

Installation Instructions – 655/656/675/676CETP Deadbreak Elbow Connectors

CONTENTS: Elbow, Cable Adapter, Compression Lug, Lubricant, Installation Instructions, Crimp chart.

The 655/656/675/676CETP connectors are designed to: 1) provide fully shielded, fully submersible deadfront cable connections to high voltage apparatus and 2) provide a means to splice and provide 200 amp loadbreak tap. The red interface sleeve on the 15kV product provides indication of full seating. The connectors are rated for use on 15kV class systems.

WARNING: THE FOLLOWING RATINGS APPLY TO THIS PRODUCT:

600 Series Deadbreak Interface and Cable:

655/656CETP—600 amperes load current and 25,000 amperes short circuit current for 10 cycles.
675/676CETP—900 amperes load current and 25,000 amperes short circuit current for 10 cycles.

200 Ampere Loadbreak Interface:

200 amperes load current and 10,000 amperes fault—close current. For higher short circuit current: 1) this interface must only be operated de—energized; and 2) elbows used for taps or grounding must be adequately secured such as with a bail.

DANGER

All apparatus must be de—energized during installation or removal of part(s). For loadbreak products follow operating instructions. All deadbreak connectors must be de—energized before operating. All 200A deadbreak connectors must be mechanically secured with bails when connected.

All apparatus must be installed and operated in accordance with individual user, local, and national work rules. These instructions do not attempt to provide for every possible contingency.

Do not touch or move energized products.

Excess distortion of the assembled product may result in its failure.

FOR MORE INFORMATION ON PARTS, INSTALLATION RATINGS AND COMPATIBILITY, CALL THE NEAREST ELASTIMOLD® OFFICE.

Inspect parts for damage, rating and compatibility with mating parts.

This product should be installed only by competent personnel trained in good safety practices involving high voltage electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such safety practices.

Failure to follow these instructions will result in damage to the product and serious or fatal injury.

If this product is supplied with a protective shipping cover(s), remove this shipping cover(s) and replace with the appropriate HV insulated cap(s) or connector(s) before submerging or energizing the circuit.

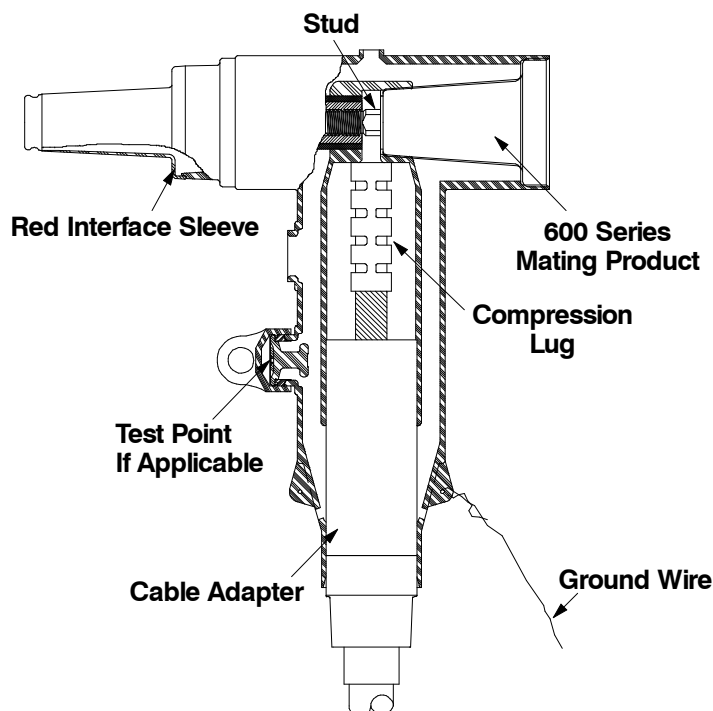
Limited Warranty:

1. T&B warrants that its products will be free from defects in material or workmanship for a period of two years, except for tools which are warranted for 90 days. Fisher Pierce products are warranted for three years, and Joslyn VBT and VBU capacitor switches are warranted for four years or 40,000 operations whichever occurs first. Upon prompt notification of a warranted defect, T&B will, at its option, repair or replace any products found to be defective.
2. In no event shall T&B be liable for any consequential, indirect or special damages, nor will T&B be liable for transportation, labor, or other charges arising out of the removal or reinstallation of its products. Liability for breach of warranty is limited to the cost of repair or replacement of the warranted product only.
3. Misuse, misapplication or modification of T&B products immediately voids all warranties.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE SPECIFICALLY DISCLAIMED.

