



QWIK MPO Termination Instructions

General

The **CommScope®** QWIK MPO Termination Kit and Connector Kit, with the Splicer Kit (ordered separately) facilitate the proper termination of **CommScope®** QWIK MPO connectors. Field termination of 12F MPO connectors onto 3mm round 12 fiber loose-tube cordage is accomplished by following this method.

Ordering information is listed below:

Connector Kits		
Material ID	Part No.	Description
760163931	SFC-12MX-8SP-30-GR	SMAPC male, green 3mm round
760163949	SFC-12MP-8SP-30-GR	SMAPC female, green 3mm round
760163956	MFC-12MX-5SP-30-AQ	MM OM3 male, aqua 3mm round
760163964	MFC-12MP-5SP-30-AQ	MM OM3 female, aqua 3mm round
760163972	MFC-12MX-6SP-30-BG	MM OM1 male, beige 3mm round
760163980	MFC-12MP-6SP-30-BG	MM OM1 female, beige 3mm round

Parts List – Connector Kit includes:

Quantity	Description
1	Boot/furcation tube
1	Spring
1	Ferrule subassembly with cap
1	Outer housing
1	Spiral wrap
1	Protection sleeve



Qwik MPO Termination Kit		
Material ID	Part No.	Description
760188698	460143027	QWIK MPO termination kit

Parts List – Qwik MPO Termination Kit includes:

Quantity	Description
1	Assembly platform with fiber arrangement tool (ribbonizer)
1	Fiber stub connector holder
1	Fiber ribbonizing glue



(Qwik MPO Termination Kit Parts List is continued next page)

Quantity	Description
1	Cordage preparation tool
1	Magnifying glass
1	Yarn shears
1	Fine tip marker
1	QWIK MPO termination instruction sheet

Separately Orderable Items

Note: Splicer Kit is not offered by **CommScope** and must be obtained through Sumitomo or other authorized sources.

Splicer Kit	
1	Sumitomo Mass Fusion Splicer Type-Q-101-M12 kit (Recommended) or Sumitomo Mass Fusion Splicer Type-66-M12 TuffCat kit

Parts List –Splicer Kit includes:

Quantity	Description
1	Q-101-M12 or Type-66 Mass Fusion Splicer
1	Ribbon fiber cleaver
1	Heated ribbon stripper
2	Ribbon 12-fiber holder (left and right side)
1	Power cord



Other Tools/Supplies Required (obtain locally)

- Wire stripper
- Tape measure
- Lint-free wipes
- Quick evaporating cleaner or isopropyl alcohol (>97% 2-propanol+water)
- Adhesive tape
- Clips (to hold yarn)

How to Contact Us

- To find out more about **CommScope**® products, visit us on the web at <http://www.commscope.com/>
- For technical assistance:
 - Within the United States, contact your local account representative or technical support at 1-800-344-0223. Outside the United States, contact your local account representative or **PartnerPRO**™ Network Partner.
 - Within the United States, report any missing/damaged parts or any other issues to **CommScope** Customer Claims at 1-866-539-2795 or email to claims@commscope.com. Outside the United States, contact your local account representative or **PartnerPRO** Network Partner.

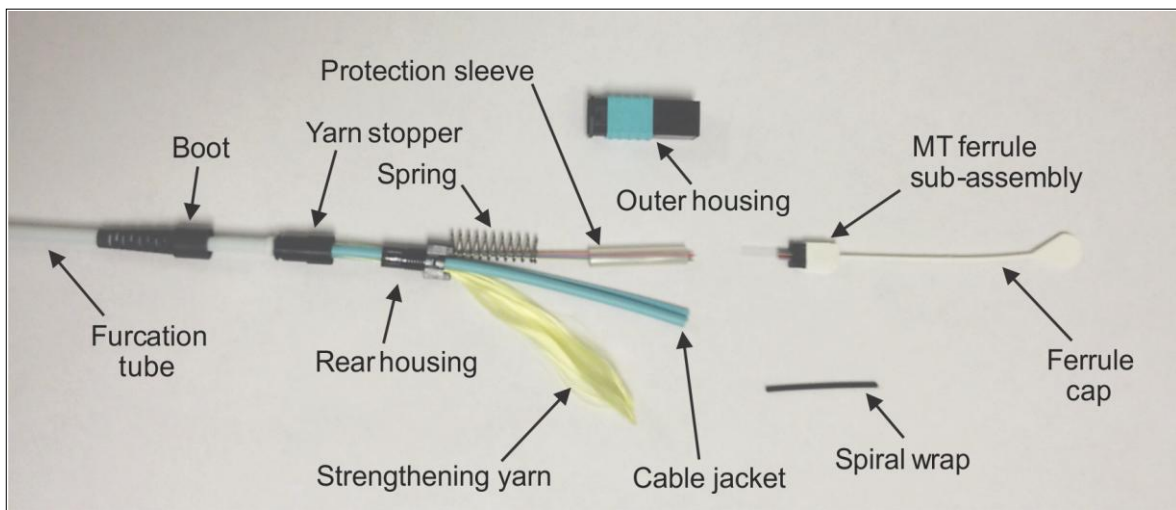
Important Safety Cautions

- Wear safety glasses to protect your eyes when handling optical fiber.
- Never look into the end of a microscope or optical cable connected to an optical output device that is operating. Laser radiation is invisible, and direct exposure can severely injure the human eye.
- Alcohol is flammable, causes irritation, and is harmful if swallowed or inhaled. Keep alcohol away from heat, sparks, skin, and avoid contact with eyes.

