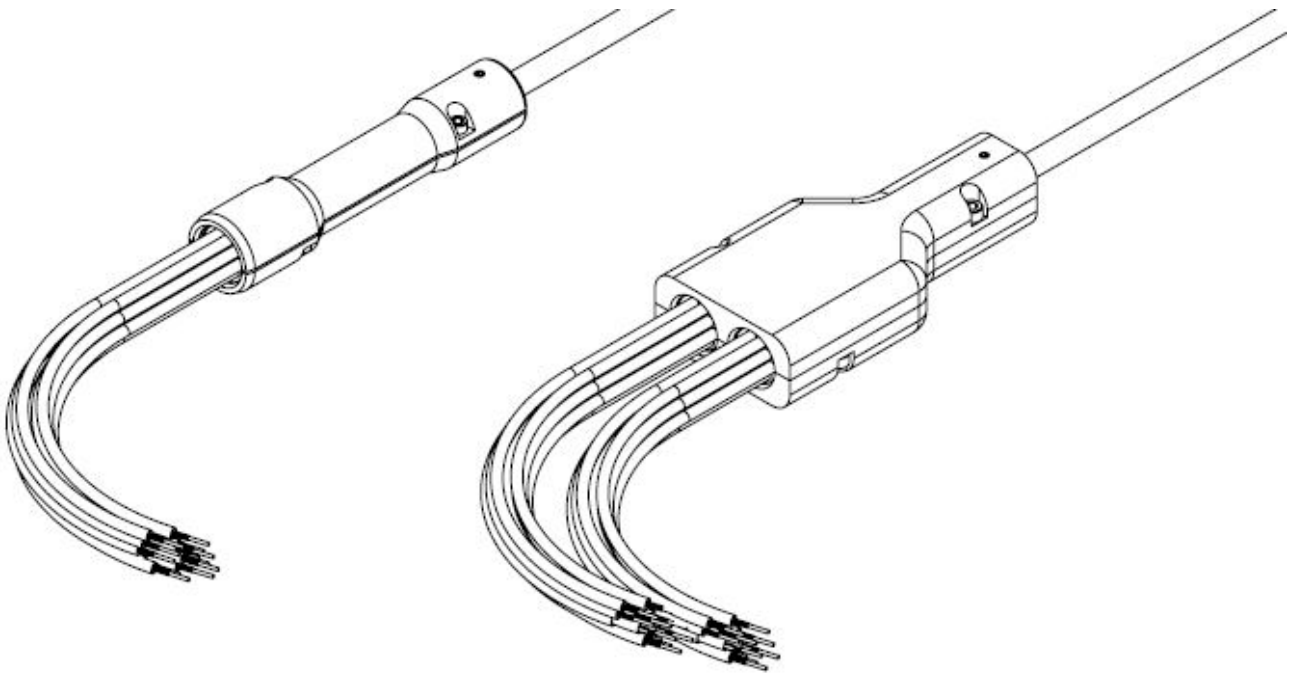


QGrip Furcation Kits Customer Assembly Instructions



Document: CAI-QGRIP
Release Date: 11/12/2021

Revision: 0
Revision Date: N/A



SCOPE

This document describes the Assembly Instructions for the QGrip Product Line. Please use the Configuration Table below to locate the applicable section(s) based on the products needing assembly.

CONFIGURATION TABLE

QGrip Size	Page
02 – 12 Channel	3
14 – 24 Channel	7

SAFETY

Please use caution when following these instructions. This is not an exhaustive list of safety guidelines, refer to local regulations and your own company's policies. For more information, please refer to QPC Fiber Optic General Fiber Handling Instructions (CAI-GEN).

- Be careful when handling bare fibers as sharp ends may penetrate skin.
- Wear appropriate personal protective equipment such as gloves and safety glasses.
- Track all fiber scraps and dispose of properly. Tape may be used to remove scraps from the worktable.
- Wash hands after handling fiber and before touching eyes or face.
- Do not look down fiber ends unless certain there is no light source coming through the fiber.
- Keep all combustible materials safely away from curing ovens.

STANDARD & SPECIALTY ASSEMBLY TOOLS

Refer to QPC CAI-TOOLS for a list of Standard & Specialty Assembly Tools used in this instruction.

TORQUE TABLE

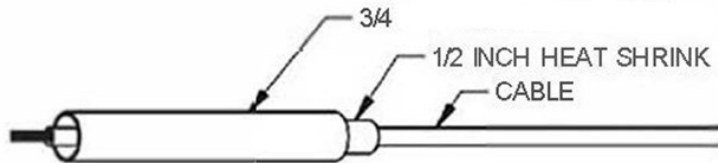
Refer to the Torque Table below for the torque values for various components used in this instruction.

