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# Installation Guide for the TKT-UNICAM-PFC Tool Kit with FBC-007 Cleaver

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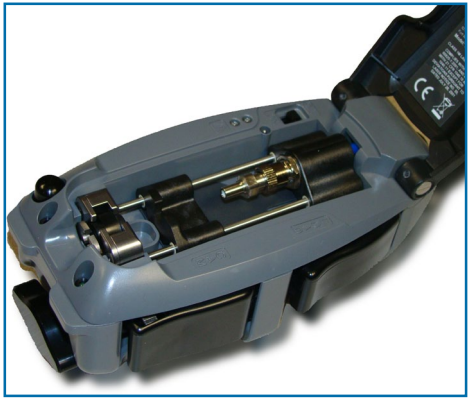

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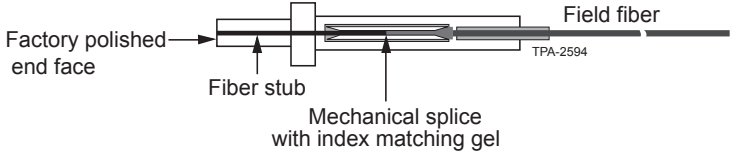
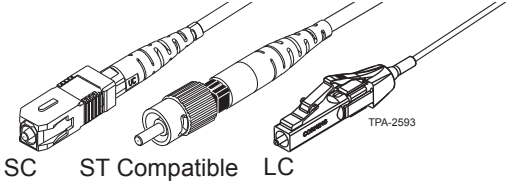
## Introduction

This manual describes how to assemble Corning Cable Systems UniCam® LC, SC, and ST® Compatible connectors. This document describes installation of both multimode and single-mode connectors.




Please become familiar with the entire manual before starting to assemble a connector.

Visit www.corning.com/cablesystems/unicam for more information and videos showing this procedure.

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## Safety Precautions

### Optical Fiber Precautions

| | |
|---|---|
| | **WARNING:** Cleaved or broken glass fibers are very sharp and can pierce the skin or damage the eyes easily. Do not let pieces of fiber stick to your clothing or drop in the work area where protect your eyes. Use tweezers to pick up pieces of fiber and place them on a loop of tape kept for that purpose alone. Good housekeeping is very important. |

### Chemical Precautions

| | |
|---|---|
| | **CAUTION:** Fiber Optic Cleaning Fluid can cause irritation to eyes on contact. In case of eye contact, immediately flush eyes with water for at least 15 minutes. Inhaling fumes may be harmful. Use with adequate ventilation. In case of ingestion, consult a physician. |

### Laser Handling Precautions

| | |
|---|---|
| | **WARNING:** **Never look directly into the end of a fiber that may be carrying laser light.** Laser light can be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately. |

### Safety Glasses Precautions

| | |
|---|---|
| | **CAUTION:** Recommend the use of safety glasses (spectacles) conforming to ANSI Z87, for eye protection from accidental injury when handling chemicals, cables, or working with fiber. Pieces of glass fiber are very sharp and have the potential to damage the eye. |

## Laser Safety

The High-Performance UniCam® Installation tool conforms to the requirements contained in IEC 60825-1:1993 plus Amendments 1:1997 and 2:2001. Pmax < 1.0 mW, λ=635nm

LASER LIGHT

DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS (MAGNIFIERS).

CLASS 1M LASER PRODUCT

**CAUTION:** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

## Cable Handling Precautions

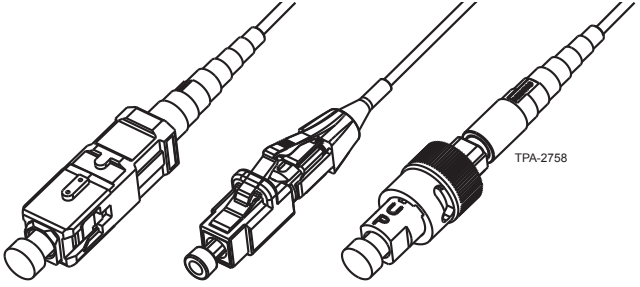
**NOTE:** Fiber optic cable is sensitive to excessive pulling, bending, and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend the cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. 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.

For additional safety information, please visit www.corning.com/cablesystems/safety.

# 1. GETTING STARTED

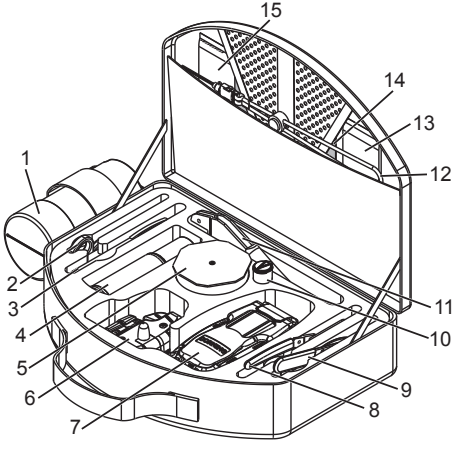
## 1.1. General

Please become familiar with the appropriate sections of this manual before starting to install a connector.




## 1.2. High-Performance UniCam® Tool Kit Contents

Table 1 describes the contents of the Corning Cable Systems High-Performance UniCam® Tool Kit.




| Number | Item | Part Number |
|---|---|---|
| 1 | UniCam Tool Kit Trash Container | 2104498-01 |
| 2 | Scissors | 100294-01 |
| 3 | Retractable Black Permanent Marker | 2104499-01 |
| 4 | Fiber Optic Cleaning Fluid | FCC-CLEANER-FIBER |
| 5 | Fiber Wipes | FCC-WIPES |
| 6 | High-Performance Cleaver | FBC-007 |
| 7 | High-Performance UniCam Installation Tool | TL-UCP |
| 8 | Cable Jacket Stripping Tool | 3206001-01 |
| 9 | Dual-hole Stripping Tool | 2104502-01 |
| 10 | 1.25 mm Ferrule Adapter | VFL-A125 * |
| 11 | UniCam Crimp Tool | 3201007-01 |
| 12 | Lanyards (2) | 02-002853-001 |
| 13 | Cleaning Stick - Size 1.25 mm | CLEAN-STICKS-125 |
| 14 | Strip Length Gauge | 02-001757-001 |
| 15 | Cleaning Stick - Size 2.5 mm | CLEAN-STICKS-250 |
| Not Shown | Installation Instructions for SC, LC, ST® Compatible Connectors | 006-369 |
| Not Shown | 2.5 mm Ferrule Adapter (ships in the Installation Tool) | VFL-A250 * |

* Order both Ferrule Adapters by referencing VFL-AKIT

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## 1.3. Compatible Connectors and Ordering Information

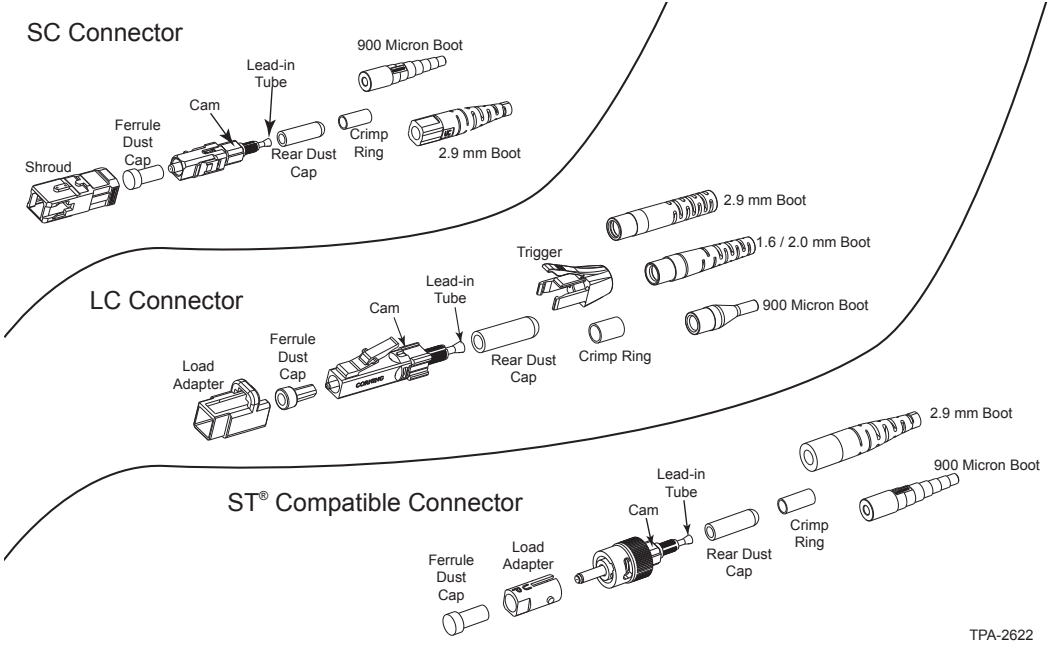
| | Part Number | Description |
|---|---|---|
| SC | 95-000-40 | SC Standard Performance Multimode (OM1) |
| | 95-000-41 | SC High Performance Multimode (OM1) |
| | 95-050-40 | SC Standard Performance Multimode (OM2) |
| | 95-050-41 | SC High Performance Multimode (OM2) |
| | 95-050-41-X | SC High Performance Multimode (OM3, OM4) |
| | 95-200-41 | SC Single-Mode UPC (OS2) |
| | 95-200-44 | SC Single-Mode APC (OS2) |
| ST® Compatible | 95-000-50 | ST Compatible Standard Performance Multimode (OM1) |
| | 95-000-51 | ST Compatible High Performance Multimode (OM1) |
| | 95-050-50 | ST Compatible Standard Performance Multimode (OM2) |
| | 95-050-51 | ST Compatible High Performance Multimode (OM2) |
| | 95-050-51-X | ST Compatible High Performance Multimode (OM3, OM4) |
| | 95-200-51 | ST Compatible Single-Mode UPC (OS2) |
| LC | 95-000-99 | LC High Performance Multimode (OM1) |
| | 95-050-99 | LC High Performance Multimode (OM2) |
| | 95-050-99-X | LC High Performance Multimode (OM3, OM4) |
| | 95-200-99 | LC Single-Mode UPC (OS2) |

**NOTE:** To order an organizer pack containing 25 connectors, add –Z to desired part number above (e.g., 95-000-50-Z)

Keyed LC solutions are also available. Visit www.corning.com/cablesystems and enter “LAN-701-EN” into the search engine for detailed information.