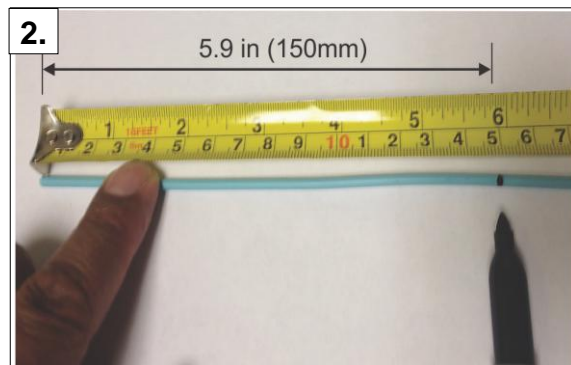
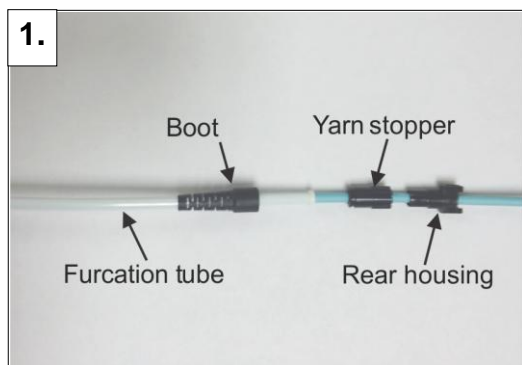
Pre-Termination Set-Up and Preparation Recommendations

1. Ensure work area is a clean surface with adequate lighting.
2. The following repair and splicer operation should be performed by an individual with adequate and appropriate training.
3. Splicer functionality and operation is critical to achieving acceptable termination results and connector performance. Ensure that splicer is set up and functioning properly by performing a successful ARC test with the appropriate fiber type.
4. Ribbon fiber strips are provided in each connector kit for splicer ARC testing. Connector types should be tested only with the specific, provided ribbon fiber strip. Perform a new ARC test whenever preparing to splice a different connector type.
5. Confirm fiber order/orientation of both ends on cable assembly (A & B) prior to starting repairs to facilitate and maintain proper polarity configuration of cable assembly.
6. Review and familiarize yourself with the splicer instruction for the safe and proper use of the equipment.

Step 1 – Prepare the Cable

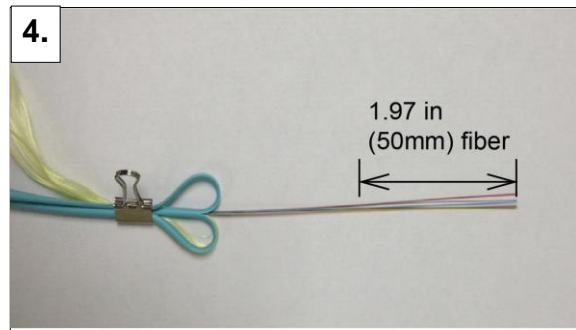
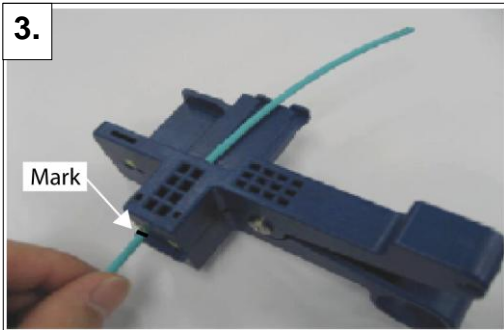


MPO Assembly Parts



1. To prepare the cable assembly for the splice, slide the boot assembly over the exposed end of the cable. Remove these cable repair parts from the connector kit and insert on the cord to be re-terminated in the order listed:
 - boot/furcation tube; yarn stopper; rear housing.
2. To prepare cable for slitting and ribbonizing process, mark cable jacket at 5.9 in (150mm) from cord end as shown.

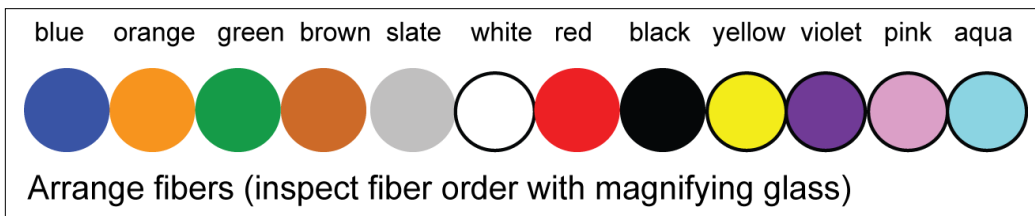
Note: When making a repair, cut cable back to remove any damaged fibers.