Component		Shell Socket Head Screws	Set Screws
Torque Values	In-lb	4.5 – 5.0	2.25 – 2.75
	N • m	.51 – .56	0.25 – 0.31

QGrip, 02 – 12 Channel

CABLE PREPARATION

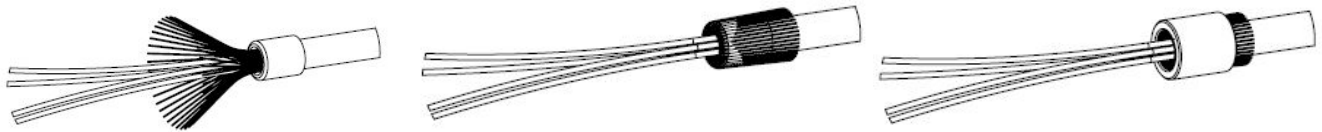
Slide label onto cable if needed. Uncoil the furcation tubing and cut to desired length.



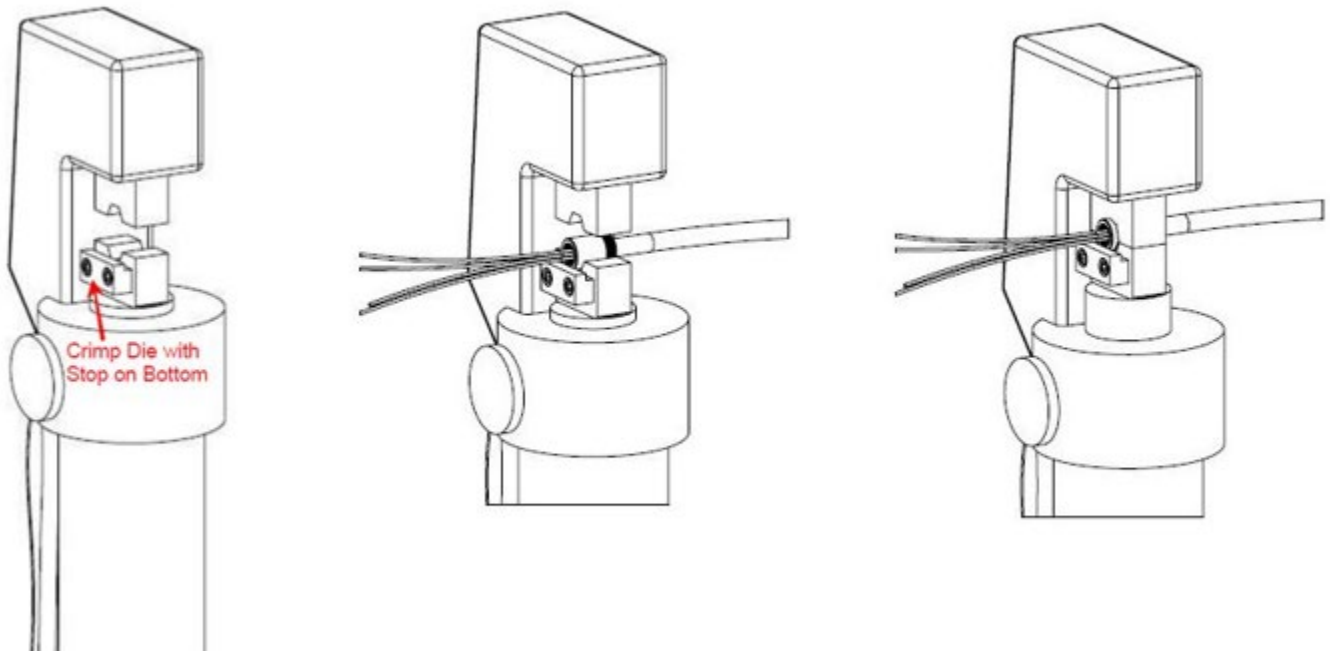
Slide the Heat Shrink tubes sizes $\frac{3}{4}$ -inch diameter (5-inch long) over the cable. Slide the $\frac{1}{2}$ -inch diameter (4-inch long) over the cable.

Strip the outer jacket from the cable, exposing the 900 μ m buffered fibers so that the fiber length exceeds the length of the furcation tubing by at least 7" to allow for approximately 3" (76mm) of fiber length inside the shell and approximately 4" (102mm) of fiber length for connector installation. Keep 2" (50mm) of Kevlar for crimping.

Bend Kevlar back over the Crimp Support. Slide Crimp over Kevlar and Crimp Support to prepare for crimping.

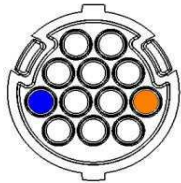


Setup the Hydraulic Crimping tool PT-540 with the Die Set PT-542. The Crimp Die with Stop needs to be placed on the bottom facing out and with the Crimp against the stop as seen in the image below. Turn the knob clockwise on the Hydraulic Crimper, so that the handles can be pumped to crimp. Place the cable in the lower Crimp Die with the fiber facing out. Pump the handles until the Crimp Dies are touching. Release crimp by turning knob counterclockwise.

