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Instruction Sheet
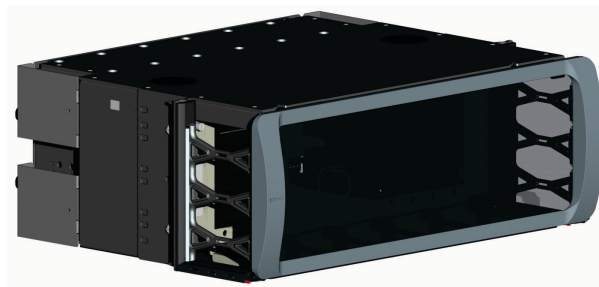
POWERED BY | **SYSTIMAX®**

SYSTIMAX 360™ 360G2 4U Fixed Rear Access Combination Shelf Instructions

General

The **SYSTIMAX 360**™ 360G2 4U rear access fiber optic combination shelf mounts onto a standard 19-inch (483mm), 23-inch (584mm) or ETSI equipment rack. This product is intended for indoor use or can be used outdoors in a suitable protective enclosure.

Ordering information is listed below:

Material ID	Part No.	Description
760193870	360G2-4U-MOD-FX	360G2 fixed modular shelf
760101063	360G2-4U-IP-FX	360G2 fixed adapter panel shelf
760193888	360G2-4U-MOD-FX-16	360G2 fixed modular cassette 16-slot shelf

SYSTIMAX 360™ 360G2 4U Fixed, Rear Access Fiber Optic Combination 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:
7,113,667 B2, 7,200,314 B2

Tools Required

- Screw-starter
- Flat-blade screwdriver
- Isopropyl alcohol
- Lint-free wipes or tissues

Ordering Information

For most versions of this shelf, termination cartridges, bezels and panels, splice organizers and splice carriers (example: **Splice Wallet**®, **RoloSplice**®) are optional and must be ordered separately. Build-out blocks, couplers, splicing materials and equipment used with this shelf must always be ordered separately.

Separately orderable accessories are available for this shelf. Ordering information is listed below.

Material ID	Product No.	Description
760101410	360G2-4U-FLK	4U Flip label kit
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
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)
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
760107482	DP360-BLANK	360 **InstaPATCH**® blank panel (pkg of 4)
760107490	DP360-2MPO	360 **InstaPATCH** 2MPO adapter panel (MOD shelves only)
760107508	DP360-4MPO	360 **InstaPATCH** 4MPO adapter panel (MOD shelves only)
760107516	DP360-6MPO	360 **InstaPATCH** 6MPO adapter panel (MOD shelves only)
760107524	DP360-8MPO	360 **InstaPATCH** 8MPO adapter panel (MOD shelves only)
760128942	SMB-KIT-8-1/2-360G2	360G2 Fitment - **InstaPATCH** attachment bracket (2), shelf mounted, four 1/2 inch fittings per bracket and (2) expanded cable protector covers
760128959	SMB-KIT-4-3/4-360G2	360G2 Fitment - **InstaPATCH** attachment bracket (2), shelf mounted, two 3/4 inch fittings per bracket and (2) expanded cable protector covers
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

⚠️ **CAUTIONS**

- Isopropyl alcohol is flammable, and can cause eye irritation on contact. If eye contact occurs, flush with water for at least 15 minutes. In case of ingestion, consult a physician. Use only in well ventilated areas.

- 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.

Parts List

Verify parts shipped with this unit against the parts list below:

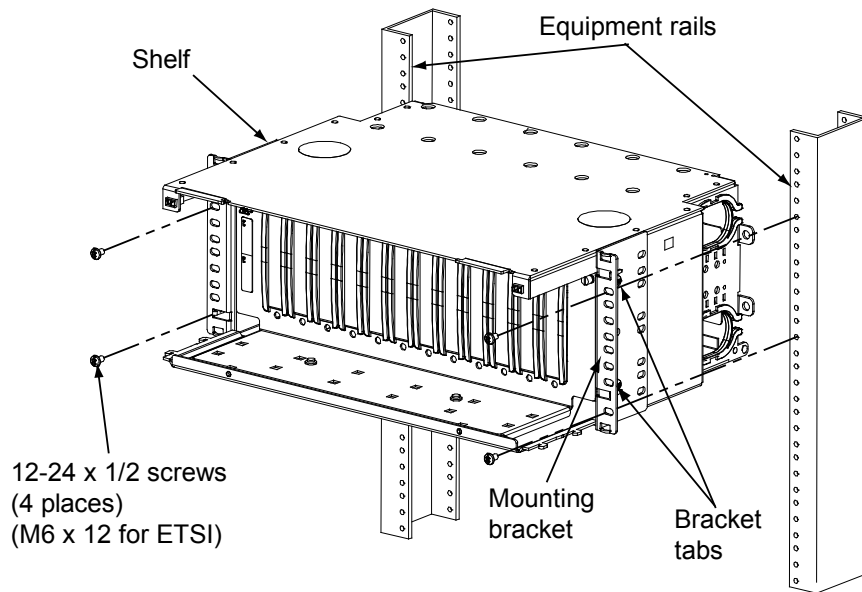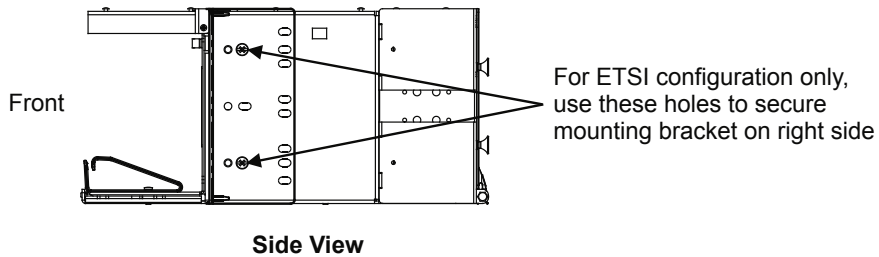| Loose Parts Furnished with Shelf	
Quantity	**Description**
1	Front door
1	Rear door
2	Hardware bezel cover
3	Label hangers
1	Flip label holder
6	Oblong fiber rings
11	Round fiber rings
2	LH cable protectors
2	RH cable protectors
3	Flat tie holders
4	12-24 x 1/2 screws
4	M6 x 12 screws
1	Instruction sheet

