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Installation Instructions

G5 Fiber Closures



Where The Industry Connects

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1. Introduction

The Channell Commercial Corporation G5 is a sealed fiber optic cable and connectivity enclosure.

The enclosure(s) provide splicing capacity for up to 96 fibers.

The base has an oval port to be used to express the main optical fiber cable through the closure. It also has 13 smaller ports, which are used for drop cables.

Drop port sealing grommets for sealing two cables in one port are also available, which doubles the potential number of drop cables which can be terminated from the closure.

Channell's splice trays feature a hinge and latch system that allows for access to any fiber without disturbing surrounding fibers (this will be explained later in the instruction). In addition, the splice holders installed on each splice tray allow for double-stacking of splices in order to maximize capacity.

The G5 closure is designed to work with a wide variety of cable diameters and fiber counts through the use of the serrated grommet. The serrations on the grommet permit the installer to remove portions of sealant material that are not needed, based on the measured cable diameter, to create an environmental seal. The procedure to measure the cable, remove sealant material, and properly fit the modified grommet will be discussed in a separate section of this document.

INSTALLATION INSTRUCTION

2. Kit Contents



1. G5 closure base assembly with:
 - One figure-8 entry for ring cuts plus thirteen additional drop ports
 - One orange silicone sealing ring
 - Double-sided splice tray assembly with:
 - 24 locations for single-fusion splice retention
 - Strength member attachments
 - (4 additional 12-fiber splice capacity trays shown)
2. G5 Closure Dome
3. G5 Closure Sealing Clamp
4. Pole-mount bracket (optional)
5. Closure assembly kit with:
 - Slit ring figure-8 sealing grommet to seal two cable entries with diameter range determined by configuration ordered.
 - 10cc bottle of Grommet Lubricant
 - Fiber splicing preparation kit with:
 - One 6" length of blue felt tape
 - Two packets of isopropyl alcohol wipes
 - Installation Instructions

Drop Grommet Kits

- GR06116101-02
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .062-.125" (sold as box of 12 cards)
- GR06116101-34
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .188-.250" (sold as box of 12 cards)
- GR06116101-45
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .250-.313" (sold as box of 12 cards)
- GR06116101-56
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .313-.375" (sold as box of 12 cards)
- GR06116101-67
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .375-.438" (sold as box of 12 cards)
- GR06116101-78
 - Card of six 3/4" drop grommets to seal one cable each with diameter range of .438-.500" (sold as box of 12 cards)
- GR03106407-49
 - Slit serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.9" (sold as box of 12 cards)
- GR03106407-456
 - Slit serrated figure 8 sealing grommets to seal two cable entries with diameter range 0.4-0.6" (sold as box of 12 grommets)
- LU06000005
 - 10cc bottle of grommet lubricant (pack of 12)

3. Tools

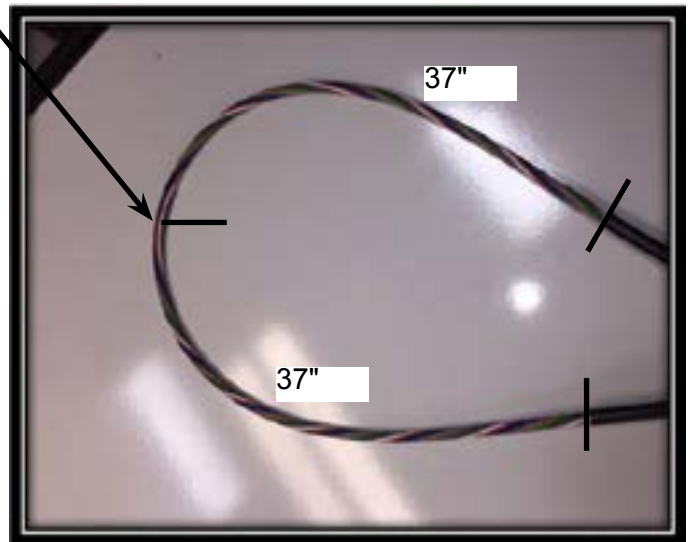
- Cable Sheath Knife
- Kevlar Snips (or other lineman's snips)
- Mid-Span Access Tool
- Buffer tube ring-cutting tool
- Side Cutters/Lineman's Pliers
- Tape Measure
- Optical fiber cleaning, preparation and splicing equipment

