860628916
Rev B, January 2019
www.commscope.com

HD-1U-SP and HD-2U-SP
Fiber Optic Splicing Shelf

General

The HD-1U-SP and HD-2U-SP fiber optic splicing shelves come equipped with a modular faceplate, fiber management trough, removable front door and a steel, security top cover. These shelves will terminate and splice (single fusion) up to 96 LC ports per rack unit (1U). These shelves are intended for indoor use, but may be used outdoors in a suitable enclosure.

Ordering information is listed below:

Material ID	Part No.	Description
760231506	HD-1U-SP	HD modular 1U sliding shelf
760231514	HD-2U-SP	HD modular 2U sliding shelf

HD-1U-SP and HD-2U-SP Fiber Optic Splicing Shelves

How to Contact Us

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

- For technical assistance, use our online interface to filter by problem and location: http://www.commscope.com/SupportCenter

- To report any missing/damaged parts: within the United States, contact **CommScope** Customer Claims at 1-866-539-2795 or email to claims@commscope.com; outside the United States, contact your local account representative or **PartnerPRO** Network Partner.

Tools Required

- Phillips-head screwdrivers (#1 for top cover, #2 for door removal. #3 for rack attachment)
- Isopropyl Alcohol (IPA)
- Lint-free cloth or tissues

This product is covered by one or more U.S. patents or their foreign equivalents. For patents, see www.commscope.com/ProductPatent/ProductPatent.aspx

Available Accessories

| Material ID	Part No.	Description
760027516	RS-00	**RoloSplice** (unpopulated, splice trays available separately)
760031849	RS-4AM-12SF	**RoloSplice**, 2U version, equipped w/ mechanical splice trays
760031856	RS-4AF-16SF	**RoloSplice**, 2U version, equipped w/ fusion splice trays
760039859	RS-2AM-12SF	**RoloSplice**, 1U version, equipped w/ mechanical splice trays
760039867	RS-2AF-16SF	**RoloSplice**, 1U version, equipped w/ fusion splice trays
760148536	360-SPLICE-24-FUS	Fusion splice holder kit, stackable
760148502	360-LP-STACK-SPT	Stackable fusion splice tray kit
760032102	MODG2-BLANK	G2 Modular blank panel bezel (package of 4)
760039875	G2-SRF	Liquid-tight cable fitting kit for small-diameter cables
760039883	G2-23BRKT	Frame mounting bracket kit for 23" frames and ETSI frames
760056549	G2G2-Fiber Drum Kit	Includes 2 fiber drums and mounting hardware
760058701	RMB-5-3	360 G2 2U trough flip label kit
760058677	RMB-6-1/2	**InstaPATCH Plus** attachment bracket, rack mounted, six 1/2" fittings
760058685	RMB-6-3/8	**InstaPATCH Plus** attachment bracket, rack mounted, six 3/8" fittings
760122895	BAF-1/2-NPT	Bracket for Armor Fitting, 1/2 NPT
760122903	BAF-3/4-NPT	Bracket for Armor Fitting, 3/4 NPT
760122911	BAF-1-NPT	Bracket for Armor Fitting, 1 NPT
760122929	BAF-1-1/4-NPT	Bracket for Armor Fitting, 1-1/4 NPT
760122937	BAF-1-1/2-NPT	Bracket for Armor Fitting, 1-1/2 NPT

Parts List

Verify parts against the parts list below:

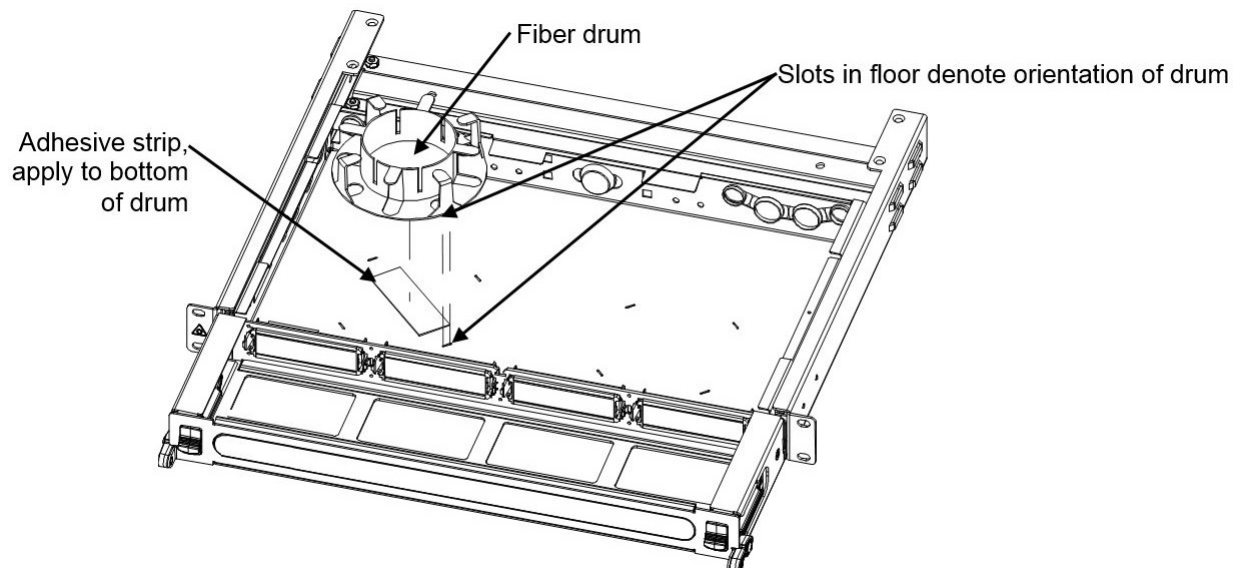| Quantity	Description
1	Shelf assembly, including door, trough and top cover
1	Label sheet
1	Label holder
4	#12-24 x 1/2-inch screws for 19-inch (483mm) and 23-inch (584mm) rack mounting
4	M6 x 12 mm screws for ETSI rack mounting
2	Liquid-tight strain relief fittings (black)
1	Instruction sheet

⚠️ Important Safety Cautions

- Disconnected optical components may emit invisible optical radiation that can damage your eyes. Never look directly into an optical component that may have a laser coupled to it. Serious and permanent retinal damage is possible. If accidental exposure to laser radiation is suspected, consult a physician for an eye examination.

- Wearing safety glasses during installation of this shelf is recommended. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.

