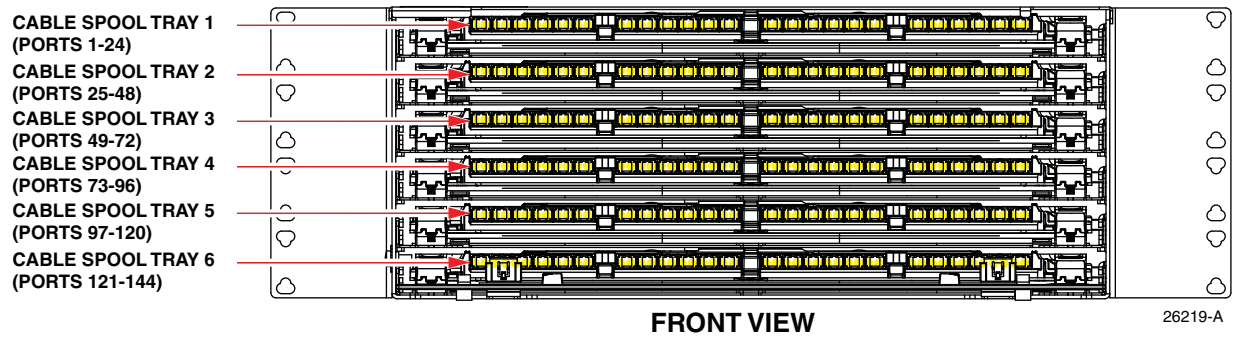


Figure 44. 4RU Panel Cable Spool Tray Mounting Slots and Port Designations (288 Fibers Option)

- ▶ **Note:** It is recommended that each cable spool tray be mounted in the panel shell in sequence shown.
 - ▶ **Note:** When mounting the cable spool trays in the panel shell, ensure that the spool locking tabs are retracted in the pay out position. To move the panel into the cable payout position: first, pull out the red latch slightly to release the tray; then, while holding the red latch out, push the tray back slightly and continue pushing until the tray locks into the payout position. At this point, the spool locking tab will no longer be protruding from the side of the panel and the cable can be paid out. For an illustration and description of how to use the red latch and locking tab. For an illustration, see [Figure 67 on Page 53](#).
 - ▶ **Note:** When installing a RapidReel cable spool tray into a 4RU panel, it may be necessary to lift up the tray just above the one being installed in order to allow the lower position tray to slide in.
5. If the RapidReel cable spool tray will be inserted into the panel shell from the front, remove the microcables from the rear cable retainer and route to the front of the spool as shown in [Figure 45](#). If the RapidReel cable spool tray will be inserted into the panel shell from the rear, proceed to step 2.

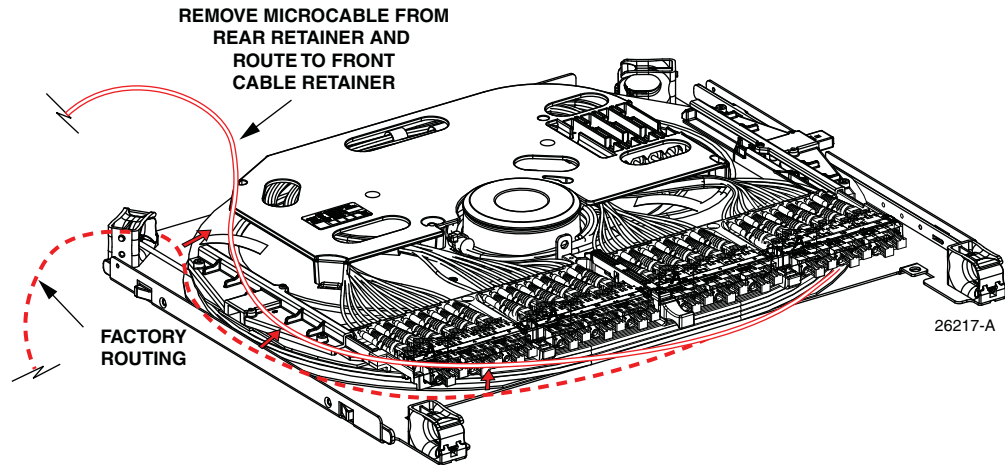


Figure 45. Routing Cable To Front of RapidReel Cable Spool Tray Before Inserting RapidReel Cable Spool Tray into Front Side of Panel Shell

6. Align the cable spool tray with the mounting slot, as shown in [Figure 46](#), and carefully slide the cable spool tray into the mounting slot until the stop is reached.

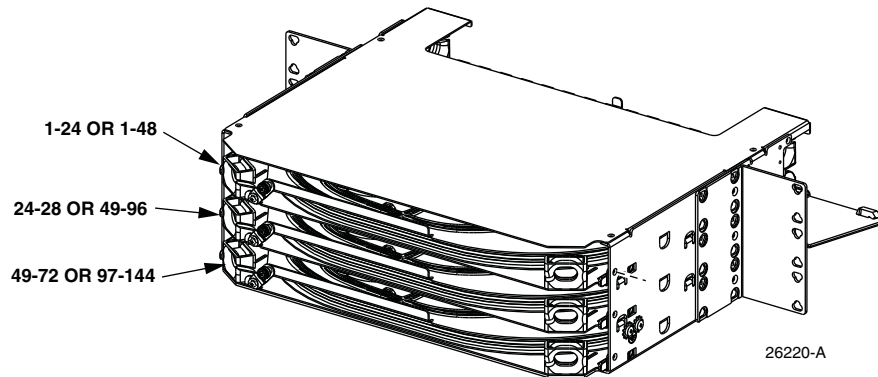


Figure 46. Aligning RapidReel Cable Spool Tray with Mounting Slot (3RU Panel Shown for Reference)

7. Press the black release tabs on both sides of the panel shell, as shown in [Figure 47](#), and then continue sliding the cable spool tray into the mounting slot until it locks into place.