Reverse Oscillation

4. Cable Preparation

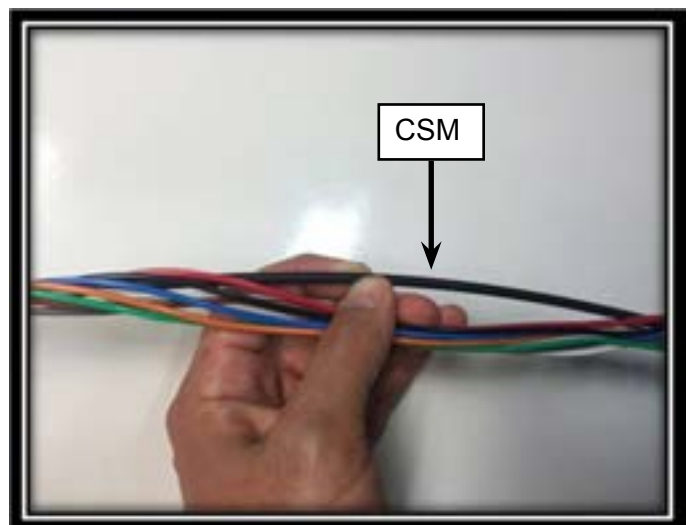
- 4.1 Create a sheath opening of 74" (37" from Reverse Oscillation to sheath cut on either side).

When creating a mid-sheath opening, ensure there is a reverse oscillation point in the center of your opening (as pictured) - this will ensure that you are able to separate buffer tubes completely.



- 4.2 With the opening completed, twist the reverse oscillation point so that the Central Strength Member (CSM) is exposed.

Once the buffer tubes are separated from the CSM and there is no risk of damage to the tubes, cut the CSM as pictured.



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- 4.3 Cut all binder strings in the same position; this will allow you to unravel your cable from the CSM.

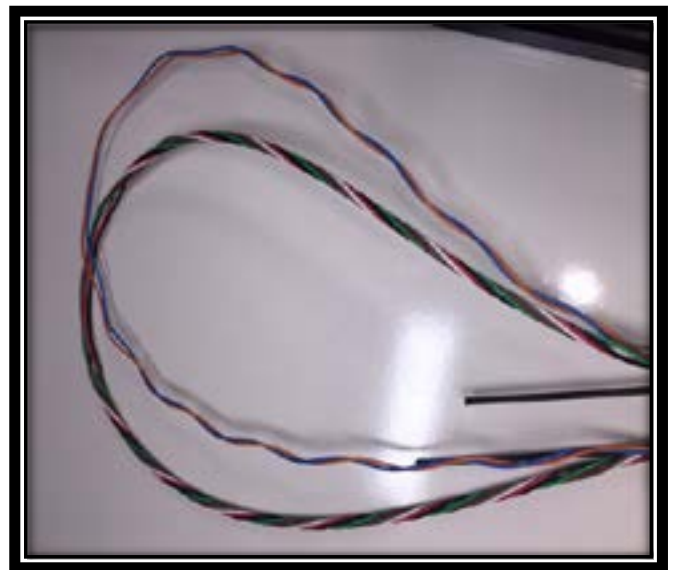
Once the buffer tubes are separated from the CSM and binders, trim the CSM 4" from the ring cut in your sheath opening on either side.

- 4.4 Remove all binders/strings from the cable by cutting them off at either ring cut as well.



- 4.5 Once the CSM is cut back and all binders have been removed, separate the tubes intended for access at this location.

Pictured is Blue and Orange (1-24) separated from the bundle and ready to install in the enclosure.