Step 1 – Remove Top Cover and Door

Remove screws (2)

Top cover guide features

Slide top cover out

Remove door

Remove hinge
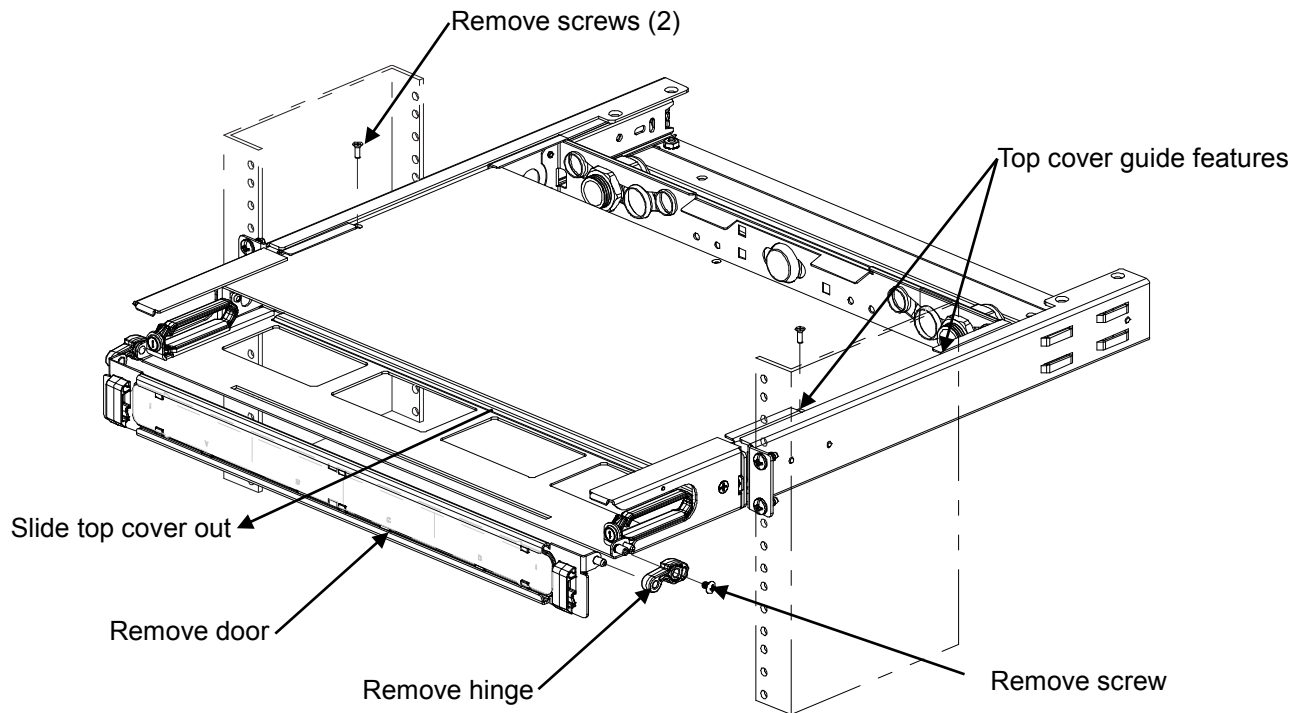
Remove screw

1. Remove two screws at top cover and retain for re-installation at final step.
2. Slide top cover out, through the opened door.

To remove opened door, if required:

3. Remove screw from the door hinge on one side only.
4. While holding door steady, remove hinge.
5. Slide door laterally toward door hinge that was removed and remove door.
    - Reverse items 1-2 to re-install top cover
    - Reverse items 3-5 to re-install door.

Step 2 – Install Optional Fiber Drums (if required)

Fiber drum

Slots in floor denote orientation of drum

Adhesive strip, apply to bottom of drum

1. Wipe bottom surface of drums and floor of shelf with isopropyl alcohol (IPA) and a lint-free cloth or tissue to clean and degrease.

2. Peel off paper backing from one side of adhesive strip and apply to base of fiber drum.

3. Remove paper backing from remaining side of adhesive strip.

4. Locate pattern of four slots on floor of shelf. Orient outer spokes of fiber drum to align with these slots, lower drum and press firmly to create good adhesion.

   Note: Drum location and orientation is important to prevent interference between drums, adapters and **RoloSplice** (optional).
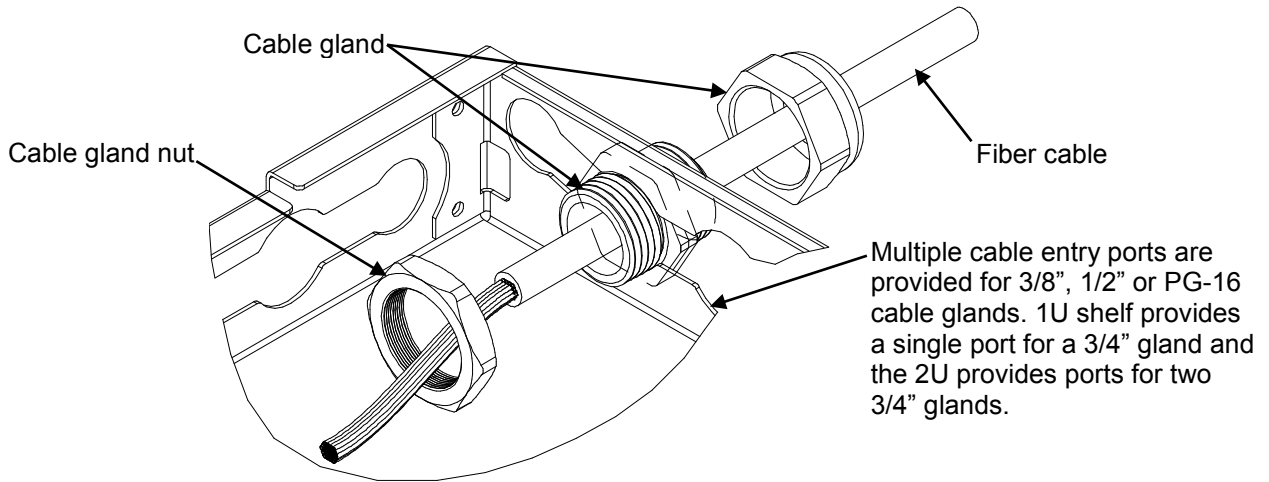
5. Repeat items 1-4 for remaining drum, if desired.