### 1.3.1 Components

Each UniCam® connector package contains the parts shown in this section of the manual.




**NOTE:** Organizer packs only include materials for 900 micron termination.

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# 2. OVERVIEW OF INSTALLATION TOOLS

This chapter provides an overview of the tools required for installing SC, LC, and ST® Compatible UniCam® connectors.

## 2.1. High-Performance UniCam Installation Tool

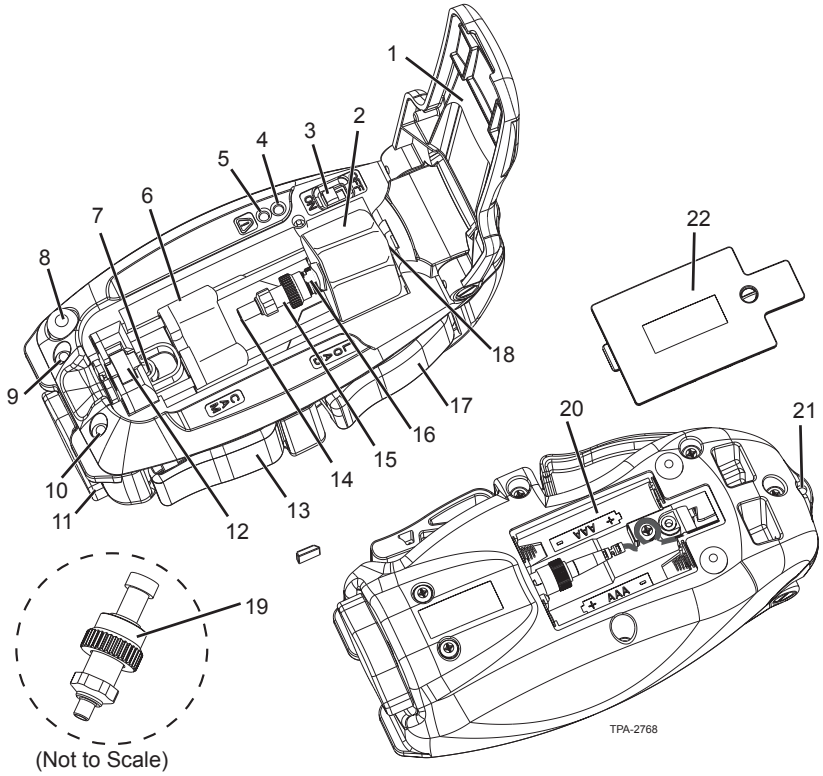
### 2.1.1 General

This section describes the components of the High-Performance UniCam Installation Tool.

**NOTE:** With the exception of the Ferrule Adapter, this tool operates independent of the connector or fiber type. SC and ST Compatible connectors require use of the 2.5 mm adapter and LC connectors require the 1.25 mm adapter.

Please read through this entire chapter before using the installation tool to install UniCam connectors. Refer to Chapters 3, 4, and 5 for complete operating instructions.

### 2.1.2 Features and Components



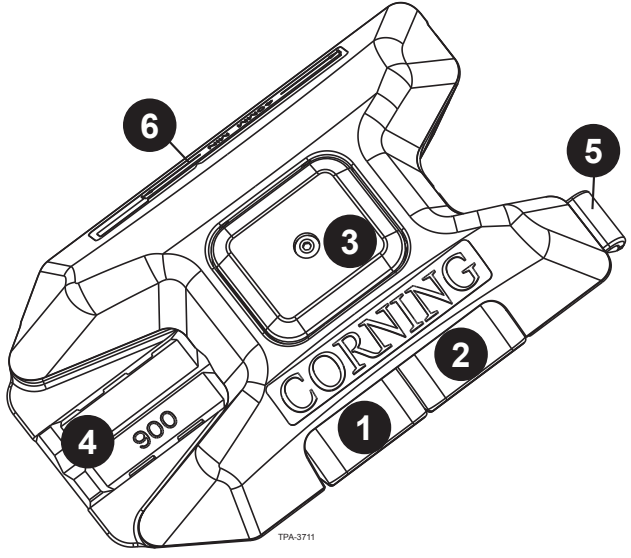

| Number | Components |
|---|---|
| 1 | Cover |
| 2 | VFL Coupler |
| 3 | Power Switch |
| 4 | Power Light |
| 5 | Error Light |
| 6 | Connector Cradle |
| 7 | Photo Receptor |
| 8 | Reset Button |
| 9 | Red Light |
| 10 | Green Light |
| 11 | Crimp Knob |
| 12 | Wrench |
| 13 | CAM Button |
| 14 | Laser Aperture |
| 15 | 2.50 mm Ferrule Adapter (ships in the tool) |
| 16 | Ferrule Adapter Port |
| 17 | LOAD Button |
| 18 | Jumper |
| 19 | 1.25 mm Ferrule Adapter (ships in the toolkit) |
| 20 | Battery Compartment |
| 21 | Lanyard Attachment |
| 22 | Battery Cover |

## 2.2. FBC-007 Cleaver

### 2.2.1 General

This section describes the components of the FBC-007 Cleaver. Please read through this entire chapter, the Fiber Preparation chapter, and Fiber Cleaving chapter before using the cleaver. Refer to Chapter 5 for complete operating instructions and precautions.

### 2.2.2 Features and Components




| Number | Components |
|---|---|
| 1 | Keep Button (Black) |
| 2 | Scrap Button (Red) |
| 3 | Cleave Button (Blue) |
| 4 | Fiber Handler |
| 5 | Latch |
| 6 | Strip Length Guide |

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# 3. TOOL AND CONNECTOR PREPARATION

## 3.1. Tool Preparation

Tool is designed to be held in the left hand while working.

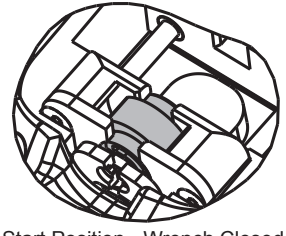
### 3.1.1 Open the Cover

**Step 1:** Ensure the components are in the starting position. If not:

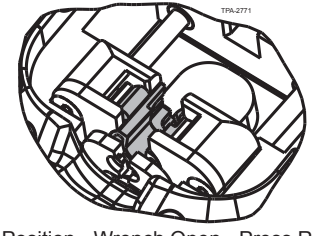
- Slide the VFL Coupler back toward the cover hinge until it locks.
- Verify the LOAD Button is released and the Connector Cradle is against its travel stop.
- Depress the Reset Button to return the Wrench to the start position.

**Step 2:** Ensure that the correct Ferrule Adapter is installed.

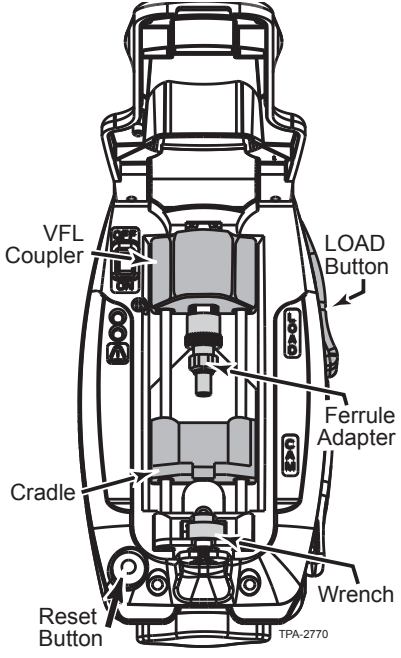
- 2.5 mm for SC and ST® Compatible connectors
- 1.25 mm for LC connectors
- To change the adapter, refer to”Section “Section 7.1.2 Ferrule Adapter” on page 29.



Start Position - Wrench Closed




Finished Position - Wrench Open - Press Reset Button

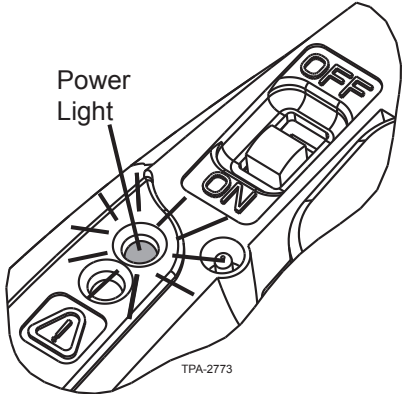


### 3.1.2 Switch Power On

**Step 1:** Locate power switch and light in the upper left corner of the tool.

**Step 2:** Move the switch to the ON position. Once the tool is on, the Power Light will glow.

- If the Power Light flashes or does not glow, the batteries need to be replaced.
- Refer to “Section 7.1.1 Changing the Batteries” on page 29 for battery replacement instructions.



