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FG26995A01

# LC Crimp & Cleave Fiber Optic Connectors for 2.2mm Jacketed Polymer Coated Fiber (PCF) Cable

Part Numbers: FLCSHMIG, FLCDHMIG

INSTALLATION INSTRUCTIONS **FS036B** © Panduit Corp. 2012

## READ ALL INSTRUCTIONS COMPLETELY BEFORE PROCEEDING

# COMPONENT IDENTIFICATION

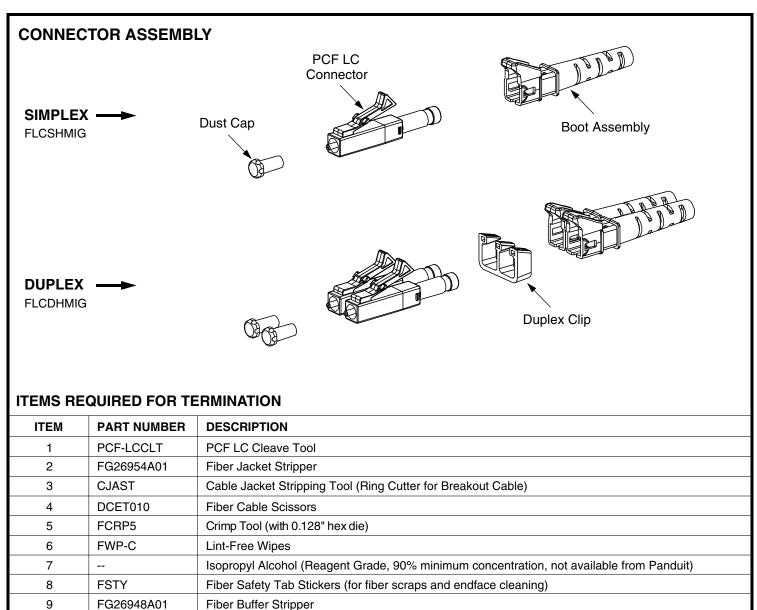


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Fiber Conditioning Rod

For Technical Support: www.panduit.com/resources/install\_maintain.asp

# **SAFETY PRECAUTIONS**

#### 1. SAFETY GLASSES

WARNING: IT IS STRONGLY RECOMMENDED THAT SAFETY GLASSES BE WORN WHEN HANDLING BARE OPTICAL FIBER. THE BARE FIBER IS VERY SHARP AND CAN EASILY DAMAGE THE EYE.



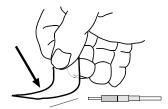
#### 2. ISOPROPYL ALCOHOL

WARNING: ISOPROPYL ALCOHOL IS FLAMMABLE. CONTACT WITH THE ALCOHOL CAN CAUSE IRRITATION TO THE EYES. IN CASE OF CONTACT WITH THE EYES, FLUSH WITH WATER FOR AT LEAST 15 MINUTES. ALWAYS USE ISOPROPYL ALCOHOL WITH PROPER LEVELS OF VENTILATION. IN CASE OF INGESTION, CONSULT A PHYSICIAN IMMEDIATELY.



#### 3. DISPOSAL OF BARE FIBERS

WARNING: PICK UP AND DISCARD ALL PIECES OF BARE FIBER WITH STICKY TABS. DO NOT LET CUT PIECES OF FIBER STICK TO CLOTHING OR DROP IN THE WORK AREA WHERE THEY ARE HARD TO SEE AND CAN CAUSE INJURY.



#### 4. LASER LIGHT PROTECTION

LASER LIGHT IS INVISIBLE. THE INVISIBLE LIGHT IS POWERFUL ENOUGH TO DAMAGE YOUR EYES. SERIOUS DAMAGE TO THE RETINA OF THE EYE IS POSSIBLE. NEVER LOOK INTO THE END OF A FIBER WHICH MAY HAVE A LASER COUPLED INTO IT. SHOULD ACCIDENTAL EYE EXPOSURE TO LASER LIGHT BE SUSPECTED, ARRANGE FOR AN EYE EXAMINATION IMMEDIATELY.