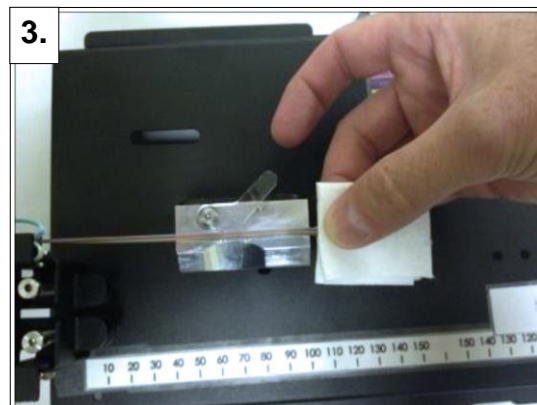
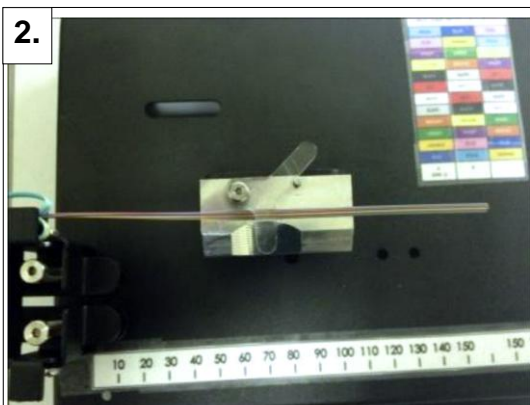
3. Make a slit from the mark to the end of the cable with the jacket remover tool.
4. Prepare to ribbonize 1.97 in (50mm) of fiber. Fold jacket and strengthening yarn back as shown and secure in position with clip or adhesive tape.

Step 2 – Ribbonize the Fiber

1. Rotate the clear plastic lever arm of the ribbonizer clockwise until it stops. Slide each fiber into position under lever as outlined below.
2. Arrange the 12 fibers to create a ribbon.
Ribbonize starting with the blue fiber and follow the standard color code (BOGBSWRBYVRA) as shown.



Standard Color Code

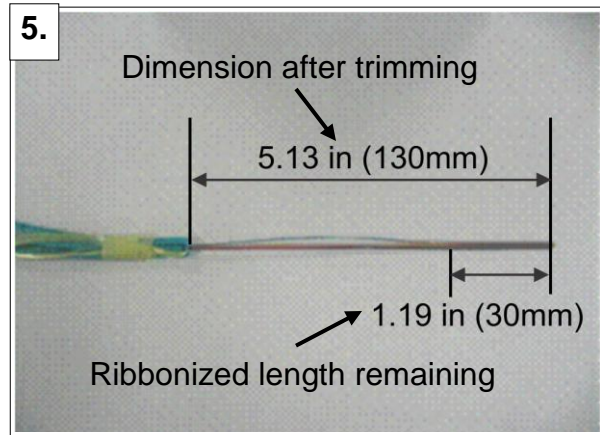
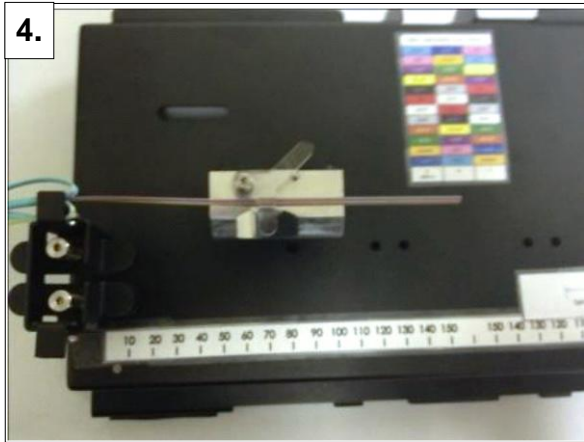


Use the platform scale to place jacket mark at scale edge ("0"). Insert fibers into ribbonizer, one at a time using the color guide. Maintain fiber color order. Clean fibers with lab-strength alcohol wipe.

Note: Before proceeding, verify the color order and ensure that no fibers are crossed or out of order. Inspect fiber order with magnifying glass to ensure color coding accuracy.

3. After all the fibers are in place in the ribbonizer, apply a single line of adhesive on white lint-free wipe. Sandwich wipe with adhesive around the arranged fibers. While pressing down, wipe adhesive on fibers, spreading adhesive about 1.97 in (50mm) from end as shown.

Note: Inspect before and after adhesive is applied to ensure fibers do not cross.



4. Let adhesive dry for 45 seconds. Rotate the lever arm counterclockwise and release ribbonized fiber from ribbonizer.

Note: Inspect fiber order with magnifying glass.

5. **Measure 5.13 in (130mm) from the jacket mark to end of the fibers and trim the ribbonized fiber end evenly.**

Measure to ensure 1.19 in (30mm) of ribbonized fiber still remains at the end as shown.

Note: Trim only after the adhesive has dried.

Maintaining Polarity Method B for Fiber Splicing of QWIK MPO Connectors

Please note that for repair and restoration, it is important to understand the polarity configuration of **CommScope's** cable assemblies.

Important: CommScope trunks follow method B fiber polarity.

1. For **Commscope** cable assemblies with the connector keys facing up, channel 1 on End A of the cable assembly always goes to channel 12 on End B of cable assembly. Likewise channel 12 on End A goes to channel 1 on End B of cable assembly.
2. This represents method B polarity per TIA 568C3 standards.
3. When repairing end A of a female trunk cable assembly, the blue fiber should always be positioned as channel 1 (top/ far side in the splicer). When repairing end B, the blue fiber should always be positioned as channel 12 (bottom/ near side of the splicer). See Table 1, next page.
Ferrules on female trunks should be inserted into the housings (keys up) with the ferrule window facing down. See Table 2, page 10.

