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User Manual

1RU LSX Splice Panel

26863-A

Contents

Introduction

This manual describes the CommScope 1RU LSX Splice Only Panel, which provides splicing and slack storage capabilities. This manual contains physical and functional descriptions, installation instructions, and operation information for splicing and management of Outside Plant (OSP) and Intra Facility Cable (IFC) fibers and pigtail assemblies.

This manual is intended for persons involved in installing and maintaining the splice panel. The user of this manual must have a basic understanding of fiber optic terminology and concepts.

Revision History

REVISION	DATE	REASON FOR CHANGE
Rev A	October 2018	Original.

Trademark Information

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Related Publications

Request at: http://www.commscope.com/SupportCenter

Admonishments

Safety admonishments 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 Danger, Warning, and Caution admonishments — must be followed at all times.

The admonishments are listed below 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   General Description

The 1RU LSX Splice Panel (hereafter sometime called simply, "the splice panel") permits splicing OSP and IFC fibers to each other or to pigtail assemblies. The splice panel provides a protective enclosure for mounting splices and for coiling the service loop required in the splicing process.

2   Major Components

The 1RU LSX Splice Panel mounts in a 19- or 23-inch rack. Figure 1 shows the major components of the splice panel. The major components identified by call-outs in the figure are described in the following bulleted paragraphs.
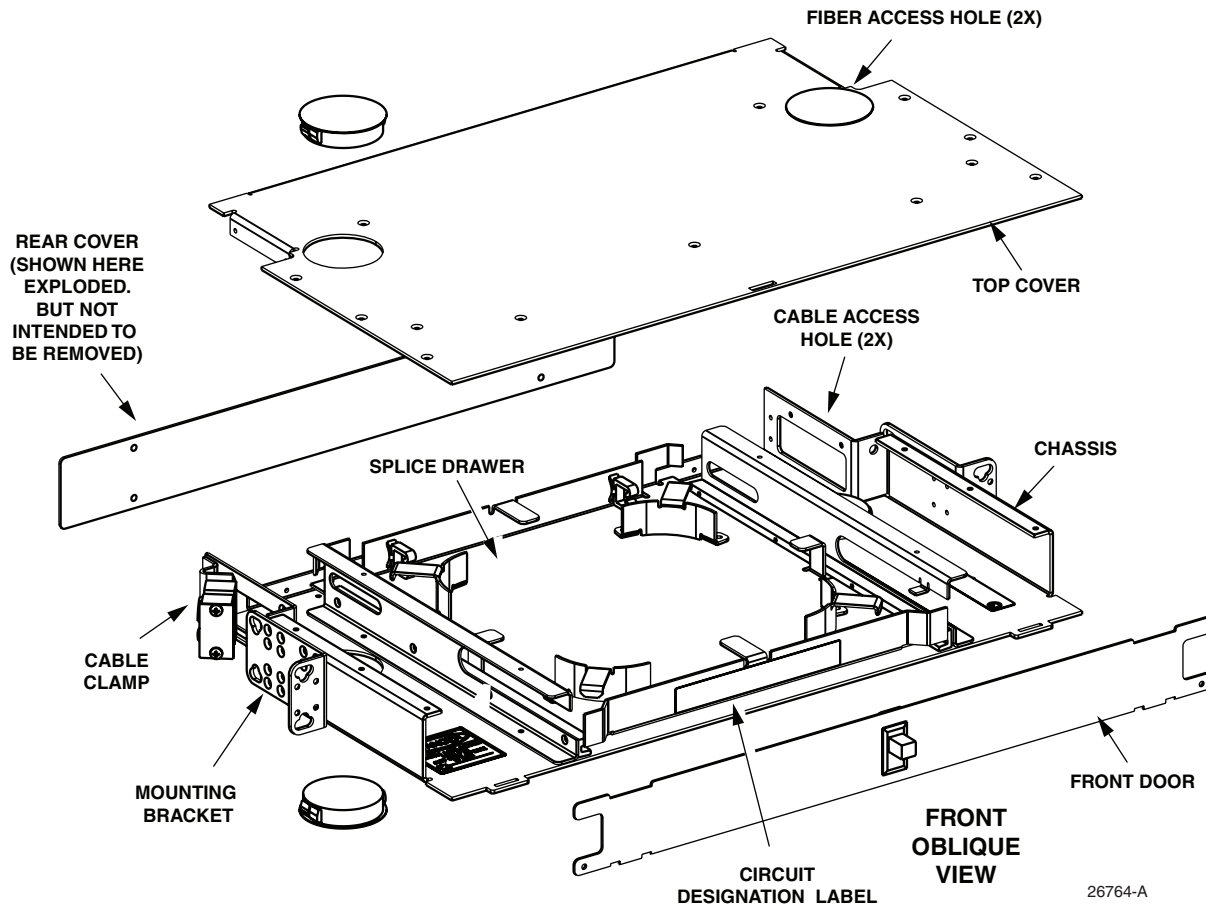
Figure 1. 1RU LSX Splice Panel Components

