Starfighter Xpress

Stock ID	Description
020-234-10	Starfighter Xpress Single Inline Fiber Optic Splice Closure

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Contact Us

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INSTALLATION

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INSTALLATION

General

   This installation guide provides guidelines for preparation and installation of Multilink's Starfighter Xpress. This product provides a solution for in-line access to the fiber optic trunk line and quick connection to subscribers single drop cable or to low count drop, feeder or lateral cable to be connected to single drop cable at another location. This guide is for installers who are familiar with fiber optic cable systems and their applications.

1. Introduction

1.1 Product Description & FTTX Network Planning

   Multilink's Starfighter Xpress Single Inline Fiber Optic Splice Closure allows a FTTX provider to access the fiber optic trunk line (that is deployed from the central office, headend, or remote hub) and branch connections off to individual subscribers (such as home, apartment, or individual business). Connections can also be branched off to low count drop cables to feed another terminal point. Contact Multilink at (440) 366-6966 for assistance for FTTX network planning and FTTX deployment products.

1.2 Starfighter Xpress Dimensional Drawing

10.571 9.676

3.125

2.852

5.747

18.426

4.125

2.250

.602

See page 22 for a list of accessories needed to successfully configure this product.

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Introduction (Cont.)

Starfighter Xpress Dimensional Drawing (Cont.)

INTERNAL 1/4-20 BRASS GROUND STUD
SPLICE TRAY SUPPORT KIT SEE NOTE 1
EXTERNAL 1/4-20 BRASS GROUND STUD
4X CABLE ENTRY GROMMET
4X CENTRAL STRENGTH MEMBER CLAMP (HIDDEN)
FEEDER CABLE
FEEDER CABLE CENTRAL STRENGTH MEMBERS
12X FIBER TIE DOWN ANCHOR
4X GROMMET PLUG
MULTILINK 1120-SSTP SPLICE TRAY SEE NOTE 2
4X FEEDER CABLE CLAMP
FEEDER CABLE
AIR VALVE
STAINLESS STEEL/BRASS ENCLOSURE HARDWARE

NOTES:
1. KIT SUPPLIED WITH ENCLOSURE. SPLICE TRAY CAN BE SCREW MOUNTING, OR VELCRO STRAPPED.
2. SPLICE TRAY CAPACITY IS (4).

INSTALLATION SHEET
SPLICE TRAY SUPPORT KIT
4X SILICONE SEALANT
GROMMET GAUGE
4X CABLE CLAMPS
12X VELCRO STRAPS
HARDWARE KIT
4X CABLE ENTRY GROMMETS AND PLUGS

See page 22 for a list of accessories needed to successfully configure this product.

Parameter	Specification
Splice Capacity	48 (splice only) 24 (patch & splice)
Patch Capacity	12 SC / 24 LC
Cable Diameter	Up to 1"
Connector Types	SC/APC SC/UPC LC/APC LC/UPC
Cable Types	Unarmored Armored
Weight (as shipped)	N/A

INSTALLATION

2. Preparations

2.1 Installation Outline

The general procedure of the Starfighter Xpress installation includes:

- Removal of cable jacketing and excess CSM
- Ring cut, fiber separation, CSM tie down, and routing fiber
- Securing cables to the Starfighter Xpress mounting bracket (included)
- Configuring grommets for cable entry and exit drop
- Splicing and fiber termination

2.2 Starfighter Xpress Checklist

Each kit includes the following items:

- 1x Starfighter Xpress Assembly (A)
- 1x Splice Tray Support Kit (B)
- 1x Hardware Kit (C)
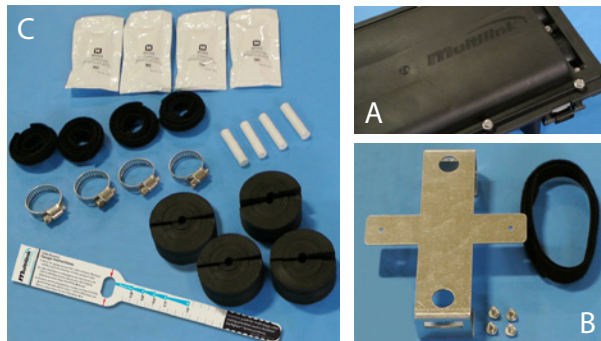
2.3 Recommended Tools and Equipment

The Following list includes tools and equipment that you may need for a successful installation (these tools **ARE NOT INCLUDED** with the product or accessories):

- Safety Glasses
- Cut-Resistant Gloves
- Hex-Head Screw Driver (1/4" head)
- Phillips Screw Driver (magnetic recommended)
- 216C Tool (3/8" & 7/16" heads)
- Scissors
- Tape Measure
- Side Cutters/Diagonal Cutters
- Pliers
- Marker
- Ring Cut Tool

- Buffer stripping Tool
- Mastic Tape
- Torque Wrench
- Air Pressure Source
- Air Pressure Gauge
- Spray Bottle
- Testing Solution

See page 22 for a list of accessories needed to successfully configure this product.

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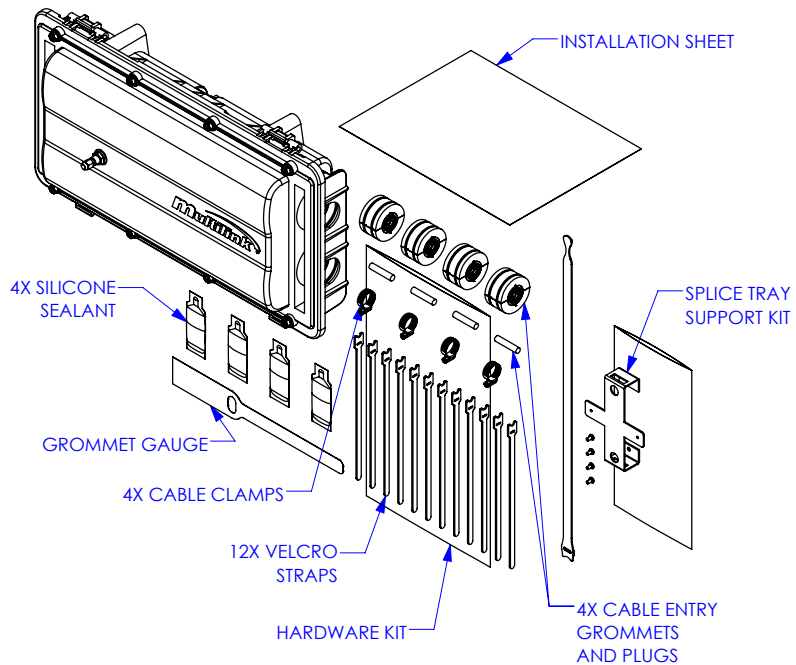Page 5   Visit gomultilink.com for new product releases!

INSTALLATION

3. General Warnings

⚠️ **3.1 Laser Light Warning**

Never look directly into the end of a fiber that may be carrying laser light. Laser light can be invisible and may be harmful to your eyes. Viewing it directly may not cause pain; therefore it will not cause blinking or the iris of the eye to close involuntarily as it does when viewing bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental exposure of laser light be suspected, arrange an eye exam immediately.

⚠️ **3.2 Laser Light Magnification Warning**

Do not use magnifiers in the presence of laser radiation. Diffused laser light can cause serious eye damage if focused with optical instruments.

⚠️ **3.3 Loose Fiber Warning**

Cleaved or broken glass fibers are very sharp and can pierce the skin easily. Keep your work area clear of removed fiber. Do not allow pieces of fiber to stick to your clothing or fall into the work area where they can cause injury later. Use tweezers to pick up broken/cut pieces of fiber and place on a piece of tape that has been set aside for this purpose.

⚠️ **3.4 Sharp Edge Warning**

The wearing of cut-resistant safety gloves to protect your hands from sharp cutting tools and the metal armoring of armored cable is strongly recommended. Use extreme care when working with severed armor. There may be sharp edges where the armor is damaged. Always cover the exposed/cut armor end with a wrap of black electrical tape. To minimize the chance of injury from sharp-blade tools, always cut away from yourself and others. Dispose of used blades and armor scrap properly.

⚠️ **3.5 Safety Glasses Warning**

Use safety glasses while working is highly recommended to provide eye protection from accidental injury when handling chemicals, cables or working with fiber. Pieces of glass fiber are very sharp and have potential to damage the eye.

⚠️ **3.6 Electrical Shock Warning**

Do not install telecommunications equipment or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning causing electrical shock resulting in severe injury or death.

⚠️ **3.7 Fiber Damage Warning**

Fiber Optic cable is highly sensitive to excessive pulling, bending and crushing. Take care when bending the cables. Be sure not to pull too hard on the fibers. Do not crush the cable or allow it to kink. Doing any of these things may cause damage to the fiber and require it to be replaced.

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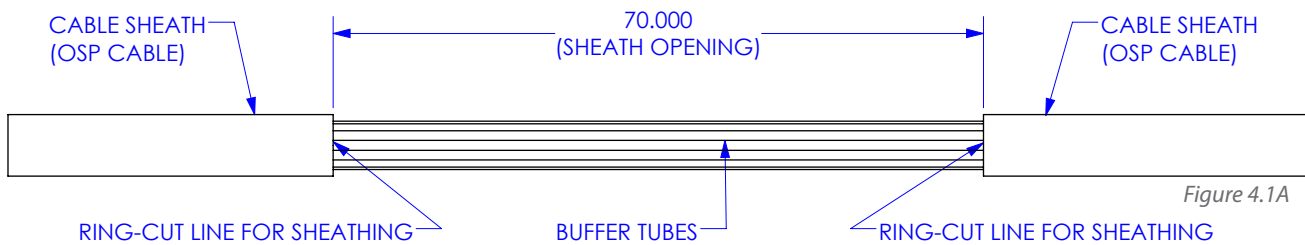| North America	Europe, Middle East & Africa	Latin & South America
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INSTALLATION

Entry Cable Preparations

Note: Fiber optic cable is sensitive to excessive pulling, bending, and crushing forces. Consult the cable specification sheet for the cable you are installing. **Do not bend the cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink.** *Doing so may cause damage that can alter the transmission characteristics of the cable; the cable may have to be replaced.*

4.1 Entry Cable Prep

Measure 70" inches of cable and mark two spots on each end. Using the appropriate tool, make a ring cut at both locations. Carefully make a horizontal cut from one circle cut to the other. During the cutting process, be sure not to damage the buffer tubes inside the cable.

