StreetSmart Small Count Fiber Hand-Off Box

Installation Manual

CLEARFIELD

Manual 021728 REV B - Nov 2021

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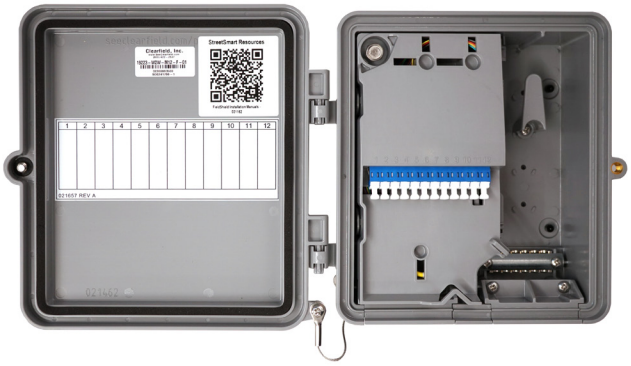
StreetSmart Small Count Fiber Hand-Off Box

Installation Manual

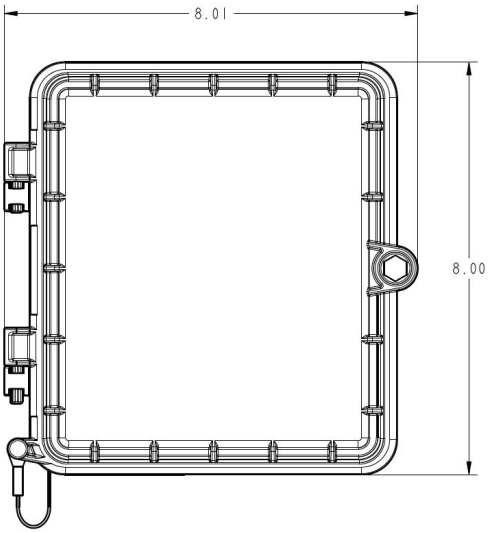
Application

The StreetSmart Small Count Fiber Hand-Off Box serves as a network demarcation point between the backhaul; provider to a network operator or as point demarc point for small count MDUs. Designed with a hinged plate and 216 locking mechanism, access is secured between craft responsibilities. The craft-friendly GR-771 box can be mounted aerial, pole or wall. The compact design makes it ideally suited for inside a monopole.



Description

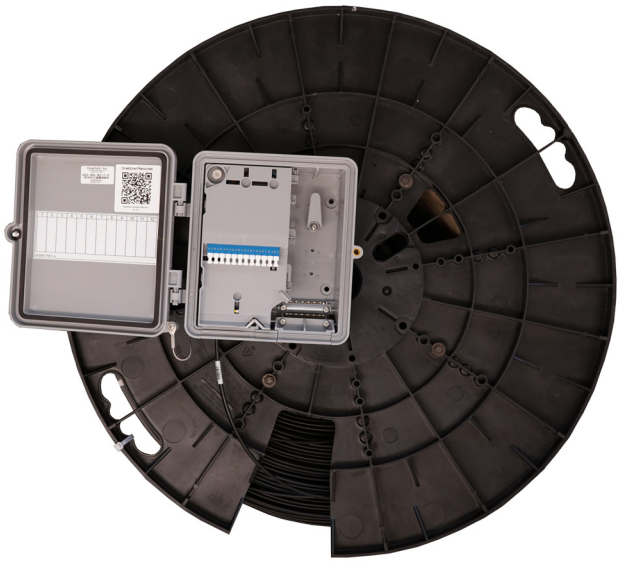
The StreetSmart Small Count Fiber Hand-Off Box can be configured in either 6 or 12 terminations in both SC or LC connections. The StreetSmart Small Count Hand-Off Box comes in two configuration. The plug-and-play option utilizes an MPO or HMFOC (hardened multifiber optical connector) connector or the patch only which comes with factory installed cable in length up to 3000'. Designed with a tethered removable door, lay in grommet, angled adapter for easy cleaning and testing and no special tool requirements, makes the box extremely craft-friendly.



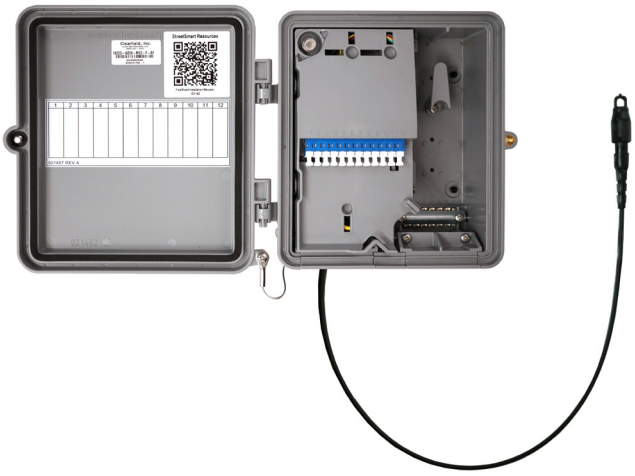
Technical Specifications

StreetSmart Small Count Fiber Hand-Off Box	
Dimensions	8" H x 8" W x 3" D
Box Option	Plug-and-play or patch only
Connector Types	SC/APC, SC/UPC, LC/UPC, LC/APC, MPO or HMFOC
Cable Entrance	Single entrance for both provider and network
Cable Grommet	FLATdrop or 4.8m
Labeling	Designation label on door
Mounting Options	Pole, Wall or Aerial