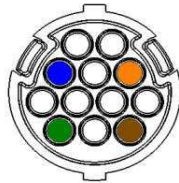


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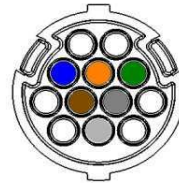
Pass each individual 900µm buffered fiber through the appropriate furcation tubing subunit. The fiber will protrude outside of furcation tubing.



2 CHANNEL



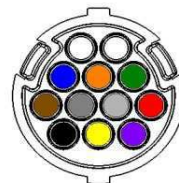
4 CHANNEL



6 CHANNEL



8 CHANNEL

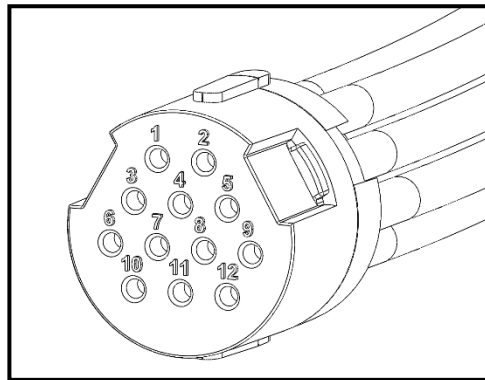


10 CHANNEL



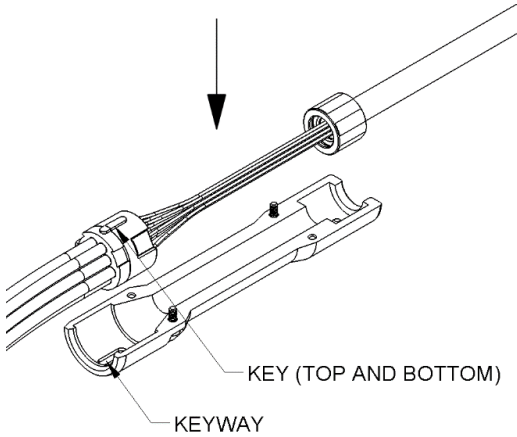
12 CHANNEL

Channel	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

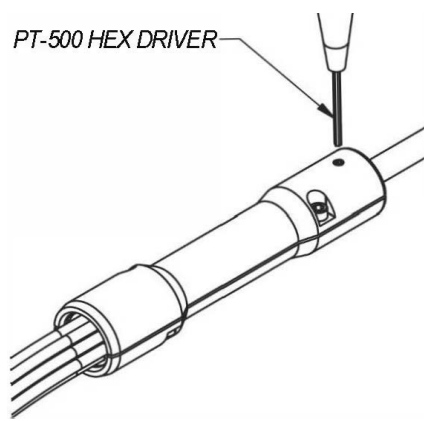
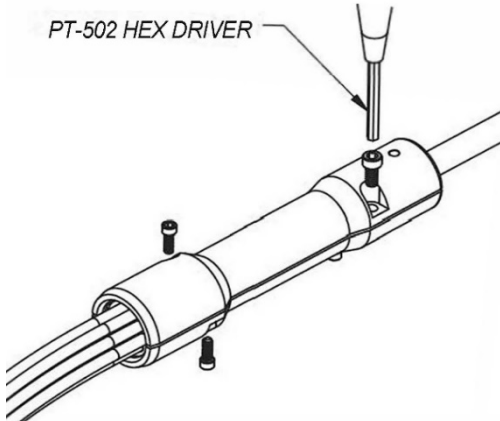


FINAL ASSEMBLY

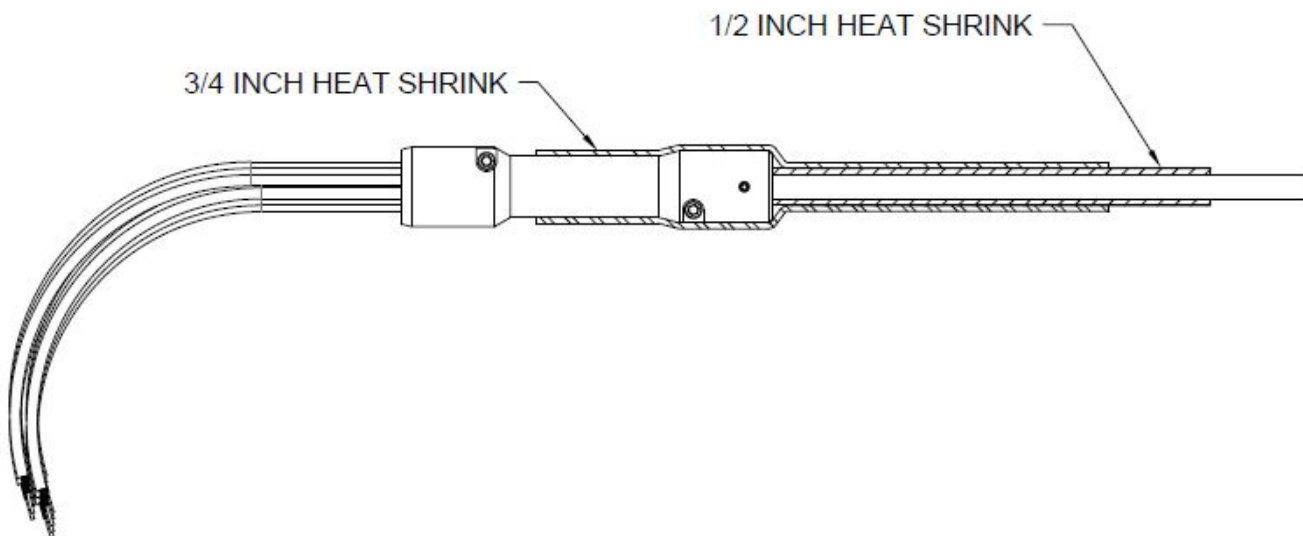
Place the Crimp and insert subassembly into bottom shell. Make sure the insert key is aligned with the keyway in the lower shell and that the crimp rests fully in the shell cavity. Check to see that the fibers are not twisted and that they are all inside the shell cavity.



