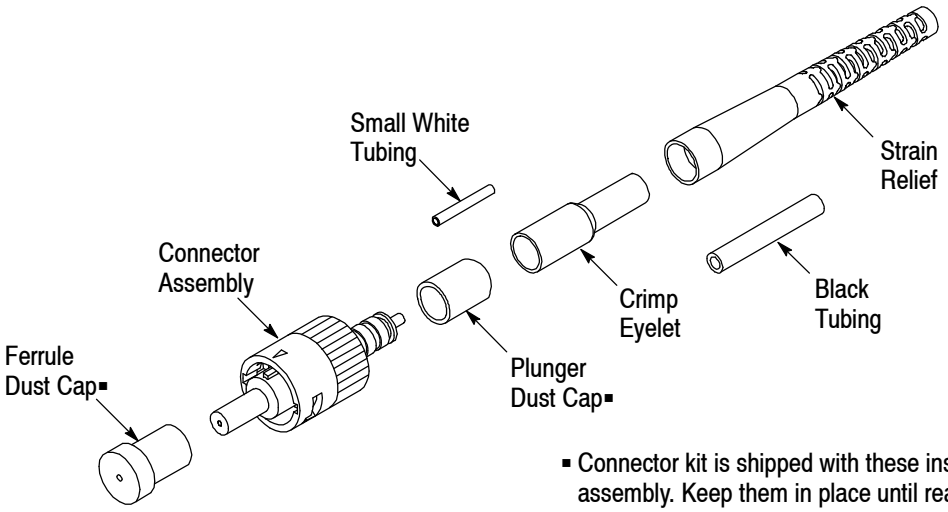
STOP!

Don't Connect Unless You Inspect!



▪ Connector kit is shipped with these installed onto connector assembly. Keep them in place until ready for assembly.

Figure 1

1. INTRODUCTION

LightCrimp Plus ST Fiber Optic Connector Kit 2064757-1 is designed for use with 125-µm multimode glass fiber optic cable. This kit can be used with any of the following media (paragraph of assembly procedure is indicated next to media).

5.1. 2.0-mm Tight Jacketed Cable

5.2. 2.0- to 2.4-mm Loose Jacketed Cable With 250-µm or 500-µm Blown Optical Fiber (BOF)

Read these instructions thoroughly before assembling the connector kit.

NOTE

All numerical values in this instruction sheet are in metric units. Dimensions are in millimeters [and inches]. Figures are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.

2. DESCRIPTION

The connector kit consists of a connector assembly, crimp eyelet, small white tubing, black tubing, and strain relief. Also included, assembled onto the connector, are dust caps for the ferrule (front of connector) and plunger (rear of connector). See Figure 1.

3. SAFETY PRECAUTIONS

DANGER

Be very careful to dispose of fiber ends properly. The fibers create slivers that can easily puncture the skin and cause irritation.

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.

CAUTION

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

4. REQUIRED TOOLS AND MATERIALS

— Cable Holder Assembly 492703-1

— Fiber Optic Strip Tool 2064765-1

— Scissors 501014-1

— Alcohol Fiber Wipe Packet 501857-2

— isopropyl alcohol

— Fiber Optic Cleaver 1871696-3

— LightCrimp Plus ST Die Set with Crimping Tool 492623-1 (consists of Die Set 492622-1 and PRO-CRIMPER* III Hand Tool 1976850-2)

— Cable Clamp 1278625-1 (for loose jacketed cable with 250-µm or 500-µm BOF)

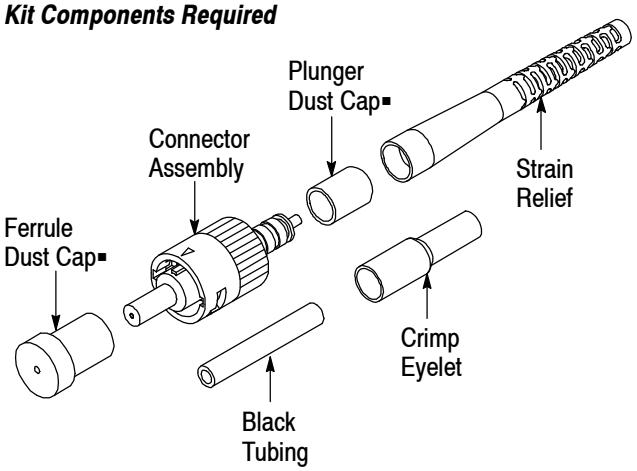
NOTE

LightCrimp Plus ST Tool Kit 2064764-1 contains preparation tools required to apply this connector.