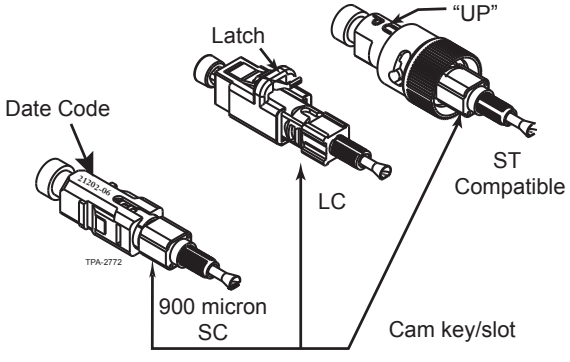

## 3.2. Connector Preparation

### 3.2.1 Verify Cam Position

Because the connector cam may rotate slightly during shipment, verify that the connector cam is in the open position. The cam is open when the cam key is 90 degrees from:

- SC connectors - the date code when it is facing up
- LC connectors - the latch when it is facing up
- ST® Compatible connectors - the “UP” label molded on the load adapter

**NOTE:** If the cam is not in the open position, the connector will not fit correctly into the installation tool.

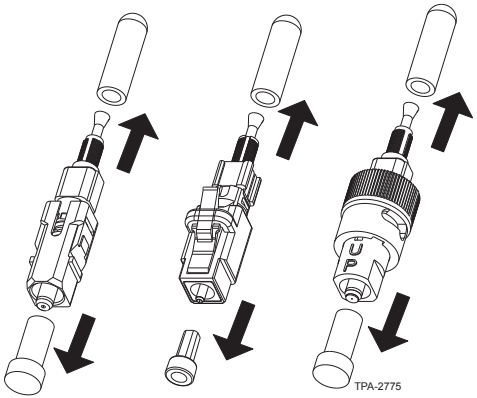


### 3.2.2 Prepare Connector for Loading

**Step 1:** Remove the rear dust cap.

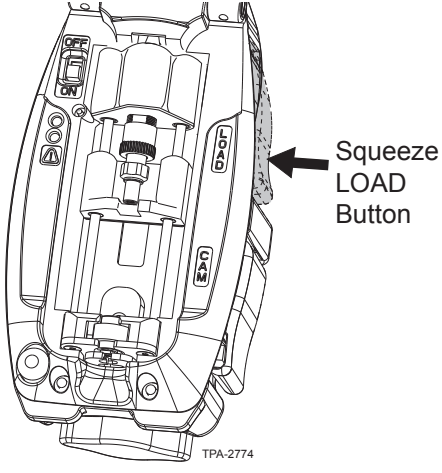
**Step 2:** Remove the clear ferrule dust cap and visually inspect the connector for damage.

**Step 3:** Leave the black load adapter on LC and ST® Compatible connectors until after termination.



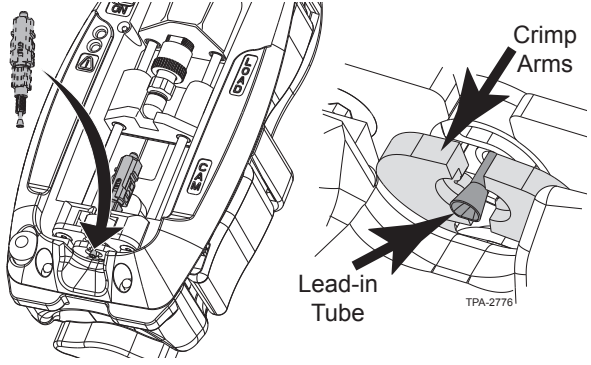

## 3.3. Connector Loading

**Step 1:** Squeeze the LOAD Button to move the Connector Cradle away from the Wrench.

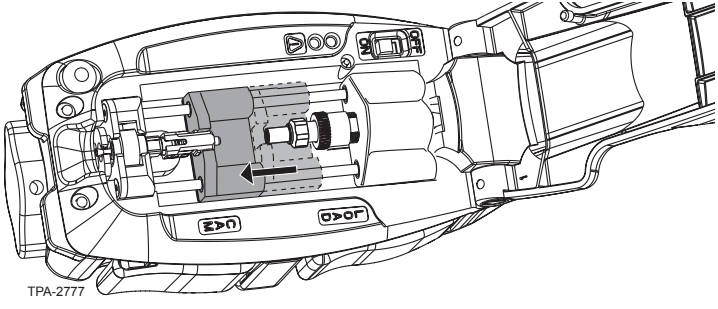


**Step 2:** With the connector oriented up (as shown on page 10), load the connector into the tool by inserting it, lead-in tube first, into the Wrench.

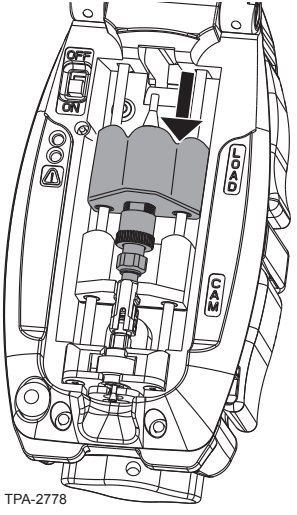
**NOTE:** Ensure that the cam is completely seated in the Wrench and the lead-in tube protrudes through the crimp arms. The flare of the lead-in tube should be visible beyond the crimp arms.




**Step 3:** Slowly release the LOAD button while guiding the connector into the Connector Cradle. Ensure the connector is firmly seated in the Cradle.



**Step 4:** Slide the VFL Coupler down until the Ferrule Adapter is seated on the connector.



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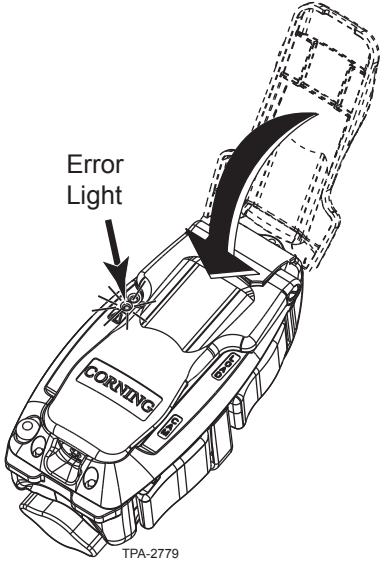
**Step 5:** Close the cover and check for the Error Light.

- If the Error Light remains off, there are no problems. Proceed to “Section 4. Fiber Preparation” on page 15
- If the Error Light flashes, refer to “Section 7.4. Troubleshooting” on page 34.



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**Step 6:** Set the installation tool aside and prepare the field fiber for termination.

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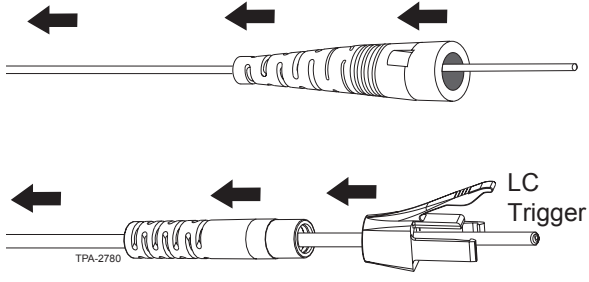
# 4. FIBER PREPARATION

## 4.1. All Fiber/Cable Types

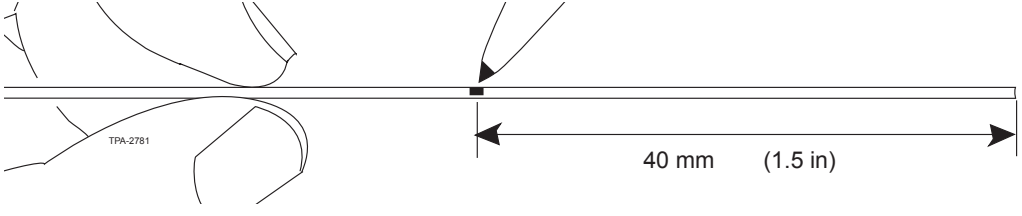
Slide the appropriate boot onto the fiber/cable.

- Use the 900 micron boot for 900 micron Tight-buffered, 900 micron Furcated.
- Use the 1.6, 2.0, or 2.9 mm cable boot for Jacketed Cable applications.
- For LC connectors, also slide the trigger onto the fiber/cable after installing the boot.



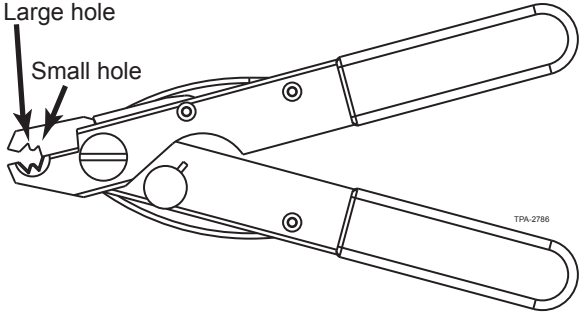

## 4.2. 900 micron Tight-buffered Fibers

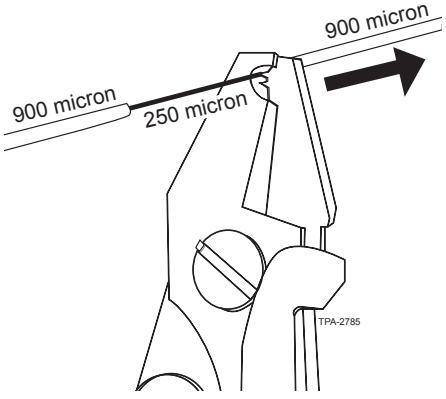
**Step 1:** Using the Strip Length Gauge and permanent marker, measure and mark 40 mm from the end of the buffered fiber.