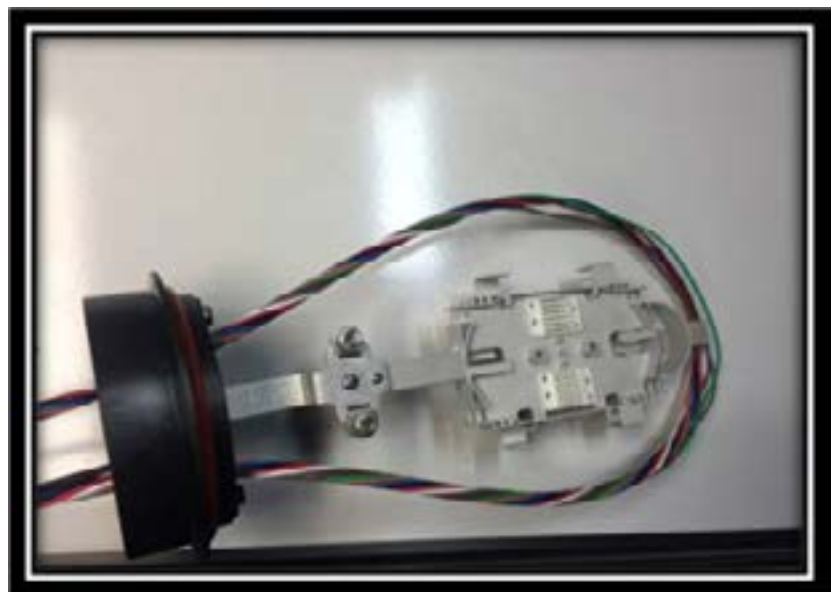
INSTALLATION INSTRUCTION

5. Main Cable/Grommet Installation

- 5.1 Feed the cable loop through the oval port of the enclosure, applying only slight pressure to the bundle in order to ease the transition.



Figure 8 Grommet with
cable range 3/8" - 7/16"



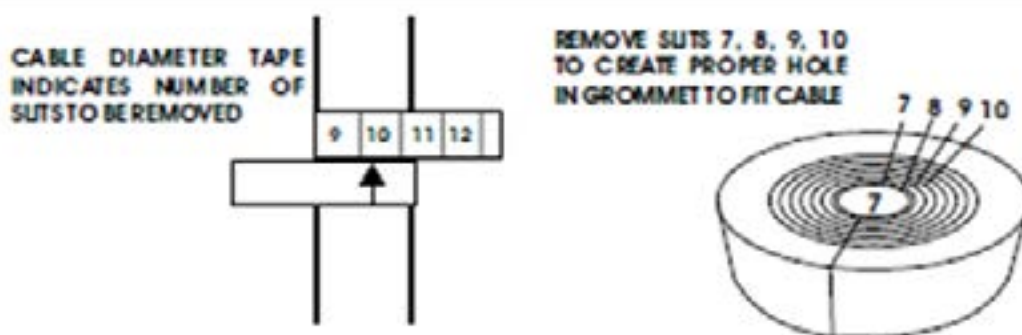
INSTALLATION INSTRUCTION

5.2 Using the Figure-8 Dual Cable Grommet

The hourglass-shaped sealing grommet is a solid grommet with two sets of circular slits. These circular slits can be removed to form a cable grommet able to accommodate cables of different diameters. The double-cable entrance grommet with the lay-in feature allows for a looped cable to be installed in the base.

The circular slits will accommodate cable from 0.4 inches through 0.9 inches in diameter.

The cable diameter can best be determined by the use of the diameter tape (shown). Simply wrap the diameter tape around the cable with the numbered side exposed.



An arrow on the diameter tape will point to a number corresponding to a ring in the sealing grommet.

A number indicating the smallest ring is located at the center of each sealing grommet.

Count each ring from the center number, stopping at the number the arrow on the diameter tape shows. Remove all unwanted rings with snips.

