

## SYSTIMAX 360™ iPatch® G2 Fiber Sliding Shelf, MPO Distribution Panel Instructions

### General

The **SYSTIMAX 360™** 360G2 shelf comes equipped with **iPatch®** MPO kits, jumper-storage trough, and polycarbonate top cover. This sliding distribution shelf includes **iPatch** MPO kits designed for use in an **iPatch** System and MPO adapters that allow connection of multi-fiber trunk cables terminated with push-on MPO connectors.

These shelves mount in a standard 19-inch (483mm) rack with universal hole spacing. These shelves are intended for indoor use, but may be used outdoors in a suitable enclosure.

**Note:** To use the **SYSTIMAX 360 iPatch** shelf in an existing **iPatch** System, the **iPatch** Rack and Panel Managers must be running firmware version 8.1 or later and the **imVision®** Controller must be running firmware version 10.1 or later. The System Manager firmware, used to manage the system, must be version 7.1 or later. We recommend that you upgrade the System Manager software to version 7.1 or a later version before you install the shelf.

Ordering information is listed below:

Material ID	Part No.	Description
760169144	360G2-iP-1U-32-MPO-DP-SD	360G2 <b>iPatch</b> 1U 32-MPO distribution panel, sliding shelf
760169185	360G2-iP-2U-64-MPO-DP-SD	360G2 <b>iPatch</b> 2U 64-MPO distribution panel, sliding shelf



1U MPO Distribution Panel



2U MPO Distribution Panel

### SYSTIMAX 360™ iPatch® G2 MPO Fiber Sliding Shelves

This product is covered by one or more of the following U.S. patents or their foreign equivalents: 5,923,807, 6,245,998. The **iPatch** System is covered by U.S. patents 6,285,293, 6,522,737 and 8,344,900



## How to Contact Us

- To find out more about **CommScope**<sup>®</sup> 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**<sup>™</sup> 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](mailto:claims@commscope.com). Outside the United States, contact your local account representative or **PartnerPRO** Network Partner.

## Tools Required

- Flat-blade screwdriver
- Phillips-head screwdriver

## Specifications

### Fiber Optic Interface

Industry-standard MPO

### Compatible Fiber Size

Multimode with 50 µm core diameter, such as **LazrSPEED**<sup>®</sup>

Singlemode with 8.3 µm core diameter, such as **TeraSPEED**<sup>®</sup>

### Environmental Data

Temperature Range: -40° F to 158° F (-40° C to 70° C) (storage)  
23° F to 122° F (-5° C to 50° C) (operational)

Humidity: 95% noncondensing

## Parts List

Verify parts against the parts list below:

Quantity	Description
1	Shelf assembly (sliding) with panel bus jumper
1	Trough assembly (includes door assembly)
1	Polycarbonate top cover
4	12-24 x 1/2 inch screws for mounting the shelf in a 19-inch (483mm) or 23-inch (584mm) rack
2	Liquid tight cable fittings (cable glands)
1	Corrugated tubing
2	Plastic cable tie retainers
4	Cable ties
3	Flat retainer clips
1	Shelf installation instruction sheet
1	Fiber cleaning instruction sheet

## Separately Orderable Components

Material ID	Part No.	Description
760039883	600-23BRKT	Mounting bracket accessory kit for 23-inch (584mm) frame

### Important: Limits for iPatch shelf and panel connections:

- **iPatch** MPO fiber shelves are limited to a maximum number of rack units (RUs) and will not support a fully populated rack or cabinet. **iPatch** MPO fiber shelves support 26 rows per rack/cabinet, such as configured for (26) 1U shelves, (13) 2U shelves, (10) 2U UHD shelves, (6) 4U shelves, (5) 4U UHD shelves, or any combination thereof.
- **iPatch** MPO fiber shelves are limited to a maximum number of five (5) panels per panel bus male connector.  
Start a new panel bus chain with every sixth panel in the rack system.



