

LightCrimp* Splice

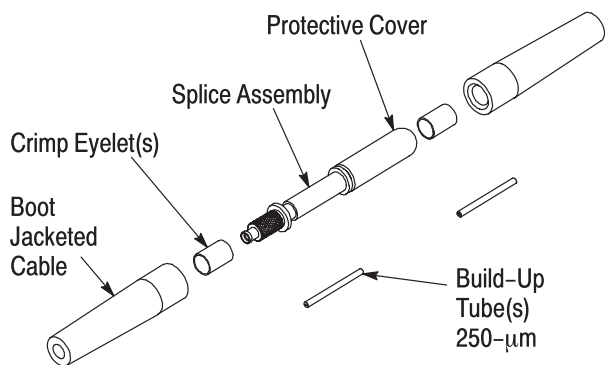


Figure 1

DANGER



NEVER look into the end of terminated or unterminated fibers. Laser radiation is invisible but can damage eye tissue. NEVER eat, drink, or smoke when working with fibers. This could lead to ingestion of glass particles.

DANGER



BE VERY CAREFUL to dispose of fiber ends properly. The fibers create slivers that can easily puncture the skin and cause irritation.

CAUTION



DO NOT use defective or damaged components. Replace them with new components.

1. INTRODUCTION

This instruction sheet describes the installation of the LightCrimp Splice to 250-μm coated, 900-μm tight buffered and 2.0 mm jacketed cable. All splice kits can be used for both Multimode and Singlemode applications.

LightCrimp Splices are used for new installations and repair of telephone company central offices, CATV head ends, inter-building backbones, customer premise applications, and military applications.

NOTE



Dimensions in this instruction sheet are in millimeters with [inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

Please read these instructions thoroughly before starting terminations.

5.1. 900-μm Bare Buffered Fiber

5.2. 250-μm Coated Fiber

5.3. 2.0 mm Jacketed Cable

2. DESCRIPTION

Each LightCrimp Splice kit consists of a splice assembly with protective cover, 250-μm build-up tubes, crimp eyelets, and boots if applicable. See Figure 1.

3. SAFETY PRECAUTIONS

DANGER



To avoid personal injury, ALWAYS wear eye protection when working with optical fibers.

4. REQUIRED TOOLS AND MATERIALS FOR TERMINATION

- Micro-Strip Tool 492109-2 [.008 in.]
- Combination Strip Tool 1278947-1
- Slitting Tool, Cable 2.0 mm 2064453-2
- Splice Holder Termination Tool 1985771-1
- PRO-CRIMPER* III 2064603-1 with Die Set
- Cleave Tool 1871696-1
- Aramid Shears 1278637-1
- Clamp, Cable 1278625-1 (2 Req)
- Alcohol Fiber Wipes 501857-2

These tools can be purchased as a kit (1985801-1).

5. TERMINATION PROCEDURE

5.1. 900-μm Bare Buffered Fiber

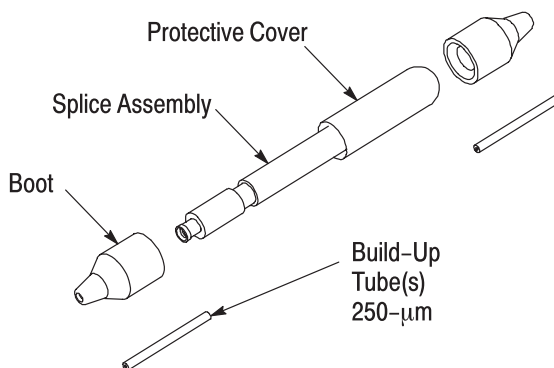


Figure 2

A. Preparing the Components and Buffered Fiber

1. Remove contents from bag. See Figure 3.



Figure 3

2. Push splice through inner-bag to remove. See Figure 4.



Figure 4

3. Identify the components. See Figure 5.

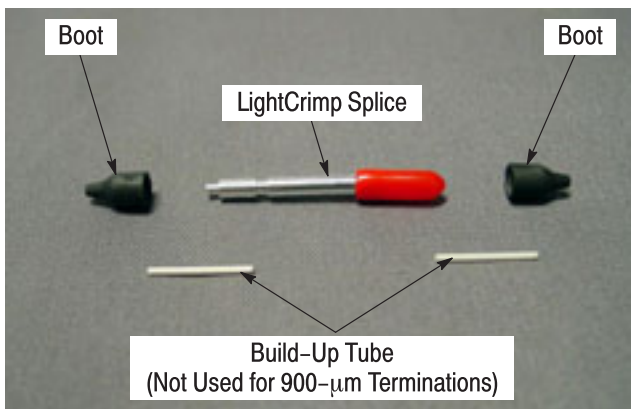


Figure 5

4. Place splice into termination tool as shown in Figure 6, notch goes into side A.

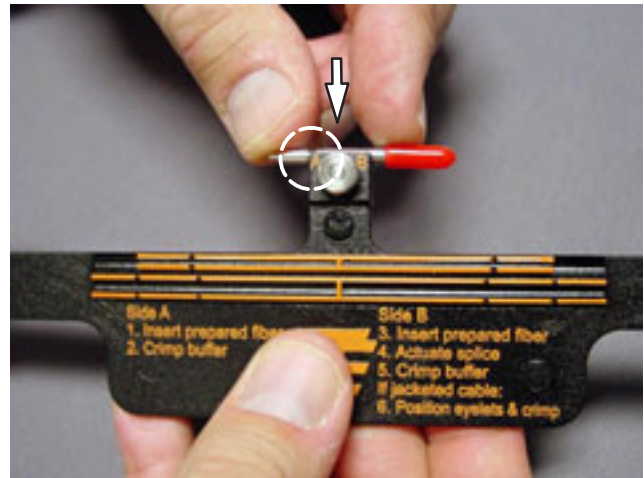


Figure 6

5. (Optional) Slide boot on the cable with the small end first, as shown in Figure 7. Repeat for second end.

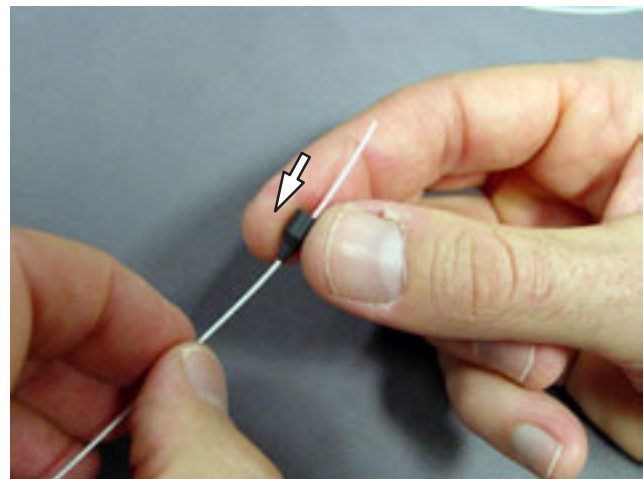


Figure 7

6. Place fiber into the top template and mark at the slot as shown in Figure 8. Repeat for second end.

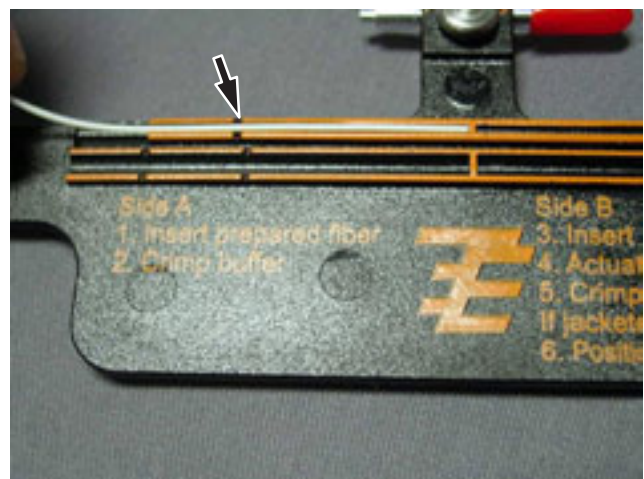


Figure 8

7. Using the combination strip tool, strip the buffer approximately 6 mm [.250 in.] at a time until you reach the mark. Repeat for the second end. See Figure 9.



Figure 9

8. Clean the fiber using a lint-free alcohol wipe with >91% ISO. Applying a light squeeze wipe several times (pulling in the direction away from the buffer) as this ensures the fiber is clean. The tensile force that is applied at the same time serves as a proof test to assure fiber integrity after the coating/buffer is removed. If the fiber breaks, start over, and repeat the stripping process. Repeat occurrences of fiber breakage may indicate method or tooling issues which should be investigated. Do not lay the fiber down. Go directly to next step in order to ensure the cleaned fiber is not contaminated. See Figure 10.

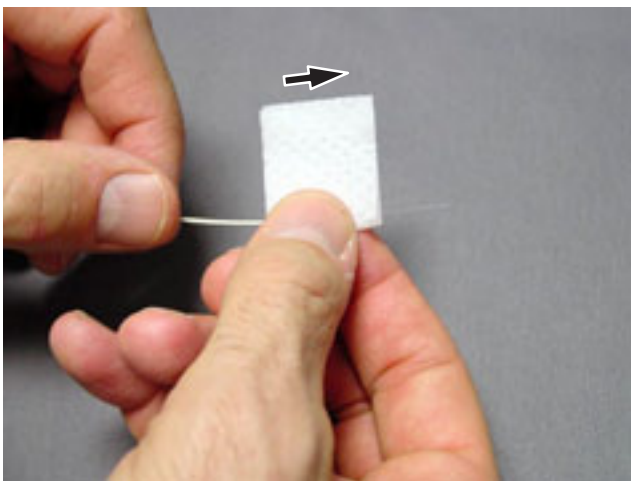


Figure 10

B. Cleaving

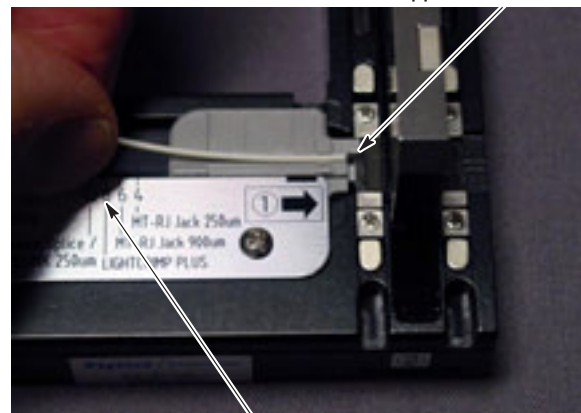
1. Open the fiber clamp of the fiber optic cleaver. Press the button, and slide the carriage back (toward the fiber clamp). Then move the fiber slide back until it stops.

2. Place the stripped fiber into the slot so that the end of the buffer is at the 8-mm marking. See Figure 11, Detail A.

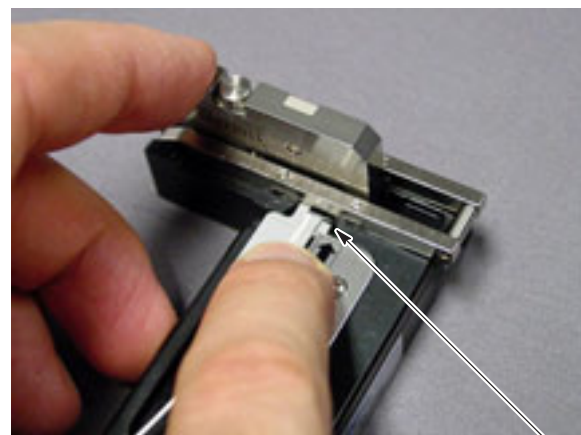
3. While applying pressure on the buffer, carefully slide the fiber slide forward (toward the carriage) until it stops. See Figure 11, Detail B.

4. Gently close the fiber clamp, and slide the carriage forward. DO NOT touch the button while sliding the carriage. See Figure 11, Detail C.

Detail A



Detail B



Detail C

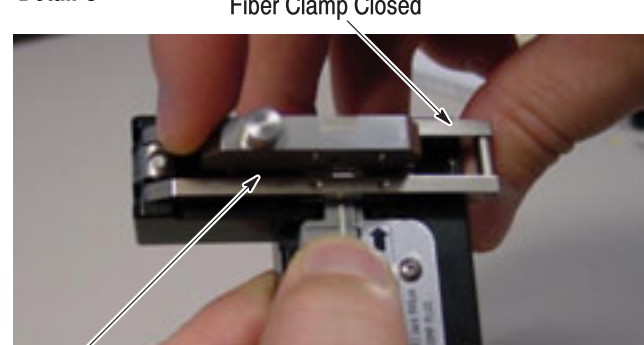


Figure 11

5. Open the fiber clamp, and move the fiber slide back until it stops.
6. Remove the cleaved fiber, and properly dispose of the scrap fiber.