IMPORTANT

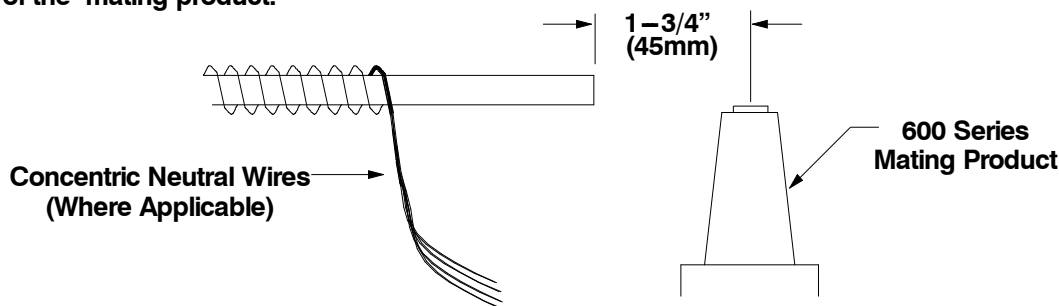
1. Check contents of package to ensure they are complete and undamaged.
2. Check all components to ensure proper fit with cable and/or mating products.
3. Read entire installation instructions before starting.
4. Have all required tools at hand and maintain cleanliness throughout the procedure.



GENERAL INSTRUCTIONS

STEP 1

Position the cable so it is located in the final assembled position with enough slack to provide adequate clearance for removing the elbows. For concentric neutral cable, unwind the concentric neutral wires. Cut the cable 1-3/4" (45mm) from center line of the mating product.



STEP 2

Clean the outer surface of the cable a distance of 24" (610mm) or up to the bent back concentric neutral wires.

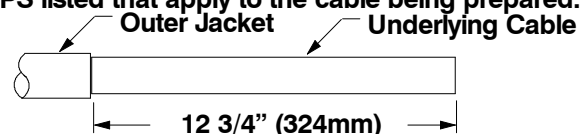
STEP 3

If a 20MA or 21MA grounding device or 600ECS Jacket Cable Seal is being used, refer to the Installation Instructions supplied with those products for removal of cable outer jacket, shield connection and grounding. If these products are not being used, follow these Instructions for the removal of cable outer jacket shield connections and grounding.

STEP 4 CABLE PREPARATION NOTE: Follow the STEPS listed that apply to the cable being prepared.

A. OUTER JACKET

Remove outer jacket to dimension shown.



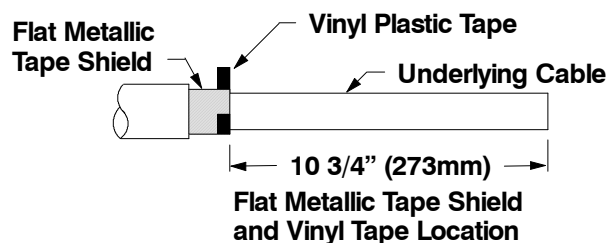
B. SHIELD WIRES

Fold back shield wires.



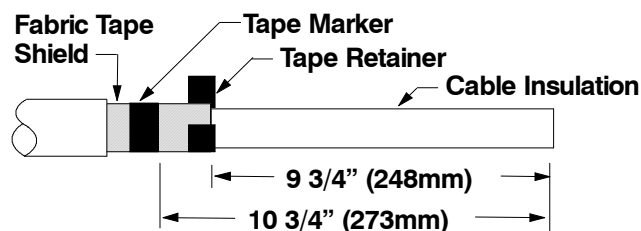
C. FLAT METALLIC TAPE SHIELD

Remove flat metallic tape shield and secure with vinyl plastic tape to dimension shown.



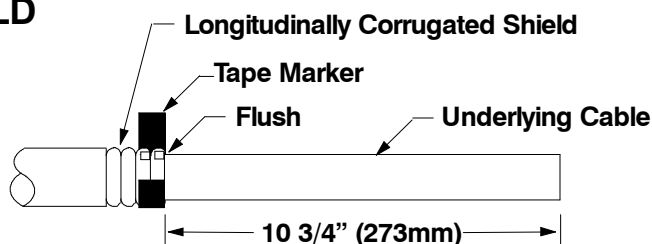
D. FABRIC TAPE SHIELD

Remove fabric tape shield and install tape retainer and tape marker to dimensions shown.