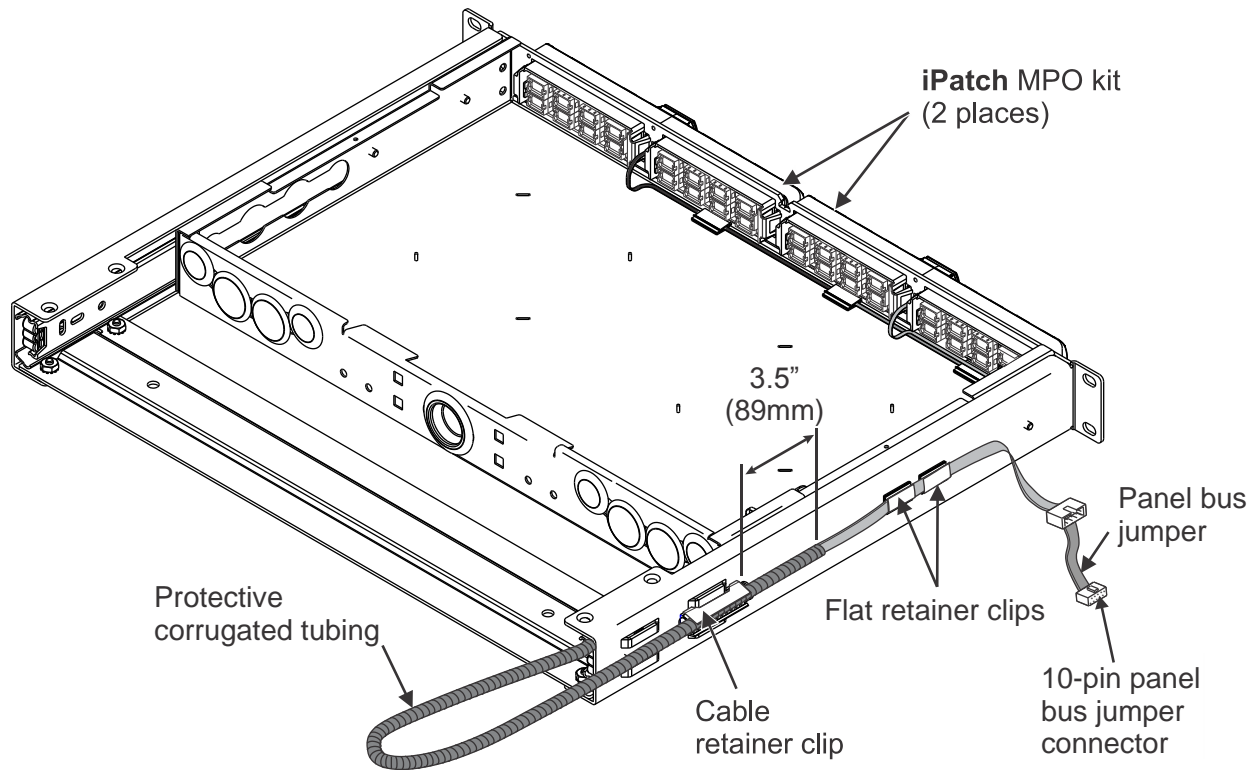
### Important Safety Cautions

- To reduce the risk of fire, electric shock, and injury to persons, read, understand, and adhere to the following instructions as well as any warnings marked on the product.
- Remote risk of electric shock. Never install the product in wet locations or during lightning storms. Never touch uninsulated communication wires or terminals.
- 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.
- Wear safety glasses to install the shelf. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.