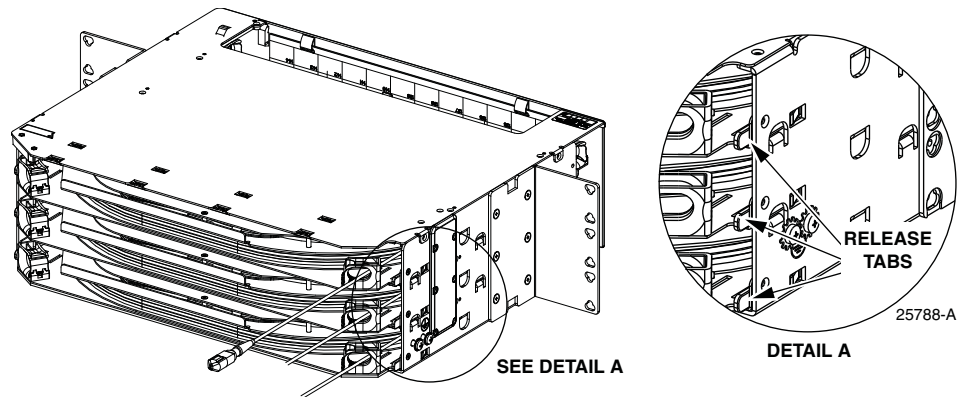


Figure 47. Pressing Release Tabs

8. Locate #4-40 bonding screws that are sent separately with the ship-along parts (six screws for 3RU, twelve for 4RU).
9. Install the #4-40 screws on either side of the panel shell at the points indicated in [Figure 48](#). Tighten to 6 inch-lbs (0.7 Nm) of torque
10. Repeat steps 1 through 6 for each RapidReel cable spool tray that requires mounting in the panel shell.

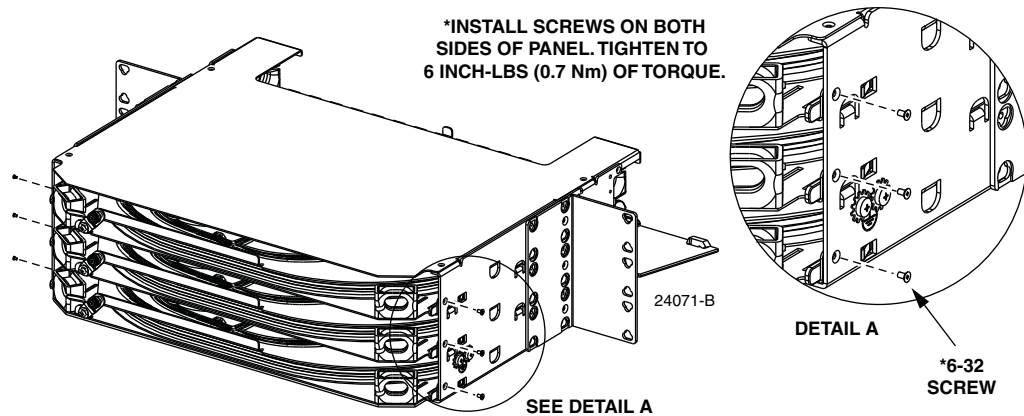


Figure 48. Install #4-40 Bonding Screws

6.4 Unwinding Microcable from RapidReel Cable Spool Trays

After the external spool has been paid out and the RapidReel cable spool tray installed in the panel shell, the remaining microcable on the RapidReel cable spool tray can be unwound. Use the following procedure to unwind the microcables from the internal spool:

1. Open the panel front cover to provide clearance for the spool to rotate.
2. Do the following for each of the three or six RapidReel cable spool trays if not already in the payout position:

- a. Pull the red latch out to release the tray, as shown in [Figure 49](#).



25916-A

Figure 49. Pulling Red Latch Out to Release Tray

- b. While holding the red latch out, push the tray back slightly. Continue pushing until the tray locks into pay out position as shown in [Figure 50](#).



25939-A

Figure 50. Locking Tray Into Pay Out Position

- c. Remove blue tape that secures cable to the right rear of the panel as shown in [Figure 51](#).



25940-A

Figure 51. Removing Blue Tape

3. Using the hand wrap method as shown in [Figure 52](#), pull all of the microcables at the same time, causing the internal spools and attached bulkhead panels to rotate. Provide at least 3 inches (7.6 cm) of clearance at the rear side of the panel to allow the spool to rotate freely as the cable is unwound.



Caution: Use care and avoid using excessive force when unwinding microcable from the internal spool. If the cable fails to unwind, check for obstacles or obstructions that would prevent the spool from turning. The maximum recommended pull force that may be applied to the pulling eye or the cable is 40 lbs. (18.14 kg).



Figure 52. Hand-Wrap Method for Pulling Cable

4. After paying out cable as required, do the following for each RapidReel cable spool tray:

- a. Adjust the microcables so any excess slack is accumulated at the Rapid Fiber Panel and then rewind the slack on the spool.
- b. Rotate the tray clockwise and pull the tray forward to the locked operation position as shown in [Figure 53](#).



25919-A

Figure 53. Pulling Tray Forward to Locked Operational Position

- c. When done, ensure the microcables are placed within the cable retainers.
5. Locate and install the front port designation plates as shown in [Figure 54](#). Slide in the designation plates until they reach the detents and snap into place.

