CORNING

Sheath Removal of 1728-Fiber RocketRibbon™ Extreme-Density Armor Cable

P/N 004-295-AEN, Issue 2

related literature | Search www.corning.com/opcomm. Click on "Resources/Standard Recommended Procedures."	
003-1032-AEN	Ultra Density Optical Splice Enclosure
003-1036-AEN	Cable Entry Kit for OSE-UD
003-1042-AEN	Furcation of a 288-Fiber Ribbon Subunit into an Optical Splice Enclosure Splice Tray
004-098	Instruction, Ribbon Splitting Tool (RST-000)
004-283-AEN	Furcation of a 1728/3456-Fiber Corning © RocketRibbon™ Extreme-Density Cable for EDGE™ Splice Cassettes and Splice-On Connectors
004-285-AEN	Splicing a 288-Fiber RocketRibbon Subunit into a Single Splice Tray in an Ultra Density Optical Splice Enclosure
005-011	Duct Installation of Fiber Optic Cable
AEN049	Air-Assisted Cable Installation Techniques (Cable Blowing)
AEN165	Applications Engineering Note165 Cable Handling: Squirting, Tangling, and Storage
AEN166	Applications Engineering Note166 RocketRibbon Extreme-Density Cable Installation Checklist
AEN167	Split Duct Cable Installation Guidelines
AEN168	Cable Placing in Duct - Methods and Equipment for Manholes and Vaults
CRR-0258V-AEN	Separating 36-Fiber and 24-Fiber Ribbons into 12-Fiber Ribbons
CRR-0259V-AEN	Accessing a 288-Fiber Subunit in a RocketRibbon Extreme-Density Cable
CRR-0298V-AEN	Routing: Installing RocketRibbon 1,728-Fiber Extreme-Density Cable in a 2178-XL Closure
Video	Teardrop Storage Method for Mid-Span Slack Management
Video	Railroad Method for Backfeeding Cable

1. General

This document describes handling practices for armor 1728-fiber gel-free ribbon cable. Cable-end and mid-span access procedures are outlined in this document. Links to other reference material are provided in the "related literature" table.

The cable illustrated in this procedure is an armored cable manufactured with subunits. Two steel wires provide tensile strength for the cable (Figure 1).

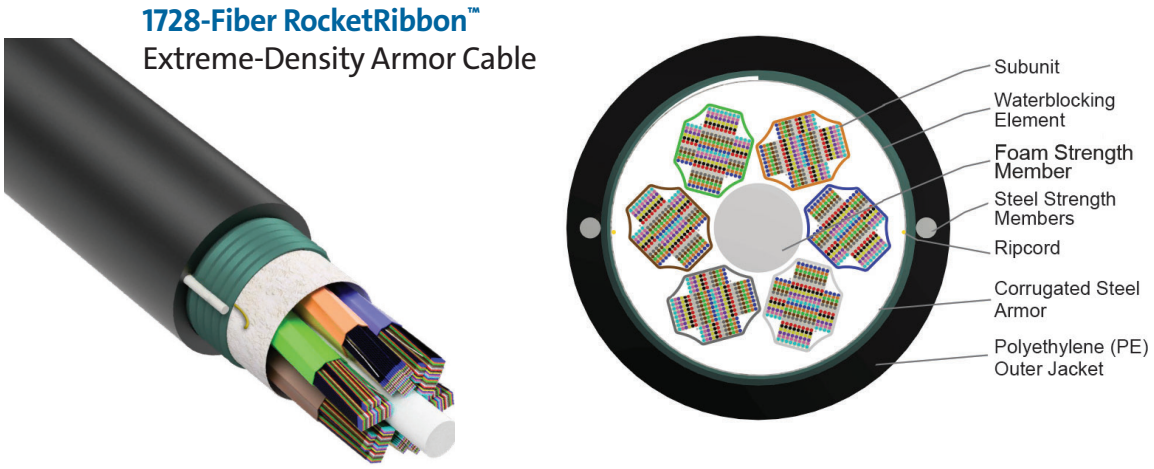

Figure 1

2. Precautions

2.1 Cable and Subunit Handling Precautions

NOTE: *Fiber optic cables and their internal subunits are sensitive to excessive pulling, bending, and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend the cable or its subunits 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 subunits or allow them to kink. Doing so may cause damage that can alter the transmission characteristics of the cable; the cable may have to be replaced.*

2.2 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.

2.3 Safety Glasses

CAUTION

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

2.4 Safety Gloves

CAUTION

The wearing of cut-resistant safety gloves to protect your hands from accidental injury is strongly recommended when using sharp-bladed tools.

3. Tools and Materials

The following tools and materials are required for the cable stripping sections of this procedure:

- Gloves
- Ripley RCS-158 tool or equivalent
- Ripley ACS + Extended
- Diagonal cutting pliers (side cutters) (P/N 100300-01)
- Ribbon splitting tool (P/N RST-000)
- Straight blade utility knife
- Small and large flat head screwdrivers
- Cable sheath knife
- Needle nose pliers
- Friction tape-wrapped screwdriver
- Scissors (P/N 100294-01)
- Tape measure (P/N 100305-01)
- Permanent marking pen (P/N 2102003-01)
- Hook blade utility knife

4. Cable-End Sheath Removal

Method A:

Step 1: Determine the proper sheath removal length for the hardware being used. Mark a point at this distance from the end of the cable with a wrap of tape (Figure 2).

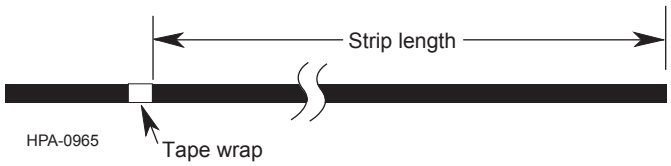

Figure 2

Step 2: Position the Ripely RCS-158 tool (or hook blade) approximately eight inches from the end of the cable. Perform a ring cut through the jacket, and score armor rotate 3 or 4 times (Figure 3).

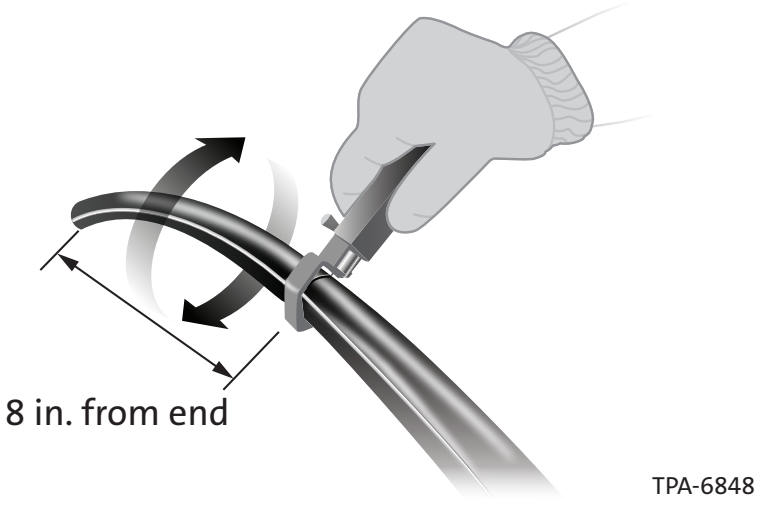

Figure 3

Step 3: Flex the cable and break through the armor making a gap to expose the water blocking tap. Flex at least to 900 in both directions to create a 1 inch gap. Position the ripcords next to the closest wire, ripcords can be easily moved. There should be one positioned at each wire (Figure 4).

Note: Flex to 90° or more to break armor.

Note: Use a small flathead screwdriver to pull out ripcords.

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TPA-6847

Figure 4

NOTE: *First make a V cut in the jacket and armor, then place ripcords in the V. This helps avoid cutting the rip cord.*

Step 4: Using the friction tape wrapped shaft of a screwdriver as a handle, pull one ripcord at a time through the sheath and armor (Figure 5). It is important to pull ripcords against each wire to create a wide opening for removal of subunits. If the opening is not wide enough subunits can be damaged.