Note: Fiber Ribbon Splicing with Method B Polarity Appendix on the last page shows an example of the Method B polarity MPO connector splice.

Table 1 can be used as a guide to the orientation of the ribbonized cable when being spliced onto the QWIK MPO ferrule in the splicer:

Cable Type	Gender	Blue Fiber Position (when placed in splicer)				End A	End B
		End A	Ch	End B	Ch		
Standard Trunks	Male/Male	Bottom	1	Top	12		
	Female/Male	Top	1	Top	12		
	Female/Female	Top	1	Bottom	12		
Equipment Cords	EQ-Female	Bottom	1	Bottom	12		
	EQ-Male	Bottom	1	Top	12		
	EQ-EQ	Bottom	1	Top	12		

Table 1

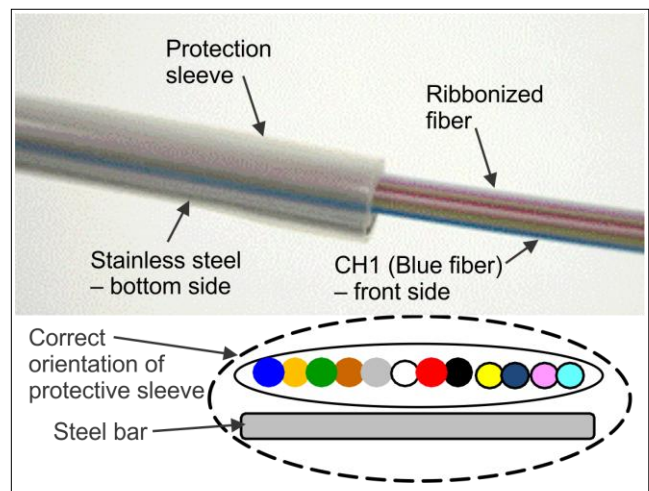
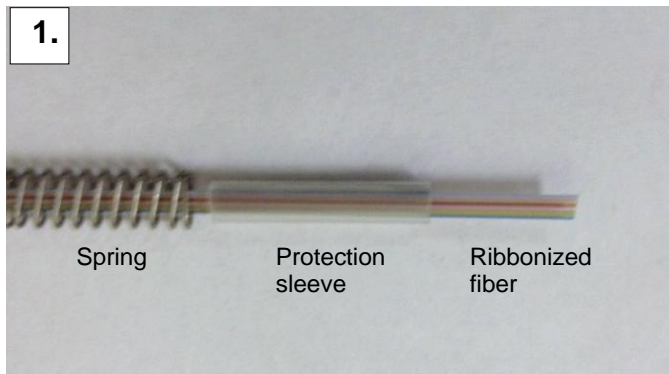
— Line represents the #1 (blue) fiber in a ribbonized cable

Ferrule window up Ferrule window down

Equipment cords (EQ) use female ferrules.

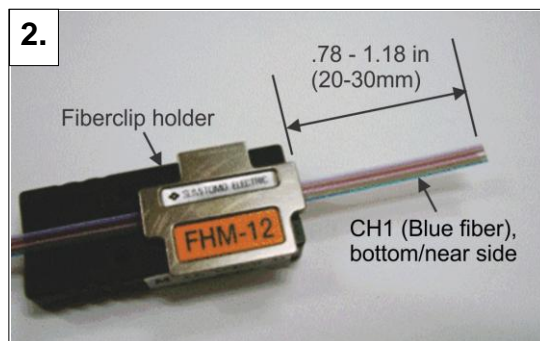
Female ferrule Male ferrule

Step 3 – Strip and Clean the Fiber



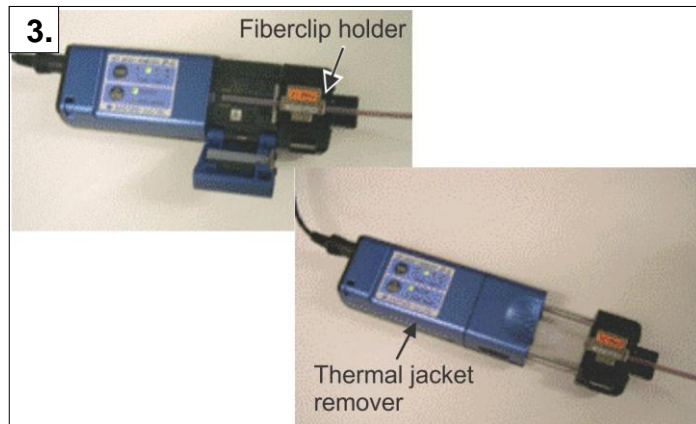
1. After removing the ribbonized fiber from the ribbon tool, slide the spring and the protection sleeve from connector kit onto ribbonized fiber as shown.

Important: Verify correct orientation of the protection sleeve with steel bar on the bottom.

