



## Applications Engineering Notes

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<b>Document Title</b>	<b>Operating Instructions for US Conec Fiber and Ribbon Holders</b>
<b>Document Number</b>	<b>AEN-1422</b>
<b>Revision Number</b>	<b>2.0</b>
<b>Effective Date</b>	<b>April 4, 2019</b>

**THE USE OF SAFETY GLASSES FOR EYE PROTECTION IS RECOMMENDED. Carefully follow safety, health, and disposal information or Material Safety Data Sheet.**

## 1.0 General

The US Conec® Fiber Holder (see Figure 1) utilizes a Fiber Stacker to provide a low-cost, robust 12-fiber ribbonization option without using any type of adhesive. The Fiber Holder can be used with either 12-fiber 1.8 mm jacketed cable or 12-fiber 2.0 - 3.6mm jacketed cable. Both contain individual loose fibers, which can be organized into a ribbon structure (i.e. “ribbonized”).

The US Conec® Ribbon Holder (see Figure 1) is designed specifically for large cable OD with multi-row factory ribbons or multi-bundle loose fibers. The Ribbon Holders are designed to help with reduce the amount of fiber handling during termination.

1.1 Five color-coded holders are available for use with cable OD’s up to 5.5mm:

<u>Product Number</u>	<u>Fiber Count</u>	<u>OD ( ±0.20mm)</u>	<u>Color Code</u>	<u>Tools/Material/Cable Preparation</u> See Applicable AEN
13926	12 (loose fibers) <i>Prizm LT only</i>	1.8 - 2.0	Green	1416
13668/ 19798	12 (loose fibers)	2.0 - 3.6	Blue	1407, 1418
19803	12F jacketed ribbon cable	4.2mmx2.2mm	Blue	1401, TN-1401
13923	12-24 (ribbonized fibers or ribbons)*	2.0 - 3.6	Black	1401, 1403, 1407, 1410, 1412, 1418, 1419, 1420
13591	48 (ribbonized fibers or ribbons)*	4.5 - 5.5	Red	1415
17147	16-32 (ribbonized fibers or ribbons)*	3.0 – 5.5	Dark Green	1424

**Table 1: Fiber and Ribbon Holder Selection Summary Chart**

\* For loose fibers, the use of US Conec loose fiber ribbonizing tool or US Conec disposable fiber ribbonizing die (P/N 14316 or 15360) is required. See AEN-1408 or AEN-1414 for detail instructions.



**Figure 1**



**Figure 2**

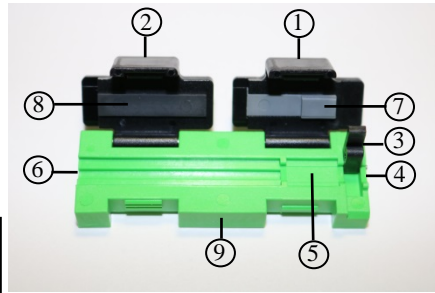
## **2.0 Ribbonization Preparation**

- 2.1 It is important to identify the type of construction so that the proper tool and holder can be selected.
  - 2.1.1 US Conec loose fiber ribbonizing tool (AEN-1408)
  - 2.1.2 Disposable fiber ribbonizing dies (AEN-1414).
  - 2.1.3 Fiber Stacker by using the US Conec® Fiber Holder green or blue (Section 4.0)

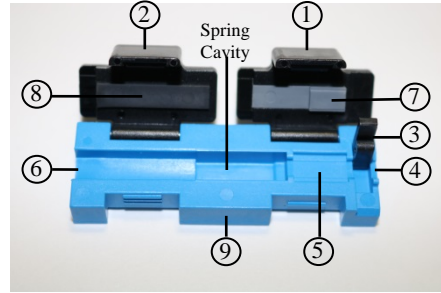
## **3.0 Visual Inspection of Fiber and Ribbon Holder**

- 3.1 Select the proper Fiber or Ribbon Holder from Section 1.1.
- 3.2 Compare the pictures with your holder to familiarize yourself with the location of the controls and adjustments.