- **Front door**-- protects the fibers and pigtails from normal activity near the splice panel. The front cover can be removed for convenience and protection during installation or other activity. The cover is removed by lifting it up to free it from its tab inserts.

- **Chassis** -- is constructed of heavy gauge aluminum. The chassis has a baked powder paint finish.

- **Cable access holes** -- at the left and right side of the panel, provide IFC or OSP cable fiber access.

- **Cable clamp** -- mounted at the rear of the panel on either side, is used to hold the cable adjacent to the cable access hole.

- **Fiber access holes** -- in the top and bottom of the panel, permit protected routing of pigtails to a connector panel mounted either above or below the splice panel.

- **Circuit designation label** (provided) -- is attached to the front of the splice drawer. Circuit identification can be written on labels and attached to the designation label.

- **Rear cover** -- protects the rear of the chassis. It is attached by screws and is not intended to be removed.

- **Splice drawer** -- shown in both Figure 1 and in more detail in Figure 2 on Page 4.
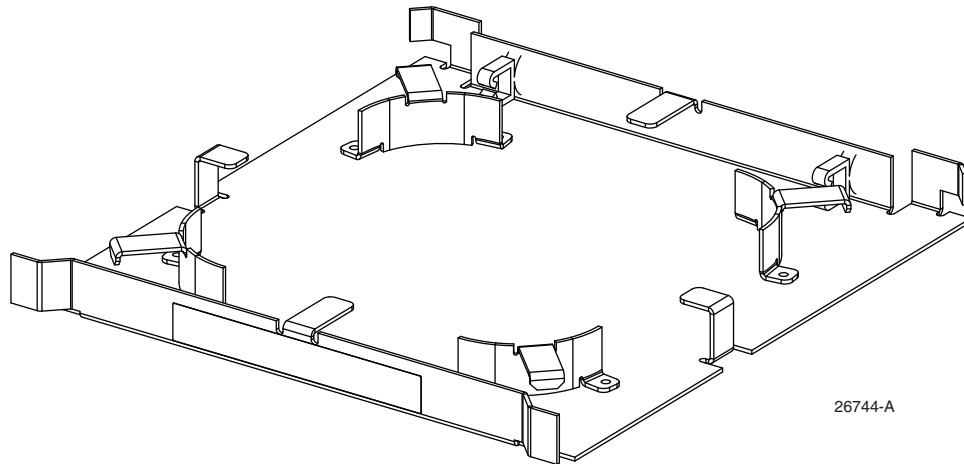

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Figure 2. Splice Drawer Used in the 1RU LSX Panels

3   Specifications

Table 1 lists specifications for the 1RU LSX Splice Panel.

Table 1: 1RU LSX Splice Panel Specifications

Feature	Specification
Dimensions	
Height	1.73 in. (4.39 cm)
Width	17 in. (43.18 cm)
Depth	11 in. (27.94 cm)
Mounting	19-inch or 23-inch rack
Splice Details	
Splice Drawers	1
Splice Trays	2
Catalog Number	**Splice Chip Type**
FST-F3DF-FT	Bare Fusion
FST-F3DF-HS	Heat Shrink Fusion
FST-F3DF-NT	Qpak
FST-F3DF-MT-D	Mass Fusion (only 1 per splice drawer)

4   Accessories

The splice panel contains one drawer, which accommodates two CommScope single-fiber splice trays. Single-fiber splice trays are available in three configurations, for which Individual catalog numbers are shown in Table 1. These configurations (Fusion, heat shrink, and Qpak) provide 12 splices using the appropriate splice chips. Alternatively, the splice drawer can hold one mass fusion tray, which accommodates 72 fibers (six 12-fiber ribbons).