Step 1 – Configure Mounting Brackets and Mount Shelf to Equipment Rack
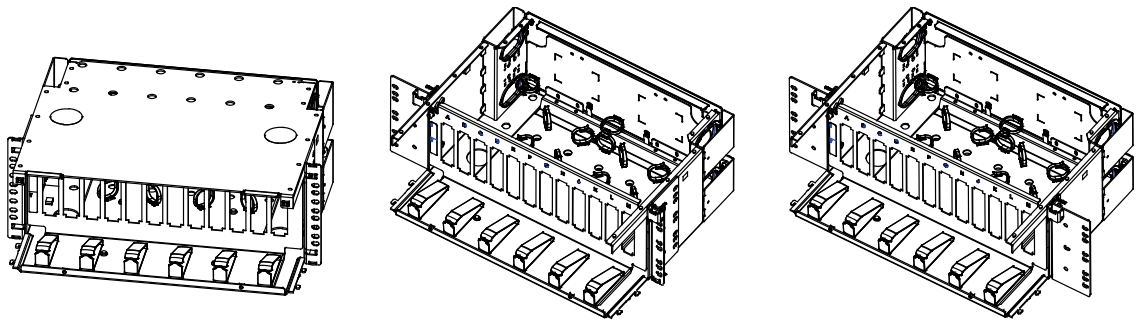
Configuration for 19" Rack   **Configuration for 23" Rack**   **Configuration for ETSI Rack**
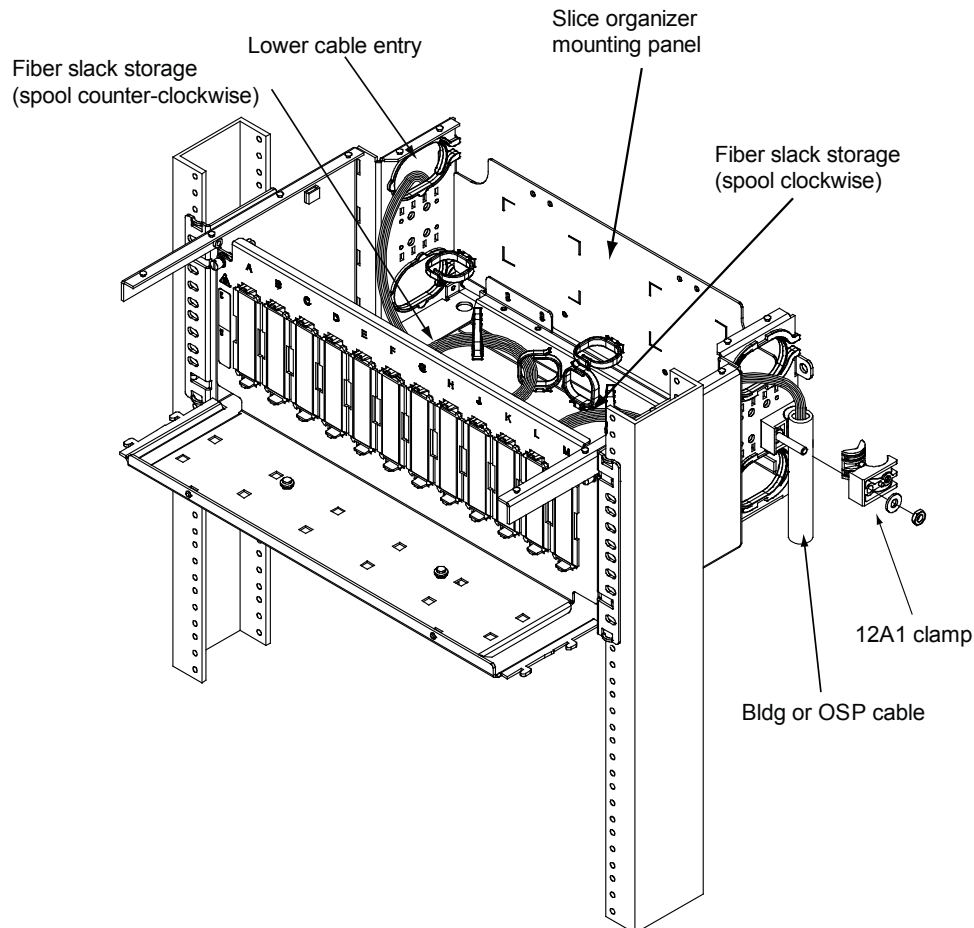
Front

For ETSI configuration only, use these holes to secure mounting bracket on right side

Side View

Shelf

Equipment rails

12-24 x 1/2 screws (4 places) (M6 x 12 for ETSI)

Mounting bracket

Bracket tabs

1. Configure mounting brackets to match type of equipment rack to be used as shown.

2. Align tabs on mounting brackets (two per bracket) with the holes on the front of equipment rails.

   Note: If tabs do not insert into holes in equipment rails without interference, DO NOT FORCE as damage to shelf will result. In this case, tabs must be bent back or trimmed off to eliminate interference. This situation is usually caused by equipment racks/cabinets being improperly assembled. Great care should be taken when assembling racks/cabinets to assure that the rails are properly aligned. Use of an alignment tool is recommended.

3. Install shelf to front of equipment rails using four 12-24 x 3/8-inch screws (provided) for 19-inch (483mm) rack and 23-inch (584mm) racks and four M6 x 12 screws for ETSI racks. See figure above.

Step 2 – Install Building Cables/Outside Plant Cables (OSP)

Note: All fiber installation shall be done with rear door lowered (or removed) and splice organizer mounting panel fully lowered and locked into position with latches, as shown in the following illustrations.

⚠️ **WARNING:** Take proper precautions to avoid damaging fiber while routing into shelf.
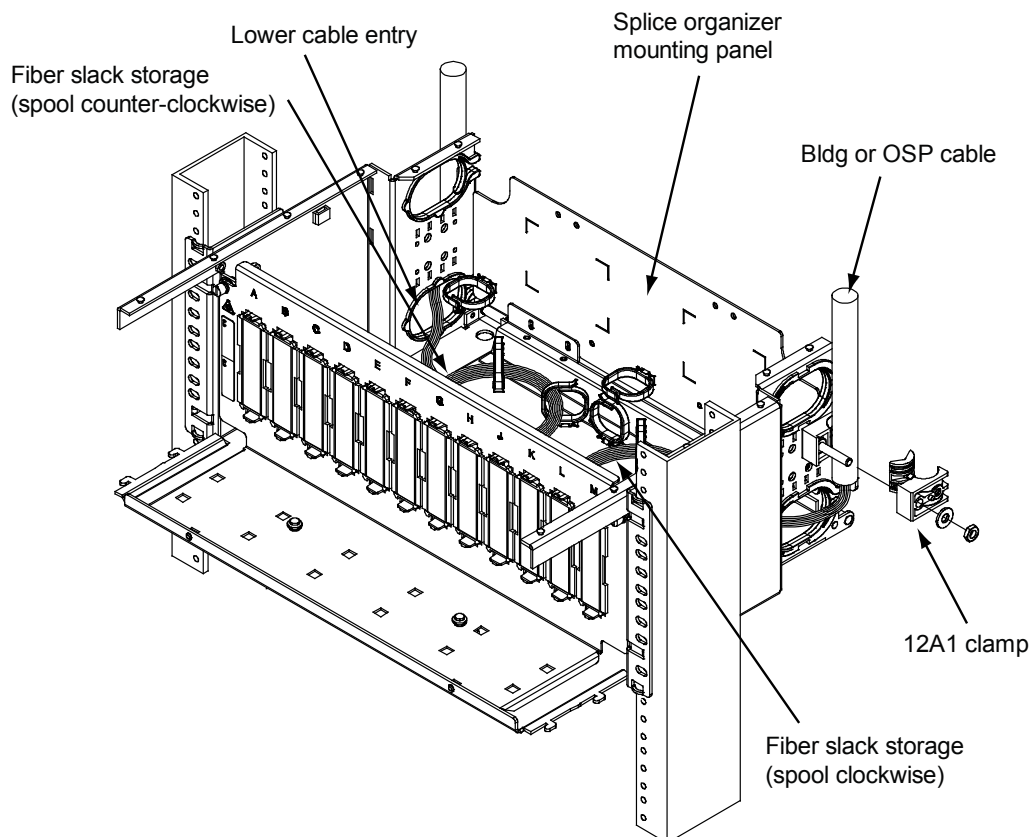
Step 2A – Rear/Bottom Cable Entry Configuration

1. Prepare fiber optic building cables or outside plant (OSP) cables. See 636-299-110-5 for cable preparation procedures for metallic or armored cables.

2. Secure incoming cables to 4U shelf per the following methods:

   - Building cables – use two cable-ties anchored through slots provided in shelf sidewall and cinch cable-ties against outer jacket of cable.
   - **InstaPATCH**® or **ReadyPATCH** cables – use **SYSTIMAX**® shelf mounted bracket (SMB) or rack mounted bracket (RMB) per instructions included with the kits (860448471 and 860380781 respectively).
   - OSP cables – use 12A-type clamps installed in sidewall of shelf. Use 12A1 clamp for metallic cables and 12A2 clamp for nonmetallic cables. Ground metallic cables to the equipment rack or other suitable ground (refer to 636299110-5 for details).
     Note: The SMB kit, RMB kit, and 12A-type clamps are ordered separately.

3. Route buffered building cables or PVC protected metallic or armored fibers into shelf through cable entry openings provided in upper rear corner of sidewalls.

4. Route fiber bundle into slack fiber management rings, as shown above. Spool as much slack fiber into rings as will be needed for subsequent splicing operations and possible repair splicing.

5. If no other cables are to be installed, proceed to Step 4.

Step 2B – Rear/Top Cable Entry Configuration

1. Prepare fiber optic building cables or outside plant (OSP) cables. See 636-299-110-5 for cable preparation procedures for metallic or armored cables.

2. Secure incoming cables to 4U shelf per the following methods:

   - Building cables – use two cable-ties anchored through slots provided in shelf sidewall and cinch cable-ties against outer jacket of cable.

   - **InstaPATCH** or **ReadyPATCH** cables – use **SYSTIMAX** shelf mounted bracket (SMB) or rack mounted bracket (RMB) per instructions included with the kits (860448471 and 860380781 respectively).

