L-JACK™ Termination Procedure

1.1 These instructions detail the recommended termination procedures for L-com's L-JACK™, a ruggedized LC connector.

2. Contents

2.1 Please check the contents of this package to ensure that it contains:

1 - Dust cap assembly	1 - LC connector
1 - Plug body	1 - Crimp sleeve
1 - Rear cap	1 - Kevlar retainer
1 - Compression nut	1 - 2 x 1/4" heat shrink
1 - Duplex clip	1 - L-Jack template

3. Tools Required

3.1 Tools required for this installation include:

Crimp tool
Jacket and fiber stripper
Epoxy adhesive
Alcohol bottle with alcohol
Masking tape
Kim wipes
Kevlar shears
Black marker
Razor blade
Fault finder
L-Jack template

4. Safety Requirements

4.1 Always wear eye protection when handling optical fibers. Dispose of cut or cleaved ends properly.

4.2 When using epoxy, care should be taken not to get any residue on your skin and to avoid touching eyes when handling. CAUTION: Wash hands after handling and/or mixing epoxy. Follow manufacturers recommended mixing procedure.

4.3 Handle with extreme care when using razor blades. A fiber jacket can dull a razor blade after only a few cuts, making it more dangerous to use.

4.4 CAUTION: Never look directly into a laser light when handling a fault finder or optical equipment.

5. Cable Preparation

5.1 L-com recommends utilizing Distribution Series (DX) or Breakout Series (BX) cables.

5.2 After determining what type of cable will be used, slide the compression nut, rear cap and a 2" piece of 1/4" heat shrink (for DX style only) to the end of the cable. See Figure 1.

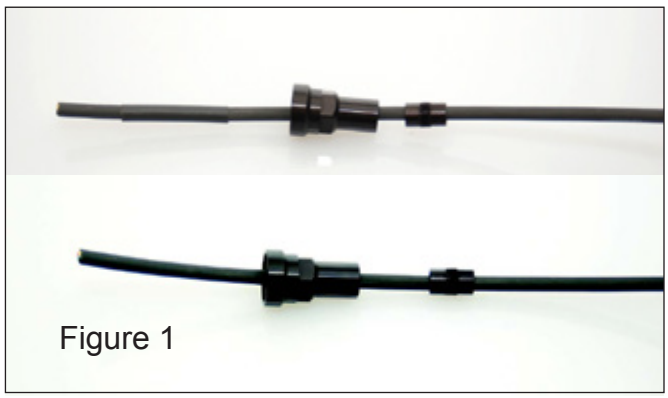

Figure 1

5.3 Using the L-Jack template, mark the outer cable jacket according to the template dimensions(3.5"). Make a small cut with the razor at the mark to reveal the Kevlar. Carefully continue to cut around the cable while ensuring the razor does not cut past the jacket and into the Kevlar and optical fibers. See Figure 2.

