

# FieldShield FLATdrop

## Installation Manual

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### Application

FLATdrop options designed to save contractors and installers time and space in almost any deployment environment. The peelable outer sheath of FieldShield FLATdrops allow for easy access to the inner fiber elements (either 3mm or 900um) and each offer a large selection of connector types in a pre-connectorized solution while allowing for up to 100 feet of compact fiber slack storage. Clearfield's suite of flat drop solutions effectively meet the unique needs of your network deployment.

The FieldShield FLATdrop suite offers the first pre-connectorized flat drop style cable to provide hardened environmental performance on a peelable flat drop style cable without the added cost or dependency on the market's existing bulky connector. Connectivity to access terminals is achieved through the innovative FlexConnector, which snaps into the FlexPort, providing an air-tight and water-tight connection.



### Description

The FieldShield FLATdrop suite offers the first pre-connectorized flat drop style cable to provide hardened environmental performance on a peelable flat drop style cable without the added cost or dependency on the market's existing bulky connector. Connectivity to access terminals is achieved through the innovative FlexConnector, which snaps into the FlexPort, providing an air-tight and water-tight connection.

### Technical Specifications

	Standard Flat Drop	FieldShield Peelable FLAT-drop (With and Without Rip Cords)	FieldShield Peelable Small Form Factor FLATdrop
Coil Diameter	12"	12"	8"
Slack Footprint of Sub-Unit	N/A	100ft	100+ ft
Sheath Jacket Dims	8.3mm x 4.7mm	8.3mm x 4.7mm	5.4mm x 3mm
Sub-Unit	250µm	3mm	900µm
Connector Types	SC/APC, SC/UPC, HFOC	SC/APC, SC/UPC, HOFC, Pushable	SC/APC, SC/UPC, HOFC, Pushable
Deployment Environment	Aerial, Buried, Conduit	Aerial, Buried, Conduit	Aerial, Buried, Conduit

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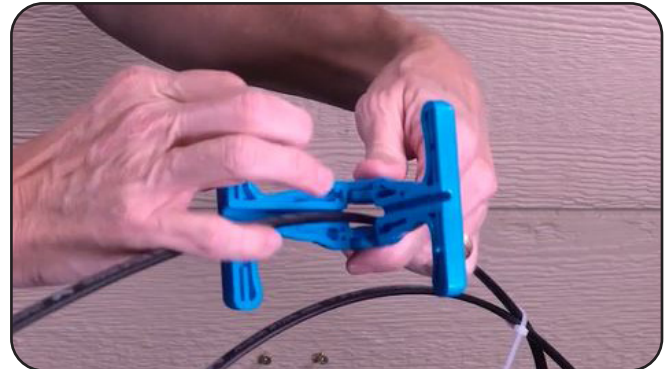
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### Opening Standard Flat Drop

#### Without Rip Cords

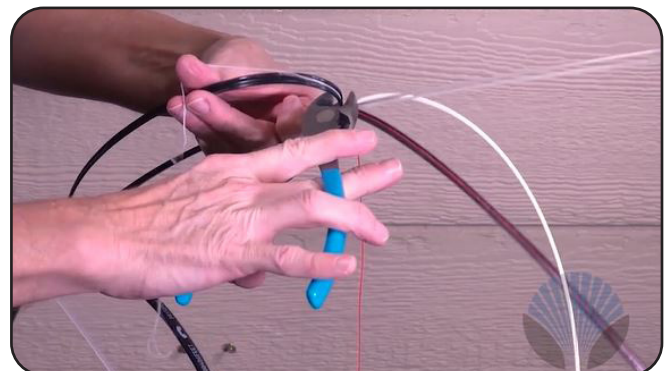
1. Determine the amount of cable to be opened and enclose your side cutting tool around the cable.