   - OSP cables – use 12A-type clamps installed in sidewall of shelf. Use 12A1 clamp for metallic cables and 12A2 clamp for nonmetallic cables. Ground metallic cables to the equipment rack or other suitable ground (refer to 636299110-5 for details).

     Note: The SMB kit, RMB kit, and 12A-type clamps are ordered separately.

3. Route buffered building cables or PVC protected metallic or armored fibers into shelf through cable entry openings provided in lower rear corner of sidewalls.

4. Route fiber bundle into slack fiber management rings, as shown above. Spool as much slack fiber into rings as will be needed for subsequent splicing operations and possible repair splicing.

5. If no other cables are to be installed, proceed to Step 4.

Step 3 – Install Rear Door
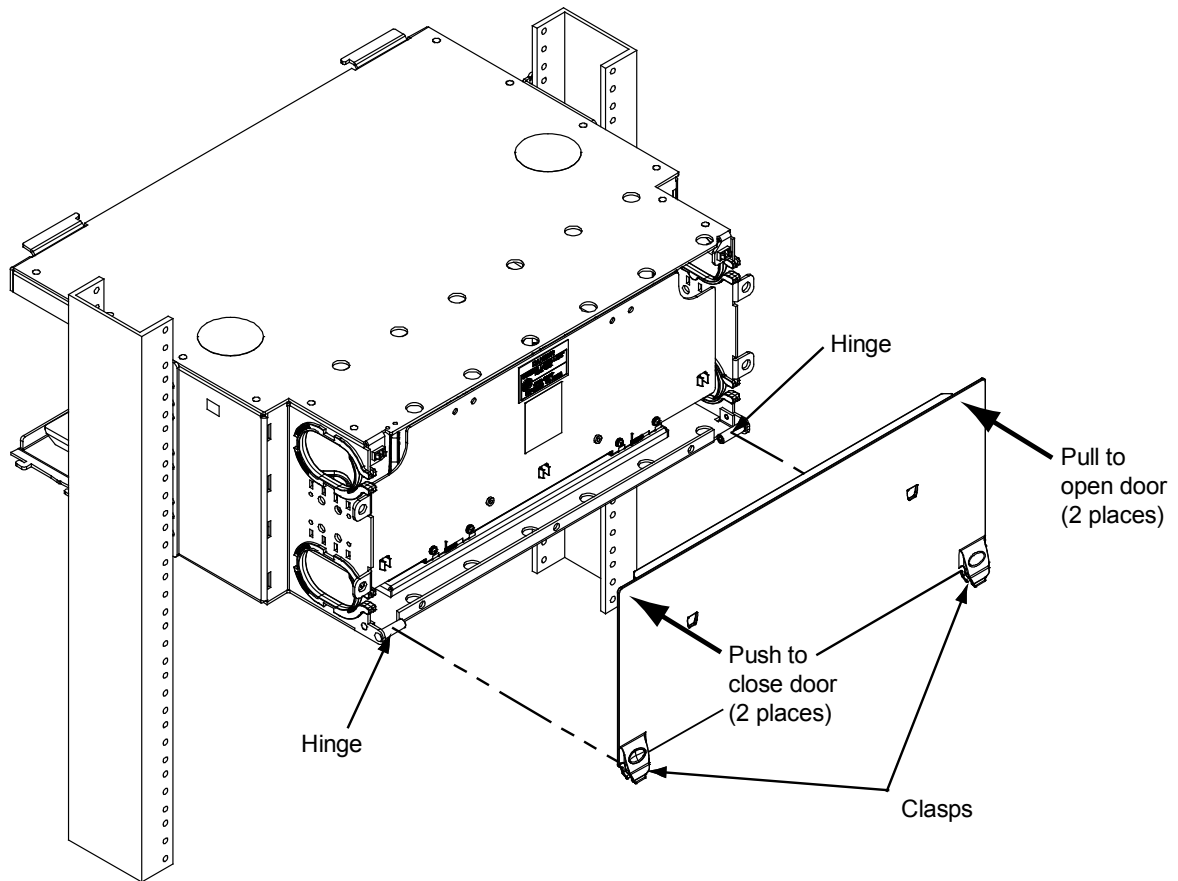
1. To install rear door, align door clasps on lower corners of door to hinges on panel and push in on each corner to engage the two parts.

2. Swing door up and down freely to verify proper installation.

3. Swing door up to the closed position and push in on upper corners to engage latches and secure door.

4. To open rear door, pull on upper corners of door to disengage latches, then swing open.

5. To remove rear door, open door and hold it close to bottom hinge, then pull door to disengage clasp from hinge. Repeat for other side and door will be free from shelf.

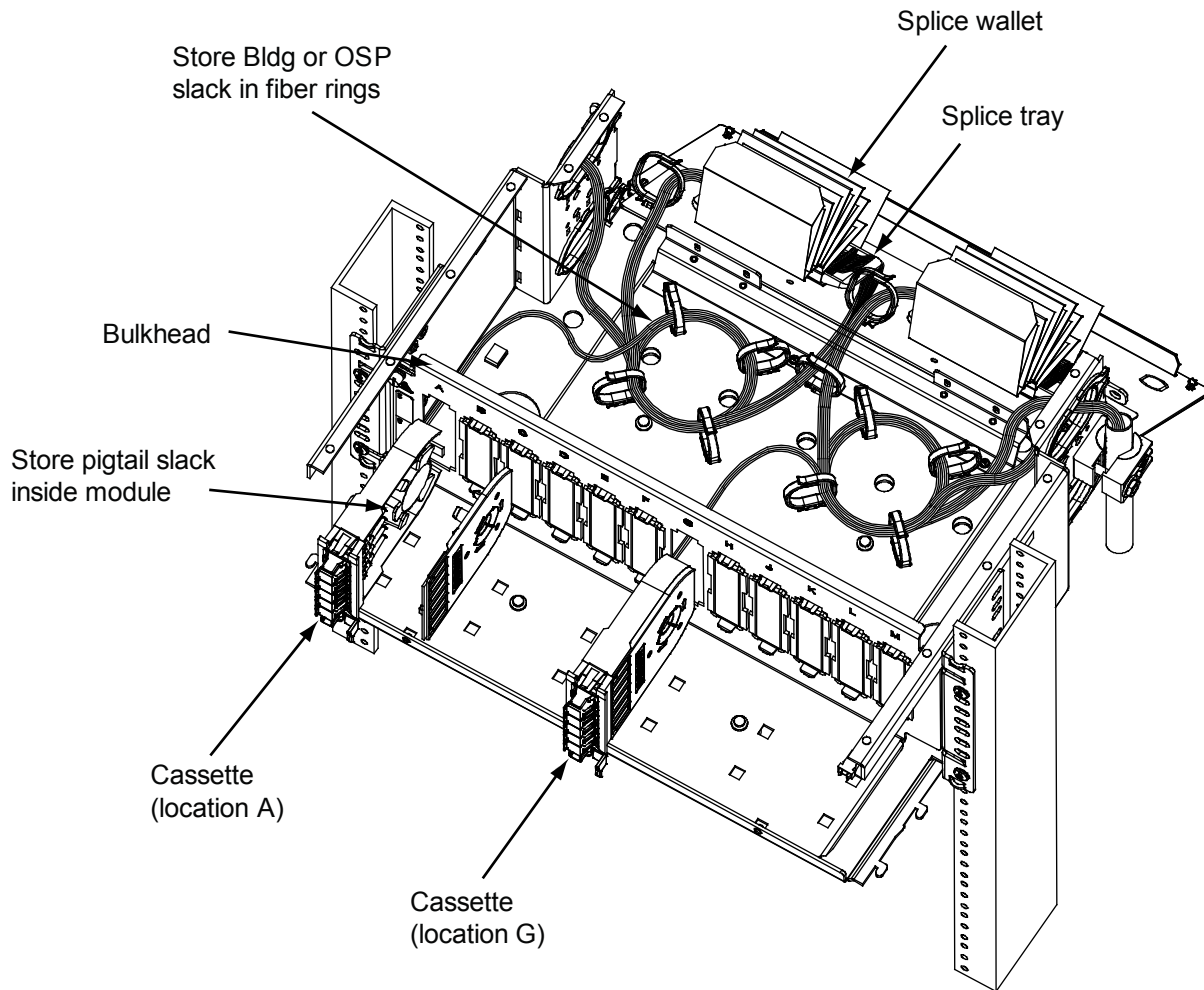   **Note**: Take special care when removing door to prevent scratches, damage, or loss.

