COMMSCOPE®

Instruction Sheet

860456664
Issue 7, April 2014
www.commscope.com

POWERED BY | **SYSTIMAX®**

SYSTIMAX 360™ 360G2 Combination Shelf Instructions –Sliding and Fixed Versions

General

The **SYSTIMAX 360**™ 360G2 1U and 2U fiber optic combination shelves come equipped with a modular faceplate, fiber management trough, and polycarbonate top cover. The unpopulated 360G2 shelves are similar, but do not include a faceplate (which must be purchased separately). 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
760193771	360G2-1U-MOD-SD	360G2 modular 1U shelf, sliding
760193763	360G2-1U-MOD-FX	360G2 modular 1U shelf, fixed
760193854	360G2-2U-MOD-SD	360G2 modular 2U shelf, sliding
760193847	360G2-2U-MOD-FX	360G2 modular 2U shelf, fixed
760193821	360G2-1U-UP-FX	360G2 unpopulated 1U shelf, fixed, w/o faceplate
760193839	360G2-1U-UP-SD	360G2 unpopulated 1U shelf, sliding, w/o faceplate
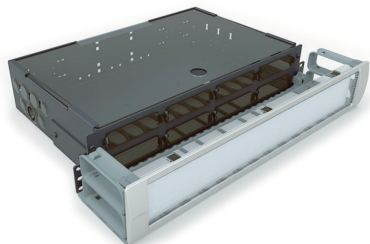
360G2 Modular 2U Fixed Shelf   **360G2 Modular 1U Sliding Shelf**

How to Contact Us

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

- For technical assistance:

    – Within the United States, contact your local account representative or technical support at 1-800-344-0223. Outside the United States, contact your local account representative or **PartnerPRO**™ Network Partner.

    – Within the United States, report any missing/damaged parts or any other issues to **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.

This product is covered by one or more of the following U.S. patents or their foreign equivalents: 5,923,807, 6,245,998.

Tools Required

- Phillips-head screwdriver
- Isopropyl Alcohol (IPA)
- Lint-free cloth or tissues

Available G2 and 360 InstaPATCH® Modules (For Use with Modular 360G2 Shelf)

Contact your **SYSTIMAX** sales representative for the latest information on the wide variety of modules that are compatible with this product.

Available Faceplates (for Use with Unpopulated 360G2 Shelf)

Material ID	Part No.	Description
760033894	600-12SC-SPLX	Panel, 12 simplex SC
760033886	600-24SC-SPLX	Panel, 24 simplex SC
760033878	600-24SC-DPLX	Panel, 12 duplex SC
760033910	600-12ST-SPLX	Panel, 12 simplex **ST**
760033902	600-24ST-SPLX	Panel, 24 simplex **ST**
760033860	600-48SC-DPLX	Panel, 24 duplex SC
760033852	600-24LC-SPLX	Panel, 24 simplex LC
760033845	600-48LC-DPLX	Panel, 48 duplex LC
760055996	600-96LC-DPLX	Panel, 96 duplex LC
760055988	600G2-96LC-DPLX-LS	Panel, equipped w/ 48 duplex LC LS adapters
760056051	600G2-96LC-DPLX-SM	Panel, equipped w/ 48 duplex LC SM adapters
760056044	600G2-96LC-DPLX-MM	Panel, equipped w/ 48 duplex LC MM adapters
760069336	600G2-96LC-DPLX-SM APC	Panel, equipped w/ 48 duplex LC SM APC adapters
760101741	600G2-1U-IP-UP	600G2 1U Adapter Panel Front Faceplate, unpopulated
760066340	600G2 2U-6X IP Faceplate	600G2 2U Adapter Panel Front Faceplate, unpopulated

Note: Adapters/modules/panels must be purchased separately, unless description includes "…equipped w/…"

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
760057059	SW-03	Splice Wallet, accepts 3 splice trays (1U Shelf Only)
760148502	360-LP-STACK-SPT	Stackable fusion splice tray kit
760032102	MODG2-BLANK	G2 Modular blank panel bezel (package of 4)
760032110	MODG2-MGS	G2 Modular MGS bezel (package of 4)

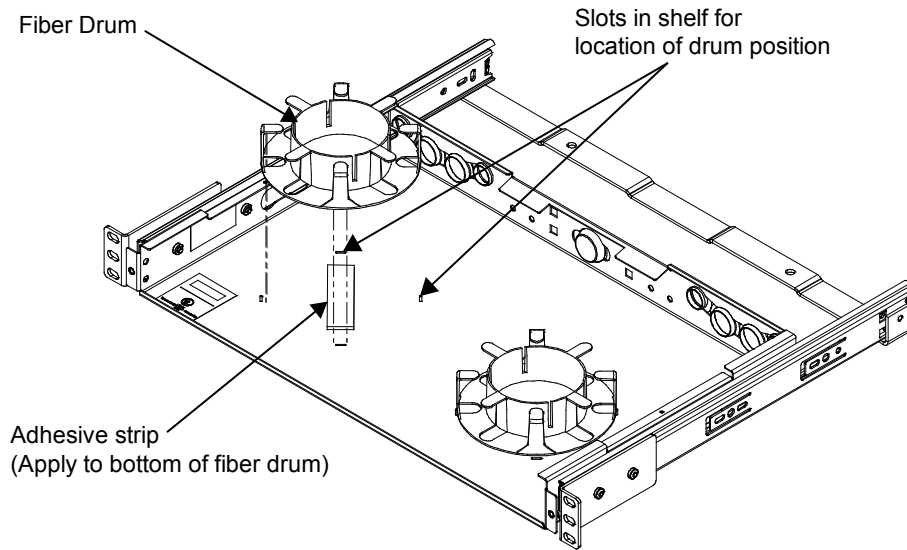| Material ID	Part No.	Description
760039875	G2-SRF	Liquid-tight cable fitting kit for small-diameter cables
760039883	G2-23BRKT	Frame mounting bracket kit for 23" frames and ETSI frames
760056549	G2G2-Fiber Drum Kit	Includes 2 fiber drums and mounting hardware
760055921	G2-Cover Metal	Metal (Security) top cover for shelf
760107482	DP360-BLANK	360 **InstaPATCH** blank panel (pkg of 4)
760107490	DP360-2MPO	360 **InstaPATCH** 2 MPO adapter panel
760107508	DP360-4MPO	360 **InstaPATCH** 4 MPO adapter panel
760107516	DP360-6MPO	360 **InstaPATCH** 6 MPO adapter panel
760107524	DP360-8MPO	360 **InstaPATCH** 8 MPO adapter panel
760105676	360 G2-1U-FLK	360 G2 1U trough flip label kit
760105684	360 G2-2U-FLK	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 (fixed or sliding)
1	Trough assembly (includes door assembly)
1	Polycarbonate top cover
1	Label sheet (MOD shelves only)
1	Flip label holder
3	Label hangers
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)
2	3" fiber drums (UP shelves only)
1	6" strip of double-sided tape (UP shelves only)
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 – Install Fiber Drums (for Unpopulated Versions of Shelf)