5. PREPARING THE CABLE

5.1. 2.0-mm Tight Jacketed Cable

Kit Components Required



▪ Connector kit is shipped with these installed onto connector assembly. Keep them in place until ready for assembly.

1. Slide the strain relief (small diameter end first) over the cable. Slide the black tubing over the cable. See Figure 2 A, Detail A.

2. Remove both dust caps from the connector assembly. Keep the ferrule dust cap; discard the plunger dust cap.

3. Push the connector into the holder of the cable holder with the ferrule facing outward. See Figure 2 A, Detail B. Make sure that the connector butts against the lip of the arm of the cable holder. Slide the cable into the channel marked “CABLE” on the cable holder. Make sure that the tip of the jacket butts against the end of the channel.

4. Mark the cable at each cross-slot of the channel. See Figure 2 A, Detail B. Remove the cable from the cable holder.

5. Using the outer notch of strip tool, cut through the jacket at each mark. See Figure 3, Detail A.

6. Remove the first jacket segment, and flare the strength members away from the buffer. Using the scissors, cut the strength members even with the jacket. Then, remove the remaining jacket segment. See Figure 3, Detail B.

7. Slide the crimp eyelet onto the buffer and, using the crimp eyelet, fold the strength members back over the jacket. Continue sliding the crimp eyelet over the jacket until the strength members appear at the front of the crimp eyelet. See Figure 3, Detail C.

8. Slide the buffer into the channel marked “BUFFER” on the cable holder. Make sure that the tip of the buffer butts against the end of the channel. See Figure 4, Detail A.

9. Mark the buffer at each cross-slot of the channel. See Figure 4, Detail A. Remove the buffer from the cable holder.

10. Using the inner notch of the strip tool, strip the fiber to the first mark. It is recommended holding the tool at an angle and stripping the fiber in small sections (approximately 6 mm [.25 in.] long) at a time. See Figure 4, Detail B.

CAUTION

Before using the strip tool, make sure that the “V” opening is clean; otherwise the fiber could break. Only use isopropyl alcohol on the tool.

NOTE

Typically, the buffer and coating are tightly adhered to one another and will strip from the fiber at the same time.

11. Using an alcohol fiber wipe, remove fiber coating residue by wiping from the end of the buffer toward the end of the fiber.

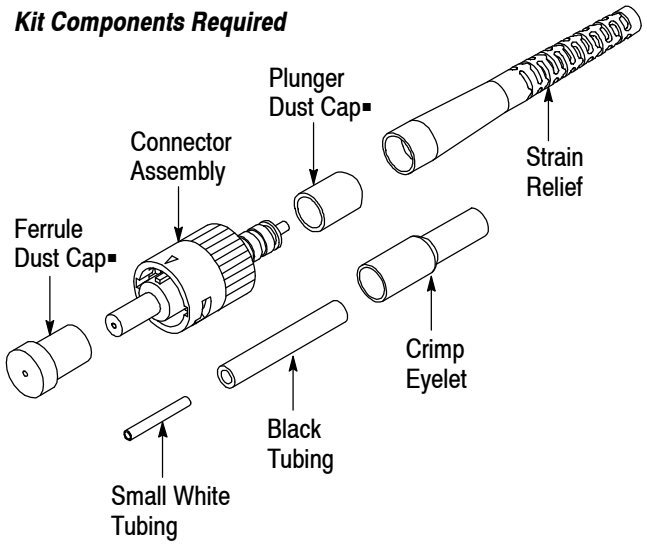
CAUTION

Wipe the buffer only once; repeatedly wiping a bare fiber will weaken the fiber.

Cable preparation for 2.0-mm tight jacketed cable is now complete. Proceed to Section 6, ASSEMBLY.

5.2. 2.0- to 2.4-mm Loose Jacketed Cable with 250-µm or 500-µm Blown Optical Fiber (BOF)

Kit Components Required



▪ Connectors are shipped with dust caps installed onto connector. Keep dust caps in place until ready for assembly.

1. Slide the cable into the cable clamp, then position the cable clamp approximately 23 cm [9 in.] away from the end of the cable. Tighten the thumb wheel to hold the cable in place. See Figure 2 B, Detail A.

2. Slide the strain relief (small diameter end first) over the cable. Slide the black tubing over the cable. See Figure 2 B, Detail B.

3. Remove both dust caps from the connector assembly. Keep the ferrule dust cap; discard the plunger dust cap.

4. For this step, *either*: insert the small white tubing into the plunger of the connector assembly until the tubing bottoms as shown in Figure 2 B, Detail C, *or skip this step* and slide the small white tubing over the fiber after the fiber has been cleaved as instructed in Paragraph 6.1.