Optional Interbay Management Panels (IMPs) are available for installation between frames. IMPs provide storage for patch cords between frames. Other accessories such as connector adapters, connector retainers, blank panels, and OSP and IFC clamp kits are available to complete the installation.

5   Installation

This section describes how to install the 1RU LSX Splice Panel in a frame. The sequence of procedures is as follows:

- Unpack and inspect
- Panel installation
- Cable routing
- Fiber storage
- Installing pigtails
- Splicing

5.1   Unpack

Unpack and inspect the various components as follows:

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

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

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

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

5.2   Panel Installation

This procedure describes how to install the 1RU LSX splice panel in a frame.

1. Release the latch on the front cover.

2. Lift the front cover from the hinges and place it where it will not be scratched or damaged.

3. The splice panel mounting brackets are installed for a 19-inch equipment rack. If a 23-inch equipment rack is being used, remove the brackets and install them with the short bracket side against the splice panel side.

4. If applicable, remove the vertical cable guide from each side of the frame position in which the splice panel is being installed.

5. Place the splice panel in its assigned position in the frame.

6. Insert two #12-24 screws supplied through the mounting bracket at each side of the chassis and in the frame as shown in Figure 3.

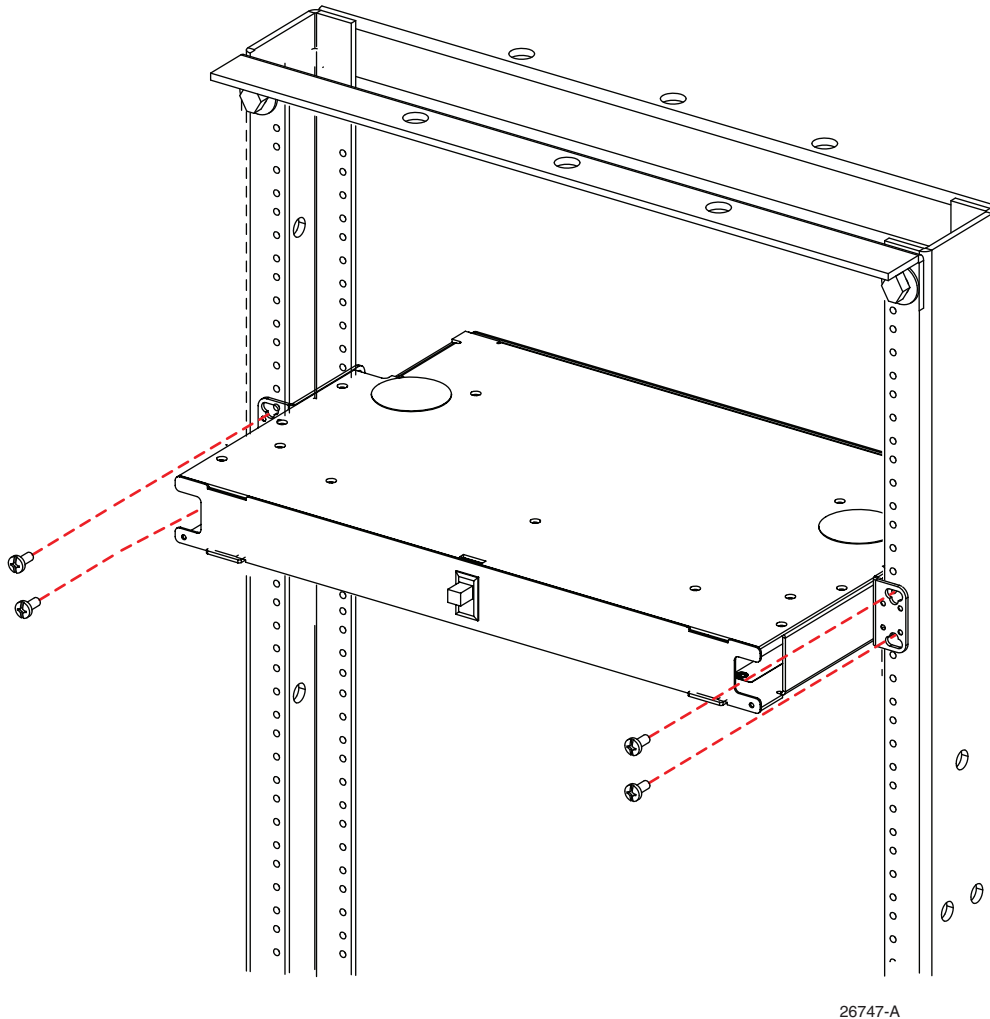26747-A

Figure 3. Mounting the Panel on a Frame

7. Install optional vertical cable guides or reinstall the removed guides.

8. Re-attach the front door.

5.3   Cable Routing

Danger!   *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the optical bulkhead of an operational transmitter, or into the launching (output) end of an active fiber. A clean, protective cap or hood MUST be immediately placed over any radiating bulkhead receptacle or optical fiber connector to avoid exposure to potentially dangerous amounts of radiation. This practice also helps prevent contamination of connectors and adapters.*

A cable clamp ships along with the panel. Cable installation is performed from the rear side of the splice panel. The OSP or IFC cables are routed to the back of the panel from either above or below the module.

Prior to splicing, all cables (OSP and IFC) are routed to and secured to the side of the splice panel using a cable clamp kit at the rear of the panel as shown in Figure 4. The clamp can be mounted on either side.
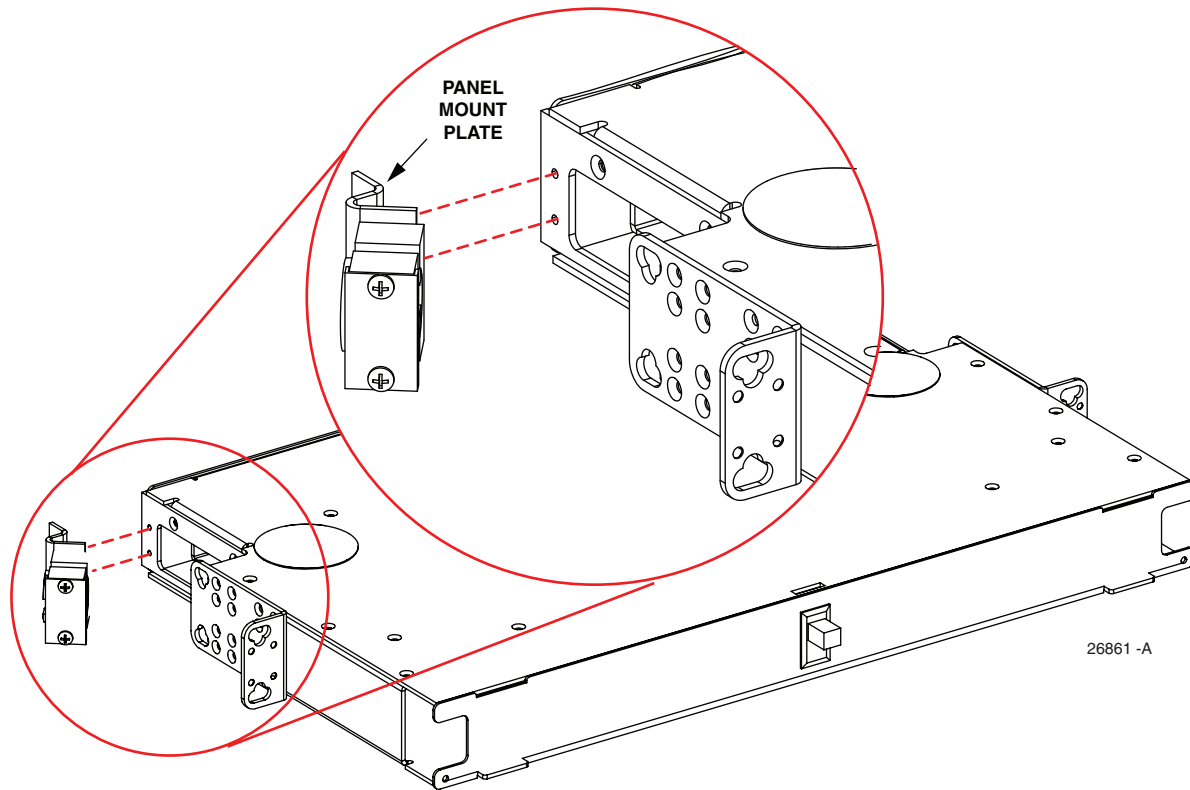

Figure 4. Cable Clamp Location on Rear of Panel
(Left Side Cable Entry Shown)

Cables should be clamped as close as possible to the splice panel to which the fibers will be routed to reduce the length of cable sheath that needs to be stripped and cleaned.