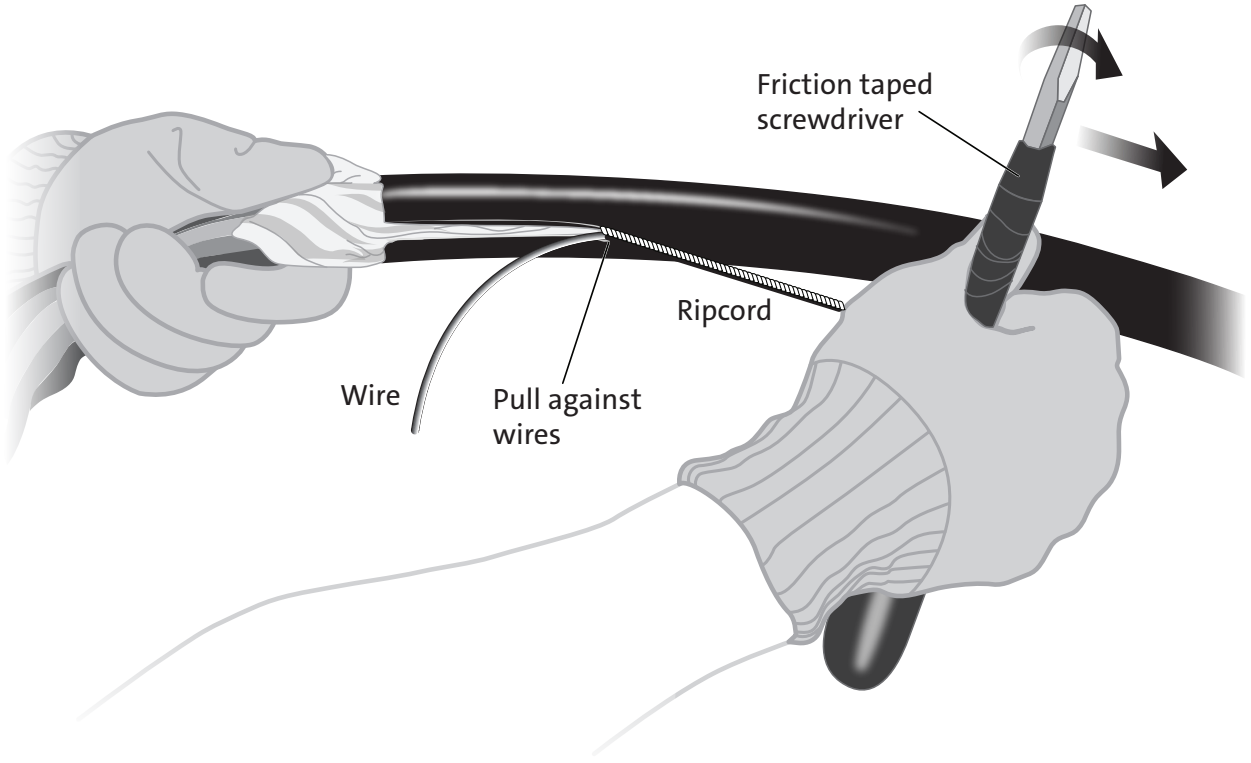

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Figure 5

Step 5: Pull the outer jacket and armor off (Figure 6). After jacket and armor are bent back, cut both 2 inches past the opening created by the ripcord to allow for bond clamps. Leave 4 inches of wire past the end of the jacket and armor for bond clamps (Figure 7).

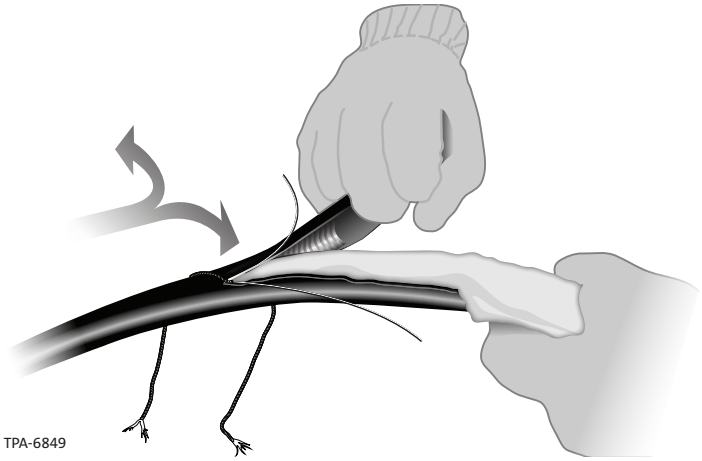


Figure 6

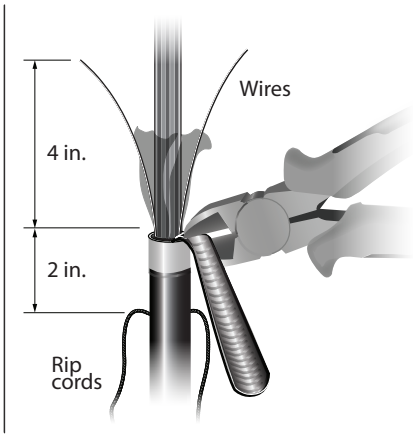


Figure 7

Step 6: Cut center foam and water swellable tape (Figure 8). Be careful not to cut into the fibers surrounding the foam.

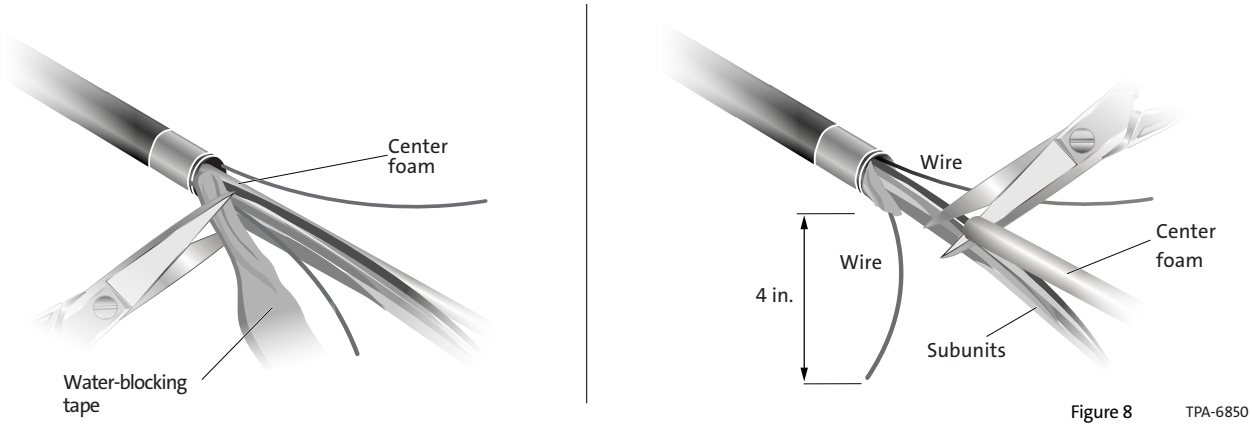


Figure 8

Step 7: Figure 9 shows the open cable with color coded subunits.

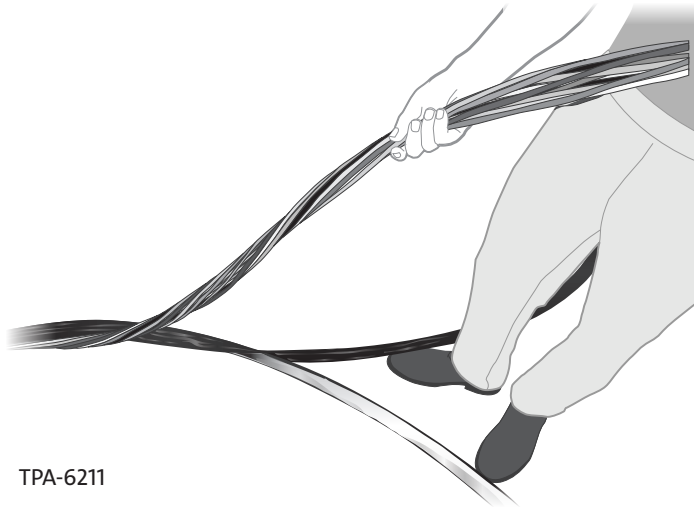
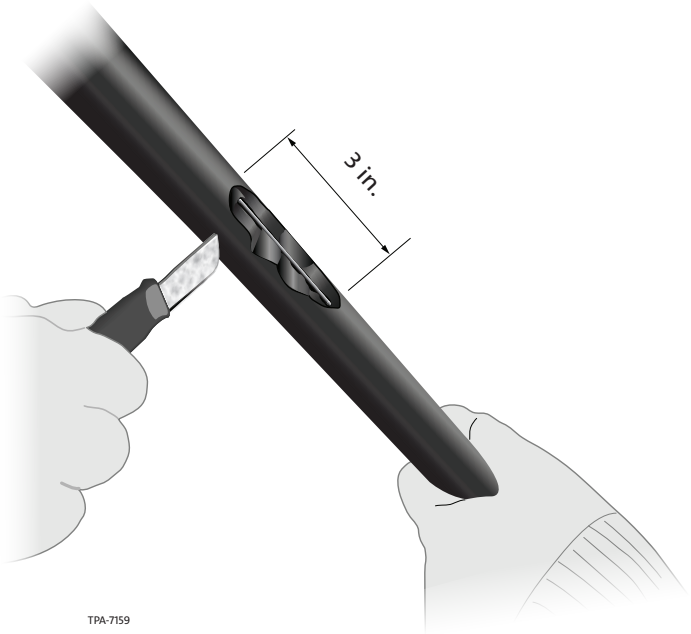