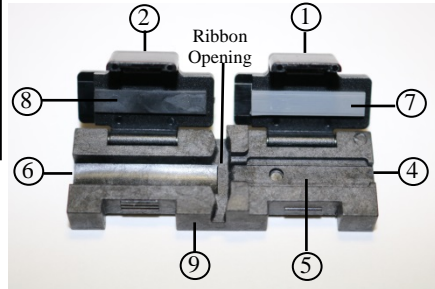
- 1 - Front Locking Cover
- 2 - Rear Locking Cover
- 3 - Fiber Stacker
- 4 - Fiber Opening
- 5 - Fiber/Ribbon Tray
- 6 - Cable Tray
- 7 - Front Cover Rubber Pad
- 8 - Rear Cover Rubber Pad
- 9 - Holder Base
- 10 - Holder Slider (see Figure 3)



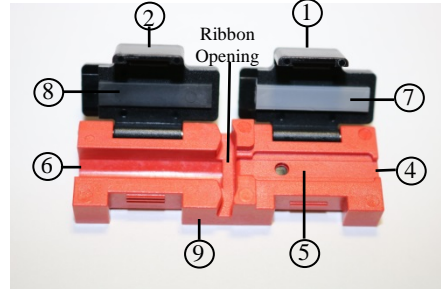
P/N 13926 – 12 Fibers  
1.8 – 2.0mm Cable OD  
(Loose Fibers)



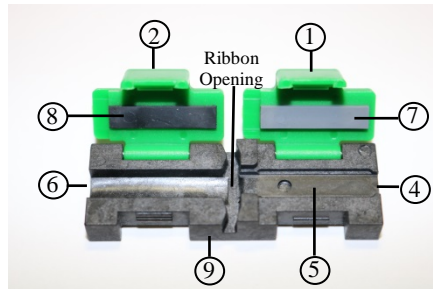
P/N 13668 – 12 Fibers  
3.0 – 3.6mm Cable OD  
(Loose Fibers)



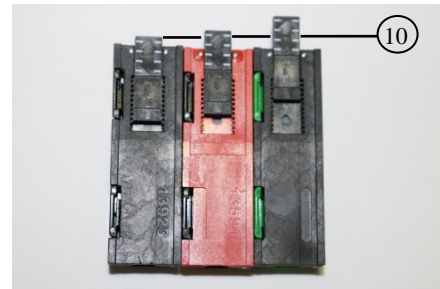
P/N 13922 – 24 Fibers  
3.0 – 3.6mm Cable OD  
(Ribbonized Fibers or Bare Ribbons)



P/N 13591 – 48 Fibers  
4.5 – 5.5mm Cable OD  
(Ribbonized Fibers or Bare Ribbons)



P/N 17147 - 16 -32 Fibers  
3.0 – 5.5mm Cable OD  
(Ribbonized Fibers or Bare Ribbons)



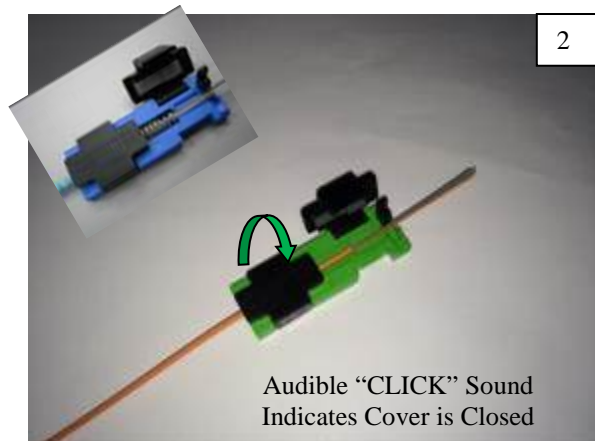
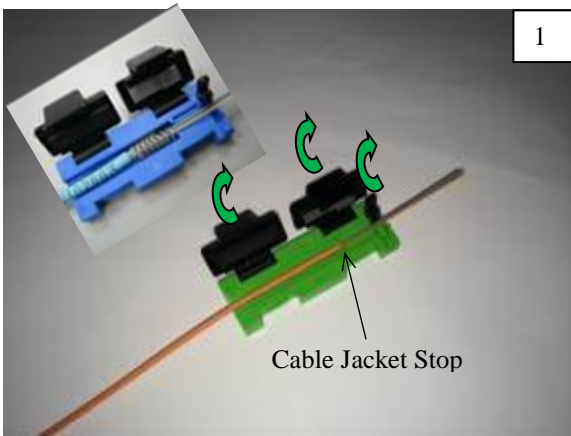
**Figure 3**