Install the upper shell and secure the 4x Shell Screws using a 3/32" Hex Driver PT-502. Torque using the PT-590 Torque-Measuring Screwdriver and PT-599 Hex Bit 3/32" to the values in the Torque Table above. After top shell is secure, fasten 2x Set Screws using .05" Hex Drive PT-500 to prevent the cable from rotating within the cavity. Torque using the PT-590 Torque-Measuring Screwdriver and PT-599 Hex Bit .05" to the values in the Torque Table above. Note: Do not rotate the cable until crimp set screws have been secured. After this step, the cable can be Terminated & Polished. Reference the Fiber Optic Termination and Polishing Assembly Instructions (reference CAI-TERM) to terminate and polish each fiber.

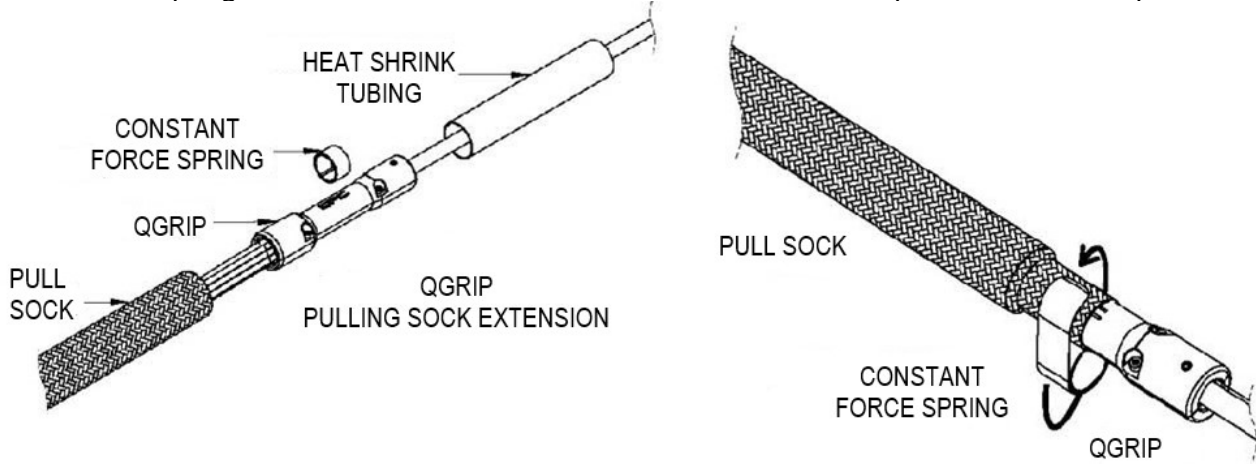


Activate the heat shrink on the cable and on the Shell of the QGrip. The 1/2-inch diameter Heat Shrink should be shrunk on the cable and touching the base of the QGrip where the cable exits. The end of the 3/4-inch diameter Heat Shrink should cover the smaller diameter portion of the QGrip Shell.



