CORNING

Sheath Removal of 432 and 864 Fiber RocketRibbon® 250 All-Dielectric Cable

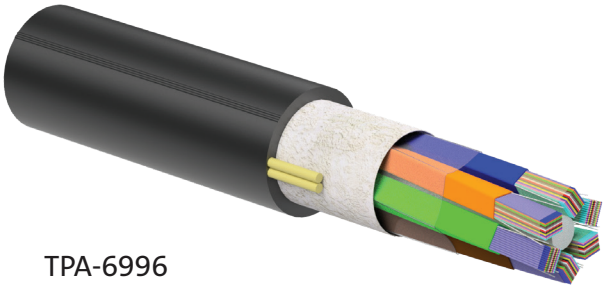
004-294-AEN, Issue 4

related literature | Search www.corning.com/opcomm. Click on "Resources/Standard Recommended Procedures."	
004-098	Instruction, Ribbon Splitting Tool (RST-000)
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
AEN167	Split Duct Cable Installation Guidelines
AEN168	Cable Placing in Duct - Methods and Equipment for Manholes and Vaults
CRR-0259V-AEN	Accessing a Fiber Subunit in a RocketRibbon Cable
Video	Teardrop Storage Method for Mid-Span Slack Management
Video	Railroad Method for Backfeeding Cable
005-010	Lashed aerial Installation Issue 15

1. General

This document describes handling practices for dielectric 432 and 864 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 a non-armored cable manufactured with peelable material around ribbons. Two glass reinforced rods provide tensile strength for the cable. This illustrates the 864 structure; the 432 is similar with three subunits (Figure 1).



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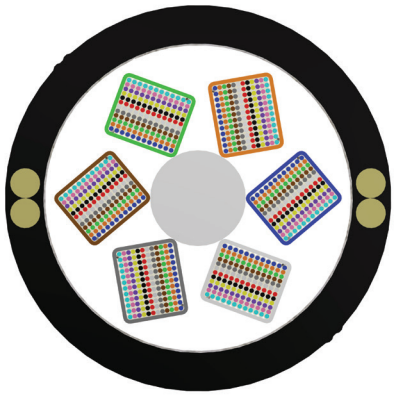

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Figure 1

2. Ribbon Stack Info for 432 and 864f RocketRibbon® Cable

- 12 - 12 fiber ribbons in 6 subunits (12-12 fiber ribbons in 3 subunits for 432)
- Subunits are color coded with a pealable material
- Ribbons in each subunit have print, i.e.: 1-12

3. Precautions

3.1 Cable and Fiber Handling Precautions

NOTE: ***Fiber optic cables 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 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.***

3.2 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.

3.3 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.

3.4 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.

4. Tools and Materials

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

- Gloves
- Ribbon splitting tool (P/N RST-000)
- Needle nose pliers
- Ripley RCS-114 tool or equivalent
- Permanent marking pen (P/N 2102003-01)
- Hook blade utility knife
- Large screw driver
- Scissors (P/N 100294-01)
- Tape measure (P/N 100305-01)
- Ripley MB07-7000 tool
- SNIPS or diagonal cutters
- Ideal 45-164 tool

5. Cable End-Sheath Removal

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).

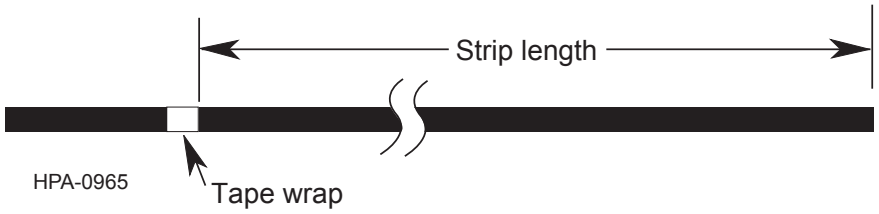

Figure 2

NOTE: ***Practice and calibrate tools on a scrap piece of cable before using.***

Step 2: Score a ring cut at the taped location using a Ripley MB07-7000 tool or equivalent (Figure 3). Also, a hook blade or Ripley RCS-114 tool can be used. Note the Ripley MB07-7000 tool has a preset blade depth. The Ideal 45-164 tool can be used on the 432F cable.

NOTE: ***GRP strength rods are imbedded in the jacket and should not be secured with strain-relief clamps when installed in a closure. The jacket must not have a slit or cut in it when it is clamped in a closure.***

Ring Cut Methods

NOTE: ***Can also use Ripley RCS-114 tool or equivalent (Figure 3). Do not cut into fibers when using a hook blade or RCS-114 tool***

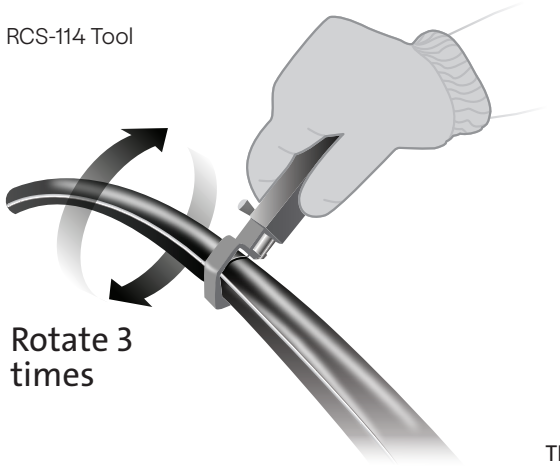

Figure 3

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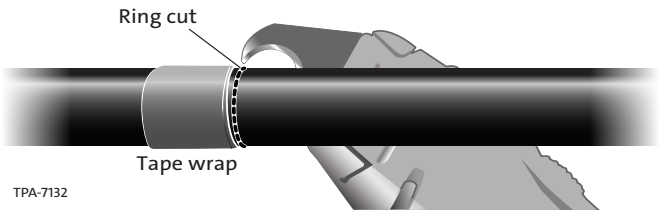

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Figure 4 shows a ring cut using the Ripley MB07-7000 tool. This tool has a preset blade depth that will not cut into fibers. See addendum for tool instructions.

