P/N CS011740
Rev. 4, 4.5.2024

FUSEConnect® MPO RIBBON, SPIDERWEB RIBBON® AND 3 MM CORDAGE TERMINATION AND ASSEMBLY INSTRUCTIONS

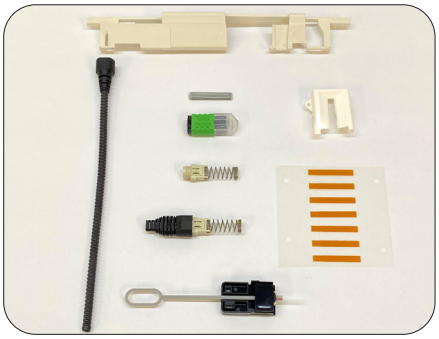
This document provides termination instructions for FUSEConnect MPO Connectors (Ribbon, SpiderWeb Ribbon (SWR®) and cordage). Read these instructions carefully before proceeding.

WARNING: Always wear eye protection when handling optical fibers. Dispose of any cut or cleaved ends properly. Do not touch the cleaver wheel with bare hands.

MATERIALS

FUSEConnect MPO Tool Kit: 3 mm cable clamp, marker, cable splitter tool, Kevlar scissors, fiber preparation fluid, lint-free wipes, RT-02, and blue tool case

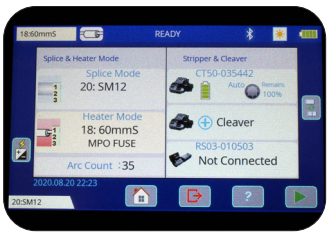
Fujikura Splicer Kit: Fujikura Splicer Kit: Ribbon Fusion Splicer (70R+ or 90R), Cleaver, Fiber Stripper, Ribbon Fiber Holders



Connector Kit: Heater attachment, cordage tube and boot, ribbon boot and spring unit assembly, spring unit, heat sleeve, housing assembly, ferrule unit, holder, ribbonizing tape and ribbonizing tape jig

SPLICER MODE SETTING, ARC CALIBRATION AND HEATER SETTING

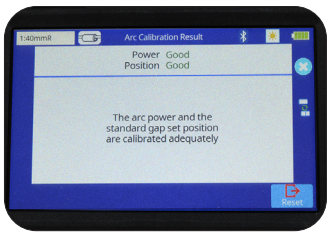
It is necessary to use the correct splice mode for each connector type being spliced. For the best splice results, an arc calibration is required each time the splicer is turned on. Please see the images below in order to execute each step correctly.



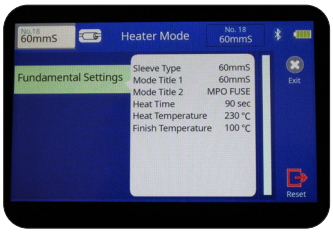
1: Select the correct splicer mode.

2: AFL recommends splicer mode MM12 for multimode fiber and SM12 for single-mode fiber for all Fujikura Ribbon Splicers.

3: Run an arc calibration with the fiber type that you will be splicing to the connector.

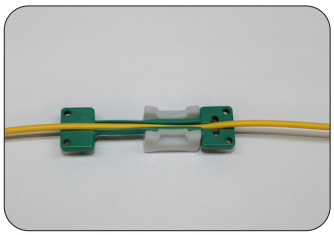


4: Continue the arc calibration until both "Power" and "Position" read "Good."



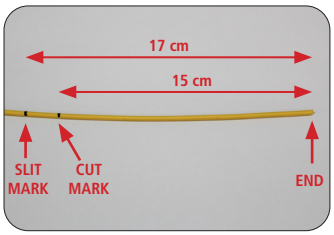
RECOMMENEDED HEATER SETTINGS FOR RIBBON, SPIDERWEB RIBBON, CORDAGE					
CONNECTOR	AFL SPLICER MODEL	HEATER MODE 1	HEATER MODE 2	HEAT TEMPERATURE	HEAT TIME
MPO	70R	FUSEMPO	HS MPO	235°C	90 sec.
	70R+			235°C	90 sec.
	90R			230°C	70 sec.