Step 4 – Splice Panel Operation
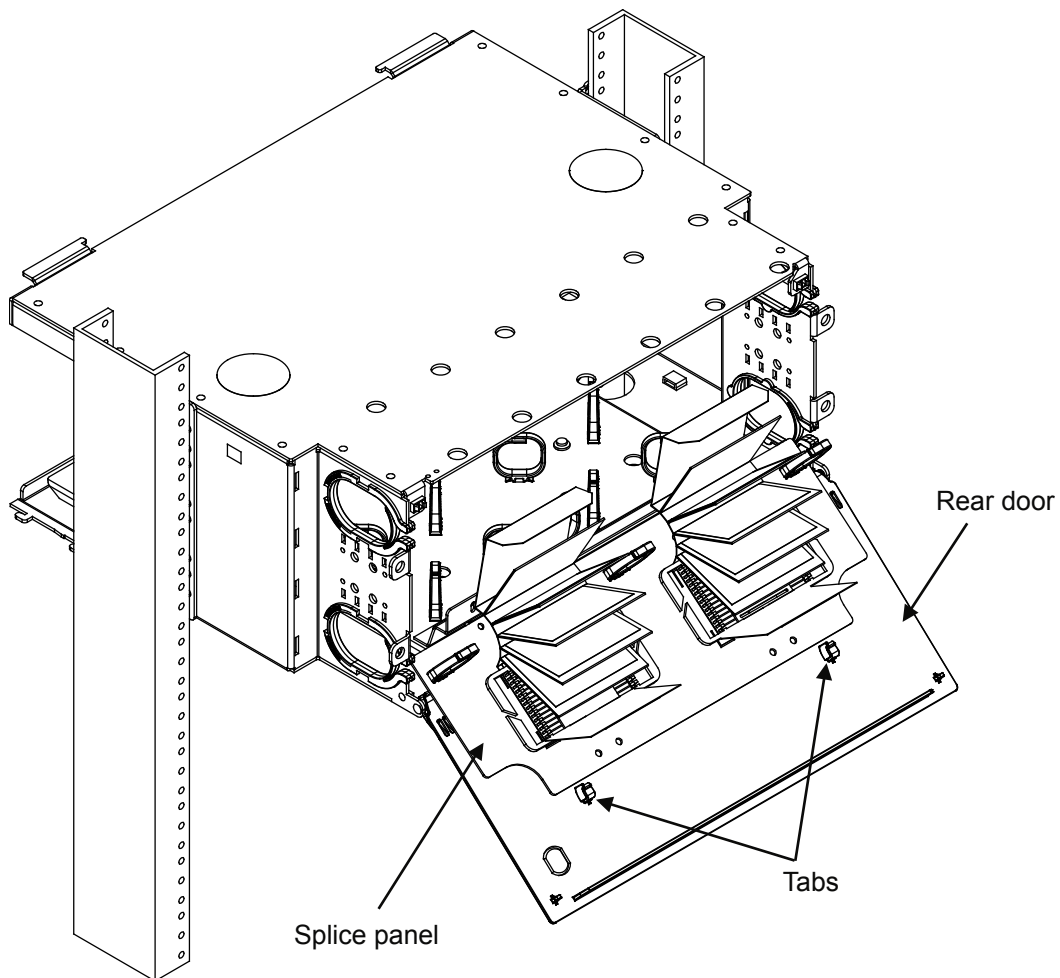
1. To secure splice organizer management panel, open rear door 180°.

2. Pull splice panel down and secure to rear door using two tab features.

Note: Splice panel's spring hinges will keep panel open for splicing procedures.

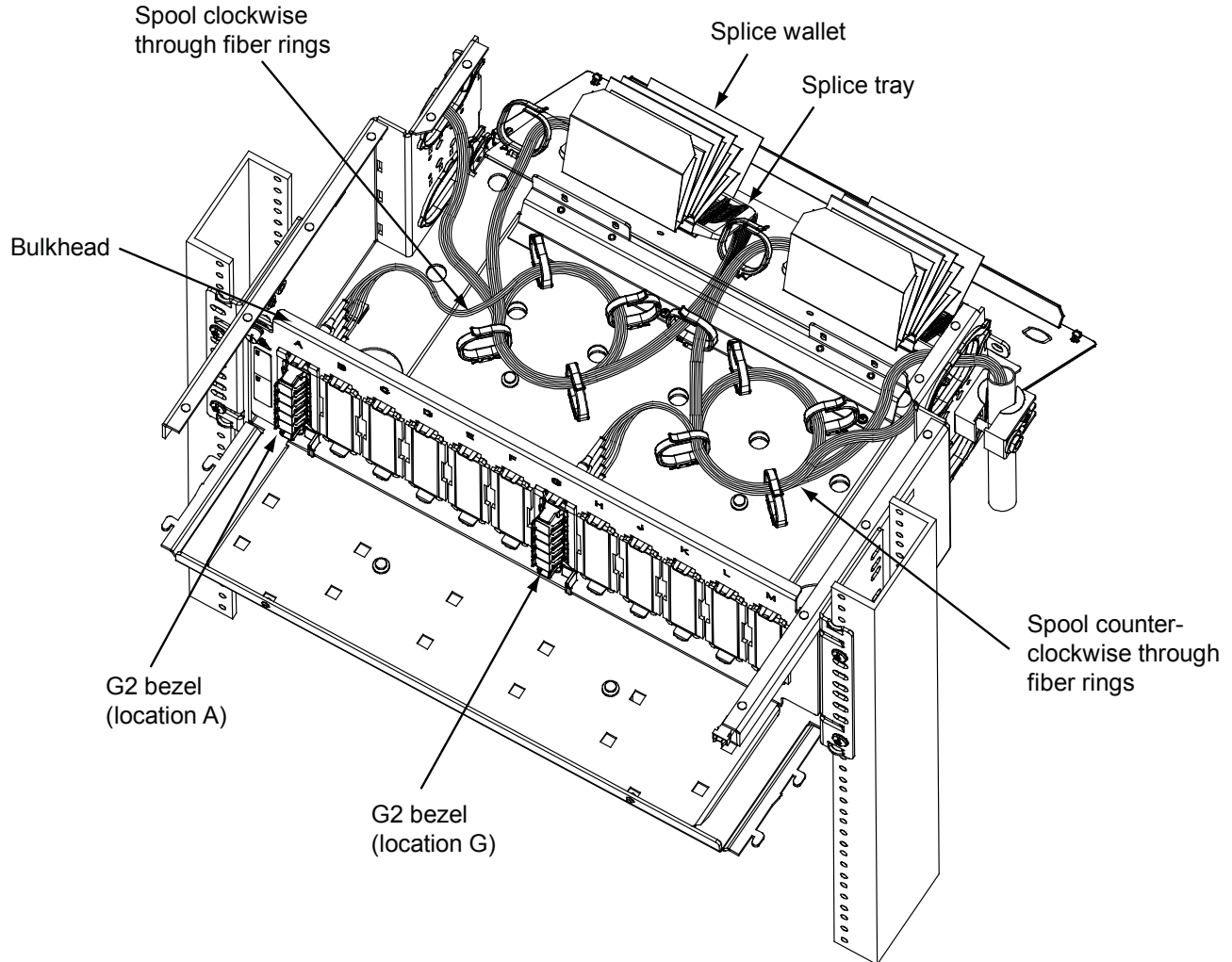3. To release tab features, push down on rear door while holding splice panel.

Step 5 – Install Termination Devices

Note: Modular cassettes, bezels, adapter panels and **InstaPATCH** modules are normally ordered separately from the shelf. Some customer specific versions of this shelf come pre-terminated and will not require all of these steps.

Step 5A – Module Cassette Application

Splice wallet

Splice tray

Store Bldg or OSP
slack in fiber rings

Bulkhead

Store pigtail slack
inside module

Cassette
(location A)

Cassette
(location G)

1. Starting at location A (left-most position), remove blank cutout cover and plug cassette into bulkhead cutout until it snaps into place.

2. Remove cassette cover (cover may also be removed prior to item 1) and spool out sufficient pigtail lengths for splicing operations.

3. Perform splicing operations. Secure splices into splice trays. Splices from cassette pigtails at locations A through F are to be placed into splice trays on left side of shelf; splices from cassette pigtail locations G through M are to be placed into splice trays on right side of shelf.