- 3.3 The Fiber and Ribbon Holder should be cleaned periodically to ensure proper performance. Remove all foreign material and grease from the Front and Rear Cover Rubber Pad, Fiber/Ribbon Tray, Cable Tray, Ribbon Opening, Holder Base, and especially around the Fiber Opening with alcohol and cotton or foam swab.
- 3.4 Clean the inside of the Fiber Stacker with a lint-free wipe and compressed air.

3.5 If the Fiber/Ribbon Holder performance is unsatisfactory after a thorough cleaning, replace the Front and Rear Rubber Pad. See Appendix A for details.

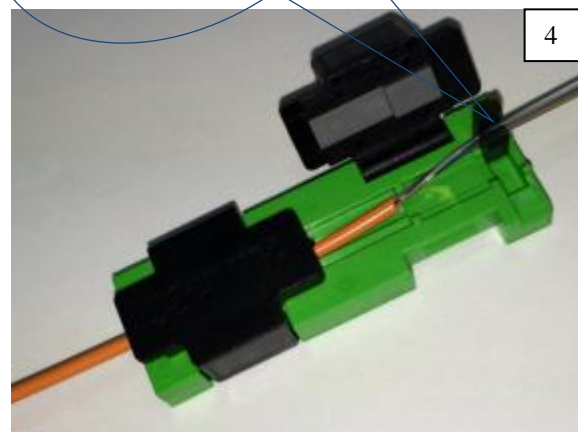
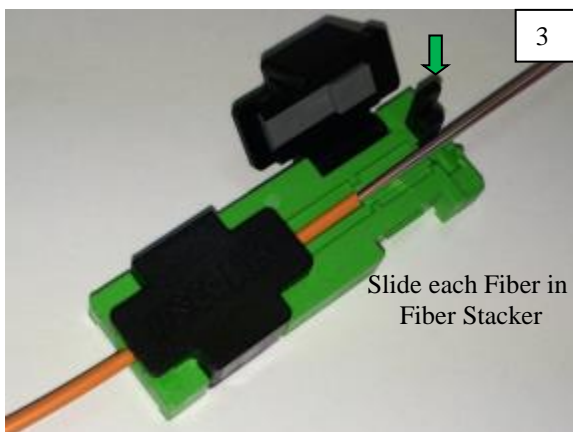
**4.0 Fiber Holder Preparation – 12 Fiber Cable Only**