E. LONGITUDINALLY CORRUGATED SHIELD

Remove longitudinally corrugated shield and install tape marker to dimension shown.



F. UNISHIELD* CABLE

If using UNISHIELD* CABLE a 10TL cable shield adapter is required. Refer to the Installation Instructions supplied with the 10TL cable shield adapter for cable preparation and grounding.

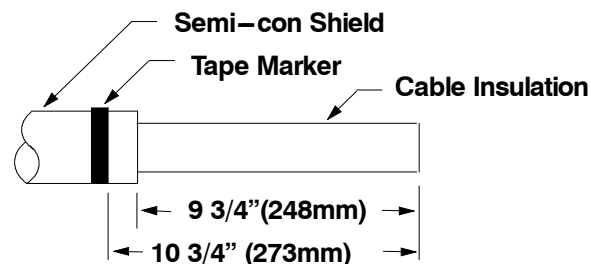
*Unishield is a registered Trade Mark of ANACONDA WIRE and CABLE COMPANY.

G. LEAD SHEATH CABLE

If using lead sheath cable a 10TL cable shield adapter is required. Refer to the Installation Instructions supplied with the 10TL cable shield adapter for removal of outer jacket, lead sheath and grounding.

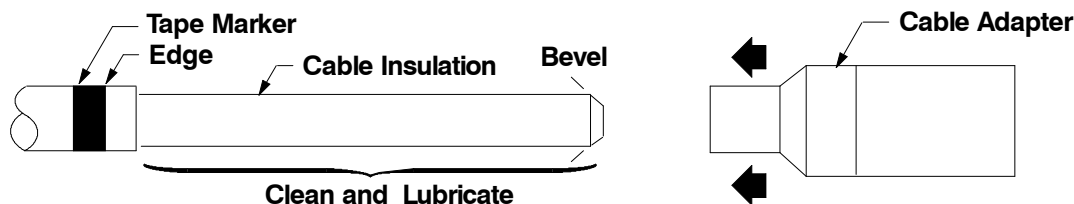
H. SEMI-CON SHIELD

Remove semi-con shield and install tape marker to dimensions shown. Do not cut or nick the cable insulation.



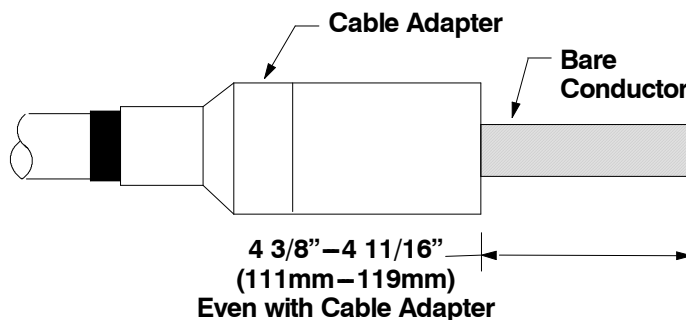
STEP 5 CABLE ADAPTER

Bevel the end of the cable insulation at a 45° angle, approximately 1/4" (6mm) back. Thoroughly clean, then lubricate cable insulation always working toward semi-con shield. Install cable adapter, small end first, until it is flush with the edge of the tape marker.



STEP 6 CONDUCTOR

Remove the protruding cable insulation by cutting it even with the end of the cable adapter. Do not cut or nick the cable adapter or the conductor. The length of exposed conductor should be $4 \frac{3}{8}"$ – $4 \frac{11}{16}"$ (111mm–119mm). Otherwise redo assembly.

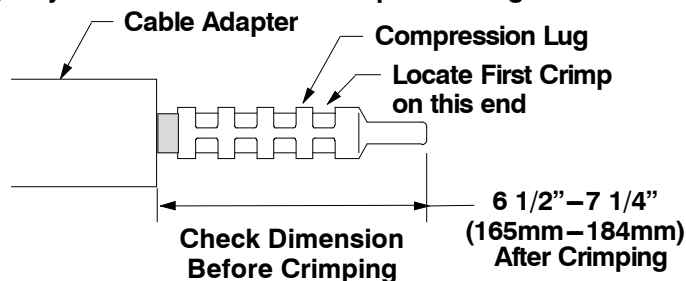


STEP 7 COMPRESSION LUG

Copper Conductor: Fully insert conductor into compression Lug.

