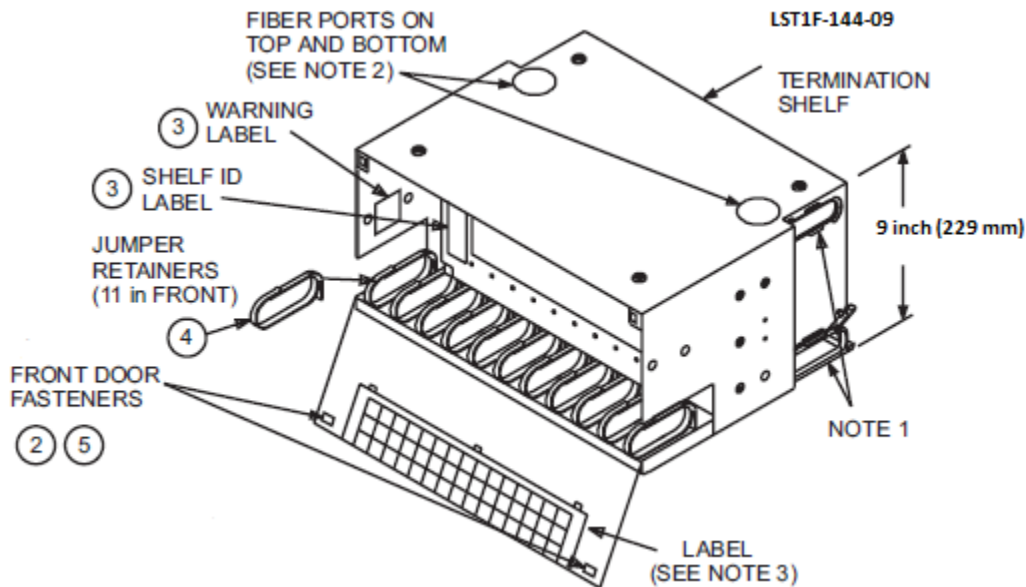


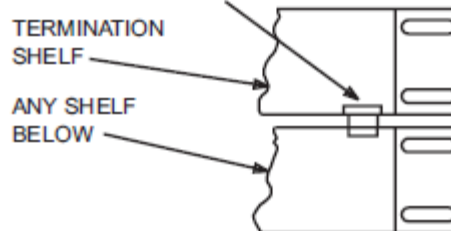
STEP 1—VERIFY PARTS AND INSTALL LABELS, GROMMETS, ENCLOSURES, AND RINGS

(This product is intended for indoor use or outdoors in a suitable protective enclosure.)



LOOSE PARTS FURNISHED WITH SHELF ①		
ID NUMBER*	DESCRIPTION	QUAN
846 247 427	Mounting Brackets	2
—	Fiber Rings	8
—	Jumper Retainers	11
—	Shelf ID Label	1
—	Warning Label	2
848 067 369	Cable Clamp Brackets	2
—	White Plastic Grommets	2
—	Tie-Wrap Support	4
—	Tie-Wrap	4
—	Misc. Screws and Nuts	—
—	Bend Limiter, Upper	2
—	Bend Limiter, Lower	2

WHITE PLASTIC GROMMET PROJECTS DOWNWARD FROM BOTTOM OF TERMINATION SHELF INTO TOP FIBER PORT OF SHELF BELOW (SEE NOTE 2)



* For identification purposes, not for ordering.

Note 1 The shelves come equipped with plastic grommets in upper entry ports and slotted out lower cable entry ports. The slots will have grommets and will permit easy lay-in of cables or fibers.

Note 2: Grommets installed in fiber ports allow fibers to be routed internally to other shelves. To install grommets, remove bottom two fiber port plugs. Install grommets from inside shelf projecting downward as shown on page 1. When mounting termination shelf above another shelf, remove top fiber port plugs in shelf below. When mounting under another shelf, remove top two fiber plugs in splice/termination shelf.

**STEP 1—VERIFY PARTS AND INSTALL LABELS, GROMMETS, ENCLOSURES, AND RINGS
(Continued)**

Note 3: Termination shelf flip-type labels are used to record fiber termination locations on one side and circuit information on the other side. Shelf identification label is provided to key shelf to label which may be removed from door. Shelf location identification information must be written on both the flip-type label and matching shelf ID label prior to use.

1. Verify parts against parts list shown in the table on page 1.

Note: The adapter panels, adapters, and fanout components used with this shelf are ordered/provided separately. Unless the code indicates the material is included.

2. Depress both left hand and right hand latches to open front doors.

3. Apply termination shelf identification label to shelf panel and warning labels to either inside wall of termination shelf—one in front of shelf panel and one behind shelf panel.