Diameter Tape (Provided with Enclosure)



5.3 Surface Preparation on cable geometry other than round

- 5.3a Cables manufactured with features which change the geometry of the jacket must be re-surfaced in order to ensure a quality seal. Examples of this are cables with ridges along their length and those with conductors extruded as part of their sheath. Included with every kit, for this purpose, is a 12" length of 320-Grit emery cloth.



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5.3b Remove any external geometry from the cable with a knife or other tool as shown:



5.3c Remove any extra material remaining from the surface of the cable using the 320-Grit emery cloth included, ensuring a consistent and clean surface is achieved. Do this over a 6" area where the grommet is intended to be placed. It is not necessary to re-surface the cable jacket anywhere else.

BEFORE



AFTER

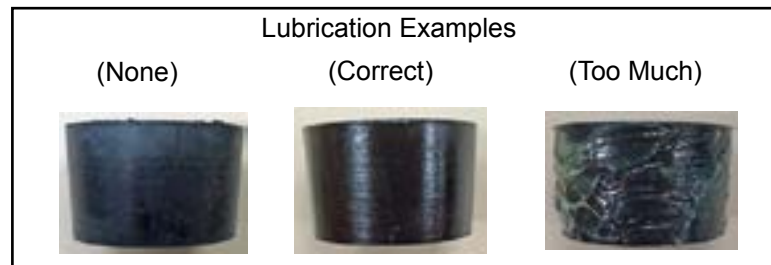


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- 5.4 Apply a small amount of lubricant to the entire outside and inside of the grommet, including the vertical slit. The surface should appear wet, but not excessively so. The amount of lubricant used directly relates to the amount of time it will take to create a permanent seal.

Note: Only Channell provided lubricant, in conjunction with the correct grommet, will create an air-tight/water-tight seal. Use of any other lubricant will nulify/void/cancel the sealing integrity and product warranty.

With the correct amount used, the grommet will seal within 10-15 minutes. Using more lubricant will lengthen the sealing time.



- 5.4a Place grommet around cable and use steady downward pressure to sink the grommet into the port. Continue pressure until grommet hits the bottom stop of the port.

The grommet must be inserted to the bottom of the cable port; make sure to continue pushing on the grommet until resistance is felt from bottom stop. Grommet should sit just below the base surface.

- 5.4b Once the grommet is in place, both sides of the vertical slit should align cleanly from the outside to the inside; if not, use a lubricated flat screwdriver to adjust placement.
- 5.4c Adjust cable to desired height, and secure central tension members.
- 5.4d Wipe off any excess lubricant from base surface using isopropyl alcohol.
- 5.4e Allow to dry before tension is placed on the cable.

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- 5.5 Lubricate the grommet using only Channell supplied lubricant on all vertical surfaces, inside and outside the cable contact area.

Feed the cable through the oval port, apply the trimmed and lubricated grommet on to the cable with the slits facing away from the enclosure, as shown.



- 5.6 Once the lubricated grommet is wrapped around the cable, apply steady downward pressure until the grommet sits below flush and has a concave shape to it, as pictured.

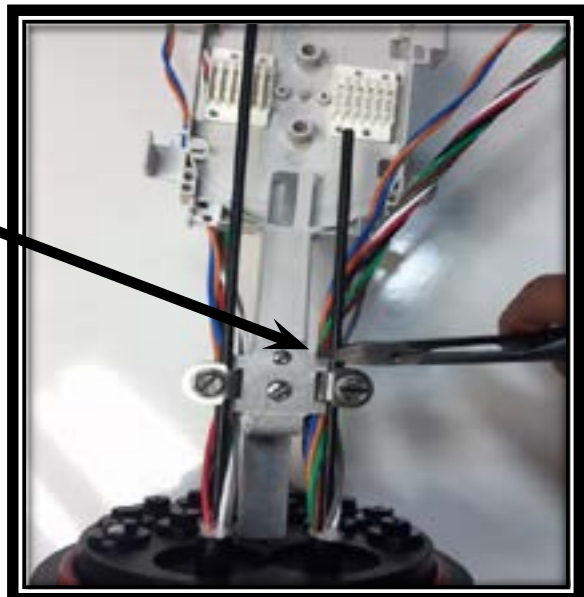
Remove all excess lubricant from the top of the grommets using the isopropyl alcohol wipes supplied in the kit; this will ensure the best possible seal on your enclosure.