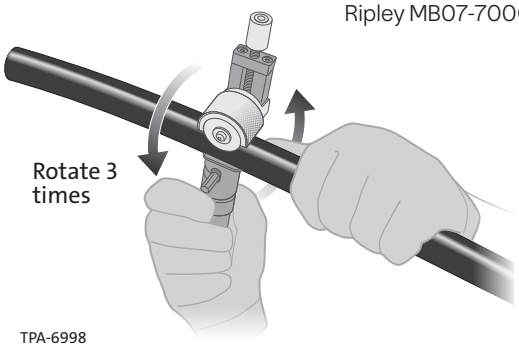

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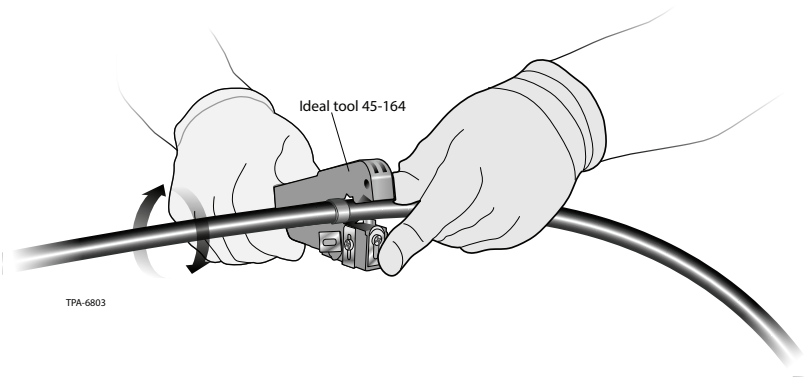
Figure 4

NOTE: ***For the 432F cable the Ideal tool (45-164) can be used instead of the other methods.***



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Step 3: Insert needle nose pliers (or screw driver) on the end of the cable no more than 1/2 inch at the a FastAccess® technology cable ridges (Figure 5). Press pliers/screw driver outward and break open at ridge location. Repeat on opposite side.

Step 4: Using hands or needle nose pliers to start, pull off jacket down to the ring cut (Figure 6). Snap off the jacket by hand or if necessary use cutters (Figure 7).

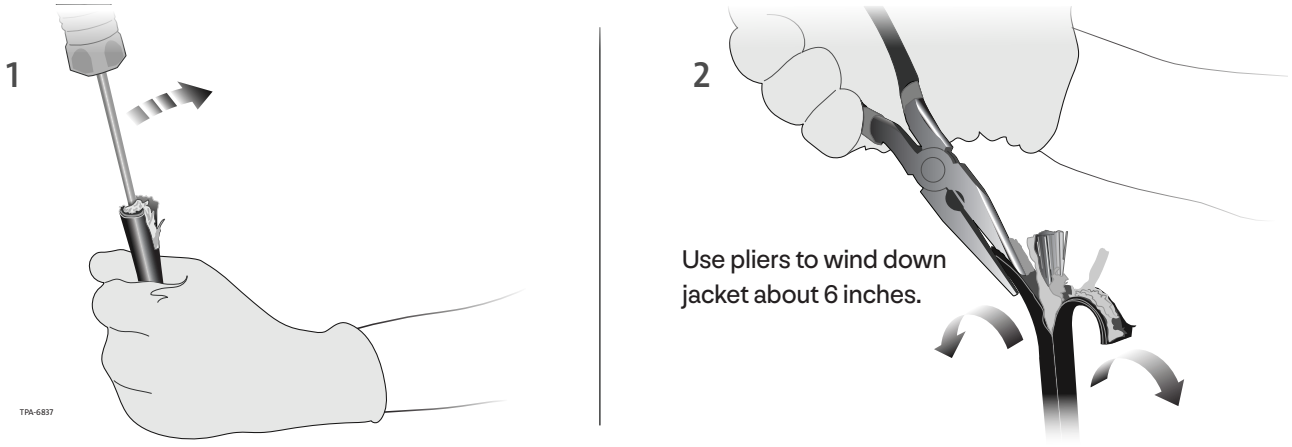


Figure 5

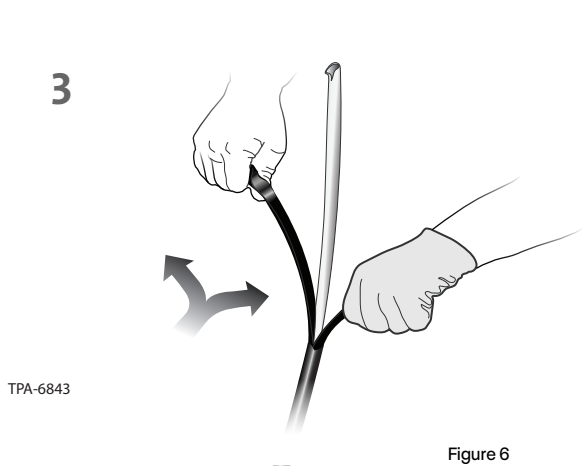


Figure 6

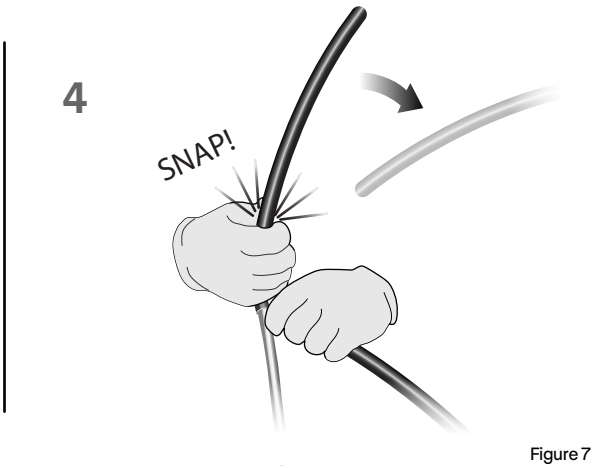


Figure 7

Step 5: Remove water blocking tape (Figure 8).

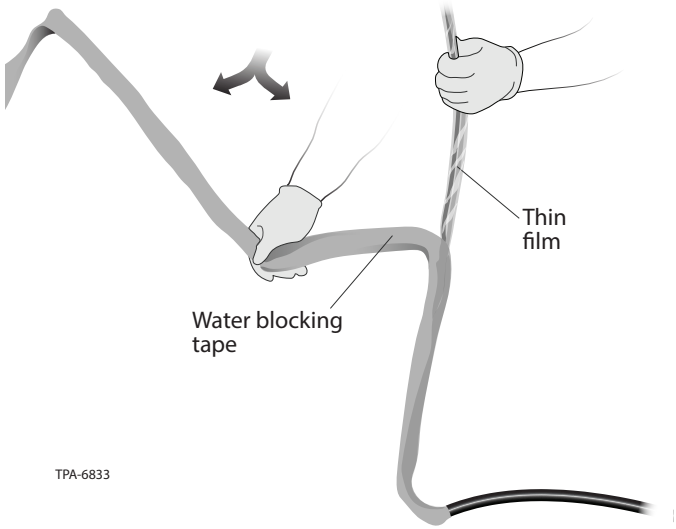


Figure 8

Step 6: Using fingers, peel off some thin film wrap on the end of the subunits and locate the rip cord. (Figure 9).