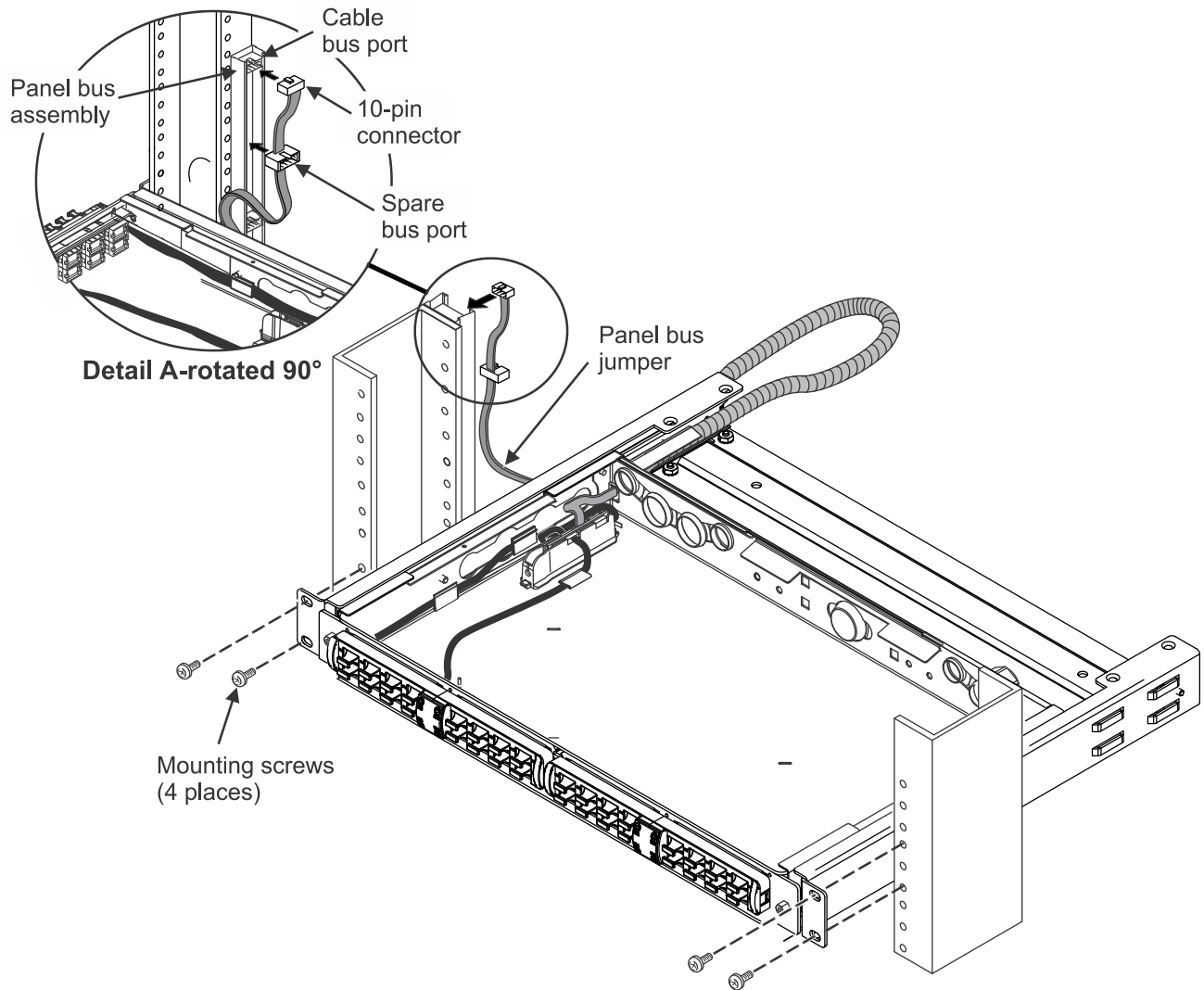
### Precautions

- **iPatch** high density fiber modules require virtually no maintenance to maintain their performance. They contain no user-serviceable components, and any damage to the anti-tamper label or removal of top cover or front adapter mounting panel will void the warranty.
- Fiber optic trunk cable and jumper performance is sensitive to bending, pulling, and crushing. Minimum bend radius must be maintained during installation per the manufacturer's specification. Appropriate pulling socks must be used during installation, and pulling forces shall not exceed manufacturer's recommendations. MPO terminated trunk cables may use ribbonized fiber optic cable, which has a preferential bend axis. Use caution to avoid kinking trunk cables.
- All wiring that connects to this equipment must meet applicable local and national building codes and network wiring standards for communication cable.
- Care should be taken not to compromise the stability of the rack by installation of this equipment.
- **iPatch** fiber shelves are for use in restricted access areas only.
