3M Science. Applied to Life.™

3M™ Crimplok™ ST and SC Connectors

Non-adhesive Fiber Optic Singlemode and Multimode Connectors

Instructions

1.0 Warnings and Recommendations

1.1 Do not view fiber ends if they are laser illuminated. Eye damage may result. Illuminate fiber ends with white light only.

1.2 Clean connector ferrules with a dry, lint-free cloth.

1.3 The recommended solvent for cleaning fibers and components prior to connection is isopropyl alcohol (reagent grade, 99% or better). It may be purchased from laboratory supply companies. Isopropyl alcohol may also be used to clean the lapping acetate and stripping tool when necessary. Do not use acetone for cleaning.

Note: Carefully follow safety, health and environmental information on container label or Safety Data Sheet for isopropyl alcohol being used.

1.4 The connectors described in this manual have pre-radiused "PC" "domed" ferrule ends to ensure low attenuation and the best reflection performance. **All polishing should be done on the soft polishing pad only, as described in this manual.**

1.5 The ST and SC connectors with PC finishes are completely intermateable with flat finished connectors. PC to flat terminations provide improved performance over flat to flat terminations. PC to PC terminations; however, offer the best performance.

1.6 Safety glasses should be worn when working with optical fibers.

November 2015
78-8073-7660-9-G

2.0 Contents

2.1 3M™ Crimplok™ Field Termination Kit 6955 (3M ID 80-6109-3664-5)

Kit Components	3M Stock Number
1) 3M Stripping Tool 6362-TH Tri-Hole	80-6113-3936-9
2) 3M Universal Crimping Tool 6365-CT	80-6113-0454-6
3) Fiber View Scope	80-6110-0928-5
4) Lint-Free Cloths	80-6104-4324-6
5) Polishing Film	80-6108-4532-5
6) 3M Universal Polishing Jig 8892	80-6109-3728-8
7) 6955-P Polishing Tool	80-6109-3727-0
8) 3M Crimplok Activation Tool 6955-T [with ST and SC heads]	80-6109-3662-9
9) 3M Fiber Snips 6365-KS	80-6113-0462-9
10) Alcohol Bottle (empty)	80-6104-4329-5
11) Scotch® Magic Tape or Scotch® Transparent Tape	Not available separately
12) Polishing Film (SM)	80-6110-1312-1
13) Water Bottle	80-6104-5334-4

For pricing, product information, or customer service contact: 800/426-8688

2.2 The 3M™ Crimp Tool 6955-C has three crimp cavities:

a. .120" with counter-bore for SC buffer gold crimp ring

b. .137" for 3.0 mm jacketed cable

c. .190" for aramid yarn strength member crimp

2.3 The 3M Crimplok™ ST Connector consists of the following components:

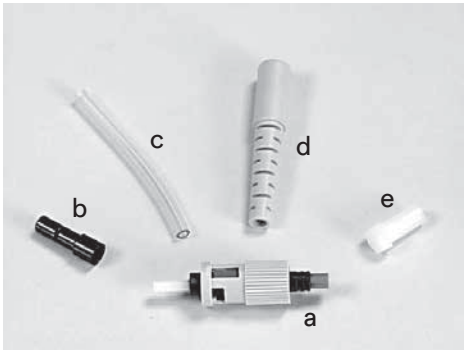
a. Connector

b. 3.0 mm crimp ring (black)

c. Clear strain relief tubing

d. Strain relief boot

e. Dust cap



2.4 The 3M Crimplok SC Connector consists of the following components:

a. Connector

b. Connector shell

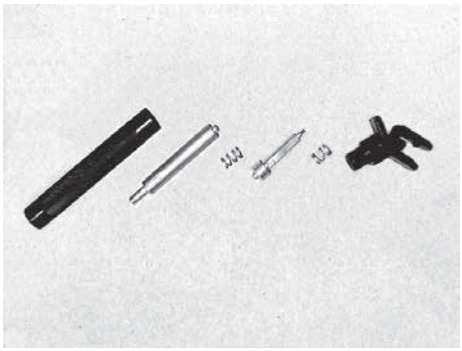
c. 3.0 mm crimp ring (black)