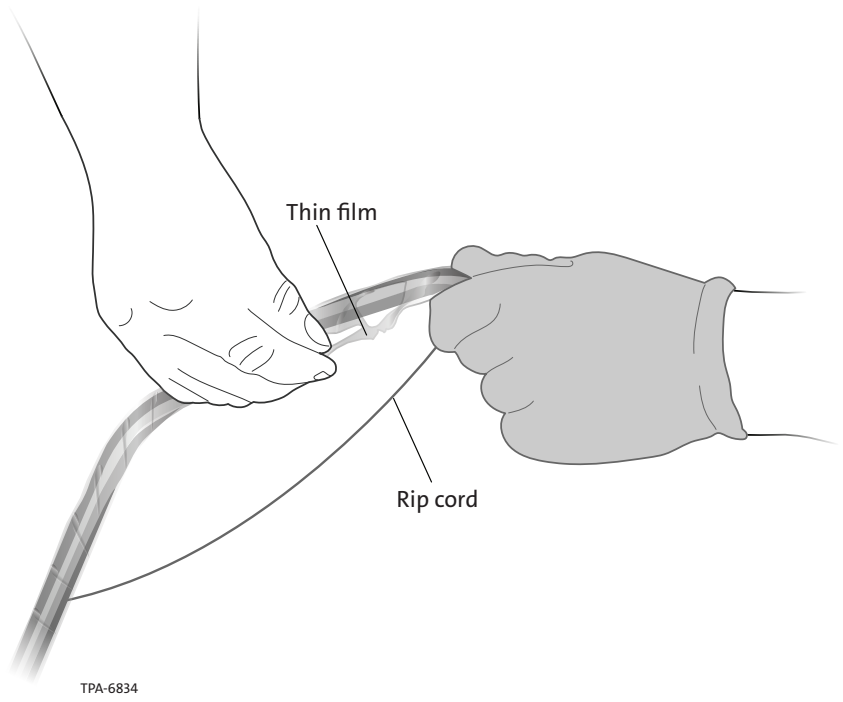


Figure 9

Step 7: Pull the rip cord to the ring cut location and remove the thin film (Figure 10).

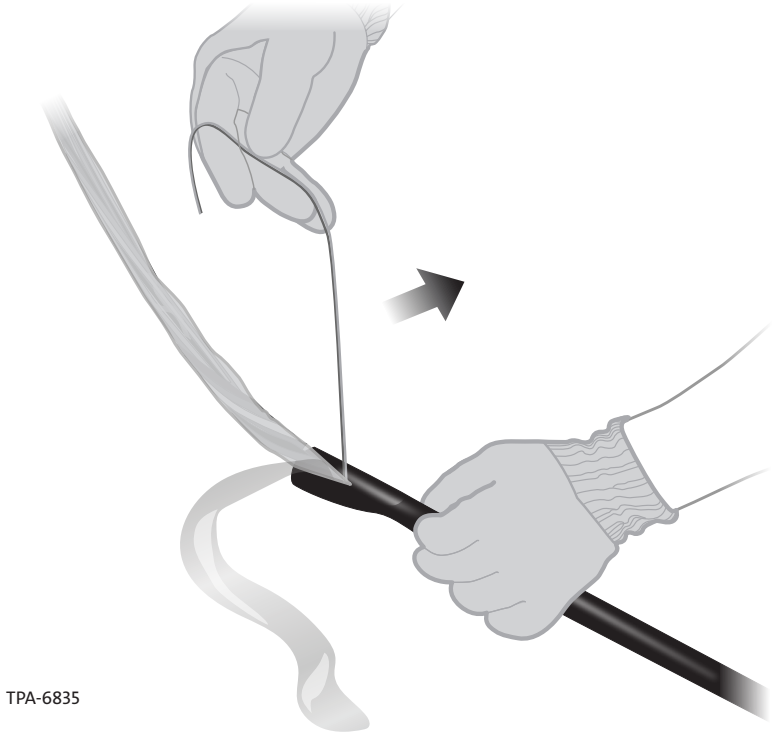


Figure 10

Step 8: Remove center foam filler. Cut off at the ring cut location (Figure 11).

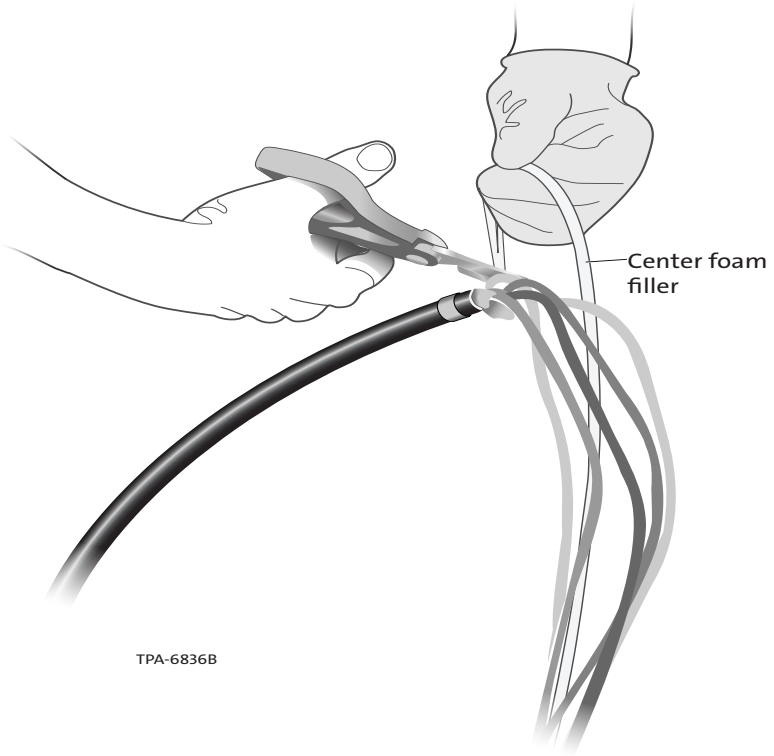


Figure 11

6. Cable Mid-Span Access

NOTE: ***First practice on scrap piece of cable and calibrate tools before using.***

6.1 Measure and mark the mid-span access

Step 1: Mark two locations on the cable to identify mid-span opening required (Figure 12).

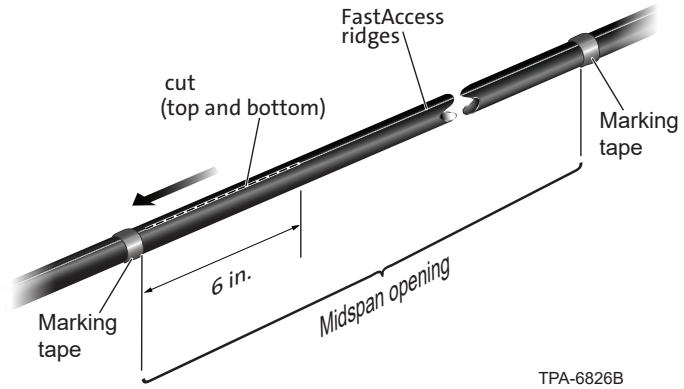


Figure 12

Step 2: Score a ring cut at each of the marked locations using a hook blade, Ripley RCS-114 tool, or equivalent, or use Ripley MB07-7000 tool.