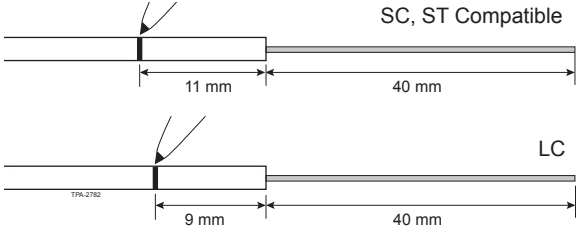
**Step 2:** To expose bare glass, remove the 40 mm section of buffer and coating in two steps using the Dual-Hole Miller Tool.

- For the 900 micron buffer, use the large hole.
- For the 250 micron coating, use the small hole.



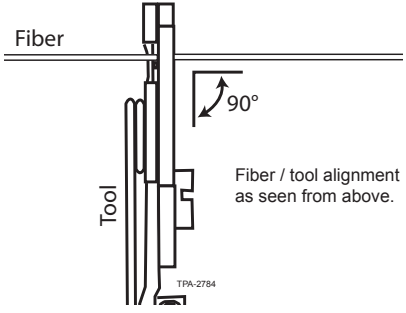




**Step 3:** For SC and ST® Compatible connectors, measure and place a visual mark on the buffer an additional 11 mm back from the end of the buffer. For LC connectors, measure and mark the buffer 9 mm back.



**Step 4:** Clean the bare fiber with two passes of a Fiber Wipe dampened with Fiber Optic Cleaning Fluid.

Do not touch the bare fiber after cleaning it. Do not remove the visual mark.



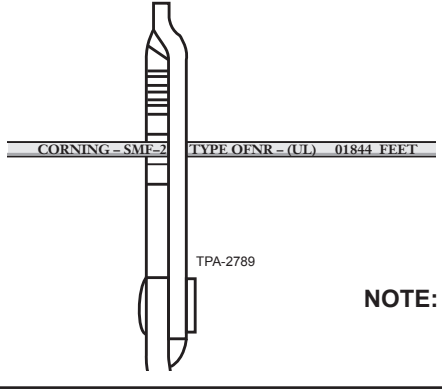

Fiber / tool alignment as seen from above.

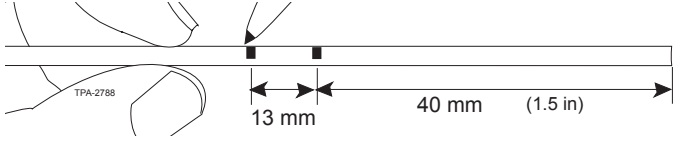
**Step 5:** Proceed to Chapter 5, Fiber Cleaving.

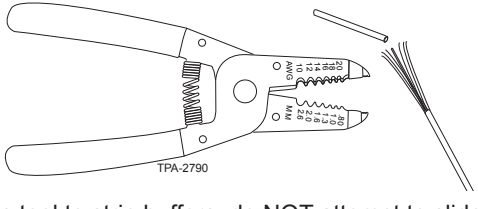
## 4.3. Jacketed Cable

**NOTE:** Take your time to do the following four steps correctly. Excessive yarn length will have to be trimmed later. Yarn too short may result in weak strain-relief for the connector.

**Step 1:** Measure and mark 40 mm and 53 mm points.




**NOTE:** When using this tool to strip buffers, do NOT attempt to slide severed tube or jacket off the fibers with the sliding motion commonly used to strip copper wire with this tool. Doing so may break the fibers.

**Step 2:** Refer to table for the correct AWG opening for the cable being used and strip off the 40 mm section of outer jacket with the Jacket Stripping Tool.

**Step 3:** Use scissors to trim the aramid yarn flush with the end of the outer jacket.

**Step 4:** Strip off the 13 mm section of outer jacket, exposing 13 mm of aramid yarn using the Jacket Stripping Tool.

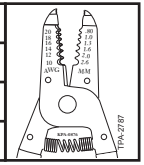
**Step 5:** Fold the aramid yarn back over the cable jacket and slide the crimp ring about 5 mm down the yarn to hold it out of the way.

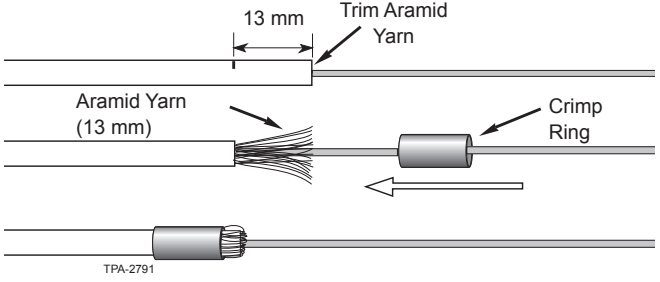
**Step 6:** Mark the 900 micron buffer:

- For SC and ST® Compatible connectors, mark 900 micron buffer 11 mm from the end of the cable jacket and at the edge of the cable jacket.
- For LC connectors, mark the 900 micron buffer 11 mm and 2 mm from the edge of the cable jacket.

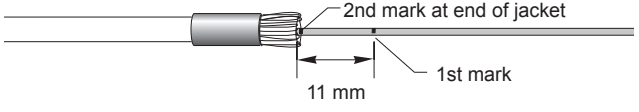
**NOTE:** The second mark is a visual aid to indicate when the field fiber contacts the fiber stub.

| Cable Jacket Diameter | AWG Size |
|---|---|
| 1.6 mm | 20 |
| 2.0 mm | 18 |
| 2.9 mm | 16 |

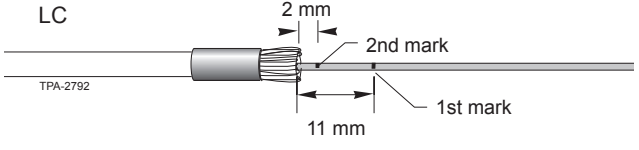



SC and ST Compatible




LC



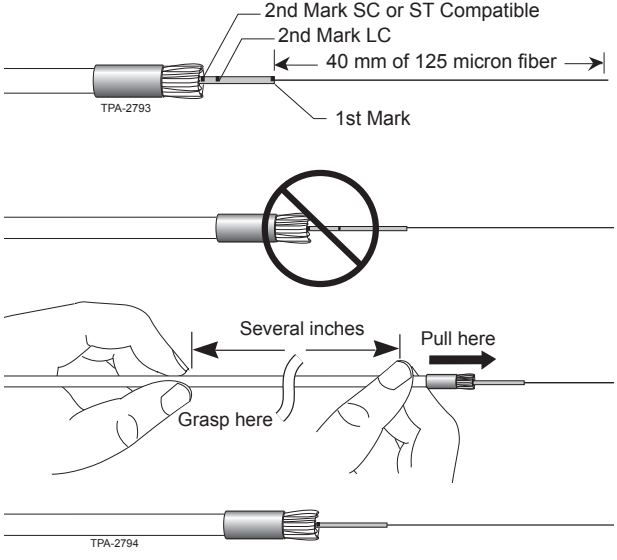
**Step 7:** Use the Dual-Hole Miller Tool to remove the 40 mm of buffer and coating in two steps: (same as step 3 from section 4.3).

**NOTE:** It is IMPORTANT to check the locations of the second mark after stripping. For SC and ST® Compatible connectors, the mark must be near the edge of the jacket; for LC connectors, the mark must be within 2 mm from the edge of the jacket. If necessary, work the buffer back into its original position in the jacket as follows:

- Grasp the cable several inches behind the strip point.
- Pull the cable until the second mark is near its starting position -

  SC and ST® Compatible: near the edge of the jacket.

  LC: within 2 mm of the edge of the jacket.



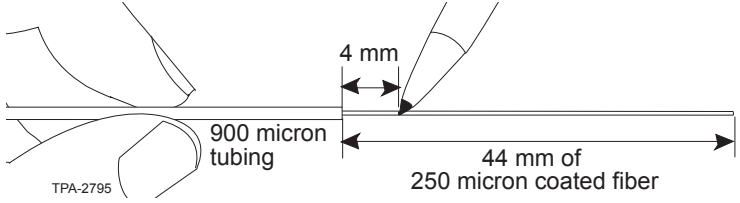

**Step 8:** Clean the bare fiber with two passes of a Fiber Wipe dampened with Fiber Optic Cleaning Fluid. Do not touch the bare fiber after cleaning it. Do not remove the visual mark.

**Step 9:** Proceed to Section 5, “Fiber Cleaving with FBC-015 Cleaver” on page 21.

## 4.4. 900 micron Fan-out Tubing Applications

**Step 1:** Remove the 900 micron tubing with Dual-Hole Miller Tool or trim back the fiber so that 44 mm of fiber protrudes from the 900 micron tubing.

**Step 2:** Measure and mark the 250 micron coated fiber 4 mm from the end of the fan-out tubing.




**Step 3:** Measure and mark the fan-out tube:

- SC and ST® Compatible connectors: 11 mm back from the end of the 900 micron tubing.
- LC connectors: 9 mm back from the end of the 900 micron tubing.