Figure 9

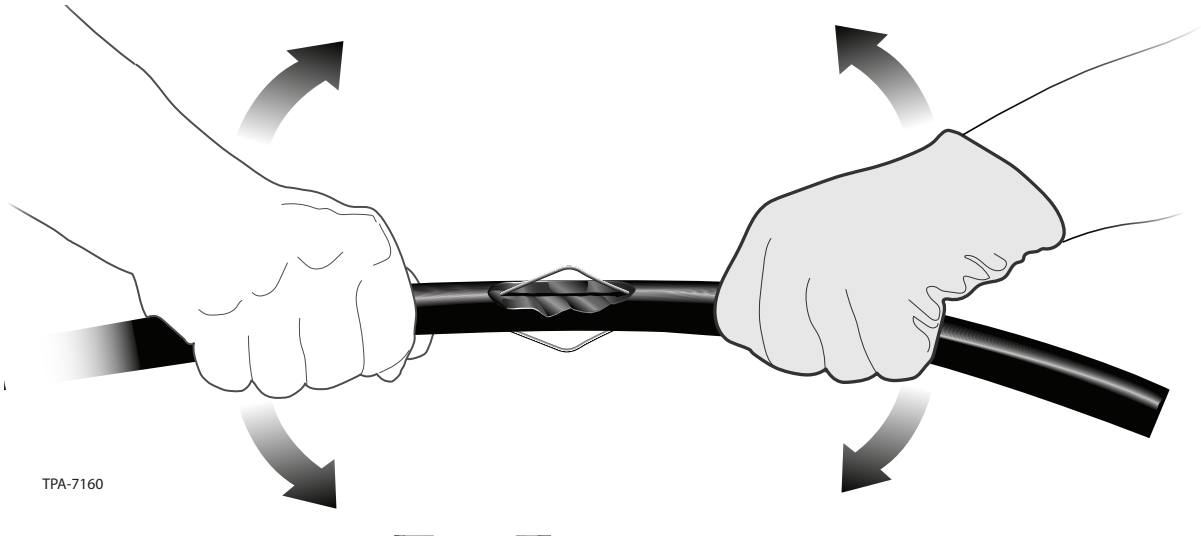
4.1 Cable-End Sheath Removal

Method B:

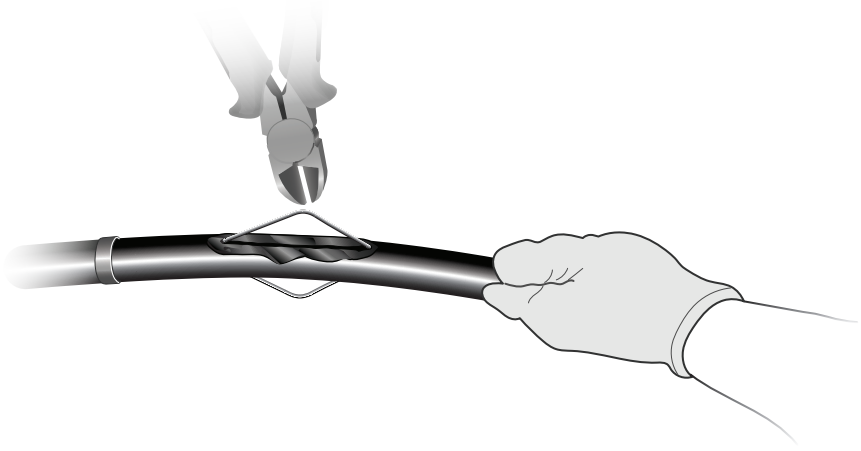
Step 1: Use a knife tip to skin off jacket approximately 3 inches over wires at about 8 inches from the end of the cable on both sides.



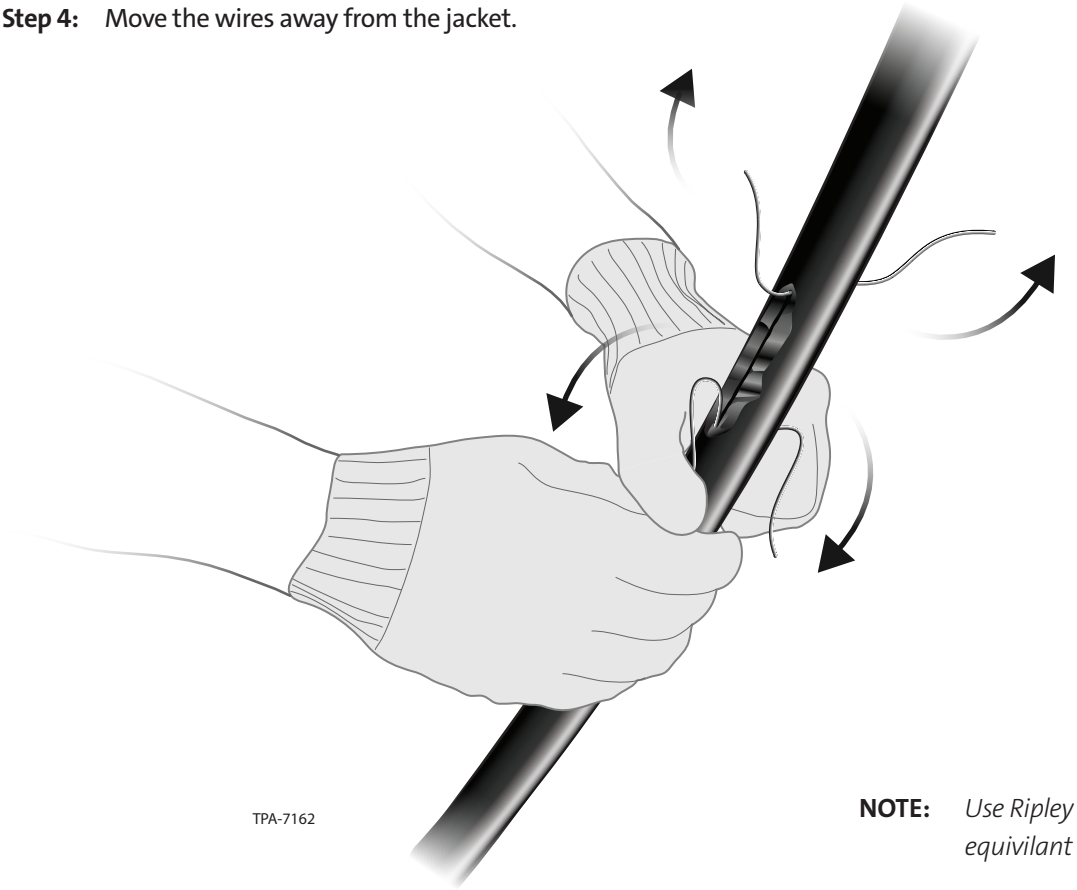
Step 2: Flex to pop out both wires.



Step 3: Cut wires



Step 4: Move the wires away from the jacket.



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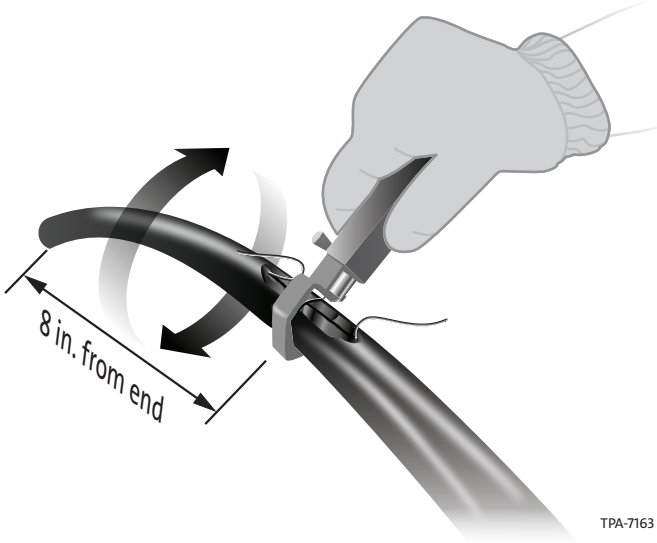
NOTE: *Use Ripley RCS-158 hook, blade or equivilant tool.*

Step 5: Ring cut, flex to break armor, then pull jacket off.