2. Pull the cutting tool along the length of the cable until you reach the end of the jacket.



3. Isolate the internal subunit from the jacket and strength members. Cut away the excess jacket and strength members.

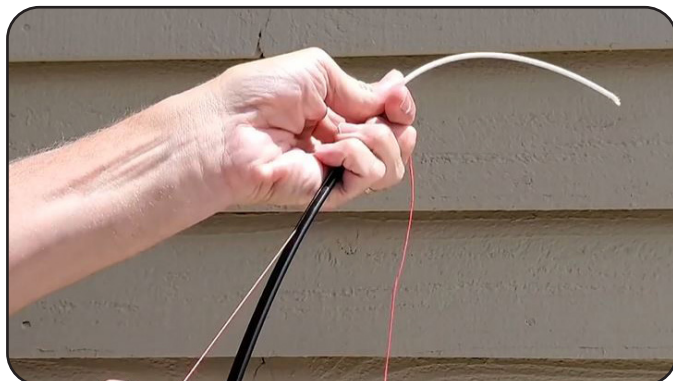


### With Rip Cords

1. From the end of the cable, determine the length of cable to be opened. Using a side cutting tool or blade, remove approximately 6 inches of jacket to expose the rip cords.



2. Tightly grip the rip cord and pull straight back along the length of the cable.



3. Repeat on the other side to fully open the desired length of cable. Cut away excess jacket, rip cords and strength members.





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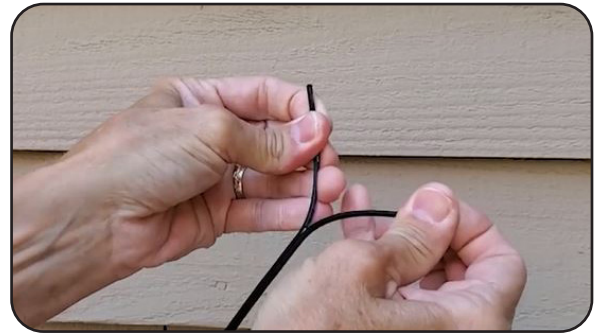


### Opening 900um Peelable FLATdrop

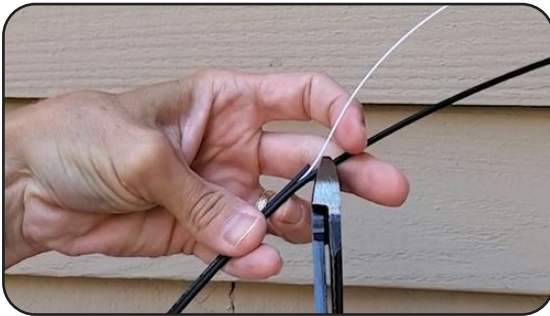
1. Using a clipping tool, clip the ends of the cable at the peelable seams on each side, taking care not to cut the internal subunit.



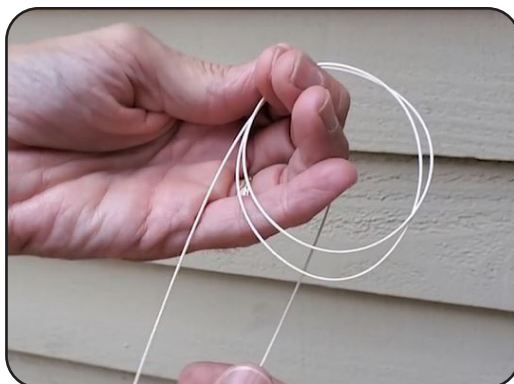
2. Pull the two jacket halves apart, opening the cable to the desired length.



3. Cut away excess material.



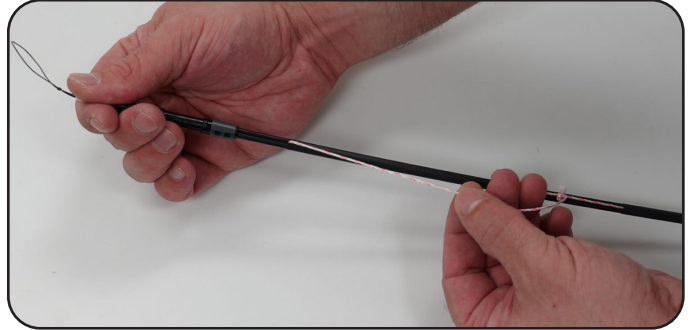
4. The 900 micron sub-unit slack can then be wound onto slack reel for storage.