#### 5. CABLE HANDLING

WARNING: FIBER OPTIC CABLE CAN BE DAMAGED BY EXCESSIVE PULLING, TWISTING, CRUSHING OR BENDING STRESSES. CONSULT THE APPROPRIATE SPECIFICATION SHEETS AS PROVIDED BY YOUR CABLE VENDOR. ANY DAMAGE MAY DECREASE OPTICAL PERFORMANCE.



# 2.2mm Jacketed PCF Cable Termination

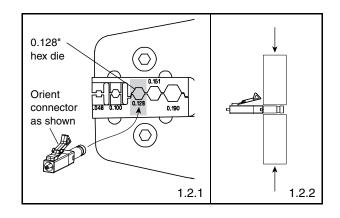
# 1. Load Connector into Crimp Tool

## 1.1 Remove Dust Cap

1.1.1 Remove dust cap from PCF LC Connector.

#### 1.2 Load / Orient Connector

- 1.2.1 Orient connector with connector latch in upward position as shown. Open the crimp tool die set and insert rear metal portion of connector into 0.128" hex die pocket of FCRP5 Crimp Tool.
- 1.2.2 Tighten crimp tool to hold connector securely in hex die. DO NOT compress beyond one audible detent after compression begins.
- 1.2.3 Set pre-loaded tool aside for later use.



## 2. Prepare Cable

### 2.1 Apply Boot

2.1.1 Slide boot assembly onto cable.

## 2.2 Strip Jacket

2.2.1 Using "2.0 - 2.4mm OJ" die of Fiber Jacket Stripper, strip off approximately 2" of jacket from the fiber cable.

## 2.3 Buffer Pre-conditioning

Polymer coated fiber is covered with a 500µm OD layer referred to as buffer.

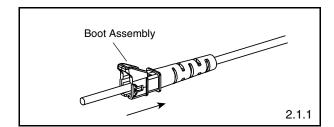
2.3.1 Buffer is to be pre-conditioned to reduce potential damage to the fiber coating during the stripping process. This helps to separate the buffer from the fiber coating. To pre-condition the fiber, tightly wrap the entire 2" length of buffered fiber around the preconditioning rod.

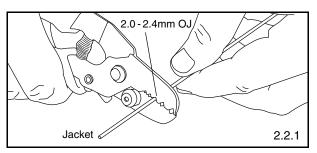
### 2.4 Strip Buffer

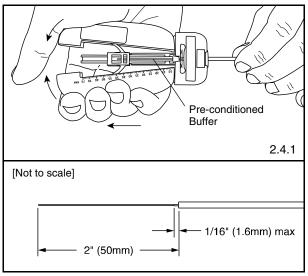
2.4.1 Insert pre-conditioned buffered fiber through guide tube of fiber buffer stripper until the jacket bottoms out. Hold cable firmly, squeeze handles to cut buffer, and pull quickly and straight to remove the buffer.

Note: Buffer should be removed as close to cable jacket as possible. Buffer should not protrude by more than 1/16" (1.6mm) from end of cable jacket.

Note: Inspect fiber for damage from improper buffer stripping. (i.e. white dusty white). If damage is visible, cut off the damaged fiber and repeat from step 2.2.1.



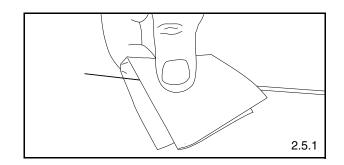




#### 2.5 Clean Fiber

2.5.1 Clean polymer coated fiber using an isopropyl alcohol soaked lint-free wipe.

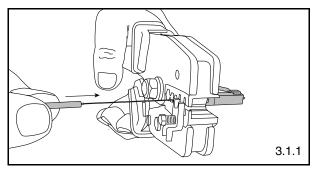
Note: To avoid contamination, DO NOT touch fiber after cleaning. Avoiding contact with the fiber will prevent finger oils from contaminating the glass fiber and eventually the gripper pads. Contaminated gripper pads will slide along the fiber when the tool attempts to apply and hold tension during the cleaving cycle.



## 3. Insert Fiber and Crimp

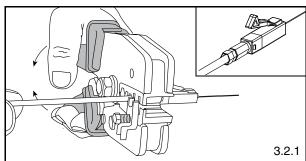
#### 3.1 Insert Fiber

3.1.1 With crimp tool in one hand loaded with PCF LC connector per step 1.2, insert fiber into rear metal portion of connector until jacket bottoms out.