NOTE: ***GRP strength rods are embedded in the jacket and should not be secured in a closure. The jacket must not be cut or slit when it is clamped in a closure.***

Ring Cut Methods

NOTE: ***Do not cut into fibers when using a hook blade (Figure 13)***

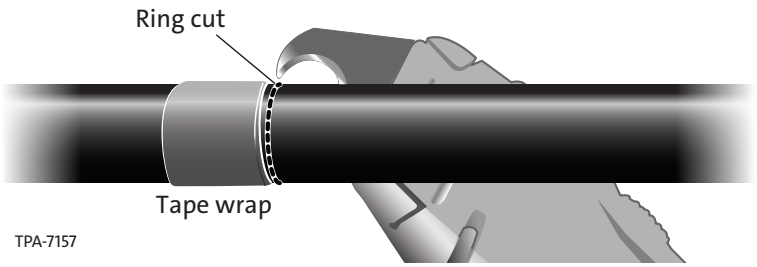


Figure 13

Figure 14 shows a ring cut using the Ripley MB07-7000 tool. This tool has a preset blade depth that will not cut into fibers. See addendum for tool instructions.

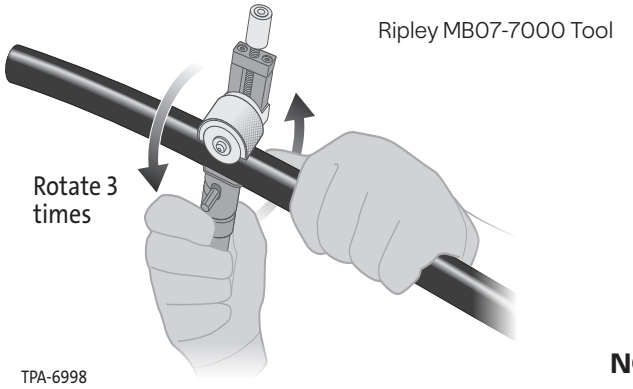
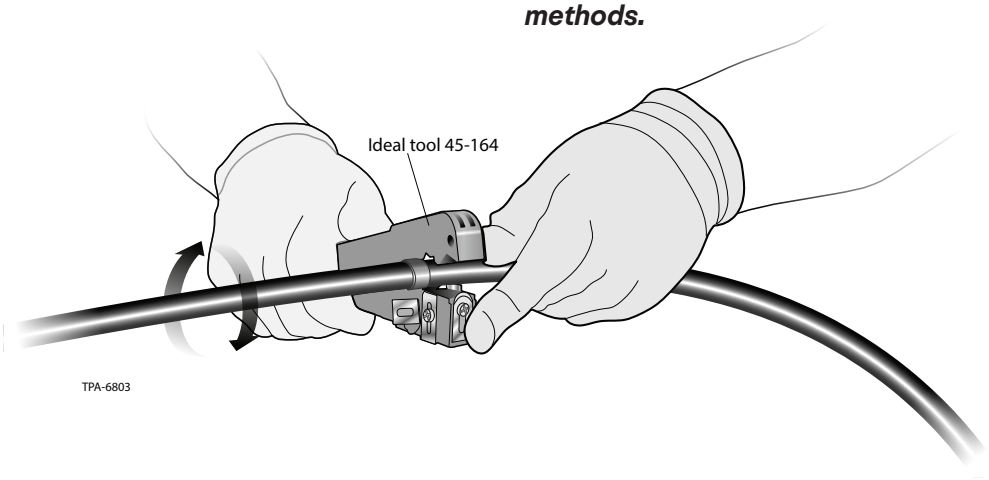


Figure 14

NOTE: ***For the 432F cable the Ideal tool (45-164) can be used instead of the other methods.***



After Ring Cut Is Made

6.2 Method A for mid-span (using Ripley MB07-7000 tool) for 864F and 432F cables.

Step 1: Position the tool blade between the FastAccess® technology ridges at 6 inches from one ring cut, then pull or push the tool to the ring cut (Figure 14).

Step 2: Repeat on oppostie side in FastAccess technology ridges.

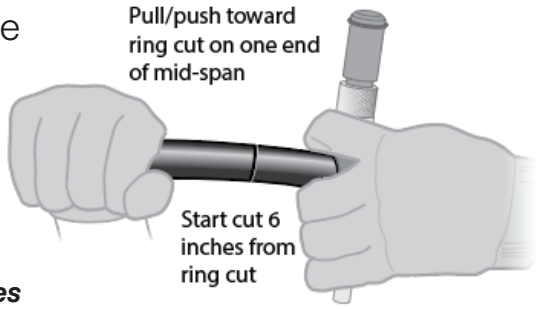
NOTE: ***It is important that the cut made starts in the FastAccess technology ridges. It is not necessary for the cut to remain between ridges for the entire 6-inch length, but it MUST be inbetween ridges at the start, 6 inches from the ring cut.***

6.3 Method B for mid-span (using the hook blade knife for 864F and 432F cables.)

Step 1: Flex and bend cable to insert hook blade at one ring cut location on FastAccess technology ridges and push away a total of 6 inches. Cut must end in between ridges.

Step 2: Repeat on opposite side.

NOTE: ***It is important that the cut ends in between ridges 6 inches from the ring cut. It is not necessary for the cut to remain between ridges the entire 6 inches.***



Ripley MB07-7000 Tool

TPA-6697

Figure 14

6.4 Method C for mid-span (using the 45-164 Ideal tool) can be used on 432F cable.

NOTE: ***This tool will not fit on 864F cable.***

Step 1: Make ring cuts at both ends marked for the midspan opening.

Step 2: Then make a 3 inch long cut along the FastAccess technology ridges on the top and bottom on one end of the midspan opening by pulling the front round blade of the 45-164 tool toward the ring cut (Figure 15).