Fiber Drum

Slots in shelf for
location of drum position

Adhesive strip
(Apply to bottom of fiber 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 2 – Mount Shelf to Rack

12-24 mounting
screw (4 places)

Standoff
(2 places)

Faceplate
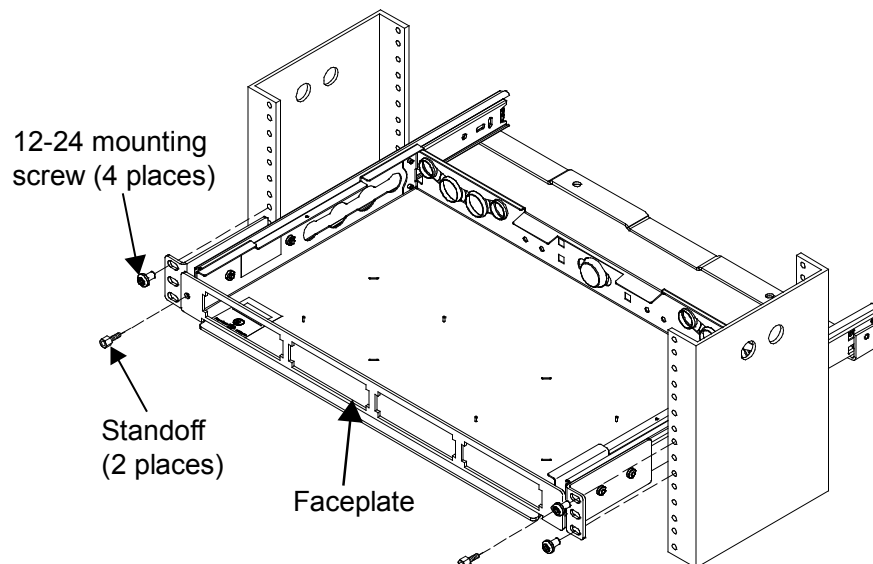
1. Determine the rack size and desired mounting location.

- 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).

Install Faceplate for Unpopulated Shelf Only

Note: For the modular shelf, the faceplate is already attached to shelf and no additional installation is necessary.

1. Insert appropriate faceplate as shown on previous page and secure faceplate to shelf.

2. Install trough mounting standoffs in the faceplate mounting holes and tighten to a snug fit. Do not exceed 10 ft/lbs (13.5 n/m) torque.

3. Install individual adapters into faceplate prior to fiber installation.

Step 3 – Determine Method to Secure Fiber Cable to Shelf

Note: This shelf is designed for direct connection of fiber cables using cable glands inserted into cable entry slots provided or alternatively, using hose clamps. 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.
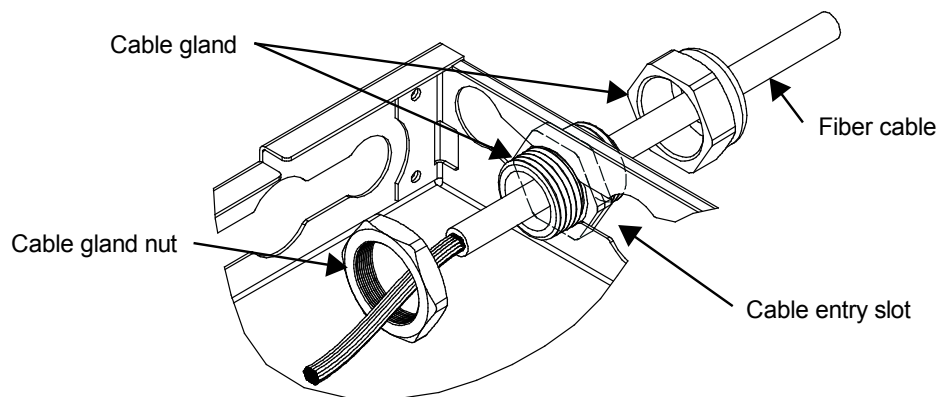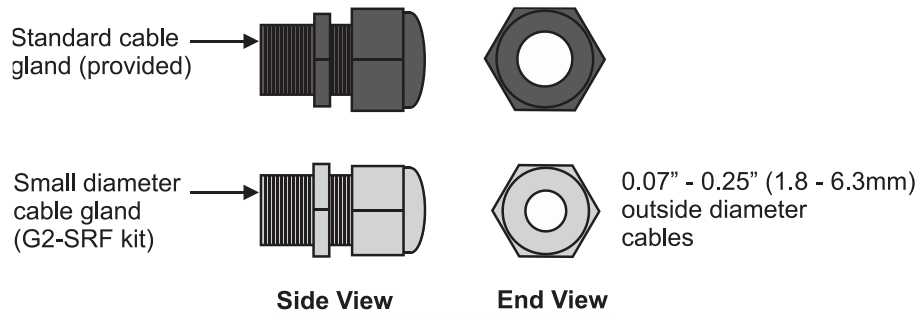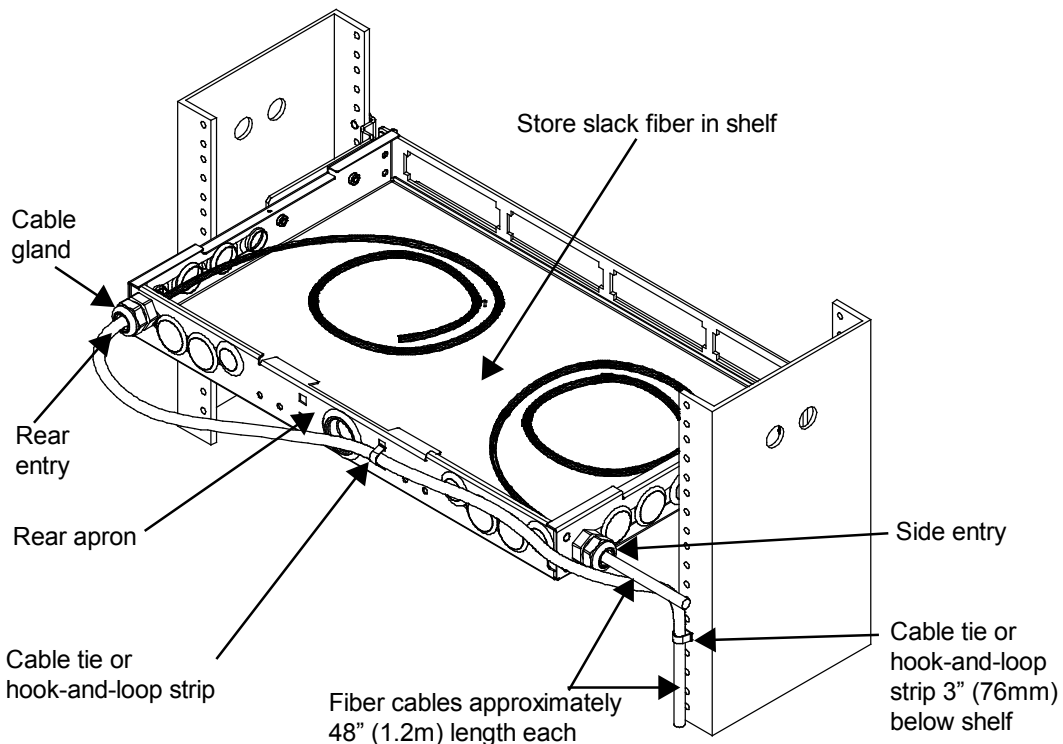