Step 3 – Mount Shelf to Rack

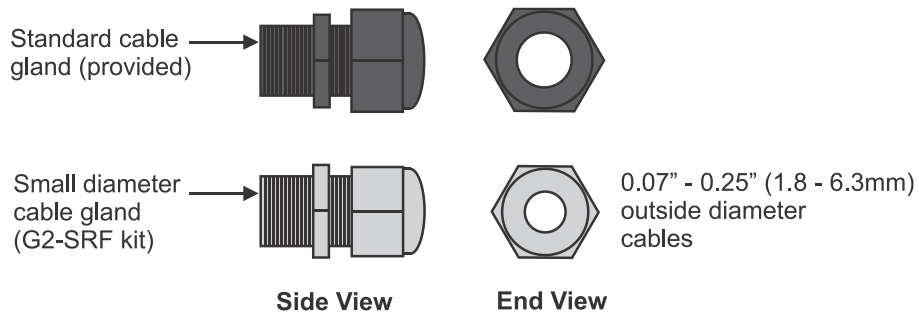
#12-24 mounting screw (4)
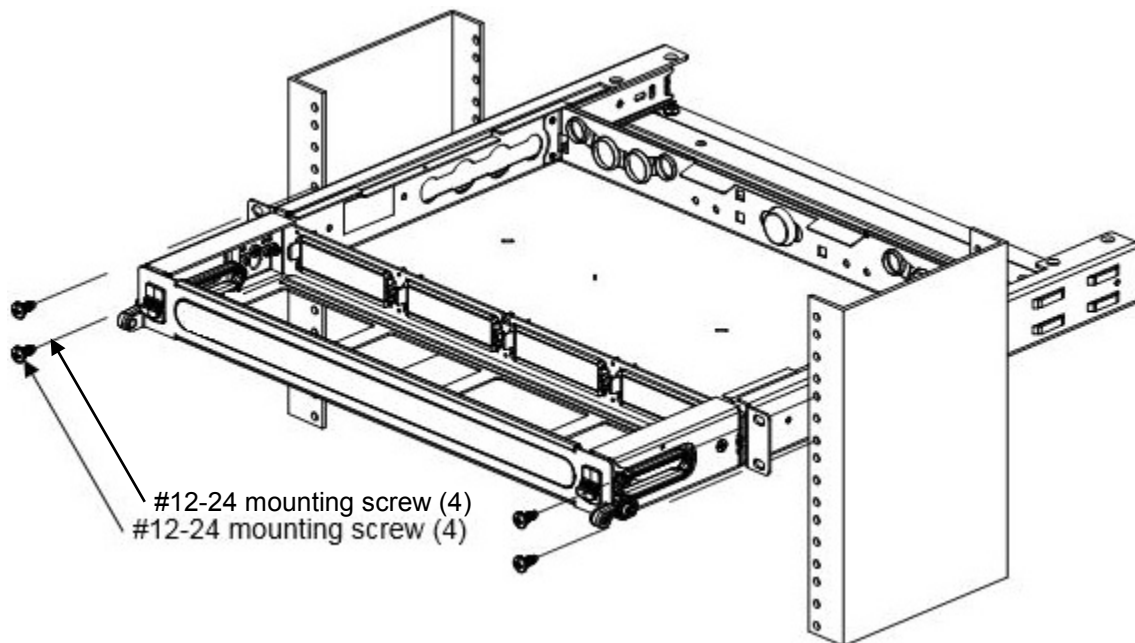
1. Determine the rack size and desired mounting location.

   - For 19-inch (483mm) rack – Mount shelf to rack using the pre-installed mounting brackets and four #12-24 x 1/2-inch screws (provided) as shown.

   - For 23-inch (584mm) rack – Use G2-23BRKT accessory kit (available separately) and install two conversion brackets to pre-installed mounting brackets, using four #10-32 x 3/8-inch conversion screws included in accessory kit. Use one conversion bracket and two screws per side. Mount shelf to rack using four #12-24 x 1/2-inch screws (provided as part of basic shelf).

   - For ETSI rack – Use G2-23BRKT accessory kit (available separately) and install one conversion bracket to either of the pre-installed mounting brackets, using two of four #10-32 x 3/8-inch conversion screws included in accessory kit. The shelf will not be centered when mounted in rack. Mount shelf to rack using four M6 x 12mm screws (provided as part of basic shelf).