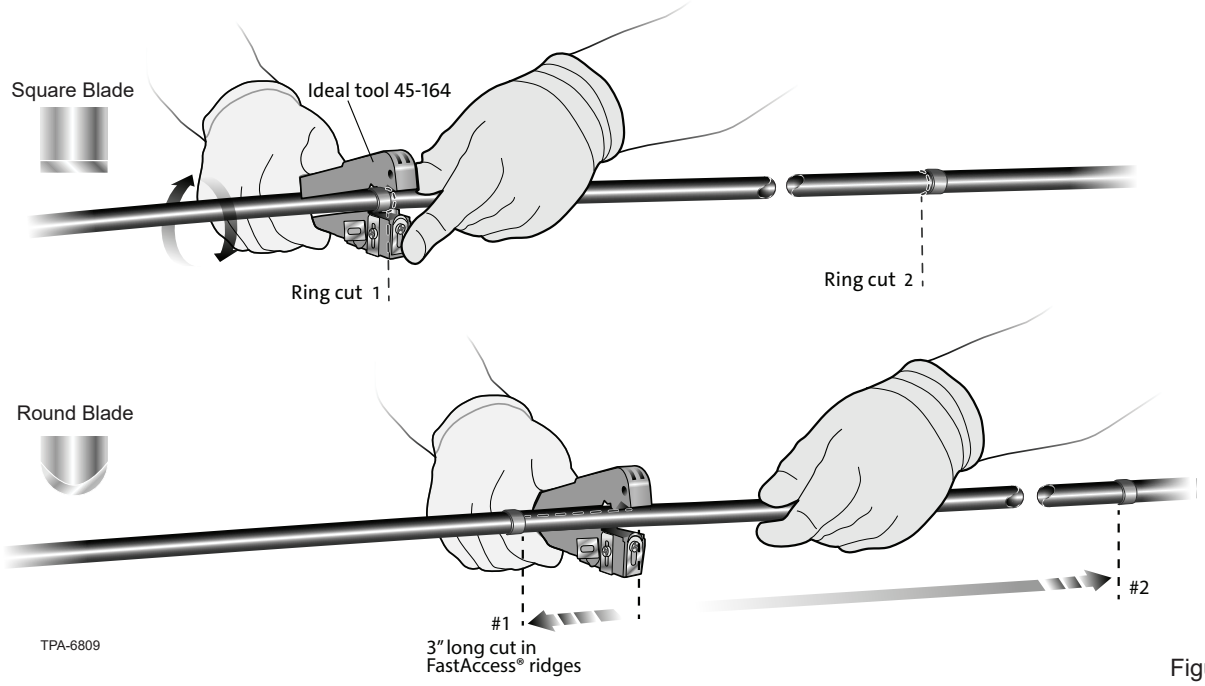


Figure 15

6.5 Remove cable jacket

Flex and pop open the jacket. Use scissors as required to trim any remaining GRPs. Pry off the jacket by hand to opposite end of midspan opening where the second ring cut is located. Snap off jacket (Figure 16).

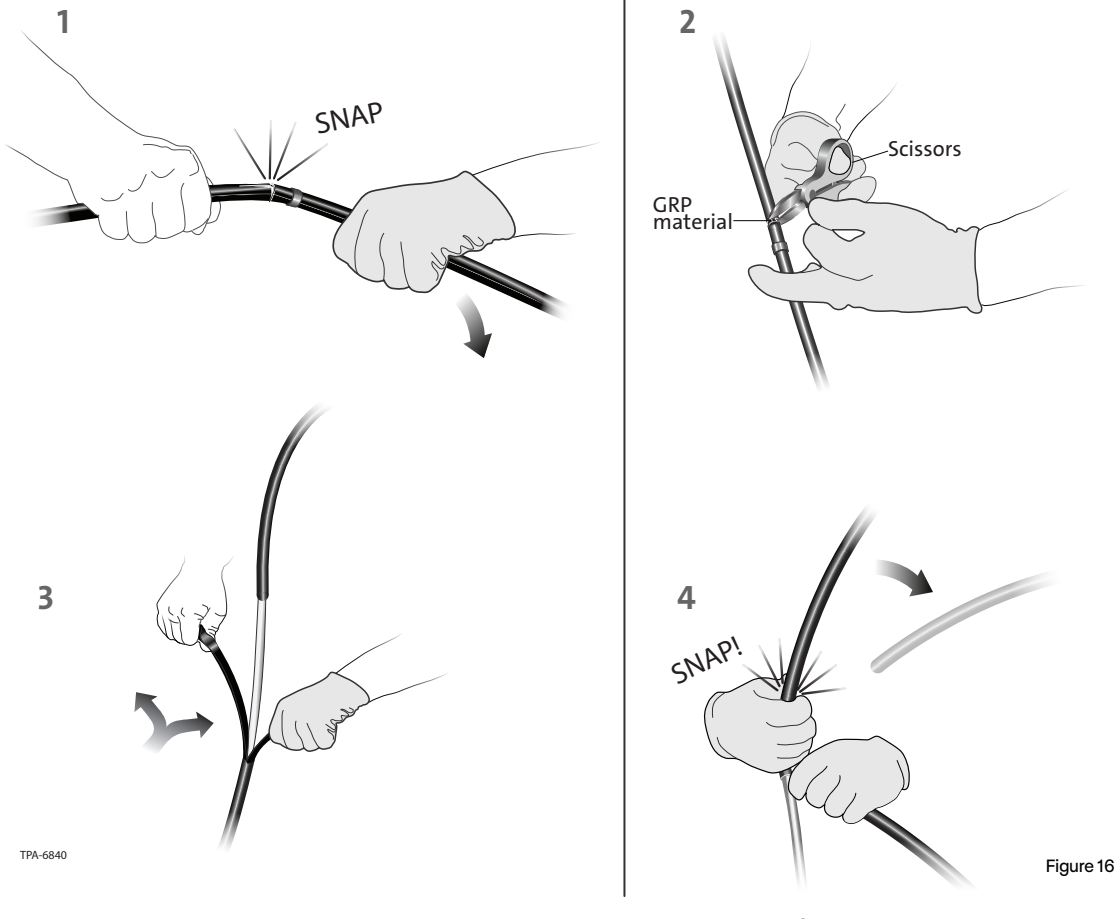
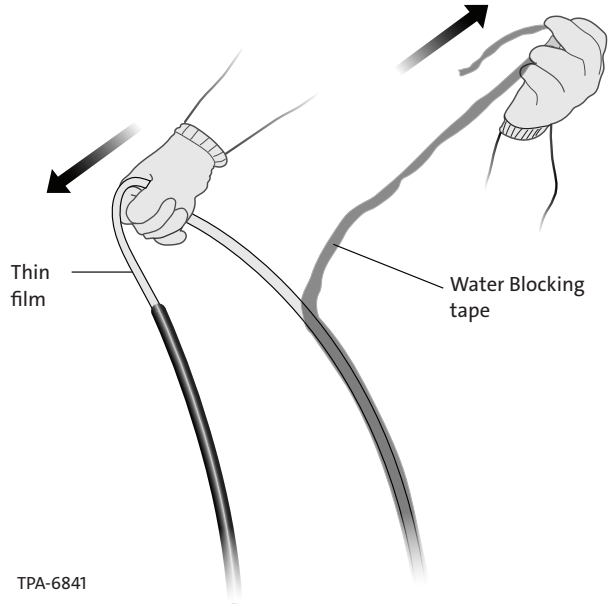


Figure 16

6.6 Remove water blocking tape

(See Figure 17).