DO NOT attempt to clean the fiber after it has been cleaved.

C. Termination

1. Open the clamp on side A and align the tip of the fiber with the edge of the holder as shown in Figure 12.

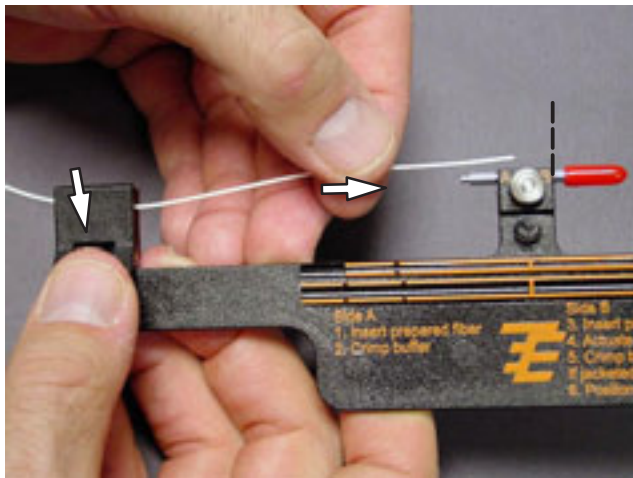


Figure 12

2. Holding on the buffered fiber, align the fiber with the splice and carefully insert the fiber into the splice until it stops. See Figures 13 and 14.

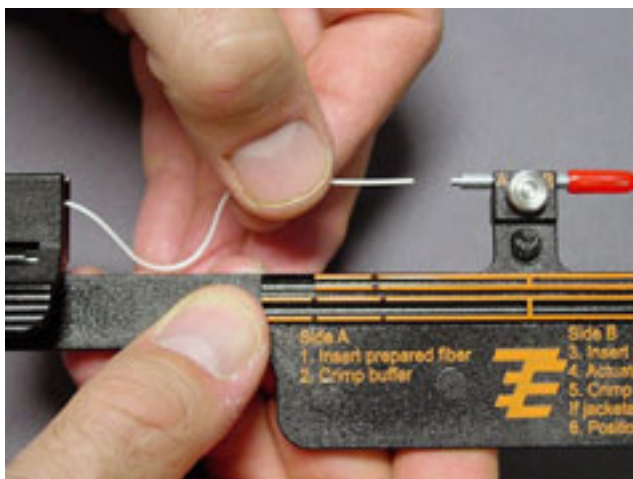


Figure 13

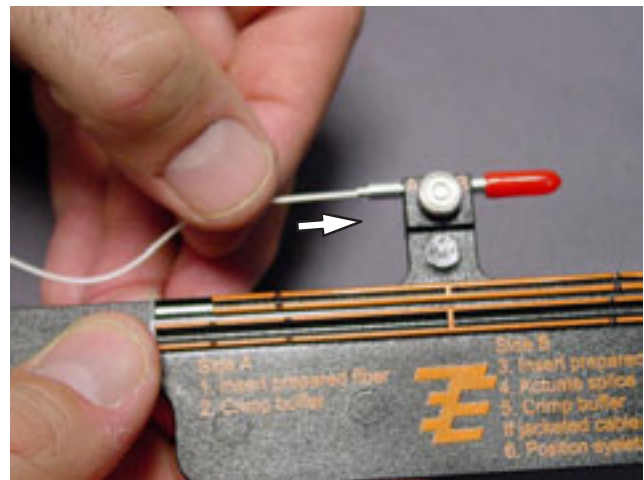


Figure 14

3. Place the body into the die set as shown in Figure 15 and crimp the buffer by closing the handles until the ratchet releases.

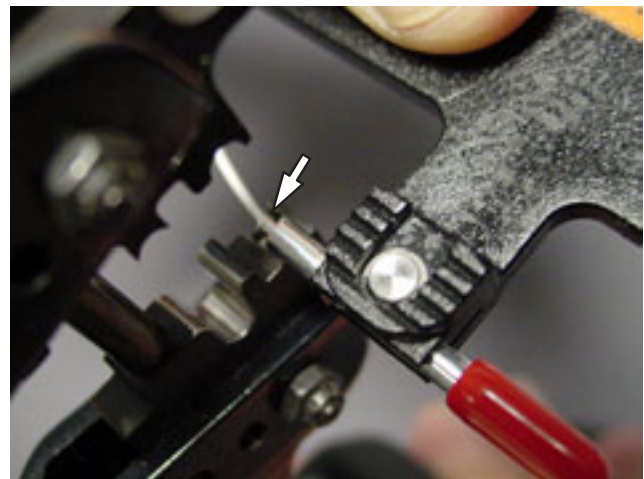


Figure 15

4. Remove the cap from the splice on side B. See Figure 16.

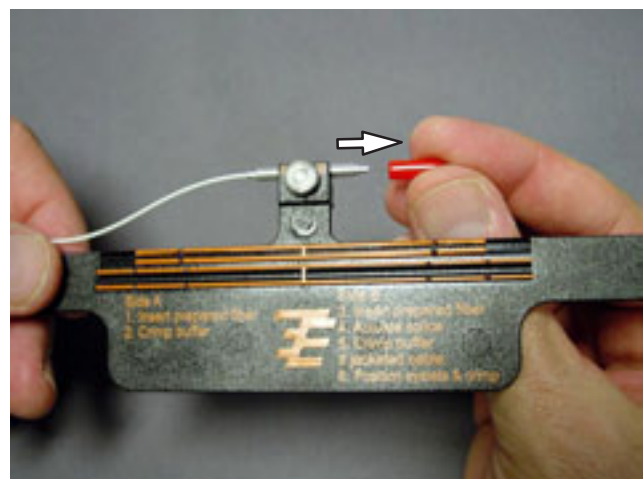


Figure 16

5. Clean the fiber on the second end (refer to Paragraph 5.1.A.8). See Figure 17.

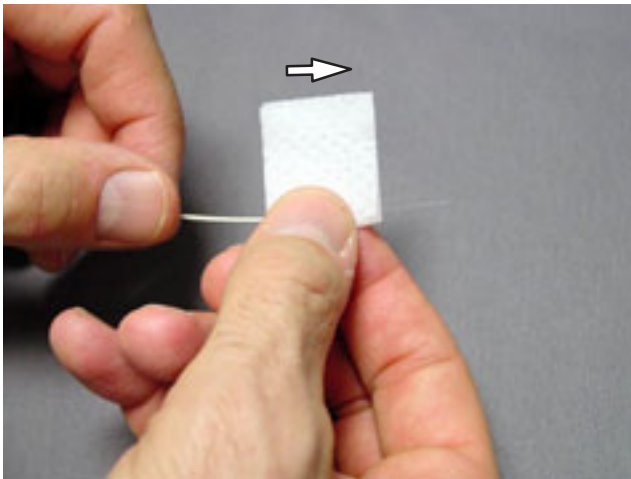


Figure 17

6. Cleave the second end (see Paragraph 5.1.B, Cleaving).

7. Open the clamp on side B and align the tip of the fiber with the edge of the holder as shown in Figure 18.

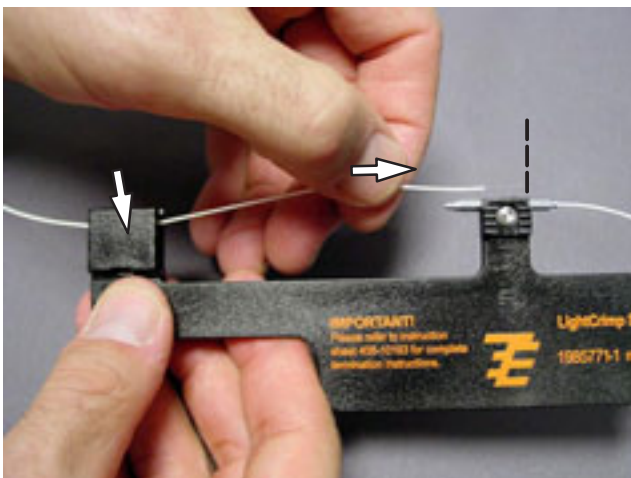


Figure 18

8. Holding on the buffered fiber, align the fiber with the splice and carefully insert the fiber into the splice until it stops.

NOTE



Use a gentle tap motion to ensure the fiber is in contact with the mating fiber. See Figures 19 and 20.

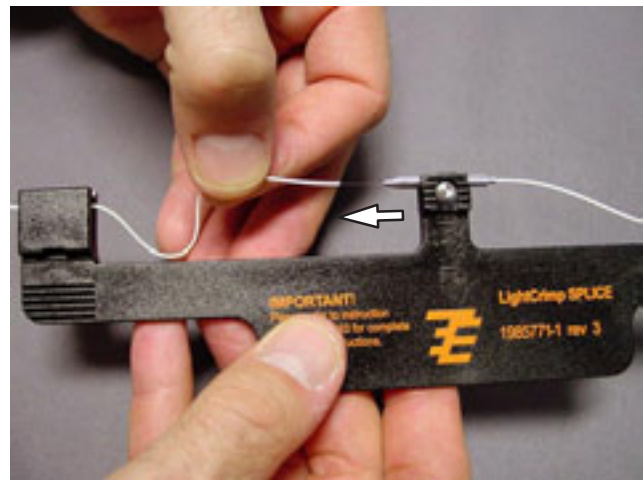


Figure 19

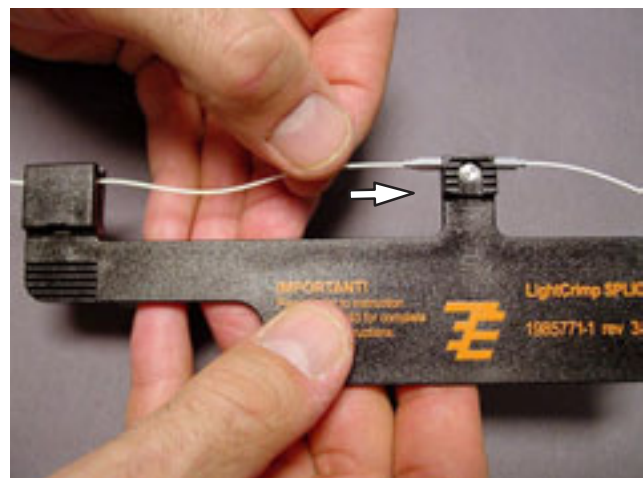


Figure 20

9. Fully open the crimp tool and then close it three clicks to set the position of the die. See Figure 21.



Figure 21

10. Insert the splice into the die set, close the crimp tool handles until the ratchet releases. Slowly open the tool and remove the splice. See Figure 22.

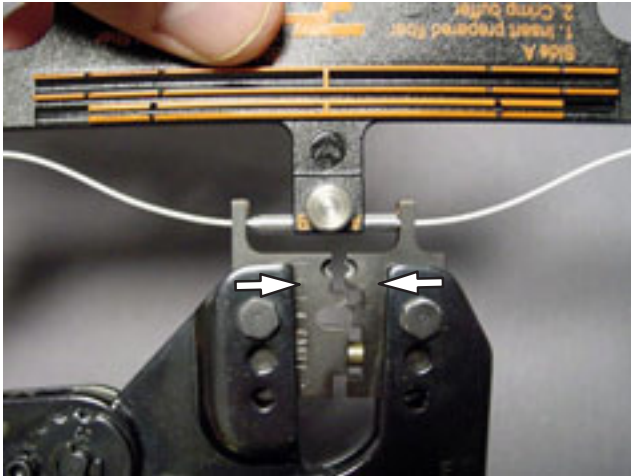


Figure 22

11. Position the splice assembly into the die set as shown in Figure 23 and crimp the buffer by closing the handles until the ratchet releases.