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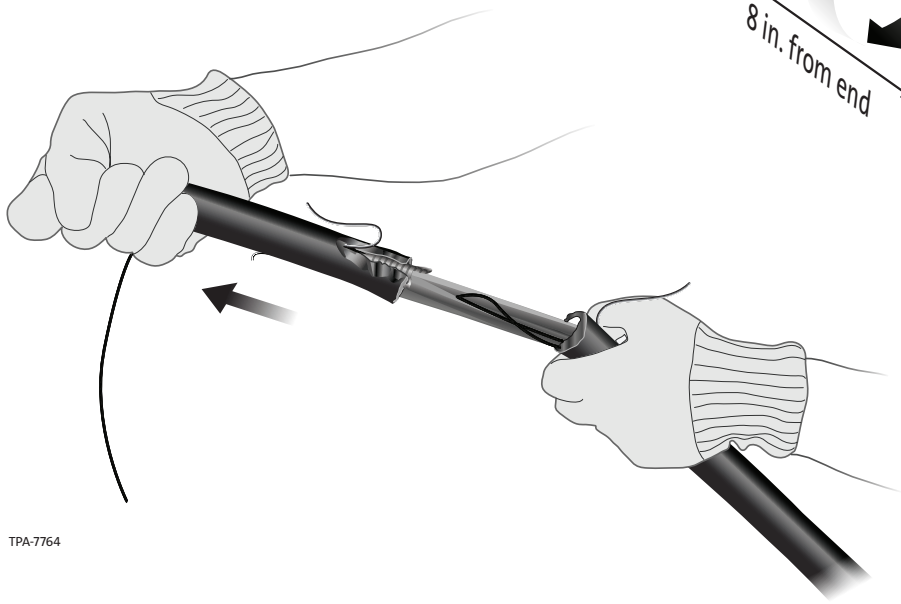

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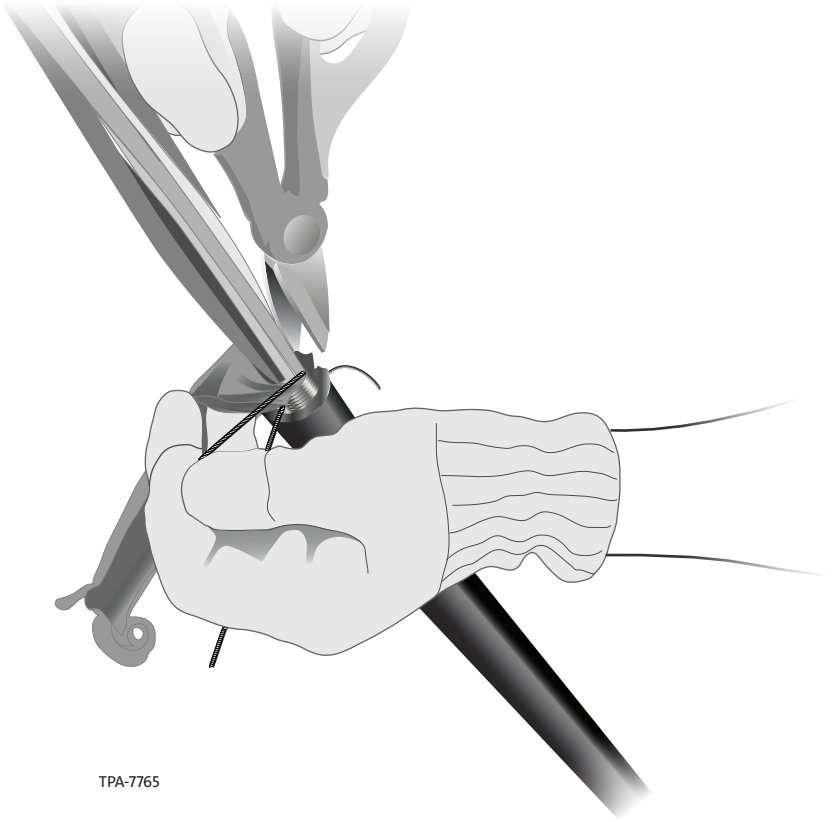
Step 6: Position ripcords near closest wire. Cut notch in jacket and armor for the ripcords.



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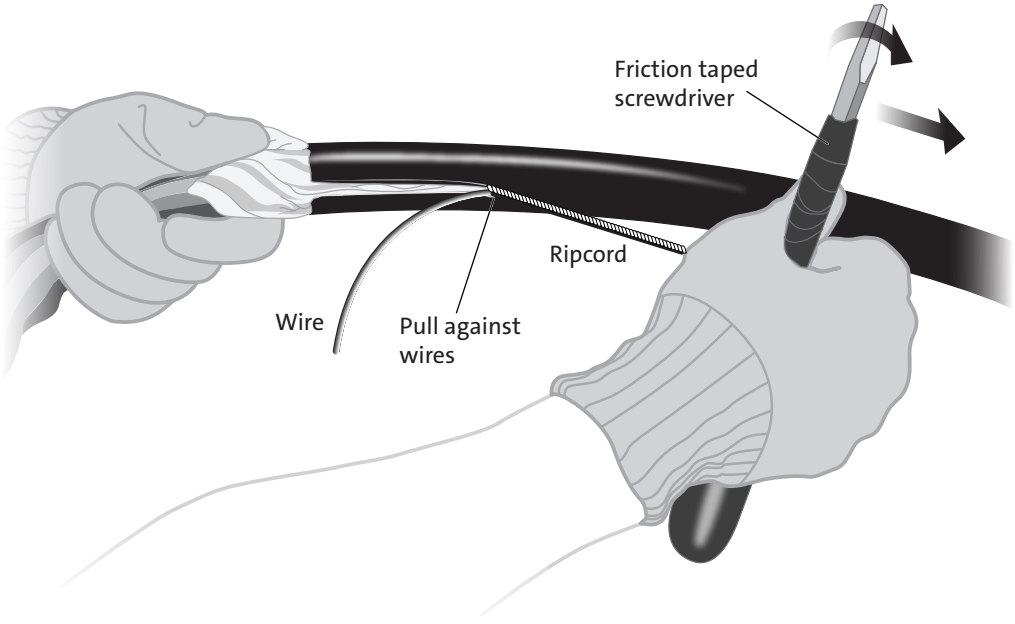
Step 7: Pull ripcords one at a time to length required. It is important to pull ripcords against each wire to create a wide opening for removal of subunits. If the opening is not wide enough, subunits can be damaged.



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Step 8: Pull the outer jacket and armor off (Figure 10). After jacket and armor are bent back, cut both 2 inches past the opening created by the ripcord to allow for bond clamps. Leave 4 inches of wire past the end of the jacket and armor for bond clamps (Figure 11).

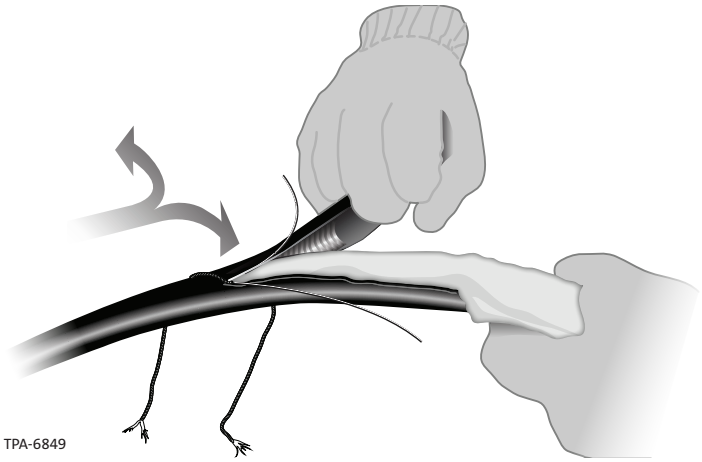


Figure 10

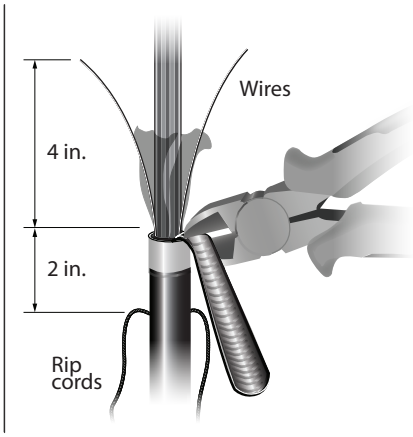
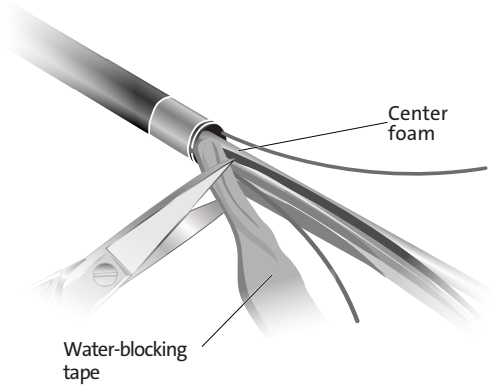


Figure 11

Step 9: Cut center foam and water swellable tape (Figure 12). Be careful not to cut into the fibers surrounding the foam.