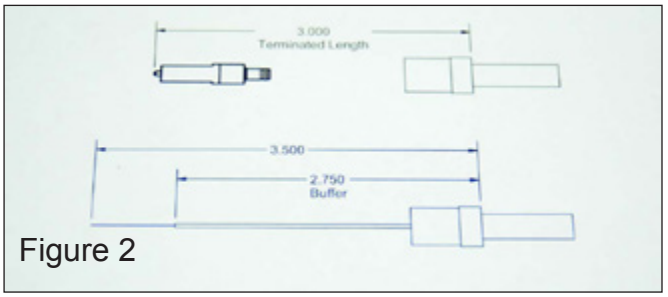

Figure 2

5.4 Slit the outer jacket and remove it back to the cut mark. See Figure 3.

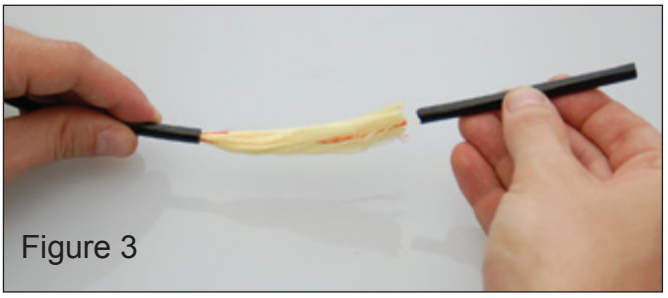
Figure 3

5.5 Separate the Kevlar from the fiber members and tape together at the end using masking tape. See Figure 4.

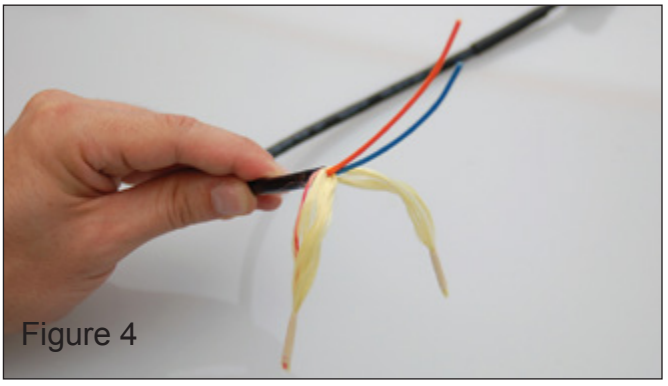
Figure 4

5.6 For Distribution Style (DX) cables:

a. Feed the fiber members and Kevlar through the Kevlar retainer until the retainer bottoms out on the cable end. See Figure 5.

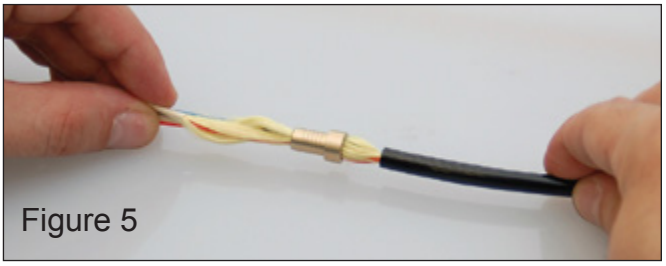
Figure 5

b. Pull the Kevlar back tight over the Kevlar retainer and slide the crimp sleeve over the Kevlar. Tape the Kevlar to the cable after placing the crimp sleeve on. See Figure 6.

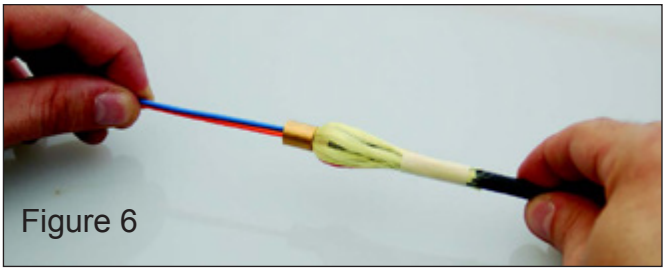
Figure 6

5.7 For Breakout Style (BX) cables:

a. After separating the Kevlar from the fiber members, use the fiber stripper (0.65mm) to remove the inner jacket on the fiber members. Note: Be careful not to nick the fiber when removing the inner fiber member jacket. See Figure 7.

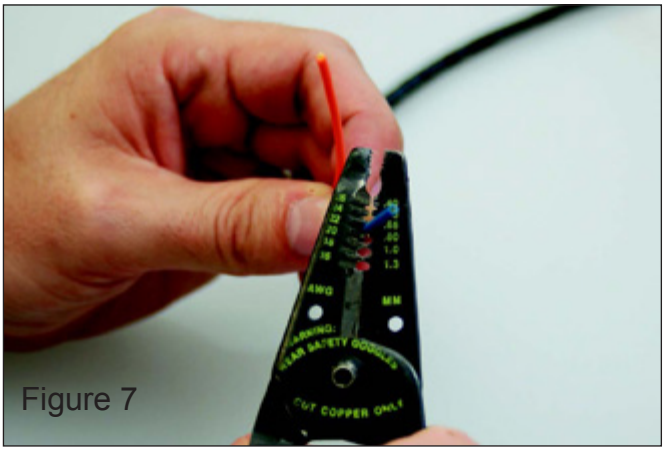

Figure 7

b. After removing the inner fiber member jacket use the Kevlar shears to cut the Kevlar as close to the outer jacket end. See Figure 8.

c. Repeat these steps for the blue fiber member intended for termination.

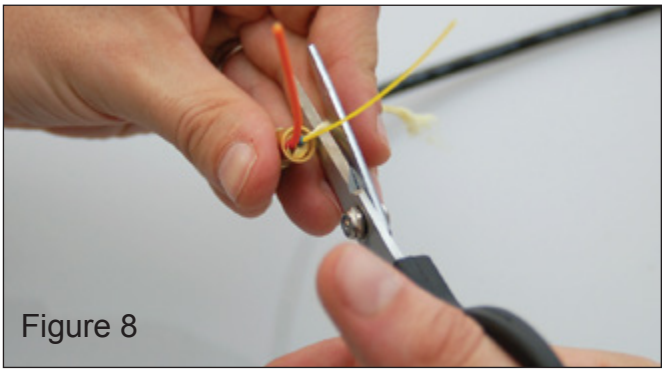
Figure 8

d. After removing the Kevlar from the fiber members, mark the blue fiber member with a marker to help verify color code for termination. See Figure 9.