4. Spool excess fiber slack length back into cassette and replace cover. Leave sufficient slack length outside of cassette of approximately 6 inches (150mm) to allow for extraction of cassette from bulkhead. This is needed to allow for subsequent removal of cassette cover for repairs.

5. Repeat items 1 and 4 for next five consecutive cassette locations (locations B through F).

6. Starting at location G (seventh location from left side), repeat items 1 - 4 for all remaining locations (locations G-M).

Step 5B – G2 Bezel Application

Spool clockwise through fiber rings

Splice wallet

Splice tray

Bulkhead

Spool counter-clockwise through fiber rings
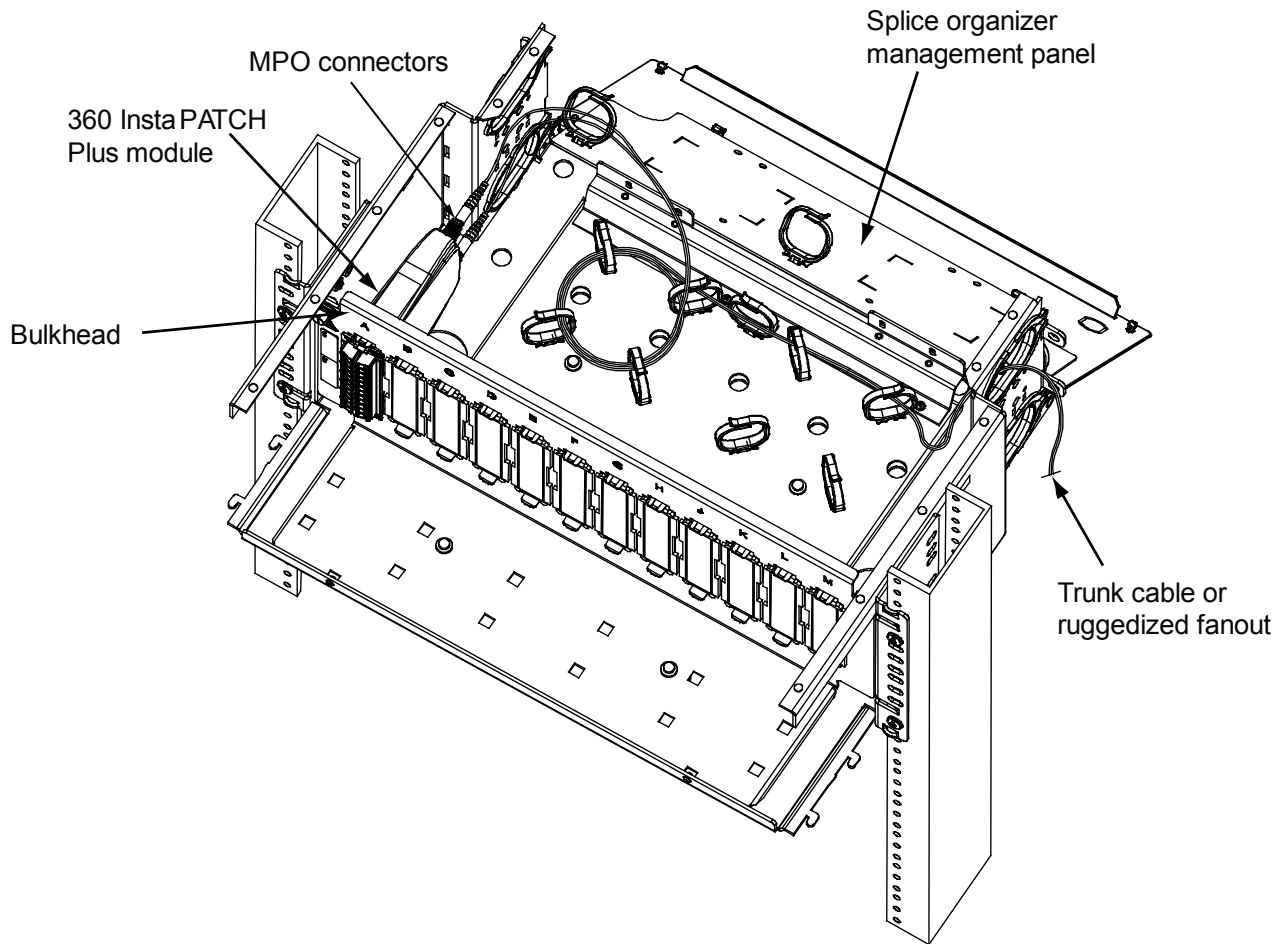
G2 bezel (location A)

G2 bezel (location G)

1. Starting at location A (left-most position), remove blank cutout cover and plug a bezel into bulkhead cutout until it snaps into place, as shown above.

2. Terminate a fiber pigtail into bezel, color keying as required. Repeat for remaining locations. Bundle all pigtails together with a suitable device that will not damage fibers (e.g. twist tie or hook-and-loop strip) at approximately 12 inches (305mm) increments.

3. Perform splicing operations. Secure splices into splice trays. Splices from bezel pigtails at locations A through F are to be placed into splice trays on left side of shelf; splices from bezel pigtail locations G through M are to be placed into splice trays on right side of shelf.

4. Spool fiber bundle into fiber management rings, as shown above. Fiber bundles from bezels at positions A-F use four fiber management rings on left side of shelf. Fiber bundles from bezels at positions G-M use four fiber management rings on right side of shelf.

5. Repeat items 1 through 4 for next five consecutive bezel locations (locations B through F).

6. Starting at location G (seventh location from the left side), repeat items 1 through 4 for all remaining locations (locations G through M).

Step 5C – Adapter Panel Application
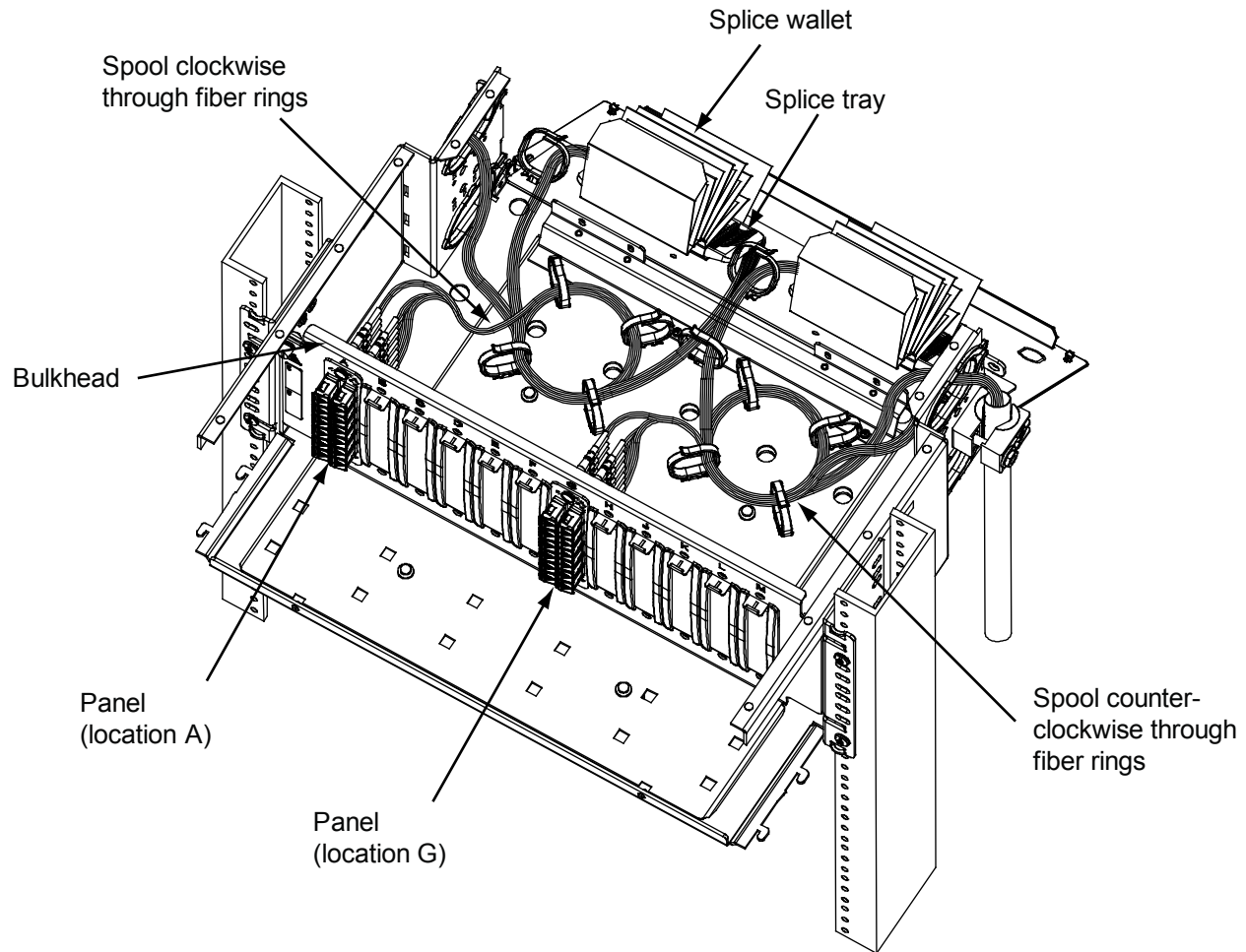
1. Starting at location A (the left-most position), remove blank cutout cover and plug adapter panel into bulkhead cutout, as shown above.