4.1 Arrange the cable in the Fiber Holder as shown below. For Blue Fiber Holder, see AEN-1418 for more details.

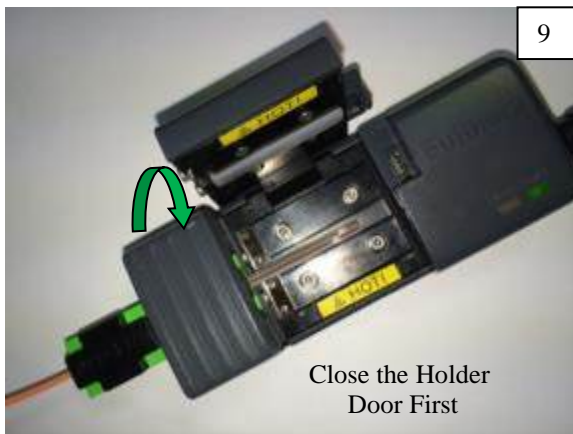
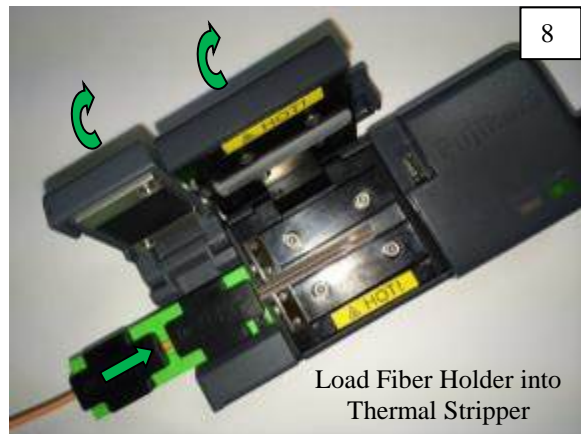
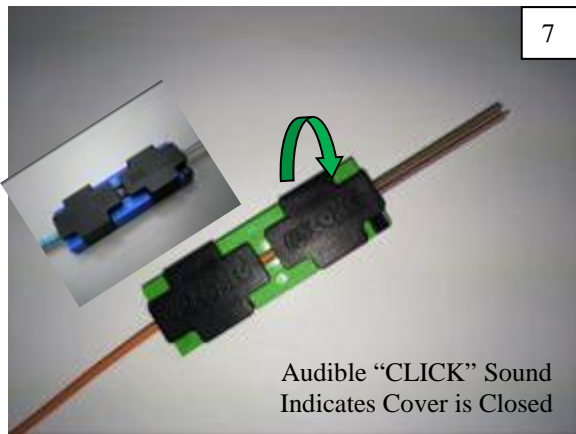
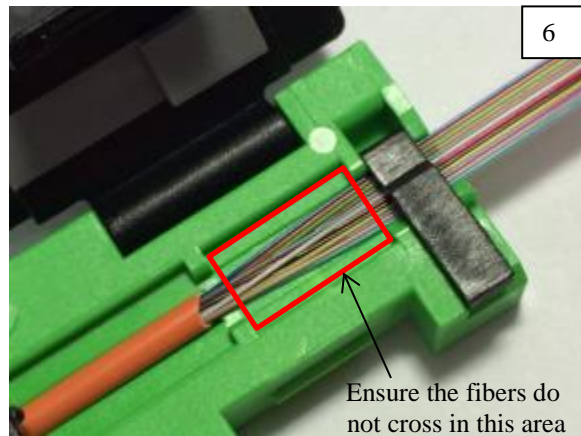


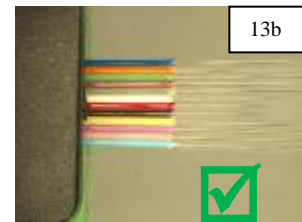
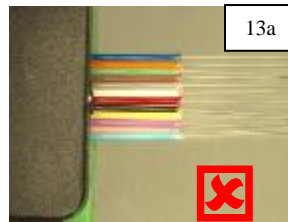
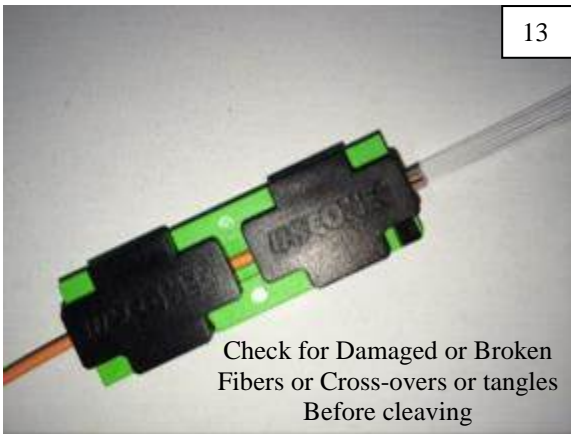
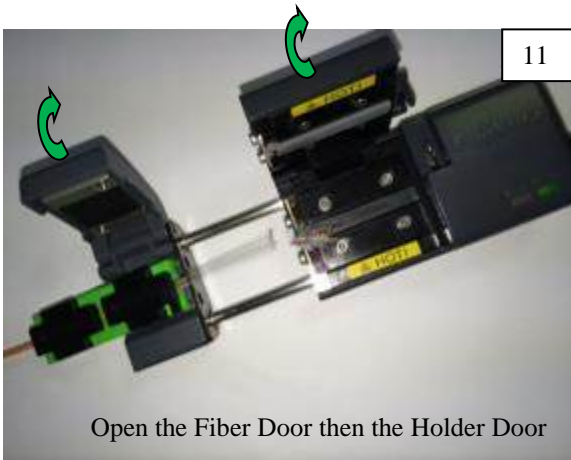
4.2 Clean all fibers with an alcohol-soaked wipe. Arrange the loose fibers in the Fiber Stacker following the proper color code sequence. Be sure all fibers are properly positioned in the Fiber Stacker and are laid flat in the fiber tray. Rotate the stacker down slowly until the fibers are seated into the Fiber Opening in the front of the clip before pushing into the final position.