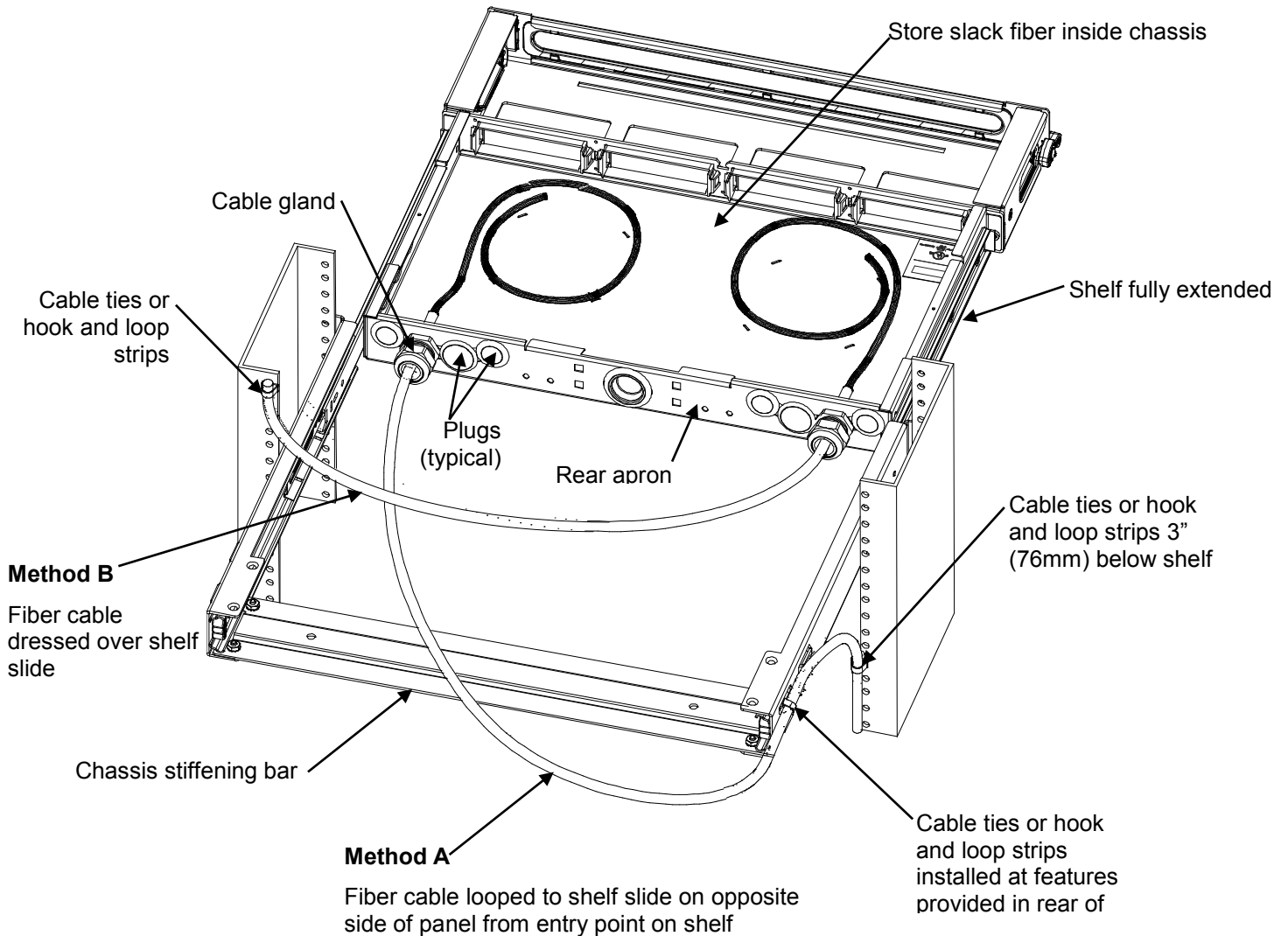## Step 4 – Secure Fiber Cable to Shelf

Note: This shelf is designed for direct connection of fiber cables using cable glands inserted into cable entry ports provided. Another method for securing fiber cables is the use of optional rack mounted brackets, which is not covered here. See instruction sheet 860380781 for using rack mounted brackets. NPT-1/2"-E sized glands are supplied with shelf, but other sizes are available from www.sealconusa.com

Cable gland

Cable gland nut

Fiber cable

Multiple cable entry ports are provided for 3/8", 1/2" or PG-16 cable glands. 1U shelf provides a single port for a 3/4" gland and the 2U provides ports for two 3/4" glands.

Note: For smaller diameter cables, the 600-SRF kit (ordered separately) provides two liquid-tight fittings with a smaller inside diameter. The smaller diameter fittings would be more appropriate for these cables.

Standard cable gland (provided)

Small diameter cable gland (G2-SRF kit)

0.07" - 0.25" (1.8 - 6.3mm) outside diameter cables

Side View   **End View**

Step 5 – Route and Secure Fiber Cable

Store slack fiber inside chassis

Cable gland

Cable ties or hook and loop strips

Shelf fully extended

Plugs (typical)

Rear apron

Cable ties or hook and loop strips 3" (76mm) below shelf

Method B

Fiber cable dressed over shelf slide

Chassis stiffening bar

Method A

Fiber cable looped to shelf slide on opposite side of panel from entry point on shelf

Cable ties or hook and loop strips installed at features provided in rear of

1. Fiber cables may enter shelf from right side, left side or rear apron. Carefully loop fiber cable to rear of shelf on either side and continue to feed cable over top of rear apron. Loosely secure cable to rear of shelf as shown above, using a cable tie or hook-and-loop strip.

2. Temporarily store slack fibers inside shelf.

3. Remove plug from appropriate size opening in shelf to accommodate cable gland on fiber cable. Select an opening on rear apron that will be most advantageous for cable entry.

4. Completely loosen gland nut from cable gland.