CABLE SHEATH (OSP CABLE) 70.000 (SHEATH OPENING) CABLE SHEATH (OSP CABLE)

Figure 4.1A

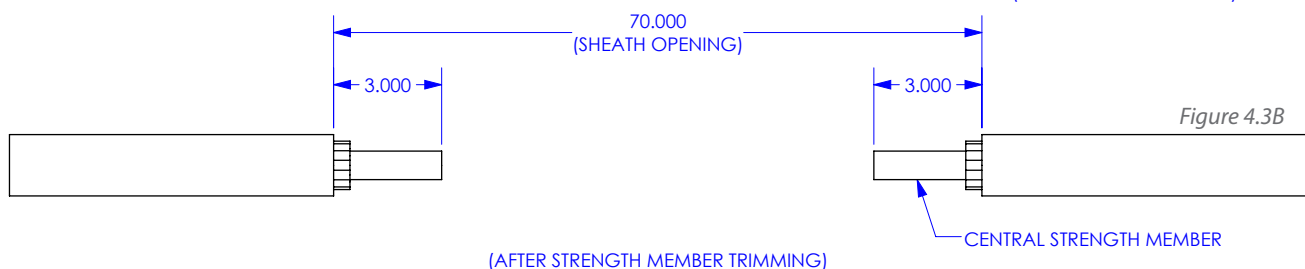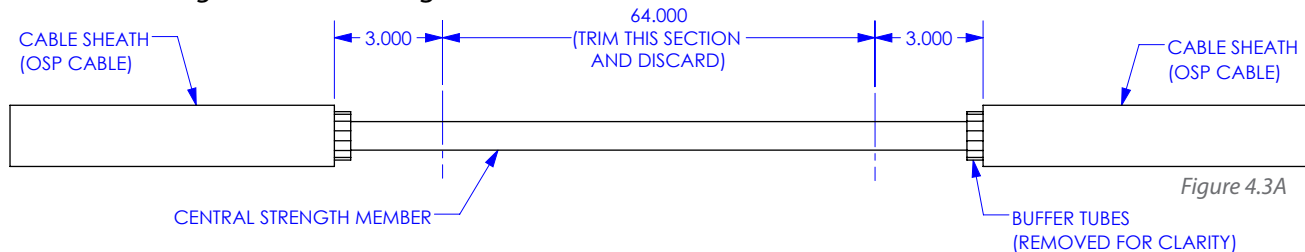RING-CUT LINE FOR SHEATHING BUFFER TUBES RING-CUT LINE FOR SHEATHING

4.2 Cable Jacket Removal

Find the rip cord in the cable and pull to help separate the jacket from the cable. Remove the outer jacket and trim away all the protective layers leaving the Central Strength Member (CSM) and buffer tubes exposed across the length of the ring cut.
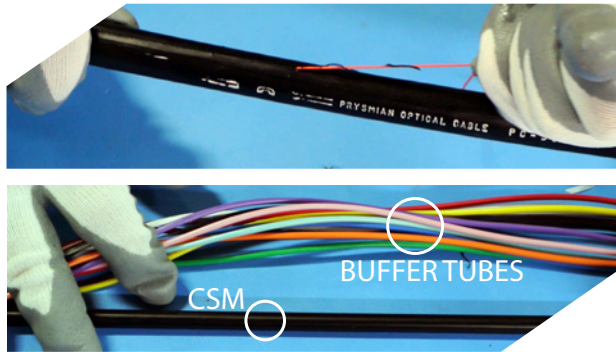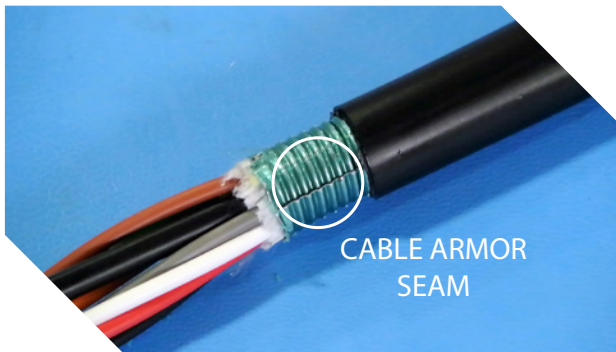
BUFFER TUBES
CSM

4.3 Cut & Trim CSM

Measure 3" inches from each side of the ring cut locations with the exposed buffer tubes and make a mark on each side of the CSM (*Figure 4.3A*). Cut and trim the CSM discarding the 64" inch section (*Figure 4.3B*). If using armored cable continue to 4.4, else continue to 4.8.

CABLE SHEATH (OSP CABLE) 3.000 64.000 (TRIM THIS SECTION AND DISCARD) 3.000 CABLE SHEATH (OSP CABLE)

Figure 4.3A

CENTRAL STRENGTH MEMBER BUFFER TUBES (REMOVED FOR CLARITY)

70.000 (SHEATH OPENING)

3.000 3.000

Figure 4.3B

(AFTER STRENGTH MEMBER TRIMMING) CENTRAL STRENGTH MEMBER

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INSTALLATION

Installation (Cont.)

CABLE ARMOR
SEAM

4.4 Armored Cable

Allow at least 1" of the cable's armor to remain from the jacketing. Slowly peel back the armor using pliers to separate the seam to allow the wedge* (from the grounding kit, **sold separately**) to fit between the buffer tubes and armor. Repeat on opposite side of ring cut. **See page 22 for a list of accessories needed to successfully configure this product.**

4.5 Grounding Kit *sold separately*

Allow at least 1" of the cable's armor to remain from the jacketing. Slowly peel back the armor using pliers to separate the seam to allow the wedge* (from the grounding kit, **sold separately**) to fit between the buffer tubes and armor. Repeat on opposite side of ring cut. **See page 22 for a list of accessories needed to successfully configure this product.**
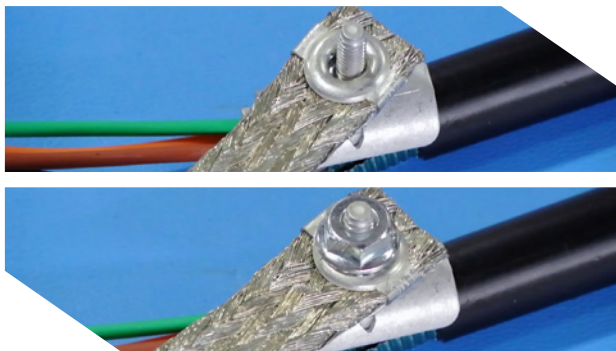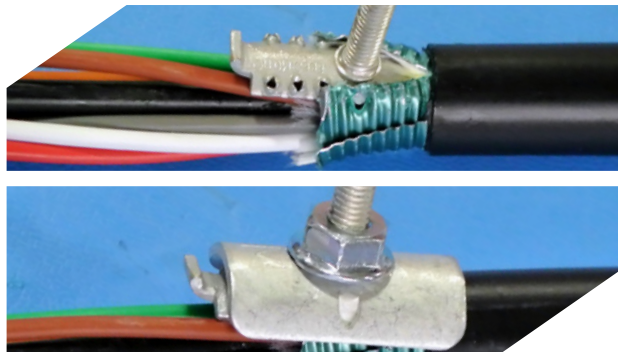

4.6 Connecting the Grounding Braid

Attach the grounding braid by using the bolt as a guide. Insert the bolt through the eyelet and using one of the supplied nuts tighten to secure the grounding braid to the armored entry cable. Repeat on opposite side of ring cut.

4.7 Secured Grounding

Loosen the ground nut on the strain relief bracket and attach the grounding braid by using the grounding bolt as a guide. Use the appropriate eyelet to allow both sides of the ring cut to be mounted in the following step.
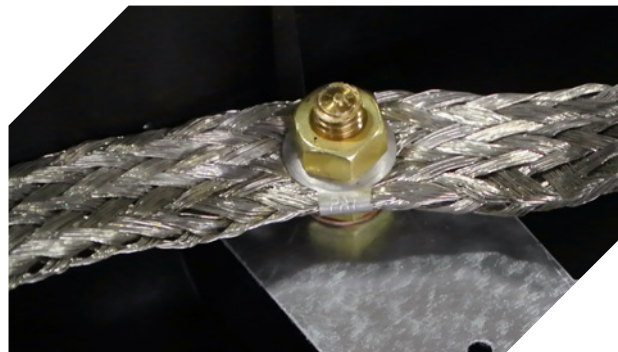
Installation (Cont.)