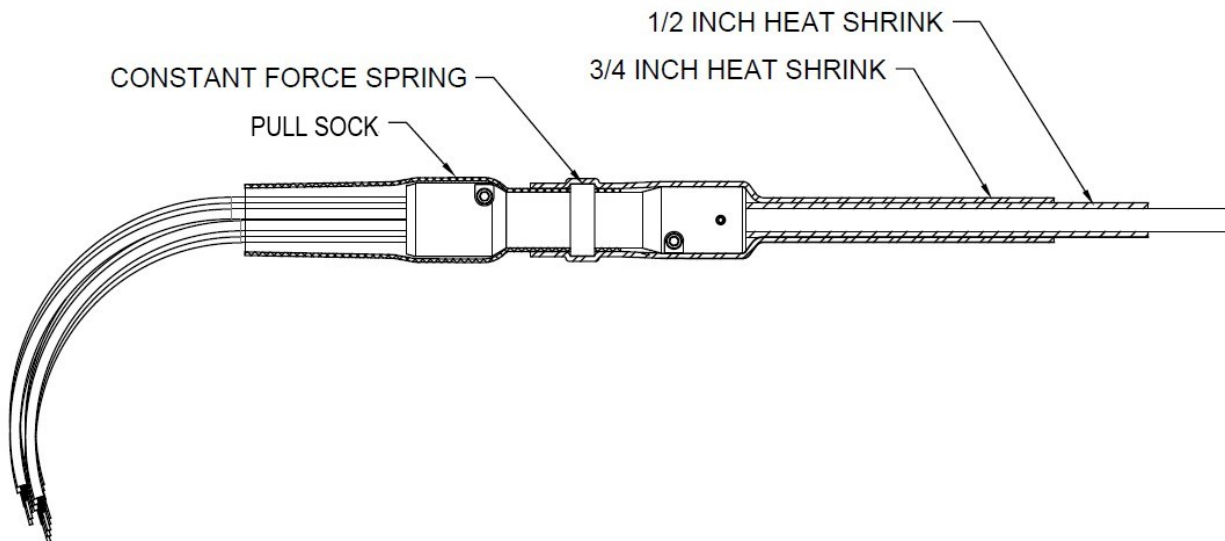
HEAT SHRINK WITH OPTIONAL PULLING STOCK EXTENSION

Slide the subunits through the Pull Sock. Slide the Pull Sock over the QGrip as seen in the image. Coil the constant force spring over the Pull Sock and around the small diameter portion of the QGrip Shell.



Activate the heat shrink on the cable and on the Shell of the QGrip. The 1/2-inch diameter Heat Shrink should be shrunk on the cable and touching the base of the QGrip where the cable exits

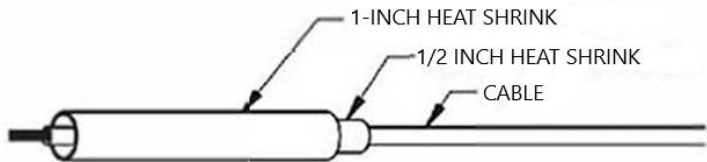
Now slide the 3/4-inch heat shrink over the Constant Force Spring and shrink. Let Cool. Pull the end of the Pull Sock to verify that it has been secured.



QGrip, 12 – 24 Channel

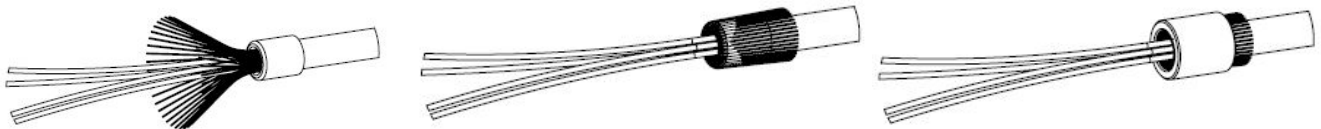
CABLE PREPARATION

Slide label onto cable if needed. Uncoil the furcation tubing and cut to desired length. Slide the Heat Shrink tubes sizes $\frac{3}{4}$ -inch diameter (5-inch long) over the cable. Slide the $\frac{1}{2}$ -inch diameter (4-inch long) over the cable.