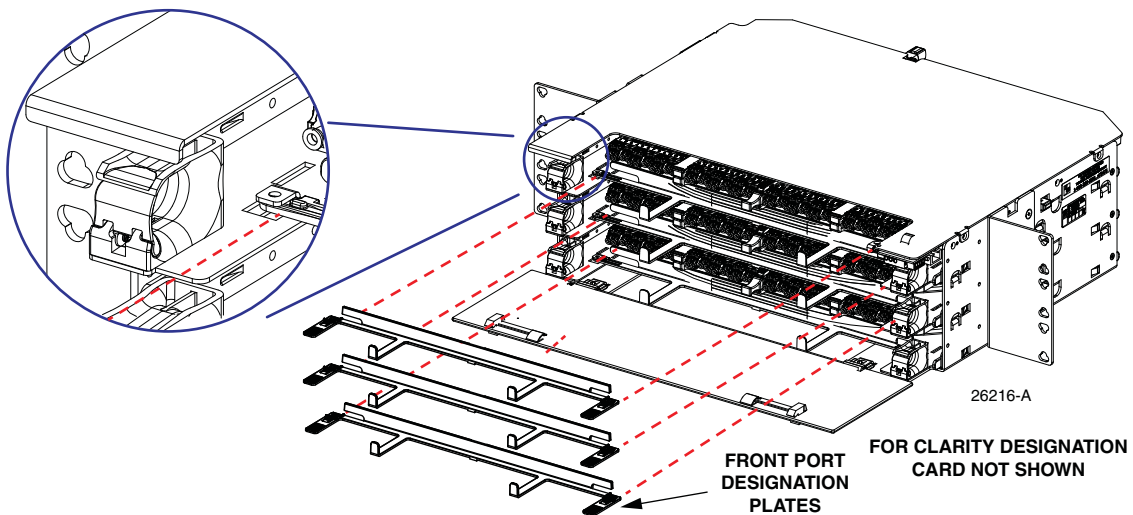


Figure 54. Installing Front Designation Plates (3RU Panel Shown)

6. Proceed to [Topic 7 on Page 41](#) for guidelines on routing the microcable through an trough or conduit.

7 MICROCABLE UNWINDING AND ROUTING ADDITIONAL GUIDELINES

This section provides procedures for unwinding and routing microcable from the panel through an open trough system or conduit. This is done when the lead end of the cable is paid out from the cable spool tray (if the panel has no external spool) or from the external spool (if present).

- ▶ **Note:** Due to space constraints in conduit, only cables with MPO connectors or MPO-like non-functional connectors should be routed through conduit.

7.1 Microcable Installed in Open Trough System

Use this procedure to route the lead end of the microcable through an open trough system:

- ▶ **Note:** This procedure begins at the point where the RapidReel cable spool tray or external spool is released and ready to be pulled as described in either [Topic 5.3 on Page 20](#) or [Topic 6.1 on Page 26](#).

1. Route the microcable to the appropriate ODF, fiber panel, or splice enclosure, placing it within the open trough system. Dress and secure microcable as specified by local practice.



Caution: *Avoid using excessive force when unwinding microcable from the internal spool. If the cable fails to unwind, check for obstacles or obstructions that would prevent the spool from turning. The maximum recommended pull force that may be applied to the MPO connector pulling eye, fanout assembly pulling sock, stub connector pulling eye, or to the cable itself is 40 lbs. (18.14 kg). Use the hand-wrap method if pulling on the cable by hand.*

2. Adjust the microcable so any excess slack is accumulated at the Rapid Fiber Panel. This slack is rewound on the cable spool after the cable is paid out to the termination point.
3. Determine if the microcables are terminated with MPO connectors (connectorized cables), non-functional connectors (stub end cable), a fanout assembly (with pulling sock), or a NG4access cabled module (with pulling sock). A special label (NON-FUNCTIONAL CONNECTOR) is attached to microcables that are terminated with non-functional connectors. The label is attached to the cable next to the connector boot.

- ▶ **Note:** Microcables with stub end non-functional connectors look the same as microcables with MPO connectors. Like MPO connectors, they are housed inside of black pulling eyes; however, non-functional connectors are not optically terminated. They are crimped to the cable jacket and strength member yarns. Non-functional connectors are cut off after the cable has been fully unwound from the spool and is ready to be spliced.

4. If the microcable is terminated with an MPO connector, proceed to step 5. If the microcable is terminated with a non-functional connector, proceed to step 6. If the microcable is terminated with connector fanout assemblies, proceed to step 7. If the microcable is terminated with an NG4access cabled module, proceed to step 8.
5. Complete the following for each cable terminated with an MPO connector:
 - a. Remove the pulling eye from each MPO connector by inserting and twisting a screwdriver or coin as shown in [Figure 55](#).

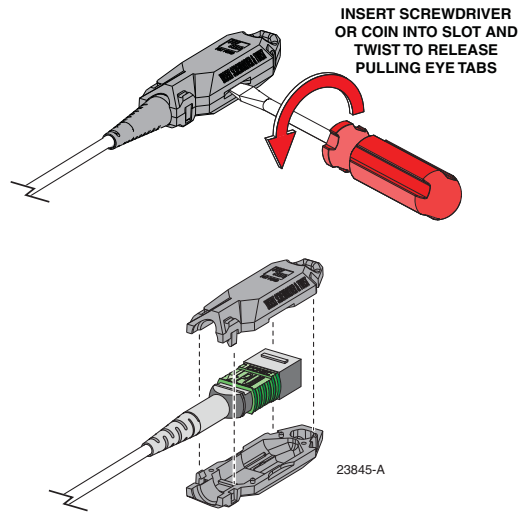


Figure 55. Removing a Pulling Eye

- b. Remove the connector dust cap and clean the MPO connector as specified in the Multifiber-Push On Assembly Connector Cleaning Instructions (ADCP-96-150).
- c. Connect the microcable MPO connector to the appropriate equipment MPO connector. Labels are attached to each microcable, as shown in [Figure 56](#), that identify the cable number and the range of optical ports associated with the MPO connector.