TIA/EIA-598 Color Code for Multi-Fiber Cables









4.3 If any damaged or broken fibers are found, repeat Sections 4.0.

## 5.0 Ribbon Holder Preparation – Fiber Cable (bundle of multiple optical fiber subunits)

5.1 Follow the instructions in Sections 2.0 for cable and ribbonization preparation.

5.2 Arrange the cable in the Black or Red or Dark Green Ribbon Holder and follow the instructions 5.3 - 5.9 below.

**IMPORTANT: Black or Red Ribbon Holder can only be used with 12 fibers in one ribbon. Dark Green Ribbon Holder can only be used with 16 fibers in on ribbon.**

5.3 Be sure to push the cable forward until against the Cable Stop 

14
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 and Ribbon #1 is sitting properly inside the Ribbon Tray and Fiber Opening 

16
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. The fibers should now be lying flat in the fiber tray. Before placing the Ribbon Holder into the cleaver, ensure to set the Holder Slider to the appropriate strip length according to Figure 4.

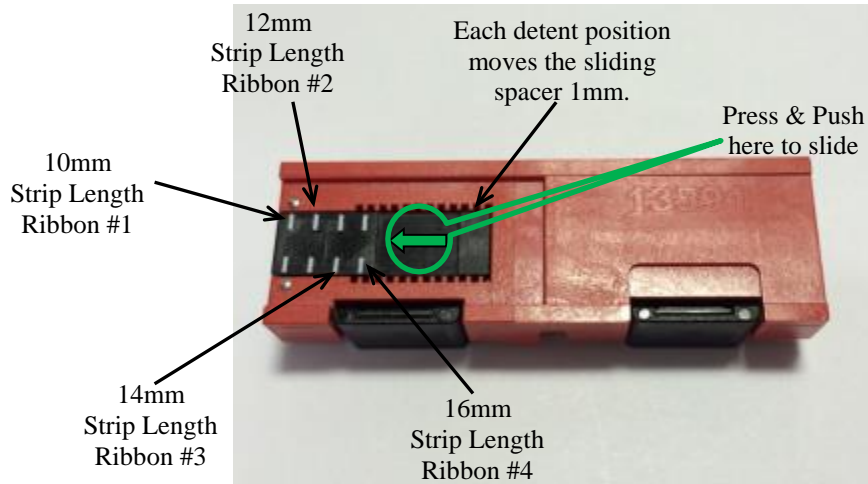
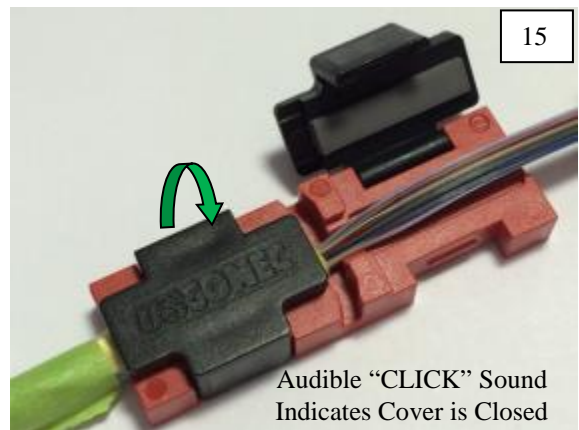
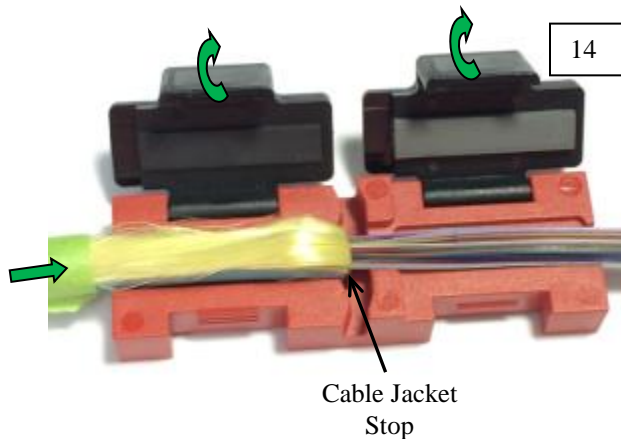
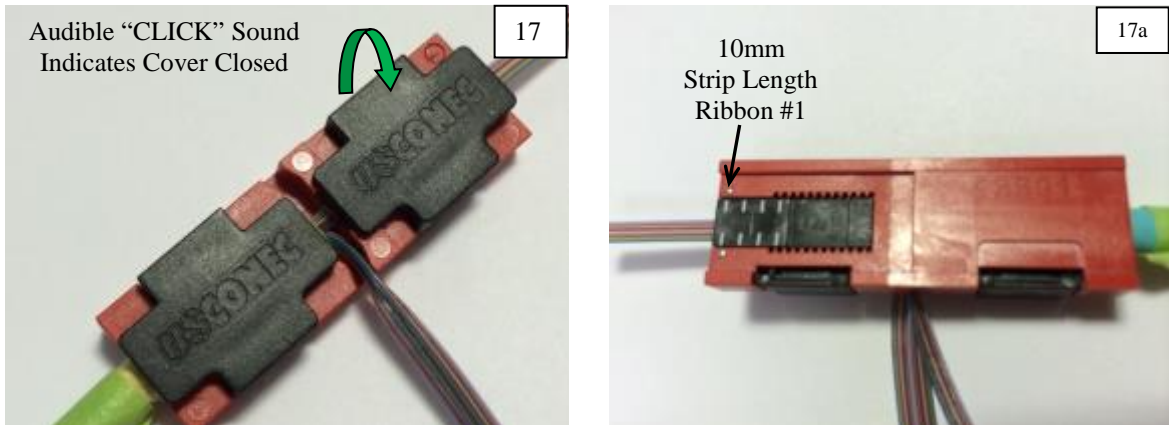
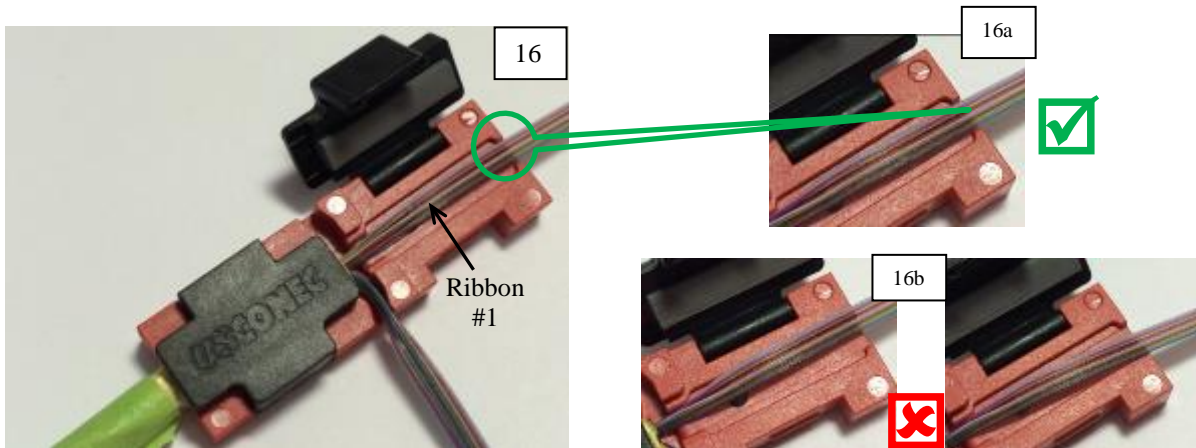