Configurations



Blunt/Stubbed

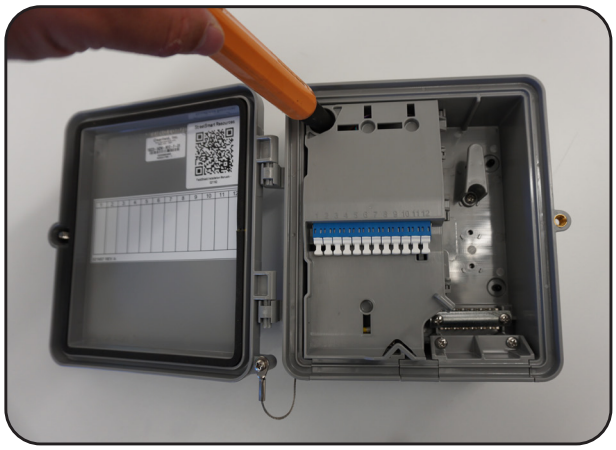


HMFOC Tethered

MPO Feeder

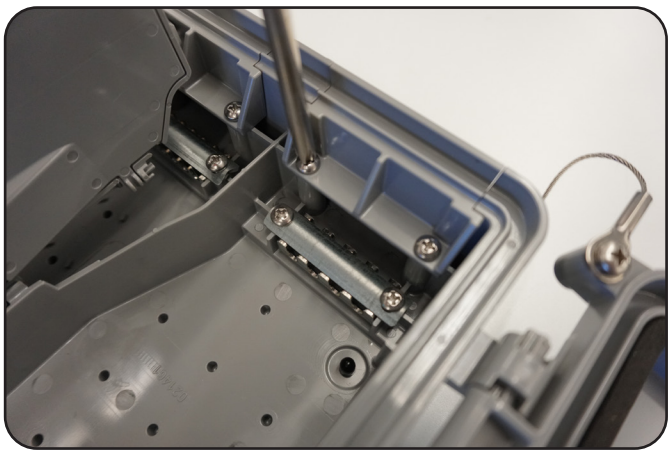
Opening the Box

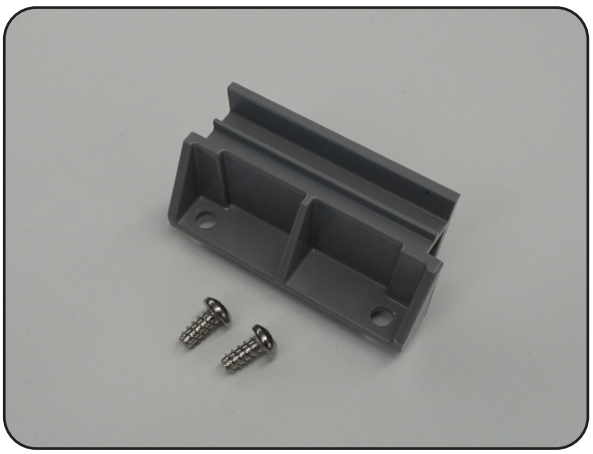
To open the Small Count Fiber Hand-Off Box and access the top (wireless) compartment, use a standard can wrench or 7/16" socket. The interior swinging bulkhead must also be unlocked using a 7/16" socket to access the lower (wireline) compartment.

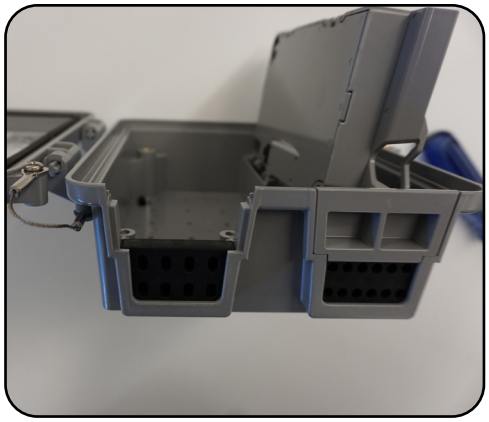


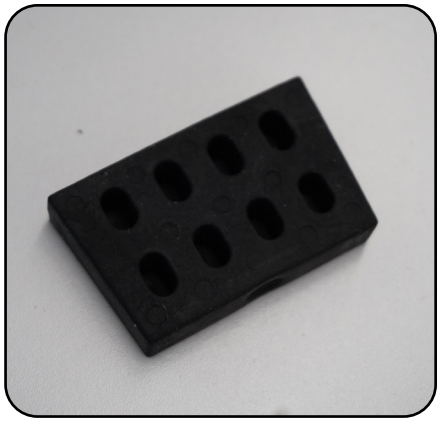
Installing MPO Feeder Cables

1. To install cables into the wireline compartment, first remove the cable retention grommet plate

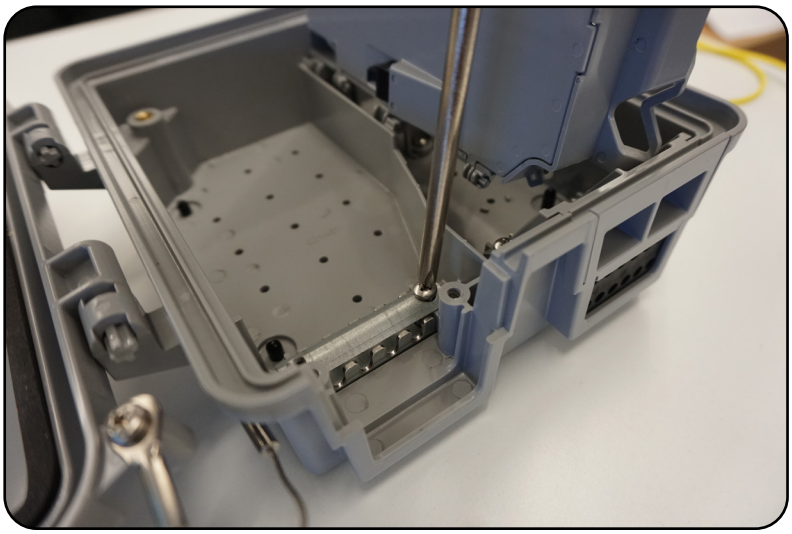




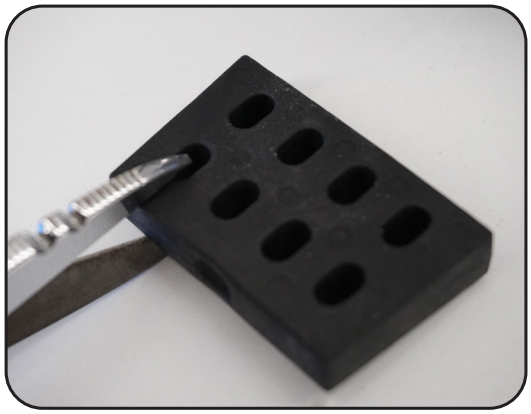


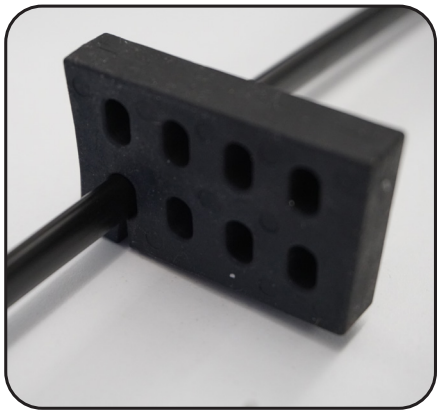


2. Remove the cable retention grommet.



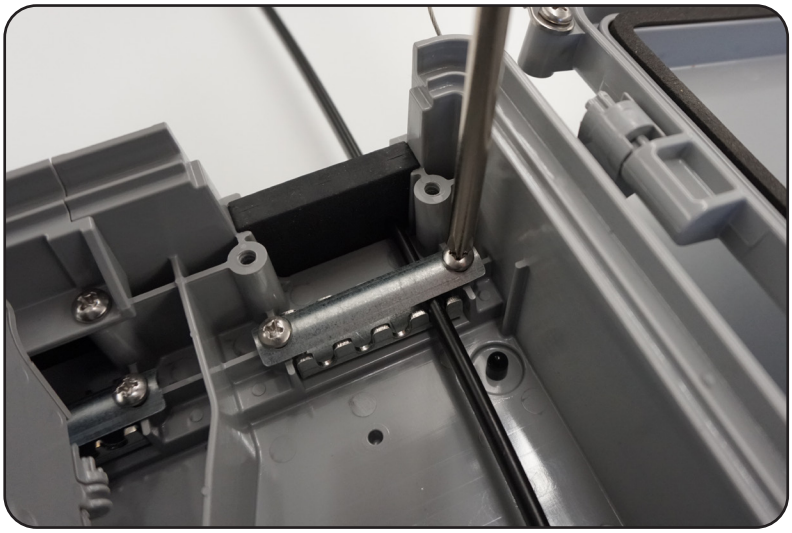
3. Remove the v-clamp from the top of the toothed bracket at the entrance.