- **SYSTIMAX 360 iPatch** shelves use infrared sensing technology and should be installed where they are not exposed to direct sunlight or other infrared sources.
- **iPatch** high density fiber MPO adapters are equipped with protective dust caps installed in the front of all adapters.
- Prior to installation, clean the trunk cable and jumper connectors per the manufacturer's recommendations.

## Step 1 – Route Panel Bus Jumper

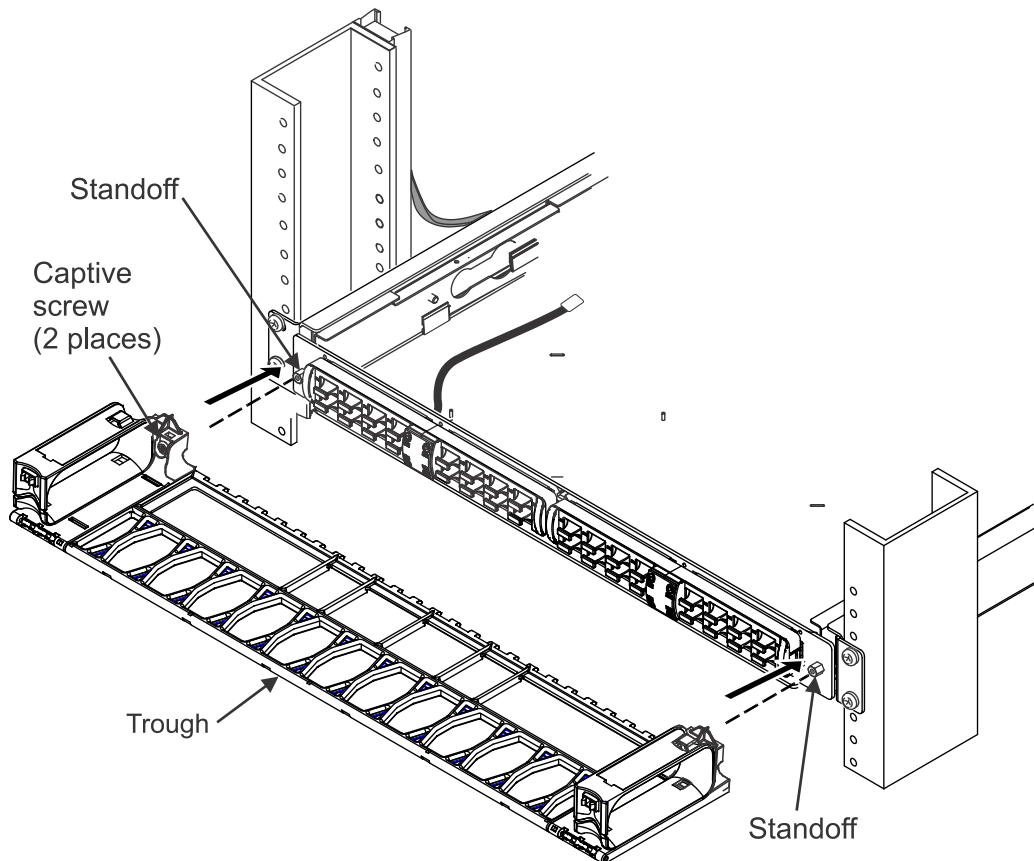


1. If it has not already been removed, slide the cover off the shelf.
2. Remove tape securing panel bus jumper to cable support.
3. Route the panel bus jumper with protective corrugated tubing around the end of the sliding rail to the outside of the rail.
4. Snap the corrugated tubing protecting panel bus jumper into the cable retainer clip on the outside of rail as shown.
5. Position the corrugated tubing so that about 3.5 inches (89mm) of tubing extends past the end of cable retainer clip.
6. Position the exposed ribbon cable of the panel bus jumper in the flat retainer clips on the outside of the sliding rail as shown above.