5. Feed fibers and subunit tubes through opening in shelf and temporarily coil fibers loosely inside shelf.

6. Rotate gland nut as required to allow it to pass through the opening and enter shelf.
   Note: It may be necessary to temporarily remove a plug from an adjacent opening to provide sufficient clearance for gland nut to be inserted through opening.

7. Insert threaded body of cable gland into opening and tighten gland nut onto threaded section to secure cable gland unit to shelf.

Method A

1. Working back from where the fiber cable enters shelf (at a cable gland), carefully loop cable over rear chassis stiffening bar and then to outside of shelf slide on opposite side of panel from cable entry point as shown. Maintain cable in as small of a radius as possible while not exceeding minimum bend radius for cable. Secure fiber cable to shelf slide in at least two places using cable ties or hook-and-loop strips threaded through slots and punches provided in rails. **Do not secure cables to chassis stiffening bar.**

2. From shelf slide, route cable to equipment rack and loosely secure cable to rack upright approximately 3 inches (76mm) above or below shelf, using a cable tie or hook-and-loop strip.

   Note: Do not exceed minimum bend radius for fiber cable.

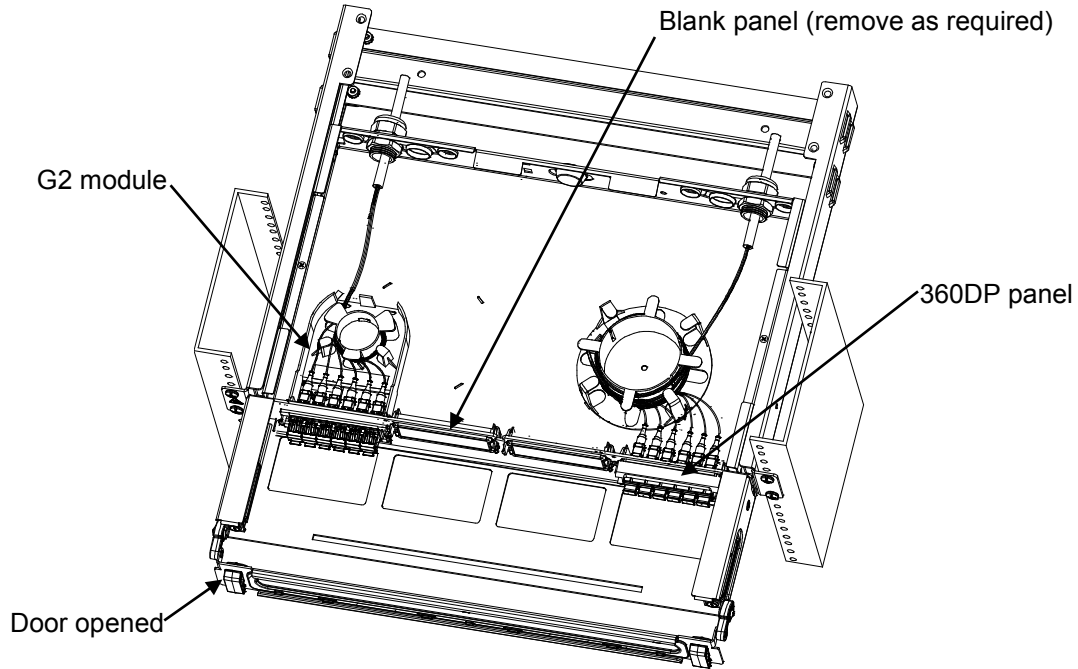3. Verify that shelf retracts and extends fully before proceeding.

Method B

Note: This method reduces the slack loop length at rear of shelf but it requires an open space of at least 1U above a 1U shelf to work. 2U shelves do not have this restriction.

1. Working back from where the fiber cable enters shelf (at a cable gland), carefully loop cable over rear chassis stiffening bar and then across shelf slide on opposite side of chassis from cable entry point as shown. Maintain cable in as small of a radius as possible while not exceeding the minimum bend radius for the cable. **Do not secure cables to chassis stiffening bar or slide.**

2. Route cable to equipment rack and loosely secure cable to rack upright approximately 3 inches (76mm) above or below shelf, using a cable tie or hook-and-loop strip.