- 5.7 Attach the CSM's to the retention clips and then trim the excess off as shown.

CSM Stripping Note:

Some CSM's have additional coating which must be removed in order to fit in the CSM fixture.

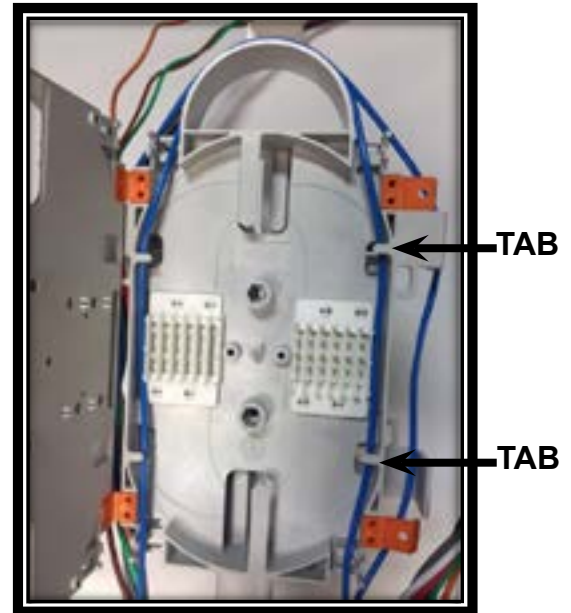


INSTALLATION INSTRUCTION

6. Buffer Tube Preparation

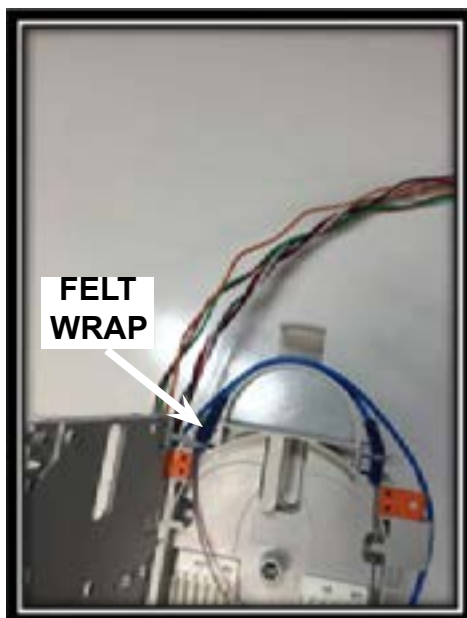
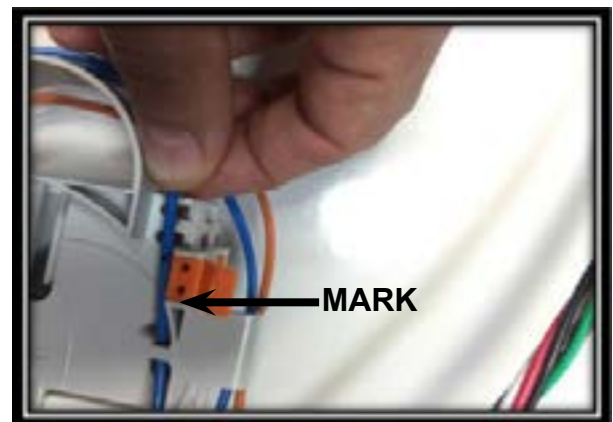
- 6.1 Wrap the buffer tube to be accessed around the outside of the splice tray, over the top and into the tray, as pictured.

Use the tabs located on either side of the tray to hold the buffer tube in place.



- 6.2 Mark on the buffer tube just before it crosses the threshold of the slack loop area on the tray, and open the buffer tube at that mark.