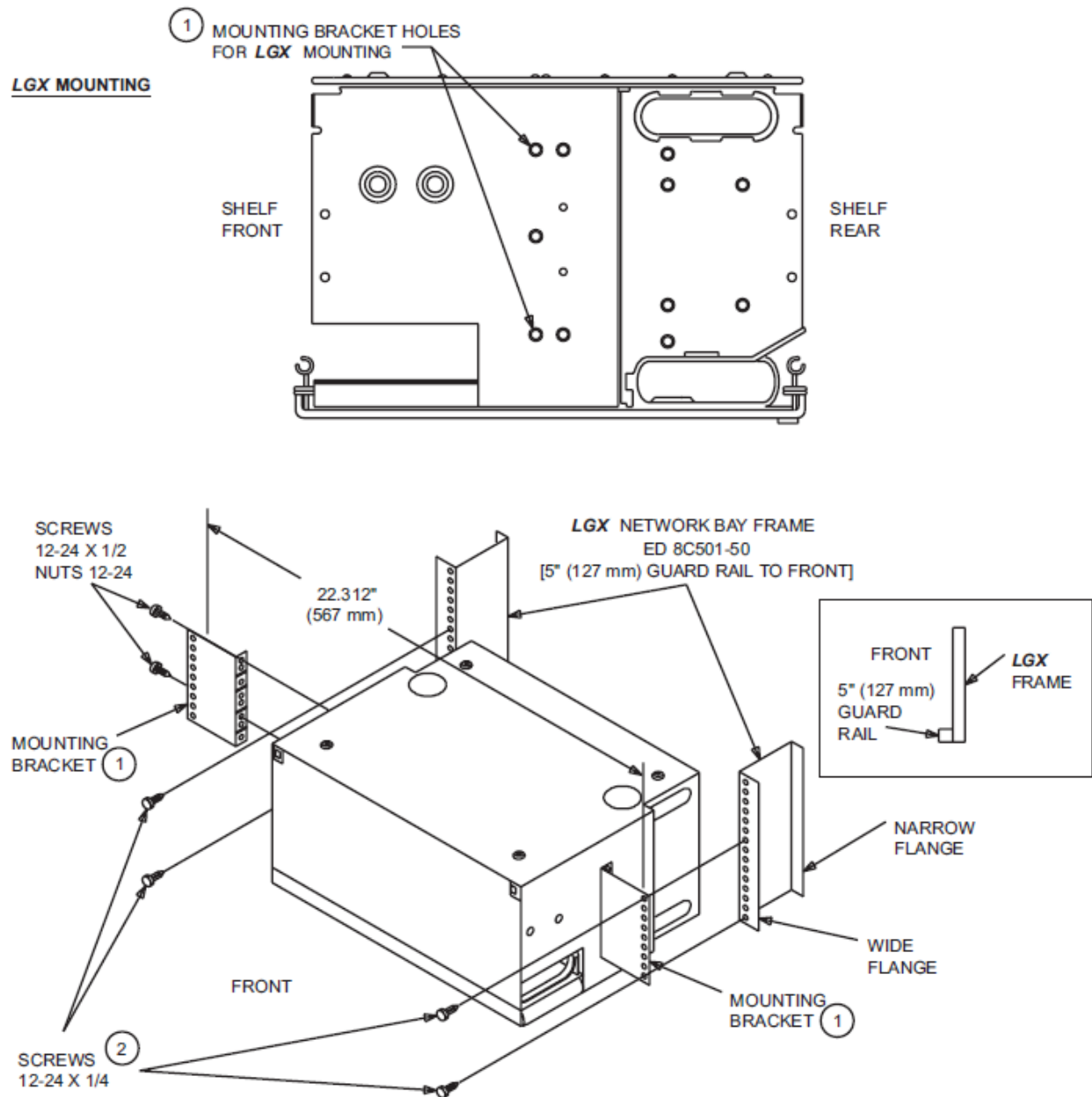
4. Position and snap fiber rings into front and rear of splice shelf as shown on page 1.

5. Position and snap fiber rings into rear of termination shelf as shown on page step 6 on page 9.

Note: Jumper retainers (shown on page 1) should be installed following adapter panel installation.

6. Return front and rear doors to closed position making sure to secure the latches in place.

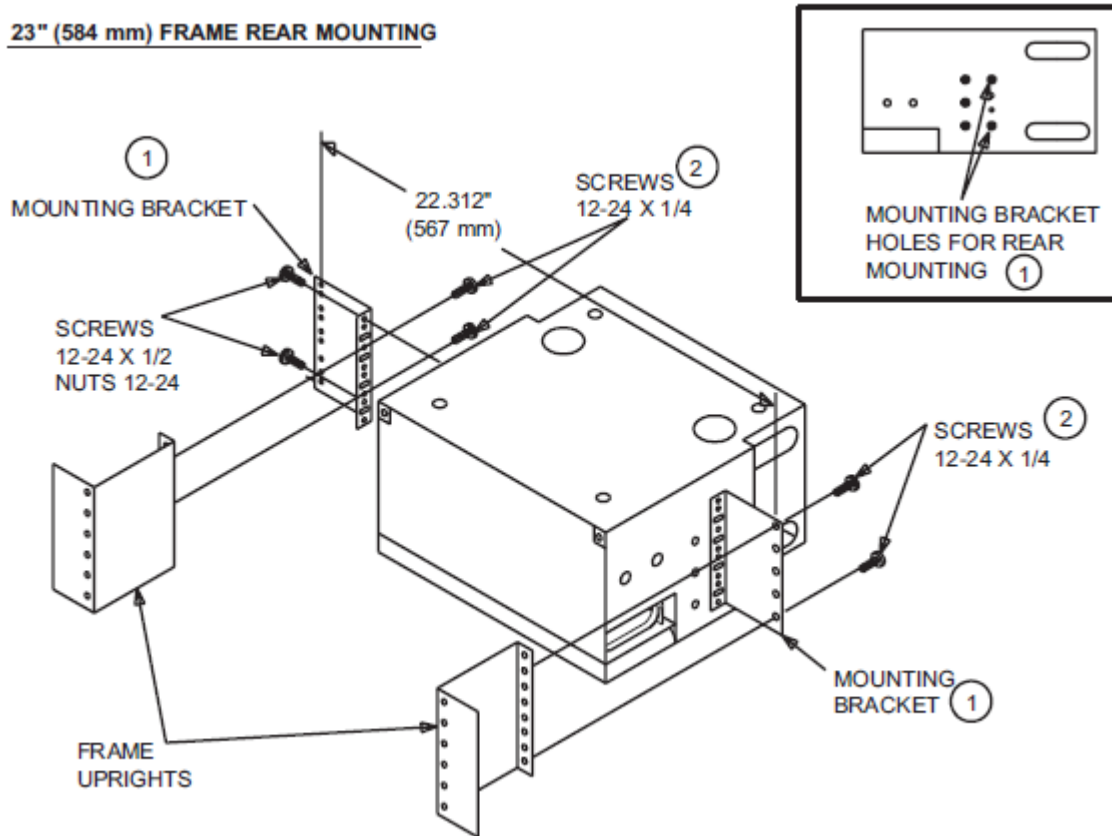
STEP 2—INSTALL MOUNTING BRACKETS AND MOUNT SHELF—LGX® FRAME



1. Position and attach each large mounting bracket to termination shelf using proper mounting holes (see above) with two 12-24 by ½-inch screws and 12-24 nuts (with captive lockwashers).
2. Install shelves to front of **LGX** frame with two 12-24 by ¼-inch screws per mounting bracket.