5. Push the connector into the holder of the cable holder with the ferrule facing outward. See Figure 2 B, Detail D. Make sure that the connector butts against the lip of the holder. Slide the cable into the channel marked “CABLE” on the cable holder. Make sure that the tip of the jacket butts against the end of the channel.

6. Mark the cable at each cross-slot of the channel. See Figure 2 B, Detail D. Remove the cable from the cable holder.

7. Using the outer notch of the strip tool, cut through the jacket at each mark. See Figure 3, Detail A.

8. Remove the first jacket segment, and flare the strength members away from the buffer. Using the scissors, cut the strength members even with the jacket. Then, remove the remaining jacket segment. See Figure 3, Detail B.

9. Slide the crimp eyelet onto the buffer and, using the crimp eyelet, fold the strength members back over the jacket. Continue sliding the crimp eyelet over the jacket until the strength members appear at the front of the crimp eyelet. See Figure 3, Detail C.

10. Using the center notch of the strip tool, cut the buffer tube flush with the end of the cable jacket. Remove the cut piece of tubing. See Figure 3, Detail D.

11. For cable with 500-µm BOF, using the center notch of the strip tool, remove the buffer coating from the exposed fiber, leaving the 250-µm coated fiber. It might be necessary to use the strip tool several times to remove all of the buffer coating. See Figure 3, Detail D.

12. Slide the fiber into the channel marked “BUFFER” on the cable holder. Make sure that the tip of the fiber butts against the end of the channel. See Figure 4, Detail A.

13. Mark the fiber at each cross-slot of the channel. See Figure 4, Detail A. Remove the fiber from the cable holder.

14. Using the inner notch of strip tool, strip the fiber to the first mark. It is recommended holding the tool at an angle and stripping the fiber in three sections. See Figure 4, Detail B.

CAUTION

Before using the strip tool, make sure that the “V” opening is clean; otherwise the fiber could break. Only use alcohol on the tool.

15. Using an alcohol fiber wipe, remove fiber coating residue by wiping from the end of the buffer toward the end of the fiber.

CAUTION

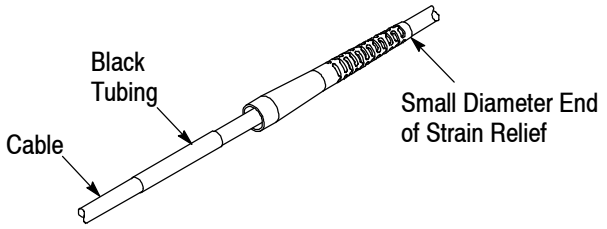
Wipe the buffer only once; repeatedly wiping a bare fiber will weaken the fiber.

Cable preparation for 2.0- to 2.4-mm loose jacketed cable with 250-µm or 500-µm BOF is now complete. Proceed to Section 6, ASSEMBLY.

Figure 2 A: Preparing the Cable

2.0-mm Tight Jacketed Cable

Detail A



Detail B

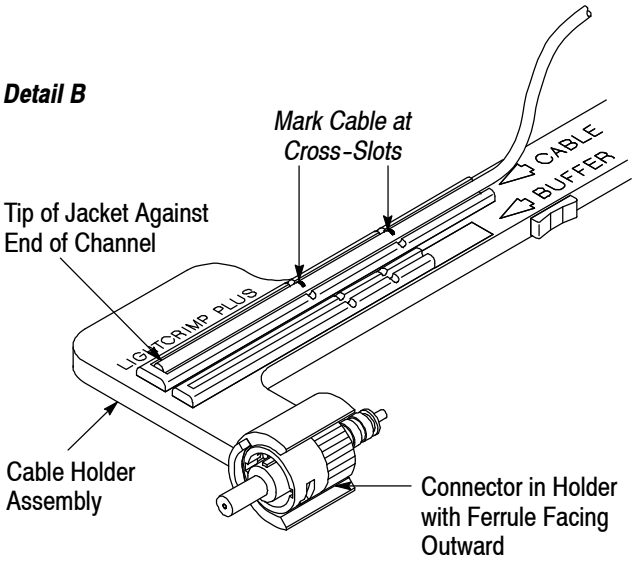
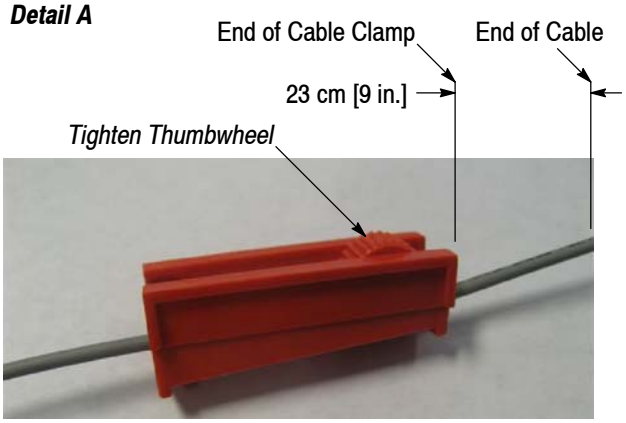