4.8 Cable Anchoring

On the Strain Relief Bracket, loosen the screws of CSM clamps and slide the cable's CSM under the teeth of the clamp (*Figure 4.8B*). Make sure the end of the CSM reaches the back wall of the CSM clamp (A). Tighten the screw of the clamp to secure the CSM in place. Use the hose clamps provided to secure the cable to the back end of the mounting bracket. The hose clamp should be positioned approximately ¼" below the ring cut and inside the grooves in the Strain Relief Bracket (*Figure 4.8A*). Make sure to follow this process for both entry and exit of cable.
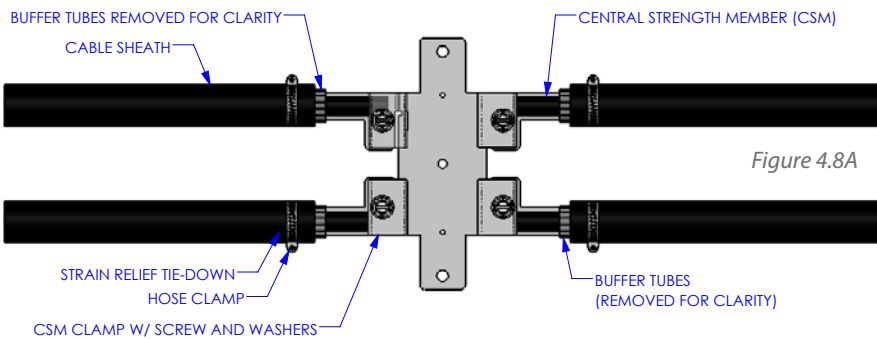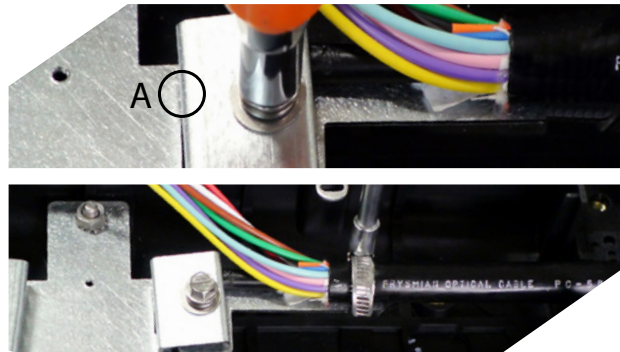

A

BUFFER TUBES REMOVED FOR CLARITY
CABLE SHEATH
CENTRAL STRENGTH MEMBER (CSM)

Figure 4.8A

STRAIN RELIEF TIE-DOWN
HOSE CLAMP
CSM CLAMP W/ SCREW AND WASHERS
BUFFER TUBES (REMOVED FOR CLARITY)

SCREW
WASHERS
CLAMP
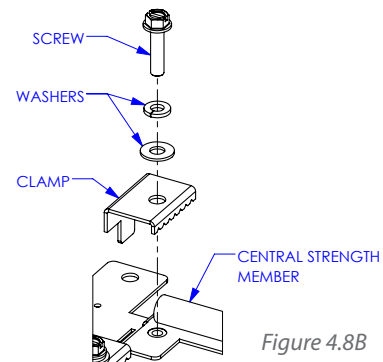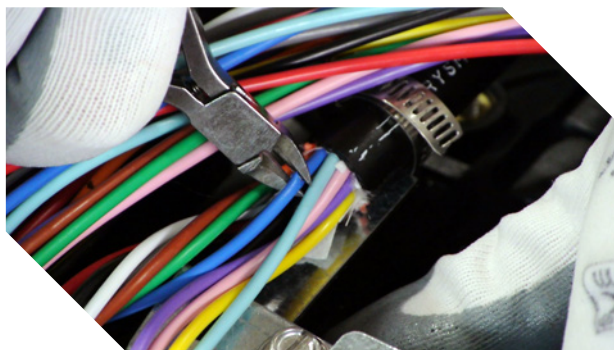CENTRAL STRENGTH MEMBER

Figure 4.8B

4.9 Buffer Tube Branching

Determine the number of buffer tubes that will need to be branched off to be spliced or patched to subscriber drop off cables. Cut these selected buffer tubes on the exit side (full length of the ring cut) and separate these from the remainder buffer tubes that will pass through. See *Figure 5.1B* for a detailed view.
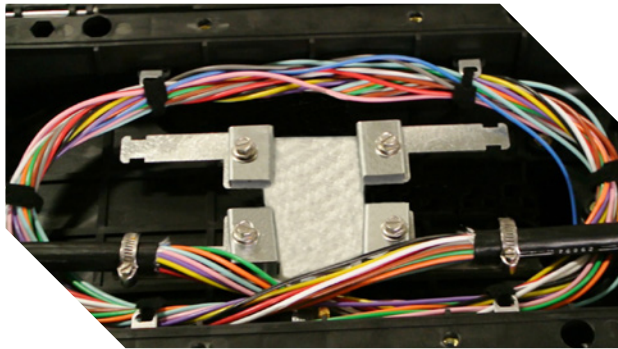

4.10 Buffer Tube Anchoring

Insert 6 Velcro straps into the fiber management clips on the perimeter of the enclosure. Position the loops and loosely wrap the Velcro into rings. The Velcro will serve as cable management later, as shown.

Buffer tubes shown for management example

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INSTALLATION

Installation (Cont.)
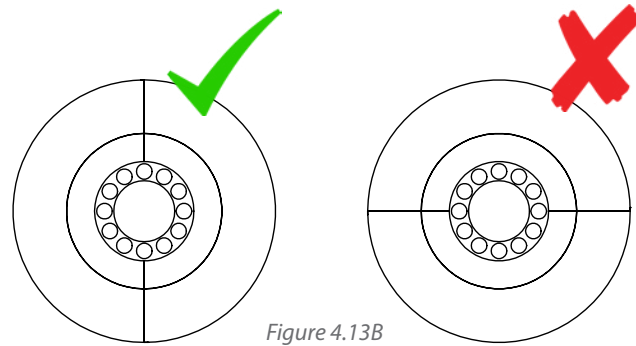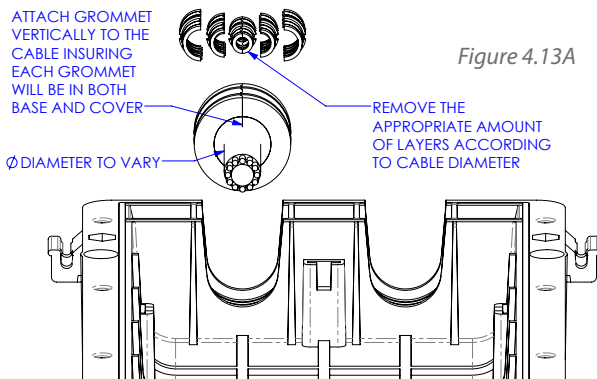

4.11 <u>Buffer Tube Prep</u>

Route the remainder of the pass through buffer tubes around the inside perimeter of the inside base perimeter using the Velcro straps installed in 4.10. Be sure to follow the bend radius gauge provided in *Figure 5.1A*. The ring cut length will allow these pass through buffer tubes to be managed in two loops as shown in *Figure 5.1B*.
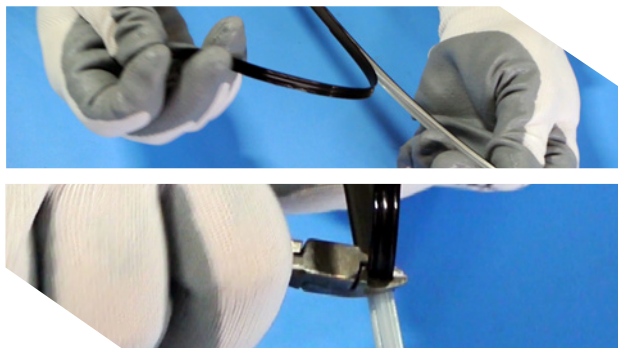
4.12 <u>Fiber Routing</u>

Route and plan for at least 40" inches of fiber to be used when splicing and allow enough length to be placed into the splice tray.

4.13 <u>Cable Entry Grommet Inserts</u>

Measure the diameter of the cable using the provided grommet gauge. Make sure the cable is neither too big nor too small compared to the designated diameters. Use Mastic tape around the cable to build up the diameter to the next appropriate size. Once the size is determined, remove the amount of layers listed per dimension on the gauge (*Figure 4.13A*). Insert fiber jacketing into the cable entry grommet with the seam aligned vertically (*Figure 4.13B*).

ATTACH GROMMET VERTICALLY TO THE CABLE INSURING EACH GROMMET WILL BE IN BOTH BASE AND COVER

REMOVE THE APPROPRIATE AMOUNT OF LAYERS ACCORDING TO CABLE DIAMETER

Ø DIAMETER TO VARY

Figure 4.13A

Figure 4.13B

Exit Cable Preparations for Flat Drop

4.14 <u>Exit Cable Jacket Removal</u>

Measure 20" inches from the end of the first exit cable and make a mark. Using the appropriate tool, strip back the outer jacketing up to the mark. Cleanly cut the jacketing to expose the CSM.
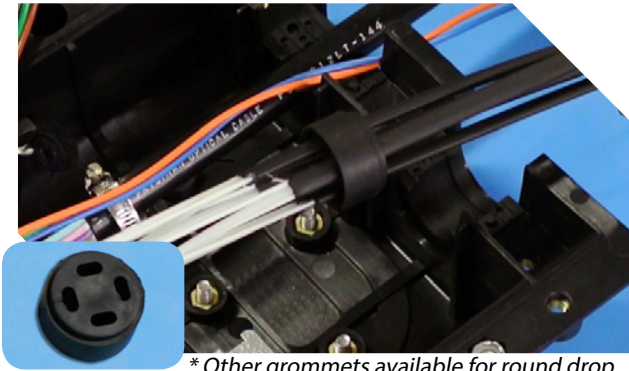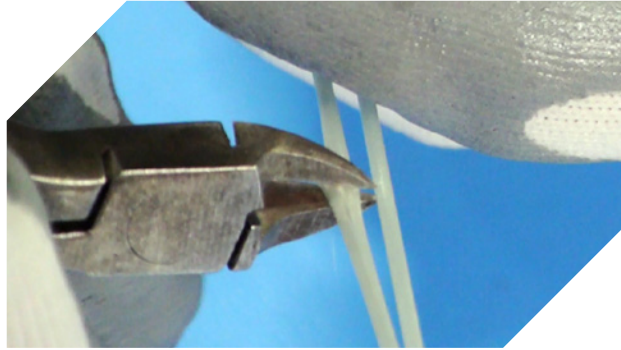
Flat drop is used in the following configuration.