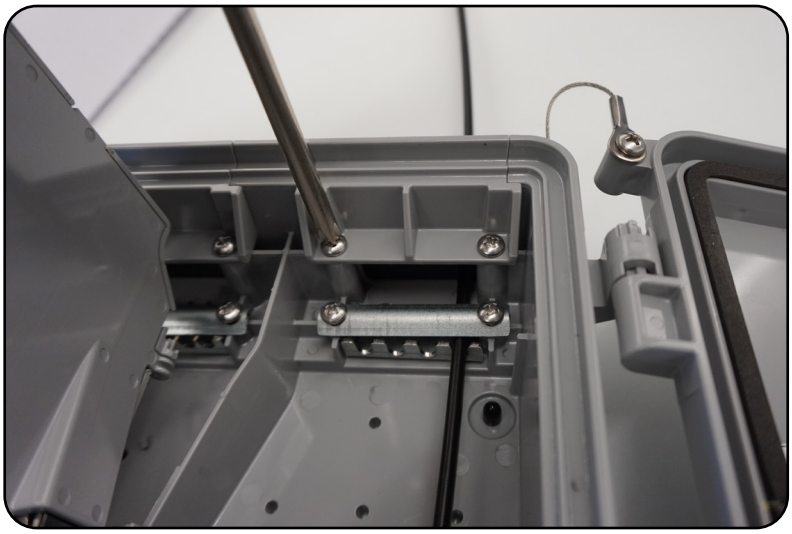
4. Cut the cable retention grommet at the locations where cables will be installed.

5. Install the cable(s) into the cable retention grommet, slipping them in through the side where you cut the grommet.

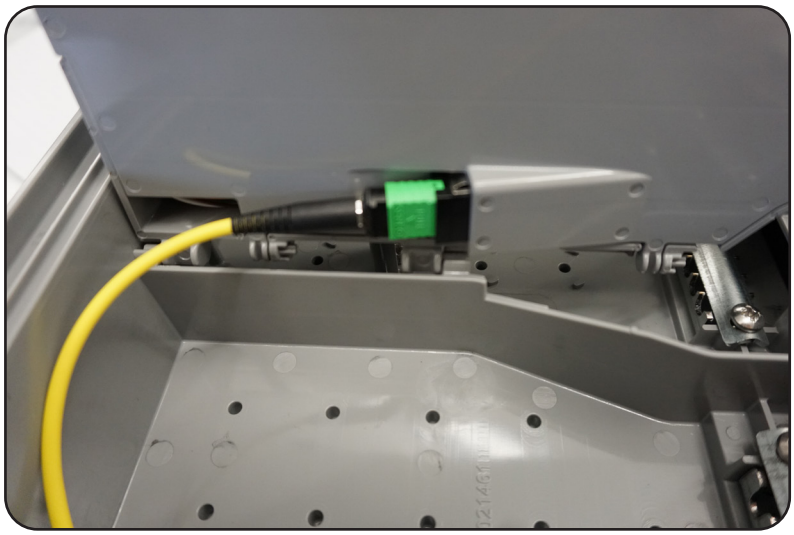


6. Insert the cable retention grommet back into the slot on the wall box.

7. Reinstall the v-clamp, securing it in place with the two screws and allowing the edges of clamp to grab the jacket of the cable(s).



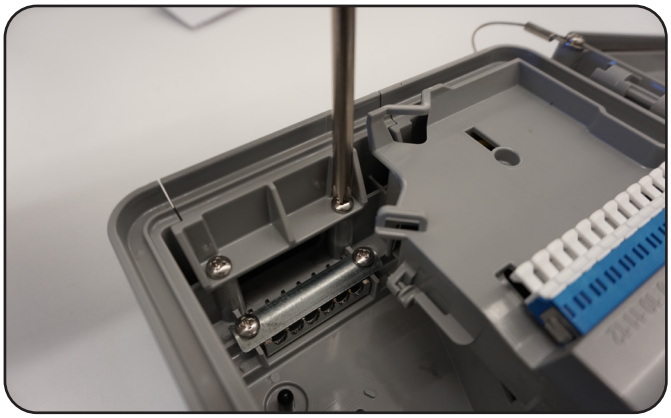
8. Reinstall the cable retention grommet plate, securing it in place with the two screws.

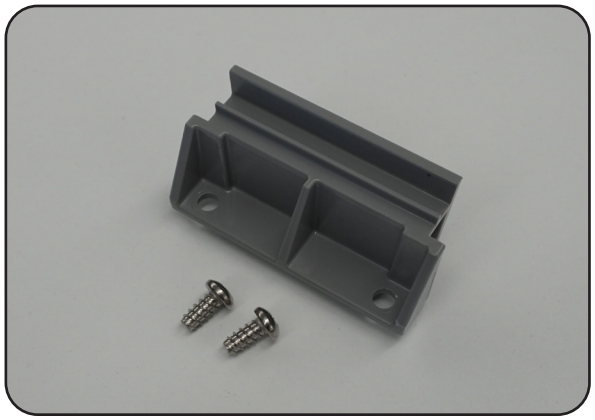


9. Inspect, clean if necessary, and connect the MPO into the pre-installed MPO adapter on the bottom of the swinging bulkhead