**Step 4:** Remove the 250 micron coating to the 4 mm mark using the small hole on the Dual-Hole Miller Tool. It is important to leave 4 mm of 250 micron fiber extending beyond the 900 micron tubing to allow the fibers to touch before the 900 micron tubing bottoms out inside the connector and to ensure a good cleave with the FBC-015.

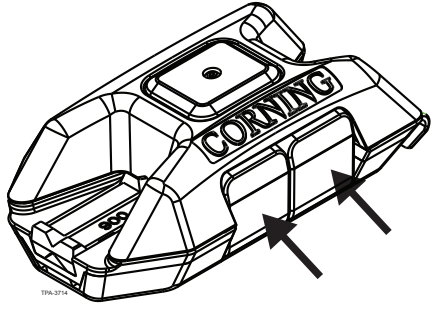
**Step 5:** Clean the bare fiber with two passes of a Fiber Wipe dampened with Fiber Optic Cleaning Fluid. Do not touch the bare fiber after cleaning it. Do not remove the visual mark.

**Step 6:** Proceed to Section 5, “Fiber Cleaving with FBC-015 Cleaver” on page 21.

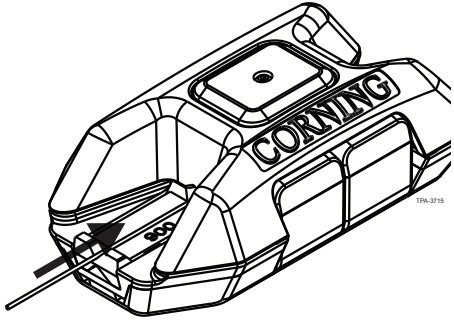
# 5. FIBER CLEAVING WITH FBC-007 CLEAVER

## 5.1. Cleaving 900 Micron Fiber

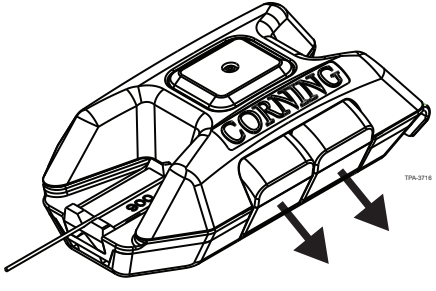
**Step 1:** Depress Black and Red buttons.



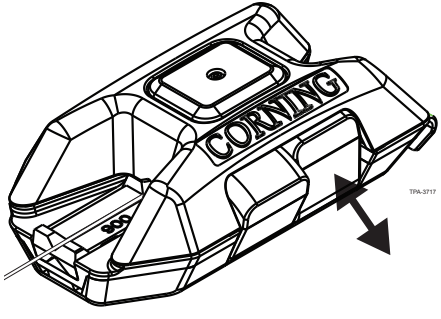

**Step 2:** Insert fiber until it stops.



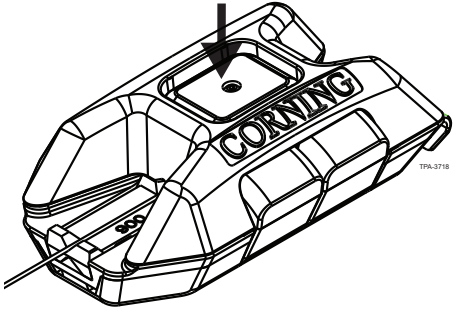

**Step 3:** Gently release buttons.



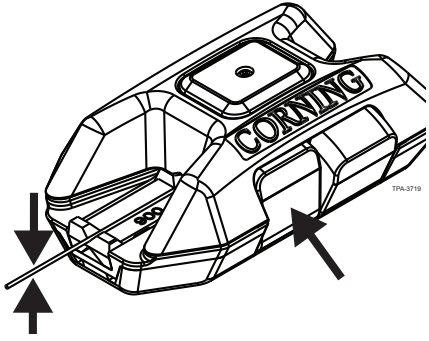

**Step 4:** Cycle Red button once.



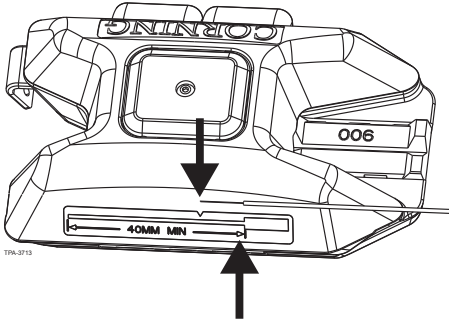
**Step 5:** Gently press Blue button.



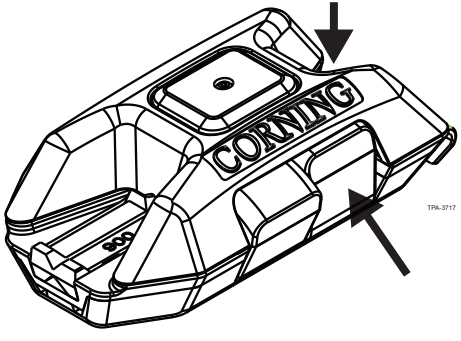

**Step 6:** Hold fiber and press Black button to remove.




**Step 7:** Check cleave length against guide.



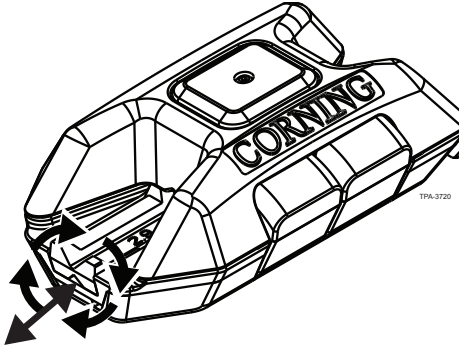

**Step 8:** Hold scrap fiber and press Red button to remove.



## 5.2. Cleaving Jacketed Fiber

**Step 1:** Flip fiber handler.

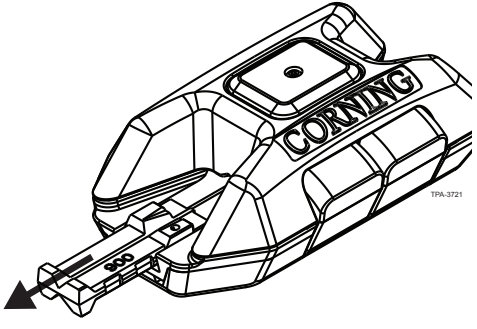
**Step 2:** Follow Steps 1 through 8 for cleaving 900 micron fiber.



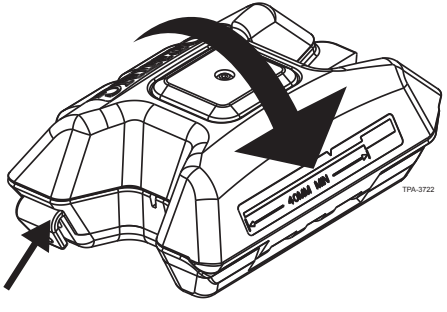

## 5.3. Cleaving UniCam® Fanout Applications

**Step 1:** Add handler track to cleaver.

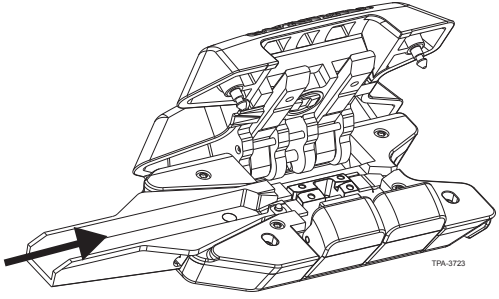
a. Remove 900/2.9 handler.



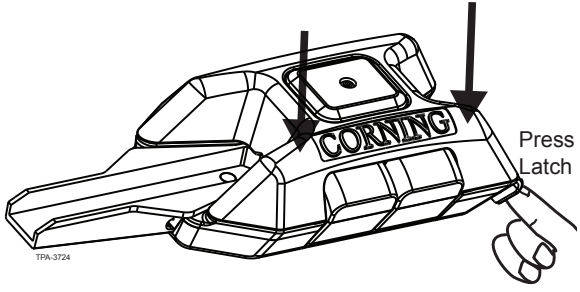

b. Depress latch and lift cover.



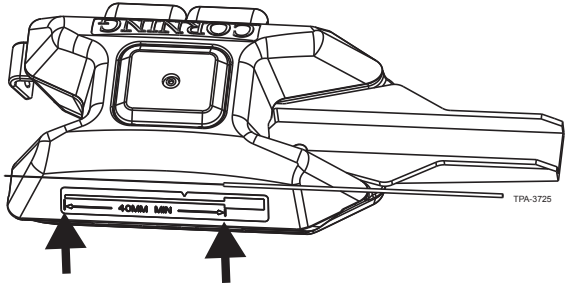
c. Insert handler track.




d. Depress latch while pressing cover firmly to close.