Strip the outer sheath of the cable to expose the inner fiber bundles. Clean the cable core as necessary per local practice. The cable sheath must extend about 0.75 inches (1.9 cm) beyond the cable clamp.

The service loop length shown in Figure 5 includes approximately 30 inches (76.2 cm) of fiber within the splice tray for splicing. If buffer tubes or fiber protector sleeves are needed, add them at this time.

Figure 6 shows the cable clamp components, Select a grommet that, when placed around the cable, has a gap of nearly 0 to 0.30 inches (0 to 8 mm). The grommet is not required if the cable diameter is between 0.7 inch and 0.8 inches (1.78 cm and 2.03 cm).
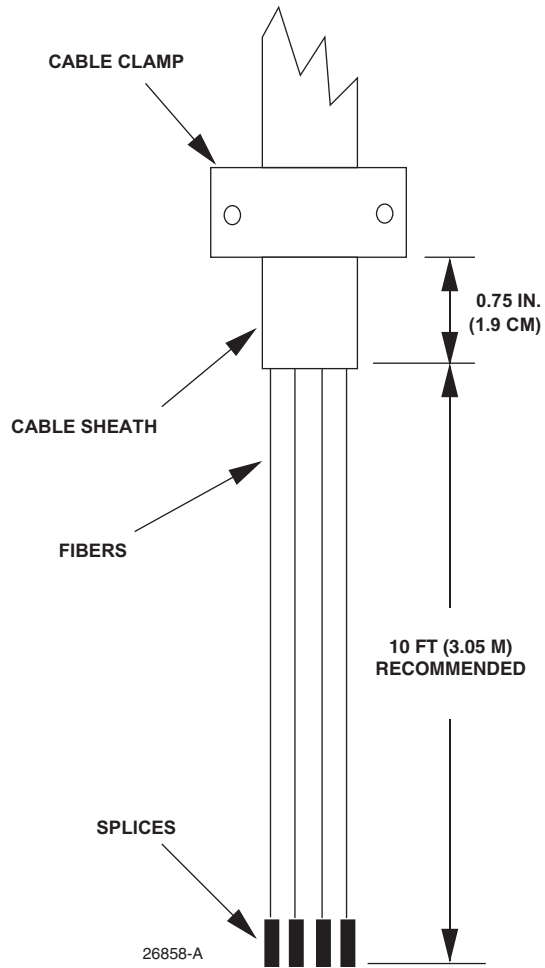
CABLE CLAMP

0.75 IN.
(1.9 CM)

CABLE SHEATH

FIBERS

10 FT (3.05 M)
RECOMMENDED

SPLICES

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Figure 5. Sheath Opening for OSP/IFC Cables

INSERT
SCREWS

BACK PLATE

PANEL
MOUNT
PLATE

BASE
SCREWS
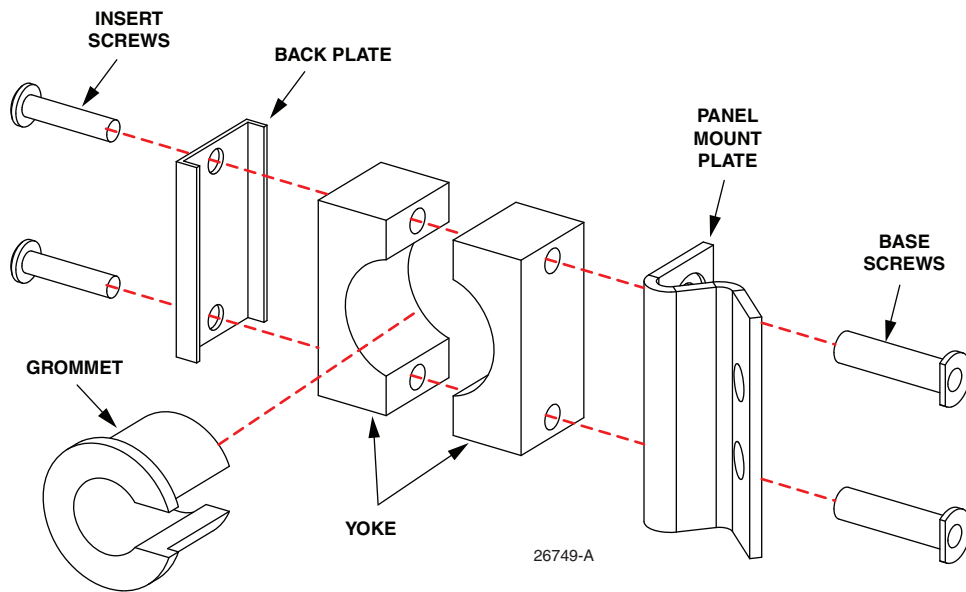
GROMMET

YOKE

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Figure 6. Cable Clamp Components

Assemble the cable clamp components and attach the clamp to the side of the chassis.