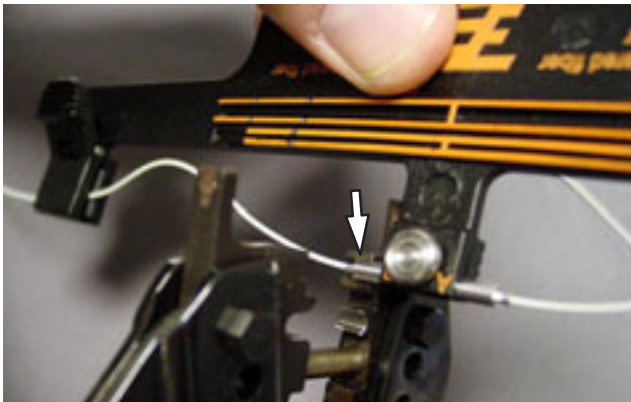


Figure 23

12. Grasp the button between the thumb and forefinger and squeeze to release the splice from the tool. See Figure 24.

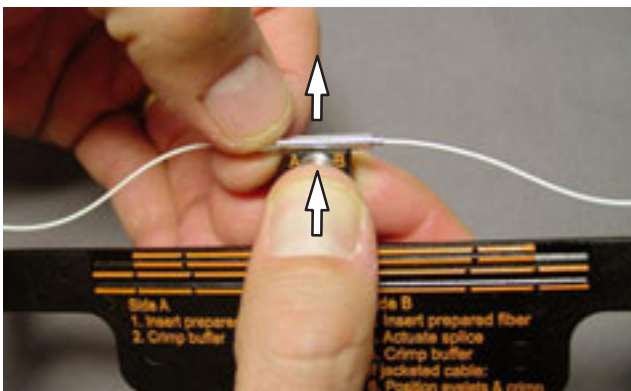


Figure 24

13. (Optional) Slide the boots onto the splice until they bottom on the shoulder. See Figure 25.

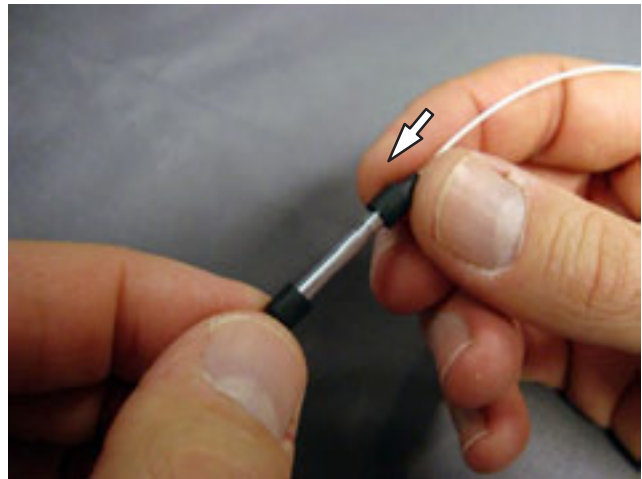


Figure 25

14. The 900- μ m buffered fiber termination is now complete. See Figures 26 and 27.

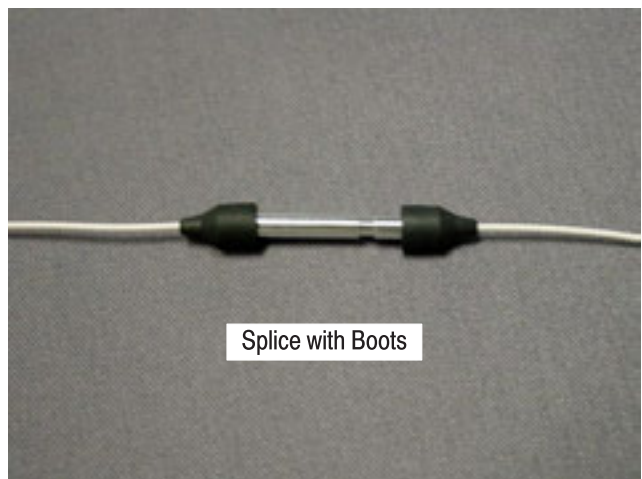


Figure 26

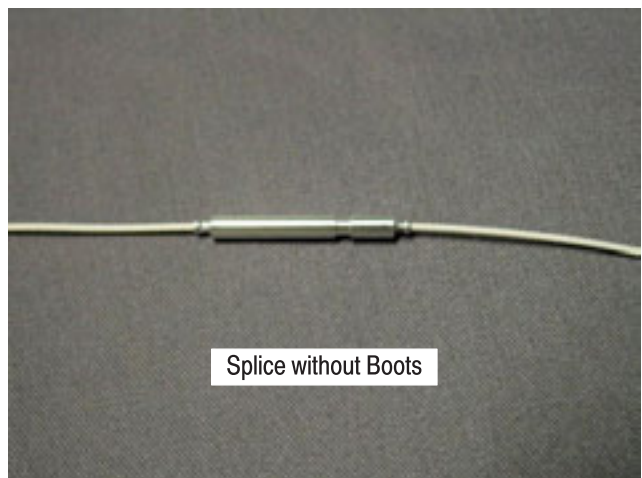


Figure 27

5.2. 250- μ m Coated Fiber

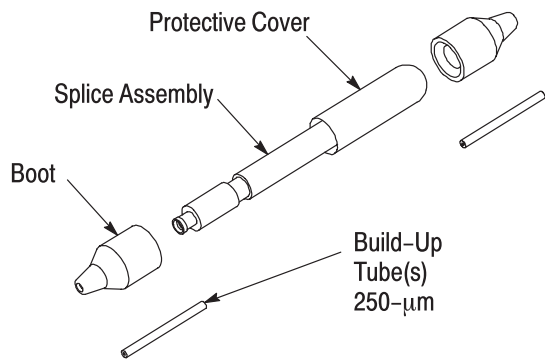


Figure 28

A. Preparing the Components and Coated Fiber

1. Remove contents from bag. See Figure 29.



Figure 29

2. Push splice through inner-bag to remove. See Figure 30.

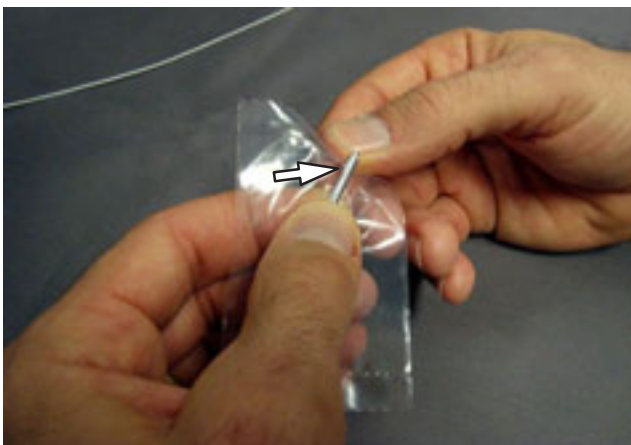


Figure 30

3. Identify the components. See Figure 31.

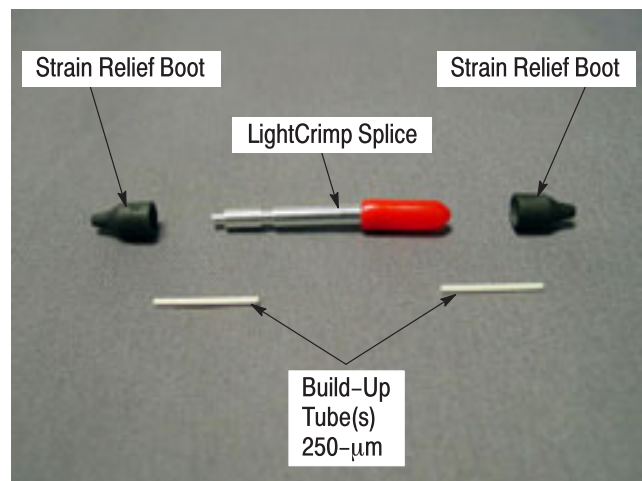


Figure 31

4. Place splice into termination tool as shown in Figure 32, notch goes into side A.

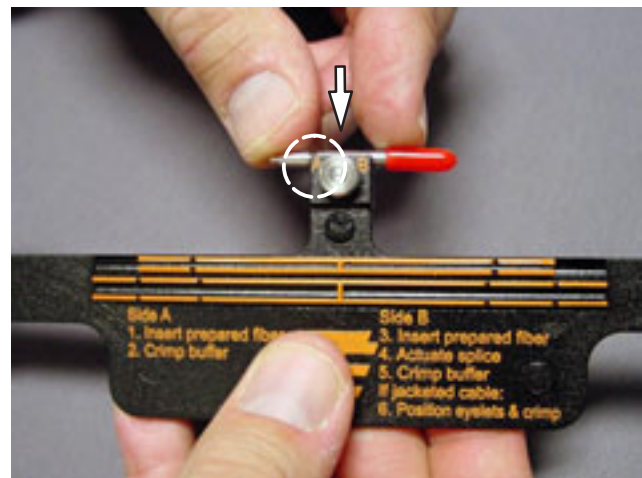


Figure 32

5. Insert one of the white 250- μ m build-up tubes into the splice until it bottoms on side A. See Figure 33.

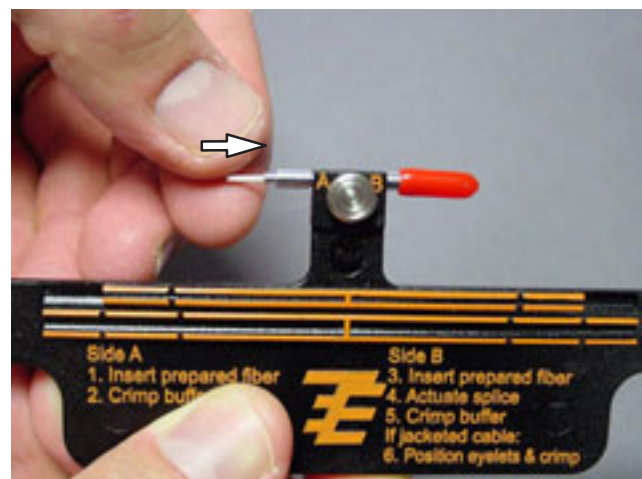


Figure 33

6. (Optional) Slide boot on the cable with the small end first, as shown in Figure 34. Repeat for second end.

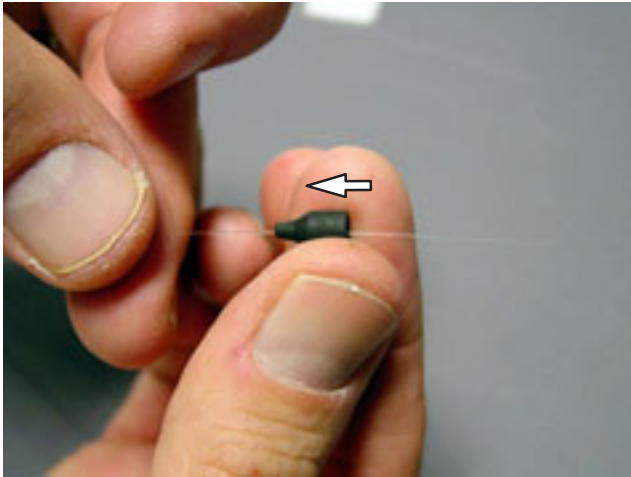


Figure 34

7. Using the combination strip tool, strip the coating off approximately 25 mm [1.0 in.] of the coating. Repeat for the second end. See Figure 35.

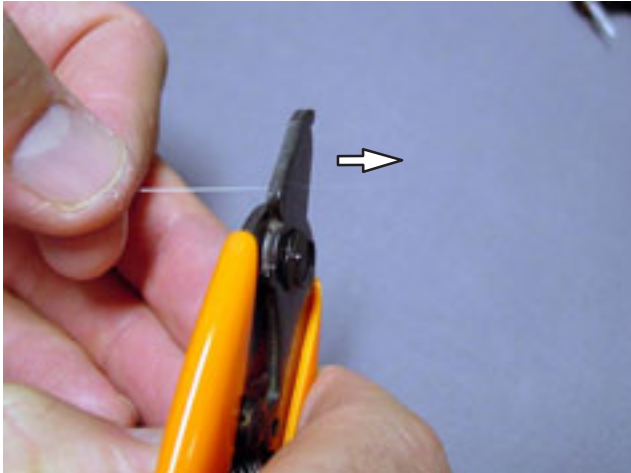


Figure 35

8. Clean the fiber using a lint-free alcohol wipe with >91% ISO. Applying a light squeeze wipe several times (pulling in the direction away from the buffer) as this ensures the fiber is clean. The tensile force that is applied at the same time serves as a proof test to assure fiber integrity after the coating/buffer is removed. If the fiber breaks, start over, and repeat the stripping process. Repeat occurrences of fiber breakage may indicate method or tooling issues which should be investigated. Do not lay the fiber down. Go directly to next step in order to ensure the cleaned fiber is not contaminated. See Figure 36.