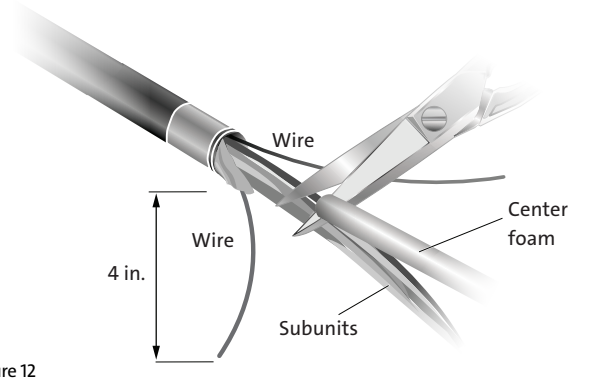


Figure 12

Step 10: Figure 13 shows the open cable with color coded subunits.

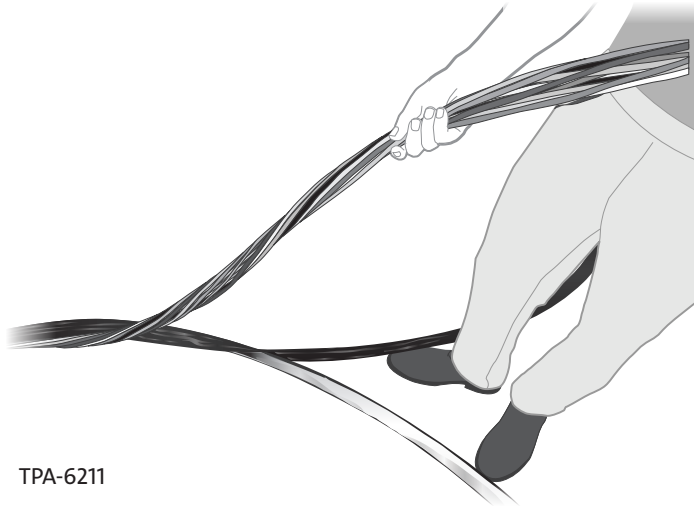


Figure 13

5. Installation of Bond Clamps once access is completed:

Step 1: To ground the armor, carefully pry up the armor and sheath so that the base plate of the grounding clamp can be slid under the armor.

Step 2: Slide the base plate under the armor. Be careful not to damage the subunits. Place the top plate over the base plate and tighten with 10 mm locknut. A few light taps on the top plate may help seat the teeth of the grounding clamp (Figure 14).

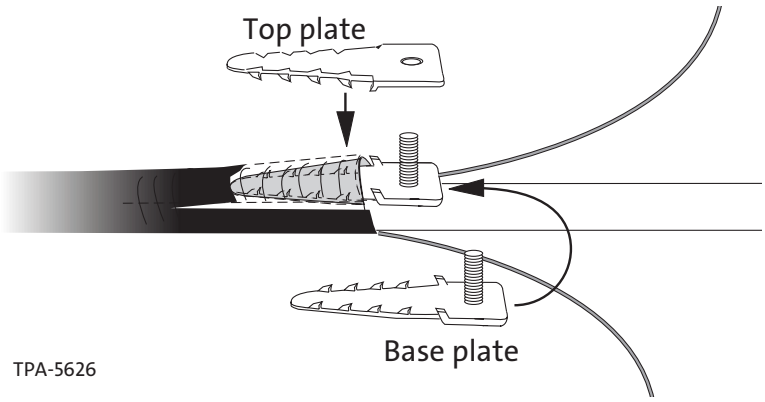


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Figure 14

Step 3: Place the grounding braid or wire on top of the lock nut and secure with a second lock nut.

Step 4: Cover the grounding clamp and split portion of the sheath with vinyl tape as shown in (Figure 15).

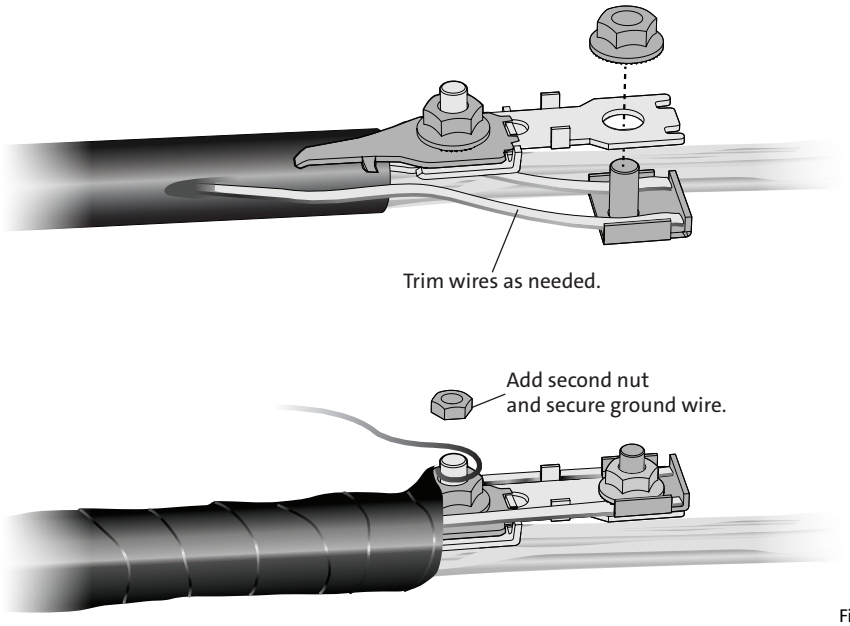

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Figure 15

6. Accessing 288-Fiber Subunits

Step 1: Peel subunit with fingernail or use ripcord to expose ribbons (Figure 15).

Step 2: Continue to peel subunit jacket away from ribbons as indicated in Figure 16.