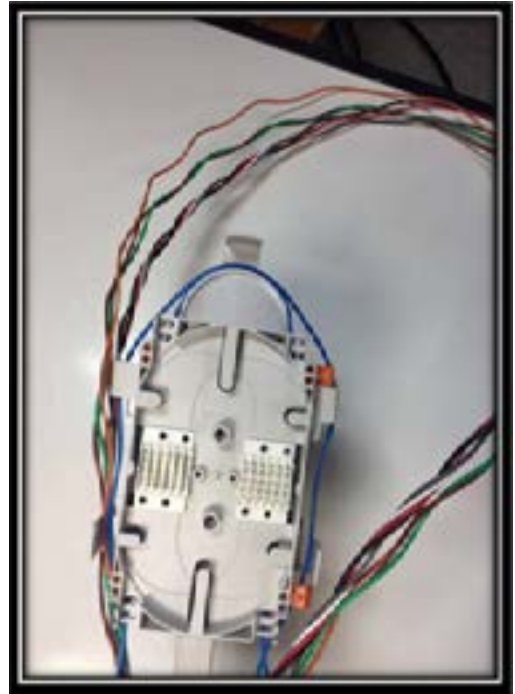
Once your opening is created, apply the included felt tape to the end of the buffer opening, then secure the buffer tube with cable ties, as shown.



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- 6.3 Wrap the bare fibers around the splice tray in such a way that they are held in place, as shown.

Close the splice tray above and secure in place with the latches on the side of the tray.



- 6.4 Continue this process on either side of the tray until all tubes that will be accessed have been placed.

Note that the buffer tube which routes onto the side of the splice tray with latches is fed over the top of the buffer tube routing onto the opposite side. This is important, as it allows for access to any buffer tube without interfering with the others when opening the trays.

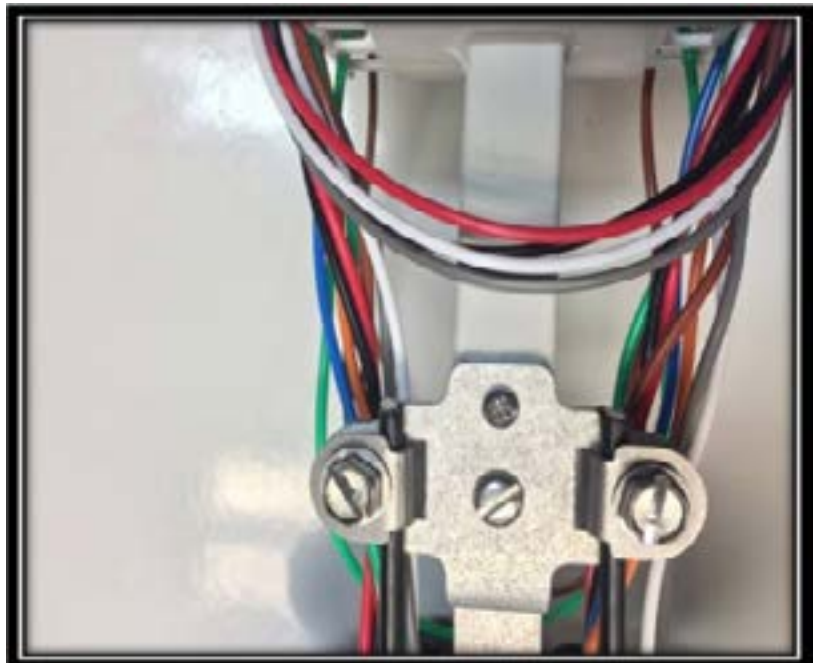


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- 6.5 Once the buffer tubes have been attached to the splice tray, wrap the expressed tubes around the outside of the tray for storage.