### Pre-Connectorized SFF FLATdrop

Once the SFF Single-fiber assembly has been pulled to the desired location, you are ready to remove the pulling bullet protecting the end of the fiber.

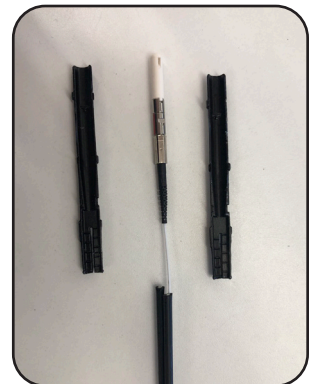
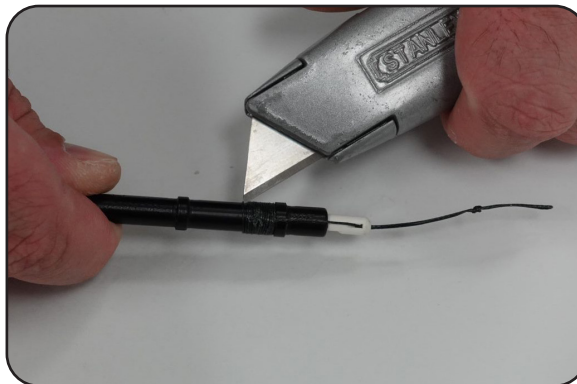
1. If present, pull the rip cord through the two sections of heatshrink along the length of the SFF. Cut the loop at the back of the rip cord and discard.



2. Using a sidecutters or similar tool, snip the tabs on the retainer clip at the back of the SFF pulling bullet and remove the clip.



3. Cut the pull string wrapped around the front end of the bullet to separate the halves of the bullet from the SFF.



4. Expose the desired amount of fiber by separating the two strength members, then trim the strength members to length.
5. Slide connector onto pin, guide 900um thru finger turn slot of reel, then wind excess while guiding cable with the other hand. Be careful not to pinch 900um fiber behind slack reel when locking reel into place.

**Note:** Once the halves of the pulling bullet are removed, handle the fiber gently, making sure it doesn't catch on the ends of the strength members.

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### Field Installable FlexConnector - SFF

1. Open your cable to the desired breakout length.



2. Place both pieces of heatshrink over the end of the cable, and push them down out of the way of the end of the jacket. These will be utilized later to seal the FlexConnector.



3. Place the two halves of the internal retaining clips around the end of the cable jacket, with the end of the clips even with the end of the cable jacket.



4. Using a pliers, squeeze the two retaining clips together to ensure the teeth bite into the jacket.





5. Slide the FlexConnector over the end of the cable and down to the two retaining clips.



6. Align the holes in the FlexConnector with the retainer clips and snap it into place.



7. Position the smaller, 5/16", heatshrink just inside the back portion of the retainer clips and shrink using a heat gun.

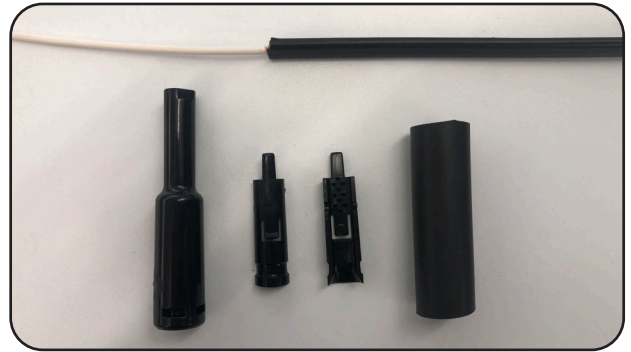


8. Slide the 3" piece of heat shrink tubing, covering the holes on the FlexConnector (no further than 1/4" past holes and not past the indented ring) and heat to shrink.



### Field Installable FlexConnector - Standard FLATdrop

1. Open your cable to the desired breakout length.



2. Place the pieces of heatshrink over the end of the cable, and push them down out of the way of the end of the jacket. These will be utilized later to seal the FlexConnector.



3. Place the two halves of the internal retaining clips around the end of the cable jacket, with the end of the clips even with the end of the cable jacket.