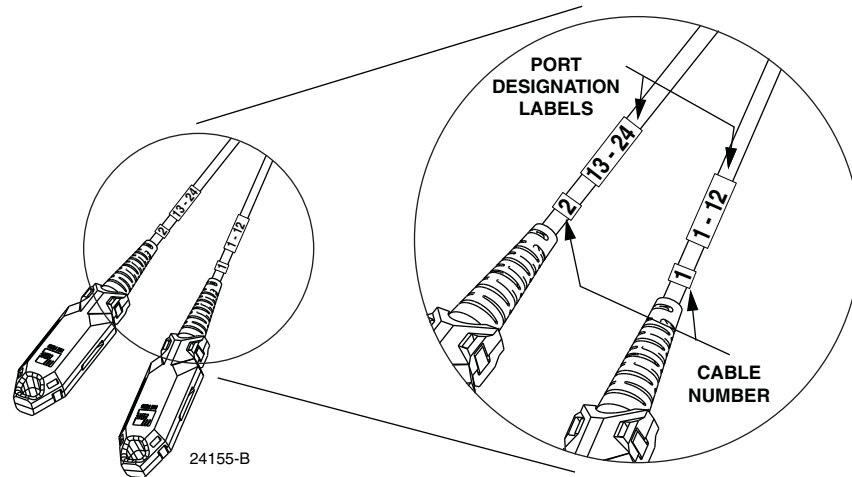


Figure 56. Cable Number and Optical Port Designation Labels

- d. When all the microcable MPO connectors are connected to the equipment MPO adapters, proceed to step 9.
6. Complete the following for each microcable terminated with a stub end non-functional connector:
- ▶ **Note:** Do not cut off the non-functional connector before cable installation has been completed or the integrity of the cable may be compromised.

- a. Record the label information (cable number, range of optical ports, and serial number) that is applied to each cable and then tag each cable so it can be identified when the cable jacket is removed for splicing.
- b. Cut off the non-functional connector and discard.
- c. Determine the point at which the microcable will be attached to the splice tray and then strip back the cable jacket to expose the optical fibers.
- d. Splice the microcable optical fibers to the appropriate optical fibers following local policies and procedures. Refer to [Table 2](#) to determine the optical port designations for the microcable optical fibers.

Table 2. Optical Port Designation

MICRO CABLE	OPTICAL PORT	FIBER COLOR	MICRO CABLE	OPTICAL PORT	FIBER COLOR
1	1	Blue	2	13	Blue
1	2	Orange	2	14	Orange
1	3	Green	2	15	Green
1	4	Brown	2	16	Brown
1	5	Slate	2	17	Slate
1	6	White	2	18	White
1	7	Red	2	19	Red
1	8	Black	2	20	Black
1	9	Yellow	2	21	Yellow
1	10	Violet	2	22	Violet
1	11	Rose	2	23	Rose
1	12	Aqua	2	24	Aqua

- e. When the microcables with non-functional connectors have been spliced, proceed to step 9.
7. Do the following for each microcable terminated with 12-connector fanout assemblies:
- **Note:** For cables equipped with 12-connector fanout assemblies, kits are available for securing the fanouts to an Optical Distribution Frame including NGF, NG3, LSX, FCM, and NG4access. A universal kit is also available for attaching 9 foot long 2 mm fanout assemblies to a Glide or interbay management panel.
- a. If the fanout is wrapped within a pulling sock, such as shown in [Figure 57](#), remove the pulling sock from the end of the microcable by first peeling away the tape and then cutting the two cable ties at the point shown. Next, slide the sock off the cable assembly and remove the pink bag from the connectors. If a pipe protection is also present (used for fanout assemblies with 900 micron fibers only), remove the pipe (refer to [Figure 58](#)).

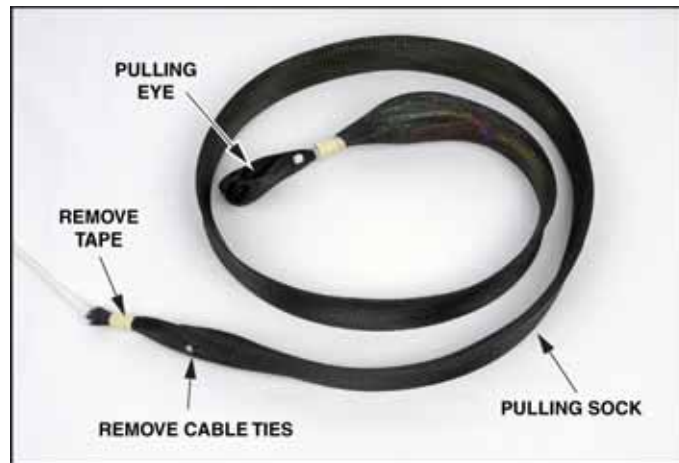


Figure 57. Remove Pulling Sock from Fanout Assemblies

- b. Before connecting an individual connector to the ODF or fiber panel, remove the ferrule dust cap from the connector and clean the connector as specified in the Optical Fiber Connector Wet and Dry Cleaning Instructions (ADCP-90-159).
- c. Connect each connector to the appropriate adapter. A label applied near the connector boot, shown in [Figure 58](#), indicates the connector's optical port.