3. Verify that shelf retracts and extends fully before proceeding.

4. Figure below shows typical fiber loop when shelf is retracted.

Shelf fully retracted

Method B

Cable ties or hook and loop strips

Method A

Slack loop of fiber with shelf in retracted position
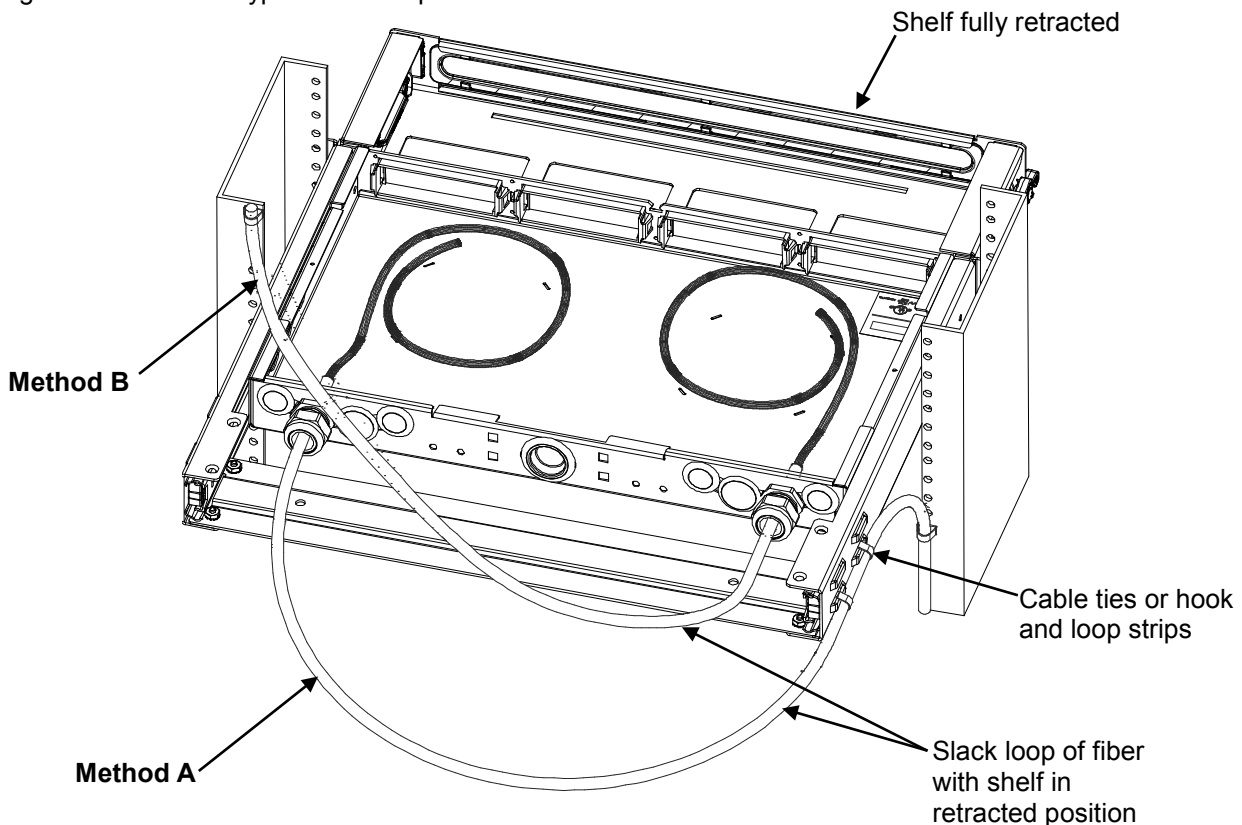
Step 5a – Route Cable/Fibers Inside Shelf (Field Termination Only)

Blank panel (remove as required)

G2 module

360DP panel

Door opened

G2 Module Application:

1. Remove clear plastic cover from G2 module and insert module into opening provided in faceplate, oriented so that the rear passes through the opening first. Push until module snaps into place.

   Note: On a 2U shelf, start on the bottom row first.

2. After connectorization, route buffered fibers from cable toward front of tray.

3. Terminate connector end of pigtails into module adapter openings in standard sequence.

4. Spool excess fiber slack length around drum integrated into module.

5. Replace cover on G2 Module.

6. Repeat items 1-5 for all remaining locations.

   Note: Any excess fiber that cannot be spooled on drums should be restrained to floor of shelf with hook-and-loop strips or blue painters tape.

360DP Panel Application:

1. Insert panel into opening provided in faceplate.

   Note: On a 2U shelf, start on bottom row first.

2. After connectorization, route buffered fibers from cable toward front of tray.

3. Terminate connector end of pigtails into module adapter openings in standard sequence.

4. Spool excess fiber slack length around drum.

5. Repeat items 1-4 for all remaining locations.

   Note: Any excess fiber that cannot be spooled on drums should be restrained to floor of shelf with hook-and-loop strips or blue painters tape.

## Step 5b – Route Cable/Fibers Inside Shelf – Termination and Splicing
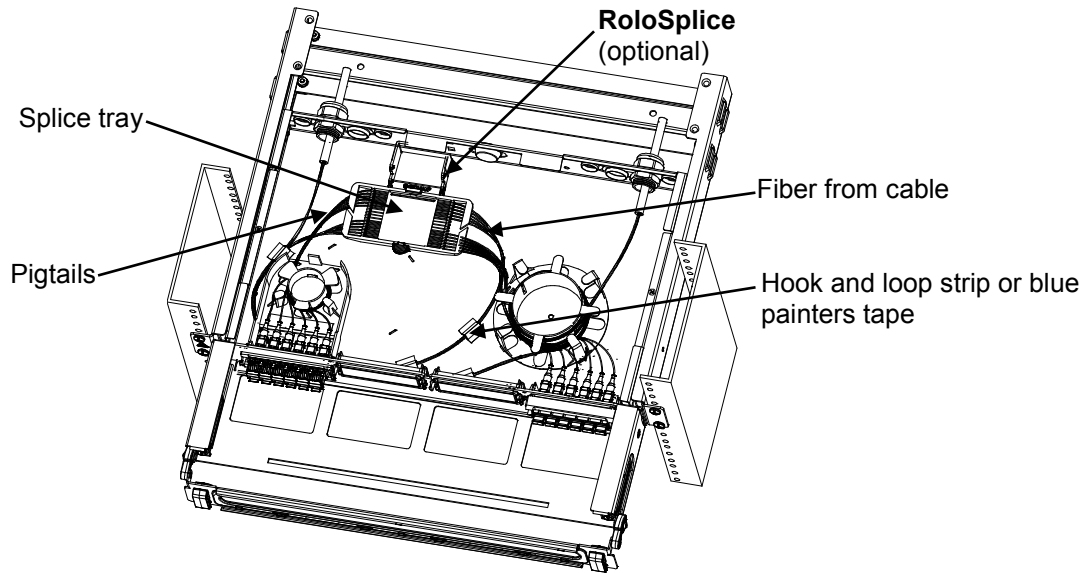
G2 Module Application:

1. Remove clear plastic cover from G2 module and insert module into opening provided in faceplate, oriented so that the rear passes through opening first. Push until module snaps into place.