Some outside plant cables are constructed with a metallic strength member or a metallic inner sheath. Since OSP cables are exposed to electrical hazards, all metallic member OSP cables must be bonded to ground. Follow local practice using an approved sheath grounding kit connected to the #6 framework ground lead.

5.4 Fiber Storage

Route the cable through a cable access hole to the splice drawer within the splice panel. Service loop should be stored in the assigned drawer per Figure 7, which shows a left entry routing. Cables may also enter from the right side, in which case the routing is a mirror image of what is shown in Figure 7. Make sure to route fibers through the retaining ring in the back of the drawer. Passing the fibers through the retaining ring is required for the first pass only.

Each cable after left side entry should make two counter-clockwise revolutions as jacketed cable outside of the splice tray and two counter-clockwise revolutions as bare cable inside of the splice tray. If cable entry is on the right side of panel, each cable should make two clockwise revolutions as jacketed cable outside of the splice tray and two clockwise revolutions as bare cable inside of the splice tray. The transition from the jacketed to bare should occur at location (b) in Figure 7, where the cable should be secured with tie wraps.
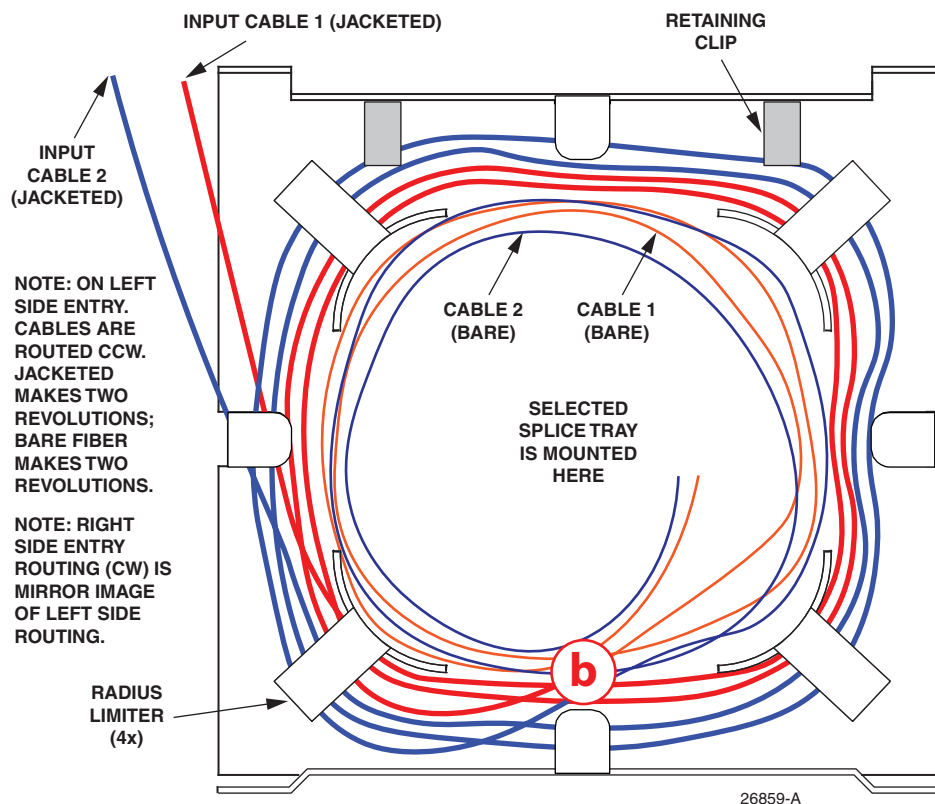

Figure 7. Fiber Routing in Splice Drawer
(Left Side Cable Entry Shown)

5.5 Pigtails

If used, Individual fibers with a factory installed connector on one end should be bundled together in groups (usually 12) and protected by a braided sleeve or loose tubing, and routed from a connector panel to the splice panel through the fiber pass-through holes at the top or bottom of the splice panel, depending on the location of the connector panel.