Cable Gland Method (Preferred)
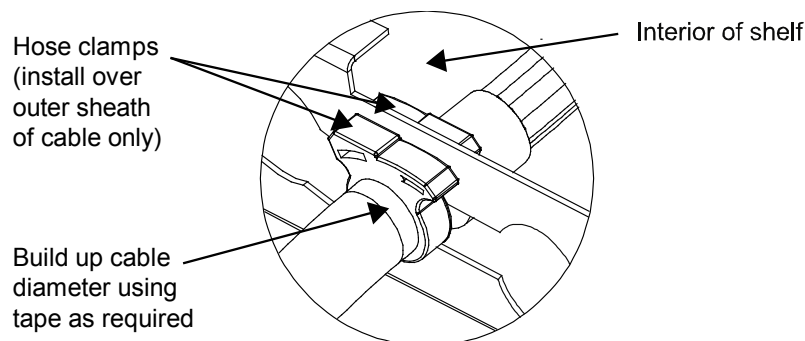
Hose Clamp Method (Alternate)

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 4a – Route and Secure Fiber Cable (Fixed Shelf)

Store slack fiber in shelf

Cable gland

Rear entry

Rear apron

Cable tie or hook-and-loop strip

Fiber cables approximately 48" (1.2m) length each

Side entry

Cable tie or hook-and-loop strip 3" (76mm) below shelf

Note: These instructions cover only the cable gland method of securing fiber cables to the shelf.

1. Loosely secure fiber cable to equipment rack upright approximately 3 inches (76mm) above or below shelf, using cable tie or hook-and-loop strip. Leave approximately 48-inch (2.1m) length of cable to route into shelf.

2. Fiber cables may enter shelf from either 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.

3. Temporarily store slack fibers in shelf.

4. Remove plug from appropriate size opening in shelf to accommodate cable gland on fiber cable. Select an opening on rear apron or either right or left side that will be most advantageous for cable entry.

5. Completely loosen gland nut from cable gland.

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

7. Rotate gland nut as required to allow it to pass through 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.

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

Step 4b – Route and Secure Fiber Cable (Sliding Shelf)
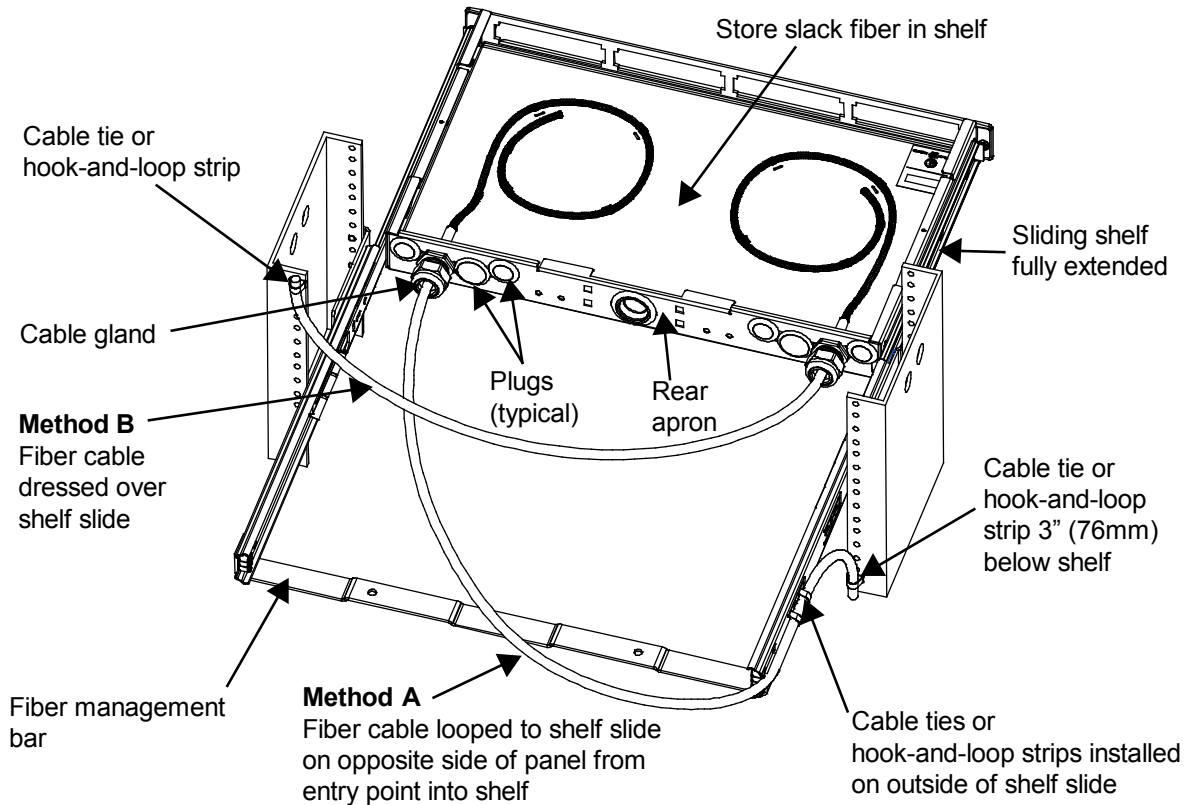
1. Fiber cables may enter shelf from either right side, left side or rear apron. Carefully loop fiber cable to rear of shelf on either side and continue to feed cable over top of rear apron. Loosely secure cable to rear of shelf as shown above, using a cable tie or hook-and-loop strip.

2. Temporarily store slack fibers in 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 fiber management 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 fiber management 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.

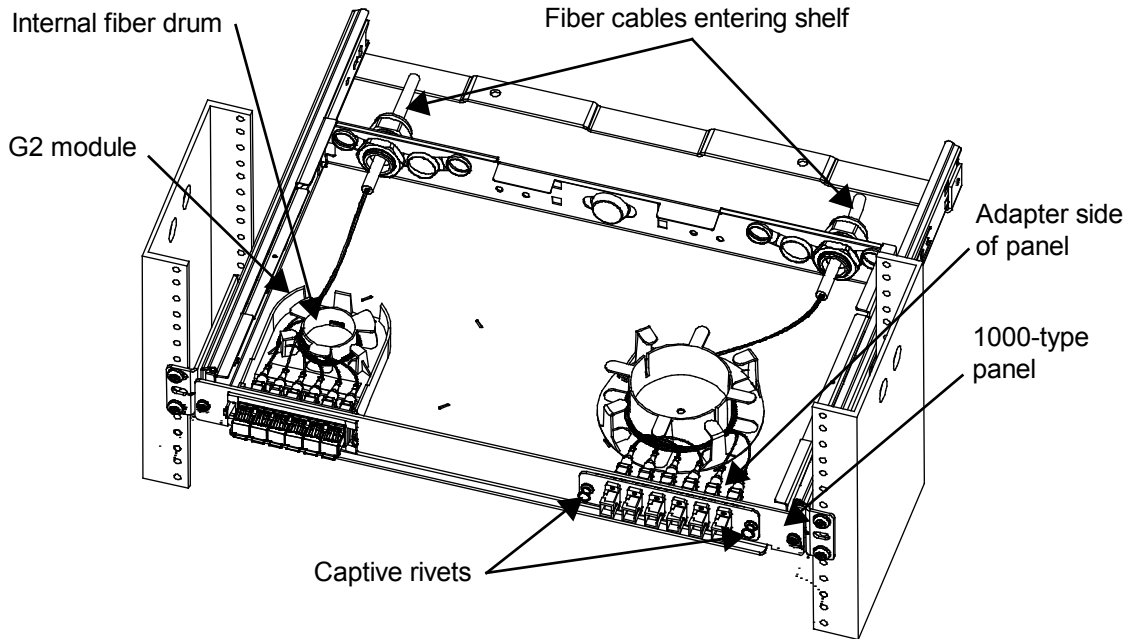   **Note:** Do not exceed minimum bend radius for fiber cable.