2. Terminate a fiber pigtail into adapter panel, color keying as required. Repeat for all remaining locations. Bundle all pigtails together with a suitable device that will not damage fibers (example: twist tie or hook-and-loop strip) at approximately 12 inches (305mm) increments.

3. Perform splicing operations. Secure splices into splice trays. Splices from adapter panel pigtails at locations A through F are to be placed into splice trays on left side of shelf; splices from adapter panel pigtail locations G through M are to be placed into splice trays on right side of shelf.

4. Spool fiber bundle into fiber management rings, as shown above. Fiber bundles from adapter panel at positions A-F use four fiber management rings on left side of shelf. Fiber bundles from adapter panel at positions G-M use four fiber management rings on right side of shelf.

5. Repeat items 1 through 4 for next five consecutive adapter panel locations (locations B through F).

6. Starting at location G (seventh location from the left side), repeat items 1 through 4 for all remaining locations (locations G through M).

Step 5D – InstaPATCH Plus Module Application

Splice organizer management panel

MPO connectors

360 InstaPATCH Plus module

Bulkhead

Trunk cable or ruggedized fanout

Note: **InstaPATCH** or **ReadyPATCH** cables use **SYSTIMAX** shelf mounted bracket (SMB) kit or rack mounted bracket (RMB) kit per instructions provided in 860448471 and 860380781 respectively.

1. Starting at location A (the left-most position), remove blank cutout cover and plug module into bulkhead cutout, as shown above.

2. Mate MPO connector(s) on module with those on trunk cable or ruggedized fan out.

3. Dress cable(s) thru fiber management rings approximately as shown above. Create loops with cable where appropriate to manage excess slack.

4. Repeat items 1 through 3 for all remaining positions.

Note: If desired, splice organizer management panel assembly may be easily removed since it is not used in this application. To accomplish this, remove four screws at base of the door support bracket. It may also be beneficial to temporarily remove some of the fiber management rings if they interfere with module insertion or extraction. Simply grasp rings firmly and pull in an upward motion until they pop out.

Step 6 – Splicing Provisions

Note: Splice organizer trays and splice carriers are normally ordered separately from the shelf. Some customer specific versions of this shelf come pre-populated with these items and will not require these steps. Splicing operations are not covered in this document.
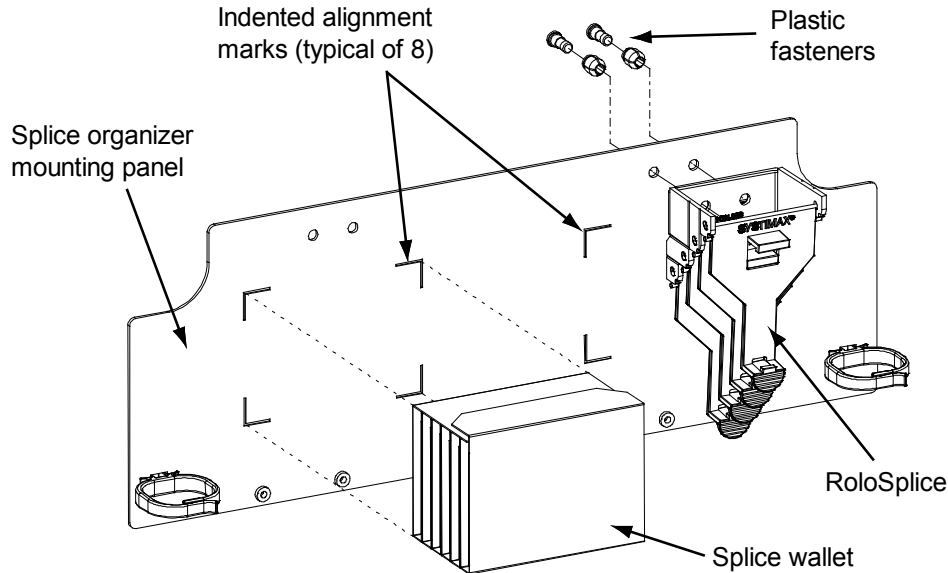
Splice Wallet

Splice Wallet is to be mounted within areas of splice organizer mounting panel indicated by four indented alignment marks (in two places). See figure above.

1. Using a lint-free wipe and isopropyl alcohol, clean and degrease area of splice organizer mounting panel where **Splice Wallet** will be mounted.

2. Peel off paper backing from hook-and-loop strip on base of **Splice Wallet**. Orient opening flap toward top of shelf and center between alignment marks on panel. Press the **Splice Wallet** firmly into place and hold for several seconds to assure that adhesive makes good contact.

The **Splice Wallet** is designed to accommodate all splice trays sold by **SYSTIMAX**, including:

- Mechanical (Rotary)
- Fusion
- Mass Fusion

In order to function properly, all positions must be populated with splice trays, whether or not they are to be used. Splice trays are mounted with adhesive pads provided on leaves of **Splice Wallet**.

Splice Wallet may be temporarily removed from splice organizer mounting panel (by releasing the hook-and-loop fastener) for splicing operations or splice trays may be populated with splices before the trays are mounted into the **Splice Wallet**.

RoloSplice

1. Assemble components for mounting in the illustrated position, if required. See figure on previous page.

2. Install plastic fasteners into splice organizer mounting panel as shown.

3. Assemble base of **RoloSplice** onto plastic fasteners and push in plungers to fasten.

The RoloSplice is designed to accommodate all splice trays sold by **SYSTIMAX**, including:

- Mechanical (Rotary)
- Fusion
- Mass Fusion.

Splice trays may be assembled onto pivoting trays of **RoloSplice** by slightly bending pivot tray sufficiently to allow splice tray to be snapped in between engaging features.

RoloSplice may be temporarily removed from splice organizer mounting panel (by releasing the plastic fasteners) for splicing operations or splice tray/pivot tray assemblies may individually removed and populated with splices before being placed back into the assembly.

UHD Stackable Splice Trays

Notes:

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

- Hinged rear panel assembly must be removed, as shown below.
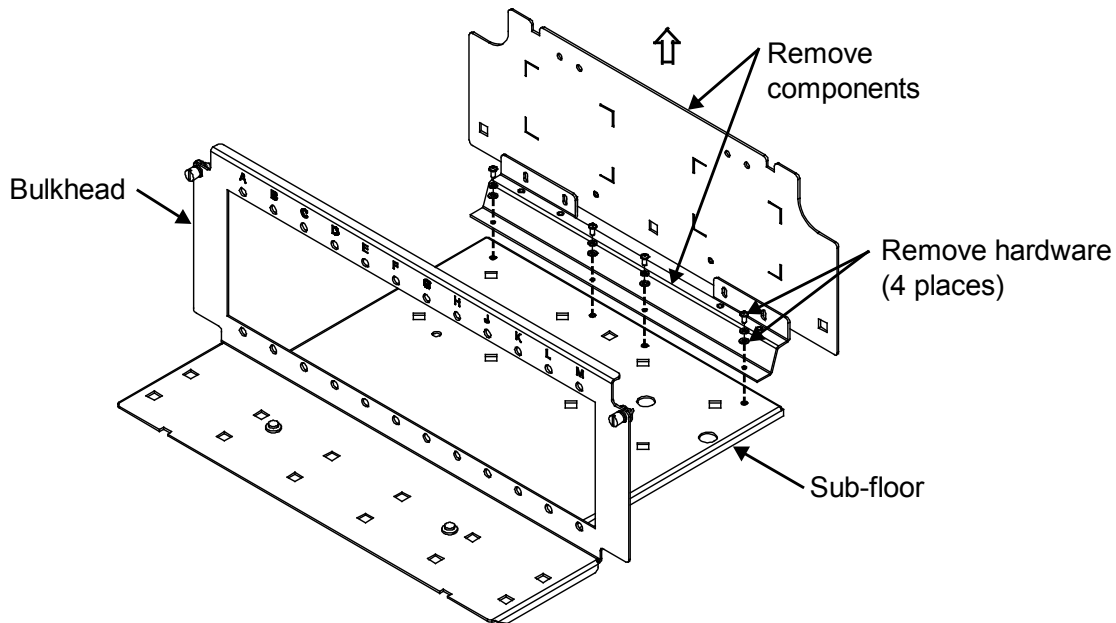
1. Remove four screws and associated washers from the sub-floor.