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INSTALLATION

4.15 Cut & Trim CSM

Measure 3" inches from the outside jacketing and make a mark on the CSM. Cut and discard the CSM at your second mark.

Repeat 4.14 & 4.15 for the remaining drops required for your application.

* Other grommets available for round drop

4.16 Exit Cable Grommet

Using the appropriate grommet for your application (determined by cable type and number of drops), insert the drop cables into it by simply feeding the end of the fiber and CSM through the holes. (If you do not use all of the holes in the grommet, utilize the grommet pins in the open holes.)
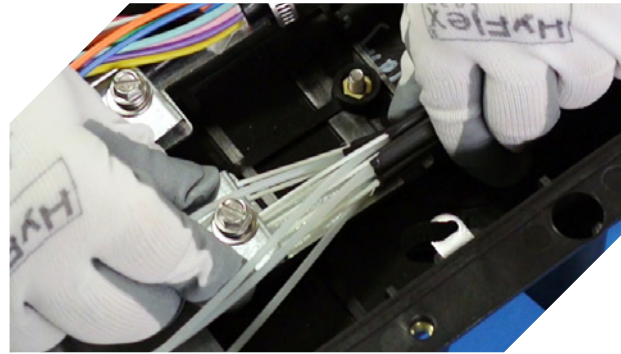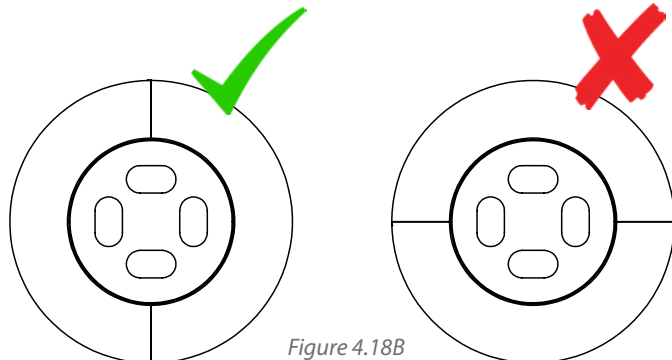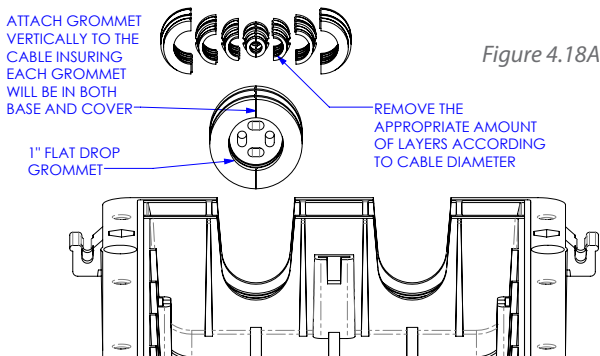
4.17 Securing Exit Cabling

Gather the CSM from your drops and place them all under the teeth of the CSM clamp of the enclosure's Strain Relief Bracket and tighten its screw to secure them in place (*Figure 4.8B*).

4.18 Exit Cable Grommet Inserts

Remove the appropriate layers from the grommet, in this application 3 layers of the grommet membrane (*Figure 4.18A*). Insert flat drop grommet into the cable entry grommet with the seam aligned vertically (*Figure 4.18B*).

ATTACH GROMMET VERTICALLY TO THE CABLE INSURING EACH GROMMET WILL BE IN BOTH BASE AND COVER

1" FLAT DROP GROMMET

REMOVE THE APPROPRIATE AMOUNT OF LAYERS ACCORDING TO CABLE DIAMETER

Figure 4.18A

Figure 4.18B

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INSTALLATION

4.19 Cable Anchoring & Alignment

Using the hose clamp provided, tighten the clamp in the groove of the Stain Relief Bracket until the drops are secured (*Figure 4.8A*). (Be sure to not 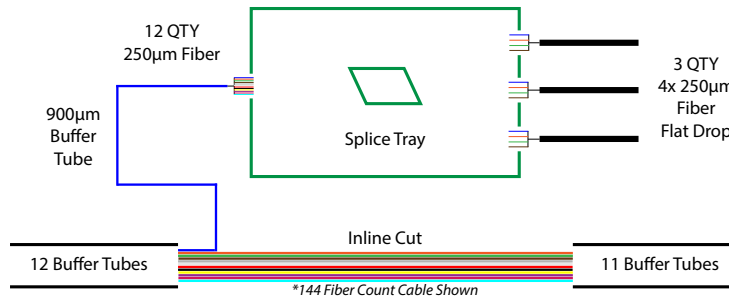crush the fibers while tightening the clamp.) Adjust the rubber grommet on the drops so that it aligns with the Cable Entry Grommet in the exit port.
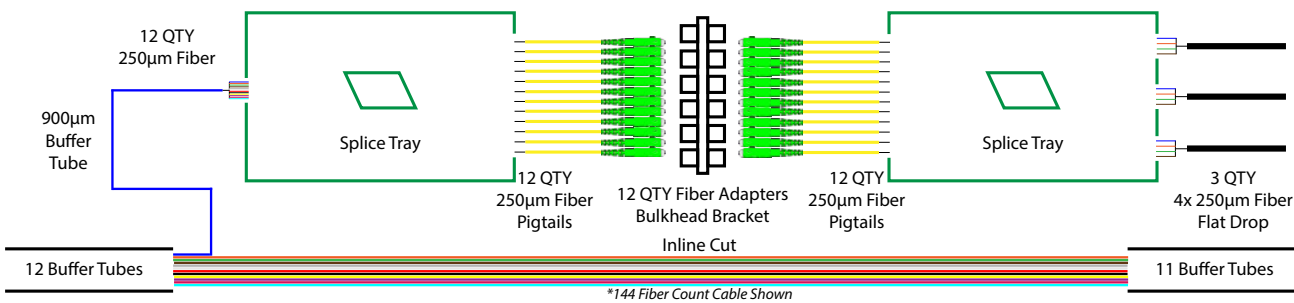
Clamp Groove
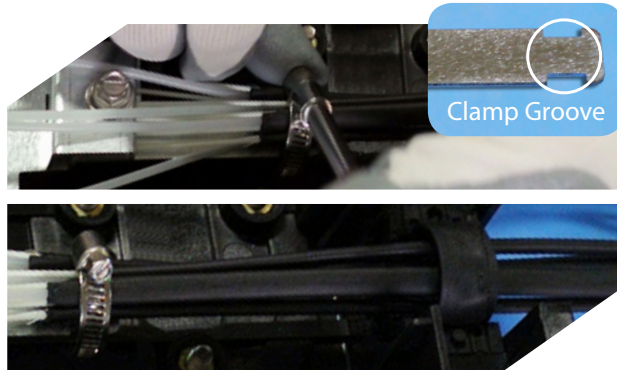
Typically there are 3 ways to transition to the subscriber drop cables inside the Starfighter Xpress: direct splice, patch & splice and patch only. ***See page 22 for a list of accessories needed to successfully configure this product.***
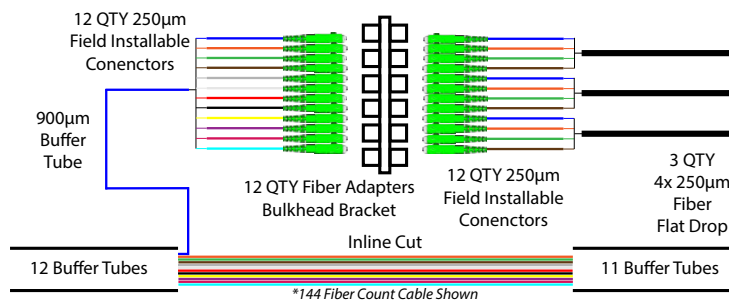
1. For direct splicing the 250µm buffer tubes to the drop cable(s) continue to 4.20.

12 QTY 250µm Fiber
900µm Buffer Tube
Splice Tray
3 QTY 4x 250µm Fiber Flat Drop
Inline Cut
12 Buffer Tubes
11 Buffer Tubes
144 Fiber Count Cable Shown

2. For patch & splicing 250µm buffer tubes to pigtails, and either splicing the drop cable to a pigtail or applying a field installable connectors onto the drop cable to be plugged into the bulkhead bracket continue to 4.25.

12 QTY 250µm Fiber
900µm Buffer Tube
Splice Tray
12 QTY 250µm Fiber Pigtails
12 QTY Fiber Adapters Bulkhead Bracket
12 QTY 250µm Fiber Pigtails
Splice Tray
3 QTY 4x 250µm Fiber Flat Drop
Inline Cut
12 Buffer Tubes
11 Buffer Tubes
144 Fiber Count Cable Shown

3. For patching only install a field installable connector to each entry 250µm buffer tube(s) and drop cable(s) to plug into the bulkhead bracket continue to 4.33.