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 fiber management 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 fiber management bar or drawer 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

Method A

Cable ties or hook-and-loop strips

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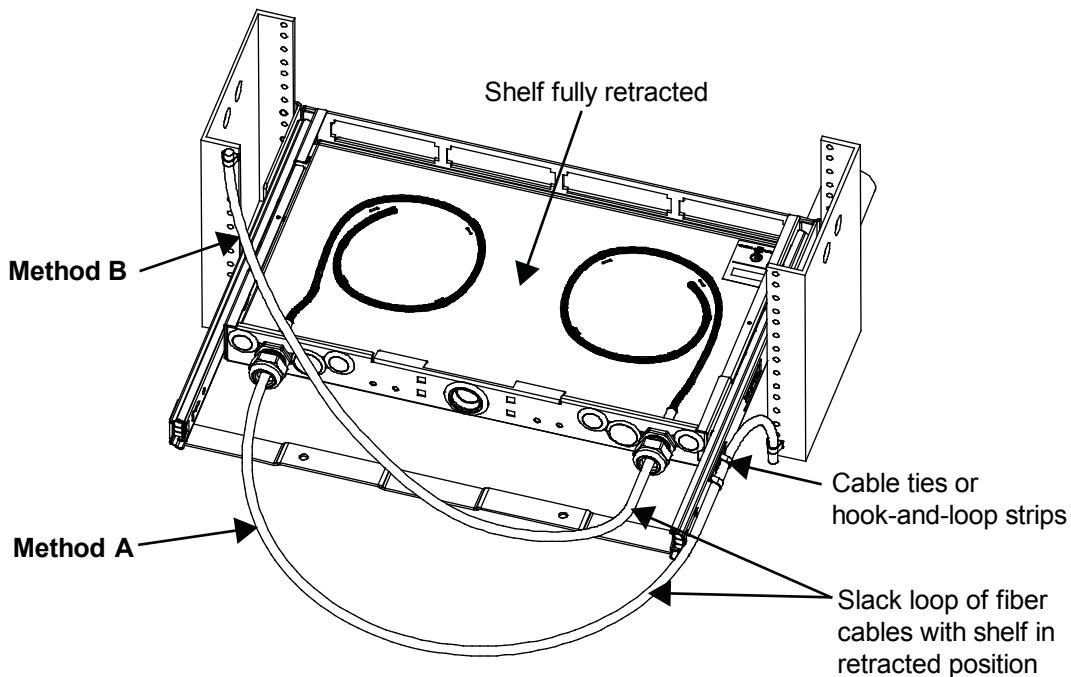
Step 5a – Route Cable/Fibers Inside Shelf – Field Termination Only

Internal fiber drum

Fiber cables entering shelf

G2 module

Adapter side of panel

1000-type panel

Captive rivets

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.

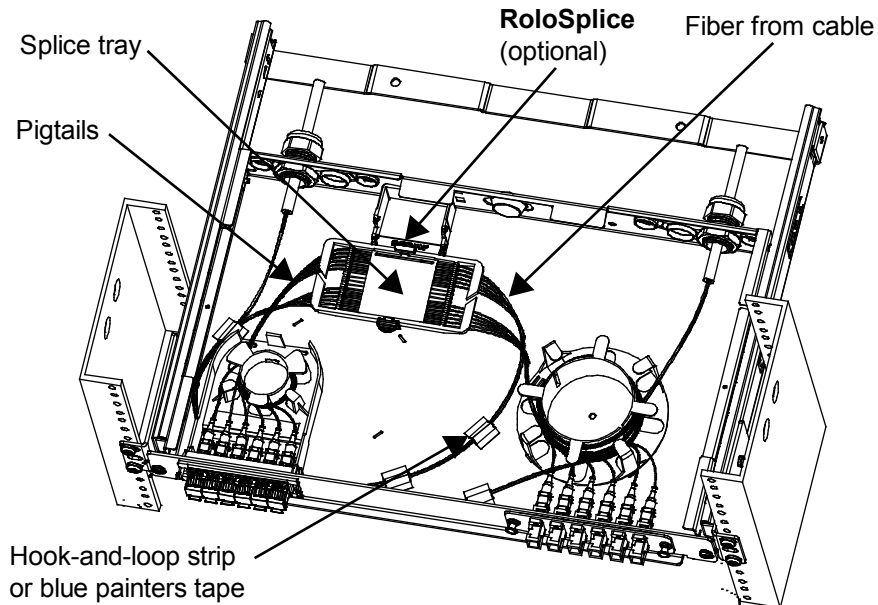### 1000-Type Panel Application:

1. Insert module into opening provided in faceplate, oriented so that adapters pass through opening first. Push in on two captive rivets until they lock into place.

   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

Splice tray

Pigtails

RoloSplice
(optional)

Fiber from cable

Hook-and-loop strip
or blue painters tape

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 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.

### 1000-Type Panel Application:

1. Insert module into opening provided in faceplate, oriented so that the adapters pass through opening first. Push in on two captive rivets until they lock into place.

   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 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.