2. Remove components from shelf.

3. Remove all fiber management rings from sub-floor.
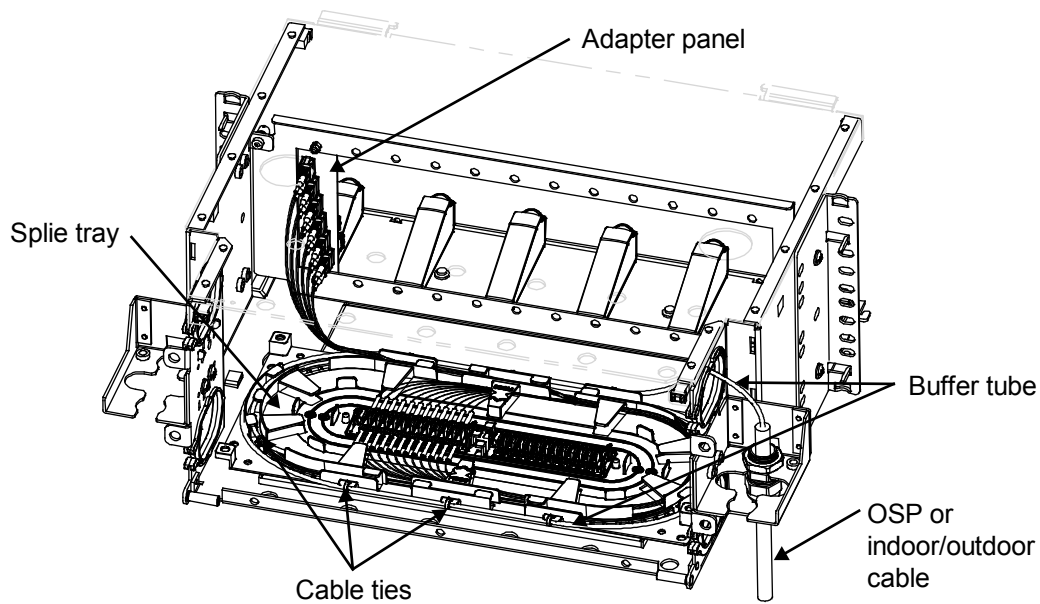
Notes:

- It is recommended that splicing operations be performed on a work surface outside the shelf, prior to tray installation. Approximately 5 feet (1.5m) of buffer tube length should be prepared with an additional 3 feet (1m) of fiber exposed for splicing. Slack buffer tube length should allow tray to be removed from shelf for subsequent adds, moves or repairs.

- It is recommended that buffer tubes be brought into shelf through upper cable entry openings at rear to provide maximum clearance possible between trays and fiber.

- Bundle buffer tubes together with hook-and-loop fasteners or cable ties within interior of shelf to protect adapter panel pigtails.

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 chassis floor and align tray with rear edge of sub-floor and press down firmly.

3. Route buffer tube(s) to tray, as shown above. Buffer tube slack shall be spooled around perimeter of tray and restrained 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. Up to eight trays may be used for a total capacity of 384 splices.

Fiber Management When Using Stackable Splice Trays

Plastic snap rivets

Bundle buffer tubes on interior of shelf

3 trays stacked
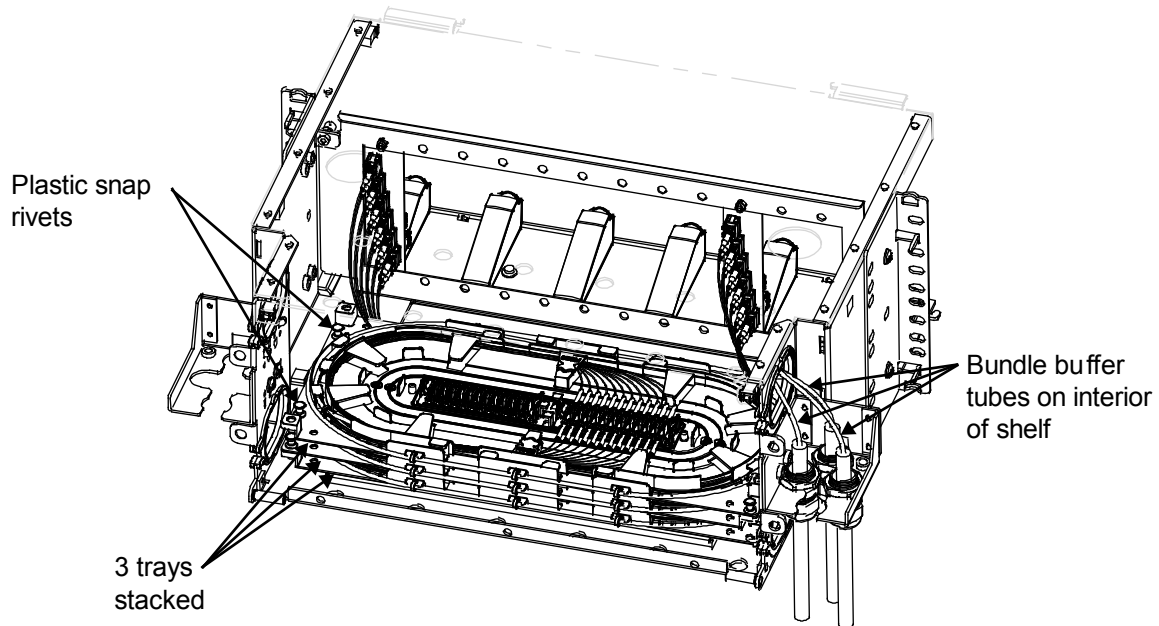
1. Trim all pigtail lengths to 3 feet (1m) or less.