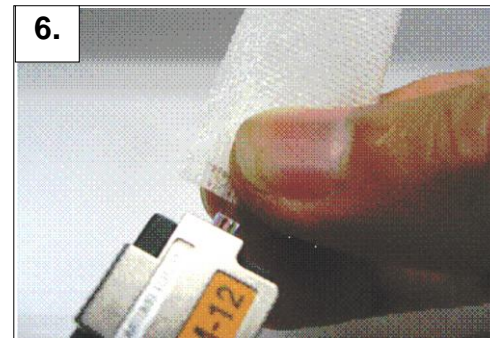


2. Place the fiber cable into the fiberclip holder with .78 –1.18 in (20-30mm) of the ribbonized fiber protruding as shown.

Note: Because **CommScope** cable assemblies follow method B polarity, verify that the ribbonized fiber is in the proper orientation for method B polarity when placed in the fiberclip holder. Ensure that the ribbonized fiber is placed in the fiber clip holder such that the blue fiber orientation is consistent with Table 1 for whichever cable type and gender you are terminating.

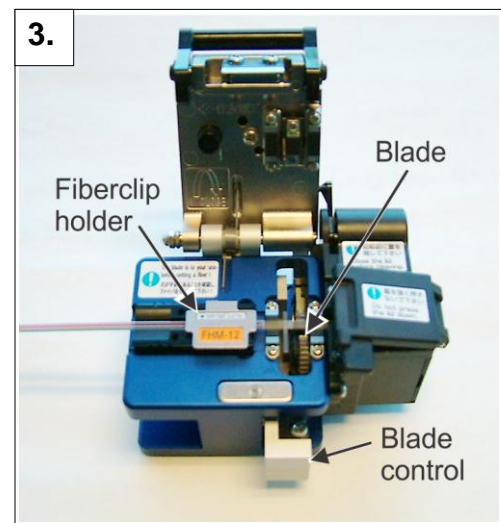


3. Place the fiberclip holder with ribbonized fiber into the thermal jacket remover and close both doors. Allow stripper to reach temperature before stripping. When the heater stops blinking, it is ready to strip.
4. Hold both doors closed and firmly pull sliding section of tool away from tool. Open doors to remove the stripped cable and fiberclip holder.
5. After stripping, verify that all the coating has been removed from the fibers. If not, repeat items 3 and 4.
6. Always clean the fibers with lab-grade alcohol wipes after stripping and before cleaving. Verify that all 12 fibers are present and not broken. Stripped coating should be aligned for all fibers. Repeat items 1 to 3 if fibers are broken.



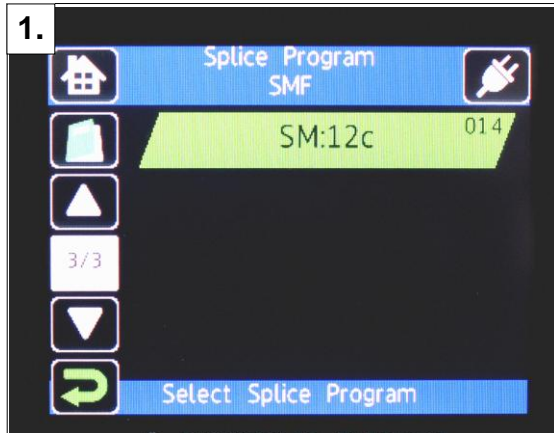
Step 4 – Cleave the Fiber

1. Check the fiber cleaver blade to make sure it is in the front loaded, ready position.
2. If not in position, slide blade to front.
3. Place the fiberclip holder with ribbonized fiber into the fiber cleaver as shown and close the top of the fiber cleaver.
4. Slide the blade to the back one time.
5. Open the door and remove fiberclip holder with cleaved ribbonized fiber.

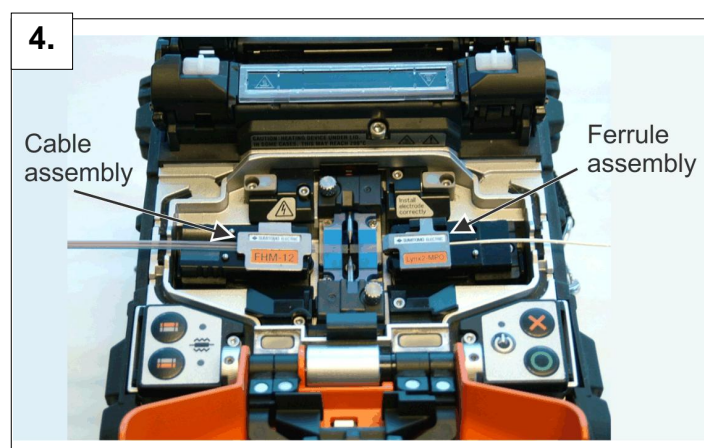
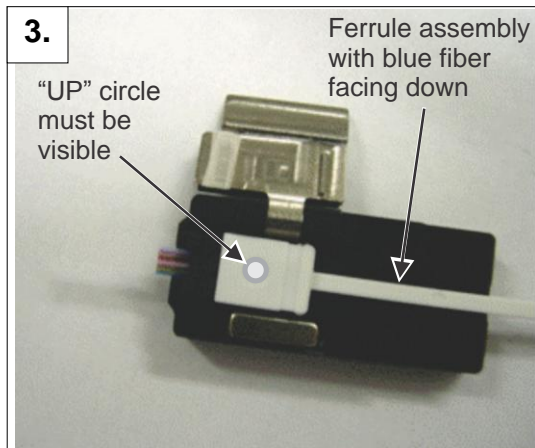


Step 5 – Align Ribbonized Fibers and Splice the Connector

1. Turn on the mass fusion splicer. Splicer display shows several fiber type options.
Select the correct fiber type and arc test using proper fibers.
 - Select splice condition of SM12 or MM12, depending on fiber type to be spliced.
2. Select the “Lynx MPO” Heater Program for heating the protective sleeve.