12 QTY 250µm Field Installable Conenctors
900µm Buffer Tube
12 QTY Fiber Adapters Bulkhead Bracket
12 QTY 250µm Field Installable Conenctors
3 QTY 4x 250µm Fiber Flat Drop
Inline Cut
12 Buffer Tubes
11 Buffer Tubes
144 Fiber Count Cable Shown

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INSTALLATION

Installation (Cont.)
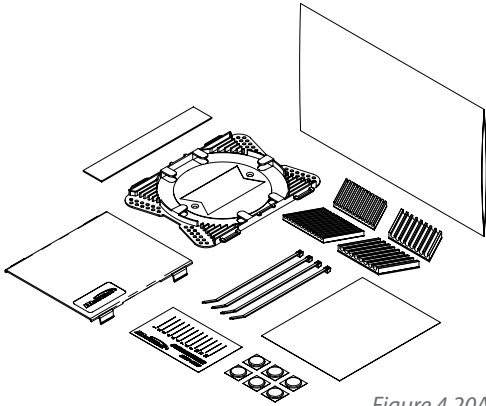
Direct Splice Only

Figure 4.20A

4.20 Splice Tray Kit **sold separately*

Carefully cut open the poly bag that contains the 1120-SSTP Splice Tray Kit and remove splice tray and components (*Figure 4.20A*). Open the cover of splice tray by pushing the two tabs on the side of the splice tray. **See page 22 for a list of accessories needed to successfully configure this product.**

4.21 Splice Chip Installation

Select the appropriate splice chip out of the opened kit and remove the protective covering on the back, revealing the self-adhesive membrane. Place the chip in the center of the tray in the appropriate orientation for your application.
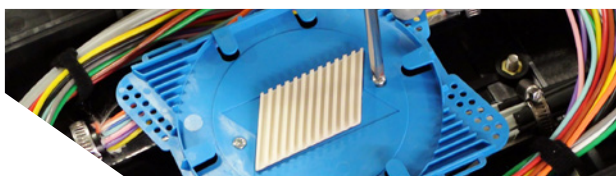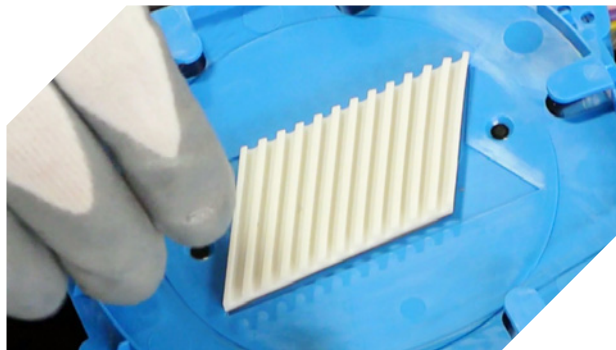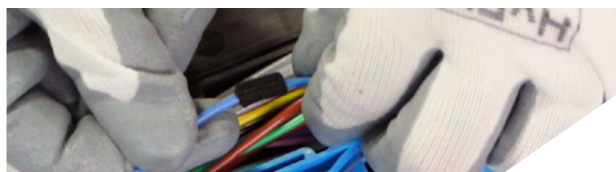

* Picture shown without splices for clarity

4.22 Splice Tray Installation

Open the Splice Tray Support Kit (*Figure 2.2B*) and remove its contents. Using two of the four screws supplied in the kit, secure the bracket from the kit to the Strain Relief Bracket of the Starfighter Xpress (recommended use of a magnetic Phillips screw driver). Remove the cover from the splice tray then using the other two screws secure the splice tray to the bracket after splicing is complete at a later step when appropriate.

4.23 Buffer Tube in Prep to Splice

Prepare to splice the 250µm from the buffer tubes (separated from the main line in 4.9) to 250µm from the subscriber drop cable (shown in 4.14 through 4.19). Take the strip of self-adhesive Velcro and trim it into ¼" strips with a pair of scissors. Wrap the strips around the buffer tubes to add a layer of protection. Trim excess Velcro.

* Picture shown without splices for clarity

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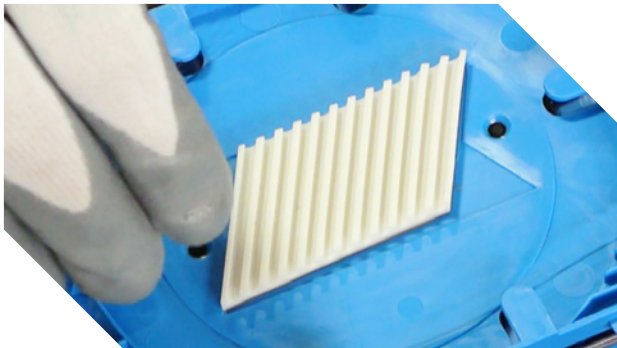INSTALLATION

Installation (Cont.)
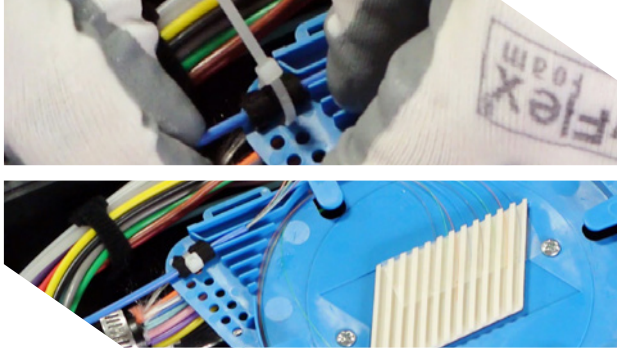
* Picture shown without splices for clarity

Patch & Splice

4.25 Splice Tray Kit **sold separately*

Carefully cut open the poly bag that contains the 1120-SSTP Splice Tray Kit and remove splice tray and components (*Figure 4.25A*). Open the cover of splice tray by pushing the two tabs on the side of the splice tray. **See page 22 for a list of accessories needed to successfully configure this product.**

4.27 Splice Tray Installation

Open the Splice Tray Support Kit (*Figure 2.2B*) and remove its contents. Using two of the four screws supplied in the kit, secure the bracket from the kit to the Strain Relief Bracket of the Starfighter Xpress (recommended use of a magnetic Phillips screw driver). Remove the cover from the splice tray then using the other two screws secure the splice tray to the bracket after splicing is complete at a later step when appropriate.

4.24 Fiber Anchoring

Once wrapped, place the fibers into the corresponding grooves on the appropriate side and line up the Velcro on the buffer tubes with the holes on the edge of the splice tray. Insert a cable-tie from the splice tray kit into a hole near the fiber from the top then pull it back up from the bottom. Secure the cable- tie around the buffer tube and trim off excess tie with side cutters. (The cable-ties can sometimes be difficult to manage, you can pre-route the cable-ties prior to running the buffer tubes to the splice tray.) Repeat on each entry/exit buffer tubes. Once finished attach splice tray cover to splice tray inserting each tab. Continue to 4.36.
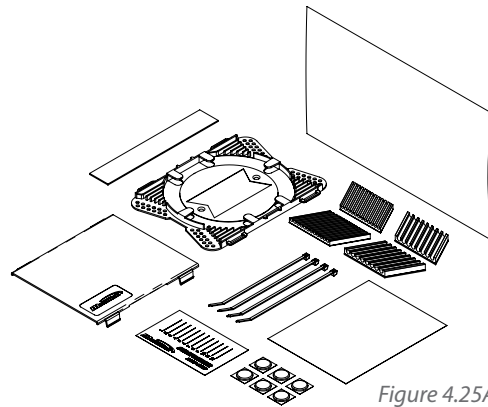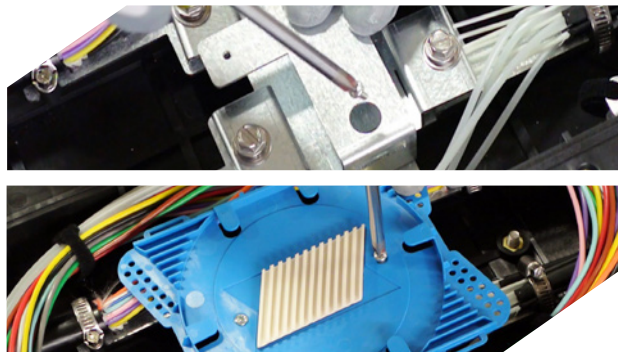

*Figure 4.25A*

4.26 Splice Chip Installation

Select the appropriate splice chip out of the opened kit and remove the protective covering on the back, revealing the self-adhesive membrane. Place the chip in the center of the tray in the appropriate orientation for your application.


* Picture shown without splices for clarity

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INSTALLATION

Installation (Cont.)
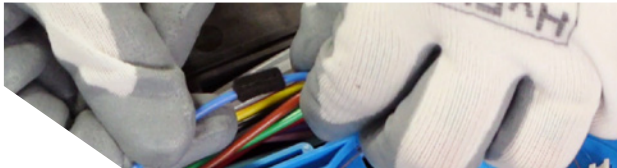
* Picture shown without splices for clarity

4.29 Fiber Anchoring

Once wrapped, place the fibers into the corresponding grooves on the appropriate side and line up the Velcro on the buffer tubes with the holes on the edge of the splice tray. Insert a cable-tie from the splice tray kit into a hole near the fiber from the top then pull it back up from the bottom. Secure the cable- tie around the buffer tube and trim off excess tie with side cutters. (The cable-ties can sometimes be difficult to manage, you can pre-route the cable-ties prior to running the buffer tubes to the splice tray.) Repeat on each entry/exit buffer tubes. Once finished attach splice tray cover to splice tray inserting each tab.
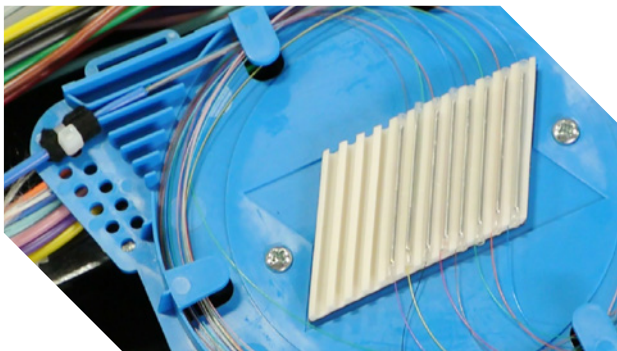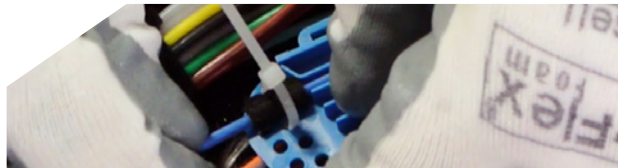

4.31.1 Splice Exit Drop to Pigtail(s)

Prepare to splice the 250µm from the drop cables (installed in 4.14 through 4.19) to the connectorized pigtail to be inserted into the bulkhead bracket. *See page 22 for a list of accessories needed to successfully configure this product.* Continue to step 4.32.