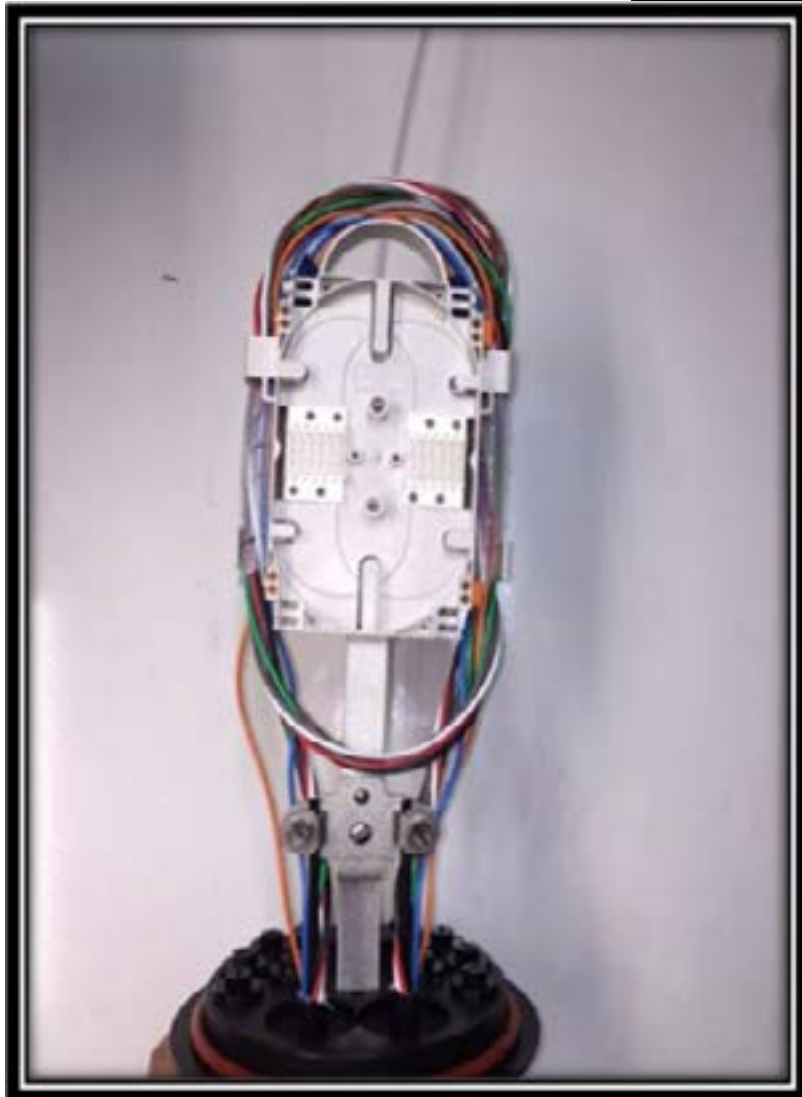


- 6.6 Notice that only the expressed tubes are part of this bundle at the bottom.



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- 6.6 Once a slack loop is established, apply the included spiral wrap (where included) and then apply cable ties to secure the cable bundle to either side of the tray.



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7. Branch/Drop Cable

7.1 Prep the cable by opening 5 feet of the outer jacket.

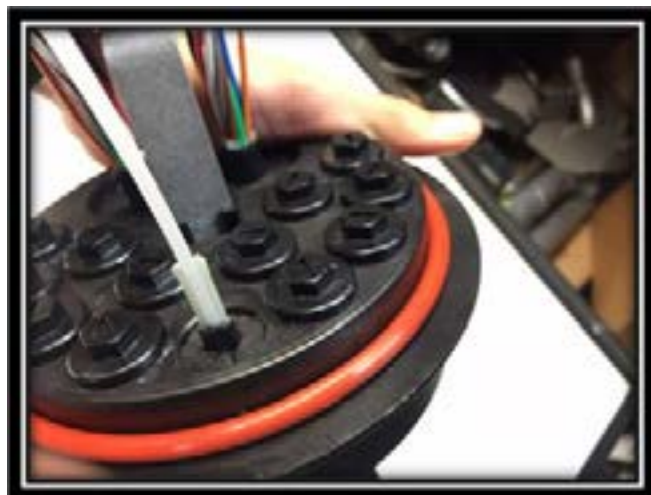
7.2 Trim CSM to a length of 1" from the top of sheath opening.