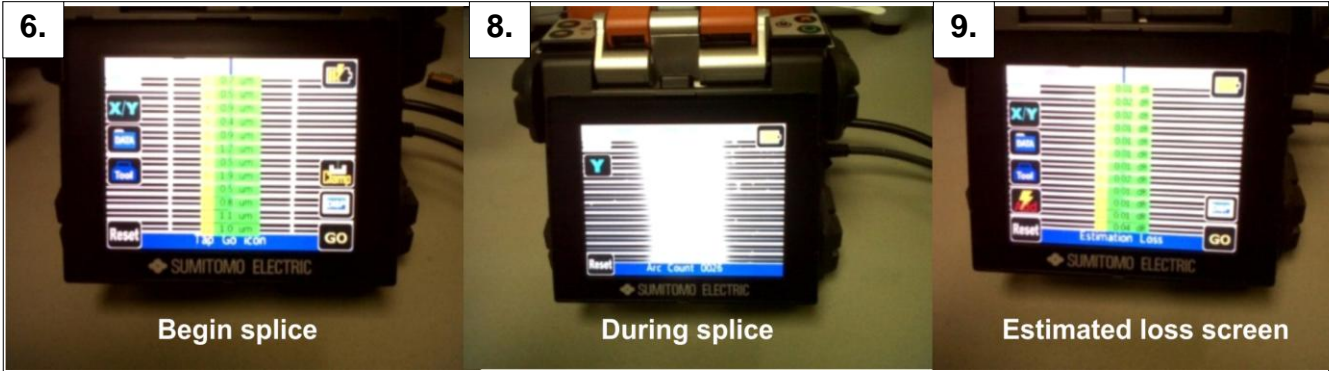


3. Open top door of the splicer.
Get the ferrule sub-assembly from connector kit and place it into the fiberclip holder with the “UP” circle showing on top as shown. Close the door on the clip.
4. **Important:** Place the fiberclip holder with ferrule assembly in the splicer on the **right side**.
Fiberclip holder with ribbonized cable assembly is always placed on the **left side**.



5. Confirm correct splice condition (item 1) is selected. Confirm correct heater program (item 2) is selected.
6. Close door and splicer automatically aligns the fibers and displays X/Y alignment offset, and machine pauses.
7. The display tracks splice progress and the alignment result, as shown on the next page.
Note: Estimated loss screen of .00 shows “near no loss”, a preferred outcome.
Red estimated loss screen indicates out of tolerance splice and the need to resplice.
8. If alignment is acceptable, press the green button on top of mass fusion splicer to begin fusion splice.
The fiber ends will glow during splicing.

IMPORTANT: Do not pull the fibers during splicing.



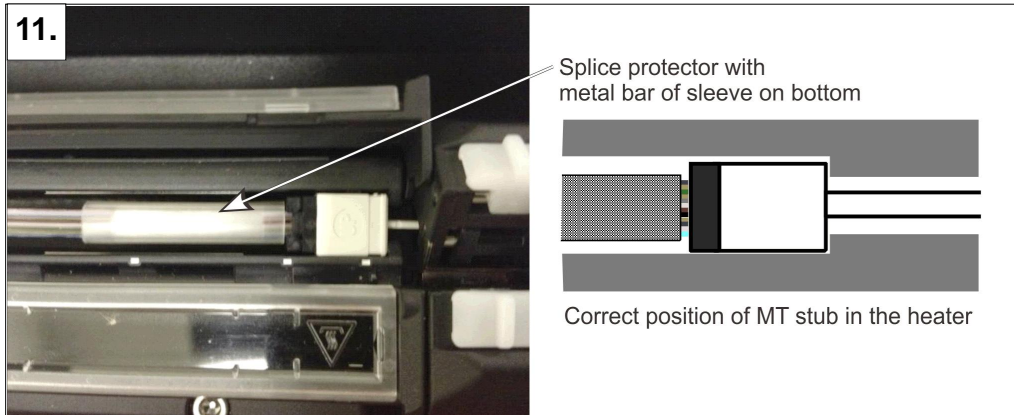
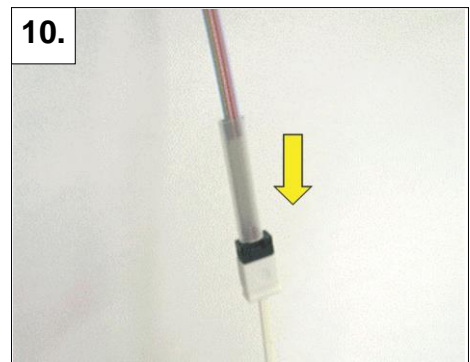
9. After the splice is complete, estimated results will display: green for passing, red for failing. Open the door and remove the assembly from the fiber clamps.

Note: Proceed to next item when splice has passed.
Repeat Steps 1-5 if splice has failed.