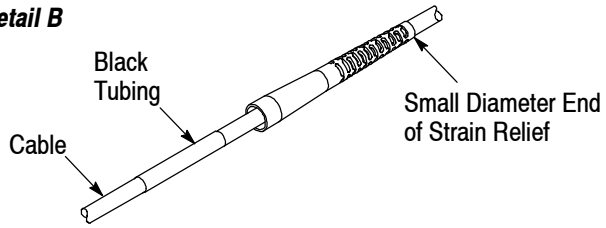
Figure 2 B: Preparing the Cable

2.0- to 2.4-mm Loose Jacketed Cable

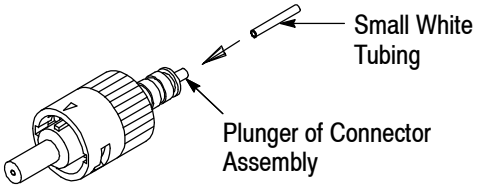
Detail A



Detail B



Detail C **Note:** An alternate step may be used, refer to Step 4 of Paragraph 5.2.



Detail D

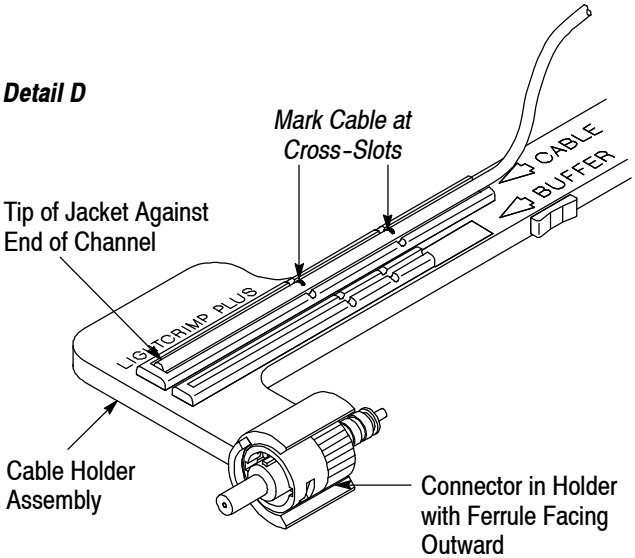
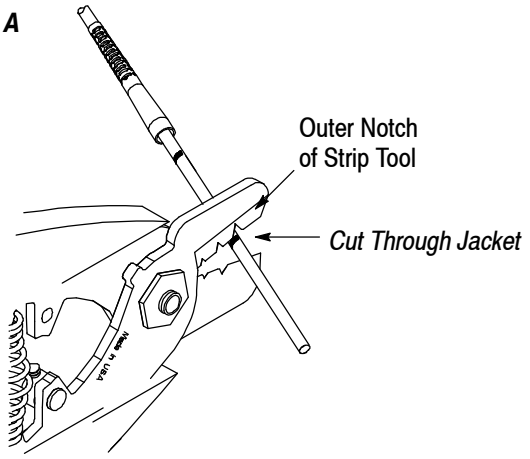
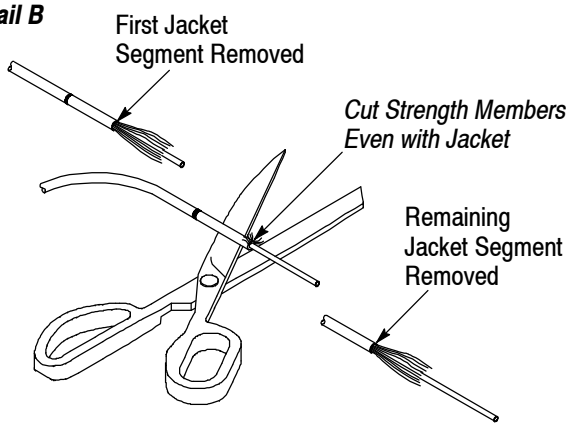