d. Clear strain relief tubing

e. Strain relief boot

f. Dust cap

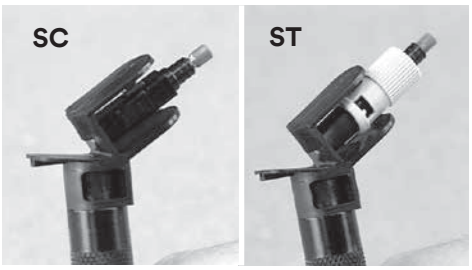
2.5 The 3M Crimplok Activation Tool 6955-T comes assembled with the ST head. The SC head is located in the inner pouch of the kit.



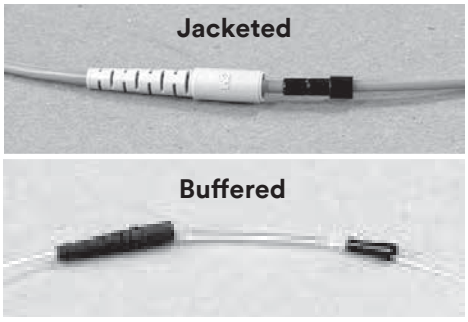
3.0 Termination

Note: All process steps are for both ST and SC except where noted.

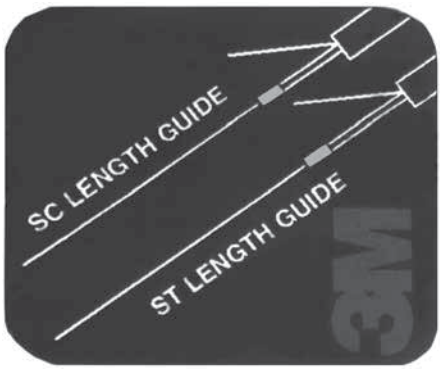
3.1 Load a connector into the activation tool. The red element activation button should be on top of the connector. Seat the ferrule against the stop.



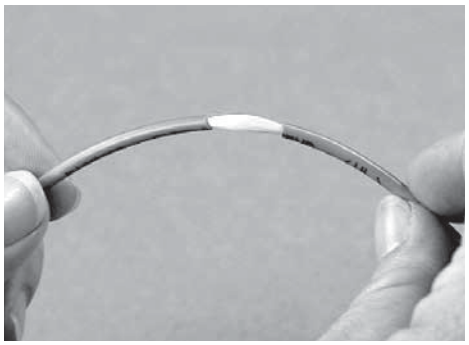
3.2 Place the strain relief boot and crimp ring on the cable. Add clear strain relief tube for 900 µm buffered fiber.



Note: The stripping guide is located on the bottom of the polishing base.

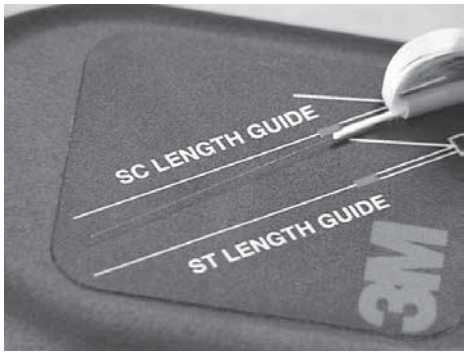


3.3 Remove approximately 2 1/4 inches (57 mm) of outer jacket. Refer to stripping guide.



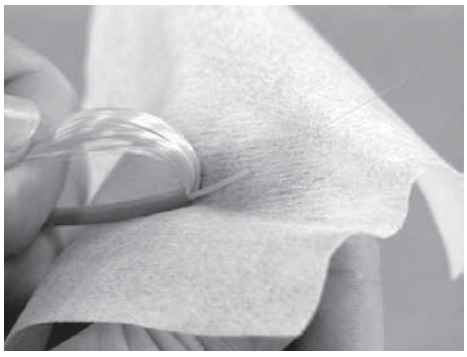
3.4 **For SC:** Strip fiber. Leave 3/8 to 1/2 inch (9 to 12 mm) of buffer protruding from jacket.