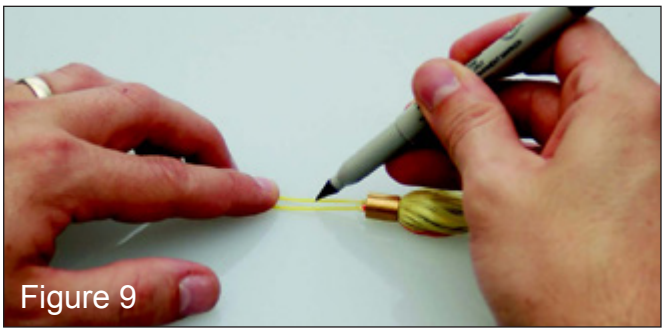
Figure 9

e. Feed the fiber members and Kevlar through the Kevlar retainer until the retainer bottoms out on the cable end. See Figure 10.

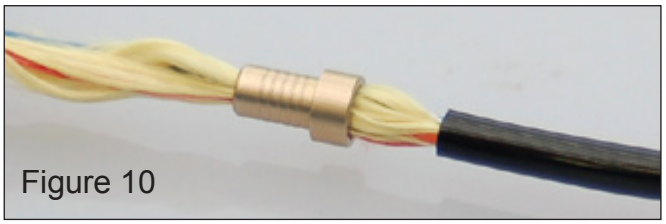
Figure 10

f. Pull the Kevlar back tight over the Kevlar retainer and slide the crimp sleeve over the Kevlar. Tape the Kevlar to the cable after placing the crimp sleeve on. See Figure 11.


Figure 11

5.8 Using the L-Jack strip template, mark the inner fiber member cable jacket according to the template dimensions (@ 2.75" Buffer). Using fiber strippers, strip away the 900µm buffer in 1/4" increments until the buffer is stripped down to the mark. Note: Hold the buffers when stripping to avoid pulling them out of the cable. See Figure 12.

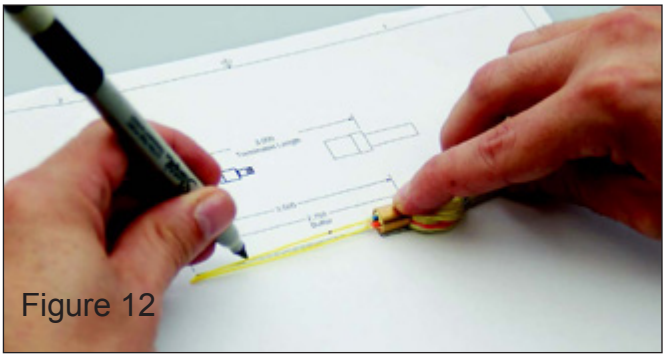
Figure 12

5.9 After stripping the buffer from the fibers, place the cable back down on to the template to verify that the strip dimensions are to the template. See Figure 13.

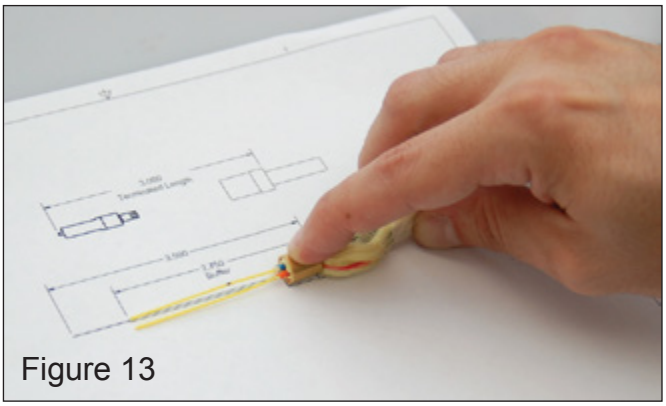
Figure 13

5.10 For Breakout Style (BX) cables only:
a. Cut a small piece of the colored inner fiber member jacket approximately 1/4" that was removed in Step 5.7. See Figure 14.