Figure 3: Preparing the Cable

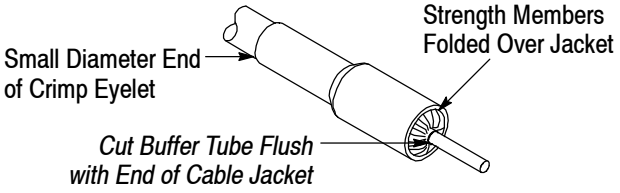
Detail A



Detail B



Detail C



Detail D

For 2.0- to 2.4-mm Loose Jacketed Cable with 500-µm BOF

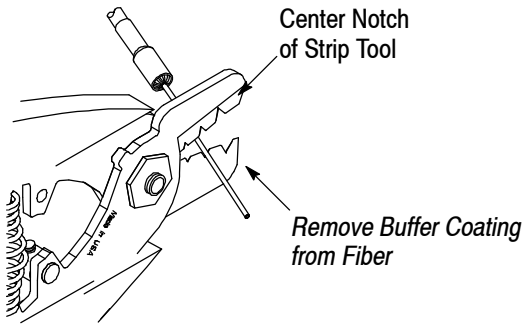
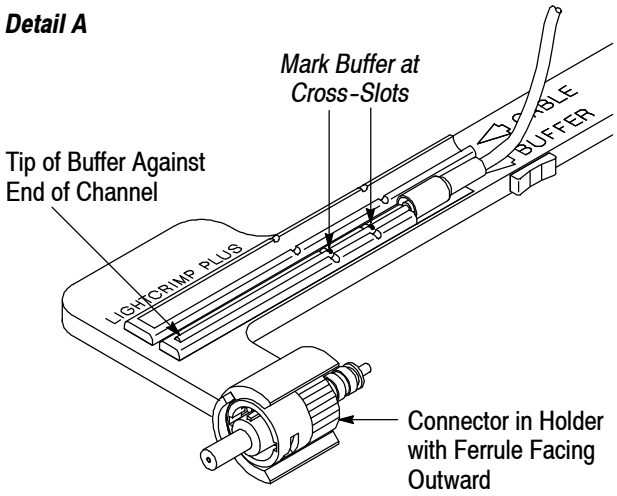
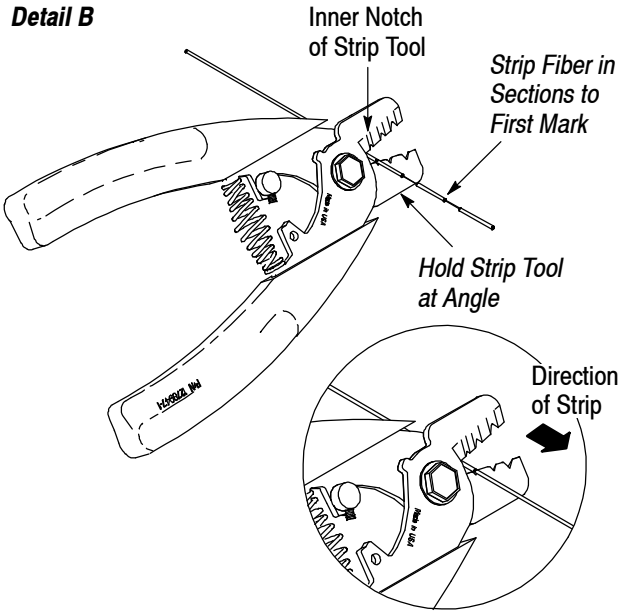


Figure 4: Preparing the Cable

Detail A



Detail B



6. ASSEMBLY

6.1. Cleaving (Figure 5)

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 900-µm buffer (for tight jacketed cable) or the end of the 250-µm fiber (for loose jacketed cable) is at the 8-mm marking. See Figure 5, Detail A.

3. While applying pressure on the buffer, carefully slide the fiber slide forward (toward the carriage) until it stops. See Figure 5, Detail B.

4. Gently close the fiber clamp, and slide the carriage forward. DO NOT touch the button while sliding the carriage. See Figure 5, Detail C.

5. Open the fiber clamp, and remove the cleaved fiber, and properly dispose of the scrap fiber.

CAUTION

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

6. For loose jacketed cable, if the small white tubing *was not* inserted into the plunger of the connector assembly (in Step 4 of Paragraph 5.2), slide the small white tubing over the fiber as shown in Figure 5, Detail D.

6.2. Crimping (Figures 6, 7, and 8)

1. Open the cable clamp of the cable holder, and hold the buffer (with the cleaved end of the fiber facing the connector) inside the clamp. Pull the end of the fiber even with the front of the arm of the cable holder, and holding the buffer in place, close the clamp. See Figure 6, Detail A.

2. Carefully insert the fiber into the plunger of the connector assembly until the the fiber bottoms against the internal fiber. Make sure that the remaining mark on the buffer enters the plunger. The resultant bend in the buffer should hold the fiber against the internal fiber. See Figure 6, Detail B.