Because the pigtails and fiber bundles must form a single service loop to enter the splice tray, both bundles must enter the splice panel from the same side (either left or right side).

5.6 Splicing

The splice panel accommodates most splicing methods which should be performed in accordance with local practices. The splice tray splice chip should be selected to match the local splice method. Use the following procedure.

1. Open the drawer and remove the splice tray while carefully uncoiling the service loop.

2. Secure the fiber bundles to the splice tray with tie wraps as shown in Figure 8. The tie wraps should secure the protective sleeve or jacket but must not pinch the fibers.

3. Route the fibers on the splice tray as shown in Figure 8. The routing in the splice tray is dependent on the fiber entry direction (either from the left or the right).

4. Splice using local practice.

5. When splicing is complete, snap the protective cover on the splice tray.

6. Coil the service loop counter-clockwise (if the fiber entry is from the left) or clockwise (if the fiber entry is from the right), around the radius limiters in the splice drawer. Avoid twisting the service loop when coiling around the radius limiters.

7. Place the splice tray in the center of the drawer and push the drawer into the chassis.

8. Record the cable fiber identification on the designation label attached to the front cover.

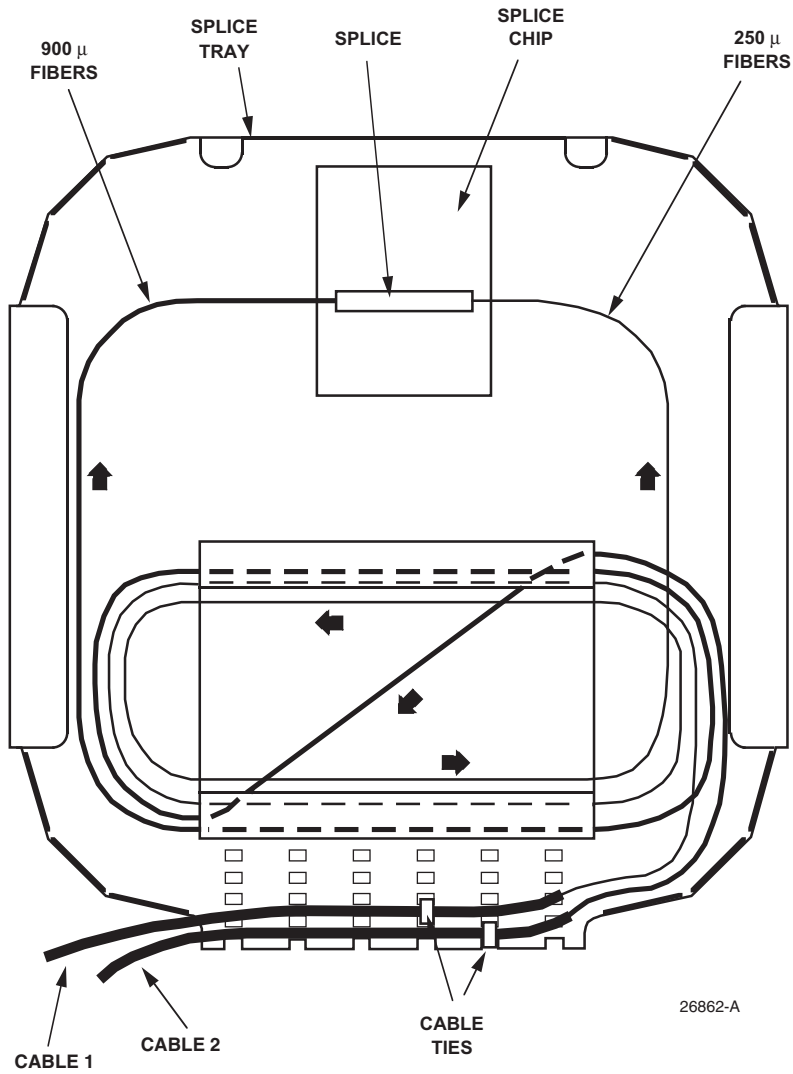9. Repeat this procedure for additional splice trays as required.

Figure 8. Fiber Routing in Splice Tray

6   Contact Information

- 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