4. Using a pliers, squeeze the two retaining clips together to ensure the teeth bite into the jacket.



5. Slide the FlexConnector over the end of the cable and down to the two retaining clips.



6. Align the holes in the FlexConnector with the retainer clips and snap it into place.



7. Slide the 3" piece of heat shrink tubing, covering the holes on the FlexConnector (no further than 1/4" past holes and not past the indented ring) and heat to shrink.



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### Placing FLATdrop MPO and Single-Fiber Assemblies

#### -Before starting:

- Do a visual inspection of the cable
- Remove the corrugated tubing
- Place assembly into pull tool

#### -DO NOT ASSEMBLE THE CONNECTOR

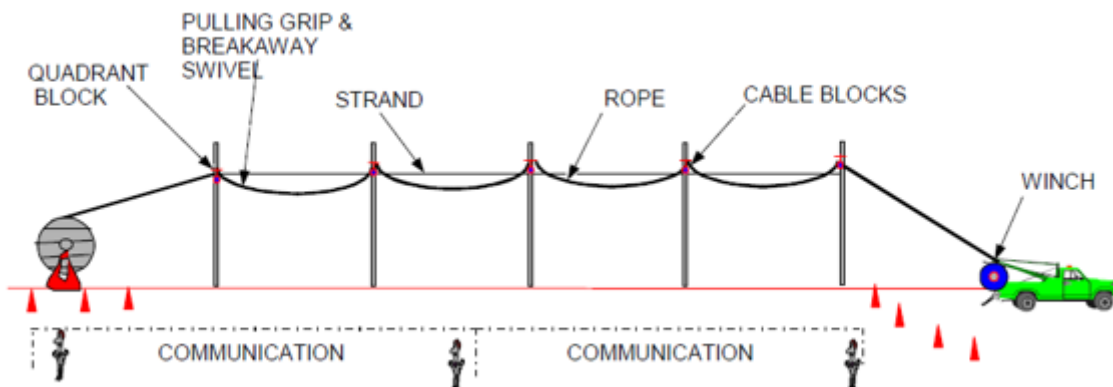
-Use pulling tool for pulling through conduit

-Aerial placing utilizing the stationary reel method.

- Place temporary cable blocks
- Utilize the Clearfield pulling tool
- Lash toward reel
- Slack storage per local practice

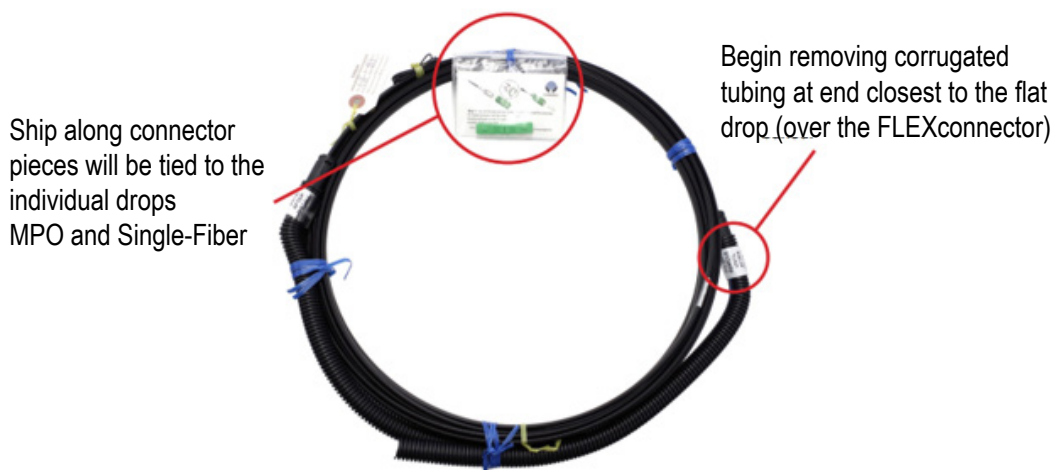


FLATdrop Pulling Tool  
P/N: FS-PUL-YOURX



When placing a FLATdrop with an assembly (MPO or Single-Fiber) cables be sure to utilize the pulling tool. Failure to do so could damage the assembly and render the cable useless.