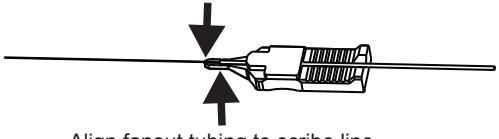

**Step 2:** Strip fiber and check length against guide.




**Step 3:** Load fiber into Blue UniCam fanout handler.

OptiSnap 900 Micron Application (Blue Handler)

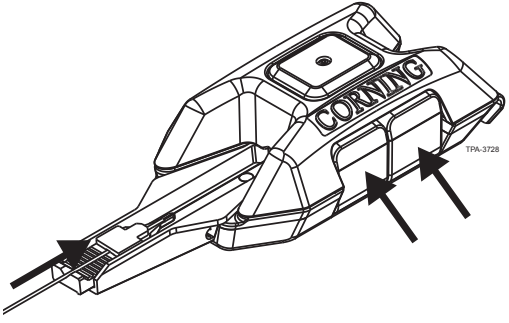
Align coating to nose.



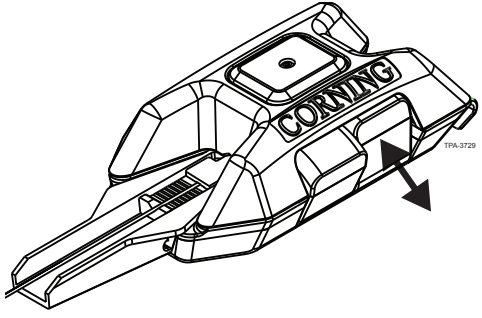
Align fanout tubing to scribe line

TPA-3739

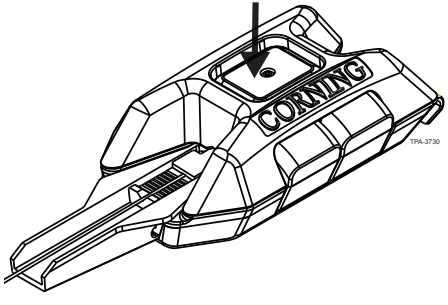
**Step 4:** Depress Red and Black buttons and load handler with fiber into cleaver.



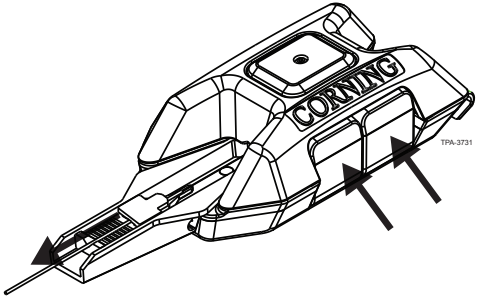

**Step 5:** Cycle Red button once.



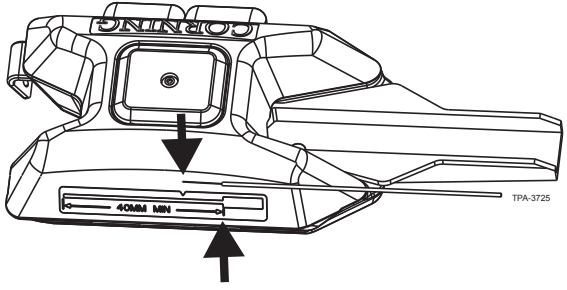

**Step 6:** Press Blue button.



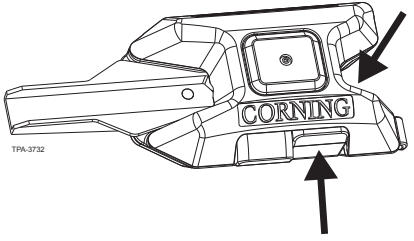

**Step 7:** Press Black button and slide handler out of the cleaver.



**Step 8:** Remove fiber from handler and check cleave length against guide.




**Step 9:** Hold scrap fiber and press Red button to remove.

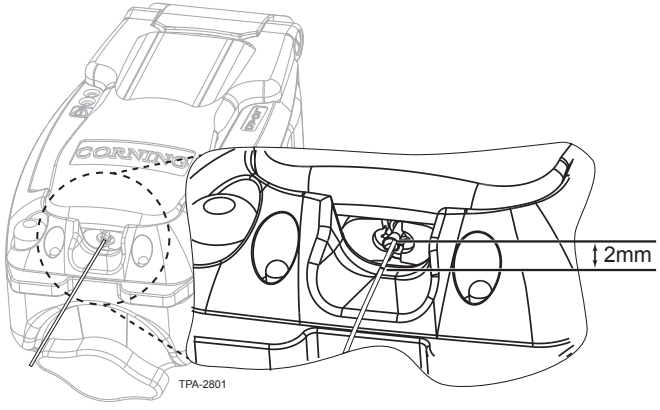


# 6. CONNECTOR TERMINATION

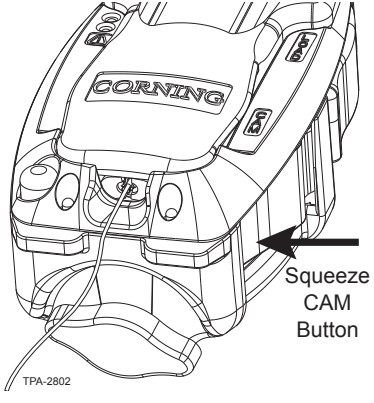
## 6.1. Termination Process

**NOTE:** THE COVER MUST BE CLOSED FOR THE SYSTEM TO FUNCTION.

**Step 1:** Insert a cleaved fiber into the back of the lead-in tube. Insert the fiber until you feel it firmly stop against the fiber stub. The visual mark on the fiber should be within 2 mm of the lead-in tube.




**Step 2:** While maintaining enough inward pressure to create a slight bend in the fiber, squeeze the CAM button in until it locks.



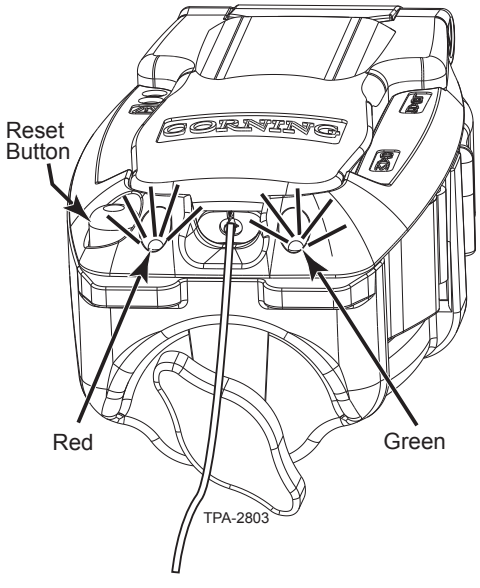
**Step 3:** Check the termination lights.

- If the green light is illuminated, the termination was successful. Proceed to Step 4.

**NOTE:** The green light ensures proper termination of the connector. However, it is not a substitute for system testing.

Do NOT press the reset button until the connector is removed from the tool.

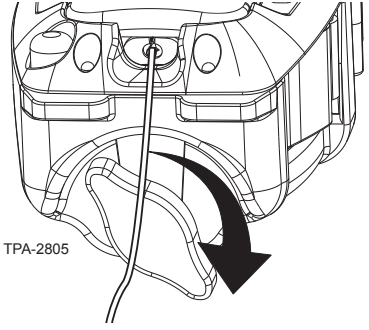
- If the red light is illuminated, the termination was not successful.
  a. Press the Reset Button and remove the fiber. Repeat the termination process at Step 1 on page 21.
  b. If the red light illuminates again, step (a).
  c. If the red light continues to illuminate after two termination attempts, press the Reset Button and remove the fiber. Repeat steps starting at appropriate fiber preparation step in Section “4. Fiber Preparation” on page 15.
  d. If unable to achieve a successful termination, refer to the Troubleshooting section in Chapter 7 of this manual.



**Step 4:** Release fiber and turn the Crimp Knob 180 degrees in either direction.

- There may be slight resistance while turning the knob; this is normal.
- Turning the Crimp Knob crimps the lead-in tube onto the fiber, thus locking the connector to the fiber.

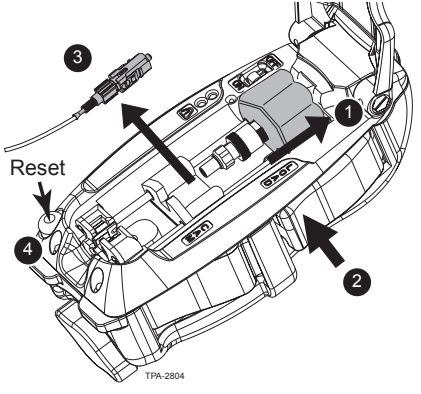
**NOTE:** Do NOT press the reset button until the connector is removed from the tool.




**Step 5:** Open the cover and gently slide the VFL Coupler back into its starting position (1). The coupler shouldn't move freely if this is done correctly.

**Step 6:** Slightly squeeze the LOAD Button to remove the connector (2). Lift straight up on the connector and reinstall the clear ferrule dust cap (3).

**Step 7:** Press the Reset Button to make the tool ready for the next connector (4). If the cover is closed at this point without a connector loaded, the Error Light will flash. This is an indication that there is no connector in the tool. Once a connector is correctly loaded and the cover closed, the light will stop flashing.




**Step 8:** When finished installing connectors, press the Reset Button, slide the Power Switch to the OFF position, ensure VFL Coupler is in the starting position, close the cover, and return the tool to the tool kit.

## 6.2. Completing the Connector Assembly

Complete the connector assembly process by following the appropriate steps below for your connector type.