**Step 2 – Install Shelf and Connect Panel Bus Jumper**

1. Mount the shelf in the rack using the four mounting screws provided.
  - For a 19-inch (483mm) rack, mount shelf to rack using the pre-installed mounting brackets and four 12-24 x 1/2-inch screws provided.
  - For a 23-inch (584mm) rack, use the 600-23BRKT accessory kit (ordered separately) and install one conversion bracket on each side of shelf using four 10-32 x 3/8-inch screws included in the kit. Mount shelf to rack using four 12-24 x 1/2-inch screws provided.
  - For an ETSI rack, use the 600-23BRKT accessory kit (ordered separately) and install one conversion bracket on one side of the shelf using two of the four 10-32 x 3/8-inch screws included in the kit. Mount shelf to rack using four M6 x 12 screws (not provided). The shelf will not be centered in the rack.
2. Connect the keyed female 10-pin connector on the panel bus jumper into the nearest cable bus port on panel bus as shown.
3. Install spare port built into jumper cordage into panel bus frame by turning it at an angle, inserting into frame, and turning it back perpendicular to frame.

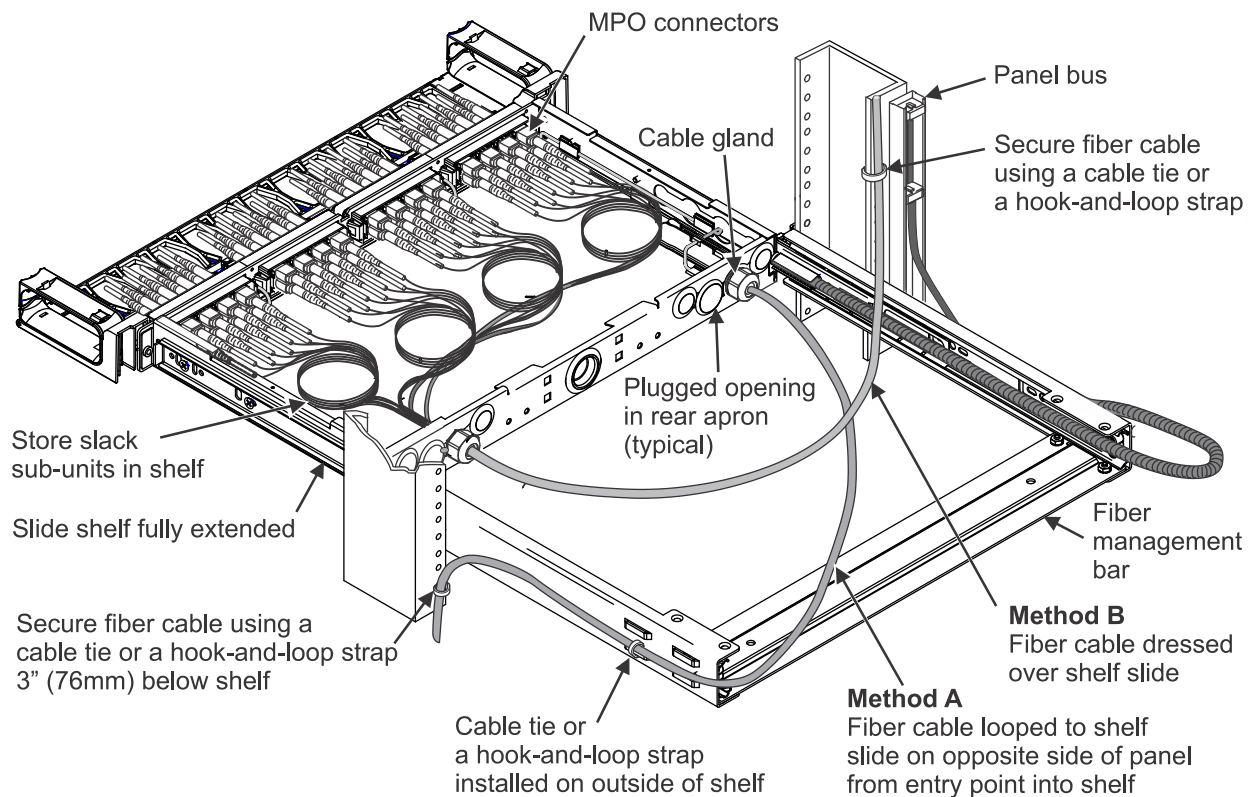
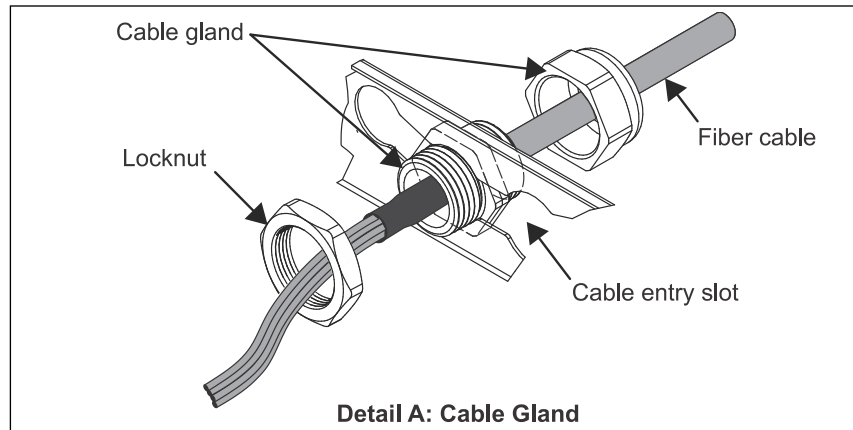
### Step 3 – Install Trough