3 MM CORDAGE PREP

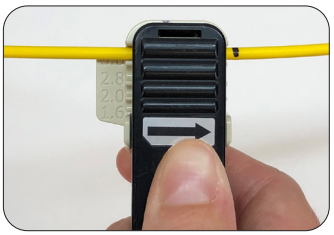


1: Clamp the jacket about 16" from the end of the cable using the 3 mm cable clamp. This will prevent the fibers from pistoning.

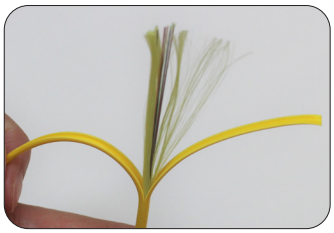
2: Insert the boot onto the cordage.



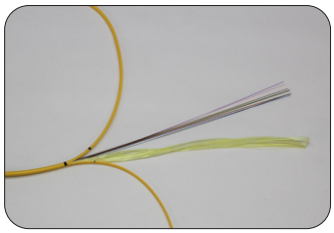
3: Mark the cable jacket 17 cm from the end of the cable for the slit jacket mark and mark the cable jacket 15 cm from the end of the cable for the cut jacket mark.



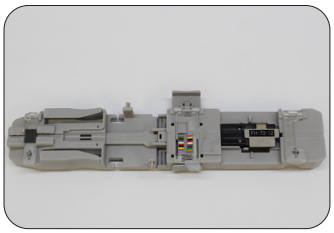
4: Split the cable from the "Slit Jacket" mark to the end with the cable splitter tool.



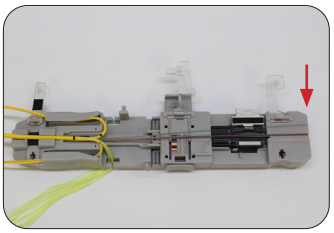
5: Peel the jacket back to the "Slit jacket" mark to expose the 250 µm fibers and aramid yarn.



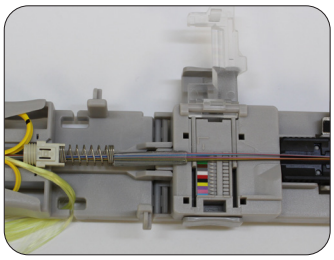
6: Separate the aramid yarn and the fiber.



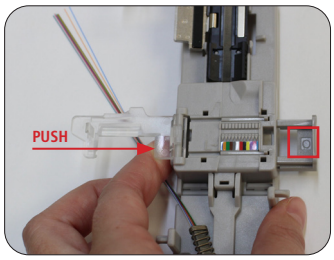
7: Place the fiber holder on the RT-02 and open the cover.



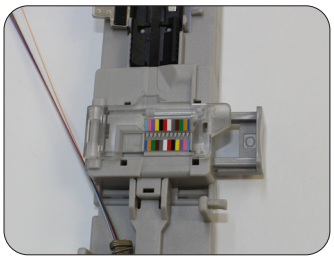
8: Secure the cordage in the ribbonizing tool with the end of the fibers at the end of the tool. The split jacket will be held back by the tool and the aramid yarn placed on the side of the tool.



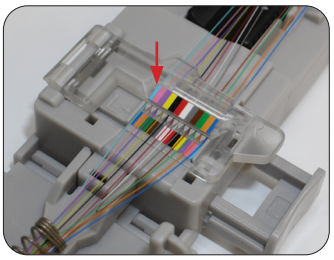
9: Carefully insert the spring unit and heat sleeve onto the fibers.