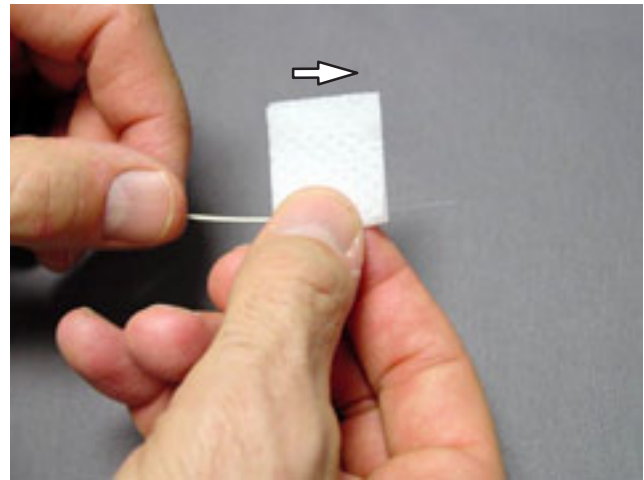


Figure 36

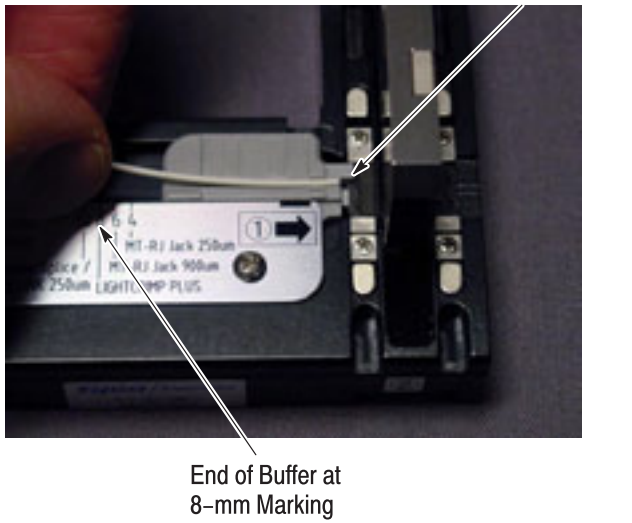
B. Cleaving

1. Open the fiber clamp of the fiber optic cleaver. Press the button, and slide the carriage back (toward the fiber clamp). Then move the fiber slide back until it stops.
2. Place the stripped fiber into the slot so that the end of the buffer is at the 8-mm marking. See Figure 37, Detail A.
3. While applying pressure on the buffer, carefully slide the fiber slide forward (toward the carriage) until it stops. See Figure 37, Detail B.
4. Gently close the fiber clamp, and slide the carriage forward. DO NOT touch the button while sliding the carriage. See Figure 37, Detail C.
5. Open the fiber clamp, and move the fiber slide back until it stops.
6. Remove the cleaved fiber, and properly dispose of the scrap fiber.

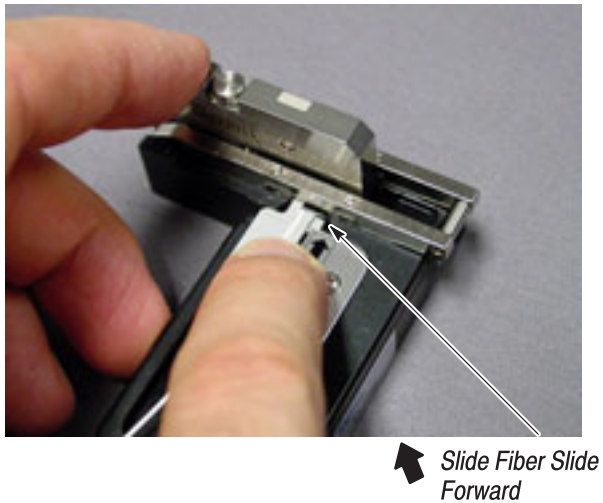


DO NOT attempt to clean the fiber after it has been cleaved.

Detail A



Detail B



Detail C

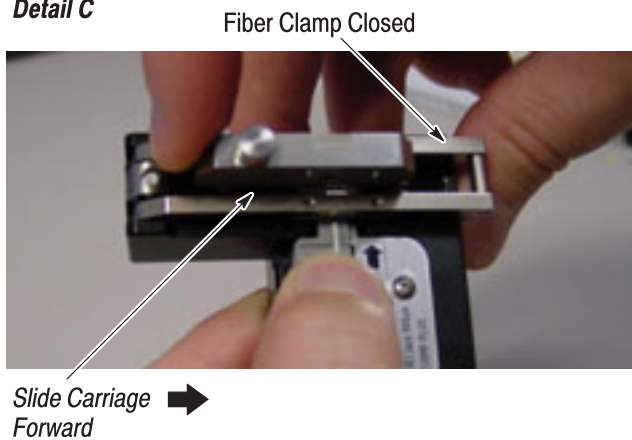


Figure 37

C. Termination

1. Open the clamp on side A and align the tip of the fiber with the edge of the holder as shown in Figure 38.

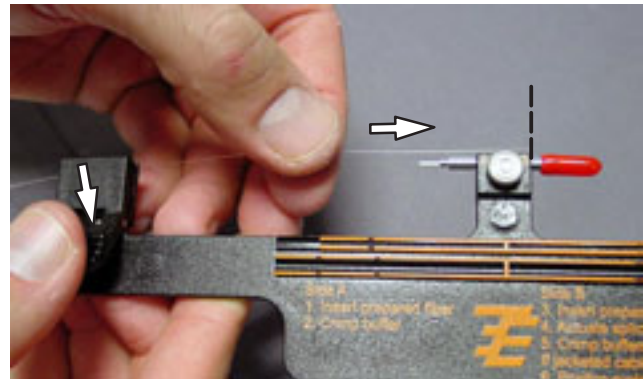


Figure 38

2. Holding on to the coated fiber, align the fiber with the splice and carefully insert the fiber into the splice until it stops. See Figures 39 and 40.

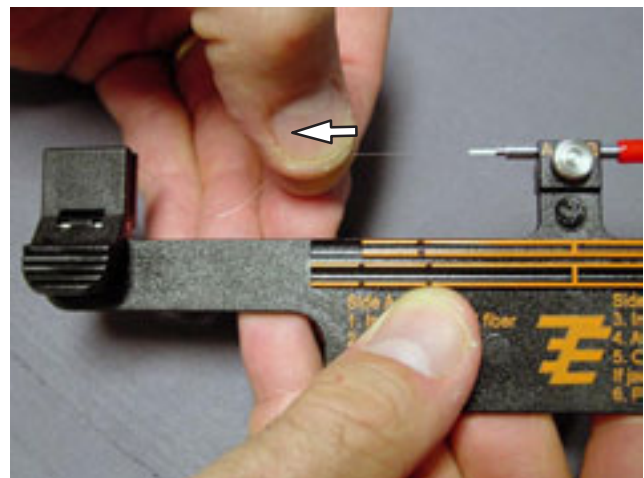


Figure 39

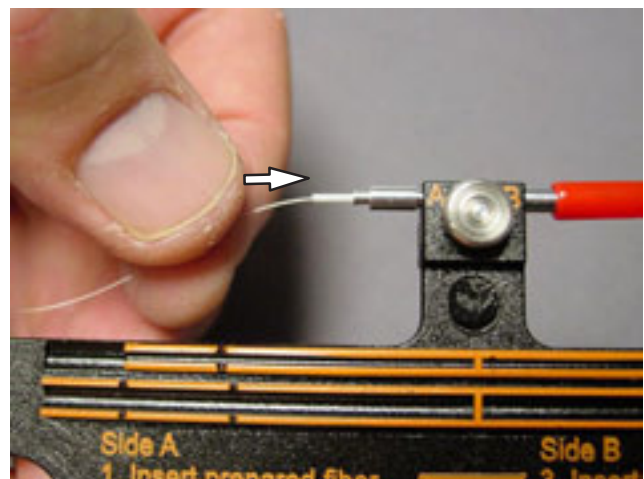


Figure 40

3. Place the body into the die set as shown in Figure 41 and crimp the buffer by closing the handles until the ratchet releases.

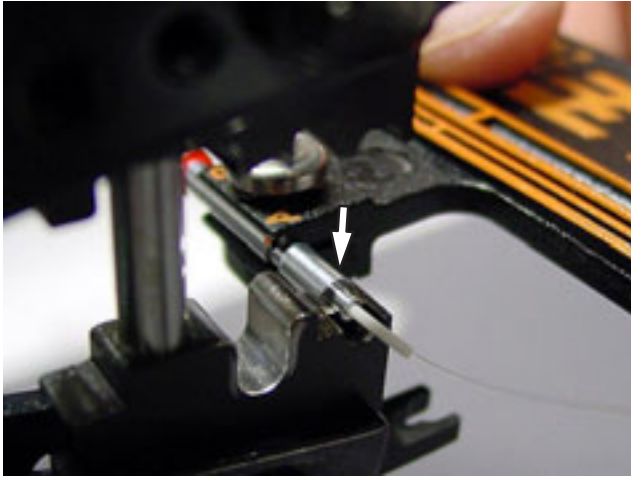


Figure 41

4. Remove the cap from the splice on side B. See Figure 42.

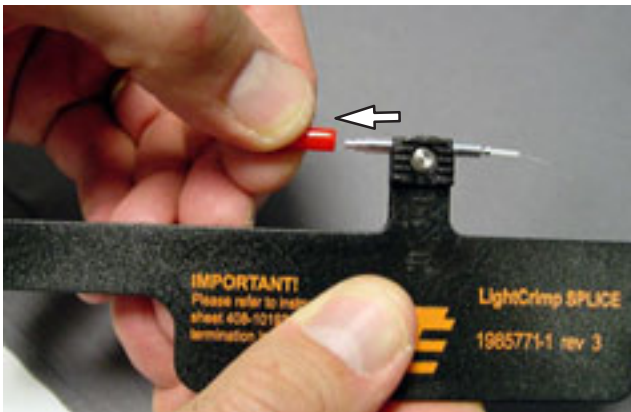


Figure 42

5. Insert the second 250- μ m white tube into the splice until it bottoms on side B. See Figure 43.

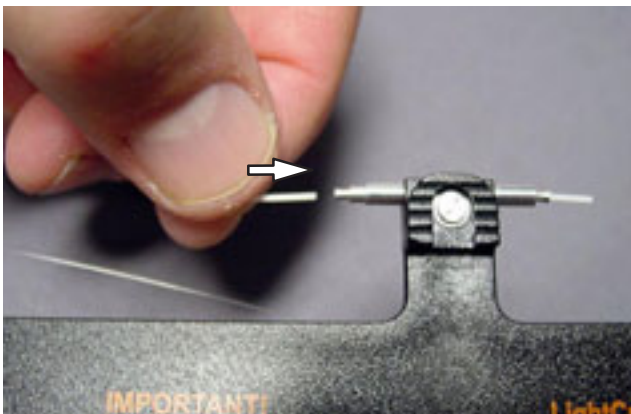


Figure 43

6. Clean the fiber on the second end (refer to Paragraph 5.2.A.8). See Figure 44.

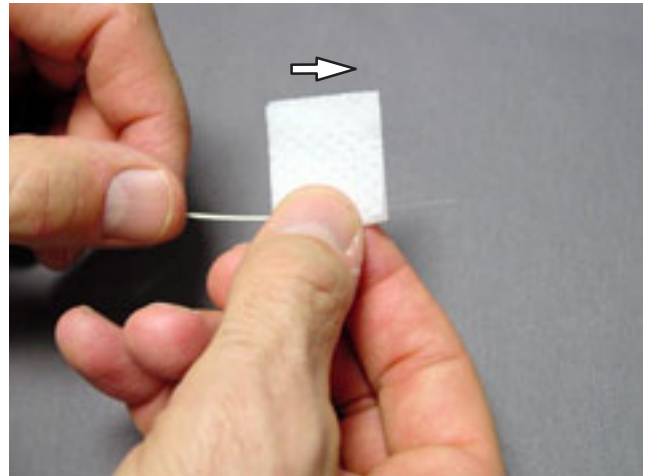


Figure 44

7. Cleave the second end (see Paragraph 5.2.B, Cleaving).

8. Open the clamp on side B and align the tip of the fiber with the edge of the holder as shown in Figure 45.

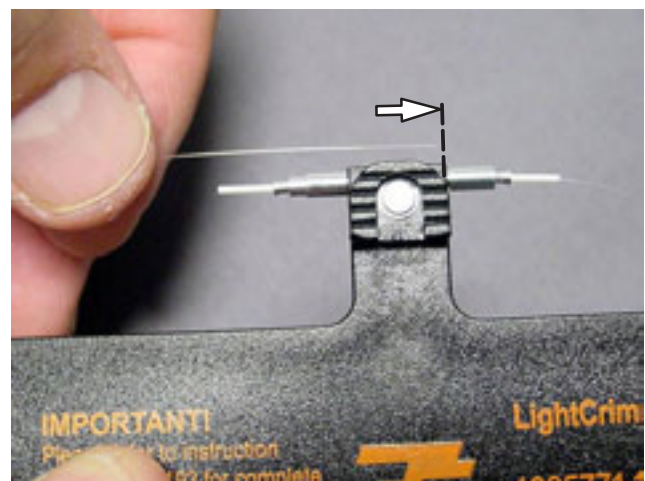


Figure 45

9. Holding on to the coated fiber, align the fiber with the splice and carefully insert the fiber into the splice until it stops.