Figures below show 1U and 2U shelves fully populated and featuring the optional **RoloSplice** multiple splice tray organizer.
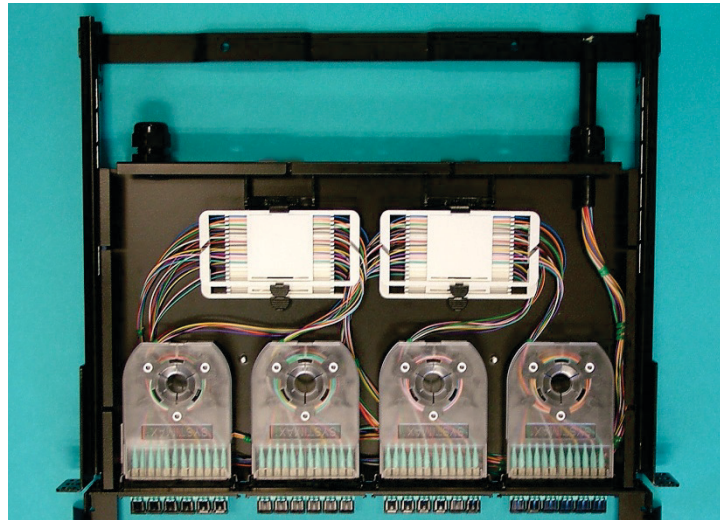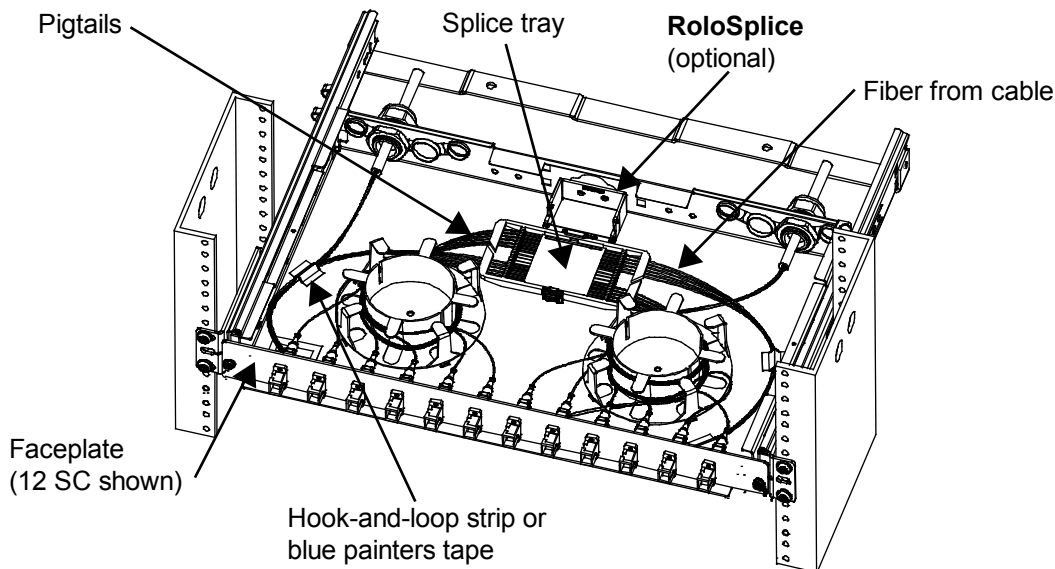

A completed 1U shelf with RoloSplice
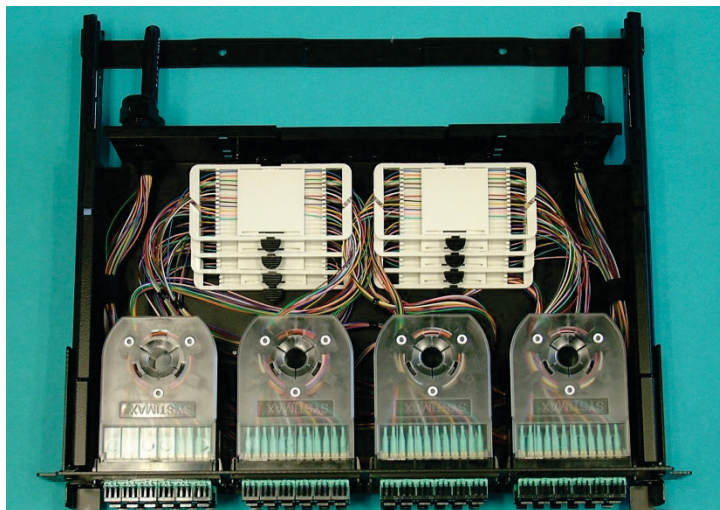
A completed 2U Shelf with RoloSplice

Step 5c – Route Fiber/Cable Inside Unpopulated Shelf Using Faceplates

After installing fiber drums per Step 1 and faceplate per Step 2, install adapters into cutouts provided in faceplate.

For Field Termination:

1. After connectorization, route buffered fiber from cable toward faceplate.

2. Spool slack fiber around drum nearest targeted adapter, leaving sufficient length to mate connector to adapter.

3. Terminate connector into adapter in standard sequence.

4. Repeat items 1-3 for all remaining locations, transitioning slack to adjacent fiber drum as adapters are filled toward that drum.

5. Bundle and/or restrain groups of fibers as required with hook-and-loop strips or blue painters tape.

For Termination and Splicing:

1. Insert module into opening provided in faceplate, oriented so that the adapters pass through opening first. Push in on two captive rivets until they lock into place.

2. Terminate connector into adapter in standard sequence and leave slack length free.

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

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

5. Repeat items 1-4 for all remaining locations, transitioning slack to adjacent fiber drum as adapters are filled toward that drum.

    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 5d – Route Fiber/Cable Inside Shelf Using Optional Stackable Splice Trays
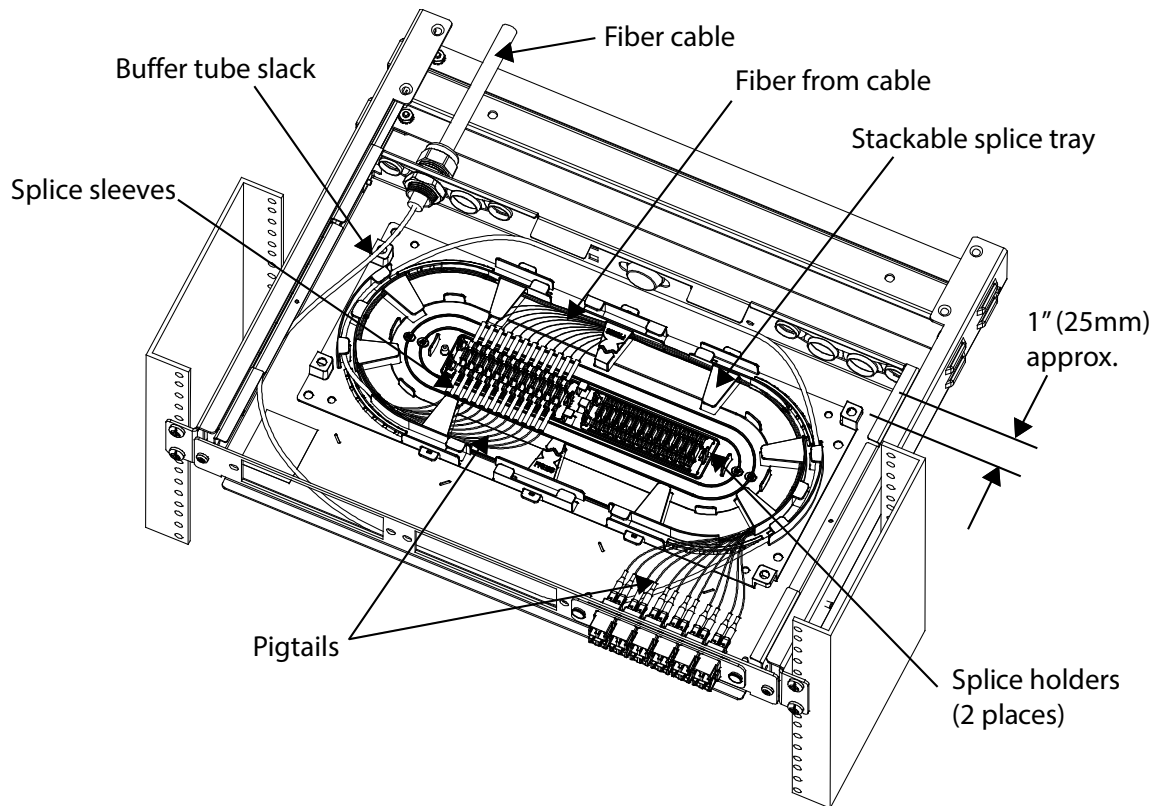
Note: Stackable splice tray kit (MID 760148502) is ordered separately from shelf. Refer to instructions enclosed with that kit for all details not covered here.