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

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

4. Wind and dress pigtails into tray.

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

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

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

Step 7 – Install Loose Parts
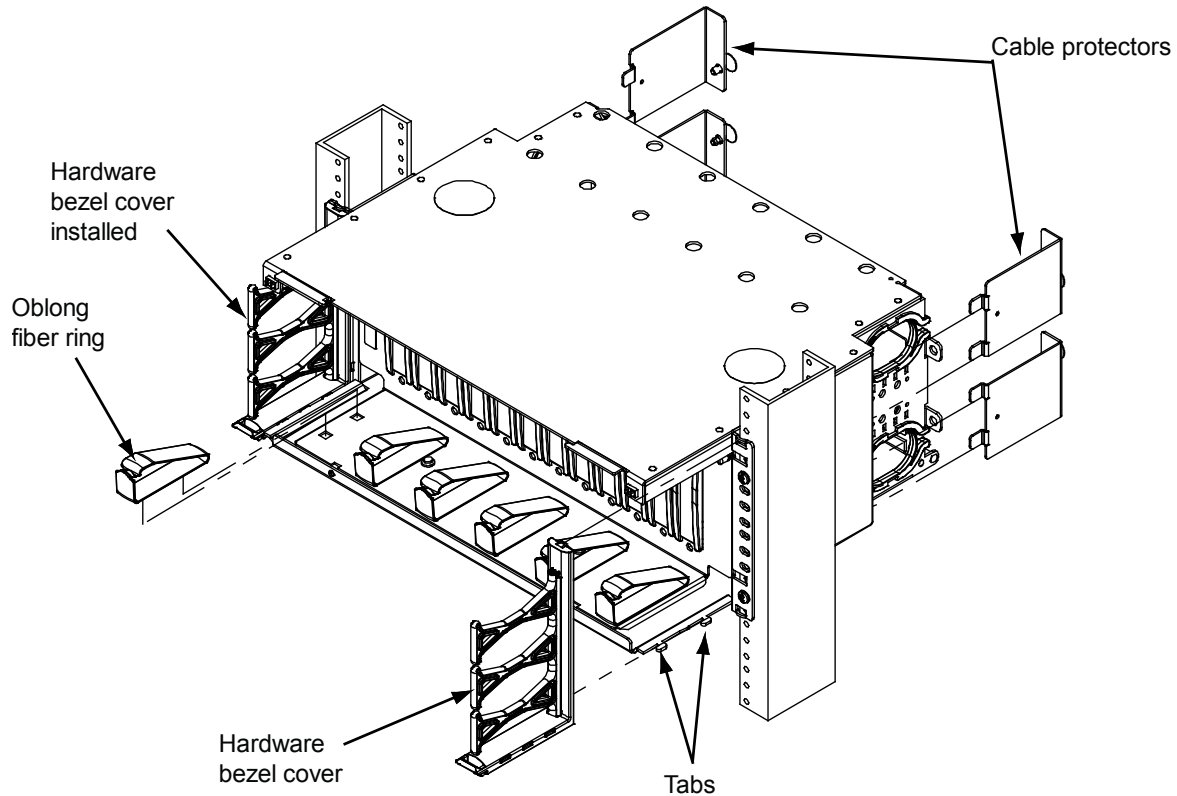
1. Install left hardware bezel cover by inserting two tabs on shelf into openings on bottom of bezel cover.

2. Push bezel cover towards mounting rail until bezel overrides lock on shelf and snaps into place.

3. Fasten upper latch of bezel cover to shelf mounting bracket.

4. To remove bezel cover, depress upper latch to free from mounting bracket.

5. Pull bezel towards front to override lock on shelf.

6. Release bezel from shelf tabs.

7. Repeat items 1-3 to install right hardware bezel cover to shelf.

8. Install oblong fiber rings to trough floor.

9. Install right-hand and left-hand cable protectors as shown above.

Step 8 – Install or Remove Front Door
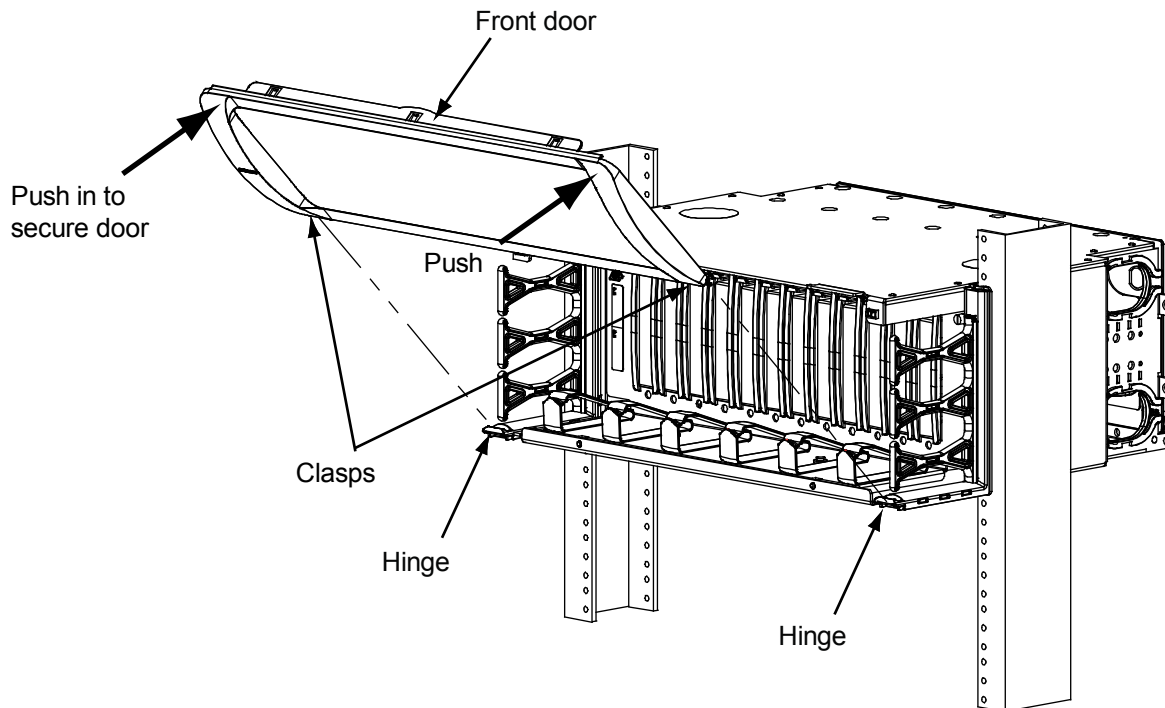
1. To install front door, position door at 45° and align door clasps on lower corners of door to hinges on panel and push in on each corner to engage the two parts.

2. Swing door up and down freely to verify proper installation.

3. Swing door up to the closed position and push in on upper corners to engage latches and secure door.

4. To open front door, pull on upper corners of door to disengage latches, then swing open.

5. To remove front door, open door and position it at 45°. Slide door to either side to disengage clasp from hinge.

6. Remove protective film from inside and outside of door.

7. To close door, push on upper corners of door to secure tolatch.

Note: Take special care when removing door to prevent scratches, damage, or loss.

Step 9 – Install Fiber Designation Label
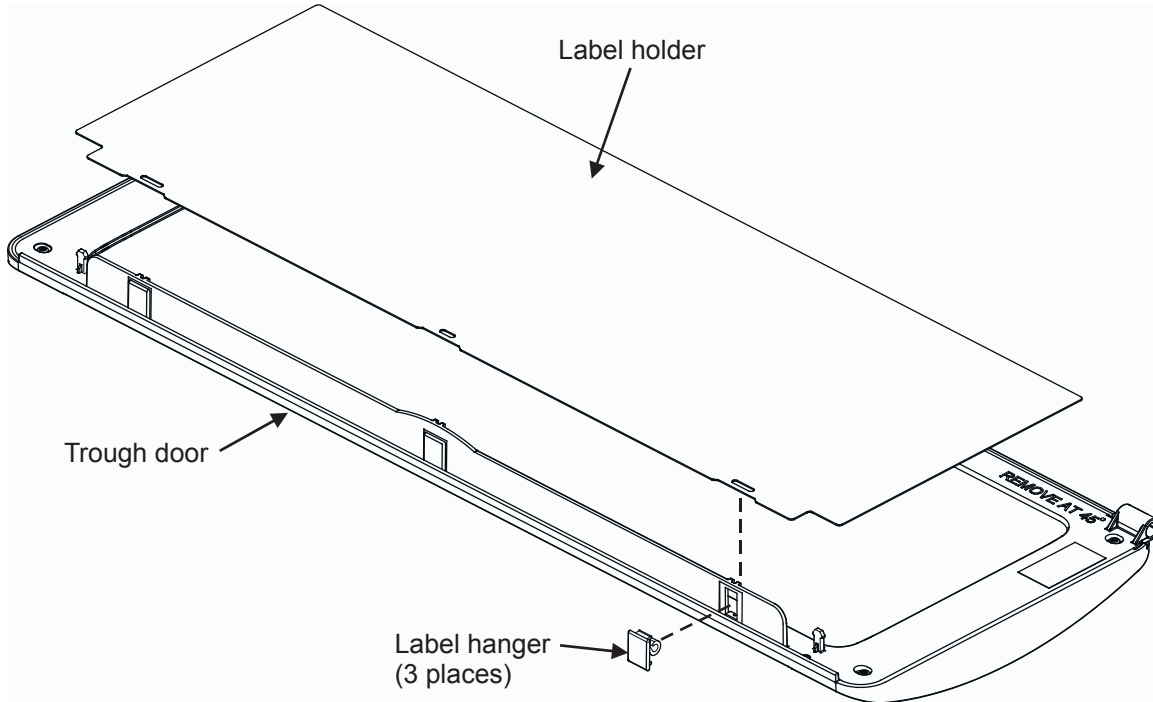
Install Flip Label Holder on Trough Door

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.

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