4.28 Buffer Tube in Prep to Splice

Take the strip of self-adhesive Velcro and trim it into ¼" strips with a pair of scissors. Wrap the strips around the buffer tubes to add a layer of protection. Trim excess Velcro.


* Picture shown without splices for clarity

4.30 Splice Buffer Tubes to Pigtail(s)

Prepare to splice the 250µm from the buffer tubes (separated from the main line in 4.9) to the connectorized pigtail to be inserted into the bulkhead bracket. *See page 22 for a list of accessories needed to successfully configure this product.*

For splicing drop cable to pigtails continue to 4.31.1, otherwise continue to 4.31.2 for installing field installable connectors to the drop cable.

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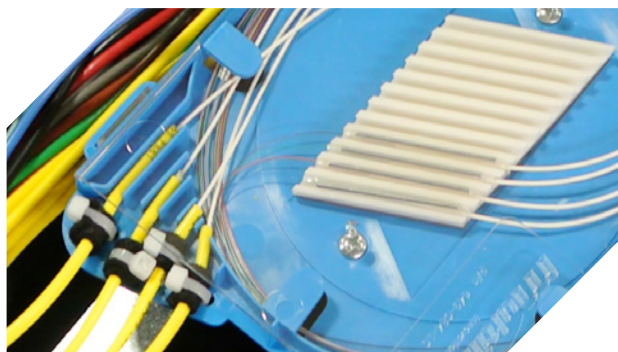
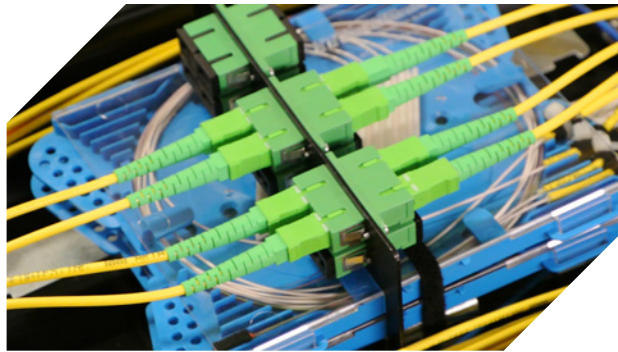INSTALLATION

Installation (Cont.)

4.31.2 Install Field Installable Connectors

On each of the drop cables (installed in 4.14 through 4.19) install a field installable connector onto each drop cable end to be inserted into the bulkhead bracket. *See page 22 for a list of accessories needed to successfully configure this product.*

4.32 Install Bulkhead Bracket & Connectors

Before installing the bulkhead bracket make sure all fiber splices are complete and splice tray cover(s) are attached. Attach the bulkhead bracket to the internal mounting bracket (*see Figure 4.35A & Figure 4.35B for detailed installation*). Plug in the connectors from the pigtail(s) and/or field installable connectors to the bulkhead bracket on each appropriate side. *See page 22 for a list of accessories needed to successfully configure this product.* Continue to step 4.36.

Patch Only

4.33 Install Field Installable Connectors to Entry

On each of the 250μm from the buffer tubes (separated from the main line in 4.9) install a field installable connector on the preferred number of fibers to be inserted into the bulkhead bracket. *See page 22 for a list of accessories needed to successfully configure this product.*

4.34 Install Field Installable Connectors to Exit

On each of the drop cables (installed in 4.14 through 4.19) install a field installable connector onto each drop cable end to be inserted into the bulkhead bracket. *See page 22 for a list of accessories needed to successfully configure this product.*
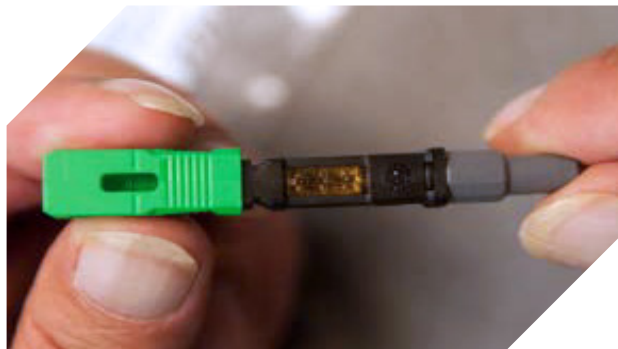
* SC/APC shown as an example

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INSTALLATION

4.35 Install Bulkhead Bracket & Connectors

Before installing the bulkhead bracket make sure all fiber splices are complete and splice tray cover(s) are attached. Attach the bulkhead bracket to the internal mounting bracket (*Figure 4.35A & Figure 4.35B*). Plug in the field installable connectors from the pigtail(s) to the bulkhead bracket on each appropriate side. **See page 22 for a list of accessories needed to successfully configure this product.**
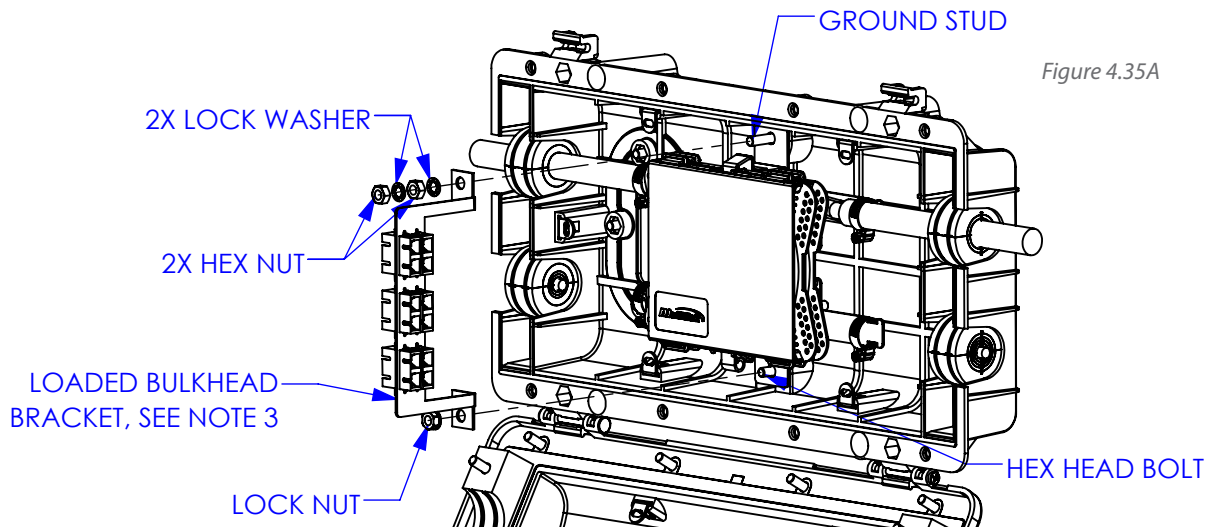
GROUND STUD

Figure 4.35A

2X LOCK WASHER

2X HEX NUT

LOADED BULKHEAD BRACKET, SEE NOTE 3

LOCK NUT

HEX HEAD BOLT

BULKHEAD BRACKET ASSEMBLY NOTES:
A. REMOVE HEX NUTS, LOCK WASHERS, AND LOCK NUT
   FROM GROUND STUD AND HEX HEAD BOLT.
B. PUT BULKHEAD BRACKET IN PLACE OVER STUD AND
   BOLT AS SHOWN.
C. REPLACE HEX NUTS, LOCK WASHERS, AND LOCK NUT
   IN ORDER SHOWN.
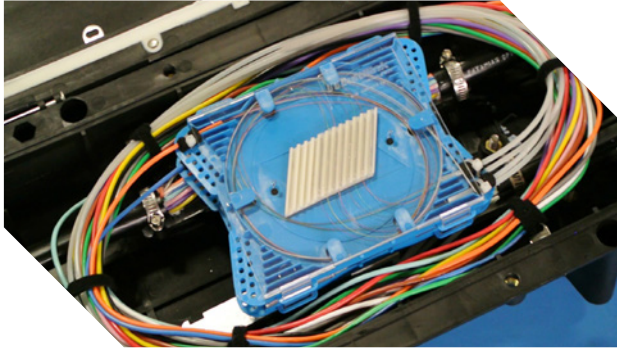
WITH BULKHEAD BRACKET
SPLICE TRAY CAPACITY IS TWO

BULKHEAD BRACKET, SHOWN WITH (6) SC DUPLEX ADAPTERS. (6) LC QUAD ADAPTERS CAN ALSO BE USED.