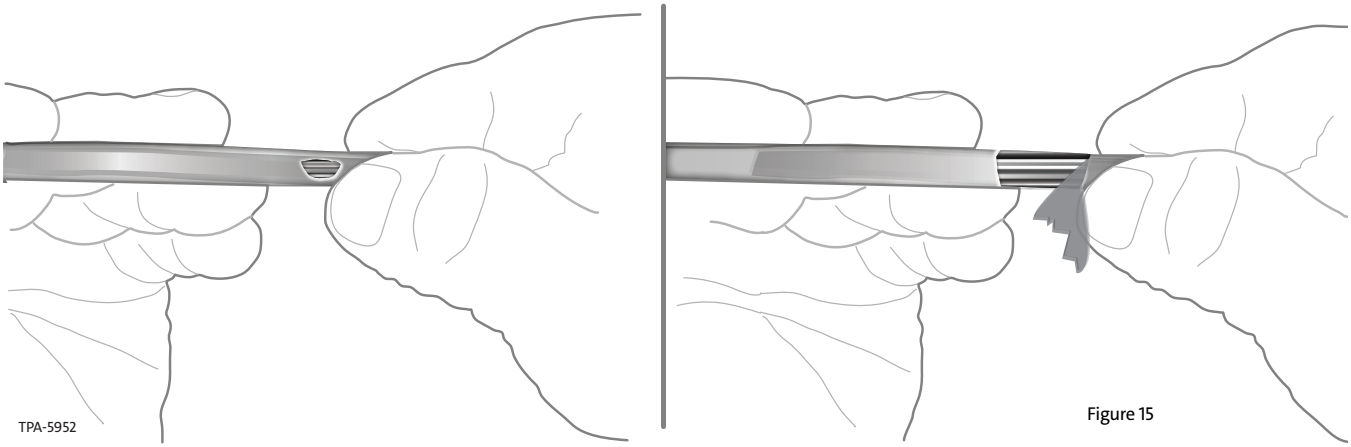

Figure 15

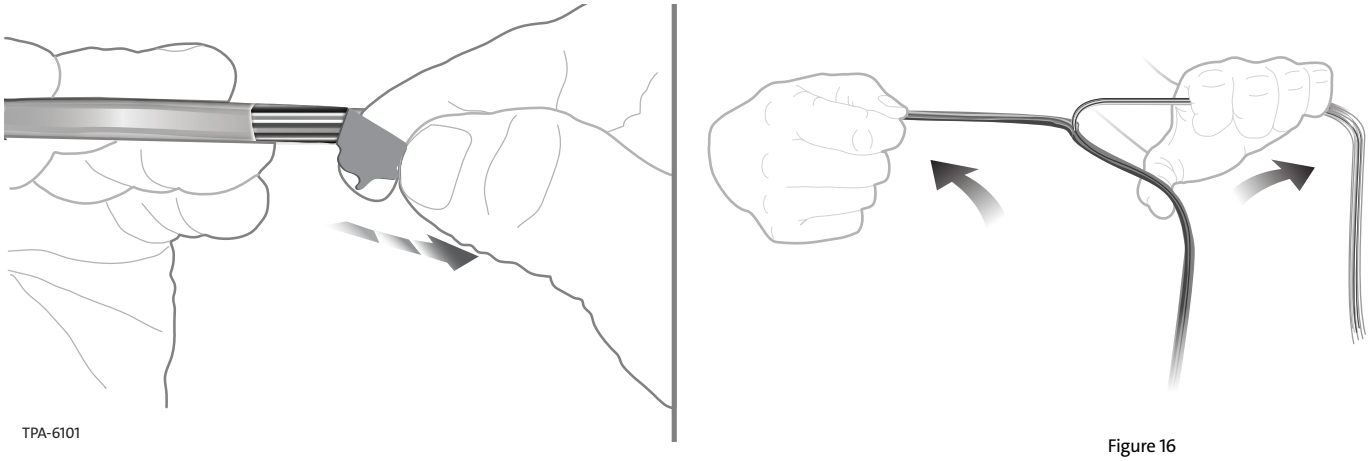

Figure 16

6.1 Accessing 24-Fiber Ribbons - 250 µm fiber only*

**if 200 µm fiber, separate ribbons by hand into 12 and 4 fiber counts. See AE Note 171.*

Step 1: Use the RST-000 ribbon splitting tool to start the split on the 24-fiber ribbon.

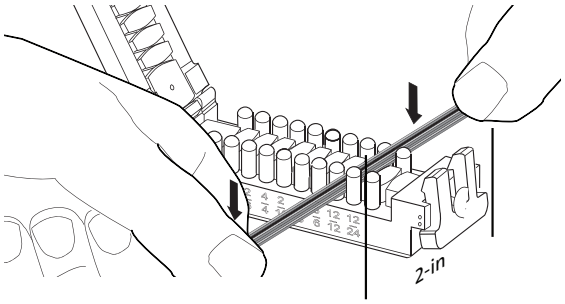

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Figure 17

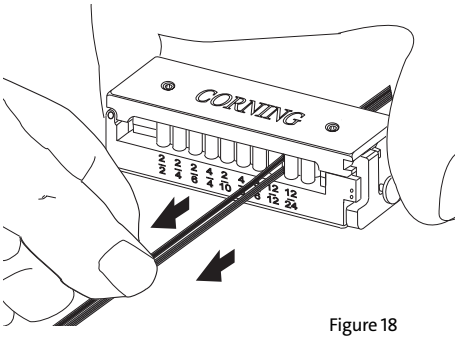


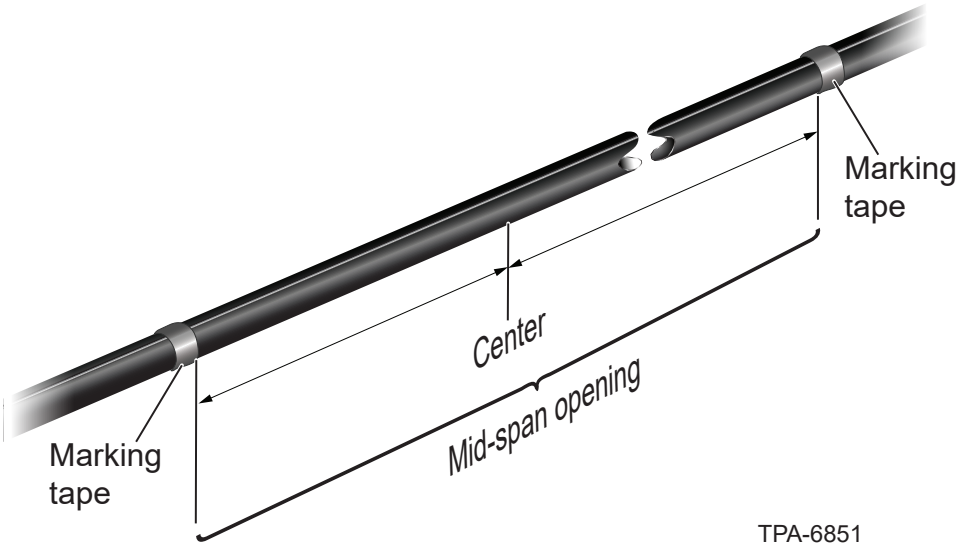
Figure 18

Step 2: Insert the ribbon into the (select split, i.e. 2-6) slot to allow 2 inches to extend out on one side (Figure 17). Close the door, push in and hold the slider button on the end of the tool, then pull ribbon through the tool to split only 2 inches (Figure 18).

Step 3: Remove the ribbon from the tool.

7. Mid-Span Access

Step 1: Tape both sides of the cable at the applicable lengths for the mid-span access opening. Locate the center of the planned opening.



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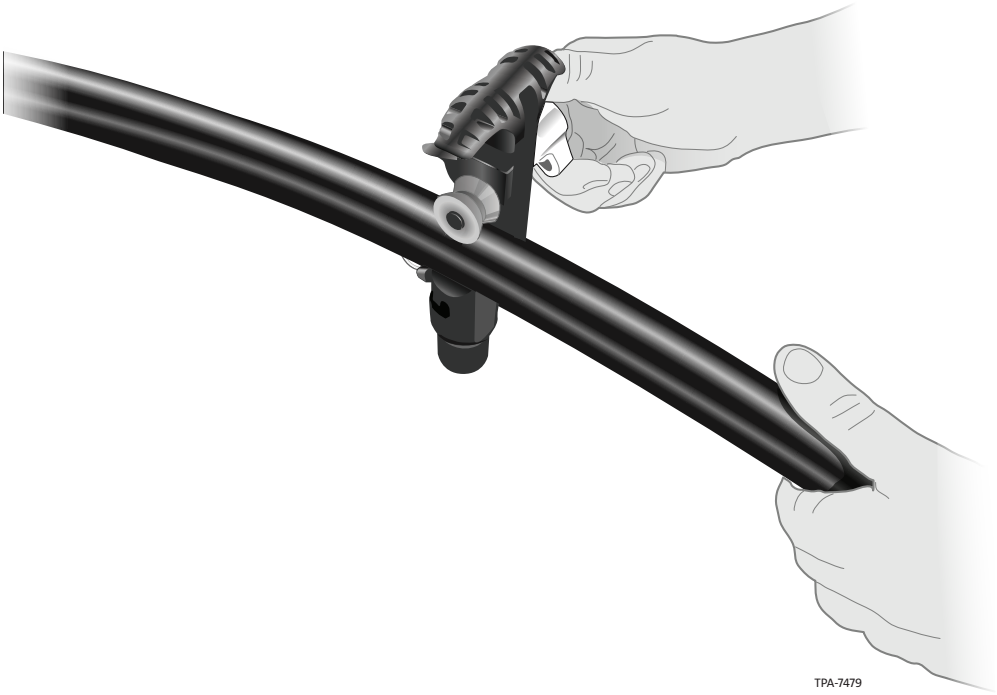
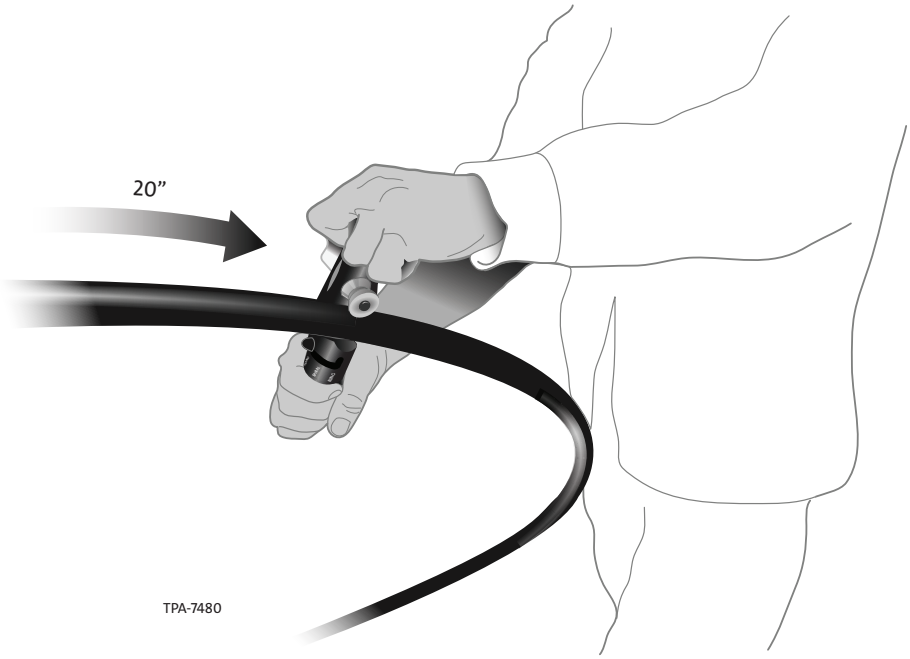
Step 2: Prior to accessing, the ACS+ Extended tool blade depth must be calibrated on a scrap piece of cable. Ensure the blade does not damage fibers.