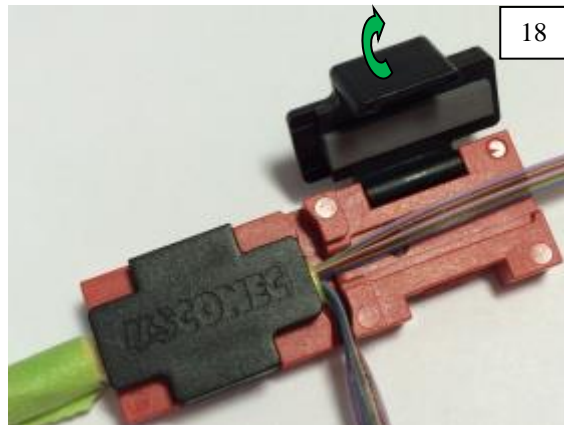
Figure 4 – Holder Slider





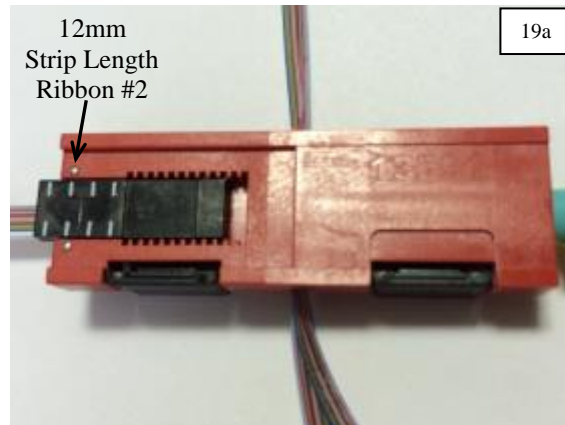
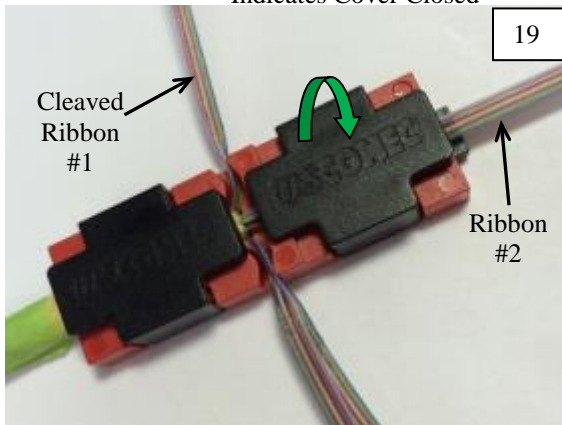


- 5.4 Using a thermal ribbon matrix stripper, remove adhesive and fiber coating as described in Section 4.0 pictures to 8 13
- 5.5 If any damaged or broken fibers are found, repeat Section 5.0.
- 5.6 Clean fibers with lint-free wipes and alcohol. Place the Ribbon Holder into the cleaver. Ensure that no fibers are crossed.
- 5.7 Properly cleave the fibers, remove the Ribbon Holder from the cleaver, and inspect for defects. If defects are observed, repeat Section 5.0.
- 5.8 Remove Ribbon #1.

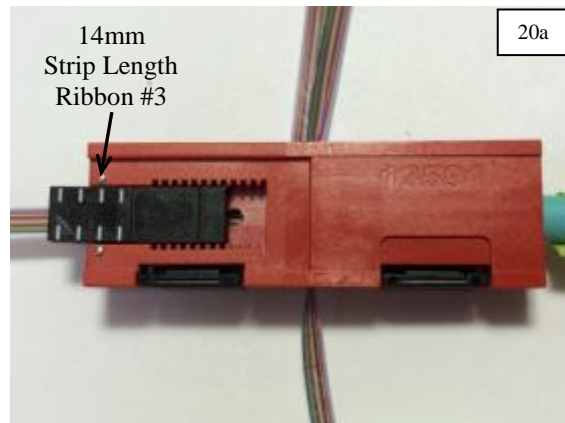
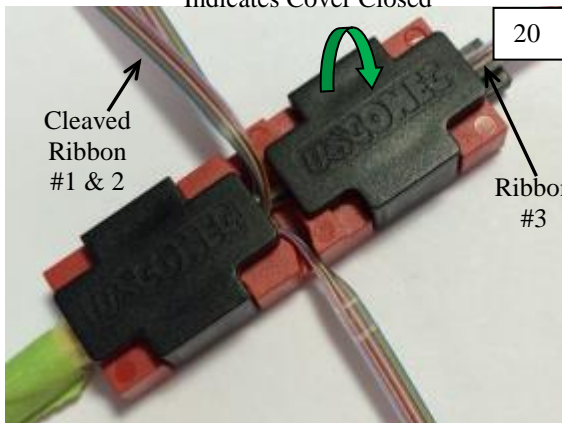