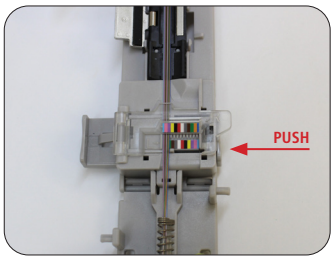
10: Move the fiber insertion slider to the open position by pushing the slider to the right with the cover open. There will be an "O" on the lever when open.



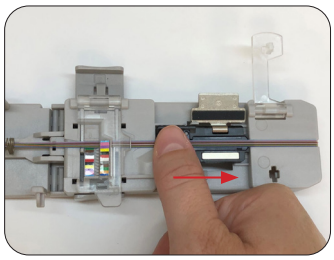
11: Close the clear fiber insertion cover.



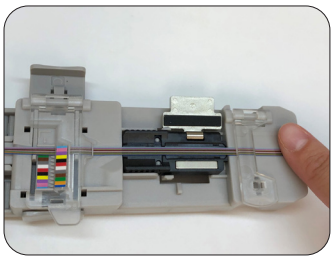
12: Insert the colored fibers through the corresponding color slot with aqua on the left hinge (be careful not to push the lever to the closed position until you have inserted all the fibers correctly).



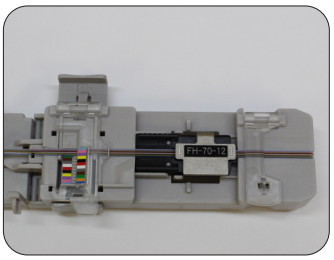
13: When all the fibers are correctly inserted, push the open slider to the left to the closed position. The fibers will push together in a ribbon array.



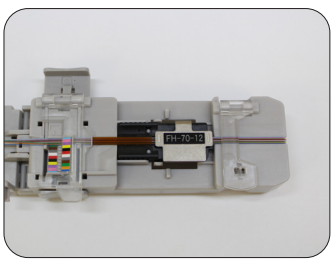
14: Slide your thumb over the fiber to confirm the fiber sits neatly in the fiber holder.



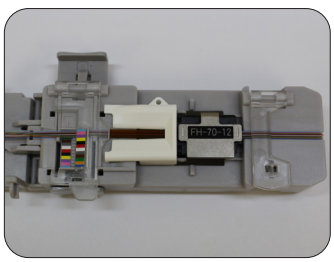
15: While holding the edge of the fiber with your finger, close the clear cover above the fiber holder and confirm that there is no overlapping on the fiber holder.



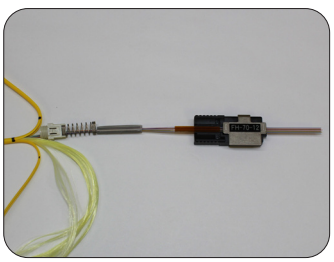
16: Close the fiber holder clamp.



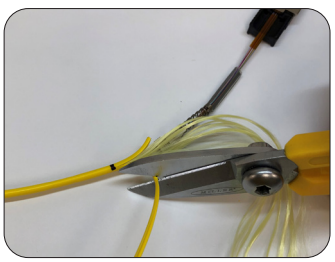
17: Carefully attach the ribbonizing tape to the fiber between the fiber holder and the fiber aligner and press lightly.



18: If necessary, use the supplied jig to apply the tape.

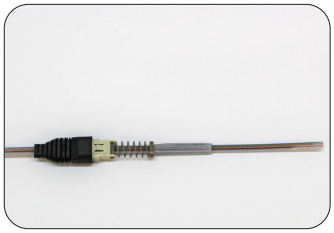


19: Remove the fiber and fiber holder from the ribbonizing tool.

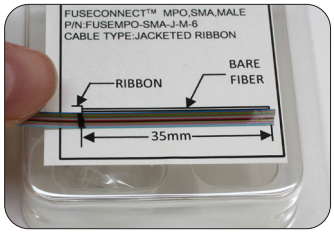


20: Cut the jacket at the "Cut Jacket" mark.