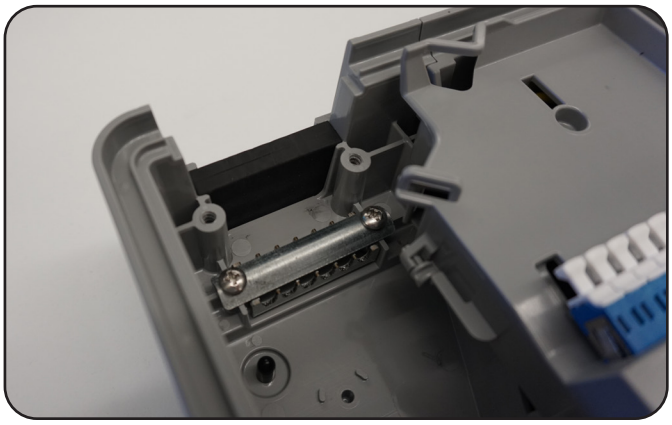
Installing Drop Cables

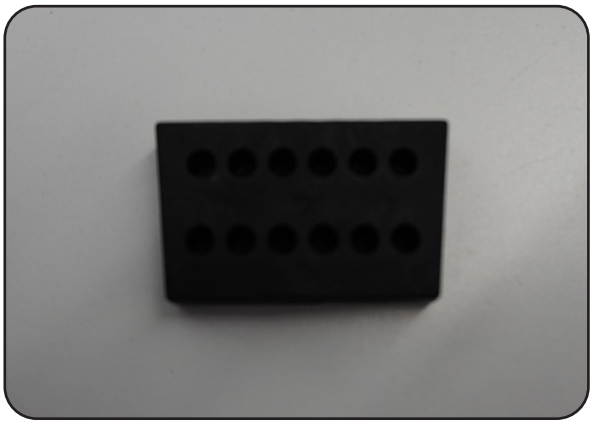
1. To install cables into the wireless compartment, first remove the cable retention grommet plate.



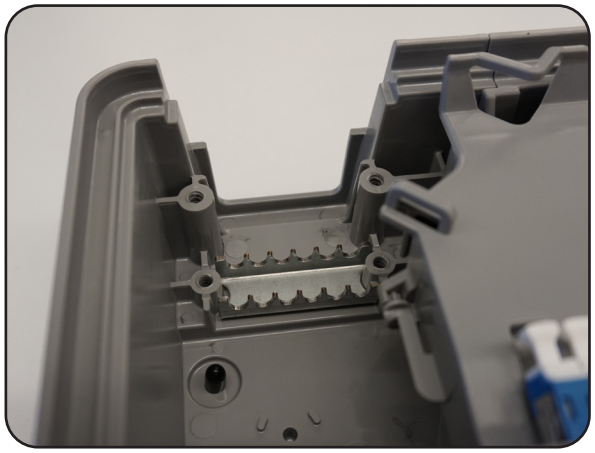


2. Remove the cable retention grommet.



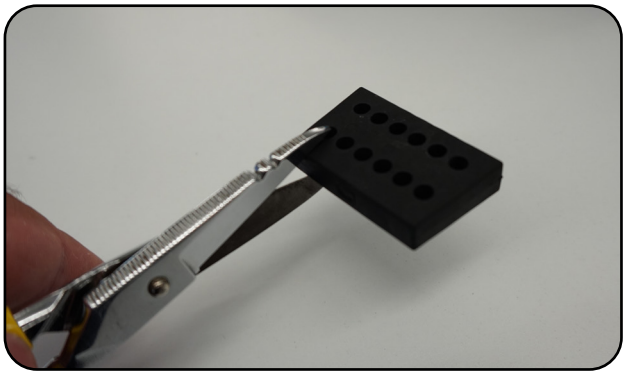


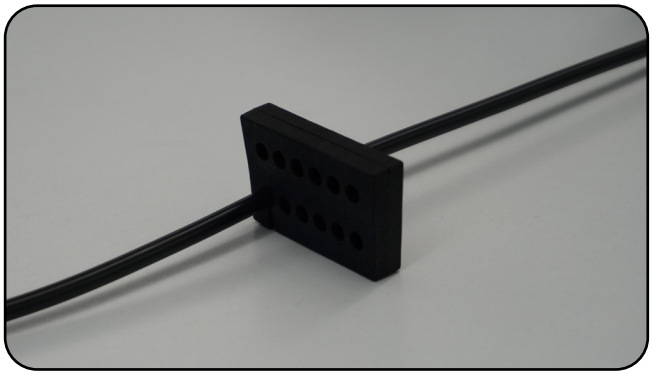
3. Remove the v-clamp from the top of the toothed bracket at the entrance.



4. Cut the cable retention grommet at the locations where cables will be installed.

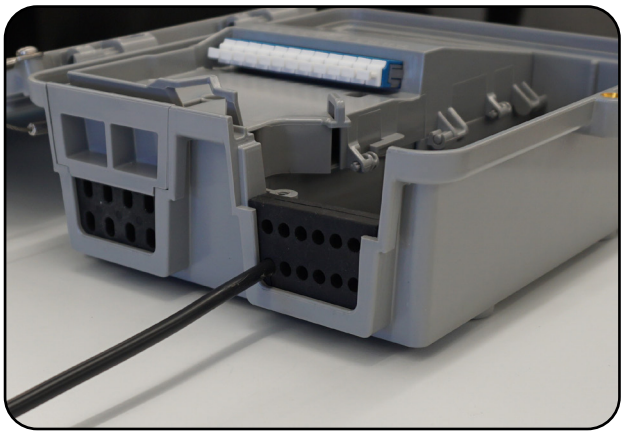
5. Install the cable(s) into the cable retention grommet, slipping them in through the side where you cut the grommet.

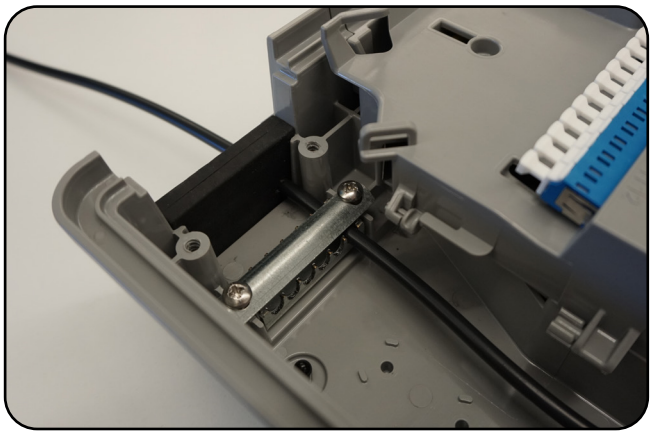




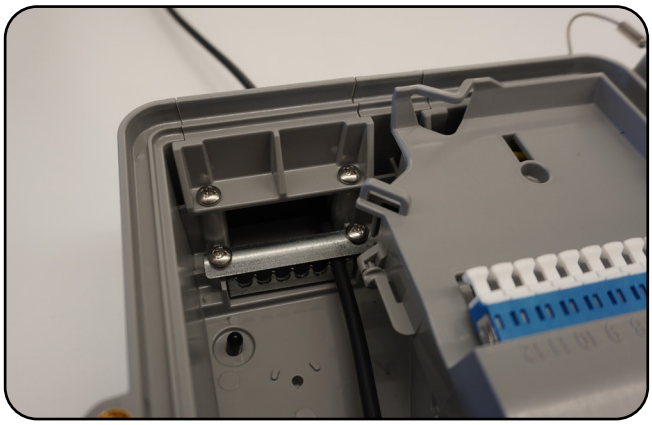
6. Insert the cable retention grommet back into the slot on the wall box.