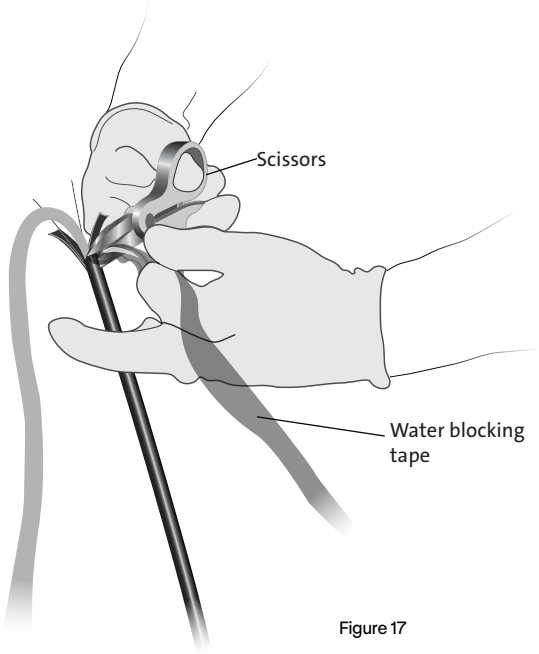
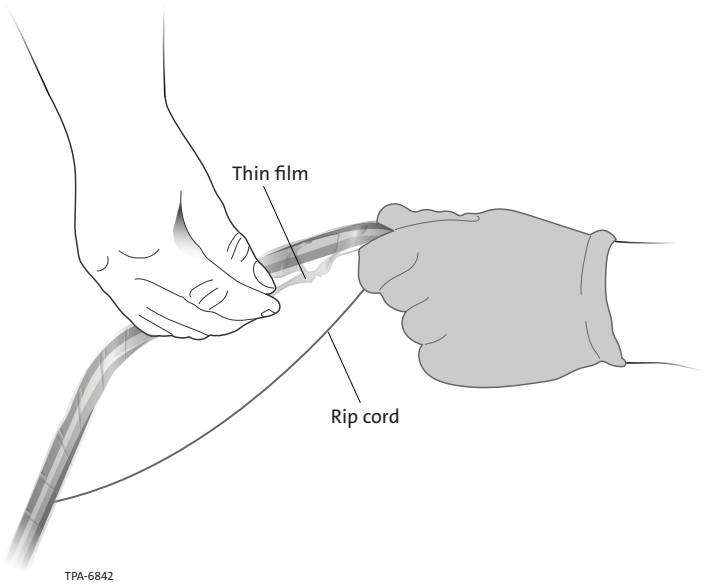


Figure 17

6.7 Remove the thin film

Pull open some thin film by hand on one end of the midspan opening and locate the rip cord Pull the rip cord to the ring cut location. (Figure 18).



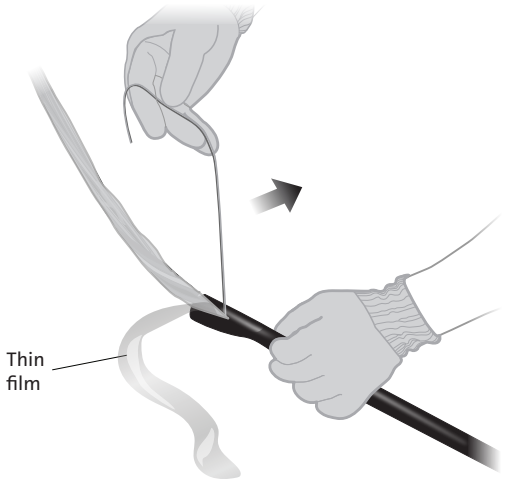


Figure 18

6.8 Remove center foam filler and water blocking strings.

Cut each off at the ring cut location (Figure 19). Access is complete.

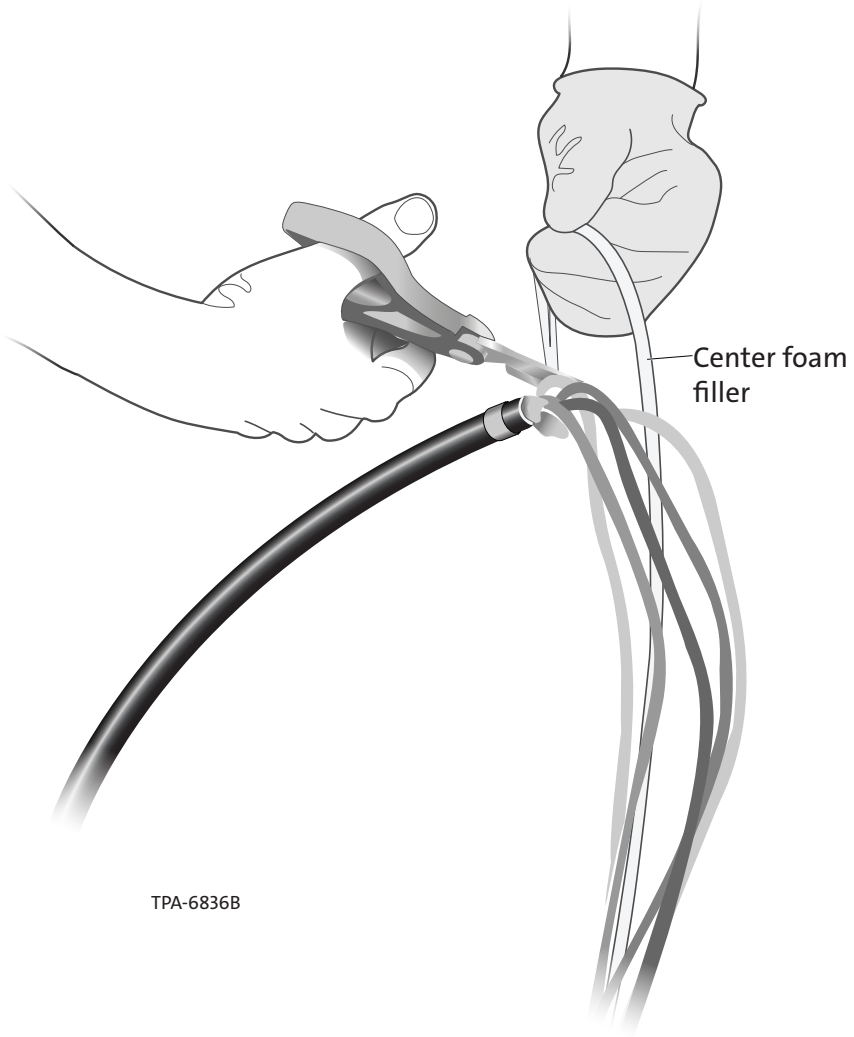


Figure 19

7. Accessing 144-Fiber Subunits

Step 1: Peel subunit with fingernail to expose ribbons (Figure 20). *Or use rip cord inside each of the subunits.*

Step 2: Continue to peel subunit jacket away from ribbons as indicated in Figure 21. Remove two water blocking strings.