**NOTE:** If not using on Jacketed Cables skip Section 6.2.1 and proceed to the section for your connector type.

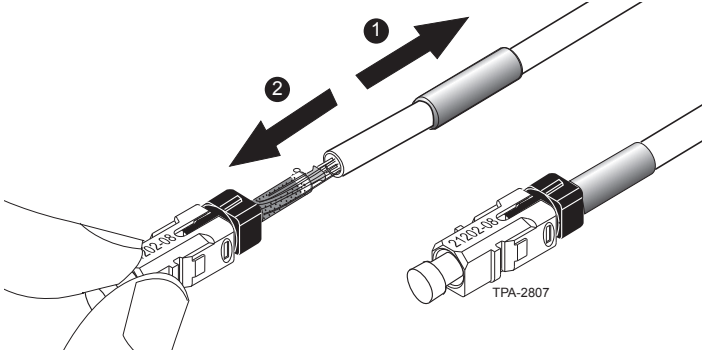
### 6.2.1 Jacketed Cables

**Step 1:** Ensure the ferrule dust cap is installed.

**Step 2:** Hold the cable and slide the crimp ring back along the cable jacket to free the aramid yarn.

**Step 3:** Flare the yarn around the connector. The ends of the yarn should just touch the back of the square cam. If the yarn is too long, trim it now.

**Step 4:** Hold the connector and push the crimp ring over the aramid yarn and against the back of the connector's cam.

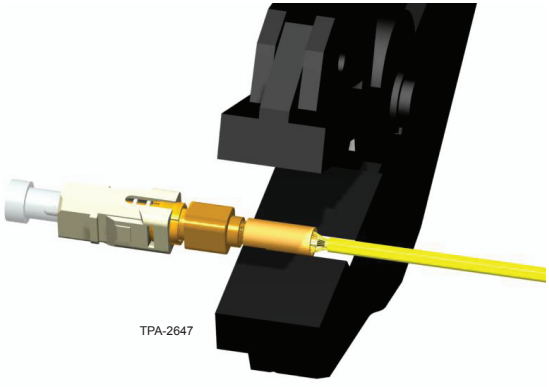



**NOTE:** Use only the crimp tool supplied with the UniCam® tool kit (p/n 3201007-01). Other similar-appearing crimp tools (such as tools with part numbers 3201001-01 and 3201002-01) will over-crimp causing increased attenuation.

**Step 5:** Place the connector crimp ring into the opening of the crimp tool jaws.

**Step 6:** Squeeze the handles shut until they automatically release, indicating completion of the crimp. Remove the connector and cable from the tool.

**Step 7:** Proceed to the description for your connector type below to complete the connector assembly.

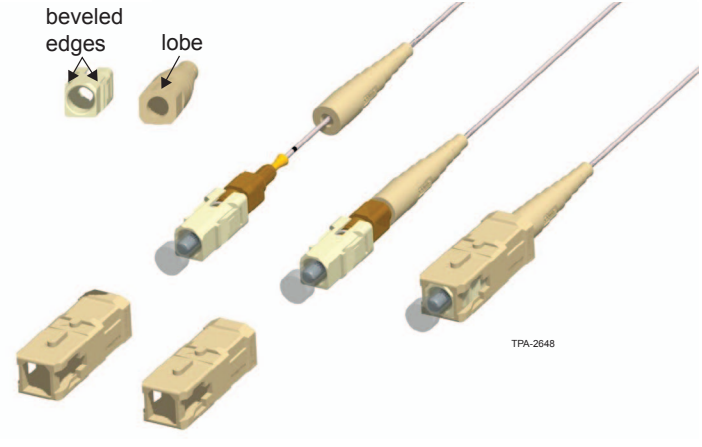



### 6.2.2 SC Connectors

**Step 1:** Ensure the clear ferrule dust cap is installed.

**Step 2:** Slide the boot up the back of the connector until it reaches the cam.

**Step 3:** Install the outer shroud by lining up the date code with the key-side of the outer shroud. Using the boot, push the UniCam assembly into the outer shroud until it snaps into place.



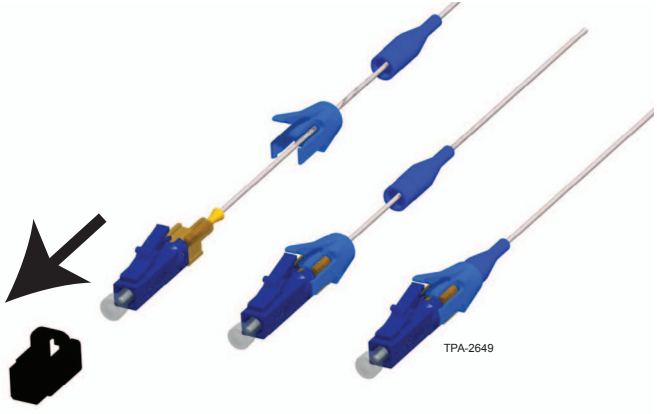
### 6.2.3 LC Connectors

**Step 1:** Ensure the clear ferrule dust cap is installed.

**Step 2:** Remove the black load adapter.

**Step 3:** Slide the trigger up to the back of the connector and latch its arms into the windows of the housing.

**Step 4:** While holding the connector by the front dust cap, slide the correct strain-relief boot up the back of the connector and under the trigger until it stops.




### 6.2.4 ST® Compatible Connectors

**Step 1:** Remove the black load adapter.

**Step 2:** Reinstall the clear ferrule dust cap.

**Step 3:** Slide the boot up the back of the connector until it reaches the cam.

# 7. MAINTENANCE AND TROUBLESHOOTING

This section provides maintenance and troubleshooting information for the High-Performance Installation Tool, FBC-015 Cleaver, and UniCam® connectors.

## 7.1. High-Performance Installation Tool

### 7.1.1 Changing the Batteries

**Step 1:** Verify the tool is turned off.

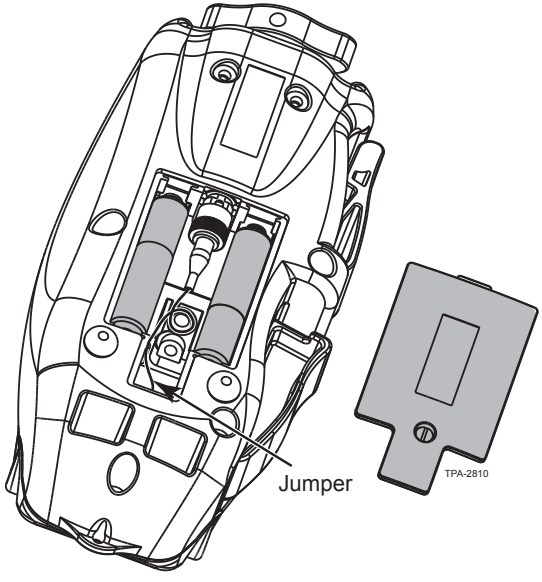
**Step 2:** Locate the battery cover on the bottom of the tool.

**Step 3:** Remove the battery cover using a standard flat-head screwdriver.

**NOTE:** Be careful not to disturb the jumper.

**Step 4:** Replace the two AAA batteries following the polarity indicators.

**Step 5:** Replace the battery cover and tighten the screw, being careful not to overtighten.




### 7.1.2 Ferrule Adapter

#### Cleaning the Ferrule Adapter

**NOTE:** NOTE: It is recommended to clean the Ferrule Adapter after every 100 connector installations. Use the adapter cleaning sticks provided in the toolkit.

**Step 1:** Select the correct size stick:

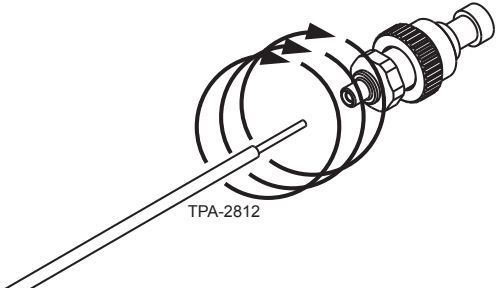
1.25 mm adapter - Small stick

2.5 mm adapter - Large stick

**Step 2:** Insert the stick into the adapter opening and rotate the tip clockwise 10 revolutions.

**Step 3:** Apply varying pressures to create a gentle pumping action.

**Step 4:** Dispose of each cleaning stick after use. Do not use sticks more than once.



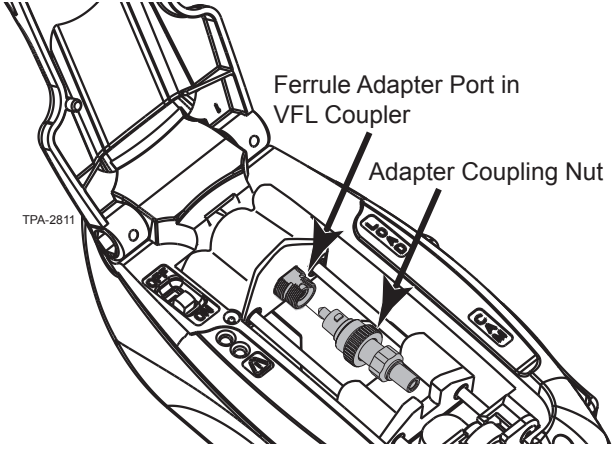

## Replacing the Ferrule Adapter

**Step 1:** Verify the tool is turned off.

**Step 2:** Unscrew the Adapter Coupling Nut from the Ferrule Adapter Port.

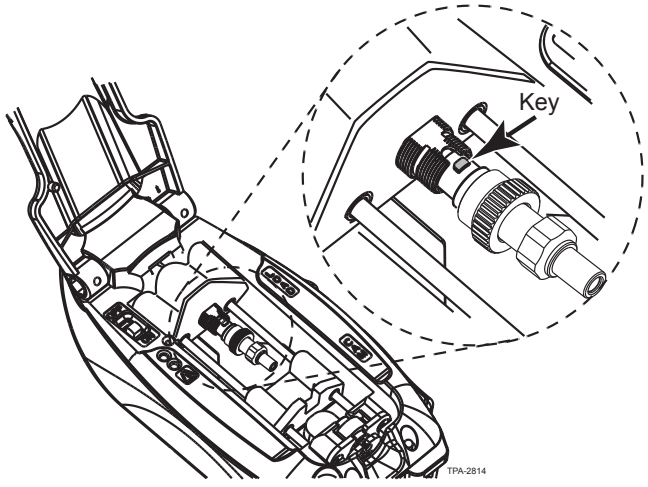
- Remove the adapter by pulling it straight out.
- Swap the clear ferrule dust cap from the replacement adapter and then place in the vial.