For ST: Strip fiber. Leave 1/2 to 5/8 inch (12 to 16 mm) of buffer protruding from jacket.



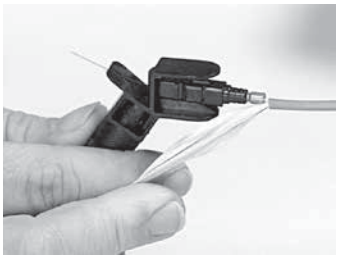
3.5 Clean the fiber with a lint-free wipe and alcohol.

Note: Carefully follow safety, health and environmental information on container label or Safety Data Sheet for isopropyl alcohol being used.



3.6 **For SC only:** Insert the fiber through the connector until the jacket bottoms out on the connector. The fiber will form a gentle bend, resting in the fiber support groove.

3.7 **For SC only:** While holding the aramid yarn and the activation tool in one hand, load the gold sleeve of the connector into the .120" cavity of the crimp tool. Partially close the crimp tool to secure the connector.

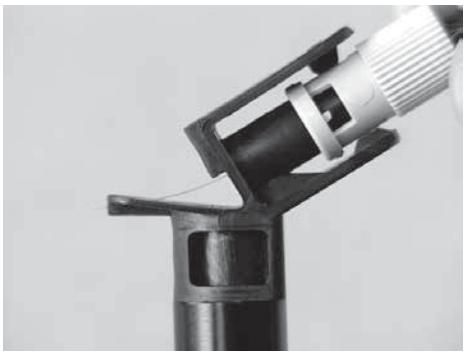


3.8 Hold the aramid yarn back and complete full crimp.

Note: Cut the aramid yarn 1/2 to 5/8 inch from the end of outer jacket.

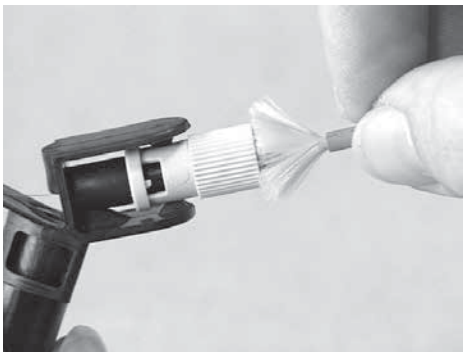
3.9 **For ST:** Cut the aramid yarn 1/2 to 5/8 inch from the end of the outer jacket.

3.10 **For ST only:** Insert the fiber through the connector until the jacket bottoms out on the connector. The fiber will form a gentle bend, resting in the fiber support groove.



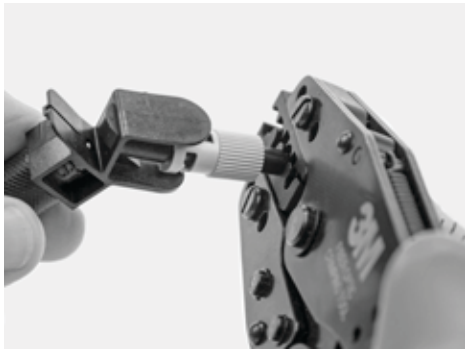
3.11 Flare the aramid yarn strands evenly around the fiber.