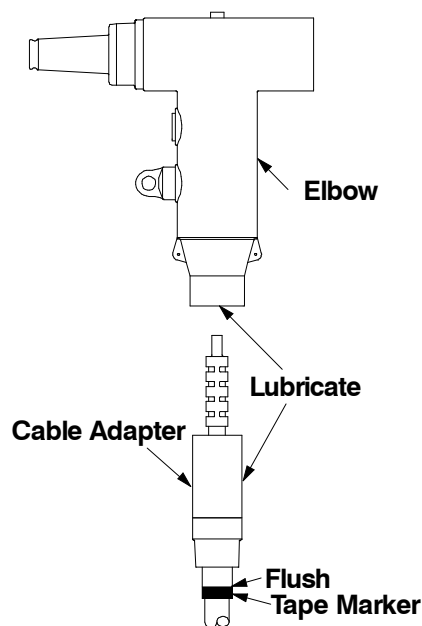
Aluminum Conductor: Wire brush conductor and immediately fully insert conductor into compression lug.

Measure the "Check Dimension" before crimping. This dimension should be less than $6 \frac{1}{2}"$ (165mm) otherwise redo assembly. Crimp the compression lug following the crimping instructions supplied with the lug. Wipe all excess inhibitor from compression lug and cable adapter surface after crimping. The distance from the end of the compression lug to the cable adapter after crimping should be $6 \frac{1}{2}"$ – $7 \frac{1}{4}"$ (165mm–184mm). Otherwise redo assembly.



STEP 8 ELBOW

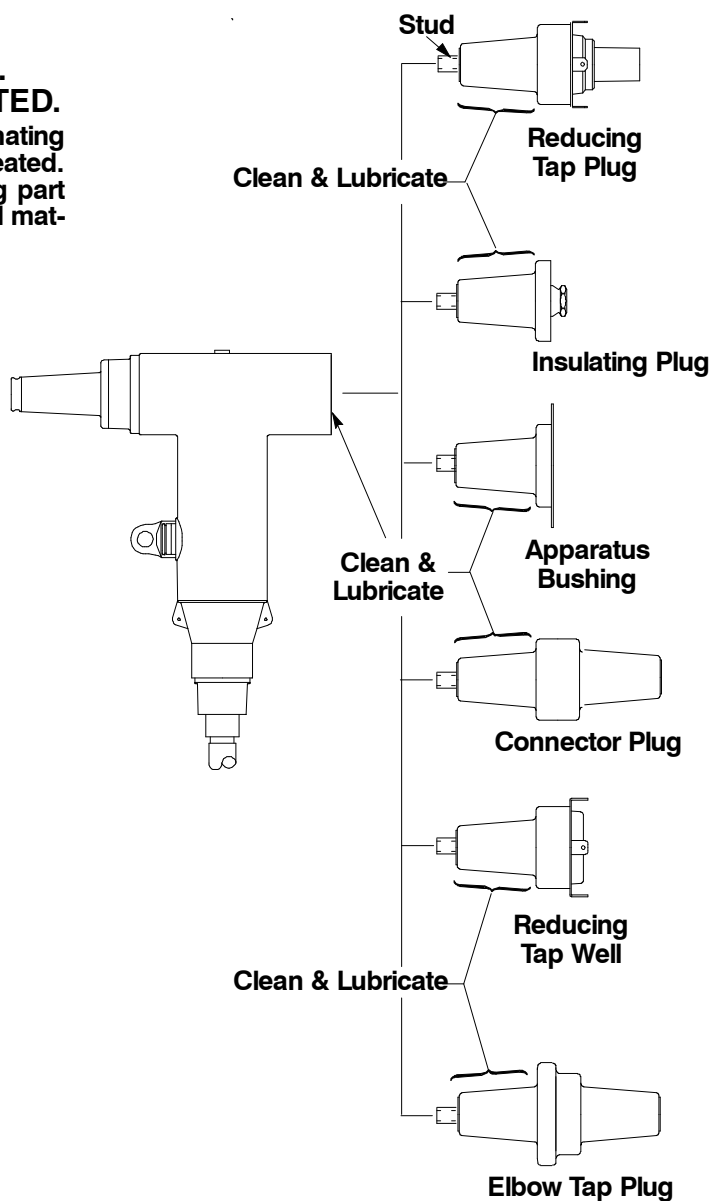
Lubricate cable adapter and inside of elbow cable entrance. Install elbow onto cable adapter until the elbow can not advance further. Make sure cable adapter is still flush with tape marker. If not, reposition cable adapter. Remove tape marker.