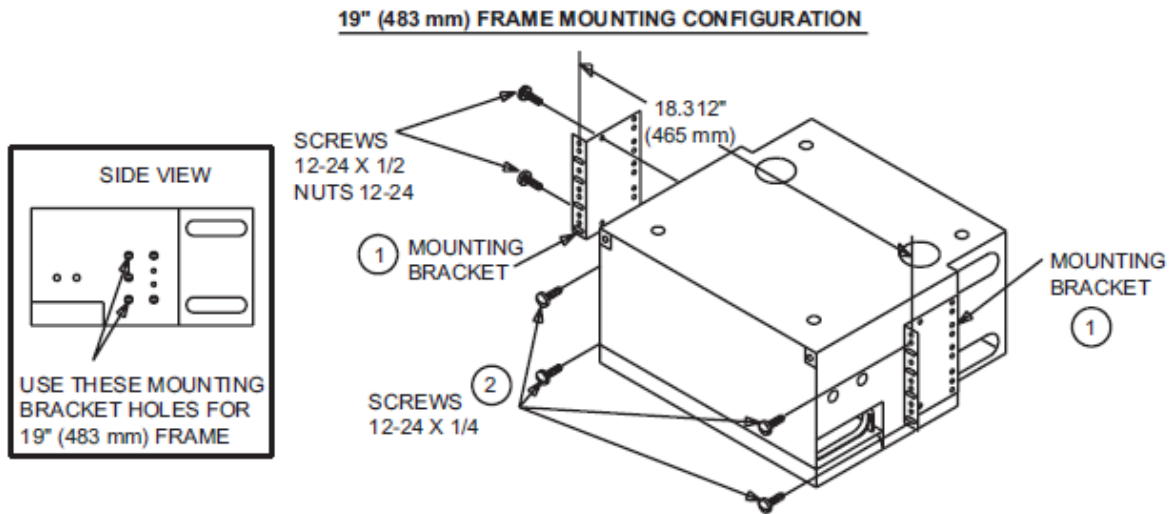
STEP 2—INSTALL MOUNTING BRACKETS AND MOUNT SHELF—OTHER THAN LGX FRAME

23" (584 mm) FRAME REAR MOUNTING



1. Position and attach each large mounting bracket to termination shelf using proper mounting holes (see above) with two 12-24 by ½-inch screws and 12-24 nuts (with captive lockwashers).
2. Install shelves to frame with two 12-24 by ¼-inch screws per mounting bracket.

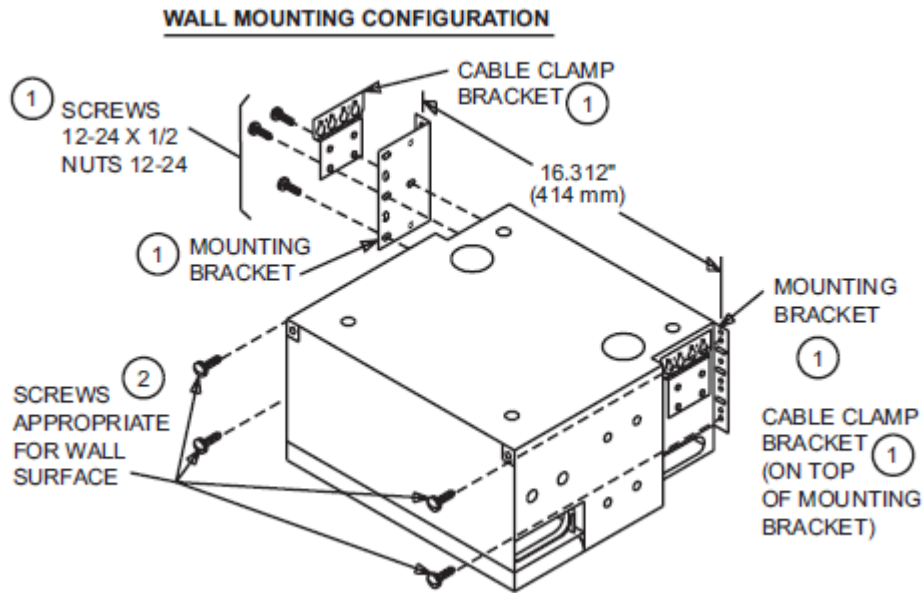
STEP 2—INSTALL MOUNTING BRACKETS AND MOUNT SHELF—OTHER THAN LGX FRAME
(Continued)



19-INCH (483 mm) FRAME MOUNTING

1. Position and attach each large mounting bracket to termination shelf using proper mounting holes (see above) with two 12-24 by 1/2-inch screws and 12-24 nuts (with captive lockwashers).
2. Install shelves to 19-inch (483 mm) frame with two 12-24 by 1/4-inch screws per mounting bracket.

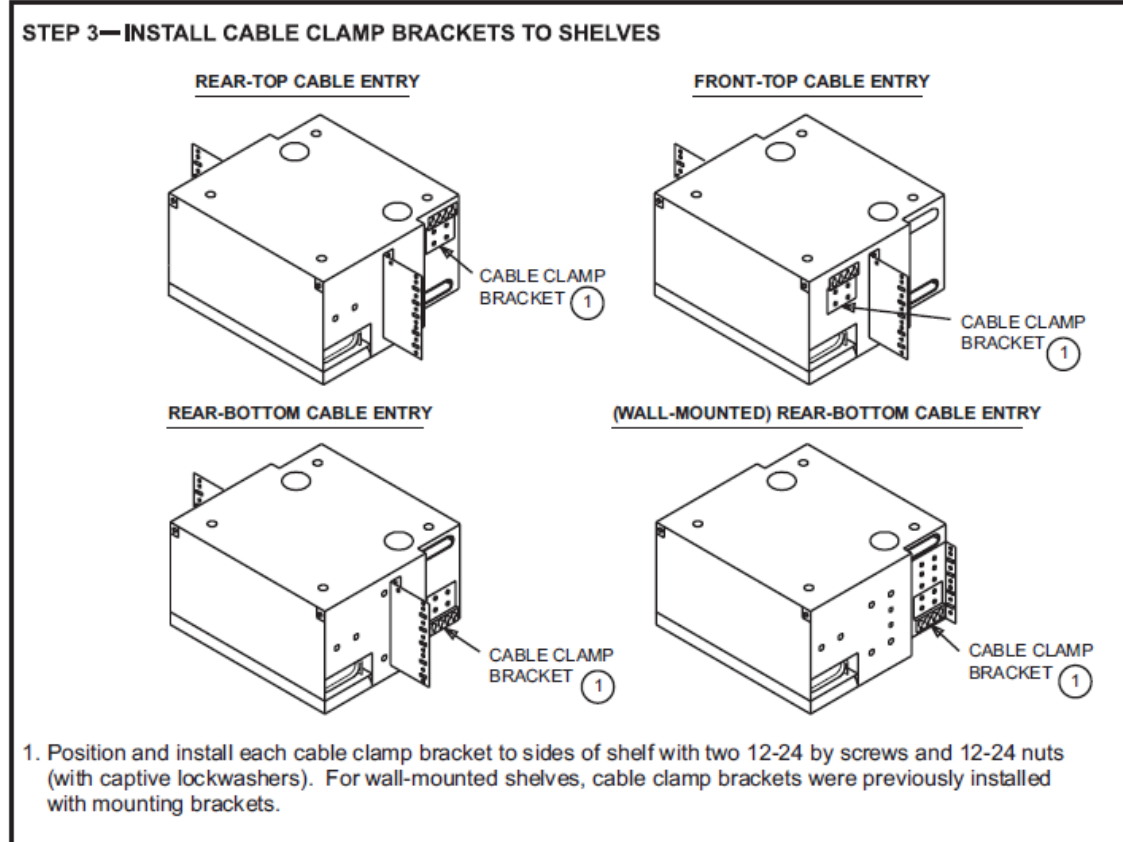
STEP 2—INSTALL MOUNTING BRACKETS AND MOUNT SHELF—OTHER THAN LGX FRAME
(Continued)