3.12 Aramid yarn strands should extend over the back of the connector.



3.13 Hold the connector, and push the crimp ring into place until it seats.

3.14 Crimp the large diameter section of the crimp ring with the .190" cavity of the crimp tool.

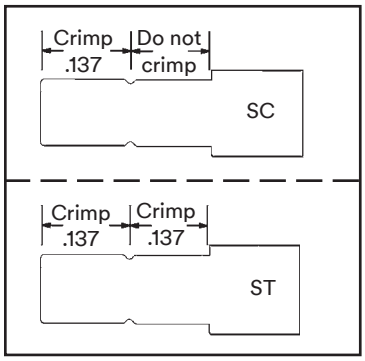


3.15 For buffered fiber, slide clear strain relief tube into crimp ring.

3.16 **For SC:** Crimp only the end of the smaller diameter of the crimp ring with the .137" cavity of the crimp tool to the 3 mm jacket. Do not crimp the middle portion of the crimp ring.

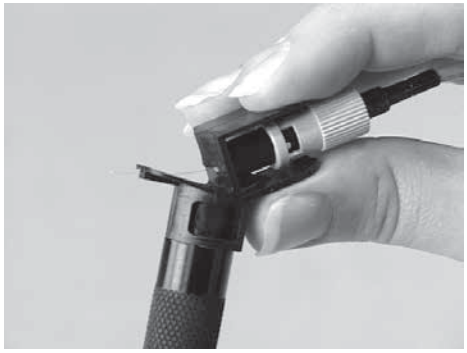
For ST: Crimp both small diameter sections of the crimp ring with the .137" cavity onto the 3 mm jacket.

Note: Crimping step must be completed before step 3.17.

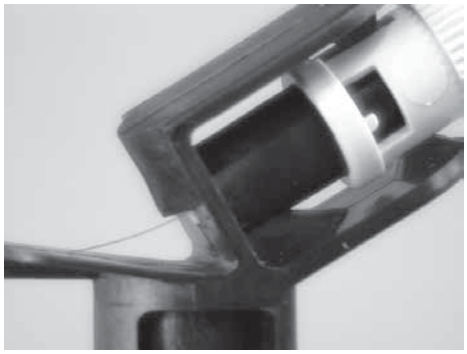


3.17 **Important: Activate the connector by squeezing the black lever of the activation tool. Ensure red activation button is completely engaged on the connector.**

WARNING! Failure to activate the connector will void product warranty!

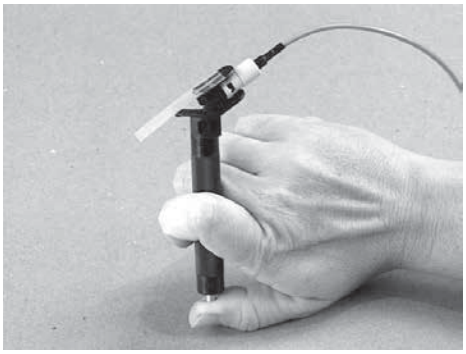


3.18 Press the connector forward to ensure that the ferrule is still seated against the stop.



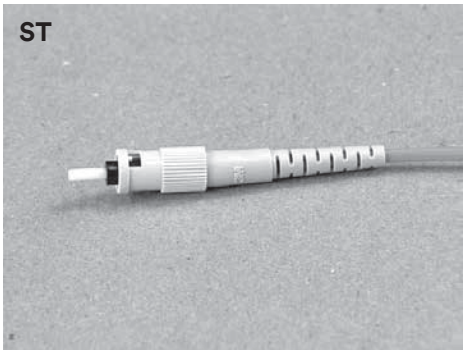
3.19 Add a two inch piece of Scotch® Magic Tape or Scotch® Transparent Tape to the top of the activation lever to catch cleaved fiber scrap.

3.20 **SLOWLY** depress the button on the activation tool until the fiber breaks away.
Do not depress the button quickly, with undue force, or after the fiber breaks.
This may shatter the fiber and damage the tool's blade.