NOTE

It is important that the fiber bottoms against, and remains against, the internal fiber. If the mark does not enter the plunger or if the fiber does not seem to bottom against the internal fiber, the fiber may be caught on internal guides. Rotating the connector and backing the fiber out a small amount and re-entering may help. However, if the mark will not enter the plunger, the fiber must be re-stripped.

Make sure that the fiber does not pull rearward from the contact (with the internal fiber) during the crimping operation.

3. Squeeze the handles of the hand tool until the ratchet releases. Allow the handles to open fully. Gently close the handles until you hear three clicks from the ratchet.

4. With the connector assembly in the cable holder, position the ferrule in the upper cavity of the front die and the plunger in the upper cavity of the rear die. It is important to make sure that the tip of the plunger sits in the channel of the rear die with the protruding disk of the plunger *flat against* the wall of the cavity. If the plunger is not positioned correctly, it will be crushed when the tool is actuated. See Figure 6, Detail C.

CAUTION

The arrows marked on the front die indicate the direction that the ferrule must be pointing when the connector is positioned in that cavity. For proper placement, and to avoid damage to the fiber, the direction of the arrows must be observed. Refer to Figure 6, Detail C and Figure 7, Detail A.

5. Gently push the buffer toward the connector to make sure that the fiber is still bottomed, then slowly squeeze the tool handles together (using both hands) until the ratchet releases. Allow the handles to open fully, and remove the connector assembly from the dies.

6. Position the plunger of the connector assembly in the first (smallest) cavity of the front die with the shoulder of the plunger against the edge of the groove in the die and the ferrule pointing in the direction of the arrow. See Figure 7, Detail A.

7. Slowly squeeze the tool handles together until the ratchet releases. Allow the handles to open fully, and remove the connector assembly from the die.

8. Slide the crimp eyelet away from the connector until the strength members are free, then slide the crimp eyelet toward the connector until the strength members and crimp eyelet butt against the connector. See Figure 7, Detail B.

9. Slide the black tubing forward into the small diameter end of the crimp eyelet until it butts against the rear of the connector. See Figure 7, Detail B.

10. Position the large diameter end of the crimp eyelet in the last (largest) cavity of the front die with the ferrule pointing in the direction of the arrow. See Figure 7, Detail C. Slowly squeeze the tool handles together until the ratchet releases. Allow the handles to open fully.

11. Position the small diameter end of the crimp eyelet in the middle cavity of the front die with the ferrule pointing in the direction of the arrow. See Figure 7, Detail D.

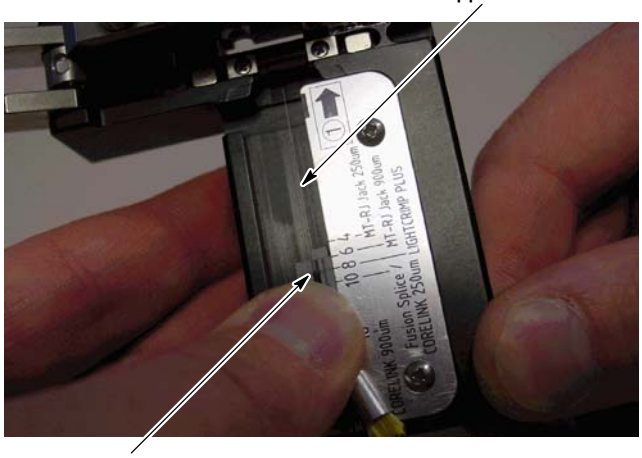
12. Slowly squeeze the tool handles together until the ratchet releases. Allow the handles to open fully, and remove the connector assembly from the die.

13. Install the ferrule dust cap onto the ferrule. Open the cable clamp of the cable holder, and remove the cable from the clamp. Slide the strain relief over the crimp eyelet until the strain relief butts against the connector. See Figure 8.

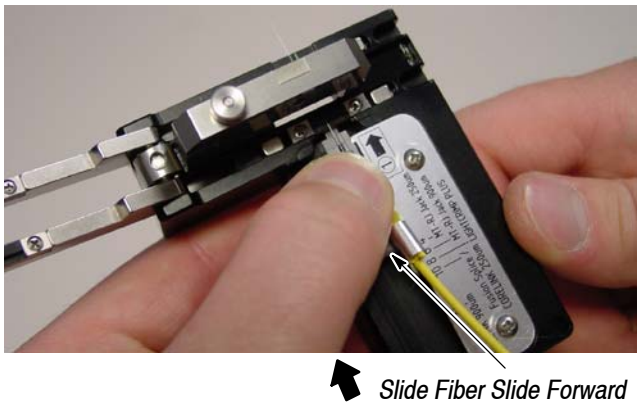
14. Remove the connector assembly from the cable holder. If not connecting connectors, keep the ferrule dust cap on the ferrule.