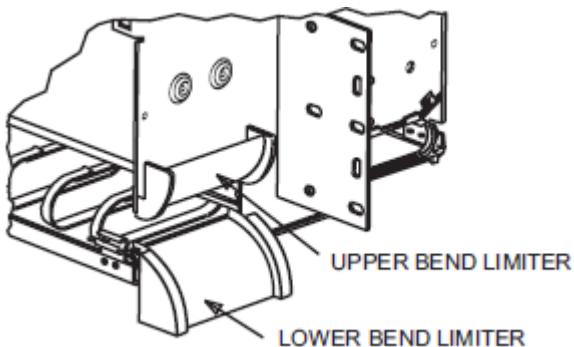
WALL MOUNTING

Note: Illustration shows wall-mounted top cable entry. See Step 3 for wall-mounted bottom cable entry. Shelf may also mount on 134-type wall bracket.

1. Position and attach large mounting bracket and cable mounting bracket to each side of termination shelf with three 12-24 by ½-inch screws and 12-24 nuts (with captive lockwashers). Two screws go through both brackets, while a third screw goes through the mounting bracket only. Repeat the same procedure for the opposite side of shelf. LST1F-144-09 shelves typically mount to walls or CEV-type hut frames against the walls. Shelves may be mounted directly to the wall as shown above or mounted on the 134-type wall bracket. When mounting to 134-type brackets, shelf mounting brackets are attached to the shelf for a 23-inch (584mm) frame, front mounting LGX frame mounting shown on page 2. For installations, it is recommended that the cables be secured with the 12A-type clamps before the shelf is mounted to the 134-type bracket for ease of access to the clamping hardware. Future installation of cable may require the removal of the shelf from the 134-type bracket.
2. Install both mounting bracket and cable clamp bracket to side of shelf with three 12-24 by ½ screws and 12-24 nuts (with captive lock washers). Two screws go through both brackets, while the third screw goes through the mounting bracket only. Repeat for opposite side of the shelf.
3. Install shelf to wall surface with two fasteners (locally obtained) per mounting bracket. Fasteners should be appropriate for wall surface.

STEP 3—INSTALL CABLE CLAMP BRACKETS AND RUBBER GROMMETS


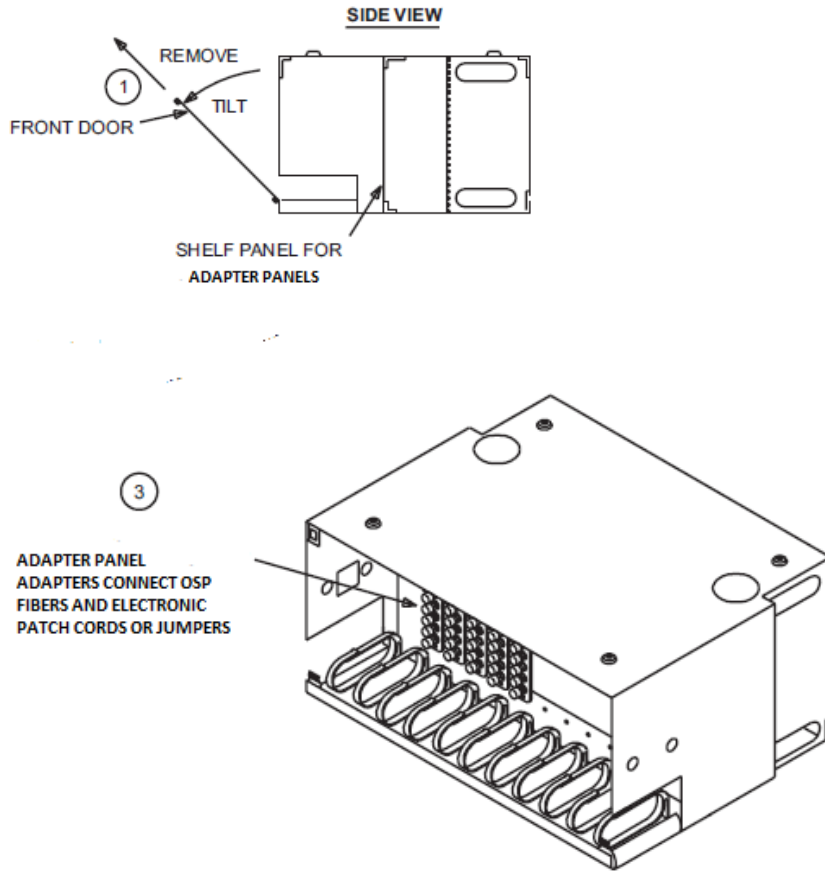
1. Position and install each cable clamp bracket to sides of shelves with two 12-24 by 3/8-inch screws and 12-24 nuts (with captive lockwashers). For wall-mounted shelves, cable clamp brackets were previously installed with mounting brackets.