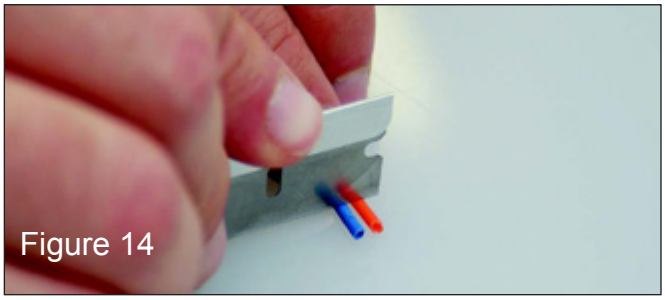
Figure 14

b. After cutting the two pieces of the inner fiber member jacket, slide them onto the fiber. Make sure to slide the blue on the buffer that was marked in Step 5.7. See Figure 15.

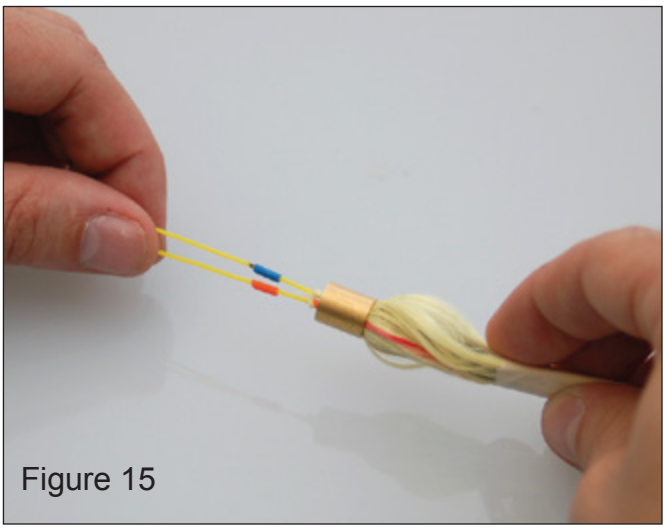
Figure 15

5.11 Use a fresh Kim wipe and alcohol to clean the freshly stripped fiber. If the fiber is dirty the Kim wipe will slide off the fiber. When the fiber is clean, the Kim wipe will tend to stick to the fiber and a squeaking sound can be heard.

6. **Terminate and Polish LC Connectors. Endface geometry needs to meet GR-326**

7. Final Assembly

7.1 Remove the masking tape holding the Kevlar to the cable and slide the Kevlar retainer and crimp sleeve up on the Kevlar. Slide the 2" piece of heat shrink towards the Kevlar retainer and heat down at the end of the cable jacket. This step is to build up the cable diameter. See Figure 16.

Figure 16

7.2 Move the Kevlar retainer towards the heat shrink until it bottoms out on the cable end. Pull the Kevlar tight and slide the crimp sleeve over the Kevlar. Rotate the crimp sleeve leaving a crease on the Kevlar. See Figure 17.

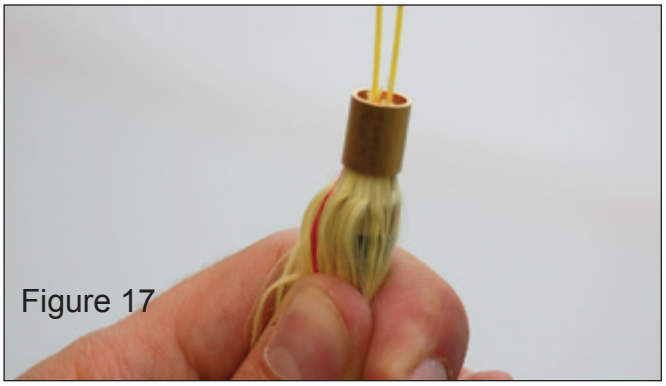

Figure 17

7.3 Cut the Kevlar at the crease using Kevlar shears. See Figure 18.

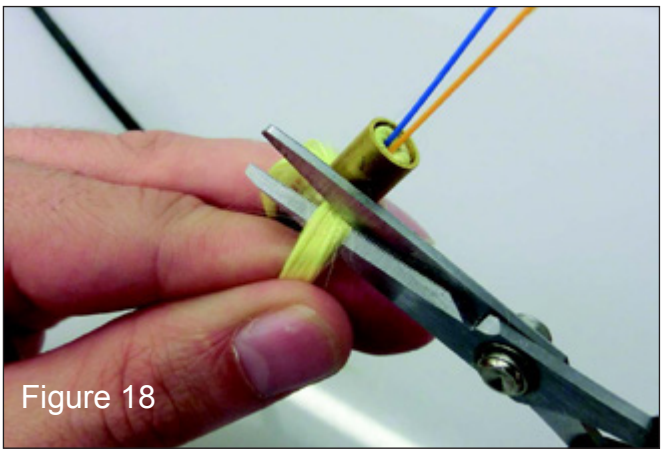

Figure 18

7.4 After cutting the Kevlar, mix a small amount of room temperature curing epoxy like Lord 305-1/2 epoxy adhesive. Mix the two-part epoxy completely with a tooth pick. See Figure 19.