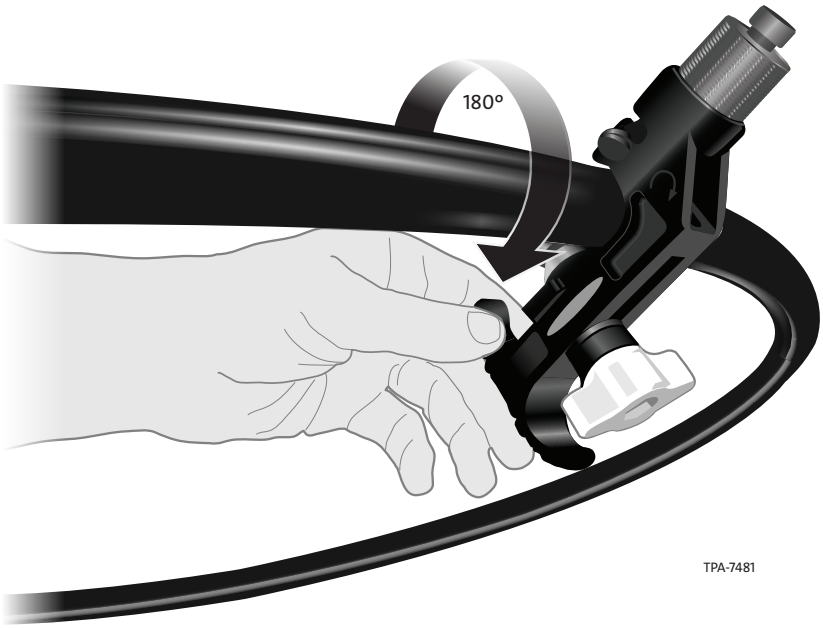
Step 3: Position the tool on the cable with the blade approximately 90 degrees from the strength wire. Tighten the tool to the cable, then lower the blade in the long position.



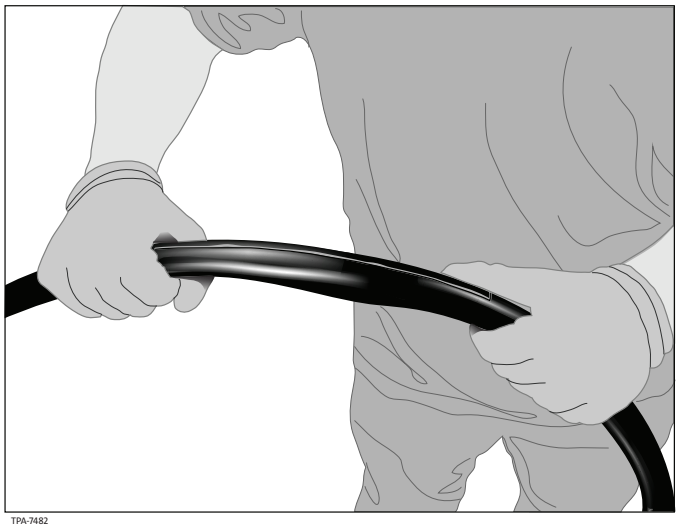
Step 4: Pull the tool to make a cut through the jacket and armor approximately 20 inches long.

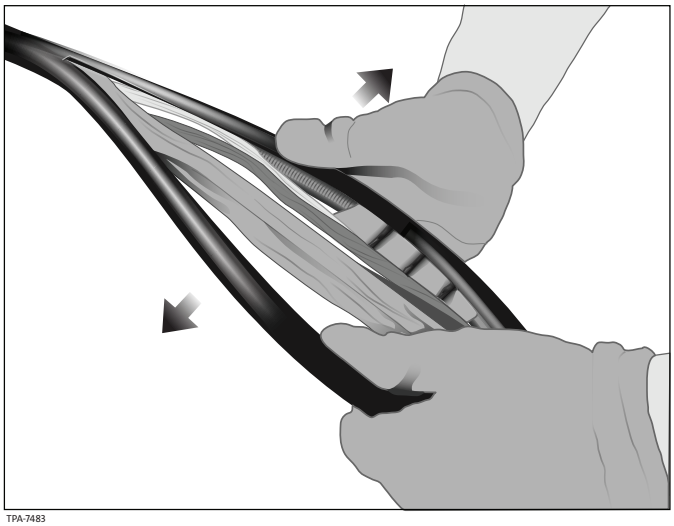


Step 5: Retract the blade and rotate the tool to 180 degrees from the cut. Lower the blade and repeat step 4 to make a cut on the opposite side of the cable as the previous cut.

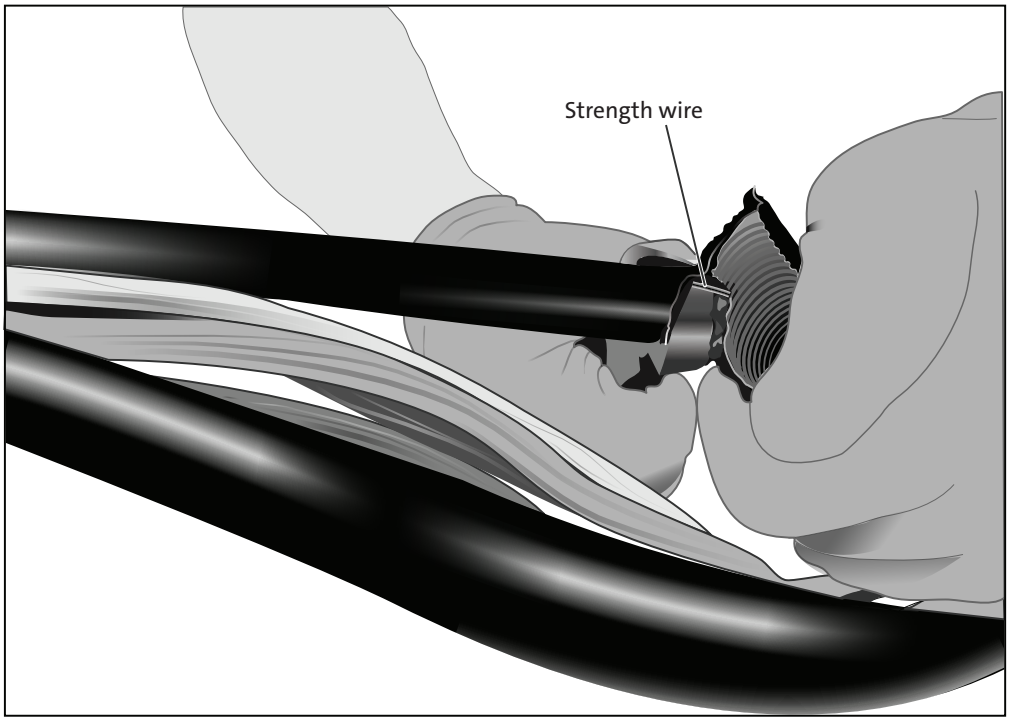


Step 6: Retract the blade and remove the tool from the cable. Flex the cable and pull the two pieces of jacket away from the cable core at the cut location.





Step 7: Cut the cable jacket and armor in the middle and pull back the jacket/armor.



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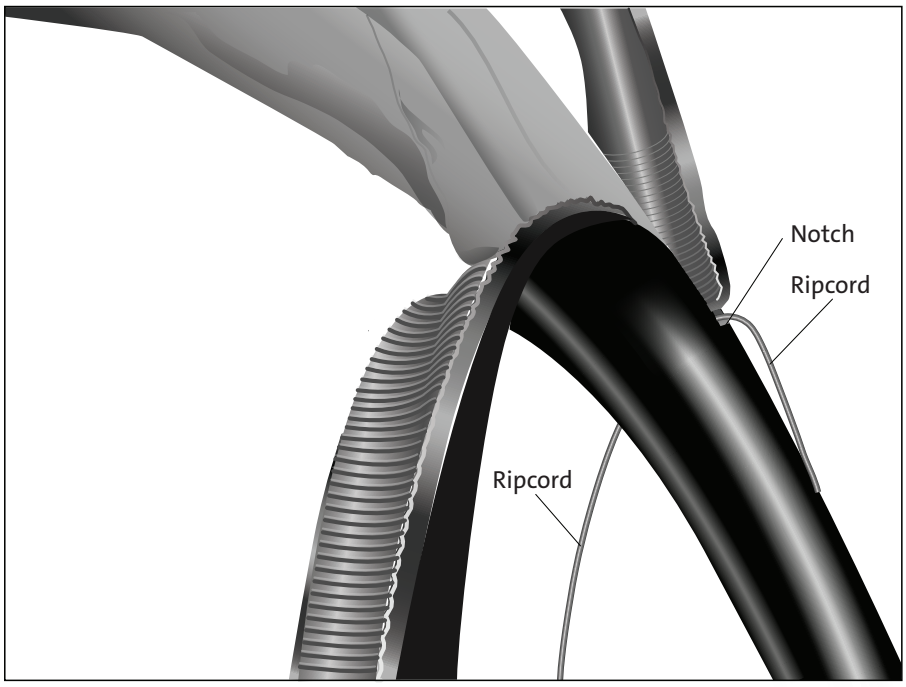
Step 8: Cut and position the ripcords adjacent to the strength wire, make a notch in the jacket/armor to start the ripcord.