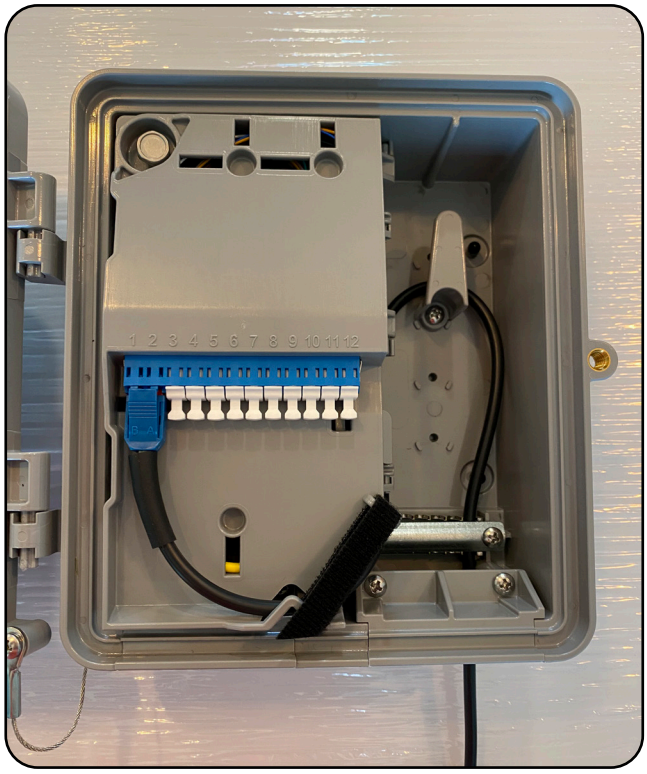
7. Reinstall the v-clamp, securing it in place with the two screws and allowing the edges of clamp to grab the jacket of the cable(s).





8. Reinstall the cable retention grommet plate, securing it in place with the two screws.





9. Route the incoming fiber up and around the radius rod. Transition the fiber up onto the top of the swinging bulkhead.

10. Inspect, clean if necessary, and then connect the fiber into the designated adapter.

11. Utilize the two tie-down points and the provided velcro to form a loop to secure the fibers on top of the bulk-head.

Blank Entry Plates

Optional blank Entry Plates can be drilled out to fit six 10mm half-cartridges or a single sealcon, as shown. The use of these fittings will allow for the installation of 10mm OD microducts or a single larger conduit into the fiber hand-off box.

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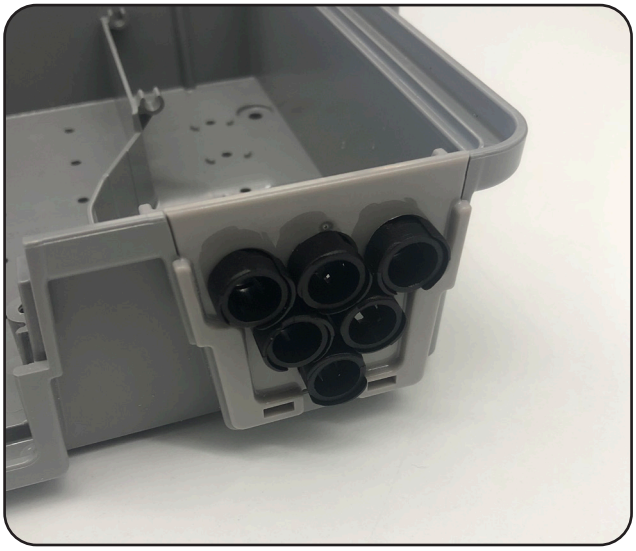
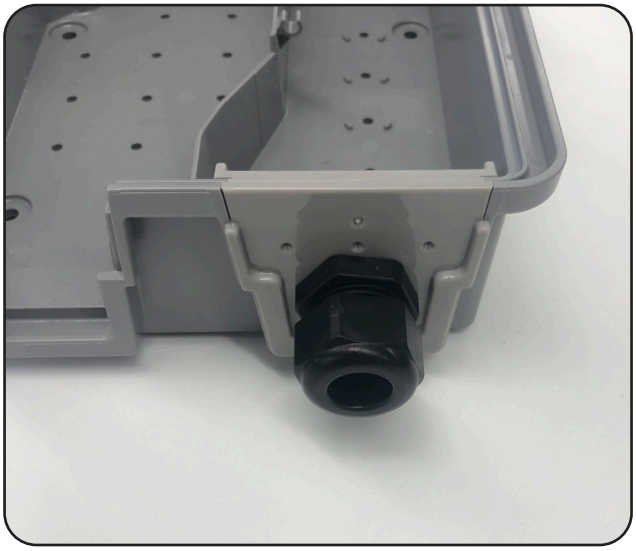
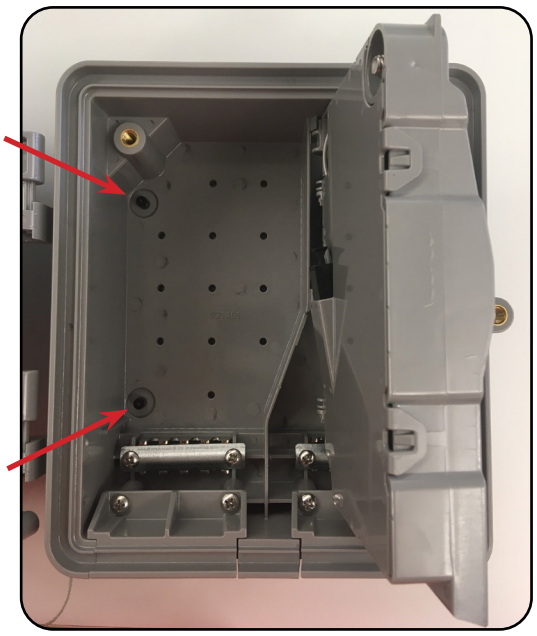
To install the entry plates, follow the instructions for installing a cable retention grommet plate outlined in the previous sections.