Figure 58. Remove Pipes from 900 mm Fanout Assemblies

- d. When all the individual connectors are connected, proceed to step 9.
8. If the microcable is terminated with an NG4access cabled module, proceed as follows:
- a. If the microcable is being routed to an NG4access universal panel shell mounted on an NG4access frame, refer to the laminated cards on the rear of the frame for instructions on how to route the cable on the frame and install the cabled module.

- b. If the microcable is being routed to an NG4access universal panel shell mounted on a non-NG4access frame, refer to the labels on the panel shell for instructions.
9. After connecting the connectors or cabled modules at the far end location, return to [Topic 6.2 on Page 31](#) to mount the Rapid Fiber panel shell on the equipment rack.

7.2 Microcable Pulled Through Conduit

- ▶ **Note:** Due to space constraints in conduit, only cables with MPO connectors or MPO-like non-functional connectors should be routed through conduit.

Use this procedure to route the lead end of the microcable through conduit.

1. Route the microcable to the point where it will enter the conduit.
2. Insert the leading cable connector into a cable pulling swivel such as the one shown in [Figure 59](#).

- ▶ **Note:** The swivel will ensure that proper pulling force is applied to the cable and will reduce the possibility of binding or tangling the cables within the conduit.

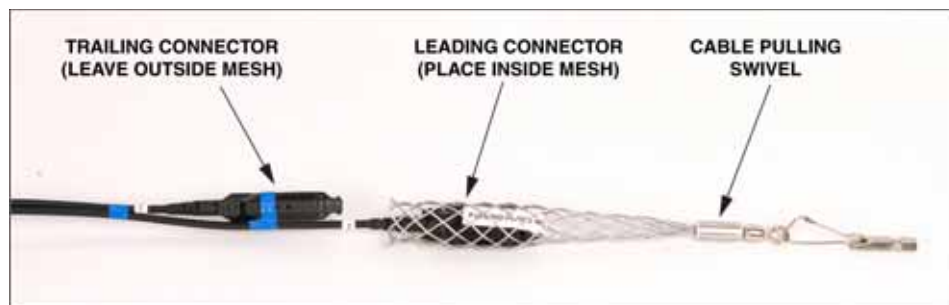


Figure 59. Insert Microcable Lead Connector into Pulling Eye

3. Wrap several layers of vinyl tape around the pulling swivel and the trailing connector as shown in [Figure 60](#).

- ▶ **Note:** This will allow the connectors to slide smoothly within the conduit.



Caution: Avoid using excessive force when unwinding microcable from the internal spool. If the cable fails to unwind, check for obstacles or obstructions that would prevent the spool from turning. The maximum recommended pull force that may be applied to the MPO connector pulling eye, fanout assembly pulling sock stub connector pulling eye, or to the cable itself is 40 lbs. (18.14 kg). Use the hand-wrap method if pulling on the cable by hand.



Figure 60. Wrap Pulling Swivel and Connectors with Vinyl Tape

4. Attach a draw wire or tape to the pulling swivel and then carefully guide the pulling swivel with attached connectors into the conduit. Continue to guide the cable into the conduit while the cable is being pulled.

- ▶ **Note:** The minimum recommended conduit or firebreak hole diameter is 1.1-inch.
- 5. Pull the cable through the conduit until the pulling swivel appears at the end of the conduit.
- 6. Disconnect the pulling wire from the pulling swivel and remove the vinyl tape and pulling swivel from the end of the cable.
- ▶ **Note:** If the cable will be routed to a splice enclosure for splicing, **do not** cut-off the non-functional connector at this time. Removing the non-functional connector before pulling has been completed may compromise the integrity of the cable.
- 7. Use the hand-wrap method to pull the cable to the point where the cable will be spliced or connected. Dress and secure microcable at the termination point as specified by local practice.
- 8. Adjust the microcable so any excess slack is accumulated at the Rapid Fiber Panel and then rewind the slack on the spool.
- ▶ **Note:** After the cable has been pulled through the conduit, the remaining segments of cable that are not protected by the conduit should be placed in an open trough system such as the FiberGuide System, a cable rack system, or flexible tubing.
- 9. Determine if the microcables are terminated with MPO connectors (connectorized cable), or non-functional connectors (stubbed cable). (A special label (NON-FUNCTIONAL CONNECTOR) is attached to microcables that are terminated with non-functional connectors. The label is attached to the cable next to the connector boot.) If the microcable is terminated with an MPO connector, proceed to step 10. If the microcable is terminated with a non-functional connector, proceed to step 11.
- ▶ **Note:** Microcables with stub end non-functional connectors look the same as microcables with MPO connectors. Like MPO connectors, they are housed inside of black pulling eyes; however, non-functional connectors are not optically terminated. They are crimped to the cable jacket and strength member yarns. Non-functional connectors are cut off after the cable has been fully unwound from the spool and is ready to be spliced.
- 10. Complete the following for each cable terminated with an MPO connector:
 - a. Remove the pulling eye from each MPO connector by inserting and twisting a screwdriver or coin as shown in [Figure 55 on Page 42](#).