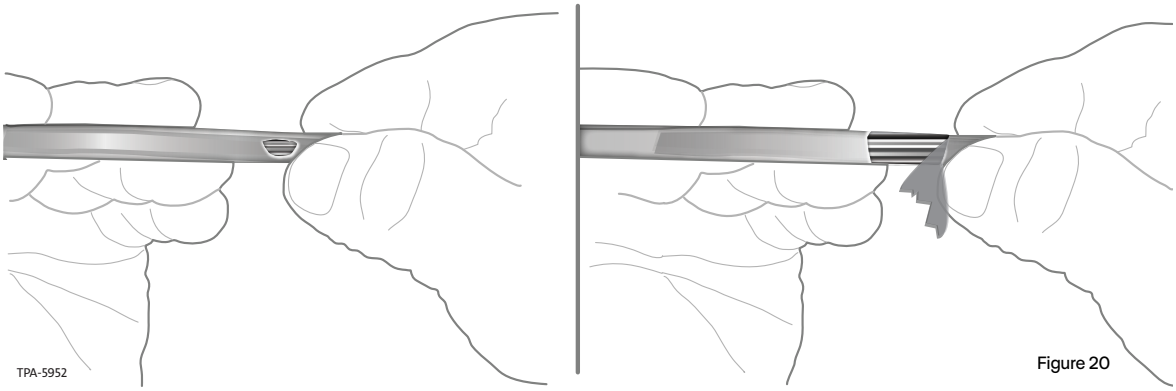


Figure 20

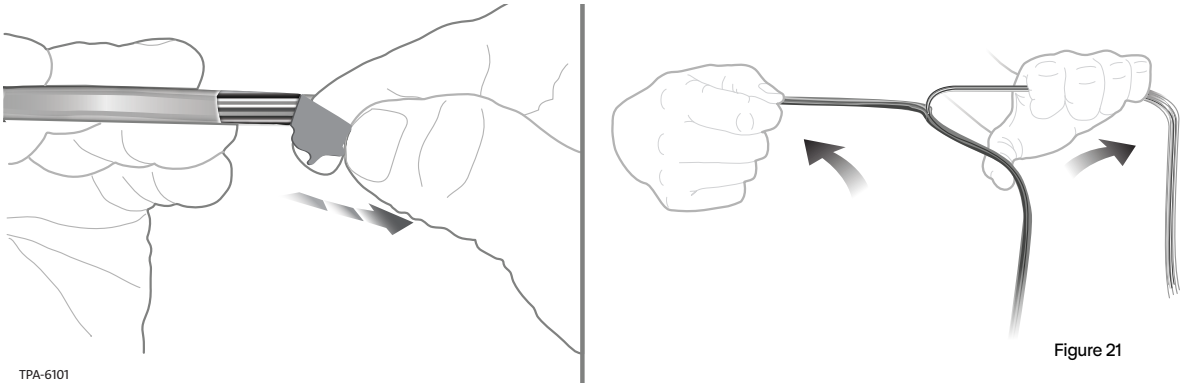


Figure 21

8 Accessing 12-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.

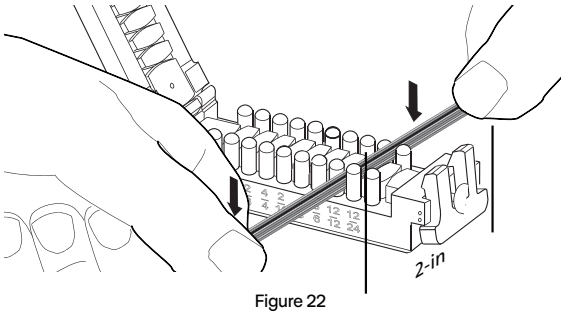


Figure 22

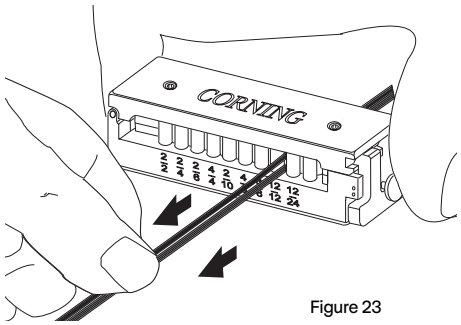


Figure 23

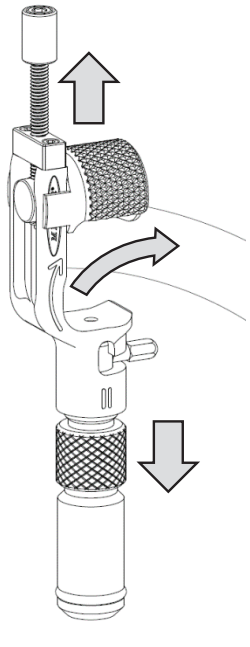
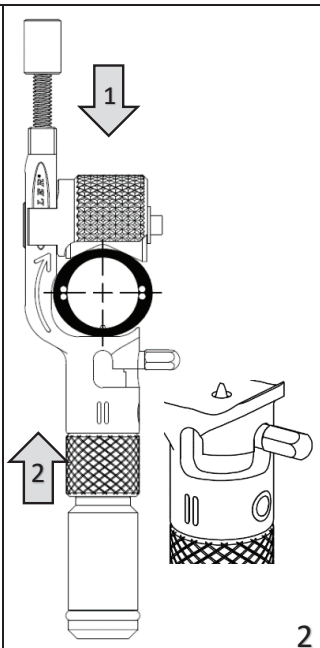
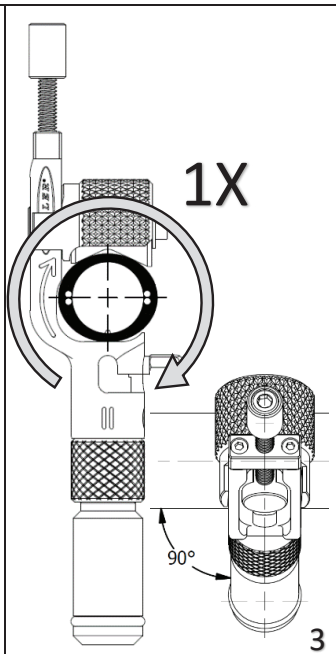
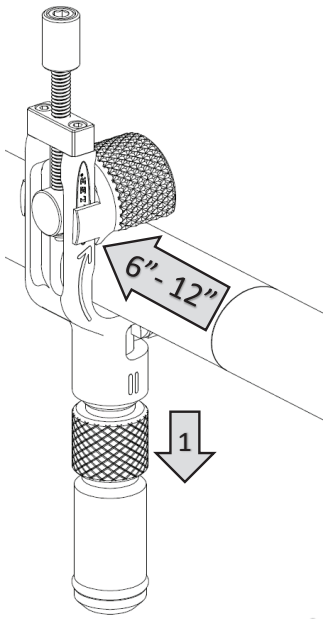
Step 2: Insert the ribbon into the (select split, i.e. 2-6) slot to allow 2 inches to extend out on one side (Figure 22). Close the door, push in and hold the slider button on the end of the tool, then pull ribbon through the tool to split only 2 inches (Figure 23).

Step 3: Remove the ribbon from the tool.