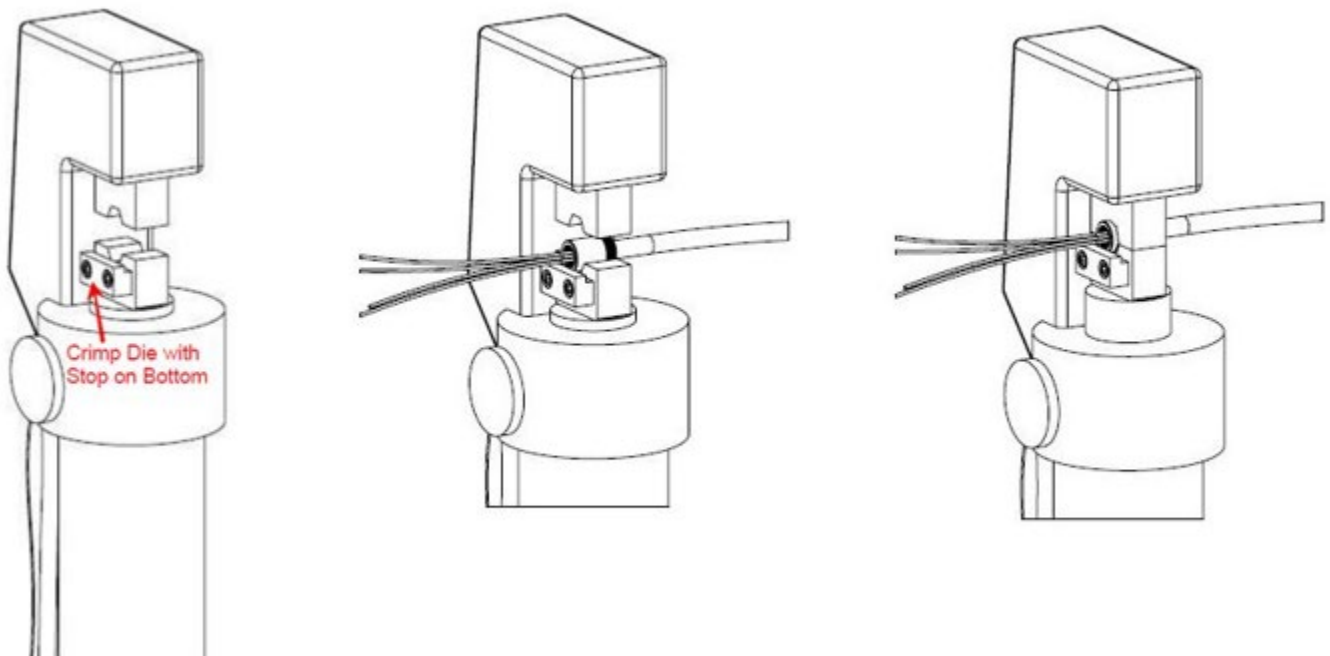


Strip the outer jacket from the cable, exposing the 900 μ m buffered fibers so that the fiber length exceeds the length of the furcation tubing by at least 7" to allow for approximately 3" (76mm) of fiber length inside the shell and approximately 4" (102mm) of fiber length for connector installation. Keep 2" (50mm) of Kevlar for crimping.

Bend Kevlar back over the Crimp Support. Slide Crimp over Kevlar and Crimp Support to prepare for crimping.

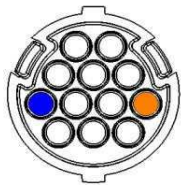


Setup the Hydraulic Crimping tool PT-540 with the Die Set PT-542. The Crimp Die with Stop needs to be placed on the bottom facing out and with the Crimp against the stop as seen in the image below. Turn the knob clockwise on the Hydraulic Crimper, so that the handles can be pumped to crimp. Place the cable in the lower Crimp Die with the fiber facing out. Pump the handles until the Crimp Dies are touching. Release crimp by turning knob counterclockwise.

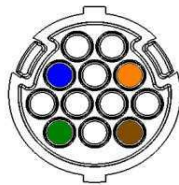


POPULATE INSERT

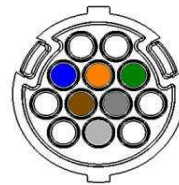
Pass each individual 900µm buffered fiber through the appropriate furcation tubing subunit. The fiber will protrude outside of furcation tubing.