NOTE

Use a gentle tap motion to ensure the fiber is in contact with the mating fiber. See Figures 46 and 47.

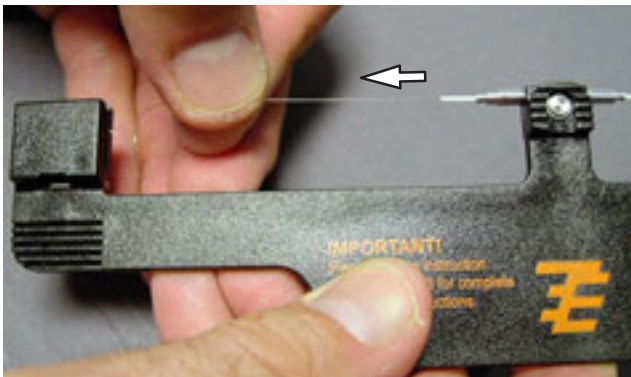


Figure 46



Figure 47

10. Fully open the crimp tool and then close it three clicks to set the position of the die. See Figure 48.

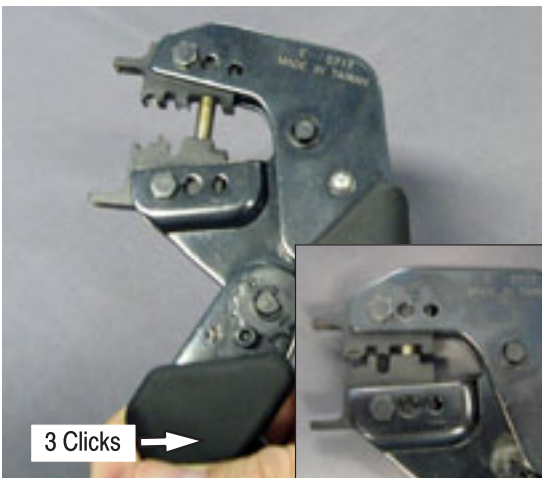


Figure 48

11. Insert the splice into the die set, slowly close the crimp tool handles until the ratchet releases. Slowly open the tool and remove the splice. See Figure 49.

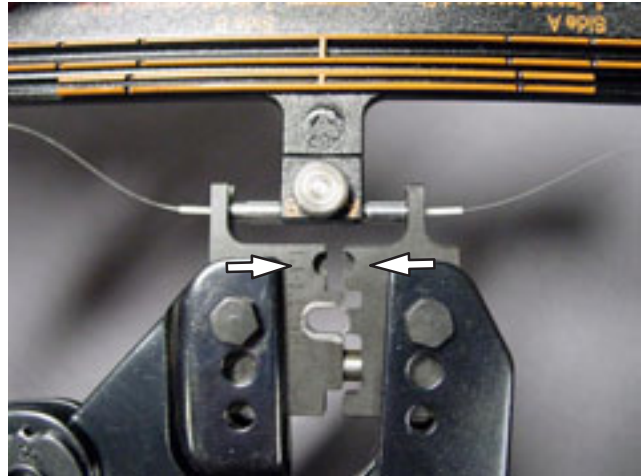


Figure 49

12. Position the splice assembly into the die set as shown in Figure 50 and crimp the buffer by closing the handles until the ratchet releases.

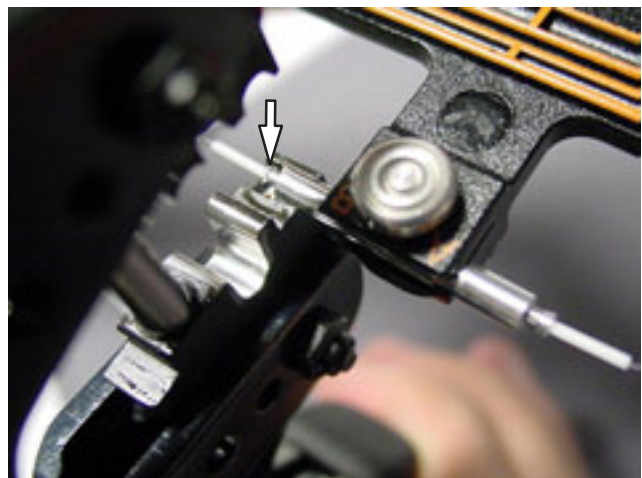


Figure 50

13. Grasp the button between the thumb and forefinger and squeeze to release the splice from the tool. See Figure 51.

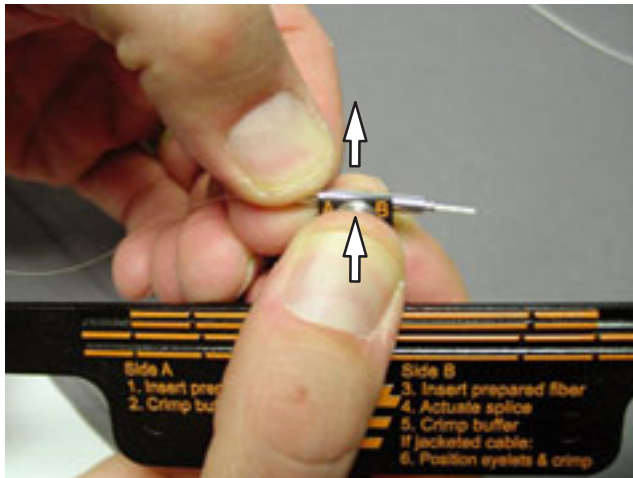


Figure 51

14. (Optional) Slide the boots onto the splice until they bottom on the shoulder. See Figure 52.

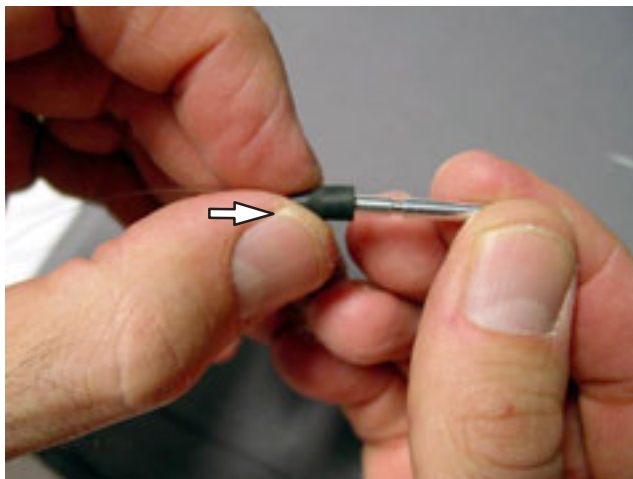


Figure 52

15. The 250- μ m coated fiber termination is now complete. See Figures 53 and 54.

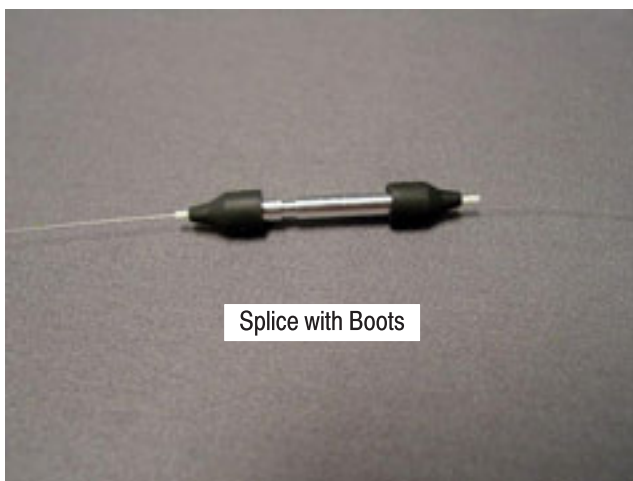


Figure 53

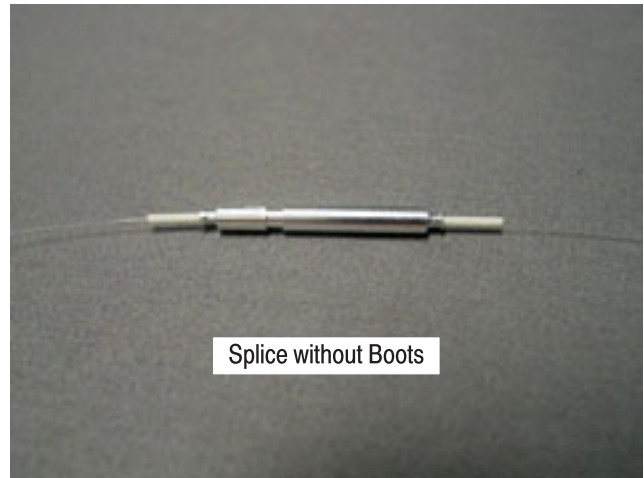


Figure 54

5.3. 2.0 mm Jacketed Cable

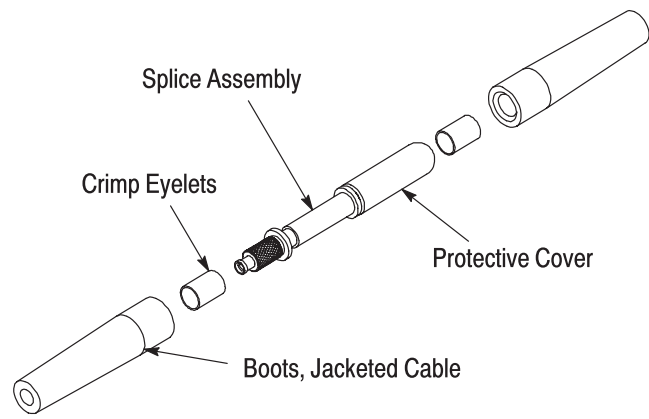


Figure 55

A. Preparing the Components and Jacketed Cable

1. Remove contents from bag. See Figure 56.



Figure 56

2. Push splice through inner-bag to remove. See Figure 57.



Figure 57

3. Identify the components. See Figure 58.

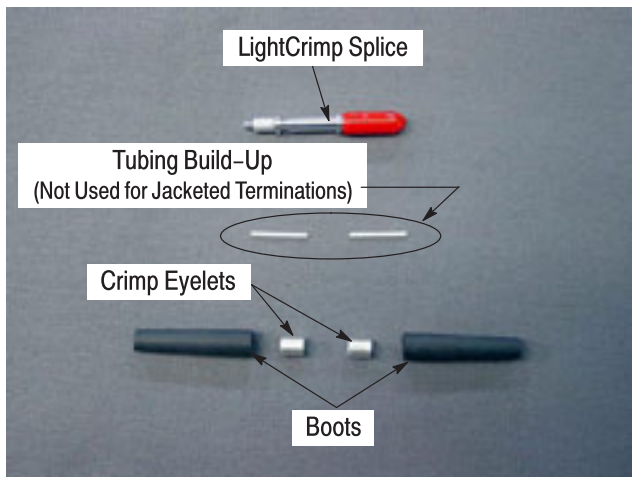


Figure 58

4. Place splice into termination tool as shown in Figure 59, notch goes into side A.

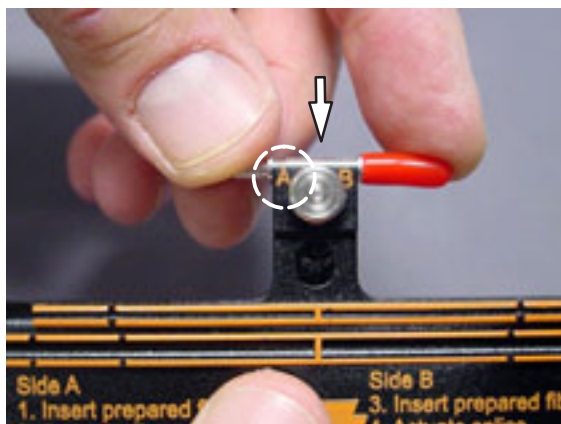


Figure 59

5. Apply a cable clamp on the cable approximately 18 cm [7.0 in.] from the end of the cable as shown in Figure 60. Repeat for second end.