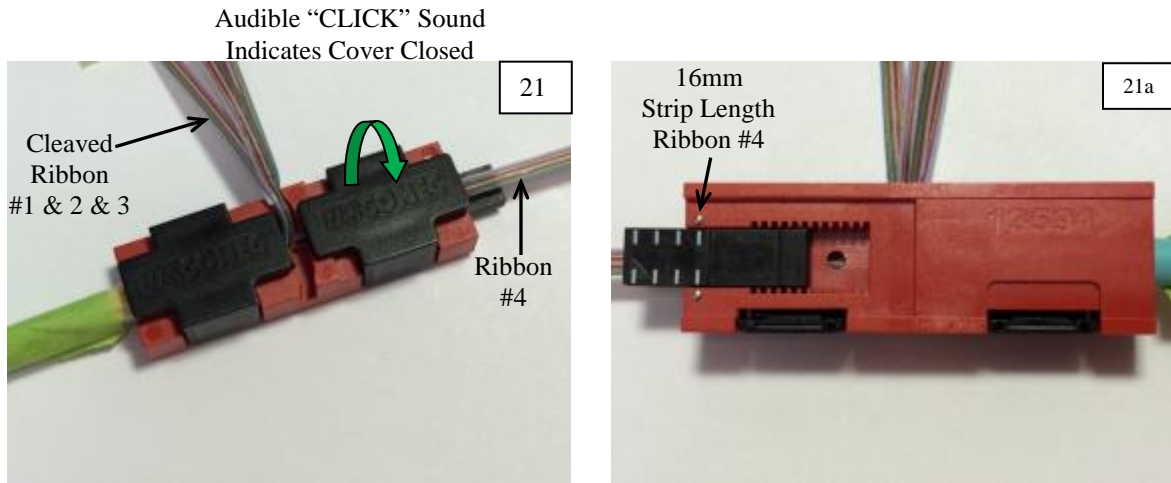
5.9 Repeat 19 for the remaining ribbons through step 5.3 - 5.8

Audible "CLICK" Sound  
Indicates Cover Closed



Audible "CLICK" Sound  
Indicates Cover Closed

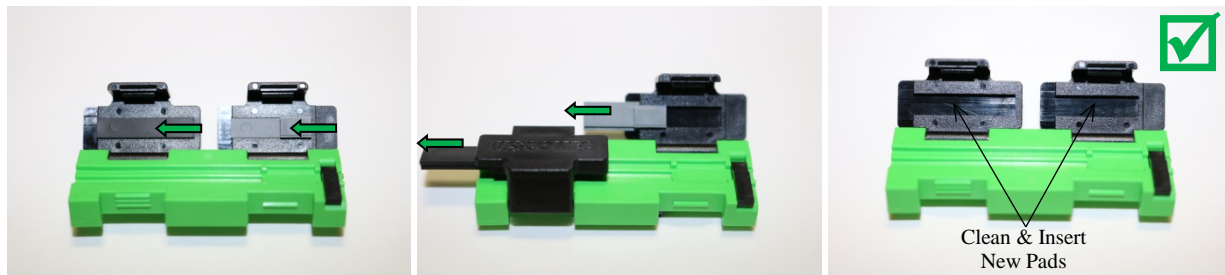




## APPENDIX A

### Rubber Pad Replacement and Ordering Information

- Replace the Rubber pad simply by sliding it out of the groove.
- Insert the new pads in the reverse order.



<u>Description</u>	<u>US Conec Part Number</u>				
	<u>Green</u> <u>13926</u>	<u>Blue</u> <u>13668</u>	<u>Black</u> <u>13923</u>	<u>Red</u> <u>13591</u>	<u>Dark Green</u> <u>17147</u>
Front Cover Rubber Pad (Gray)	13930	13930	14545	14545	14545
Rear Cover Rubber Pad (Black)	13925	13925	13925	13925	13925
Fiber Stacker	13928	13928	N/A	N/A	N/A

**Table 2: Replacement Part Numbers**

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