STEP 4—INSTALL BEND LIMITERS


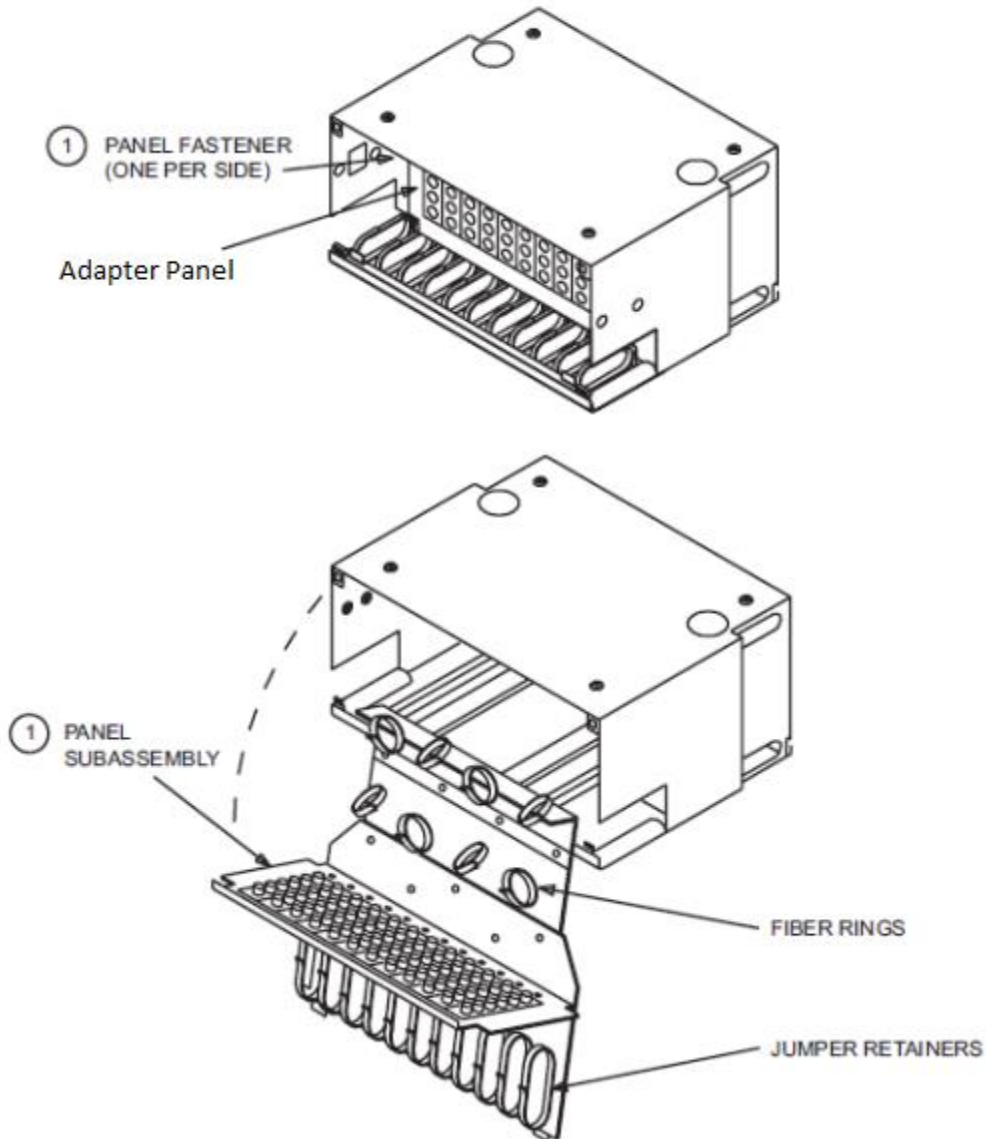
Note: Order Comcode No. 107 330 565, set of bend limiters (multipack), to equip existing shelves with bend limiters. Each multipack will equip five shelves.

1. Install upper and lower bend limiters in the jumper ports on left and right side of the shelf. The lower bend limiters are installed by snapping them into position. The upper bend limiters are installed using the double-sided foam tape provided. Make sure surface of shelf is clean, peel release paper from tape on upper bend limiter, and press into position.

STEP 5—INSTALL PANELS INTO FRONT OF SHELF



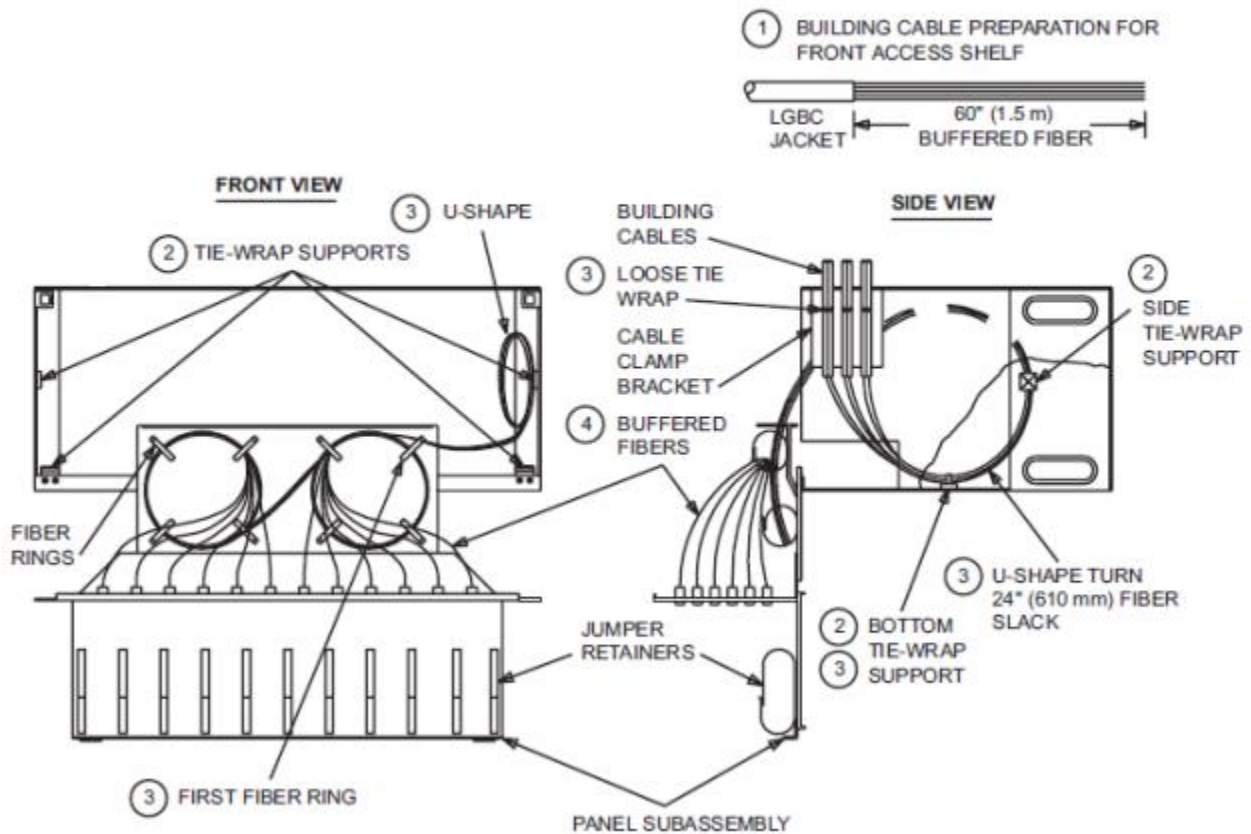
1. Depress termination shelf front door fasteners to open, tilt door to align with hinge slots, and remove.
2. Unscrew panel fasteners on modular fanout panel, tilt, and remove panel.
3. Install adapter panels into shelf. Panels can be pre-ordered with adapters already installed or adapters can be installed into panel prior to installing into the shelf.
4. Install adapter panels to shelf panel using the snap fasteners on top and bottom of panel.
5. The shelf can be pre-ordered with the adapter panels already installed.