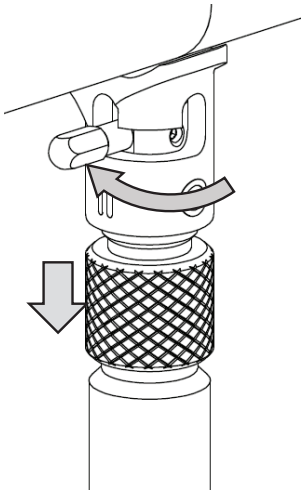
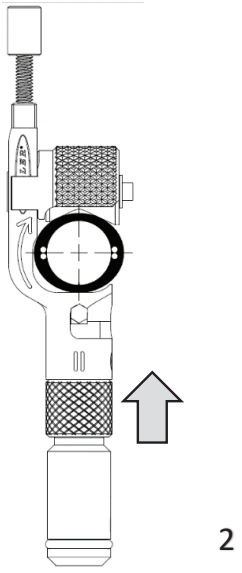
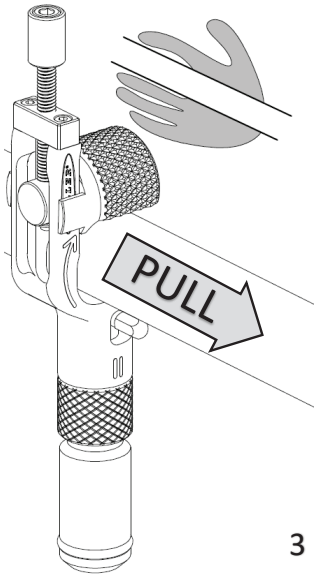
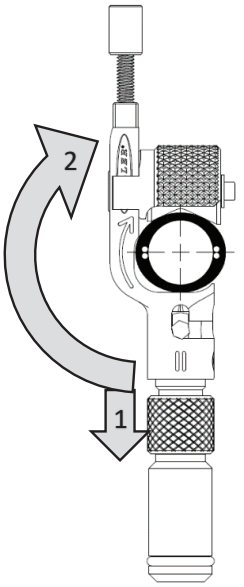
Addendum

MB07-7000 RocketRibbon® Cable Access Tool Instructions

RING CUT

 1	 2	 3	 4
Open tool and disengage blade Slide tool onto cable	Align blade halfway between strength members Tighten tool on cable Pierce jacket with blade in “Ring - cut” position	Rotate tool around cable 1 time. Be sure to keep tool 90° to cable to correctly ring without spiraling.	Disengage blade and slide tool approx. 6-12 inches down cable. Repeat steps 2 & 3

LONGITUDINAL CUT

 1	 2	 3	 4
Disengage blade Move lever to “longitudinal cut” position	Ensure blade is halfway between strength members Engage blade	Pull tool down cable 1/8”-1/4” past the opposite ring cut Pull tool down cable, using the wheel cover for stability.	Disengage blade Rotate tool to opposite side of cable Repeat steps 2 & 3

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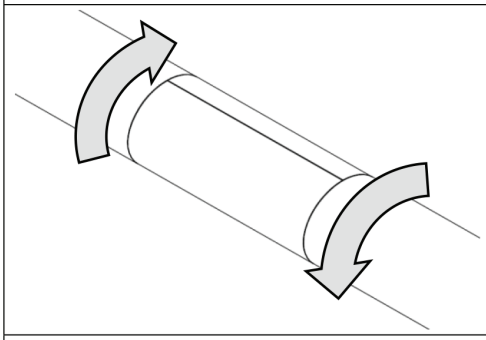
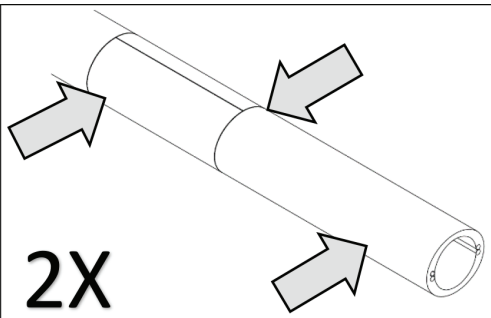
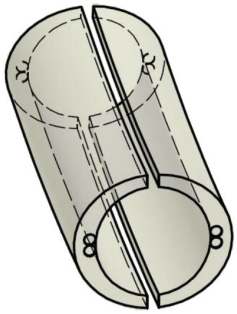
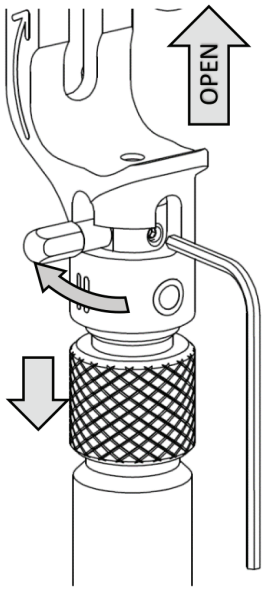
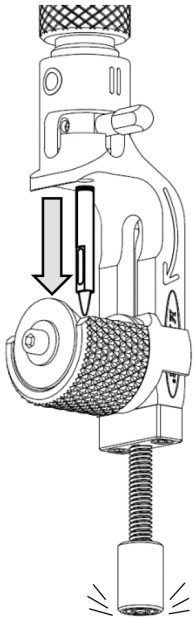
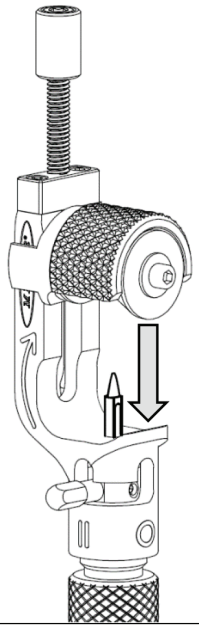
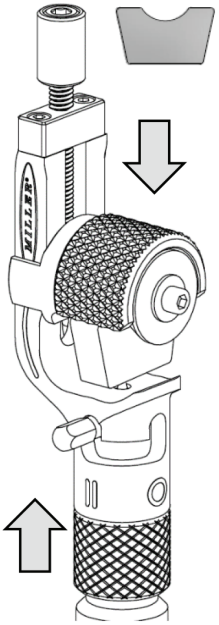
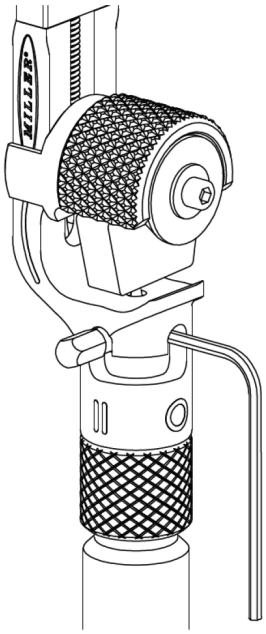
Jacket Removal		
		
Twist cable from outside of the cut portion to loosen longitudinal cut	Flex cable laterally at both ring cuts to snap strength members.	Remove cable jacket. Jacket may delaminate from strength members.

Blade Replacement (Blade Replacement Kit P/N MB07-7500)				
				
Open tool fully Move blade to longitudinal position, keeping blade down Loosen set screw 2+ turns	Remove blade from top of tool. Tap knob on firm surface if needed	Insert new blade into tool. Face blade flat towards set screw Slightly tighten screw to align blade	Raise blade Use blade block to apply pressure to tip of blade. Use knob to ensure blade is fully set	Tighten screw while block is tight on blade

To order MB07-7000 Tool or MB07-7500 Replacement Blade Kit - Contact Ripley Tools (www.ripley-tools.com) (800) 528-8665

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