Figure 4.35B

INSTALLATION

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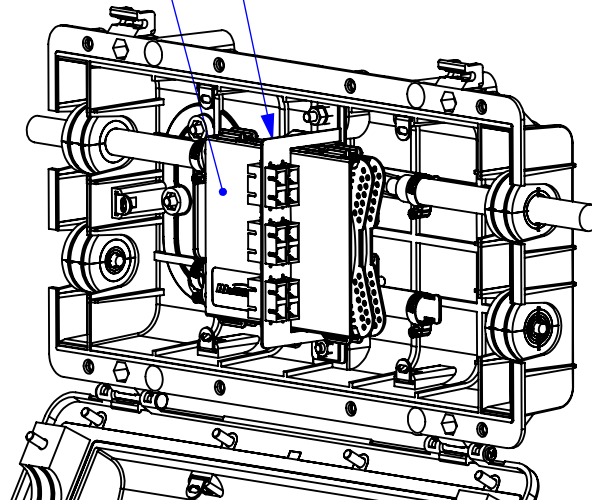
Installation (Cont.)
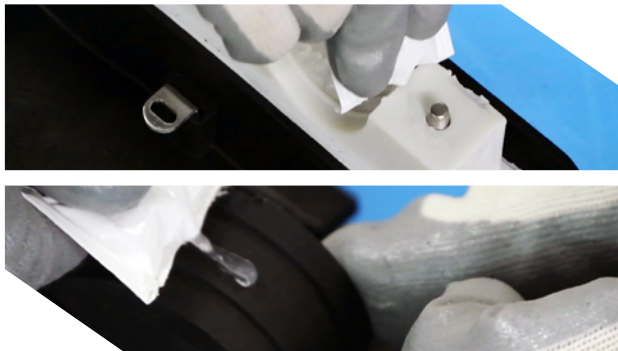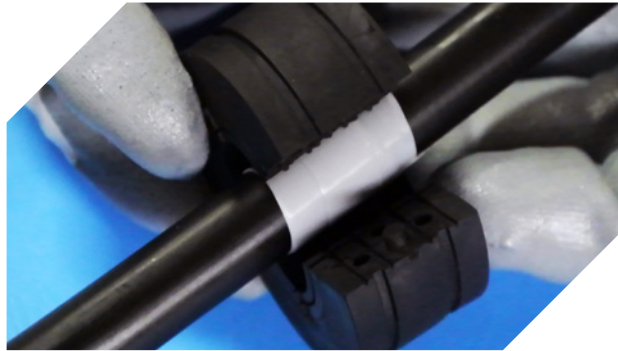
Closing the Enclosure

4.36 Properly Securing Fiber

Once everything has been successfully terminated and secured into place make sure all fibers are tucked away neatly with the supplied Velcro straps so as to not allow them to get pinched in closing the enclosure.

4.37 Proper Grommet Seal

Make sure each fiber jacketing/entry grommet has the appropriate amount of layers removed and/or mastic tape applied to accommodate the diameter being used. Any grommets not being used **MUST** have a supplied pin inserted to ensure a water-tight seal.


4.38 Applying the Sealant

Take a silicon sealant packet provided with the enclosure and slowly apply sealant to the perimeter of the enclosure's grommet on both the base and cover. Be sure to also apply the sealant to the inside and outside of the cable entry grommet before inserting into the enclosure's base with the seam aligned vertically. Cover the entire outside face of the cable entry grommet once inserted into the base creating a seal. **NOTE: Apply new sealant when reopening enclosure to ensure proper seal.**

4.39 Torque Tighten Hex Bolts

Close the cover to the enclosure ensuring the cover gasket fits firmly into the base. Hand tighten each hex bolt on the enclosure's cover using the 216C tool. Now use the torque wrench set to 50 lbs/square inch and tighten following the sequence in *Figure 4.39A*. Once fully tightened inspect the perimeter of the enclosure and grommets that they are fully secured.

Figure 4.39A

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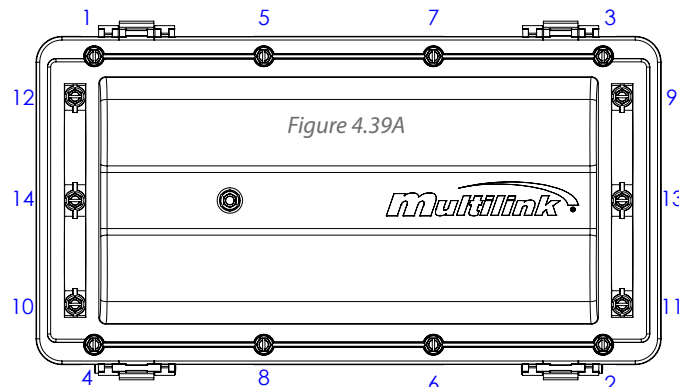
INSTALLATION

Installation (Cont.)

Field Testing

4.40 <u>Air Pressure Solution</u>

Create your solution using clean water and soap inside a spray bottle. Mix well to ensure that bubbles will form upon leak. Spray the entire perimeter of the enclosure, around each hex bolt tighten on the cover, and air valve.

4.41 <u>Applying Air into Enclosure</u>

Using the air valve on the cover as a testing entry point remove the air valve cap and apply 4 PSI of air pressure into the enclosure. Check using a pressure gauge to ensure the mentioned PSI was successfully inserted. ***NOTE: If you insert over the recommended PSI you are at risk of compromising the integrity of the seal.*** If the enclosure shows signs of bubbles in the solution skip to 4.43 otherwise continue to 4.42.

4.42 <u>Pressure Testing PASS</u>

Success! Your enclosure is air tight. Using your air gauge remove the excess air, attach the air valve cap and clean the solution off the enclosure. Continue to 4.44 & 4.45 for mounting options and finalizing your Starfighter Xpress installation.
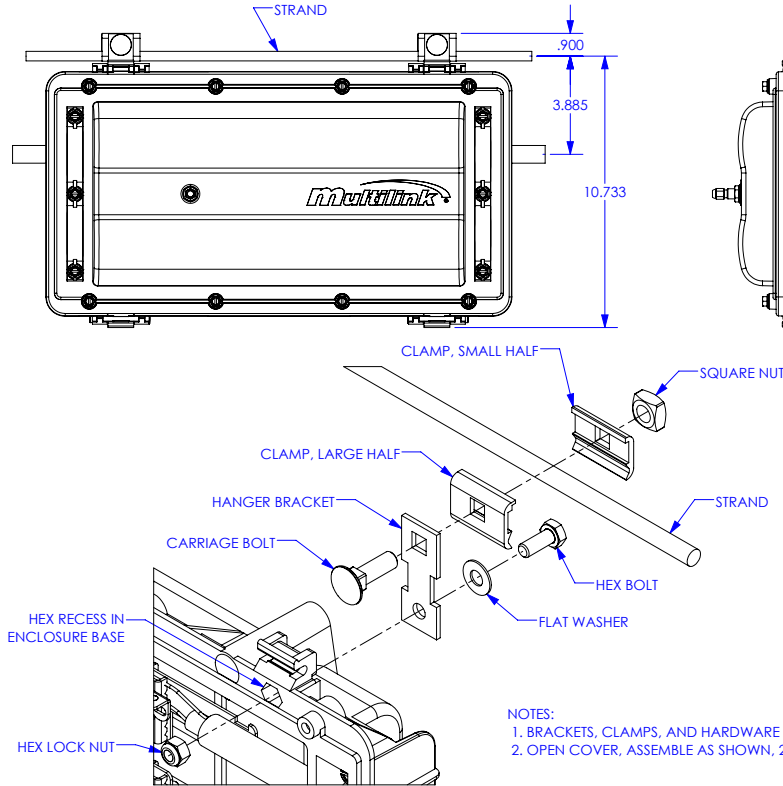
4.43 <u>Pressure Testing FAIL</u>

If your enclosure showed any evidence of having a leak within the solution sprayed, untighten all the hex bolts on the cover and return to 4.36 and follow each step carefully to ensure a proper seal.

MULTILINK IS NOT RESPONSIBLE IF PROPER ACTION IS NOT TAKEN TO ENSURE THAT THE ENCLOSURE IS SEALED. TESTING IS REQUIRED UPON EACH OPENING OF THE ENCLOSURE. DO NOT INSTALL IF THE ENCLOSURE IS SHOWING ANY SIGNS OF LEAKING.
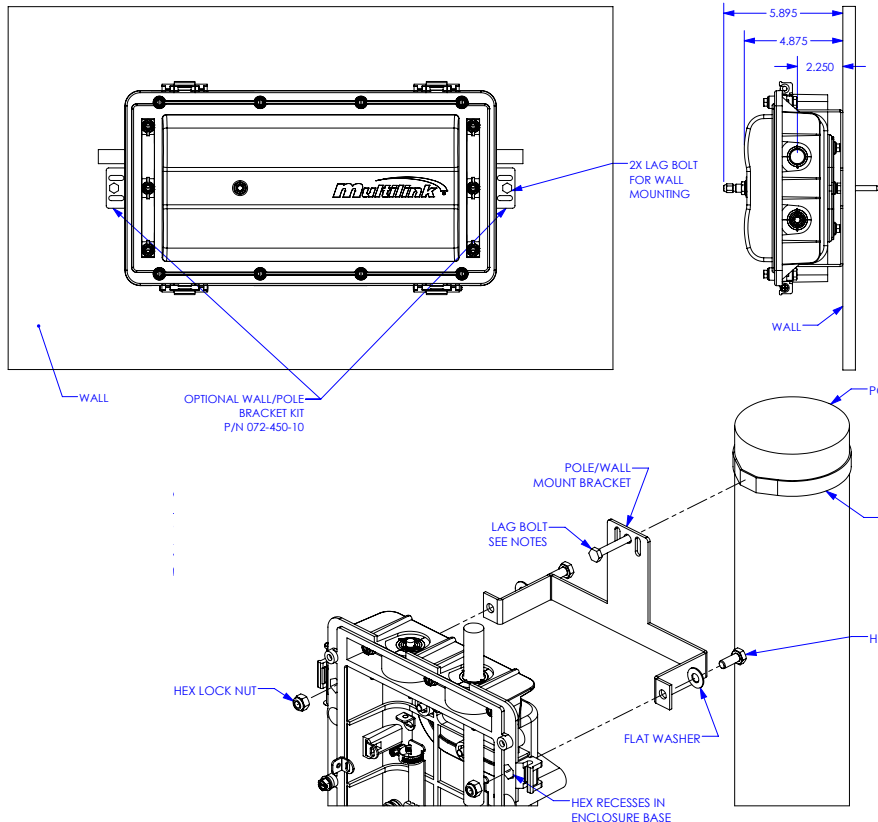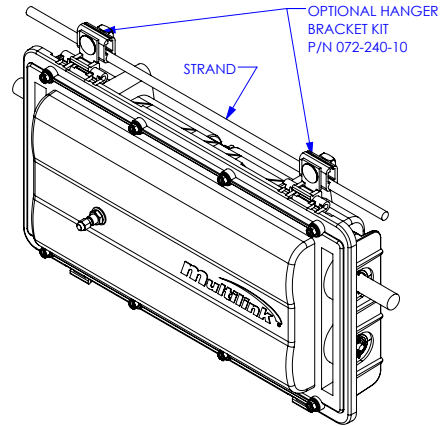