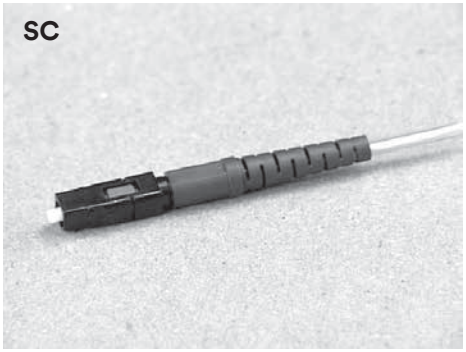


3.21 Remove the connector from the activation tool. Dispose of the fiber end.

3.22 Slide the boot onto the connector until it stops.

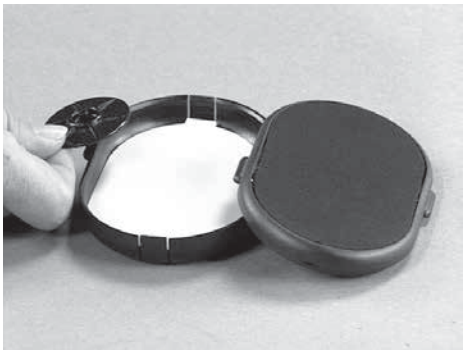


3.23 For SC: Align the flat part of the boot with the flat side of the connector. Slide the boot onto the connector.

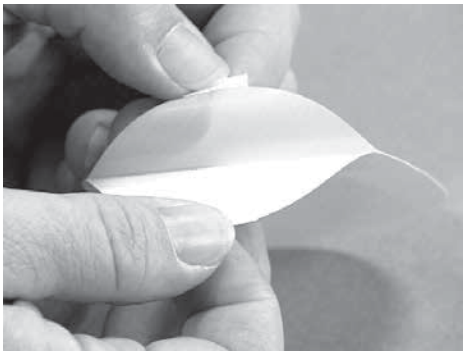


4.0 Polishing

4.1 Polishing puck and paper are stored inside the polishing base.



4.2 Peel the backing from the multimode (light green) polishing paper and stick it to the polishing pad surface. One sheet of polishing paper can polish two connectors.



4.3 Place the connector in the polishing puck and set it gently on the polishing surface.

4.4 Perform two figure eights with light pressure. Figure eights should be approximately three inches long, utilizing the entire polishing surface.

4.5 Perform 13 figure eights with firm pressure.
Do not over polish.
For multimode connectors, proceed to step 4.6.

Singlemode Polishing:

4.5.1 Wipe off any debris from the polishing puck and the multimode (green) lapping film with a clean, lint free cloth.

4.5.2 Moisten the singlemode polishing film with a little water and place the singlemode (pale yellow) film, shiny side down, on top of the singlemode polishing film.

4.5.3 Add two drops of water to the singlemode polishing film.

4.5.4 With medium to firm pressure, perform 7 figure eights on the wet lapping film.

4.6 Remove the connector from the polishing puck. Wipe the ferrule with a lint-free cloth and alcohol.

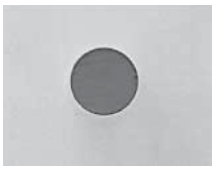
Note: Carefully follow safety, health and environmental information on container label or Safety Data Sheet for isopropyl alcohol being used.

Note: Since the 3M™ Crimplok™ Connector is epoxyless, the mechanism that ensures fiber contact is different from epoxy connectors. The Crimplok connector and termination procedure are designed to produce a fiber protrusion of 15 to 40 microns. A slight protrusion is required to ensure contact at 140°F (60°C). Fiber protrusion will usually be noticed when cleaning the connector with a lint-free cloth. The product will interface with epoxyless and epoxy based connectors.

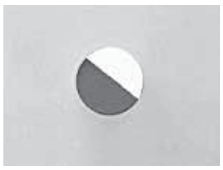
4.7 Inspect the tip of the ferrule with a fiber view scope.

4.8 Install the shell on the SC connector. Align the chamfers on the shell and connector and push the shell into place.

4.9 Install the dust cap.



good termination



shattered fiber

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