- b. Remove the connector dust cap and clean the MPO connector as specified in the Multifiber-Push On Assembly Connector Cleaning Instructions (ADCP-96-150).
 - c. Connect the microcable MPO connector to the appropriate equipment MPO connector. Labels are attached to each microcable, as shown in [Figure 61](#).
 - d. When all the microcable MPO connectors are connected to the equipment MPO connectors, proceed to step 14.
11. Complete the following for each stub end microcable terminated with a non-functional connector:

► **Note:** Do not cut off the non-functional connector before cable installation has been completed or the integrity of the cable may be compromised.

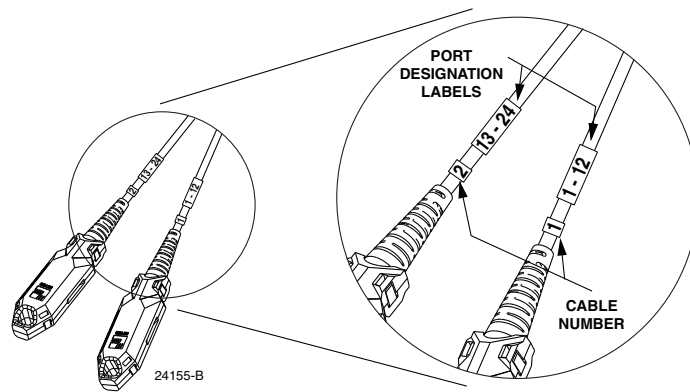


Figure 61. Cable Number and Optical Port Designation Labels

- a. Record the label information (cable number, range of optical ports, and serial number) that is applied to each cable and then tag each cable so it can be identified when the cable jacket is removed for splicing.
- b. Cut off the non-functional connector and discard.
- c. Determine the point at which the microcable will be attached to the splice tray and then strip back the cable jacket to expose the optical fibers.

- d. Splice the microcable optical fibers to the appropriate optical fibers following local policies and procedures. Refer to [Table 3](#) to determine the optical port designations for the microcable optical fibers.

Table 3. Optical Port Designation

MICRO CABLE	OPTICAL PORT	FIBER COLOR	MICRO CABLE	OPTICAL PORT	FIBER COLOR
1	1	Blue	2	13	Blue
1	2	Orange	2	14	Orange
1	3	Green	2	15	Green
1	4	Brown	2	16	Brown
1	5	Slate	2	17	Slate
1	6	White	2	18	White
1	7	Red	2	19	Red
1	8	Black	2	20	Black
1	9	Yellow	2	21	Yellow
1	10	Violet	2	22	Violet
1	11	Rose	2	23	Rose
1	12	Aqua	2	24	Aqua

- e. When the microcables with non-functional connectors have been spliced, proceed to step 14.
12. After connecting the connectors or cabled modules at the far end location, return to [Topic 6.2 on Page 31](#) to mount the Rapid Fiber panel shell on the equipment rack.

8 BULKHEAD ADAPTER ACCESS PROCEDURE AND SERIAL NUMBER LOCATIONS

8.1 Accessing the Bulkhead Adapter Rear Connectors

If required, the adapter bulkhead may be moved forward to access the connectors at the rear of the adapter bulkhead. This should only be done following **initial installation** of the Rapid Fiber Panel and only if testing indicates that **a connector may require cleaning**.

Use the following procedure to access the connectors at the rear of the adapter bulkhead:

1. Using the red latch, carefully pull the adapter bulkhead forward until the stop position is reached. [Figure 62](#) shows the stop position.
2. Locate the optical connector that requires cleaning and carefully disconnect it from the rear side of the bulkhead adapter.

3. Clean the connector as described in the Optical Fiber Connector Wet and Dry Cleaning Instructions (ADCP-90-159).
4. Reinsert optical connector into bulkhead adapter and retest as specified by local practice.
5. When testing indicates satisfactory connector performance, push the red tab inward to slide the adapter bulkhead into its operational position.



Figure 62. Adapter Bulkhead (Middle Tray) in Rear Access Position

8.2 Panel Shell, RapidReel Cable Spool Tray, and Microcable Labels

A superlabel that provides the product catalog number, part number, revision, and date code is attached to the panel. In addition, a serial number label is attached to both the RapidReel cable spool tray and the microcables.

The locations of the various labels are shown in [Figure 63](#). [Figure 64](#) shows the serial number system used.