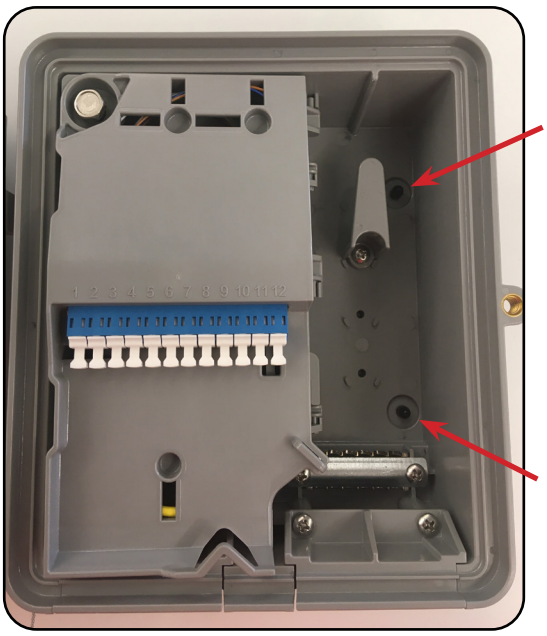




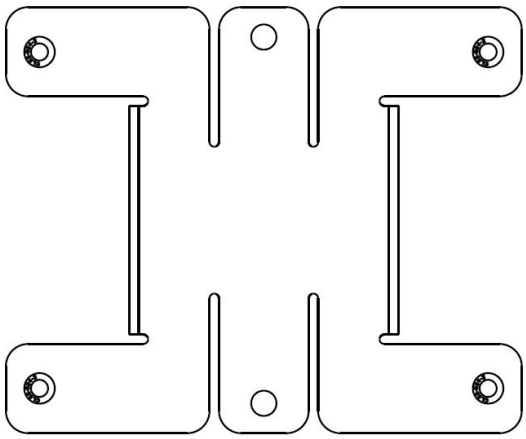
Mounting

Four mounting locations are present on the base of the hand-off box. These will be utilized to install the box to the mounting bracket, in wall, pole, and aerial mount applications.



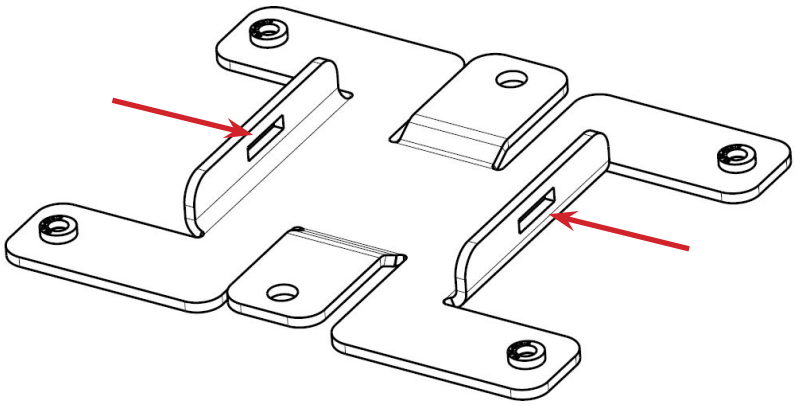


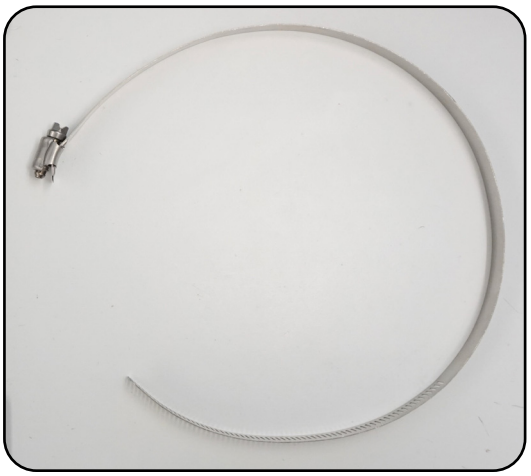
Installing the Wall/Pole Mount Bracket



When installing the mounting bracket onto a wall or a wooden pole, utilize fasteners of your preference to secure the mounting bracket in place with the two holes at the top and bottom center of the bracket. Ensure the bracket is facing the correct direction, with the flat side facing out.

When installing the mounting bracket onto a metal pole, utilize a band clamp. The clamp will slip through the slot in the underside of the mounting bracket. Once the clamp is through the mounting bracket, secure the bracket to the pole using the band clamp.





Mounting the Fiber Hand-Off Box

To mount the box to the mounting bracket, utilize the provided screws and sealing washers. Place the screws through the washers, so the metal tops of the washers face towards the heads of the screws. Place the screws through the four pre-drilled holes in each corner of the box, and insert them into the pems of the mounting bracket. Tighten each screw until the soft underside of the sealing washer has compressed to half its original thickness.

Aerial Mounting

When mounting the hand-off box aerially, first install the box to the aerial mounting bracket using the 4 screws and sealing washers through the pre-drilled holes in the base of the box. Secure the box to the bracket by tightening the screws in the pems of the bracket until the sealing washers has been compressed by half their original thickness.

Note: *When mounting the box to the aerial mounting bracket, ensure the hinged side of the box is upward. When accessing the box, slide the hinge pins of the lid out and allow the box lid to hang from the tether attaching it to the box. This will allow easier access to the wireline side of the box underneath the interior bulkhead.*

Using a can wrench, loosen the bug nuts. Once you have the bug nuts around the strand in the location you wish to mount the box, secure it in place.

Connector Cleaning Procedure

Whether factory terminated or field spliced, clean connectors are essential for proper system operation. Even the smallest dust particle can cause transmission problems, so for optimal network performance inspect, and if necessary, clean connectors and adapters prior to mating.

Inspect Then Connect

These are Clearfield recommended products/applications. Use the product you feel will complete your cleaning procedures. Create a “best practice” for your company and follow those procedures.

The use of Chemtronics end face and bulkhead cleaning products and techniques ensures a clean end face, no matter the type of contamination.

Before cleaning any connector, be sure you know what type of contaminate you are cleaning (dry, fluidic, or combination). All the available products are good, it’s the process that you need to be aware of. Using a dry cleaning method to clean “dirt” can lead to scratching of the end face. Learn the process of cleaning properly.

Note: *It is* ***NOT*** *recommended to use isopropyl alcohol to clean the end face.*

Figure 1

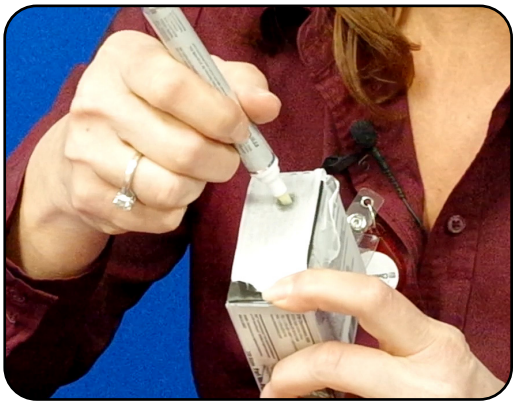


Figure 2

Cleaning an SC/LC Connector

Cleaning the End Face

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen. (**Figure 1)**
- Apply small amount of precision cleaner (about 1” in diameter) with Electro-Wash MX pen on to one end of the wipe. (**Figure 2)**
- Hold end face at a 90 degree angle. For APC connection, adjust by slightly tilting the container or end face. Angle is correct when no drag is felt on the end face. (**Figure 3)**
- Draw end face from wet to dry part of the wipe 3 times. Use just enough pressure to ensure complete contact between end face and the wipe.