Figure 5: Cleaving

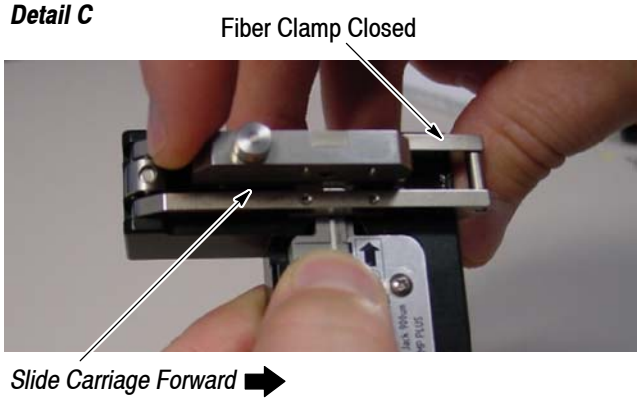
Detail A



Detail B



Detail C



Detail D

For Loose Jacketed Cable

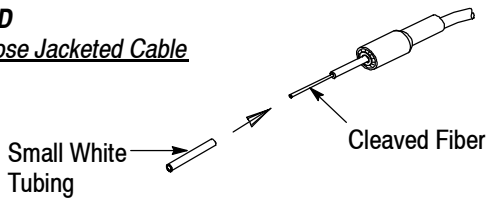
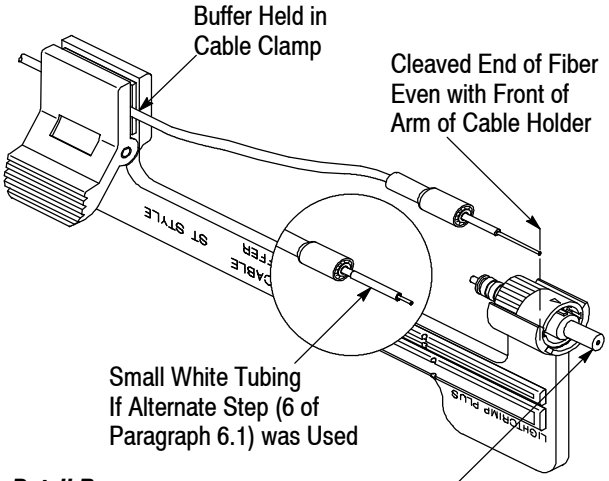
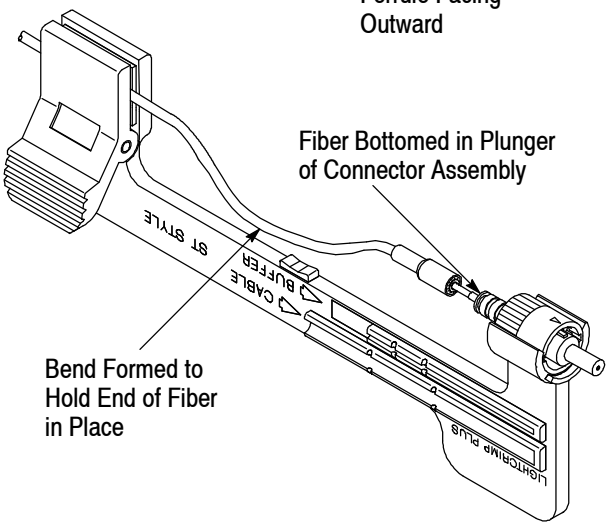