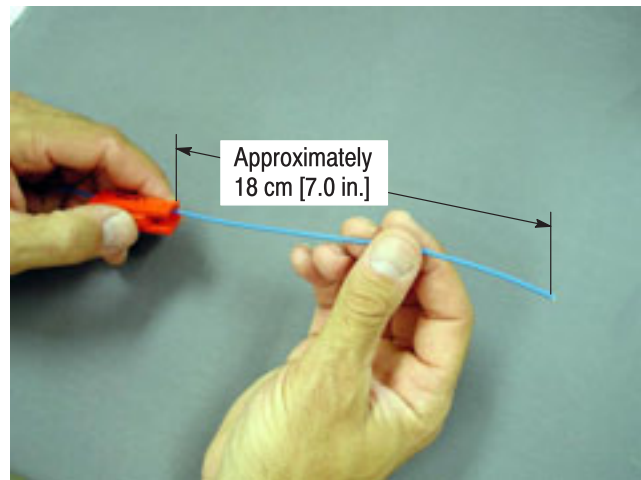


Figure 60

6. Slide the boot on the cable with the small end first as shown in Figure 61. Repeat for second end.

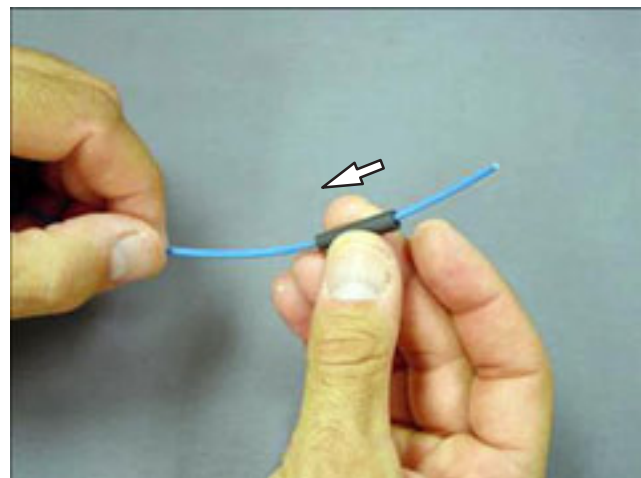


Figure 61

7. Place cable into template and mark at first and second slots as shown in Figure 62. Repeat for second end.

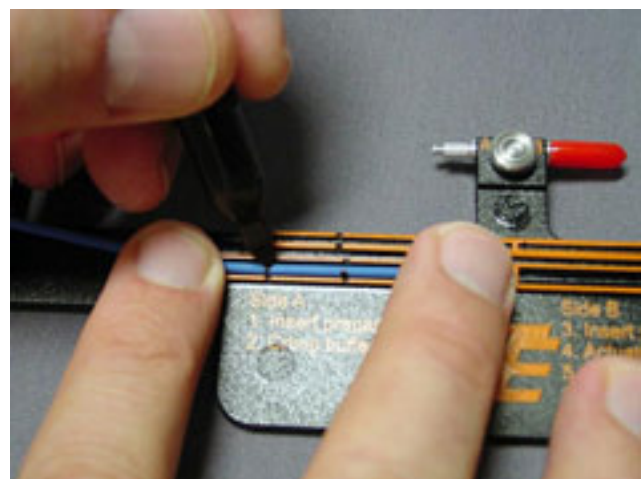


Figure 62

8. Cut the jacket at the first mark using the combination strip tool and remove the waste. Refer to Figures 63 and 64. Repeat for second end.

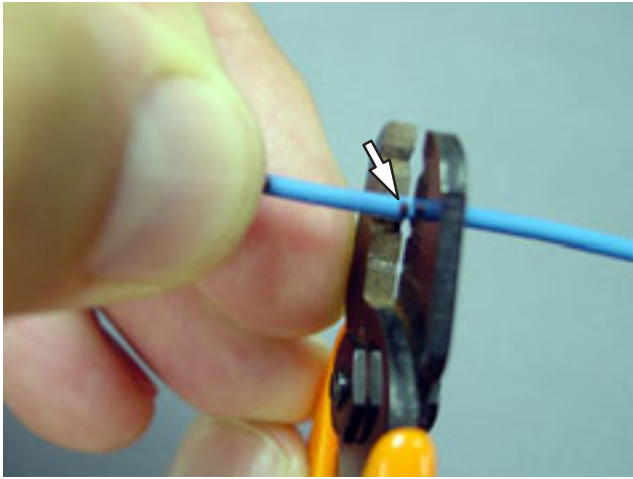


Figure 63

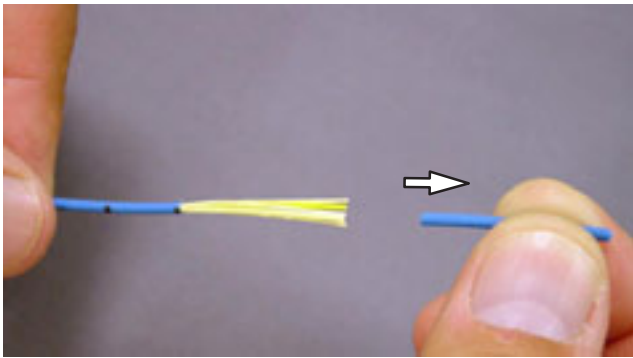


Figure 64

9. Using the aramid shears, trim the aramid yarn flush with the end of the jacket as shown in Figure 65. Repeat for second end.

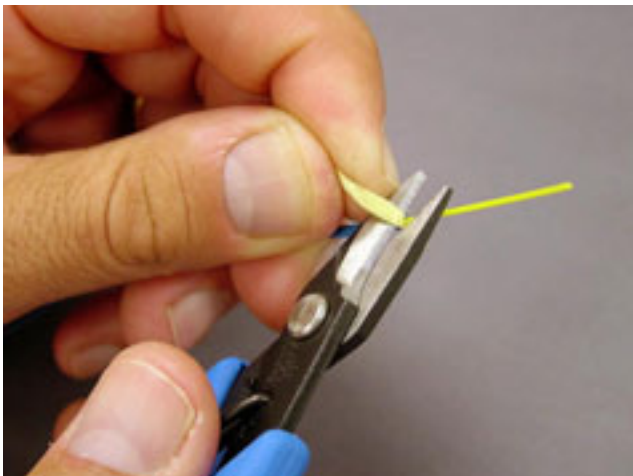


Figure 65

10. Slide cable into slitting tool (see No. 1) until the second mark is lined up with the blades and squeeze handles (see No. 2) and pull to slit the jacket (see No. 3) as shown in Figure 66. Repeat for second end.

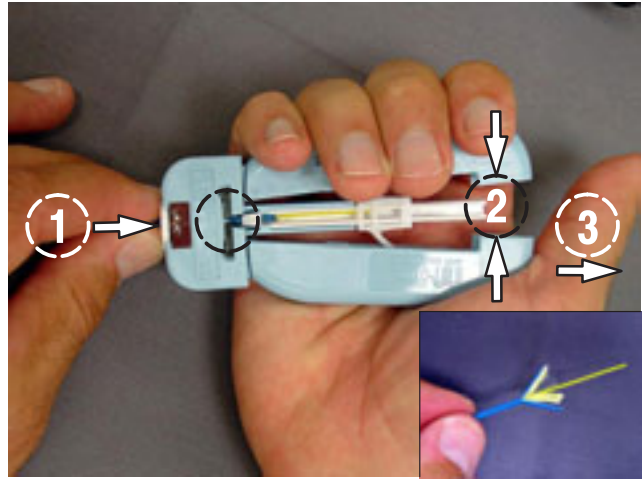


Figure 66

11. Fold the aramid yarn and jacket back and slide eyelet on to as shown in Figure 67. Repeat for second end.

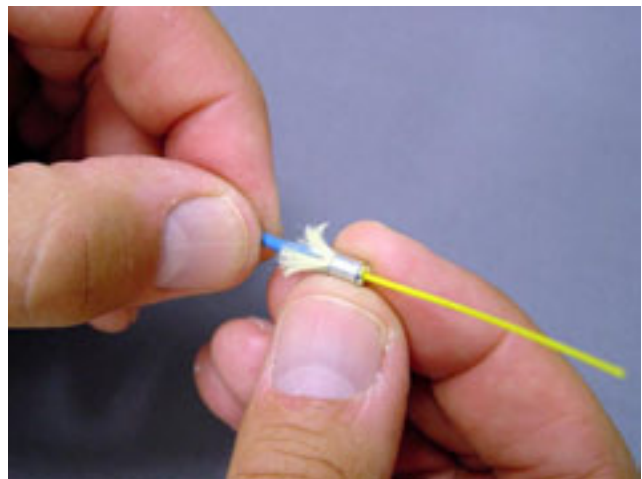


Figure 67

12. Place prepared cable into the top template and mark at slots as shown in Figure 68. Repeat for second end.

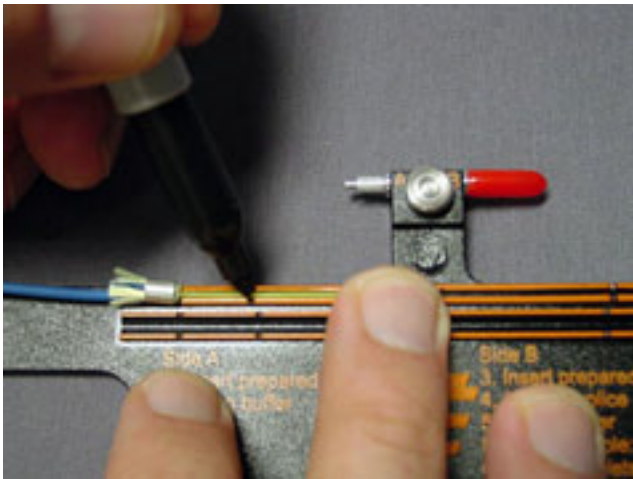


Figure 68

13. Using the combination strip tool, strip the buffer approximately 6 mm [.250 in.] at a time until you reach the mark. See Figure 69. Repeat for second end.

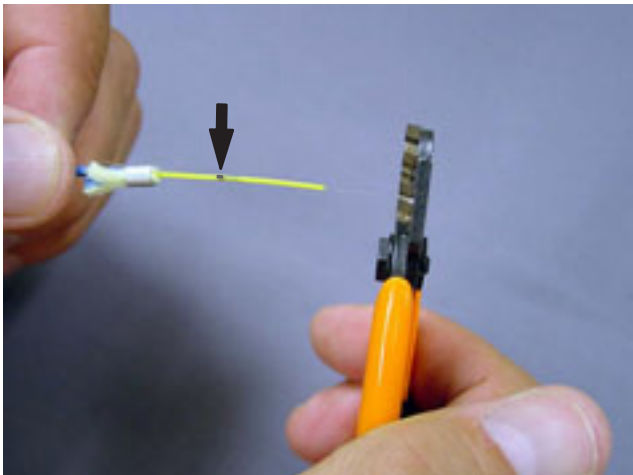


Figure 69

14. Clean the fiber using a lint-free alcohol wipe with >91% ISO. Applying a light squeeze wipe several times (pulling in the direction away from the buffer) as this ensures the fiber is clean. The tensile force that is applied at the same time serves as a proof test to assure fiber integrity after the coating/buffer is removed. If the fiber breaks, start over, and repeat the stripping process.

Repeat occurrences of fiber breakage may indicate method or tooling issues which should be investigated. Do not lay the fiber down. Go directly to next step in order to ensure the cleaned fiber is not contaminated. See Figure 70.

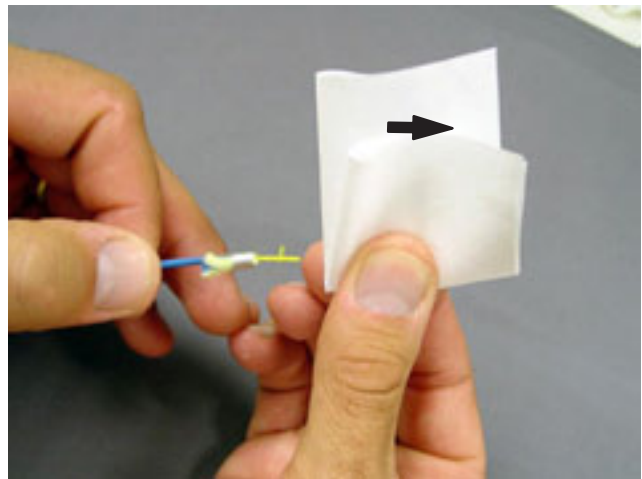


Figure 70

B. Cleaving

1. Open the fiber clamp of the fiber optic cleaver. Press the button, and slide the carriage back (toward the fiber clamp). Then move the fiber slide back until it stops.
2. Place the stripped buffer into the slot so that the end of the fiber is at the 8-mm marking. See Figure 71, Detail A.
3. While applying pressure on the fiber, carefully slide the fiber slide forward (toward the carriage) until it stops. See Figure 71, Detail B.
4. Gently close the fiber clamp, and slide the carriage forward. DO NOT touch the button while sliding the carriage. See Figure 71, Detail C.
5. Open the fiber clamp, and move the fiber slide back until it stops.
6. Remove the cleaved fiber, and properly dispose of the scrap fiber.