## 3.2 Crimp Fiber

3.2.1 While holding fiber jacket in place, crimp connector completely. Rear metal portion of connector should be hexagonal in shape and tightly gripping both jacket and fiber after crimping.



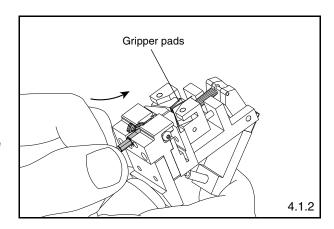
## 4. Cleave Fiber

#### 4.1 Insert Connector

- 4.1.1 Carefully insert connector into cleave tool while ensuring the fiber is located between the gripper pads. To help prevent fiber breaks, DO NOT angle the fiber drastically while inserting into the tool.
- 4.1.2 Slowly slide the connector into place by holding the rear metal portion of connector while aligning the ferrule to the hole of the cleave tool until it is fully inserted.

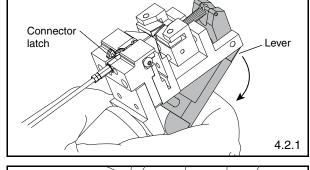
Note: Insert connector with minimal left to right movement. Variation can cause fiber damage resulting in a visible long protrusion. If fiber gets damaged prior to cleave, cut off connector and repeat from step 2.2.1.

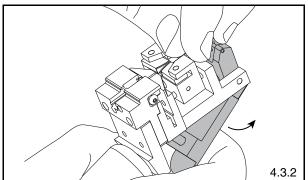
4.1.3 Make sure connector is FULLY SEATED with the connector latch snapped in place and fiber is located between gripper pads.



#### 4.2 Cleave Fiber

4.2.1 DO NOT hold connector during cleave. To prevent fiber protrusions, refrain from holding the latched connector during the cleave process. DO NOT pull on the cable or let cable weight pull on the connector. Hold cleave tool with connector side up and SLOWLY press lever (3-5 sec) to cleave fiber. Supporting the cable prevents potential damage to the tool. To prevent fiber scrap from retracting onto ferrule end face, DO NOT release lever at this step. Note: The slow actuation of the trigger is critical. In order for the diamond blade to do its job as a flaw initiator, the tool operator must depress the trigger slowly (3-5 sec). Depressing the trigger too quickly will crash the diamond into the glass fiber and





## 4.3 Remove Connector and Fiber Scrap

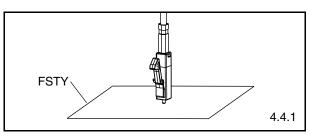
may break the blade.

- 4.3.1 With cleave tool lever still depressed, unlatch and remove connector from cleave tool.
- 4.3.2 Release lever and remove fiber scrap.

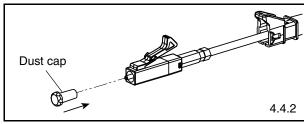
  Note: Removing the connector before releasing the lever allows the blade to return to its correct position without contacting the fiber scrap.

## 4.4 Apply Dust Cap and Install Boot Assembly

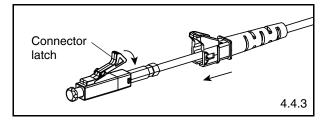
4.4.1 Do not touch ferrule endface after cleaving. If endface becomes contaminated, clean by pressing onto adhesive side of FSTY tape. Multiple cleaning cycles may be required.



4.4.2 Apply dust cap onto ferrule.

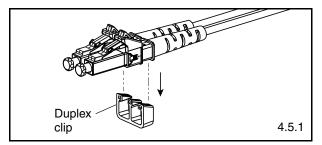


4.4.3 Fully deflect connector latch and slide boot assembly, applied to cable in step 2.1, onto connector until it snaps into place over the latch.



### 4.5 Attach Duplex Clip (Optional)

4.5.1 For each PCF LC connector, insert square portion of boot assembly into the top opening of duplex clip.



# **Cleave Tool Cleaning and Maintenance**

## 5. Cleaning and Maintenance

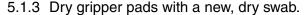
The cleave tool contains movable parts, wear items, and a diamond blade that require regular maintenance or replacement in order to perform properly. Damage can result if recommended procedures are not followed.