Figure 6: Crimping

Detail A



Detail B



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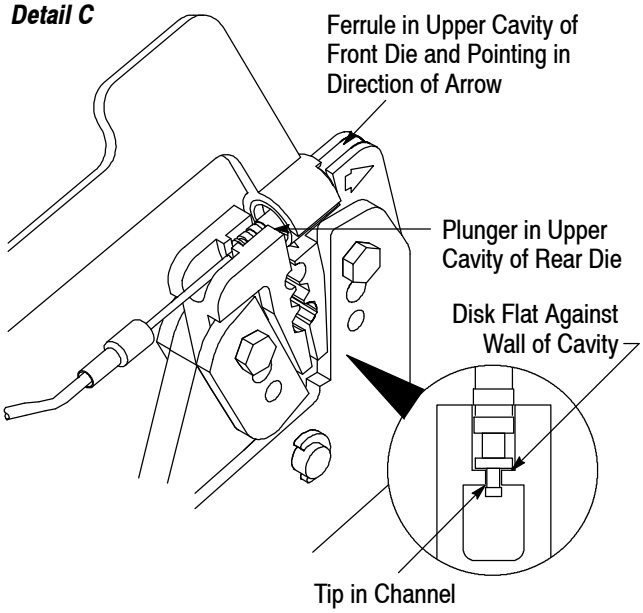
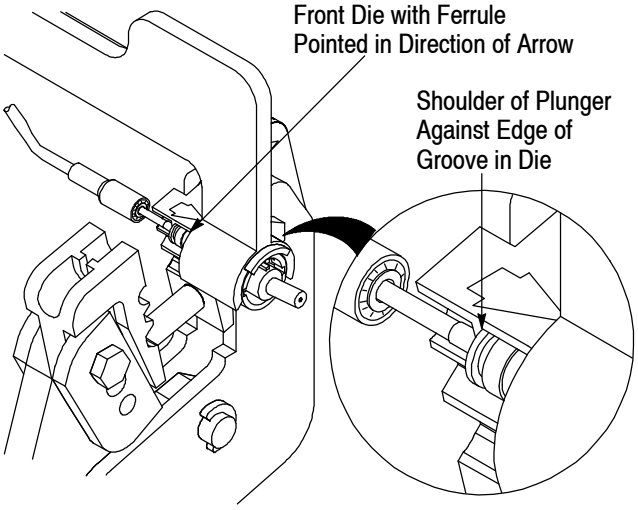
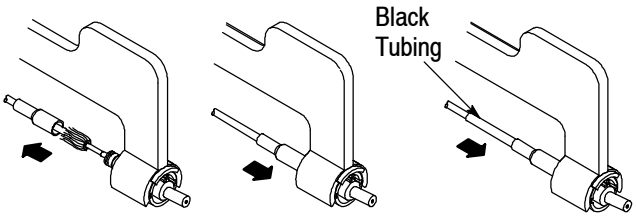


Figure 7: Crimping

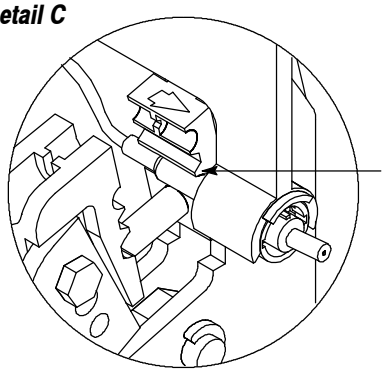
Detail A



Detail B



Detail C



Detail D

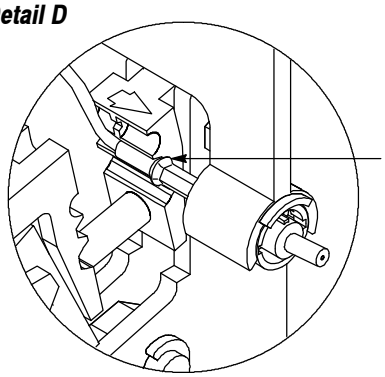
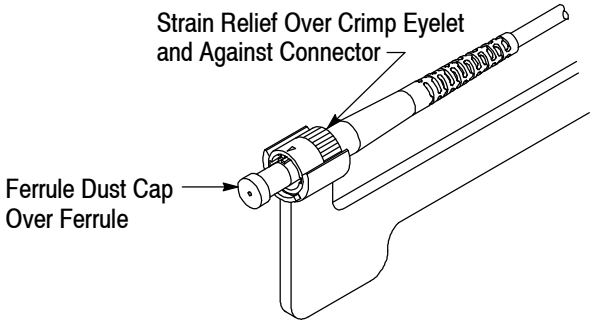
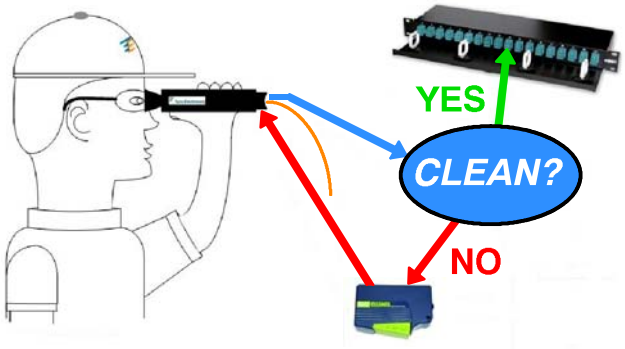


Figure 8: Crimping



STOP!

Don't Connect Unless You Inspect!



DANGER: Never View Active Fiber Signals

7. REVISION SUMMARY

Revisions to this instruction sheet include:

- Modified Step 4 of Paragraph 5.2
- Added Step 6 to Paragraph 6.1
- Added Detail D to Figure 5 and modified Detail A of Figure 6