2 CHANNEL



4 CHANNEL



6 CHANNEL



8 CHANNEL

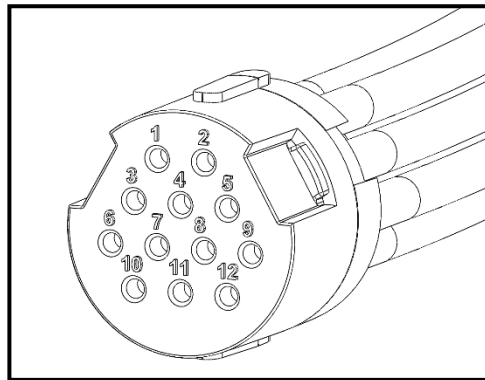


10 CHANNEL



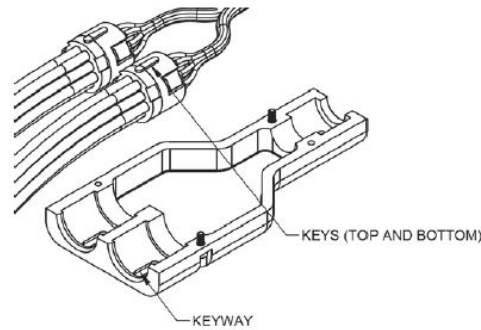
12 CHANNEL

Channel	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua



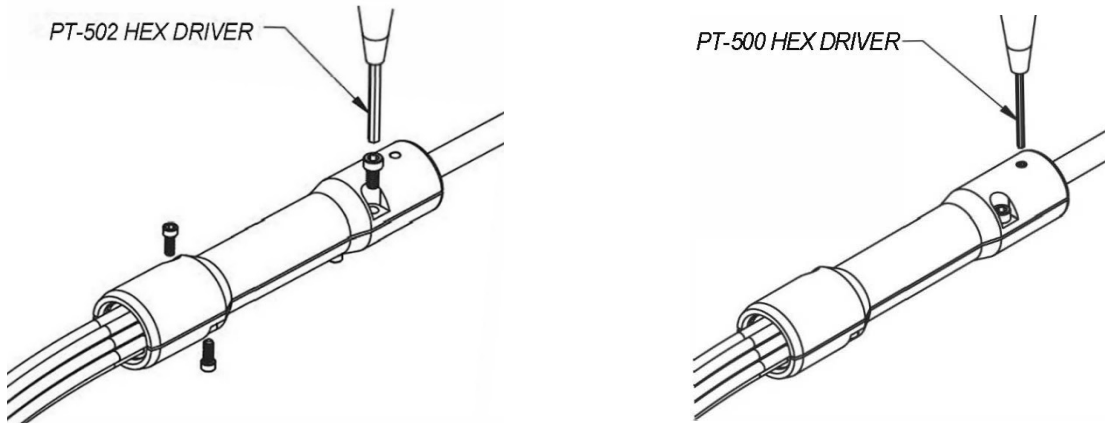
FINAL ASSEMBLY

Place the Crimp and insert subassembly into bottom shell. Make sure the insert key is aligned with the keyway in the lower shell and that the crimp rests fully in the shell cavity. Check to see that the fibers are not twisted and that they are all inside the shell cavity.

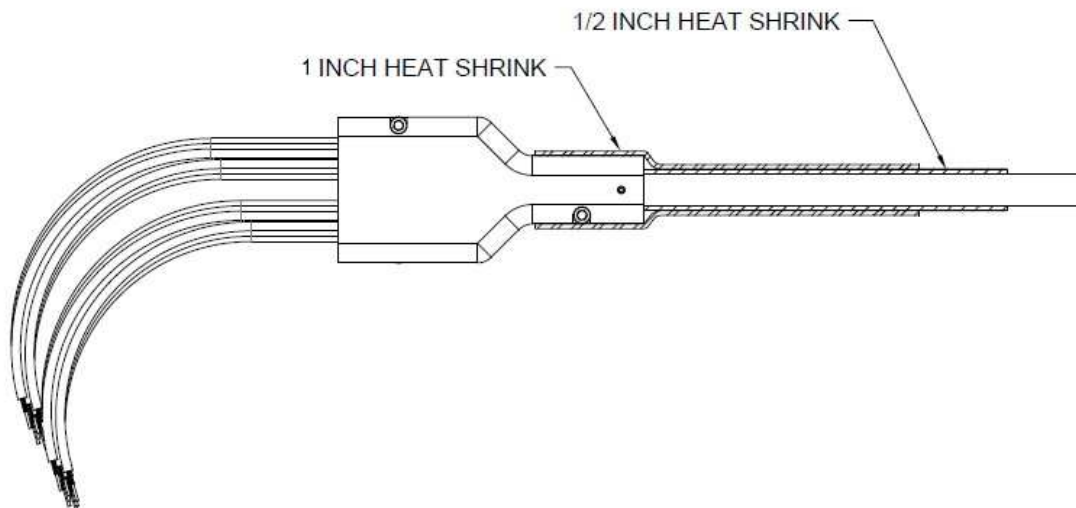


Install the upper shell and secure the 4x Shell Screws using a 3/32" Hex Driver PT-502. Torque using the PT-590 Torque-Measuring Screwdriver and PT-599 Hex Bit 3/32" to the values in the Torque Table above. After top shell is secure, fasten 2x Set Screws using .05" Hex Drive PT-500 to prevent the cable from rotating within the cavity. Torque using the PT-590 Torque-Measuring Screwdriver and PT-599 Hex Bit .05" to the values in the Torque Table above. Note: Do not rotate the cable until crimp set screws have been secured. After this step, the cable can be Terminated & Polished. Reference the Fiber Optic Termination and Polishing Assembly Instructions (reference CAI-TERM) to terminate and polish each fiber.