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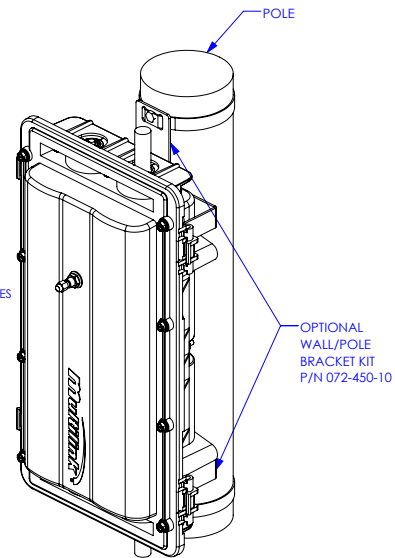
INSTALLATION

Installation (Cont.)

Mounting Options

STRAND

.900

3.885

10.733

CLAMP, SMALL HALF

SQUARE NUT

CLAMP, LARGE HALF

HANGER BRACKET

STRAND

CARRIAGE BOLT

HEX BOLT

HEX RECESS IN
ENCLOSURE BASE

FLAT WASHER

HEX LOCK NUT

NOTES:
1. BRACKETS, CLAMPS, AND HARDWARE SUPPLIED IN KIT.
2. OPEN COVER, ASSEMBLE AS SHOWN, 2 PLACES.

4.44 Aerial Mounting

OPTIONAL HANGER
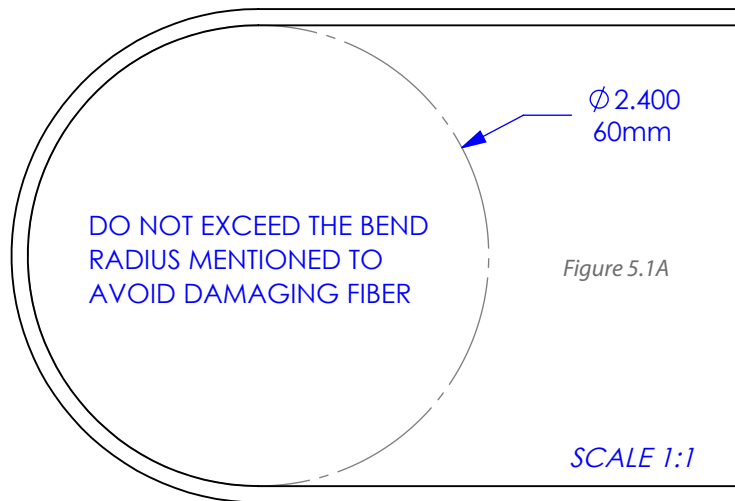BRACKET KIT
P/N 072-240-10

STRAND

4.45 Wall/Pole Mounting

5.895

4.875

2.250

NOTES:
1. BRACKETS AND ASSEMBLY HARDWARE SUPPLIED IN KIT.
   KIT FOR WALL OR POLE MOUNTING.
2. STRAPS AND/OR LAG BOLTS CUSTOMER SUPPLIED.
   STRAPS FOR ANY POLE TYPE, LAG BOLTS FOR WOODEN
   POLE OR WALL MOUNT.
3. OPEN COVER, ASSEMBLE AS SHOWN, 2 PLACES.

2X LAG BOLT
FOR WALL
MOUNTING

WALL

POLE

WALL

OPTIONAL WALL/POLE
BRACKET KIT
P/N 072-450-10

POLE

POLE/WALL
MOUNT BRACKET

STRAP
SEE NOTES

LAG BOLT
SEE NOTES

HEX BOLT

OPTIONAL
WALL/POLE
BRACKET KIT
P/N 072-450-10

HEX LOCK NUT

FLAT WASHER

HEX RECESSES IN
ENCLOSURE BASE

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INSTALLATION

5. Figures & Guides

5.1 Fiber Figures & Diagrams

∅ 2.400
60mm

DO NOT EXCEED THE BEND
RADIUS MENTIONED TO
AVOID DAMAGING FIBER

Figure 5.1A

SCALE 1:1

BEND RADIUS GAUGE

Entry   Exit

■ 12 Fiber Buffer Tube Branching Off   ■ Remaining Buffer Tubes

Figure 5.1B

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6. Accessory List

Multilink's Starfighter Xpress supports various options of mounting kits, grommets accommodating vast cable diameters, additional accessories some of which are included with the Starfighter Xpress, and patch & splice options including bulkhead bracket kits, field installable connector kits, and pigtails.
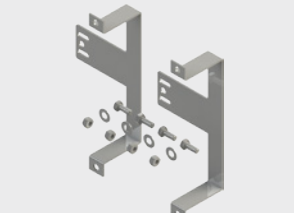
Starfighter Xpress Entry/Exit 1" Grommets

Product Photo	Description	Stock ID
	Grommet Insert 1 Hole .3-.4" Cable	10-5552
	Grommet Insert 1 Hole .41-.5" Cable	10-5127
	Grommet Insert 1 Hole .51-.79" Cable	10-5128
	Grommet Insert 8 Hole .150" Cable w/Pins	10-6550
	Grommet Insert 6 Hole .265" Cable w/Pins	10-5129
	Grommet Insert 4 Hole .300" Cable w/Pins	10-6552
	Grommet Insert 4 Hole .350" Cable w/Pins	10-6002
	Grommet Insert 4 Hole .370" Cable w/Pins	10-5130
	Grommet Insert 4 Hole Flat Drop Cable w/Pins	10-5134

Starfighter Xpress Accessories

Product Photo	Description	Stock ID
	Velcro Strap ½ x 8"	651-030-10
	1120-SSTP Splice Tray Kit	072-059-10
	Grounding Kit	10-5424

Starfighter Xpress Mounting Kits
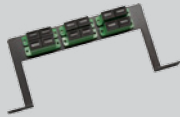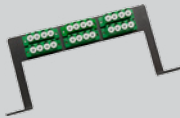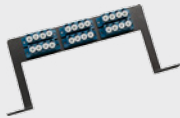
Product Photo	Description	Stock ID
	SFX Hanger Bracket Kit	072-240-10
	SFX Wall/Pole Mount Kit	072-450-10

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Email: engsupport@gomultilink.com	Email: engsupport@gomultilink.com	Email: hquinones@gomultilink.com

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Accessory List (Cont.)

Starfighter Xpress Bulkhead Bracket Kits

Product Photo	Description	Stock ID
	SC/APC Duplex Bulkhead Bracket Kit	072-451-10
	SC/UPC Duplex Bulkhead Bracket Kit	072-451-20
	LC/APC Quad Bulkhead Bracket Kit	072-451-30
	LC/UPC Quad Bulkhead Bracket Kit	072-451-40

Starfighter Xpress Field Installable Kits

Product Photo	Description	Stock ID
	SC/APC SM Field Installable Kit	066-025-10
	SC/UPC SM Field Installable Kit	066-024-10
	LC/APC SM Field Installable Kit	066-131-10
	LC/UPC SM Field Installable Kit	066-029-10

Starfighter Xpress Pigtails

Product Photo	Description	Stock ID
	SC/APC 12 Fiber SM 3M Pigtail Spiral Wrapped	10-6418
	SC/UPC 12 Fiber SM 3M Pigtail Spiral Wrapped	10-6416
	LC/UPC 12 Fiber SM 3M Pigtail Spiral Wrapped	065-180-10
	SC/APC 12 Fiber SM 3M Pigtail Yellow Jacket	065-395-10
	SC/UPC 12 Fiber SM 3M Pigtail Yellow Jacket	065-371-10
	LC/APC 12 Fiber SM 3M Pigtail Yellow Jacket	065-437-10
	LC/UPC 12 Fiber SM 3M Pigtail Yellow Jacket	065-396-10
	SC/APC 4 Fiber SM 3M Pigtail Yellow Jacket	065-310-10
	SC/UPC 4 Fiber SM 3M Pigtail Yellow Jacket	066-493-10
	LC/APC 4 Fiber SM 3M Pigtail Yellow Jacket	066-494-10
	LC/UPC 4 Fiber SM 3M Pigtail Yellow Jacket	066-495-10
	SC/APC 1 Fiber SM 3M Pigtail Yellow Jacket	066-490-10
	SC/UPC 1 Fiber SM 3M Pigtail Yellow Jacket	065-286-10
	LC/APC 1 Fiber SM 3M Pigtail Yellow Jacket	066-491-10
	LC/UPC 1 Fiber SM 3M Pigtail Yellow Jacket	066-492-10

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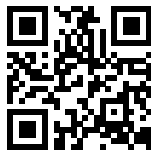
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Fax: (440) 366-6802

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