First, remove cable ties from corrugated tube. Then, starting at the FLEXconnector end of tubing, unwrap the tubing to expose the FLEXConnector and then **gently** pull the assembly free from the tubing. Do not yank it from the tubing.



Note: DO NOT assemble the connector prior to pulling/placing fiber.

The FS-PROTECT-TOOL can be used to protect the YOURx breakout during deployment, when a pulling line is not required.



FS-PROTECT-YOURX

### Pulling SFF assemblies using the FS-PUL-5-9MM

When performing pulls of above 50lbs, Clearfield recommends using the FS-PUL-5-9MM instead of the pulling bullet. Take care to fully seat the cable into the sock, feeding the cable all the way until it reaches the end.





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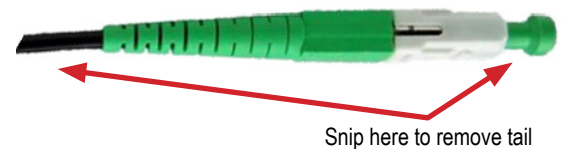


### Pulling FLATdrop MPO and Single-fiber assemblies using the FS-PUL-YOURX



FS-PUL-YOURX

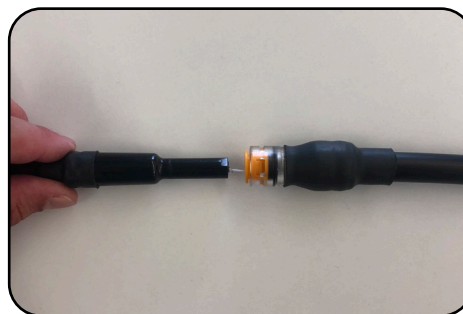
If using a single-fiber connector, prior to inserting into the pulling tool, snip off the dust cap “tail” close to the back edge of the dust cap and at the cap itself to remove it from the cable. Do **not** remove the dust cap.



Insert the bullet for MPO assembly or the single-fiber connector gently, holding onto the boot/crimp tube. Do not push the bullet into the pulling tool using the cable sheath or fiber damage could occur.



Gently slide the single-fiber/ MPO assembly connector into the coupler on the pulling tool until the coupler has engaged the FLEXconnector at a hard stop.



You are now ready to pull the FLATdrop to its desired location. Tie the pulling device to the carrot on the end of the pulling tool. Clearfield recommends a max pulling force of 50 lbs

When you have reached to desired location, compress the ring holding the FlexConnector to release it. **Gently** pull the FLEXconnector from the coupler along with the assembly.

**Note:** Do not yank it out of the pulling tool or fiber damage may occur.

### 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.

### 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 1



Figure 2



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**)

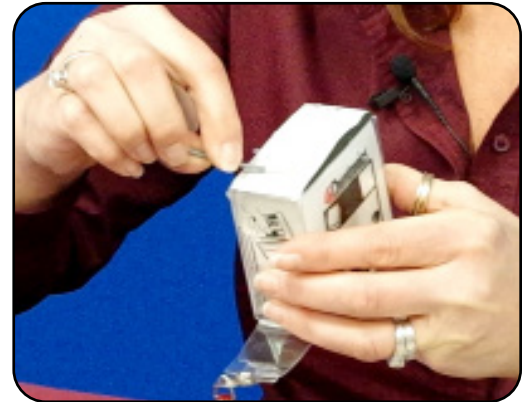


Figure 4

- 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**)