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.

4. Each splice tray will accommodate up to 48 fusion splices. If more splice capacity is required, additional trays may be stacked and attached together. In a 1U shelf, three trays may be used for a total of 144 possible splices and in a 2U shelf, 6 trays may be used for a total capacity of 288 possible splices.

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.

Step 5e – Route Trunk Cable Inside Shelf – 360 InstaPATCH
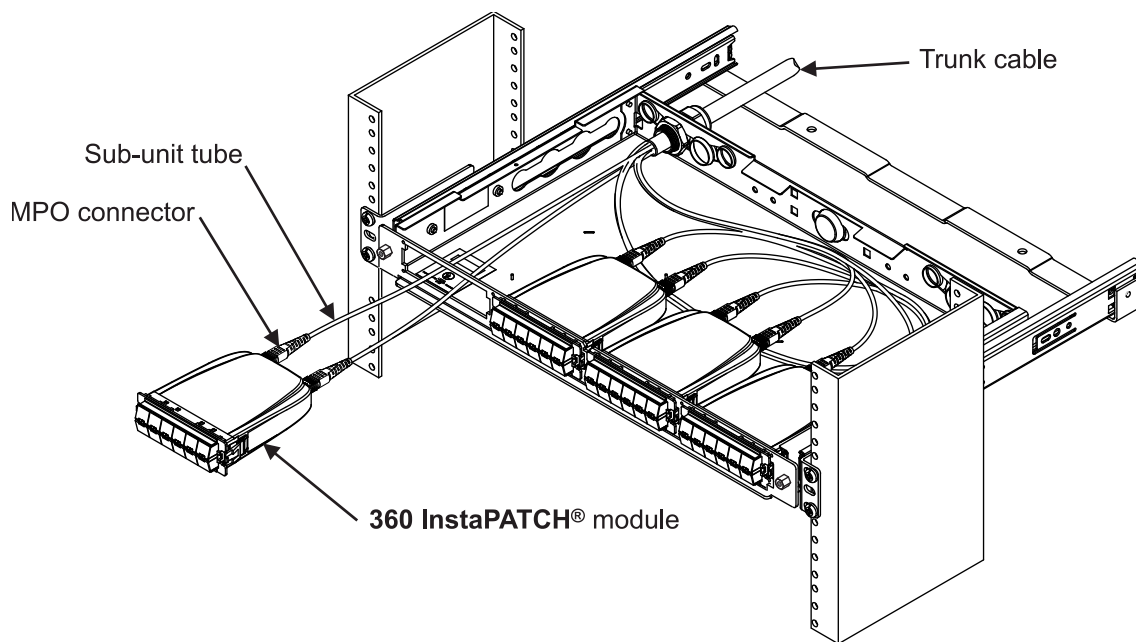
1. Mount cable to shelf with cable gland, per Step 3.

2. Temporarily store slack sub-unit tubes on floor of chassis.

3. Install **360 InstaPATCH** modules into cutouts provided in faceplate. Verify that latches on either side of module snap into place with an audible click.

4. Route sub-unit tubes so that slack length is contained below the modules (as much as is possible) and so as to avoid tight bends as the connectors are terminated into the adapters on the rear of the modules.

    Note: Removal of module at either end location may be facilitated by using a small slot screwdriver to depress outer-most latch for release.

## Step 6 – Install Trough
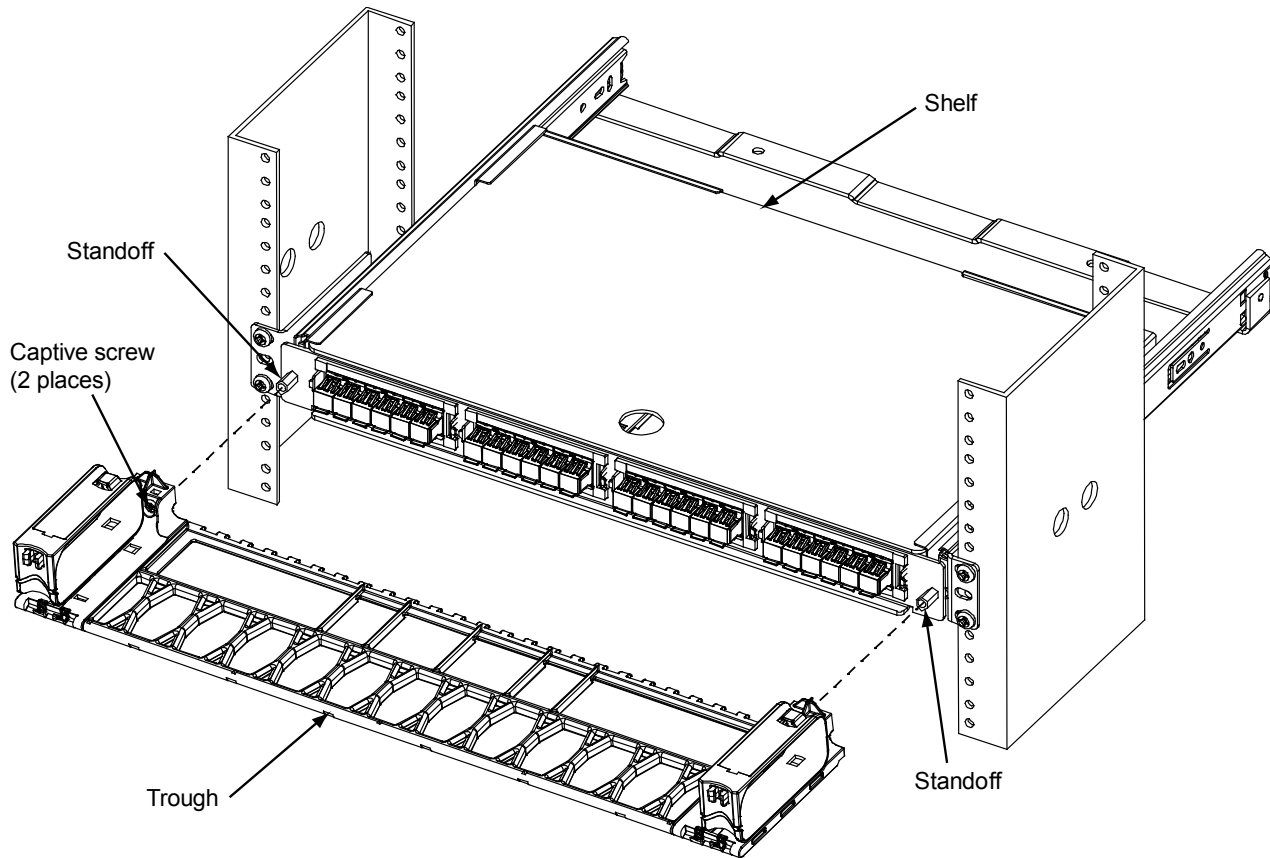
For Unpopulated and Modular Shelves

1. Position trough on shelf so that indentions behind captive screws rest on the standoffs.

2. Using a Phillips head screwdriver, tighten the captive screw on each end of trough to secure it to shelf.

   Note: If installing the trough on a sliding shelf, pull the shelf out enough to support the faceplate from behind before tightening the captive screws.