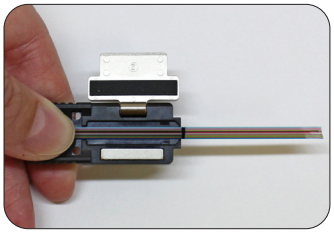
RIBBON AND SWR® PREP



1: Carefully load the ribbon boot spring unit assembly and the heat sleeve onto the ribbon fiber.

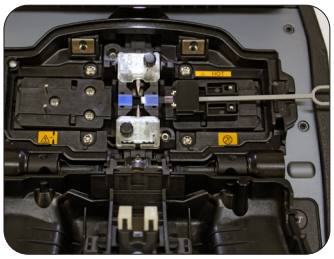


2: Mark the ribbon at 35 mm using the template on the packaging.

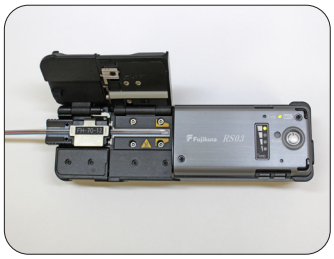


3: Set the ribbon onto the fiber holder with aqua fiber closest to the hinge.

FIBER TERMINATION

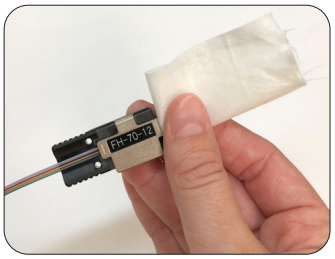


1: Load the ferrule unit holder onto the right side of the splicer. Close the cover.

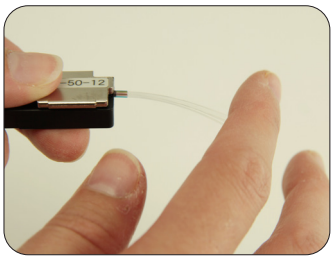


2: Place the fiber holder on the hot jacket stripper.

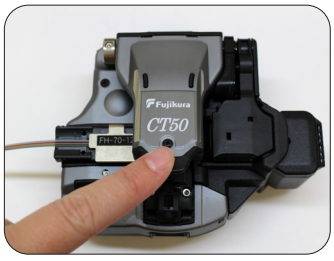
3: Close the lid. When the "Ready" light turns green, strip the fiber.



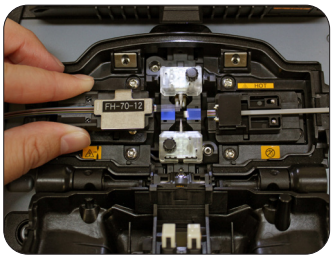
4: Clean the stripped fiber with a lint free cloth and fiber preparation fluid.



5: Make sure the fibers are dry and separated. Flick the end of the fibers to ensure their integrity.

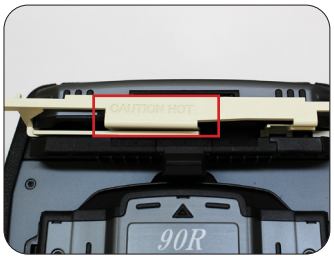


6: Place the fiber holder into the cleaver. The fiber holder should be flush and flat in the cleaver. Cleave the fiber.

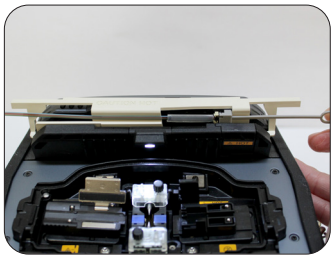


7: Load the fiber holder onto the left side of the splicer and close the cover.

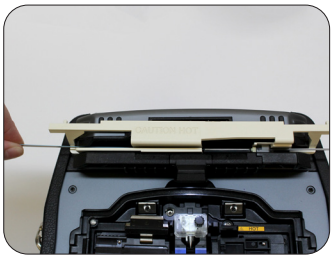
8: Splice the fiber to the FUSEConnect® MPO Connector.