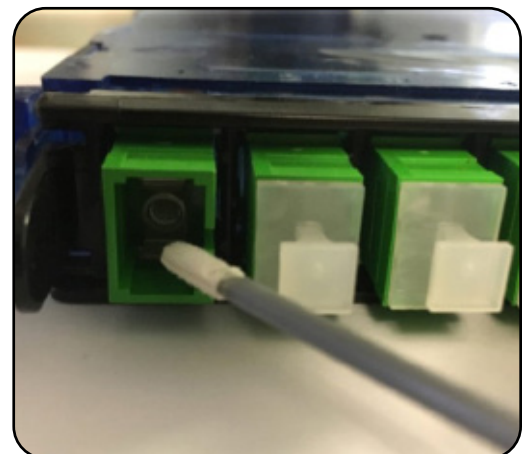


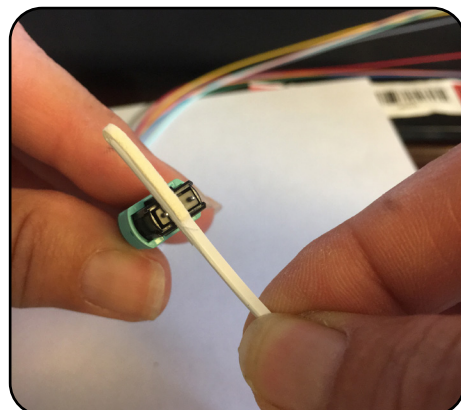
Figure 6



### 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.

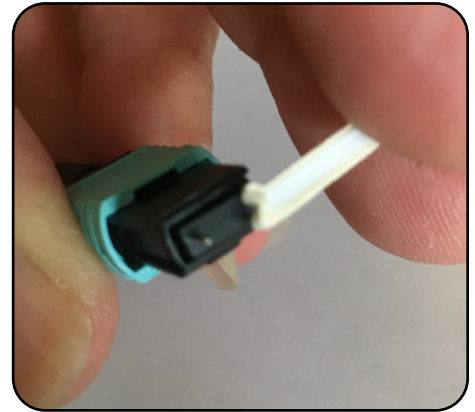
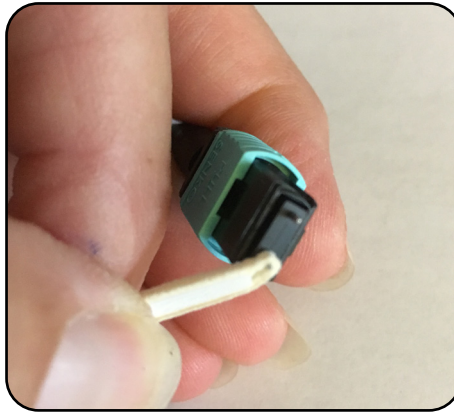


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- Use the hole on end of pad to clean one alignment pin, then press the end of the swab into the other pin to clean.
- Check your work with a fiber scope. This can take several attempts to get the endface clean.



### Female Connector (without pins)

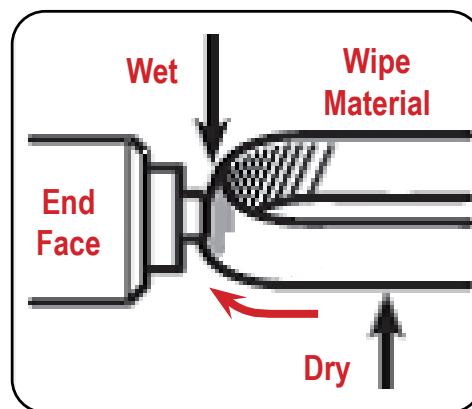
- Cleaned like a single fiber connector, using a cleaning platform. The receptacles will be cleaned as long as you are using a combination cleaning process as recommended.
- Again, using a platen, moisten the platen with cleaning solvent on one end to accommodate 3 swipes of the MPO female endface.
-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



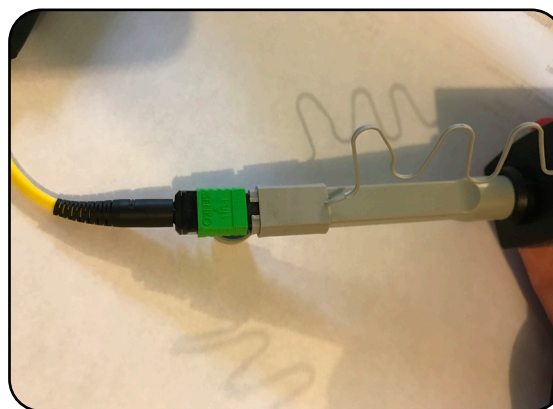


### Cleaning Using a Probe-Style Cleaning Tool

- 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 through 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)

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### 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



# FieldShield FLATdrop

## *Installation Manual*

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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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