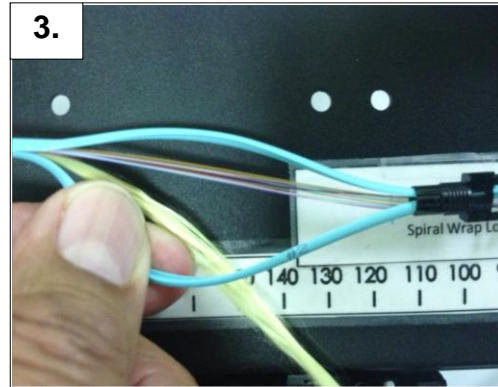
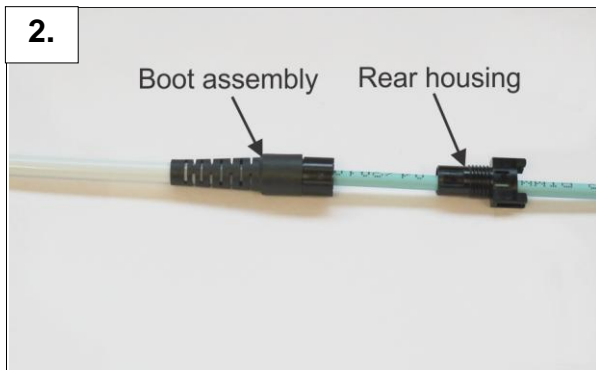
10. Pick up the sleeve side, and allow the sleeve to slide down towards the ferrule, making sure that the splice protector is flush against the ferrule.

11. Place the assembly into the oven, with the metal side of the splice protector facing down.

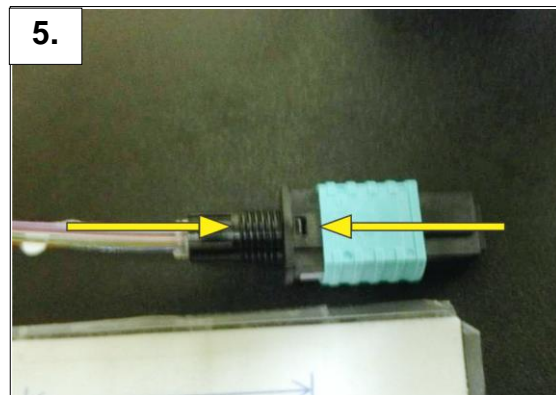
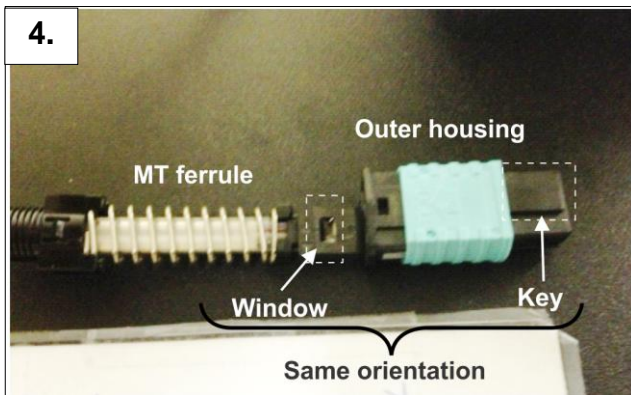
12. When the clamps are closed on the oven, the machine will automatically heat.
The oven will beep, indicating that the heating is done and cooling cycle begins.



Step 6 – Assemble the Connector



1. Remove the tape or clip holding the cable jacket and the strengthening yarn.
2. Unscrew the rear housing from the boot assembly.
3. Slide the rear housing up to the ferrule, pulling the jacket and strengthening yarn through the rear housing.



4. Remove the dust cap from the ferrule and install the connector body by pushing it onto the end of the ferrule. Ferrule window and housing key are in the same orientation for male/male trunks and opposite for female-female trunks.

Note: Refer to polarity method B shown in Table 2 below for orientation configuration options.

Cable Type	Gender	Ferrule Window Position	Housing Key Position	End A	End B
Standard Trunks	End A/B	A/B	A/B		
	Male/Male	UP/UP	UP/UP		
	Female/Male	Down/UP	UP/UP		
	Female/Female	Down/Down	UP/UP		
Equipment Cords	EQ-Female	UP/Down	UP/UP		
	EQ-Male	UP/UP	UP/UP		
	EQ-EQ	UP/UP	UP/UP		

Table 2

Line represents the #1 (blue) fiber in a ribbonized cable.