#### 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 4 – Route Trunk Cable(s)**

1. Pull shelf out to fully extended position.
2. Pull the trunk cable(s) to the rack and determine the best way to route the cable to the shelf (from above or below).
3. The trunk cables and sub-units may enter shelf from right or left side of rear apron. Carefully loop 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 using a cable tie or hook-and-loop strap.
4. Temporarily store slack sub-units in shelf.
5. 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.
6. Loosen locknut on cable gland. The locknut does not have to be removed to install the cable gland.



7. Feed sub-units through opening in shelf and temporarily coil sub-units loosely inside shelf.
8. Rotate locknut 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 locknut to be inserted through opening.
9. Insert threaded body of cable gland into opening and tighten locknut onto threaded section to secure trunk cable to shelf.
10. Using one of the methods described below, route and secure the trunk cable from the cable gland back to the rack.

#### 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 straps 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 strap.  
**Note:** Do not exceed minimum bend radius for fiber cable.
3. Verify that shelf retracts and extends fully before proceeding.
4. The ribbon cable of the panel bus jumper may slide in the corrugated tubing.

#### 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 the shelf to work.

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 strap.
3. Verify that shelf retracts and extends fully before proceeding.
4. The ribbon cable of the panel bus jumper may slide in the corrugated tubing.

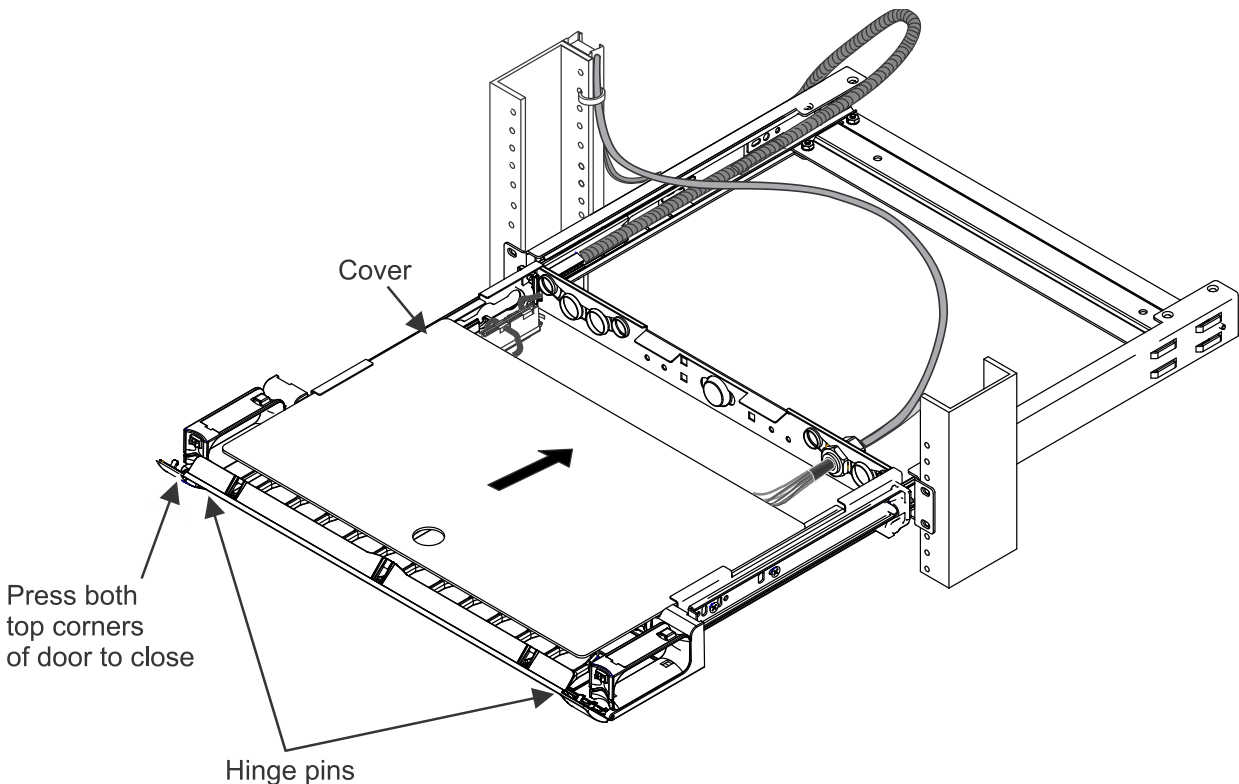