CAUTION



DO NOT attempt to clean the fiber after it has been cleaved.

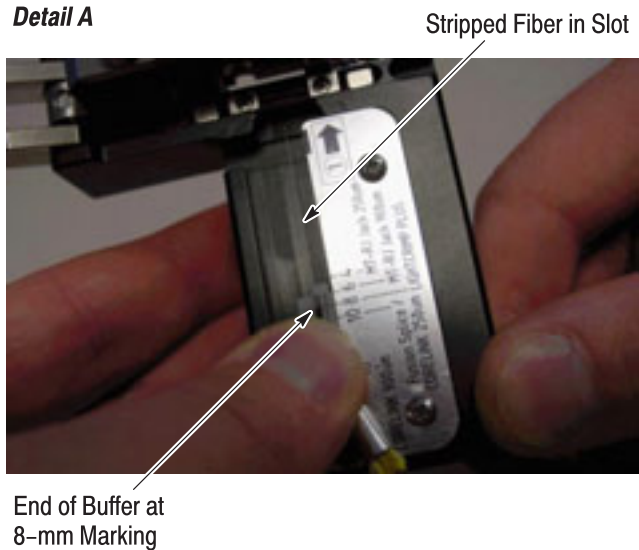
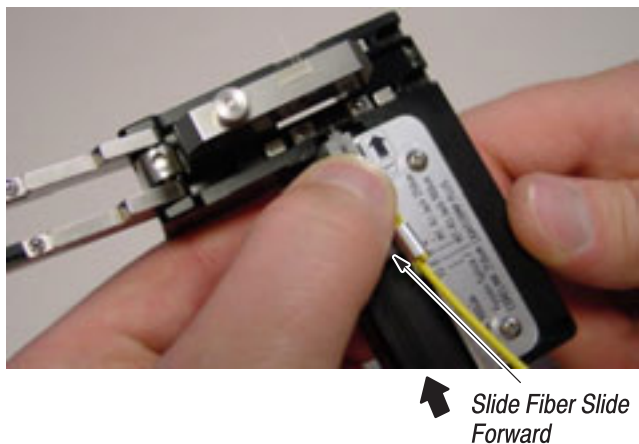
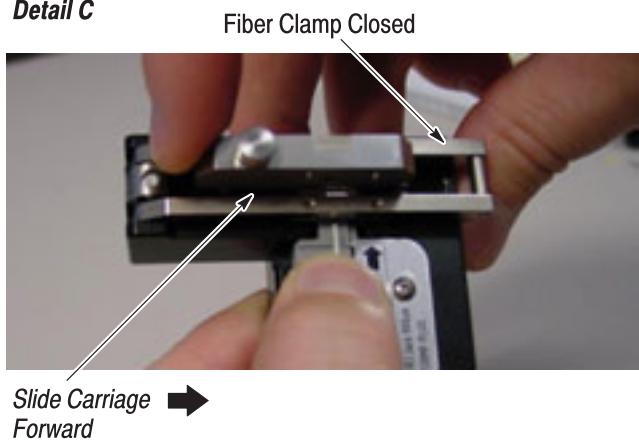
Detail A**Detail B****Detail C**

Figure 71

C. Termination

1. Open the clamp on Side A and align the tip of the fiber with the edge of the ejector button.

(Please note this is different than the 250/900- μ m procedure due to the additional stiffness of jacketed cable.) See Figure 72.

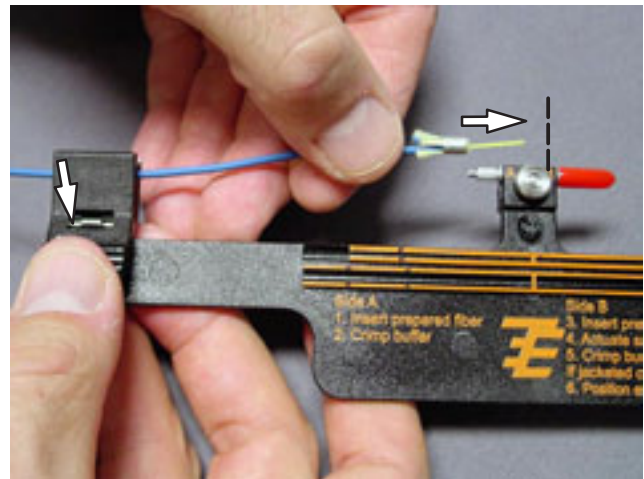


Figure 72

2. Holding on the jacket, align the fiber with the splice and carefully insert the fiber into the splice until it stops. See Figures 73 and 74.

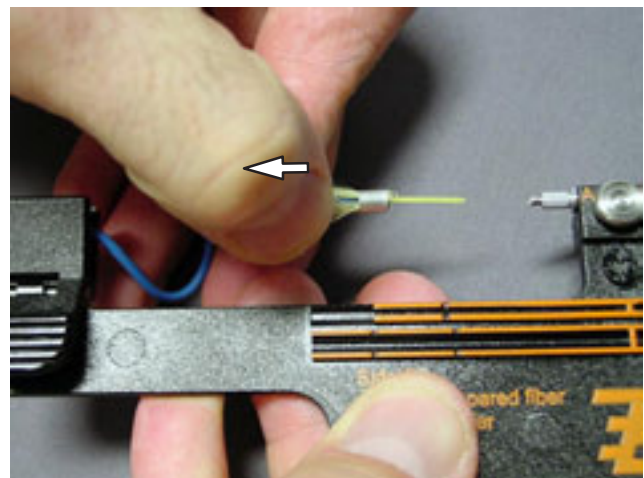


Figure 73

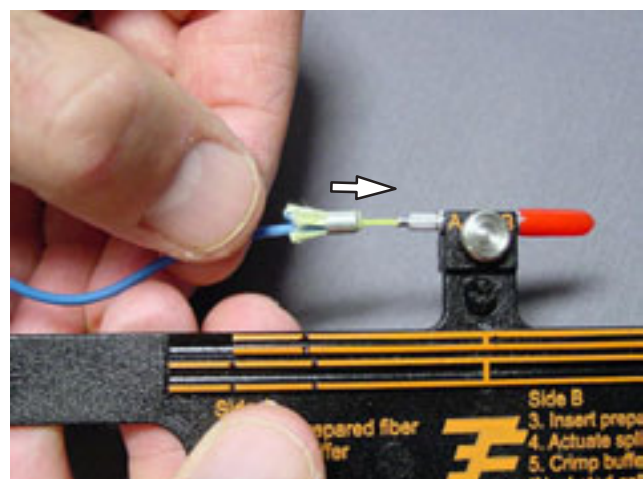


Figure 74

3. Place the knurled body into the die set as shown in Figure 75 and crimp the buffer by closing the handles until the ratchet releases.

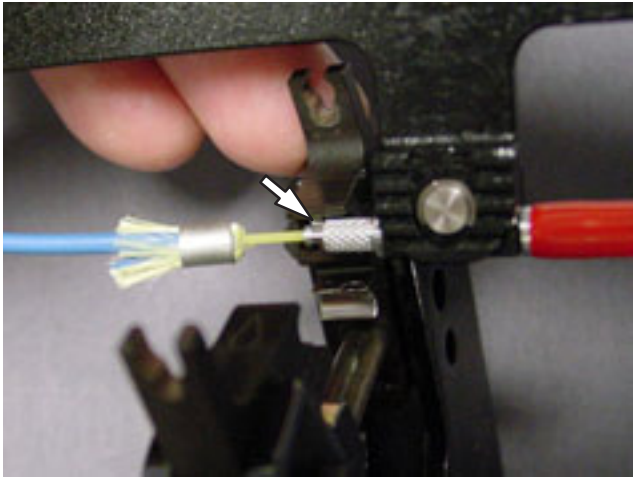


Figure 75

4. Remove the cap from the splice on side B. See Figure 76.

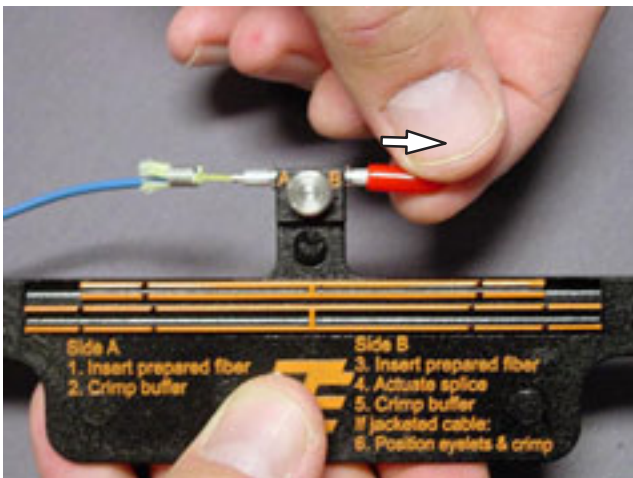


Figure 76

5. Clean the fiber on the second end (refer to Paragraph 5.3.A.14). See Figure 77.

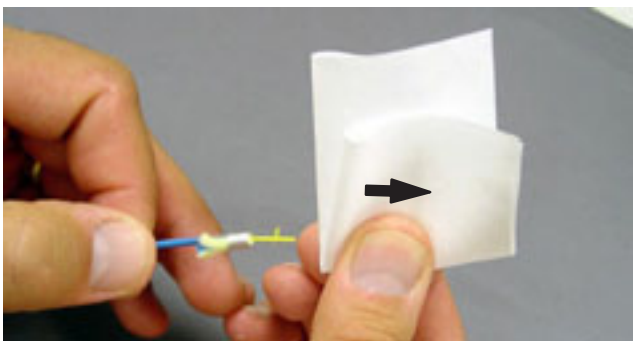


Figure 77

6. Cleave the second end. (See Section 5.3.B, cleaving.)

7. Open the clamp on side B and align the tip of the fiber with the edge of the ejector button or approximately 2 mm from the edge of the holder as shown in Figure 78.

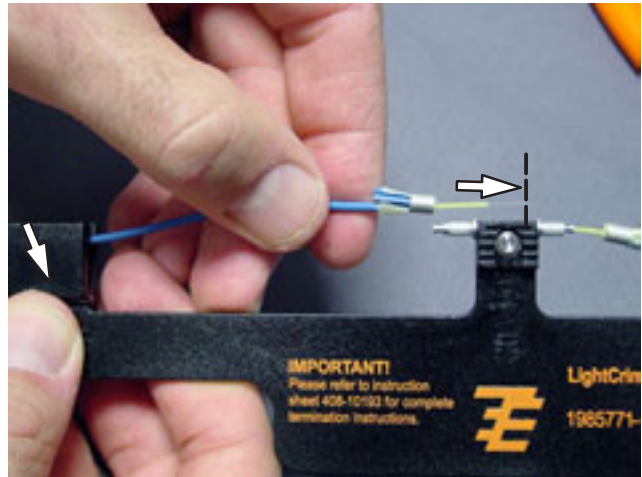


Figure 78

8. Holding on the jacket, align the fiber with the back of the splice and carefully insert the fiber into the splice until it stops.

NOTE



Use a gentle tap motion to ensure the fiber is in contact with the mating fiber. See Figures 79, 80, and 81.