STEP 6—PREPARATION TO INSTALL OUTSIDE PLANT (OSP)/BUILDING CABLES


1. Loosen panel fasteners; pull panel subassembly out from shelf until stop is engaged, and pivot down. If not installed, fiber rings may be snapped into position in the rear of the shelf at this time.
2. When installing Premise Building Cable to wall-mounted or CEV frame shelves (frame mounted against wall, no rear access), proceed to Step 7, Page 10.
3. When installing Outside Plant Cable (OSP) to wall-mounted or CEV frame shelves (frame mounted against wall, no rear access), proceed to Step 8 Page 11

Note: Use 12A2 clamps for nonmetallic cables. The 12A clamps are ordered/provided separately—one per OSP cable to be secured. Refer to 636-299-110 for details.

**STEP 7—INSTALL BUILDING CABLES TO SHELF WITH FRONT ACCESS ONLY:
WALL-MOUNTED, CEV, OR SIMILAR FRAME LOCATIONS**

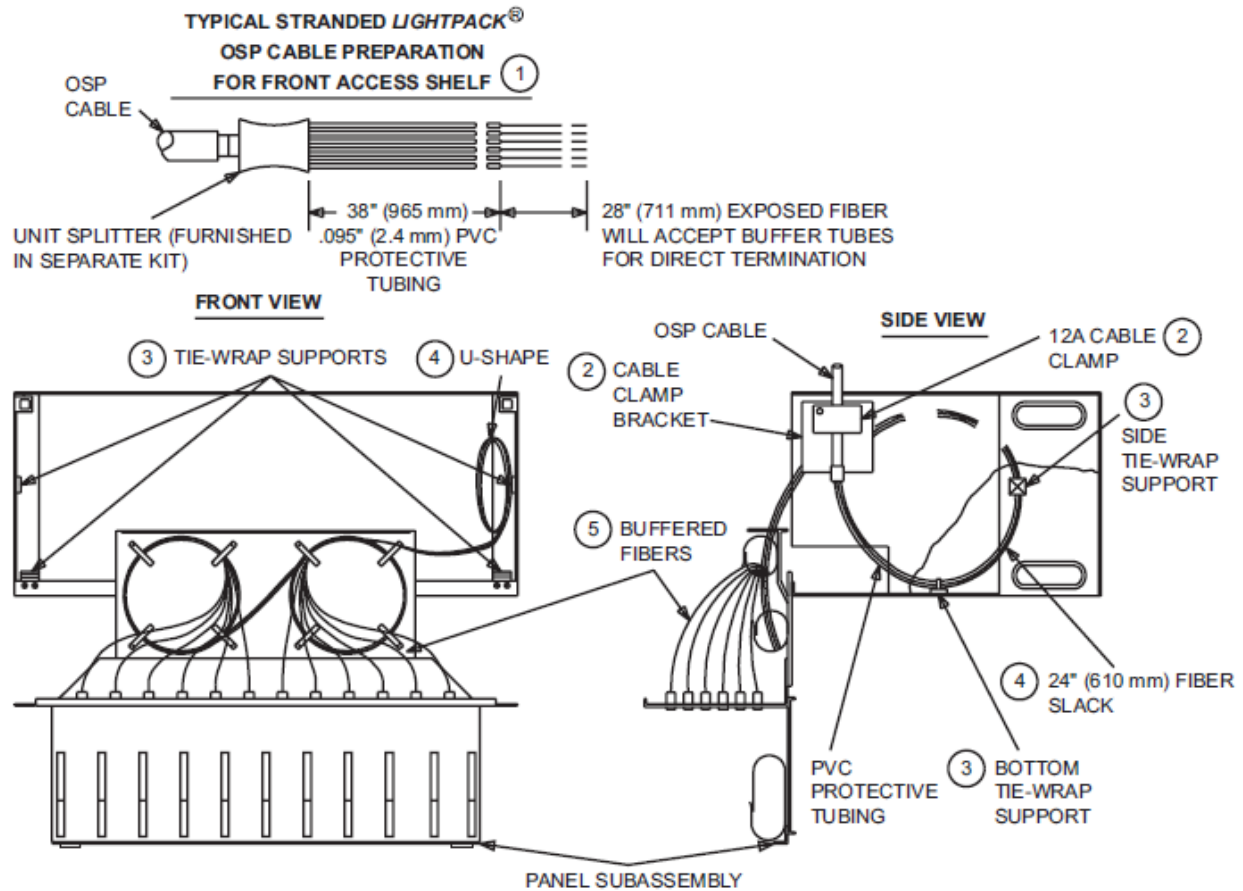


Note: Ideal procedure for securing building cables is to use spiral wrap, if available, around each building cable at the cable clamp bracket.

1. Prepare building cable typically as shown above in diagram note 1.
2. Locate and secure Velcro tie-wrap supports as indicated. The bottom tie-wrap support must be located at the notch in the bottom. If cable is routed through the rear of the shelf from the bottom or top, see Steps 9 and 10, respectively.
3. Loosely secure (tie-wrap) building cables to cable clamp on shelf. Route buffered fibers into the shelf from a U-shaped turn with approximately 24 inches (610 mm) of slack (from end of building cable jacket to first fiber ring on panel subassembly), and loosely tie-wrap the buffered fiber to the tie-wrap supports. If spiral wrap is used with building cables, secure spiral wrap portion at the bottom tie-wrap support.
4. Route the remainder of the buffered fiber bundle to the panel subassembly for connectorization and termination.
5. If no other cables are to be installed, proceed to Step 11.