Step 7 – Install Door

Door

Hinge socket
(2 places)

Latch

Hinge socket

Hinge pin

Strike
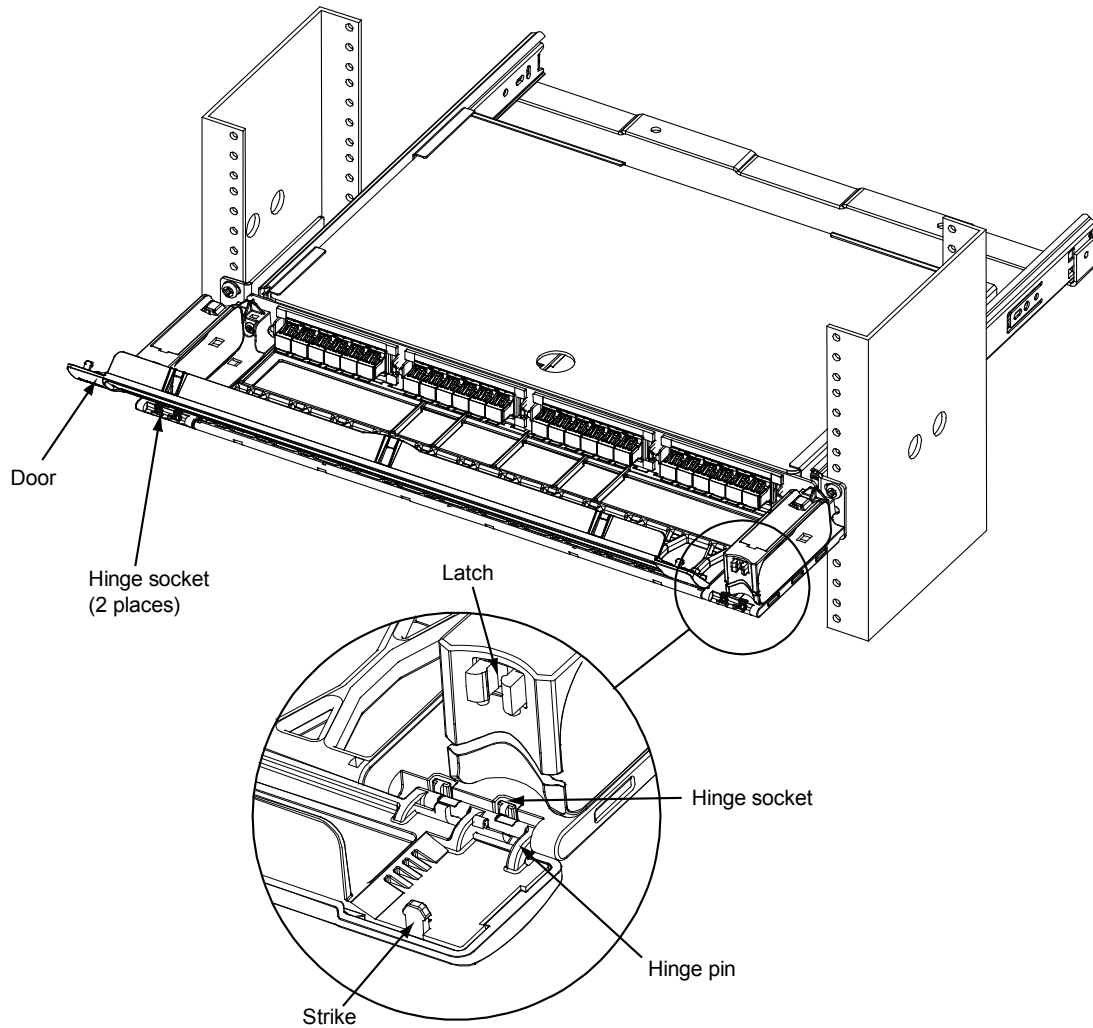
1. Remove door from protective wrapping.

2. Orient door at an angle from trough and position hinge pins on door into hinge sockets on trough.

3. Using one hand to support bottom of trough on one end, push down on inside of door over hinge pins with other hand to seat pins into hinge sockets.

4. Repeat on other end to secure door to trough.

5. Pivot door into the vertical position until strikes engage latches and door snaps into the closed position with an audible click.

6. Door may be reopened by pulling on both upper corners of door (opposite strikes) until the latches release (verified by an audible click).

   Note: Trough door may be removed when opened to a 45° position, by holding one of the side hinge brackets and pulling upward until hinge pins release from socket. Lift door to release from hinge socket on other side bracket.
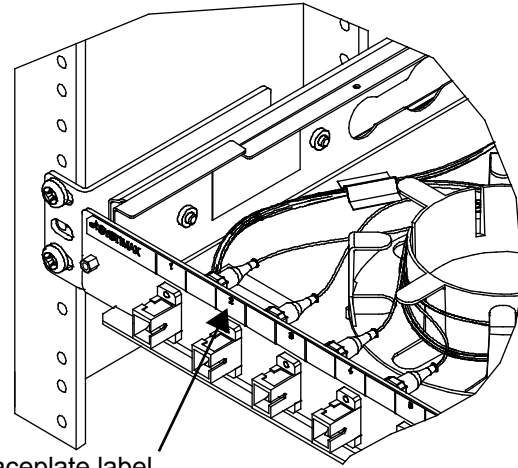
Step 8 – Apply Jumper Designation Labels
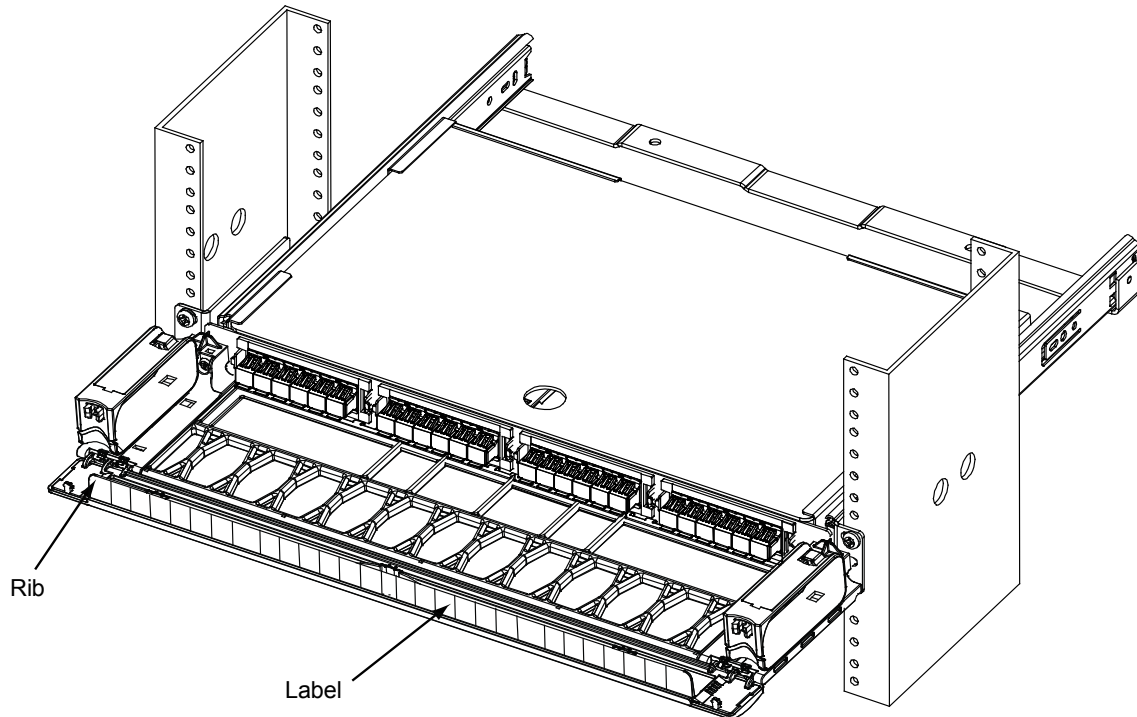
Label on
module cover