   Note: On a 2U shelf, start on the bottom row first.

2. If module came equipped with pigtails already installed, spool out length sufficient for splicing operations. If pigtails were provided separately, terminate connector end of pigtails into module adapter openings in standard sequence and leave slack length free.

3. Splice pigtails to appropriate fibers from cable per best standard practice.

4. Secure splices into splice tray and route fibers from cable and pigtails from module neatly inside shelf. Contain pigtail slack on spool integrated into module. Fibers from cable should be looped onto shelf floor and restrained.

5. Replace cover on G2 Module.

6. Repeat steps 1-5 for all remaining locations.

   Note: Any excess fiber that cannot be spooled on drums should be restrained to floor of shelf with hook-and-loop strips or blue painters tape.

360DP Panel Application:

1. Insert module into opening provided in faceplate.

   Note: On a 2U shelf, start on bottom row first.

2. Terminate connector end of pigtails into panel adapter openings in standard sequence and leave slack length free.

3. Splice pigtails to appropriate fibers from cable per best standard practice.

4. Secure splices into splice tray and route fibers from cable and pigtails from adapters neatly inside shelf. Loop pigtail and fiber slack on drum.

5. Repeat steps 1-4 for all remaining locations.

   Note: Any excess fiber that cannot be spooled on drums should be restrained to floor of shelf with hook-and-loop strips or blue painters tape.
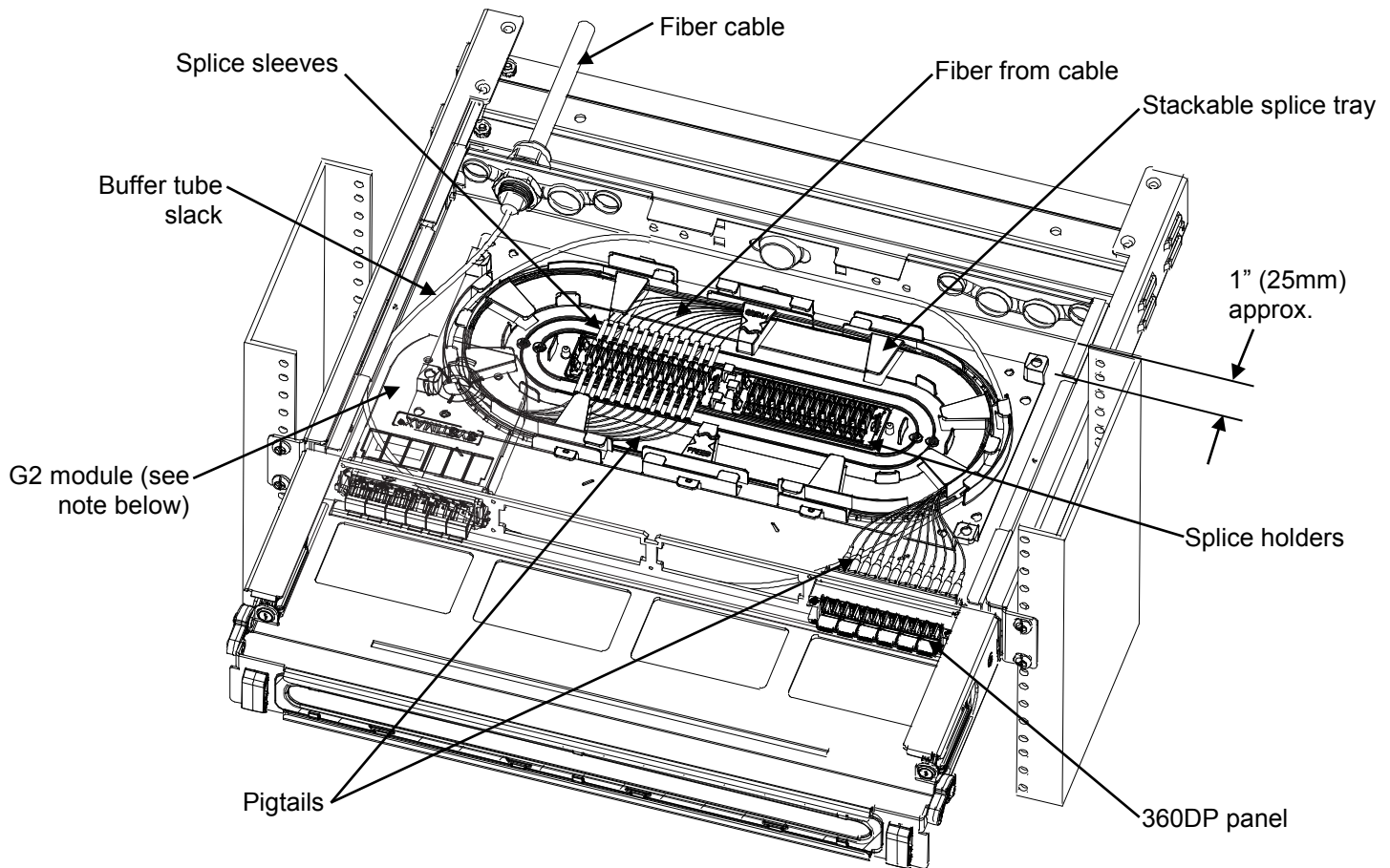
Figures below show 1U and 2U shelves fully populated and featuring the optional **RoloSplice** multiple splice tray organizer.
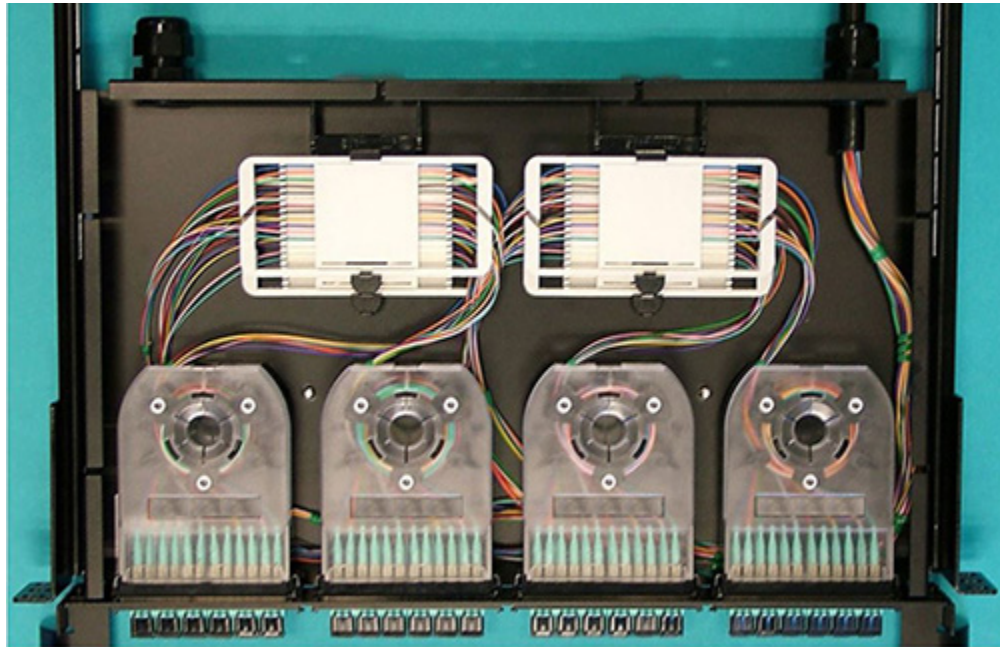
Completed 1U shelf with RoloSplice
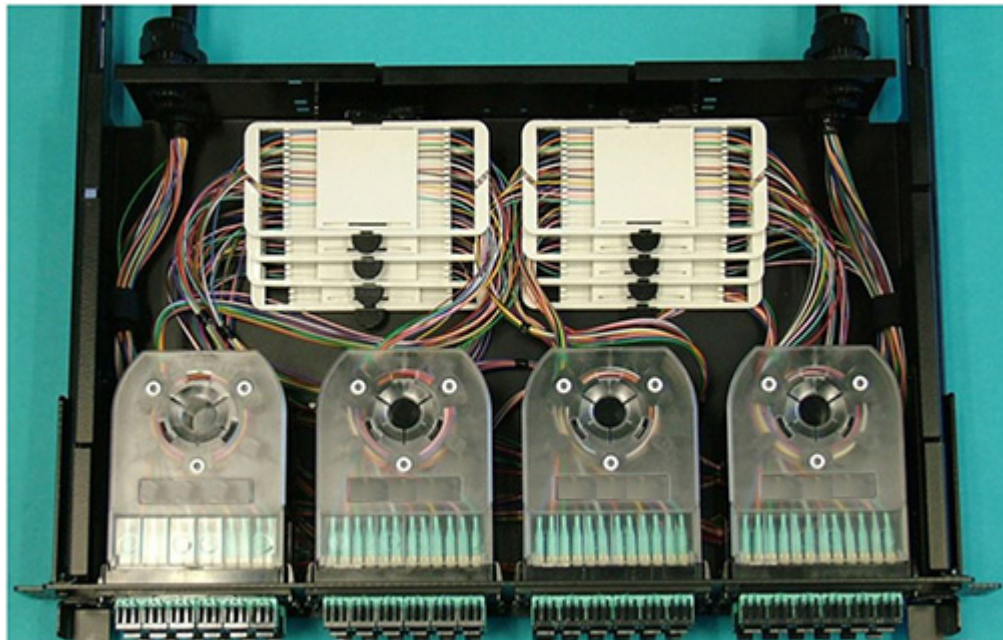
Completed 2U Shelf with RoloSplice