7.3 The cable is now ready to be installed in the enclosure base.

7.4 Remove a drop plug. Feed prepped drop through the open port and then apply the appropriate lubricated 3/4" grommet. The correct fit will vary from application to application.

Install the drop grommet using the same grommet application procedure as detailed above. There are no serrations to be removed when using drop grommets.



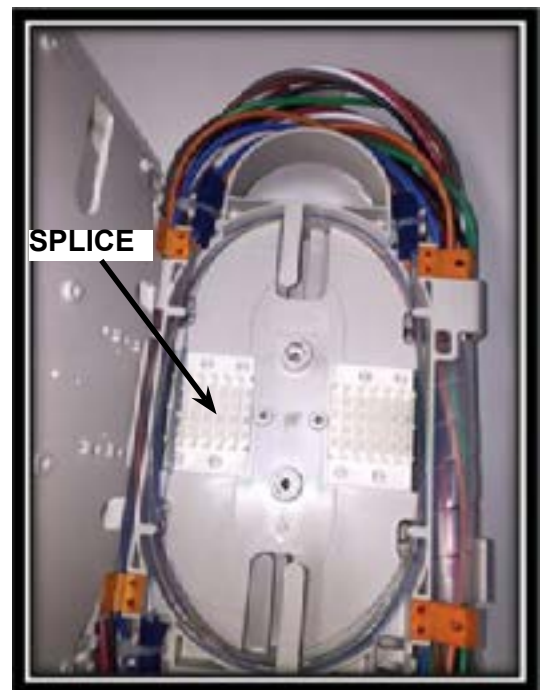
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- 7.5 Route buffer tube onto the bottom of the applicable tray. In this case, the cable is splicing onto fiber one in this count (blue buffer, blue fiber).

Follow the same procedure as used previously to attach the buffer to the splice tray.



- 7.6 Proceed with splicing.
Store fiber and splice tray as shown.



INSTALLATION INSTRUCTION

8. Dome Installation

8.1 Slide dome over finished closure.

Be sure that the silicone O-ring (orange, shown here) is in place on the base to create the seal.



8.2 Wrap the sealing clamp around the dome and base, and latch as shown.



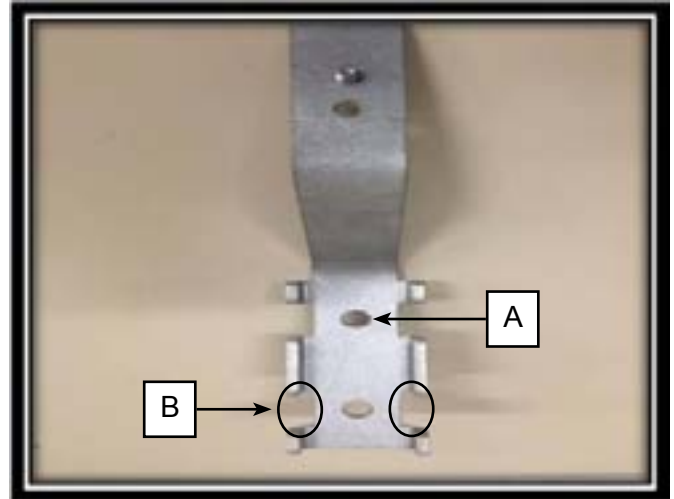
INSTALLATION INSTRUCTION

9. Mounting Bracket Installation

9.1 Mount the supplied bracket to the pole.

For wooden poles, use lag bolts through the two holes (A) provided to securely screw the bracket to the pole.

For metal or concrete poles (bracket BR02177PK only), use stainless steel straps through the two slots (B) provided to securely strap the bracket to the pole.



9.2 Slide the closure base over the pole mount bracket.

There is a pocket provided on the base that slides over the bracket.

Be sure that the hole in the skirt of the base lines up with the threaded hole on the bracket.



9.3 Use bolt provided to securely attach the closure base to the pole mount bracket.