Figure 19

7.5 Slide the crimp sleeve off of the Kevlar retainer. Apply a small amount of epoxy adhesive to the Kevlar retainer. After applying the epoxy, fan the Kevlar back evenly around the crimp retainer. See Figure 20.

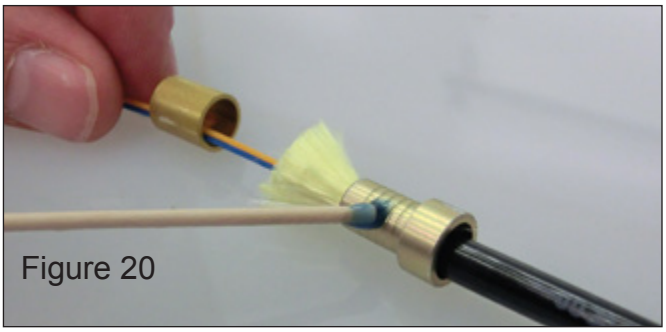
Figure 20

7.6 Use the crimp tool and select die size .350" to crimp the crimp sleeve over the Kevlar retainer. Note: The Kevlar should be fanned out around the Kevlar retainer and under the crimp sleeve. See Figure 21.


Figure 21

7.7 After crimping the crimp sleeve, apply heat to the crimp ring so that the epoxy will thicken and seep through the Kevlar. See Figure 22.


Figure 22

7.8 Slide the dust cap on to the cable. See Figure 23.

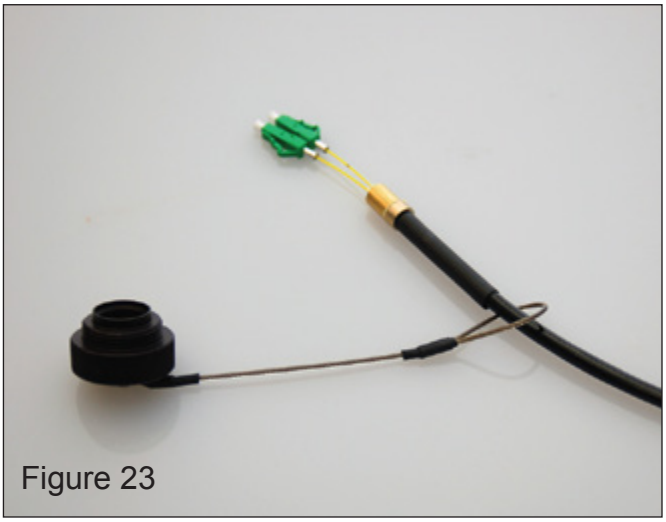
Figure 23

7.9 Snip both the key clips of the LC connectors. See Figure 24.

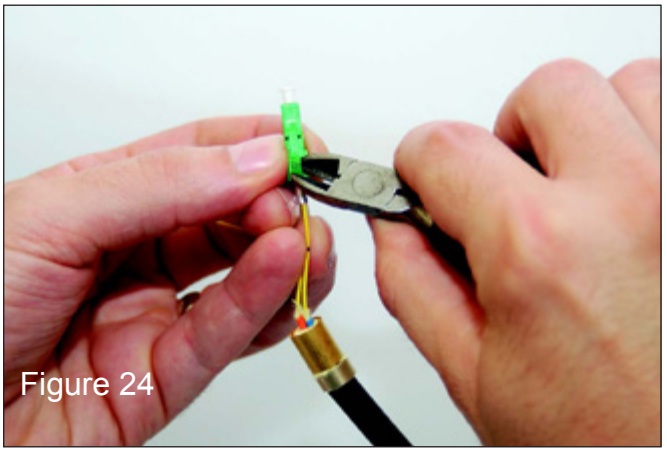
Figure 24

7.10 Feed the LC connectors through the plug body. Note: Make sure the clips are snipped off otherwise the LC connectors will not fit through the back of the plug. See Figure 25.