Step 5c – Route Fiber/Cable Inside Shelf Using Optional Stackable Splice Trays

Note: Stackable splice tray kit (MID 760148502) is ordered separately from shelf. Refer to instructions enclosed with that kit for all details not covered here.

1. Using a lint-free wipe and isopropyl alcohol, clean area where splice tray is to be located.

2. Peel off paper backing from splice tray. Center over shelf floor approximately 1" (25mm) from rear wall and press down firmly. If permanent adhesion to the floor is not desirable, installer provided hook-and-loop or mechanical fasteners (such as **Micro Plastics**® p/n 011032ABTS050 stud and 0401032HFN nut) may be used.

3. Route buffer tube(s) to tray, as shown above. Buffer tube slack shall be spooled inside perimeter of chassis and restrained to tray with cable ties at tie-down points provided, as necessary.

Fiber Management When Using Stackable Splice Trays

1. Trim all pigtail lengths to 1 meter (39 inches) or less.

2. Terminate a fiber pigtail into panel, color keying as required. Repeat for all remaining locations.

3. Perform fusion splicing operations per best practices and snap splice sleeves into holders provided inside of tray.

4. Wind and dress fibers from buffer tube(s) into tray.

5. Wind and dress pigtails into tray.

6. After tray is fully populated, snap on clear plastic top cover.

7. Repeat steps 1-6 for any/all additional trays.

Note: G2 modules and a single stackable splice tray may be used together, but stacking additional trays is not possible. A single tray will provide for 48 single fusion splices for a full complement of G2 modules in a 1U shelf. If used in a fully populated 2U shelf, the ability to accommodate 96 single fusion splices in a single tray is made possible by using a 360-SPLICE-24-FUS kit. This kit provides additional splice sleeve holders that stack and snap onto those already in the tray. In this scenario, the plastic splice tray cover cannot be used. Consult instructions provided with the 360-SPLICE-24-FUS kit for more details of use.
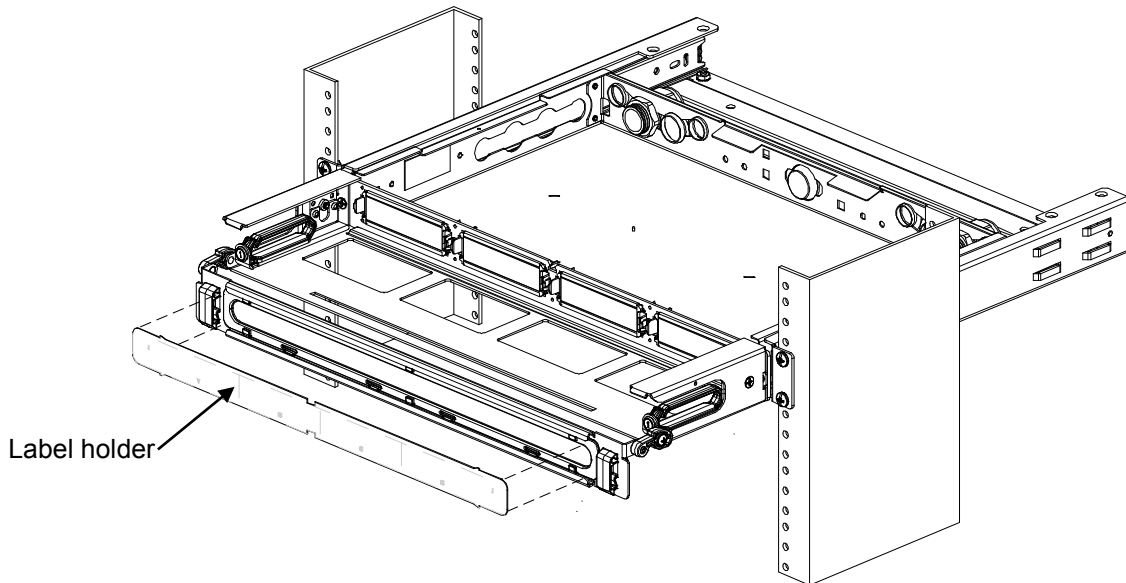
## Step 6a – Apply Jumper Designation Labels
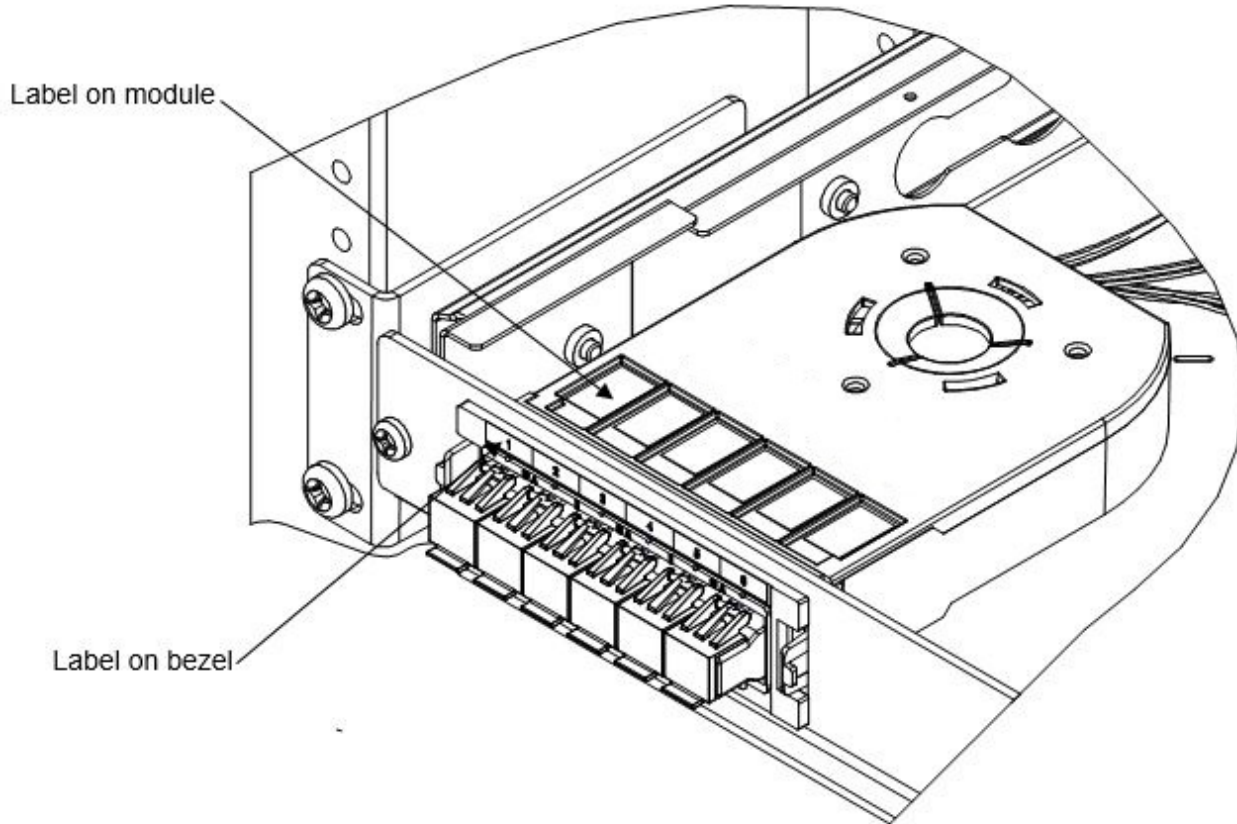
Apply Label to Module and Bezel

1. The included jumper designation labels may be applied to module cover and/or bezel, as shown above.

Step 6b – Install Label on Trough Door

Label holder

1. The door may be fitted with labels visible through the door window when closed or may be visible when the door is open.
2. Open door to 180°.
3. Slide label holder under clips on door, three on the top and three on bottom of door.
4. Slide label holder to left or right to secure (depending on label orientation). Note that there are small stops to resist label sliding past door edge.

Slide label until slot clears door clip and locks label in place.
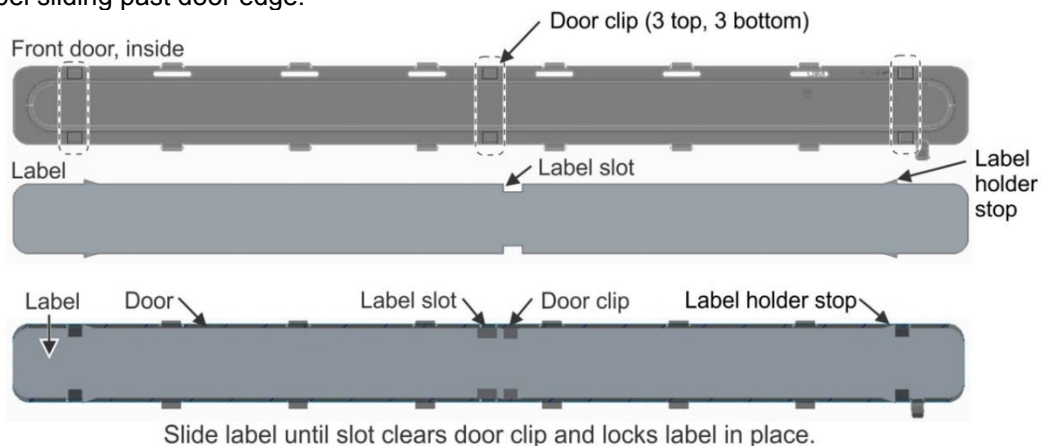
Printable label templates are available on the **CommScope**® website, which can be used along with available label stock to create finished port numbering labels.

Note: To print a designation label, go to http://www.commscope.com/Resources/Labeling-Templates, scroll down to the high-density fiber shelf and select the appropriate label template.

Step 7 – Re-install Top Cover and Door

1. Re-install top cover and door in reverse order of procedure in Step 1 for removal of top cover and door.