QGrip 12-Channel used for illustrative purposes

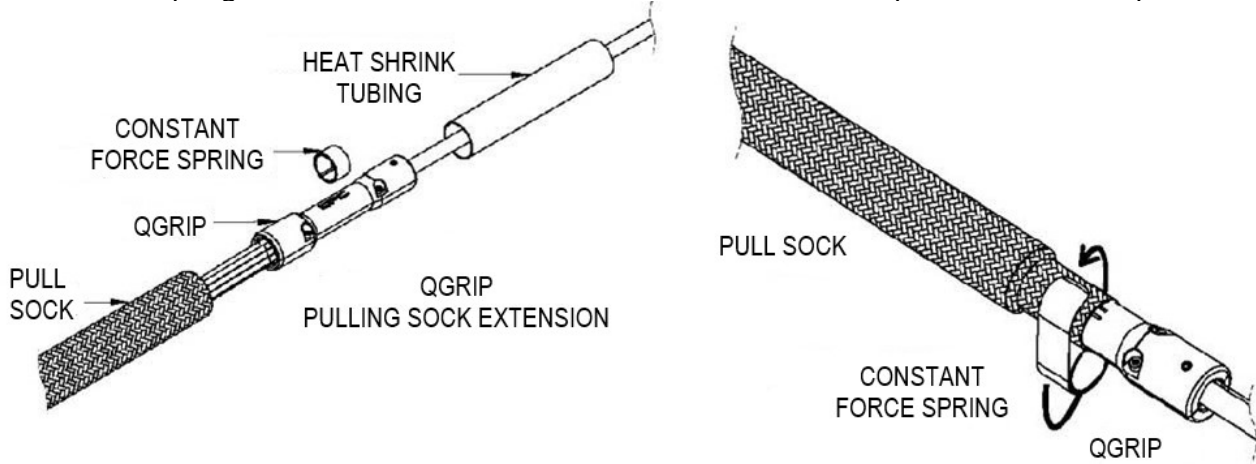


Activate the heat shrink on the cable and on the Shell of the QGrip. The 1/2-inch diameter Heat Shrink should be shrunk on the cable and touching the base of the QGrip where the cable exits. The end of the 3/4-inch diameter Heat Shrink should cover the smaller diameter portion of the QGrip Shell.



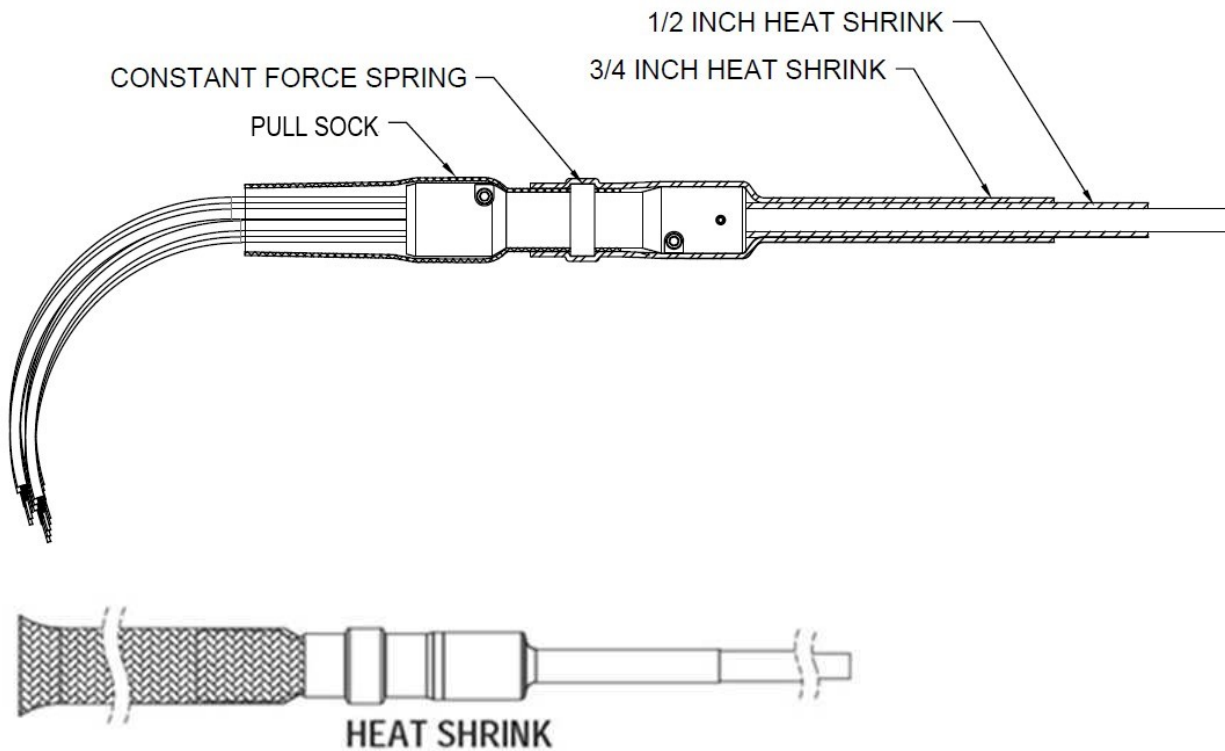
HEAT SHRINK WITH OPTIONAL PULLING STOCK EXTENSION

Slide the subunits through the Pull Sock. Slide the Pull Sock over the QGrip as seen in the image. Coil the constant force spring over the Pull Sock and around the small diameter portion of the QGrip Shell.



Activate the heat shrink on the cable and on the Shell of the QGrip. The 1/2-inch diameter Heat Shrink should be shrunk on the cable and touching the base of the QGrip where the cable exits

Now slide the 1-inch inch heat shrink over the Constant Force Spring and shrink. Let Cool. Pull the end of the Pull Sock to verify that it has been secured.



Revision Change Record

Revision	Date	Section	Description	Approval
0	11/12/2021	New Release	New Release	CN