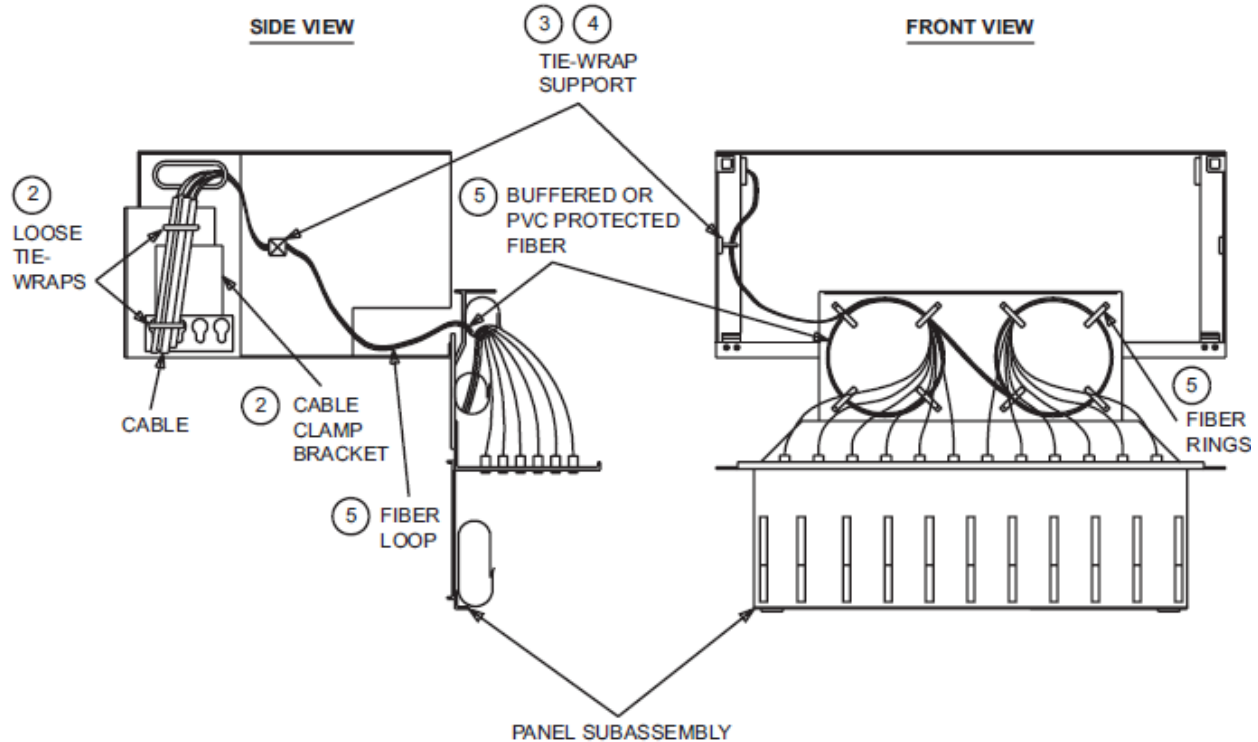
Note: Use 12A2 clamps for nonmetallic cables. The 12A clamps are ordered/provided separately—one per OSP cable to be secured. Refer to 636-299-110 for details.

STEP 8— INSTALL OSP CABLES TO SHELF WITH FRONT ACCESS ONLY: WALL-MOUNTED, CEV FRAME, OR SIMILAR FRAME LOCATIONS



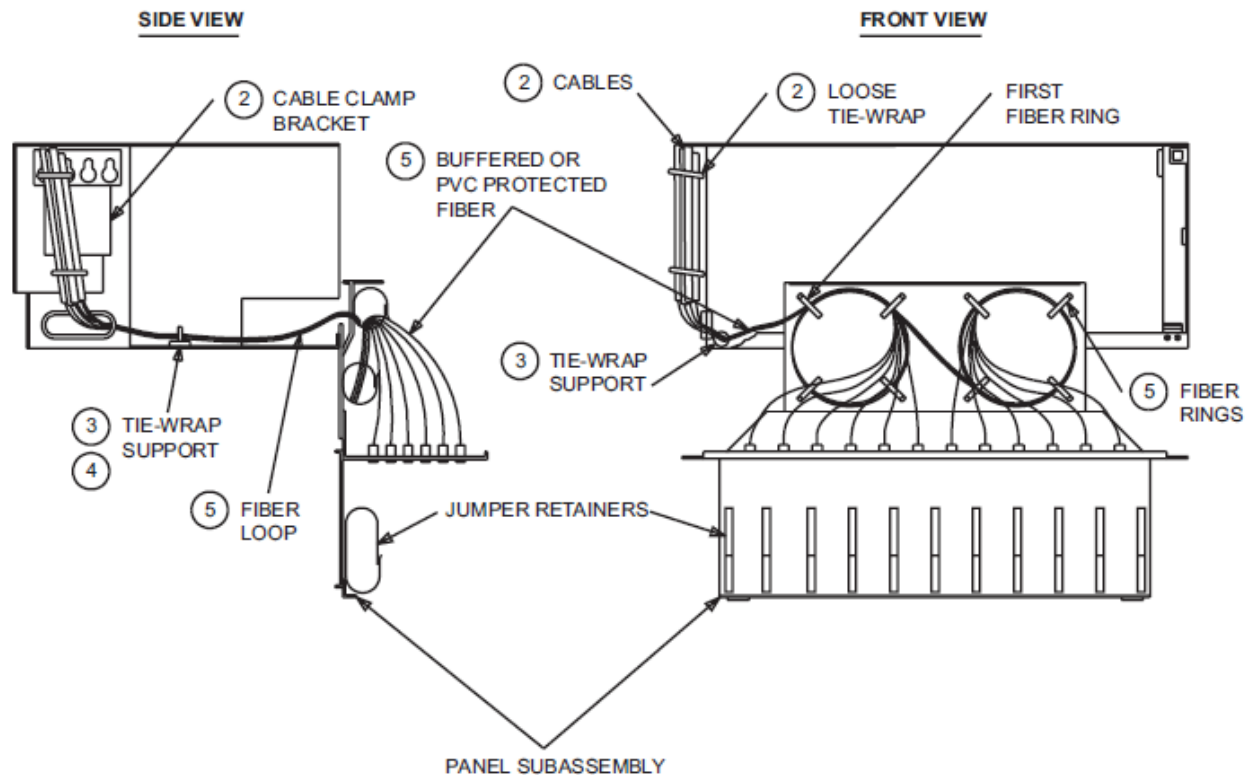
1. Prepare stranded Loose Tube Cables typically as shown above using the unit splitter. See 636-299-110 for cable preparation procedures for this and other type of cables. This provides 900 um tubing for installing connectors in the field. If ordering pre-connectorized assemblies the assembly will already be prepped for installation.
2. Secure OSP cables to clamp bracket and ground metallic cables to frame, or suitable ground, with 12A1 Cable Clamp. 12A-type clamps are ordered separately (one per OSP armored cable to be secured.)
3. Locate and secure the enclosed Velcro tie-wrap supports as indicated. The bottom tie-wrap support must be located at the notch in the bottom. If cable is routed through the rear of the shelf from the bottom or top, see Steps 9 and 10 respectively.
4. Route protected fibers into shelf, form a U-shaped turn approximately 24 inches (610 mm) of slack (from end of unit splitter to first ring on panel subassembly), and loosely tie-wrap the protective tubing to the tie-wrap supports.
5. Route the fibers with buffer tugging to the panel subassembly for connectorization and termination.
6. If no other cables are to be installed, proceed to Step 11.