Note: DO NOT *retrace previous step.*

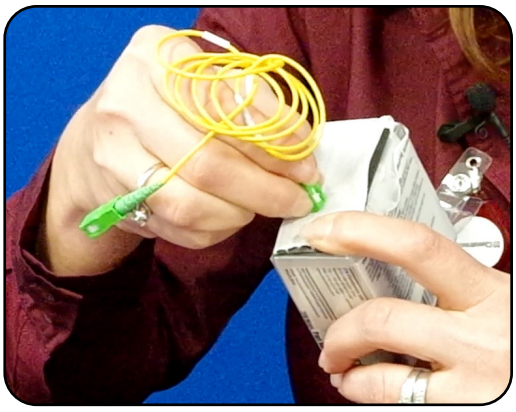


Figure 3

Cleaning the Ferrule

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5. (**Figure 4)**

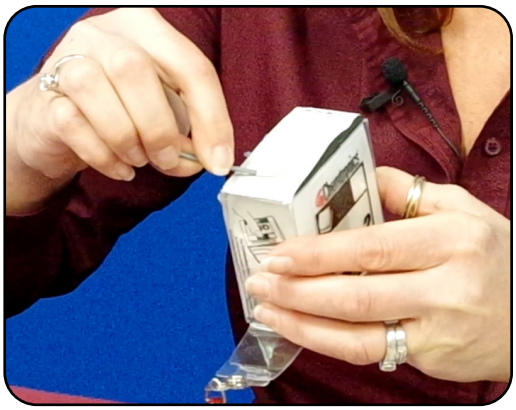


Figure 4

- Insert swab into side of ferrule, wet side to the ceramic ferrule and circle around 2-3 times and remove. Turn swab to dry side and repeat. (**Figure 5)**

Figure 5

Cleaning the Mate Through an Adapter AND the Adapter Itself

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the tip of the swab onto the wetted area and hold for a count of 1-2-3-4-5.
- Insert the swab into the adapter to the connector, press lightly against the connector, twist 2-3 times, remove and discard.
- Dry with a second dry swab.
- Inspect, repeat cleaning if necessary, and test for signal strength.
- Use additional swabs to clean inside the actual adapter. Moisten swab, like above, and insert through hole and remove while twisting. (**Figure 6)**

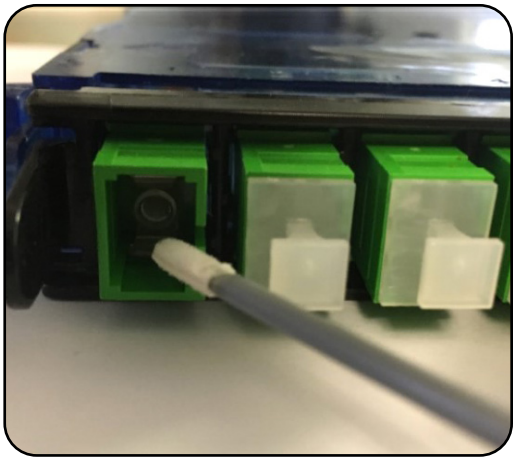


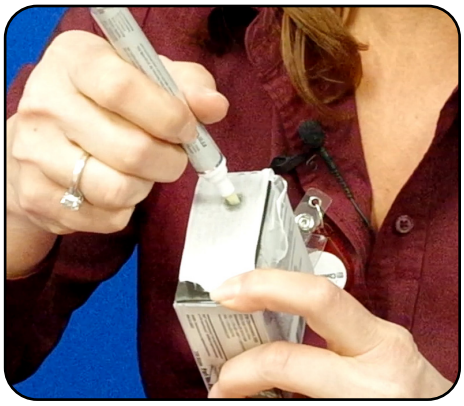
Figure 6

Cleaning an MPO/MTP Connector

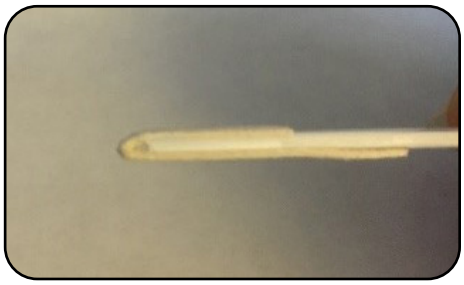
Male Connector

- Use of Chemtronics MTP Connector Cleaning Swabs (CC505F) is recommended. Even after cleaning with a probe cleaner, you should always clean the pins with this (or an equivalent) type swab. Cleans ALL MTP/MPO connector end faces. This swab also cleans the “pins” of the male connector

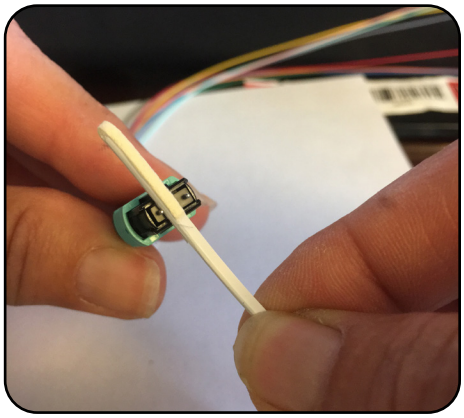
- Lightly “spot” a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, the FiberWash or MX Pen.



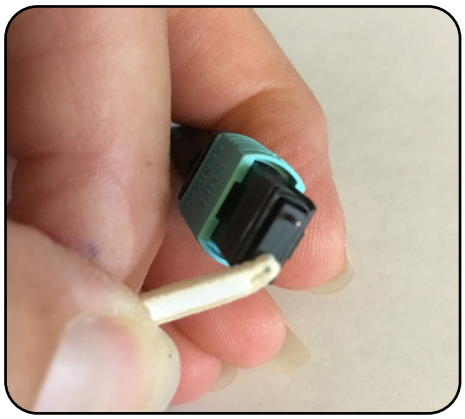
- Lightly touch short side of the MTP/MPO Connector Swab to the wetted area (3-5 secs) to absorb some cleaning solution (DO NOT over saturate the swab).

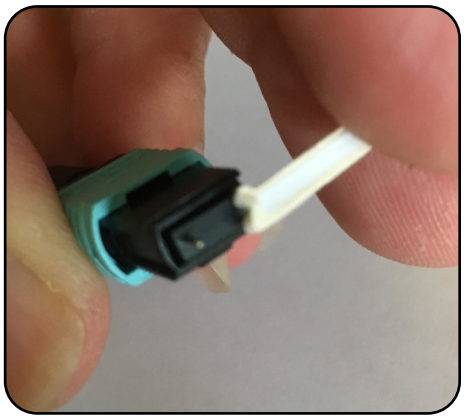


- Wipe connector areas to be cleaned, sliding pad from bottom of pad across and forward to tip of swab, from 1 side to the other, turn over and use long side to dry in same movement.