Label on
bezel
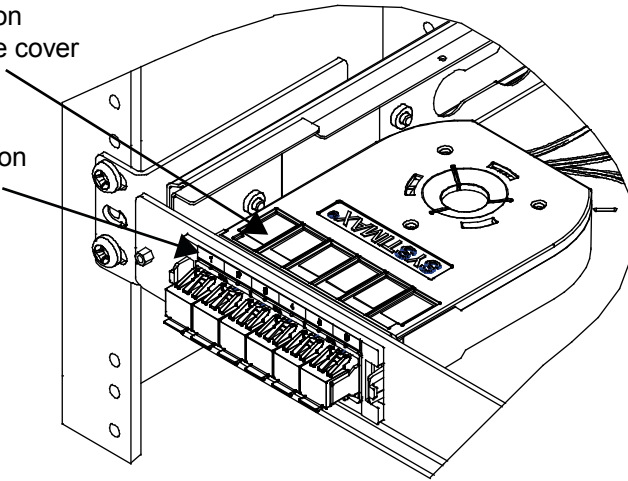
G2 Module/Bezel Application
(trough not shown)

Faceplate label

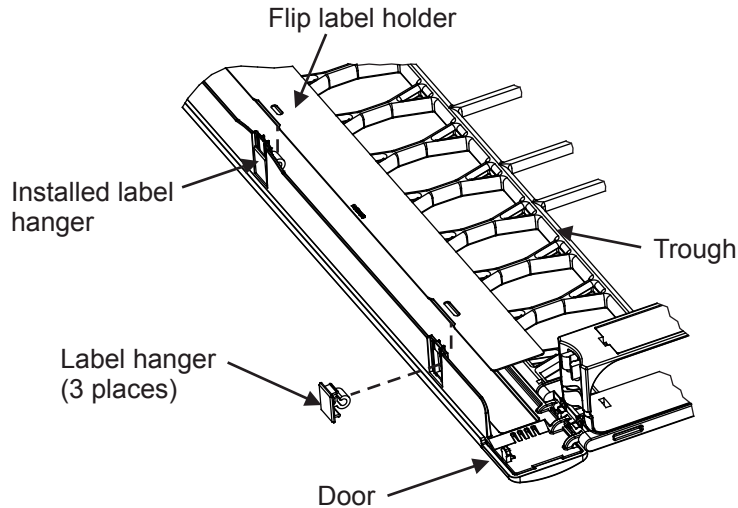**Unpopulated Shelf Application**
(trough not shown)

Rib

Label

Apply Label to Module, Faceplate or Trough Door

1. On the modular shelf, jumper designation labels may be applied to module cover and/or bezel.

2. On unpopulated shelf, apply jumper designation labels to top edge of the faceplates.

3. On either shelf, labels may also be applied to surface (rib) on the inner trough door as shown above.

4. Labels included with shelf may be used or printable label templates are available on the **CommScope** website, which can be used along with available label stock to create finished port numbering labels.

    To print a designation label, go to http://www.commscope.com/Resources/Labeling-Templates and scroll down to the **360G2 Panels and Shelves** and select the appropriate label template.

Flip label holder

Installed label hanger

Trough

Label hanger (3 places)

Door

Install Flip Label Holder on Trough Door

1. Open trough door to 90°, orient the three provided label hangers as shown, and insert them into openings in rib on trough door.

2. Orient label holder perpendicular to label hangers with slots aligned with hangers. Insert edge of label holder into hangers so that slots slide over the hangers. The label holder should pivot on the hangers freely.

3. Apply labels on surface of flip label holder facing door to be seen when door is closed.

Step 9 – Install Cover

1. Remove protective film from cover before installing.

2. From front of shelf, position cover between upper and lower sets of tabs on each side of shelf and slide it into place as shown.

3. If optional security cover is used, install with hardware provided.

Finger hole

Cover
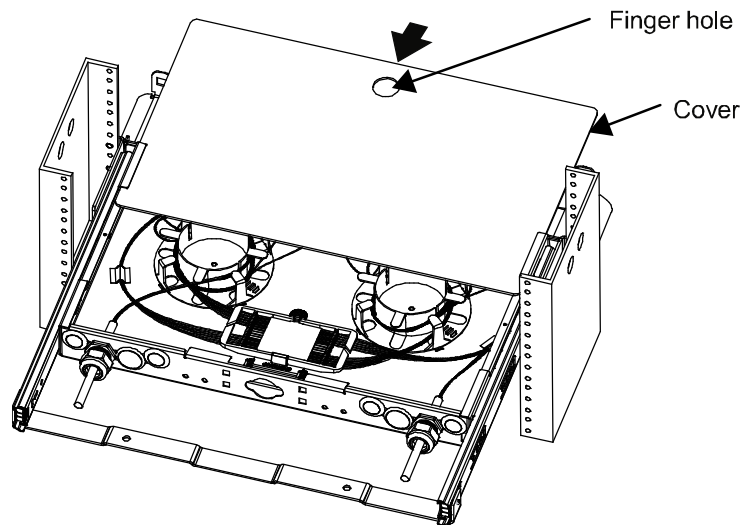
Step 10 – Trough Removal (If Required)

1. Using a Phillips head screwdriver, loosen the two captive screws located on the inside of the fiber management rings on each end of the trough, then pull the trough off.

   Note: Captive screws will not disengage from trough.