Figure 25

7.11 Determine the proper placement of the fiber members with respect to pin out based on termination requirements. See Figure 26.


Figure 26

7.12 Position the LC connector according to the specified color code in the slots of the duplex clip. See Figure 27.

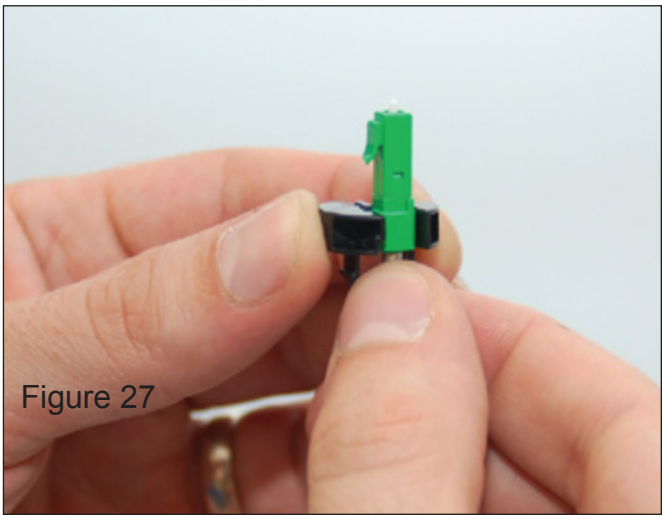
Figure 27

7.13 Line up the key of the connector to the V slot on the clip. Snap into place. Repeat with the other connector. See Figure 28.

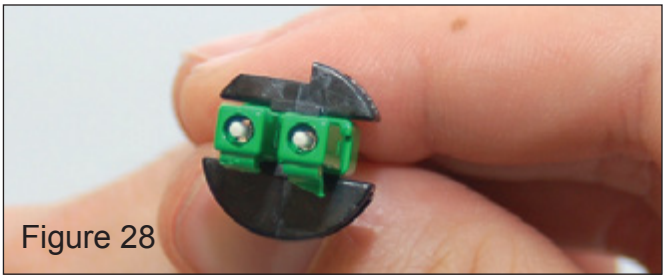
Figure 28

7.14 Once the connectors are installed in the clip, look at the face view of the clip and ensure the keying of the connectors are facing down and that the pin on the plug body is to the right of the face view. See Figure 29.

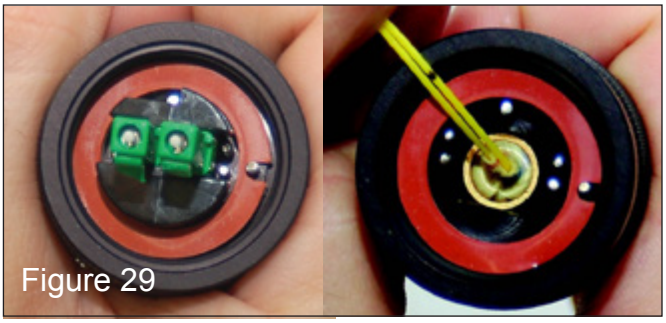
Figure 29

7.15 Bring the clip with the installed LCs towards the plug body. Move the clip back and forth until the clip snaps in place. See Figure 30.

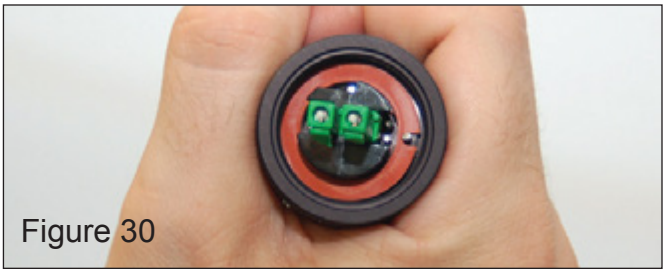
Figure 30

7.16 After installing the clip, hold the plug body with one hand and the cable and rear cap with the other hand and screw the rear cap on. Note: Make sure that the cable does not spin when screwing the rear cap on to the plug body. See Figure 31.


Figure 31

7.17 After screwing the rear cap on, bring the compression nut up towards the end of the rear cap. Screw the compression nut into the rear cap. Note: Make sure to hold the cable taunt when screwing the compression nut on. See Figure 32.


Figure 32

7.18 After hand tightening the compression nut, use a wrench to tighten down the compression nut. The L-Jack is now complete. See Figure 33.


Figure 33