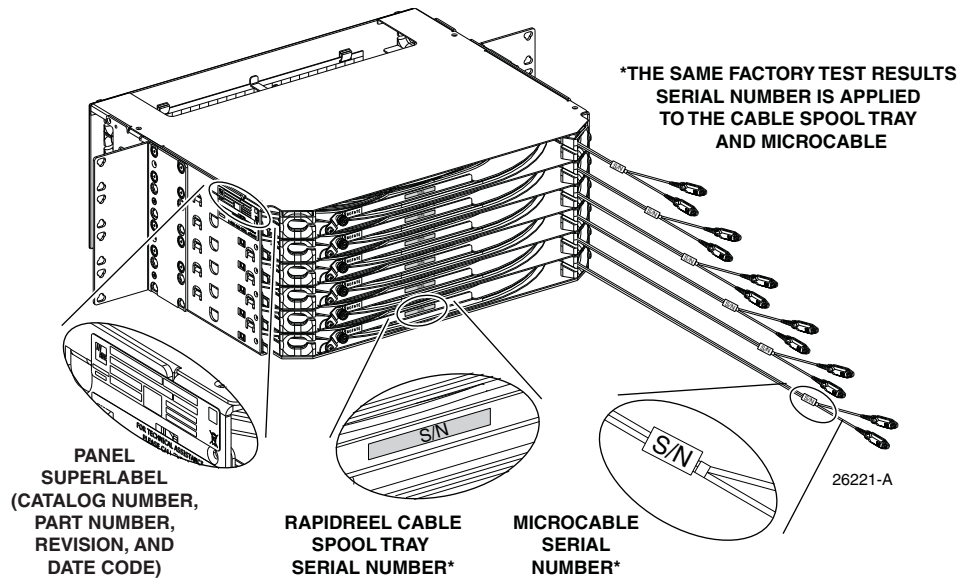


Figure 63. Label Locations

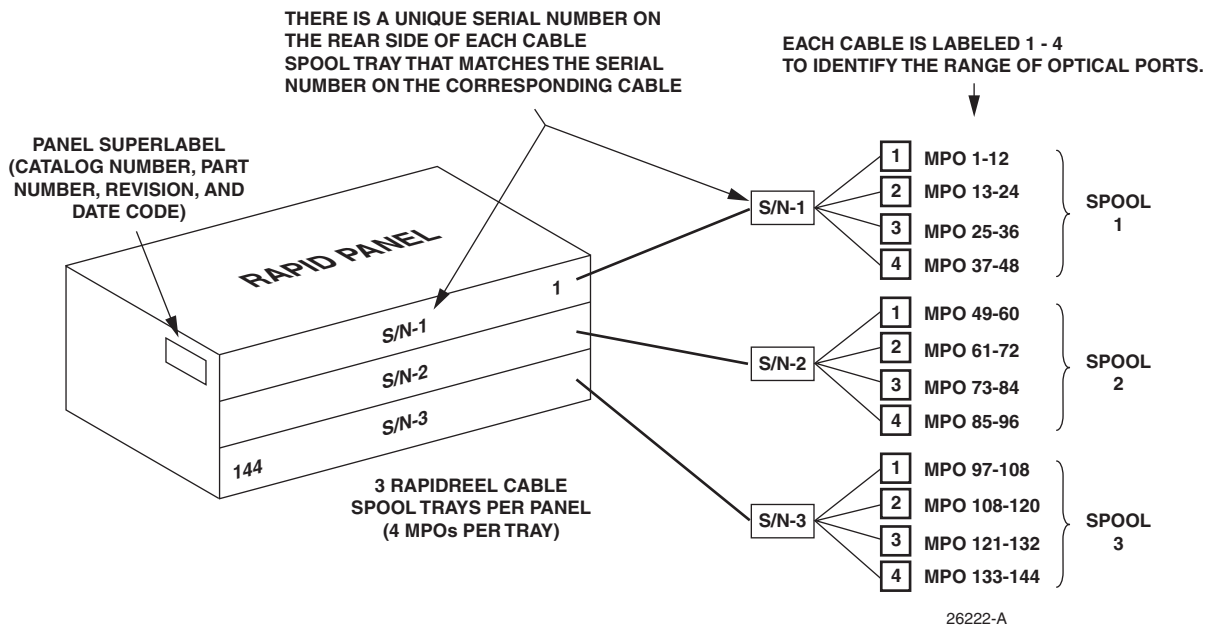


Figure 64. Serial Numbering for 3RU Panel With External Spool

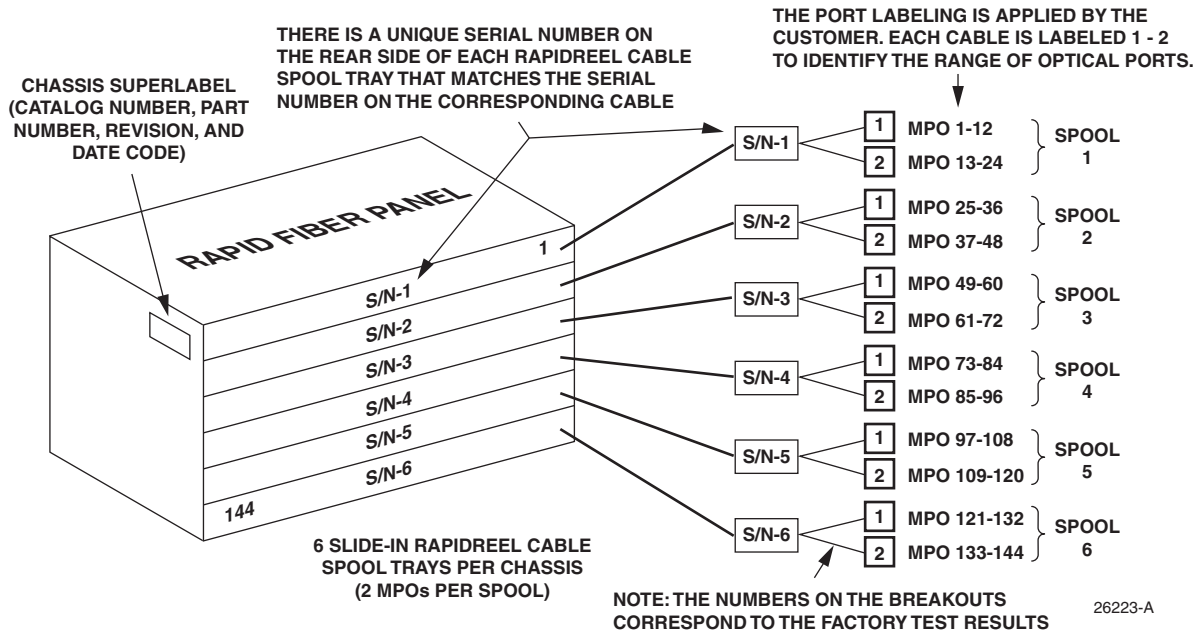


Figure 65. Serial Numbering for 4RU Panel With External Spool

9 OPERATION

9.1 Connecting Patch Cords

In a typical application, patch cords are connected between the adapters at the front of the panel and the active equipment on a nearby frame.