9: Place the provided heater attachment in heater oriented where you can read **"CAUTION HOT"**.



10: Open the fiber holder clamp and the ferrule unit clamp. While keeping tension on the splice, remove the fiber from the splicer and slide the protective sleeve over the splice so it is flush with the ferrule unit.

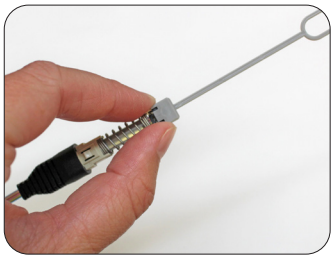


11: While keeping tension on the fiber, turn the assembly 90° and set the heat sleeve, ferrule, and ribbon fiber in the heater attachment with the ferrule going into the square recess on the right and the fiber into the slit on the left. Heat the sleeve.

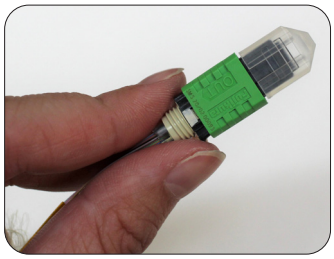
12: Allow the sleeve to cool for ~1 minute. While holding both sides, remove the fiber and sleeve from the heater. Remove the heater attachment by picking up on the edges, avoiding the area that was in contact with the heater.

CONNECTOR ASSEMBLY FOR…

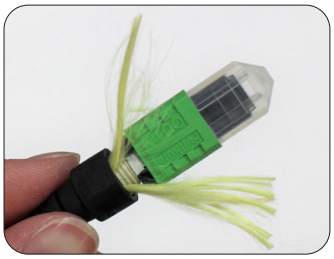
3 MM CORDAGE



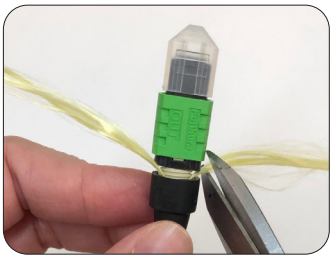
1: Slide the spring unit up to the ferrule and carefully remove the transfer cap by holding onto the ferrule, not the fiber.



2: Insert the connector onto the ferrule and spring unit. See the table below for proper housing alignment.



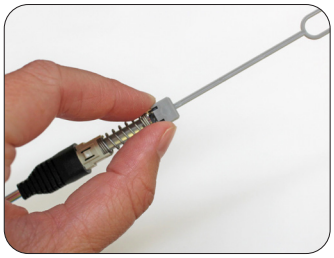
3: Divide the aramid yarn on both sides of the spring unit. Screw the boot ¾ of the way onto the spring unit.



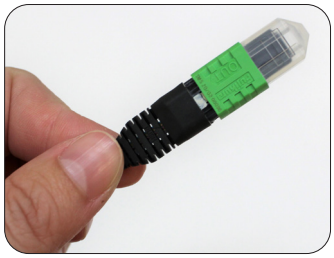
4: Trim the excess aramid yarn using the Kevlar scissors.

5: Screw the boot unit on completely. Place the dust cap back onto the connector. Installation is complete.

RIBBON OR SWR®



1: Slide the boot and the spring unit up to the ferrule and carefully remove the transfer cap by holding onto the ferrule, not the fiber.



2: Insert the connector onto the boot and spring unit. See table below for proper housing alignment. Installation is complete.

PROPER HOUSING ASSEMBLY FOR METHODS A, B AND C

Method	End A Housing Assembly	End B Housing Assembly
A and C** (Key Up-Key Down)	Align the white marks on the connector and the housing. Push until a click is heard.	Align the white marks on the connector and the housing. Push until a click is heard.
B (Key Up-Key Up)	Align the white marks on the connector and the housing. Push until a click is heard.	Make sure that the white mark on the spring unit and the white mark on the housing are on opposite sides. Push until a click is heard.

**For Method C, ribbonizing should be done with a pair flip.