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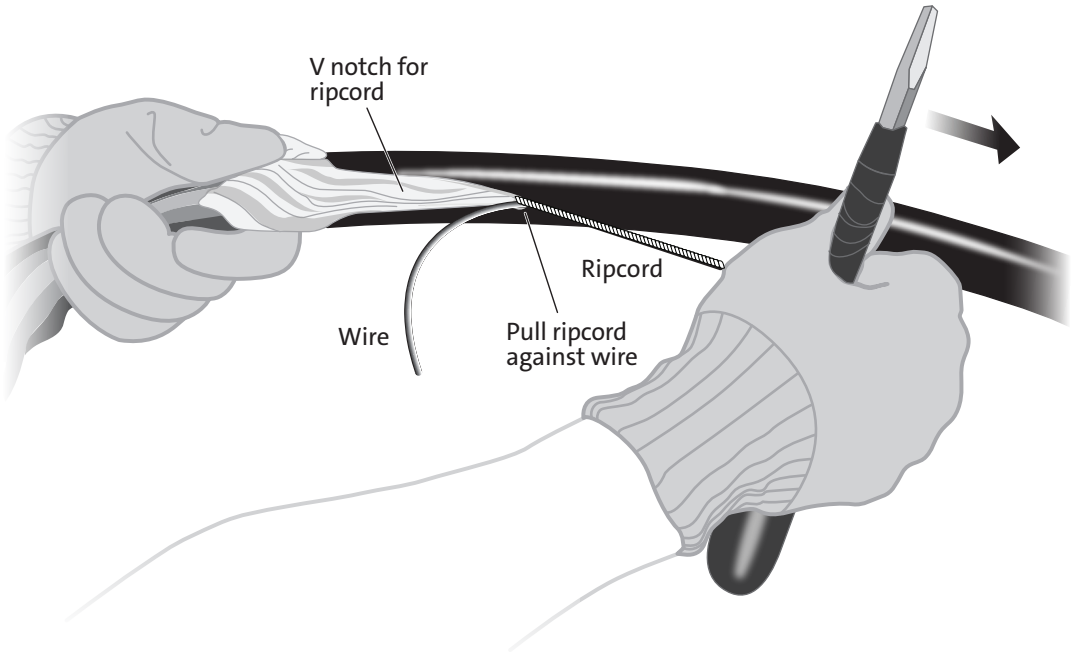
Step 9: Pull ripcords to the measured mid-span length using a friction taped screwdriver. It is important to pull ripcords against each wire to create a wide opening for removal of subunits. If the opening is not wide enough, subunits can be damaged.



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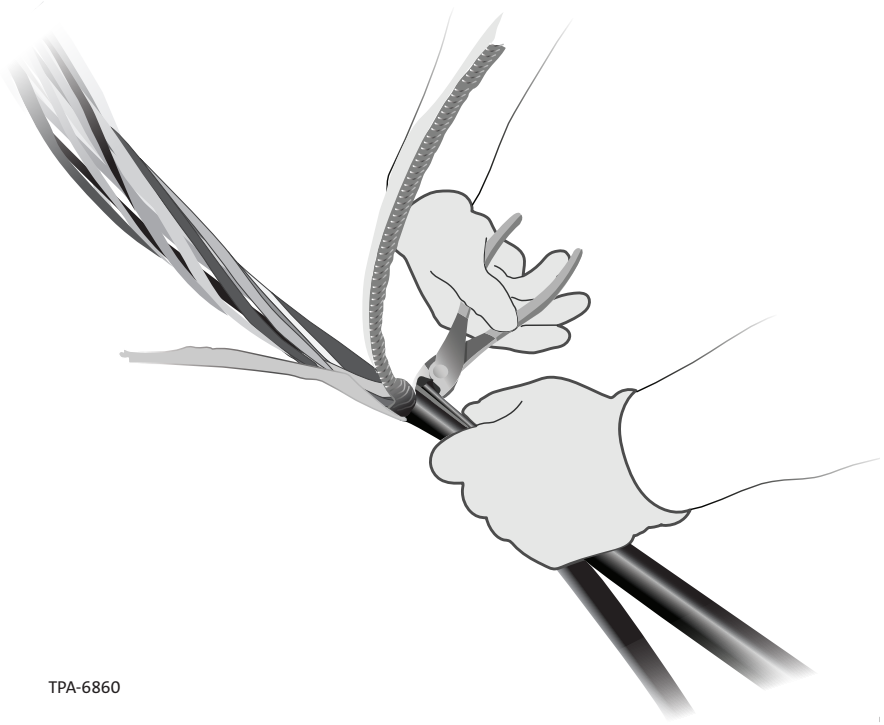
Step 10: Remove then trim off jacket and armor, center foam, water blocking tape, and ripcords from both sides of mid-span. The jacket and armor should be cut 2 inches on both sides to allow bond clamp installation.



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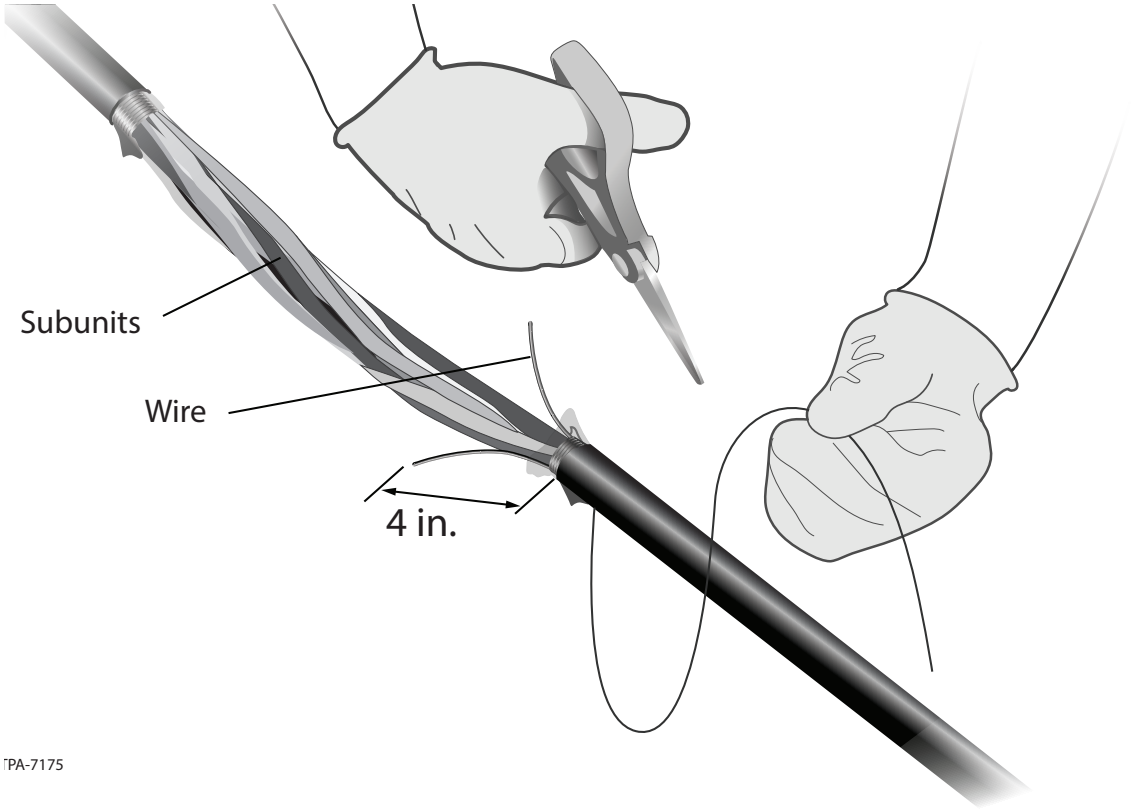
Step 11: Leave 4 inches of wire beyond the end of the jacket/armor to allow for bond clamp installation.



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