**Step 3:** Clean the ferrule on the ferrule adapter per the instructions given in Section 7.3.



**Step 4:** Install the new Ferrule Adapter onto the Ferrule Adapter Port in the VFL Coupler.

**Step 5:** Be sure the key on the Ferrule Adapter is aligned with the keyway on the Ferrule Adapter Port, and then tighten firmly.




## Replacement Parts for the Installation Tool

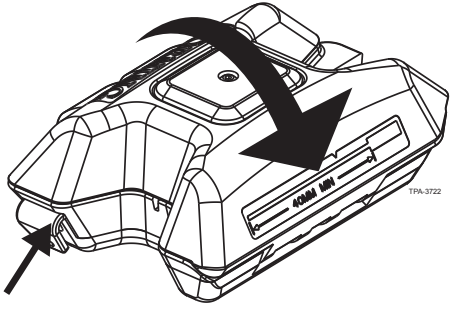
Use the part numbers below to order replacements.

- VFL Adapter and Cleaning Sticks:
  1.25 mm adapter: p/n VFL-A125
  2.5 mm adapter: p/n VFL-A250
  To order both adapters: p/n VFL-AKIT
- 1.25 mm cleaning sticks: CLEAN-STICKS-125
- 2.5 mm cleaning sticks: CLEAN-STICKS-250

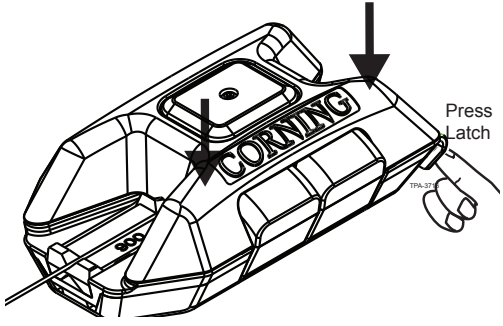
## 7.2. Maintaining the FBC-007 Cleaver

### 7.2.1 Opening Cleaver for Cleaning or Maintenance

Depress latch and lift cover.

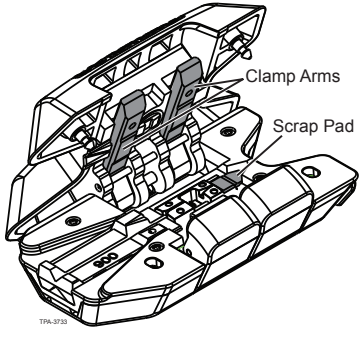



Depress latch while pressing the cover firmly to close.



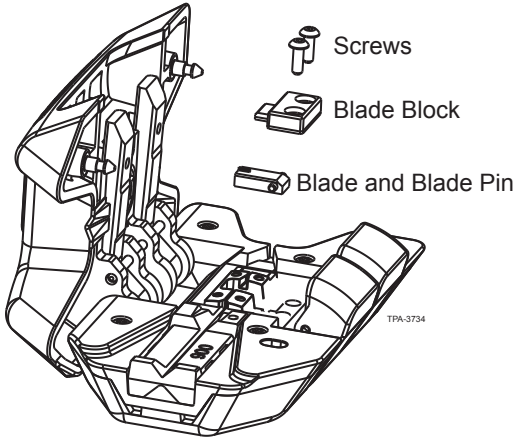

### 7.2.2 Cleaning

Wipe three places with fiber wipes and cleaning fluid. Aggressively clean scrap pad if experiencing fiber breaks..

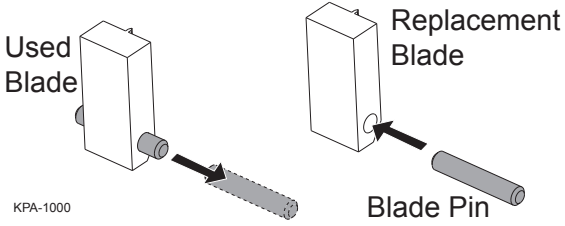


### 7.2.3 Replacing Blade

**Step 1:** Remove two screws, blade block, and blade with blade pin.




**Step 2:** Replace blade and reuse blade pin.




## 7.3. Connector Cleaning

Clean UniCam® connectors with Fiber Wipes and Fiber Optic Cleaning Fluid. Corning Cable Systems recommends using this cleaning procedure every time a connector is unmated or the connector is excessively dirty.

**Step 1:** Take a Fiber Wipe and fold once to make a square.

**Step 2:** Place the wipe on saturator top of the Fiber Optic Cleaning Fluid and press two to three times to wet the wipe.

**Step 3:** Wipe the connector end face with the wet wipe to remove dirt and debris. Wipe again with a dry wipe.

**Step 4:** If the connector is satisfactorily clean, immediately mate it in the appropriate adapter or sleeve, or replace the dust cap over the end face.

## 7.4. Troubleshooting

This section provides solutions to common problems. Consult the table below before sending the tool in for repair.

| Problem | Possible Causes | Solutions (Actions) |
|---|---|---|
| Green Power Light flashes or does not come on. | Batteries need to be replaced. | Replace batteries following the instructions in the "Section 7.1.1 Changing the Batteries" on page 33 |
| Connector will not load easily. | 1. Wrench is not in starting position.<br><br>2. Connector cam is not in open position. | 1. Press Reset Button and try loading connector again.<br><br>2. Check to see that the connector cam is in the open position, page 9. |
| Amber Error Light flashes<br><br>NOTE: The cover must be open to complete each action. After each action, close the cover to see if Error Light has cleared. | 1. Ferrule adapter is not fully seated on connector. | 1. Ensure that the:<br>• Proper Ferrule Adapter is installed in the tool.<br>• Ferrule Adapter is fully seated on the UniCam® connector.<br>• Ensure ferrule dust cap is removed from the connector. |

| Problem | Possible Causes | Solutions (Actions) |
|---|---|---|
| Amber Error Light flashes (continued)<br><br>NOTE: The cover must be open to complete each action. After each action, close the cover to see if Error Light has cleared. | 2. Connector loaded incorrectly. | 2. Ensure the connector is loaded into the tool correctly.<br>• The date code on SC, the LC latch, or the "UP" on the ST® compatible load adapter must be up.<br>• The lead-in tube must protrude past the crimp arms with the flare visible beyond the crimp arms.<br>• With no fiber inserted in the connector, press the CAM button and then press the Reset Button. |
| | 3. Ferrule Adapter or connector may be dirty. | 3. Clean the adapter and connector following the instructions in Sections 7.1.2 and 7.3, respectively. |
| | 4. Ferrule Adapter is not properly secured to the Ferrule Adapter Port. | 4. Ensure the coupling nut on the Ferrule Adapter is tight. |
| | 5. The photo detector is dirty. | 5. Clean the photo detector using a dry wipe. |
| | 6. Weak batteries. | 6. Replace the batteries in "Section 7.1.1 Changing the Batteries" on page 33. |
| Cleaver is producing bad cleaves. | Blade is worn or damaged. | Replace the blade per the instructions in "Section 7.2.3 Replacing Blade" on page 37. |
| Cleaver is breaking fibers. | 1. Debris in the clamp arms. | 1. Clean the clamps per the instructions in "Section 7.2.2 Cleaning" on page 36. |
| | 2. Debris on scrap pad. | 2. Aggressively clean scrap pad. |
| Cleaver is producing high angle cleaves. | Torsion in fiber. | Always cycle Red Button prior to cleaving to release stress. |

| Problem | Possible Causes | Solutions (Actions) |
|---|---|---|
| Unable to achieve a successful termination. (Green termination light will not illuminate.) | 1. Cover not closed. | 1. Ensure that you have closed the cover before inserting the fiber. |
| | 2. Error light not cleared. | 2. See Problem “Amber Error Light Flashes” above. |
| | 3. Fiber is not inserted correctly into the connector. | 3. While holding onto the fiber, press the Reset Button and try re-seating the fiber. |
| | 4. Improper fiber preparation. | 4. Ensure that the appropriate sections in Chapters 4 and 5 were followed. If unsure, press the Reset Button, remove the fiber, and start again at Chapter 4. |
| | 5. Bad cleave dur to debris in the clamps. | 5. Refer to the “Cleaver is producing bad cleaves...” troubleshooting problem above. |

If unable to successfully troubleshoot the installation tool using the table above, call Corning Cable Systems Technical Support at 1-800-743-2671.

## 7.5. Testing UniCam® Connectors

If you have questions about proper testing and required equipment, etc., call Corning Cable Systems Technical Support at 1-800-743-2671.