Use the following procedure.



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 an optical adapter. 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. Open the cover at the front of the Rapid Fiber Panel shell. Locate the optical port to be connected to the optical equipment. Remove the dust cap from the bulkhead adapter.
2. Select a patch cord for connection. Patch cords may be 1.7 mm or 2 mm in diameter.
3. Remove the ferrule dust cap from the patch cord connector and clean the connector as specified in Optical Fiber Connector Wet and Dry Cleaning Instructions (ADCP-90-159).
4. Insert the patch cord connector into the appropriate bulkhead adapter and record the connection on the designation card attached to the front cover.
5. Repeat steps 2 through 5 for any remaining connections that may be required.

6. Route the patch cords from the center of the panel outward to either side of the panel or to one side as shown in [Figure 66](#).

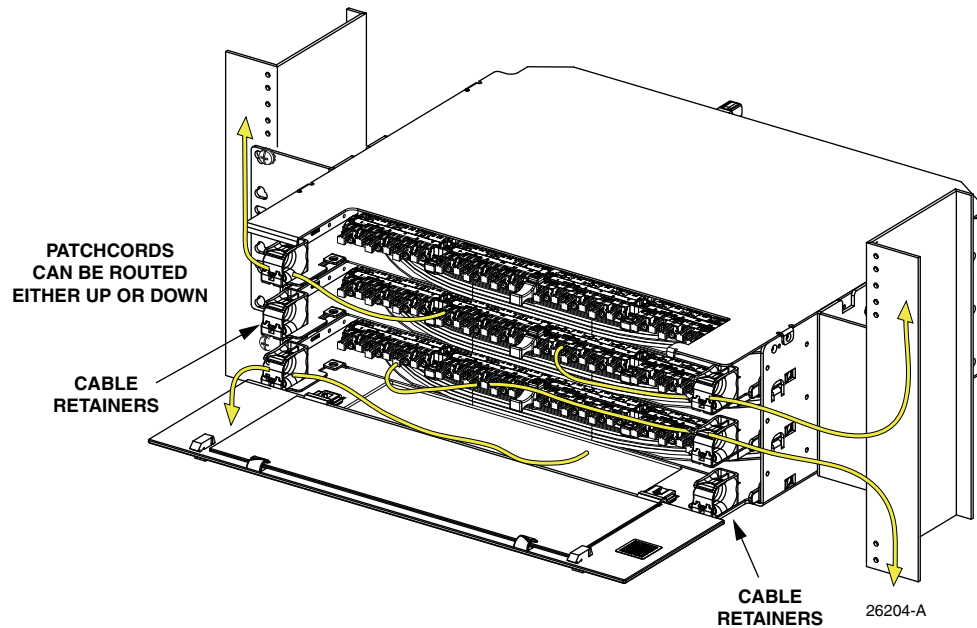


Figure 66. Patch Cord Routing To Both Sides

9.2 RapidReel Cable Spool Tray Positions and How to Use Them

The cable spool tray has three positions: operation (home); cable payout (inward); and full connector access (outward). The panel ships in the operation position with the spool locking tab protruding through the right side of the panel shell as shown in [Figure 67](#).

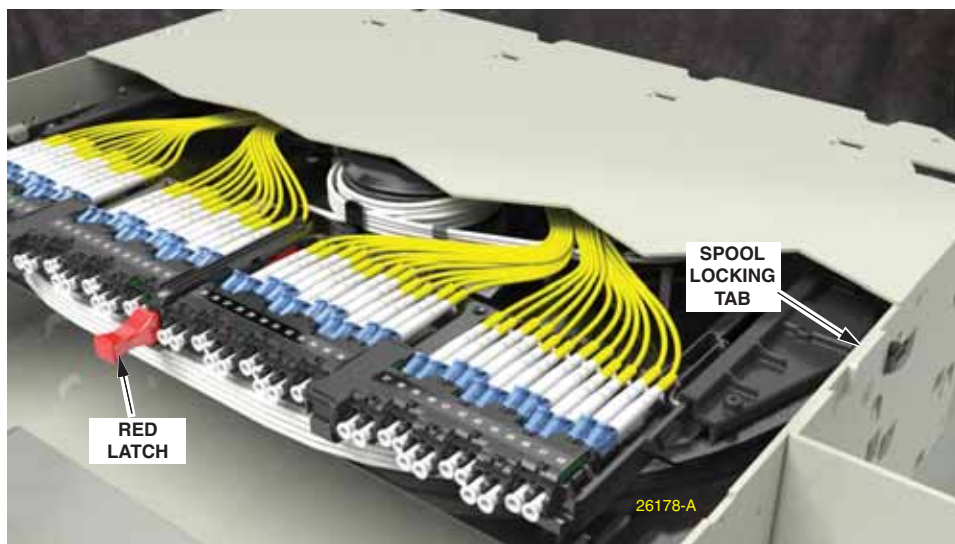


Figure 67. Operation (Home) Position (Panel Shown With Top Cover Cut Away)

To move the panel into the cable payout position: first, pull out the red latch slightly to release the tray; then, while holding the red latch out, push the tray back slightly and continue pushing until the tray locks into the payout position. At this point, the spool locking tab will no longer be protruding from the side of the panel and the cable can be paid out.

10 TECHNICAL 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>

COMMSCOPE®