STEP 9— CABLE ENTRY FROM BOTTOM REAR OF SHELF



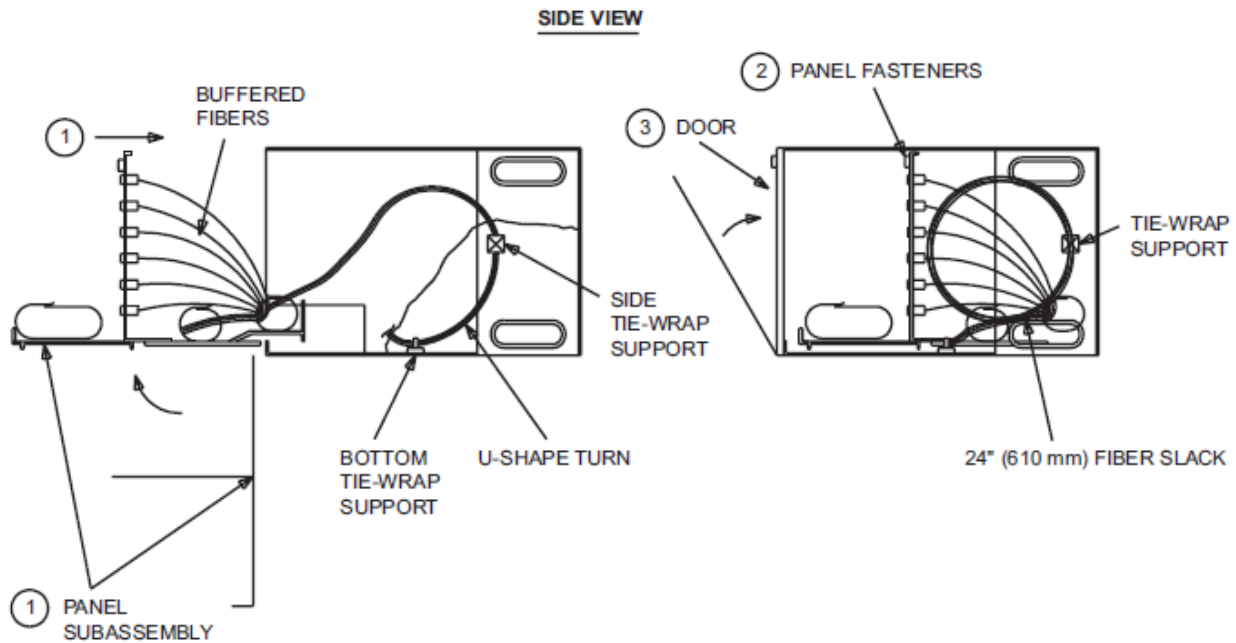
1. Prepare Fiber Optic Building Cable (LGBC) or Outside Plant Cable (OSP). See 636-299-110 for cable preparation procedures for these and other types of cable.
2. Secure LGBC cables to the cable clamp bracket with tie-wraps as indicated. Secure OSP cables to clamp bracket and ground metallic cable to frame, or suitable ground, with 12A-type cable clamps. The 12A-Type clamps are ordered and provided separately (one per OSP cable to be secured.)
3. Locate and secure the Velcro tie-wrap supports as indicated.
4. Route buffered LGBC or PVC protected OSP fibers into the shelf and attach to tie-wrap support.
5. Route fibers to panel subassembly for connectorization and termination. Store slack in fiber rings. Enough fiber should be left between the first fiber ring and tie-wrapped support so that a loop is formed when the subassembly is pushed back into the shelf.
6. If no other cables are to be installed, proceed to Step 11.

STEP 10—CABLE ENTRY FROM TOP REAR OF SHELF



1. Prepare Fiber Optic Building Cable (LGBC) or Outside Plant Cable (OSP). See 636-299-110 for cable preparation procedures for these and other types of cable.
2. Secure LGBC cables to the cable clamp bracket with tie-wraps as indicated or per company practice. Secure OSP cables to clamp bracket and ground metallic cable to frame, or suitable ground, with 12A-type cable clamps. The 12A-Type clamps are ordered and provided separately (one per OSP cable to be secured.)
3. Locate and secure the Velcro tie-wrap supports as indicated.
4. Route buffered LGBC or PVC protected OSP fibers into the shelf and attach to tie-wrap support.
5. Route fibers to panel subassembly for connectorization and termination. Store slack in fiber rings. Enough fiber should be left between the first fiber ring and tie-wrapped support so that a loop is formed when the subassembly is pushed back into the shelf.
6. If no other cables are to be installed, proceed to Step 11.

STEP 11—RETURN PANEL SUBASSEMBLY TO ORIGINAL POSITION AND SECURE



1. Pivot panel subassembly up to position parallel to shelf bottom and slide inside shelf.

CAUTION: Assure that no fiber slack becomes pinched or bent.

2. Secure panel subassembly fasteners.
3. Align front door with front hinge slots, insert, close door, and depress door fasteners to close to secure. This completes the installation of the LST1F-144-09 front access termination shelf.

ORDERING INFORMATION:

301 064 622	LST1F-144-09-WHT-SC(SM)	Includes the SC UPC adapter panels and adapters
301 079 174	LPC2-A-SCUUNC-83XX-144-300F-FH8/XXX	Pre-Connectorized OSP Assembly
104 384 490	12A1 Clamp	Clamp for Metallic Cable
106 230 337	12A2 Clamp	Clamp for Dielectric Cable
108 537 433	12A3 Clamp	Clamp for Large OD Cable