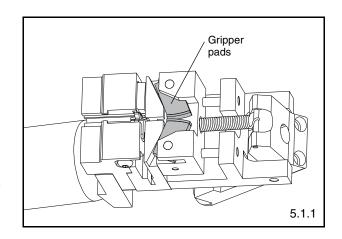
## 5.1 Clean the gripper pads

- 5.1.1 If the gripper pads have any dirt or oil residues on them, the pads will likely slip along the fiber, preventing the correct tension from being applied. The gripper pads and diamond blade should be cleaned after every 50 cleaves, or more frequently if slippage is detected. Use the Cleave Tool Cleaning Kit (Part No.: CA32512A01) which contains the appropriate cleaning solvent and cleaning swabs.
- 5.1.2 With moistened swab, clean gripper pads. (Use only cleaning solution recommended.)

Never use isopropyl alcohol to clean the gripper pads. Isopropyl alcohol will deteriorate the gripper pad material.

Never insert any tools, brushes, or swabs other than those recommended in the Cleave Tool Cleaning Kit in the area of the diamond blade due to risk of damaging the diamond.



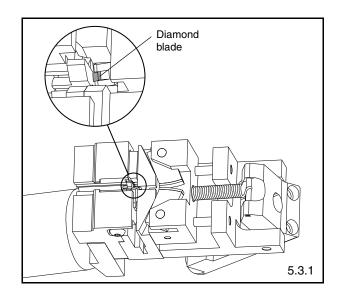


### 5.2 Replace worn gripper pads

5.2.1 The gripper pad material is a wear item on the tool. Over time a noticeable groove wears into the pad material where it grabs onto the glass fiber. When this groove is visible, the pads need to be replaced. Send tool to Panduit for service.

#### 5.3 Clean the diamond blade

5.3.1 Clean diamond blade with swab moistened with cleaning solution.



# **Buffer Stripper Cleaning and Maintenance**

## 6. Buffer Stripper Blade Replacement

#### 6.1 Remove installed blades

- 6.1.1 Using flat end of push tool, remove fiber guide lock by pushing out from the back side of tool head.
- 6.1.2 Remove fiber guide from tool.
- 6.1.3 Using prong end of push tool in small holes on back side of tool head, eject blade set.

IMPORTANT! Do not remove cutter blades while fiber quide is still in tool.

#### 6.2 Install new blades

(Furnished in a matched set for blade precision. Snap apart before installation.)

- 6.2.1 Install with "ears" pointing toward top of tool and recess marks visible. Push firmly with flat end of push tool until both blades are seated.
- 6.2.2 Insert fiber guide through hole in top of tool until it stops.
- 6.2.3 Insert fiber guide lock through slot in front of tool head.

Note: Blades are color coded and matched to diameter and color of fiber guide lock. Replace or install fiber guide and fiber guide lock as needed. Always test strip fiber or cable after installing new blade set. Remove blades periodically and clean with brush provided and alcohol.

# 7. Buffer Stripper Cleaning

## 7.1 Blade Cleaning

- 7.1.1 Blade cleaning should be performed, with the blades still mounted in the tool, after every 10 to 20 uses. Clean between stripping blade halves with the spiral cleaning brush provided with each tool. The brush should be dipped in isopropyl alcohol to ensure that any debris is dislodged and flushed. Dry blade area with clean air if available (Note: Blades may also be cleaned with dry brush after each strip if desired, followed by daily cleaning procedures as described above). A periodic (i.e., after every 100 strip operations) cleaning process should be performed involving the removal of the blades from the tool. With the blade-assembly tool provided with each stripper, remove both blades by first removing the color-coded tube lock/blade size-indicator with the shovel end of assembly tool; then, with the pronged end, line up & insert into holes in rear of handle head and eject stripping blades from tool.
- 7.1.2 If after repeated successful strips the fiber breaks during the stripping operation, take blades out of tool and clean thoroughly. Insert blade set back into tool and resume stripping. If fiber continues to break, blades are in need of replacement.
- 7.1.3 The use of wrong sized blades or coating guides may result in poor stripping quality or damage to the glass fiber.
- 7.1.4 Stripping blades are matched in pairs right and left. Note: do not mix blade halves. Changing of a single blade half may result in poor stripping quality or damage to the glass fiber.



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