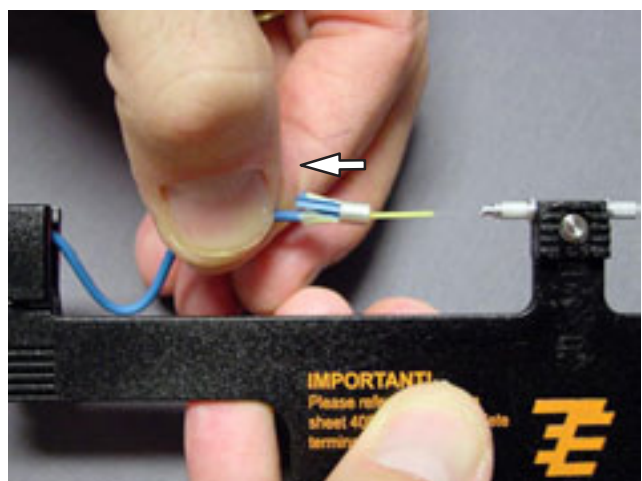


Figure 79

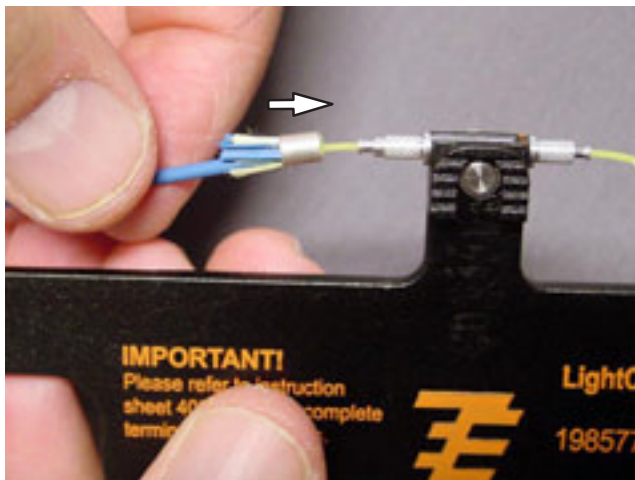


Figure 80

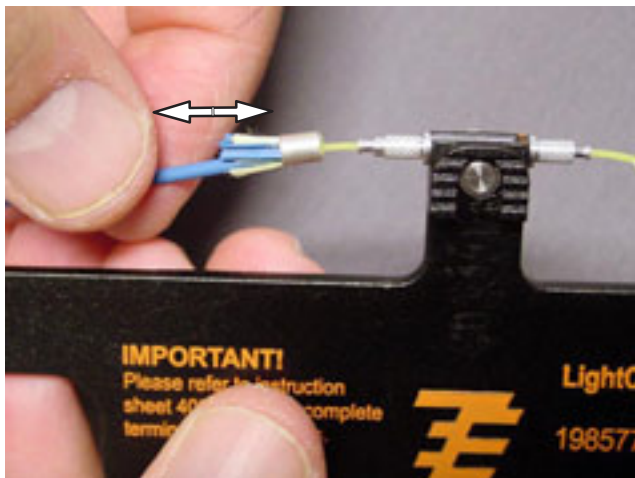


Figure 81

9. Fully open the crimp tool and then close it three clicks to set the position of the die. See Figure 82.



Figure 82

10. Insert the splice into the die set and slowly close the crimp tool handles until the ratchet releases. Slowly open the tool and remove the splice assembly. As the tool opens, pull it away from the splice to avoid touching the jacket with the die set. See Figure 83.

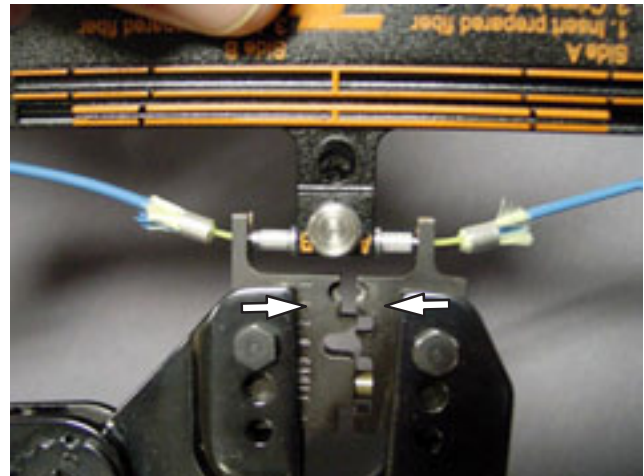


Figure 83

11. Position the splice assembly into the die set as shown in Figure 84 and crimp the buffer by closing the handles until the ratchet releases.

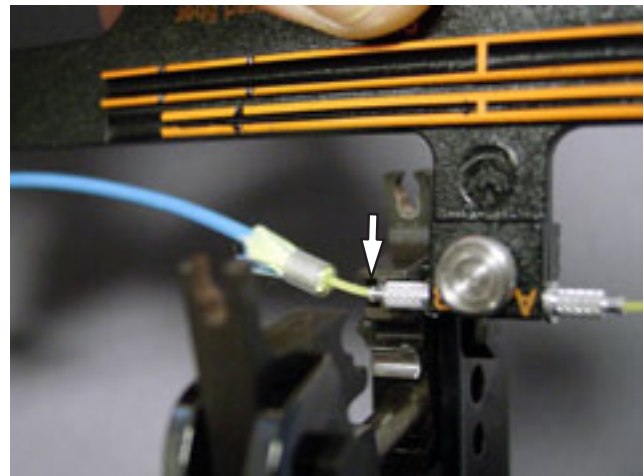


Figure 84

12. Slide the eyelet back to expose the aramid yarn and jacket. Push the eyelet forward over the aramid yarn and jacket until it stops on the shoulder of the splice. Repeat this process on side B. See Figures 85 and 86.

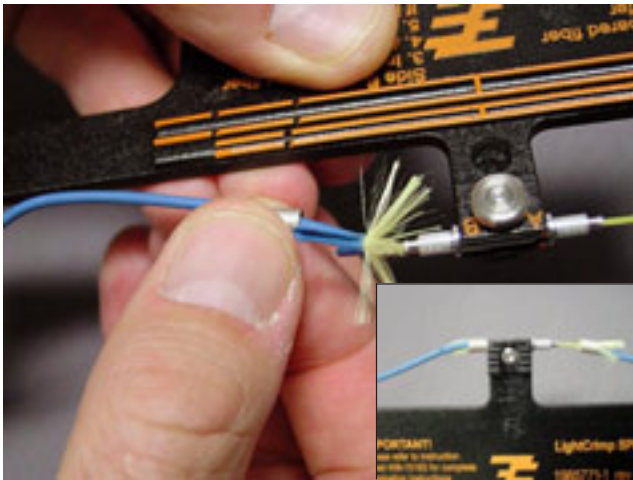


Figure 85

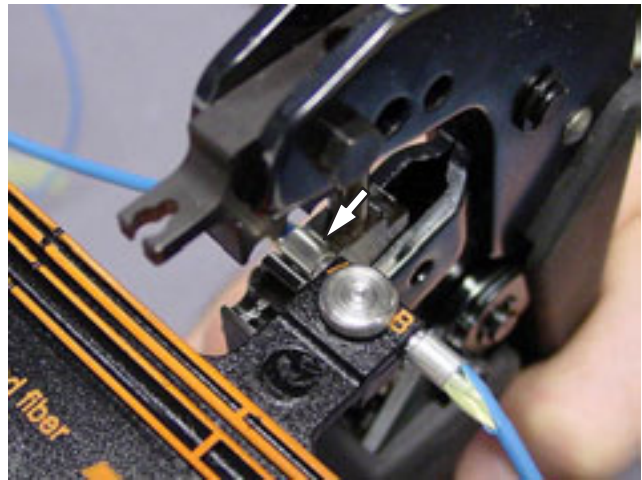


Figure 88

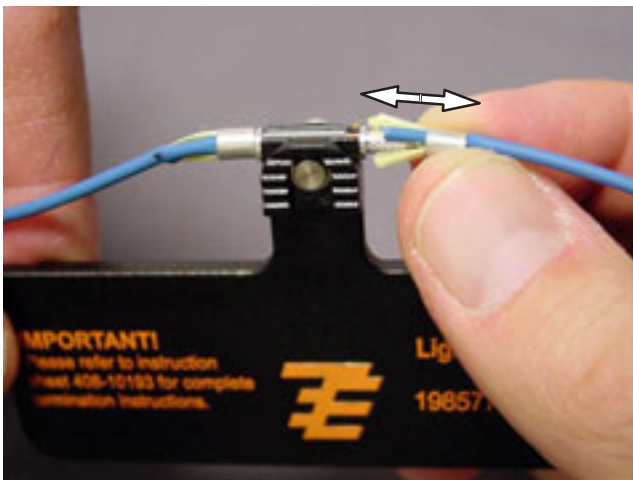


Figure 86

13. Place the splice into the die set as shown in Figure 87 and close the handles until the ratchet releases. Repeat this process on side B. See Figures 87 and 88.

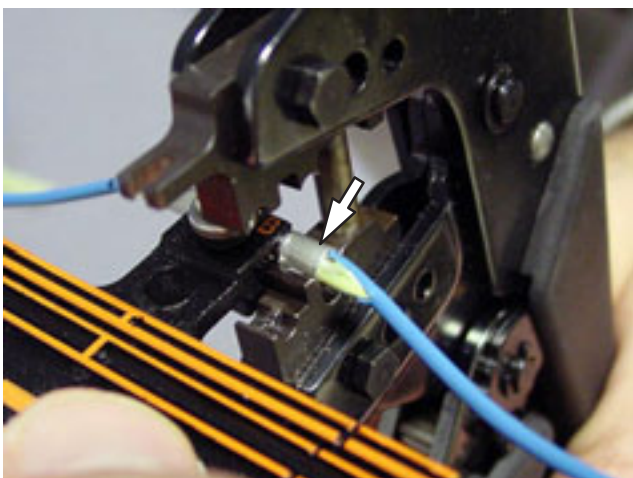


Figure 87

14. Grasp the button between the thumb and forefinger and squeeze to release the splice from the tool. See Figure 89.

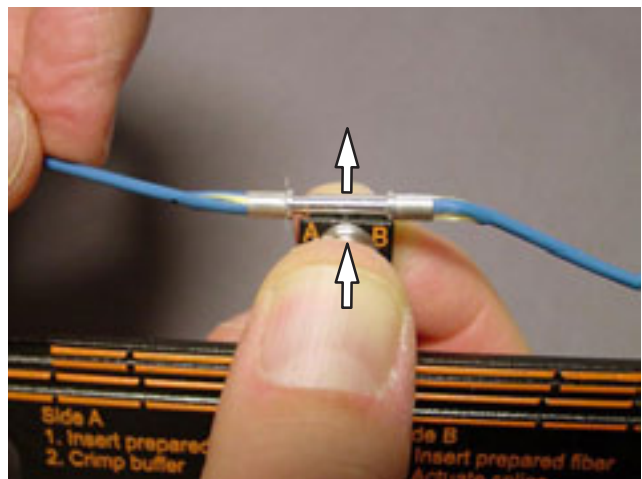


Figure 89

15. Trim any excess jacket and yarn if necessary.

16. Slide the boots onto the splice until they bottom on the shoulder. See Figure 90.

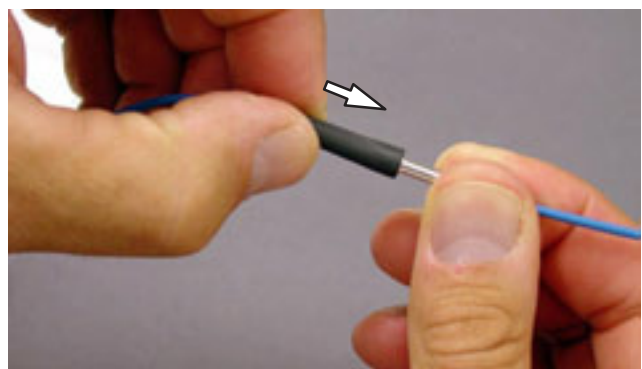


Figure 90

17. Remove both clamps from the cable.
18. The 2.0 mm [.079 in.] jacketed cable termination is now complete. See Figure 91.

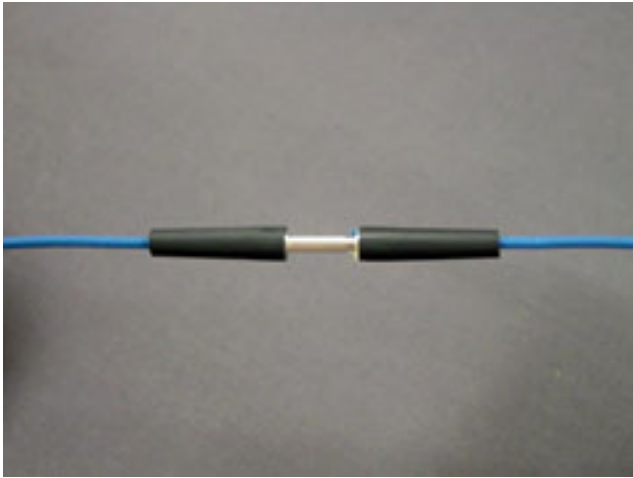


Figure 91

6. REVISION SUMMARY

- Initial release of document