### Step 5 – Connect Cables to MPO Adapters

1. Remove protective dust covers from MPO connectors on the cable.
2. Prior to installation, clean all MPO connections per the manufacturer's recommendations.
3. Grasp connector by its boot, near the base of connector. Insert MPO connector into coupler until it clicks into place.  
**Note:** The MPO connection is keyed. The polarized tab on the connector fits into the opening on a coupler on adapters.
4. Insert each of the trunk cable's MPO connectors into MPO couplers on adapters.
5. Route sub-units so that slack length is contained and so as to avoid tight bends as the connectors are terminated into the adapter panels.

**Note:** To unplug an MPO connector, grasp the ribbed sleeve section and pull connector out of coupler. Do not pull on the boot to unplug an MPO connector.



## Step 6 – Install Cover and Door



Install top cover and trough door (both provided) to shield shelf from foreign particles. The cover, which is made of clear, flame-retardant plastic, slides on and off shelf. The door for the patch cord trough is hinged and has touch-latches for closing and opening.

1. Slide cover through flanges on shelf until cover reaches the back wall of shelf.
2. Remove door from protective wrapping.
3. Orient door at an angle from trough and position hinge pins on door into hinge sockets on trough.
4. 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.
5. Repeat on other end to secure door to trough.
6. Pivot door into the vertical position until strikes engage latches and door snaps into the closed position with an audible click.
7. 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.
8. Fully retract the shelf in the rack.

## Step 7 – 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.