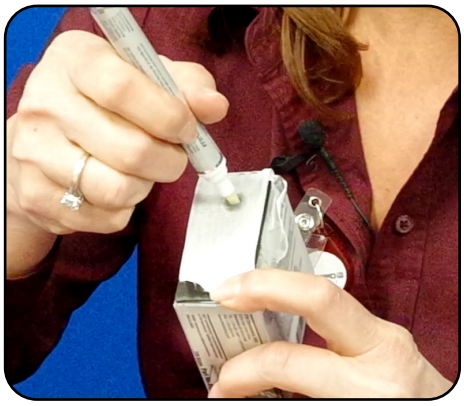
- Use the hole on end of pad to clean one alignment pin, then press the end of the swab into the other pin to clean.
- Check your work with a fiber scope. This can take several attempts to get the endface clean.



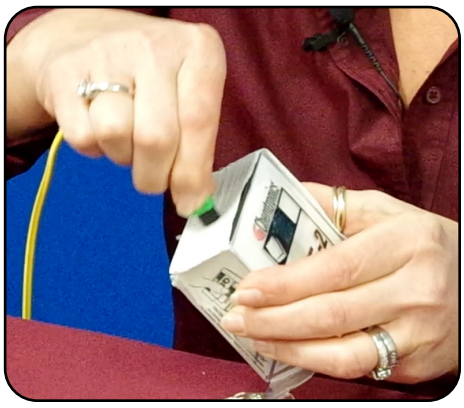


Female Connector (without pins)

- Cleaned like a single fiber connector, using a cleaning platform. The receptacles will be cleaned as long as you are using a combination cleaning process as recommended.
- Again, using a platen, moisten the platen with cleaning solvent on one end to accommodate 3 swipes of the MPO female endface.

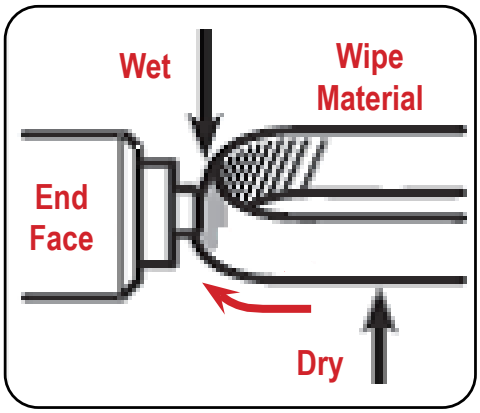


- Holding the connector (If APC, slightly at an angle to accommodate for 8° angle) swiping with medium pressure, from the wet area into the dry area 3 times, without wiping over previous area.
- Inspect, and if clean, make the connection. If NOT, repeat above steps until clean or if determined that the end face is damaged (based on standards of 5 cleanings per connection), replace.

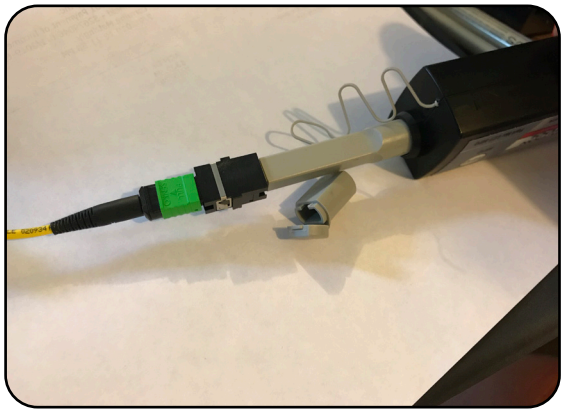


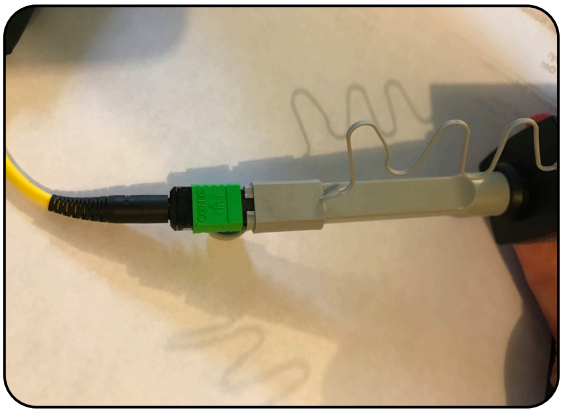
Cleaning Using a Probe-Style Cleaning Tool

- The probe style cleaning tools are capable of cleaning a connector end face separately or through the adapter.
- Slightly engage probe by pulling back but do not allow to click. Lightly "spot" a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, this will help alleviate "over saturation" of the material.
- Lightly touch the tip of probe and release.



- Insert connector or insert probe though adapter and click 2-3 times to move past the wet area and allow material to dry wipe.





- Inspect connector, repeat if necessary (following standards)
- If cleaning a male connector, clean the pins (see above)

Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein. Product purchased is warranted as follows: Clearfield designed and branded Products are warranted for three (3) years: Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year; and any Product Clearfield acquires from or through a third-party manufacturer or distributor and resells to Customer as the original customer will carry the manufacturer's pass-through warranty, if any. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

1. Customer must contact Clearfield and obtain a Return Materials Authorization
2. Following authorization, the Customer ships the product-freight collect-to Clearfield's manufacturing facility
3. Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid

Note: If the Product is not found to be defective by Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

View our warranty policy here: https://www.seeclearfield.com/warranty.html

Limitations of Warranty

Correction of defects by repair or replacement, at the option of Clearfield Inc, shall constitute the exclusive sole remedy for a breach of this limited warranty. Clearfield shall not be liable under any circumstances for any special, consequential, incidental, punitive, or exemplary damages arising out of or in any way connected with the product or with agreement to sell product to buyer, including, but not limited to damages for lost profits, loss of use, or for any damages or sums paid by buyer to third parties. The foregoing limitation of liability shall apply whether the claim is based upon principles of contract, warranty, negligence or other tort, breach of statutory duty, principles of indemnity or contribution, the failure of any limited or exclusive remedy to achieve its essential purpose, or otherwise.

Clearfield will not be responsible for any labor or materials costs associated with installation or incorporation of Clearfield products at customer sites, including any costs of alteration, replacement or defective product, or any field repairs.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1. Customer's modification of Product, excepting installation activities described in Clearfield documentation
2. Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged
3. Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation
4. Customer's improper or negligent use or application of Product
5. Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield
6. Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product

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Its purpose is to provide the user with adequately detailed documentation to efficiently install the equipment supplied. Every effort has been made to keep the information contained in this document current and accurate as of the date of publication or revision.

However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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