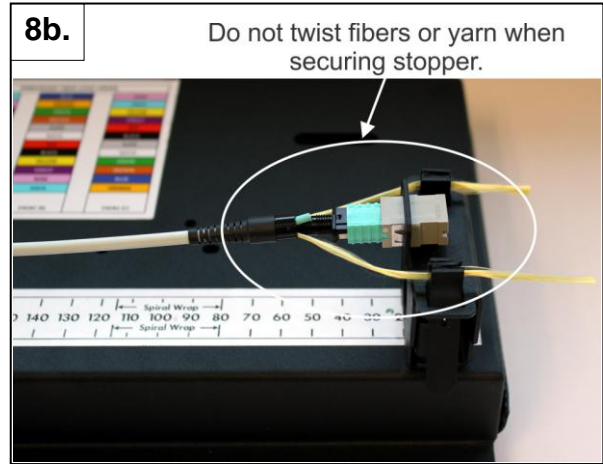
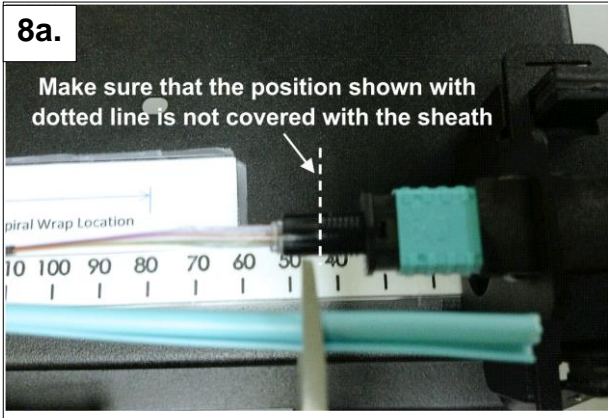
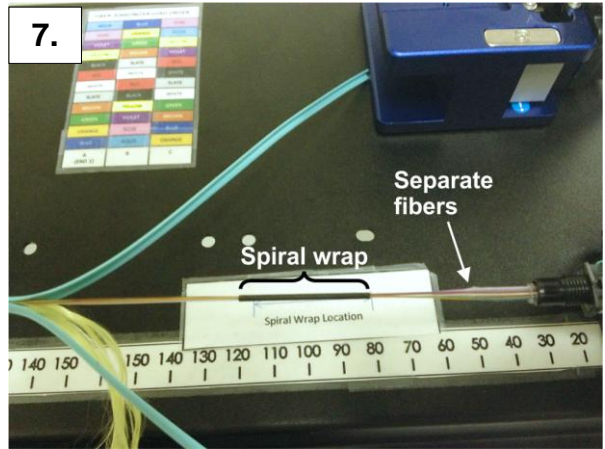
Ferrule window up Housing key up

Equipment cords (EQ) use female ferrules.

Ferrule window down Housing key down

5. Slide the outer housing over the ferrule and spring, and snap onto the end of the rear housing.



- 6. Insert assembled connector into the MPO adapter on the platform and secure the cable jacket with the clamp on the opposite end of the platform. Keep jacket and fibers taut to minimize any slack in the fiber/cable while mounted in the assembly platform.
- 7. Gently separate the ribbonized fibers behind connector to reduce fiber stiffness. Place spiral wrap on all 12 fibers as shown, midway between the connector and beginning of jacket split.




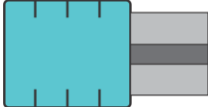
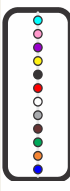
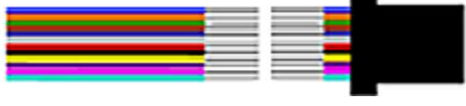
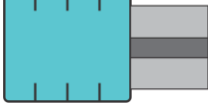
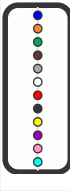
- 8. a: Trim the jacket up to the slotted edge (dotted line). Do not trim too short. The jacket should rest in the slotted area of the rear housing.
b: While holding the strengthening yarn and jacket tightly together, evenly distribute the yarn, place the jacket into its slot and slide the boot assembly up against rear housing.
- 9. Trim strengthening yarn, screw jacket and boot until seated.



**Appendix A: Fiber Ribbon Splicing with Method B Polarity onto QWIK MPO Connector
(Female-female Trunk Cables)**

Ferrule/ Ribbon Orientation when placed in Splicer	Ribbon Fiber Color
<p>Ribbonized fiber / Ferrule Stub</p>  <p>End A</p>	<ol style="list-style-type: none"> 1. Blue 2. Orange 3. Green 4. Brown 5. Slate 6. White 7. Red 8. Black 9. Yellow 10. Violet 11. Pink 12. Aqua
<p>Ribbonized fiber / Ferrule Stub</p>  <p>End B</p>	<ol style="list-style-type: none"> 1. Aqua 2. Pink 3. Violet 4. Yellow 5. Black 6. Red 7. White 8. Slate 9. Brown 10. Green 11. Orange 12. Blue

**Appendix B: Ferrule / Ribbon Orientation When Inserted into MPO Housing
(Female-female Trunk Cables)**

Ribbon / Ferrule Orientation when inserted into MPO Housing	Housing Orientation	End View	Ribbon Fiber Color and Channel
<p>Ribbonized fiber / Ferrule stub</p>  <p>Ferrule, window down</p> <p>End A</p>	 <p>Housing key up</p>		<ol style="list-style-type: none"> 1. Blue 2. Orange 3. Green 4. Brown 5. Slate 6. White 7. Red 8. Black 9. Yellow 10. Violet 11. Pink 12. Aqua
<p>Ribbonized fiber / Ferrule stub</p>  <p>Ferrule, window down</p> <p>End B</p>	 <p>Housing key up</p>		<ol style="list-style-type: none"> 1. Aqua 2. Pink 3. Violet 4. Yellow 5. Black 6. Red 7. White 8. Slate 9. Brown 10. Green 11. Orange 12. Blue

* When assembled into connector housing, channel #1 is always on left when looking into the connector with housing key up.