STEP 9 MATING PRODUCTS

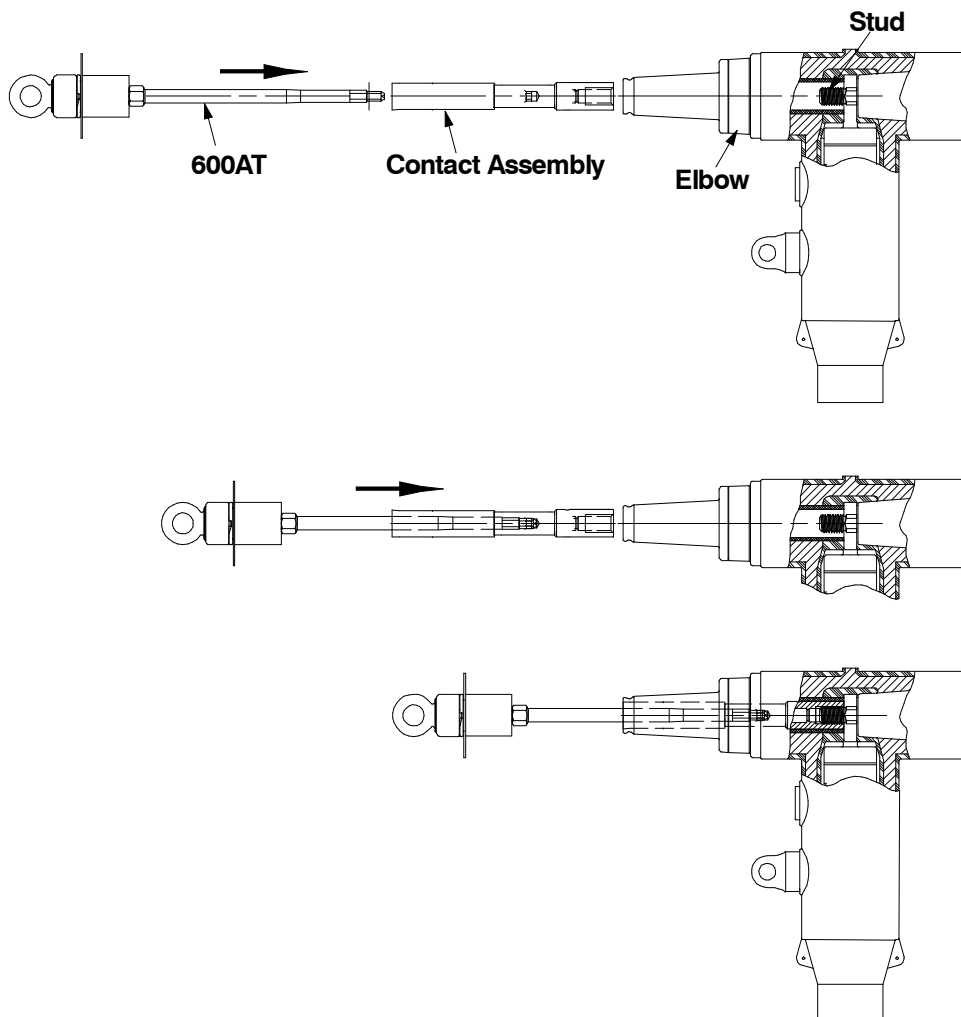
DO NOT CONNECT OR DISCONNECT MATING PRODUCTS WHILE ENERGIZED. DO NOT ENERGIZE WHILE DISCONNECTED.

Remove protective caps from the elbow and the mating part. Install stud into apparatus by hand until fully seated. Clean and lubricate both the elbow and the mating part with lubricant supplied. (Keep surfaces of elbow and mating part clean.)



STEP 10

Push elbow onto mating part. Using the 600AT assembly tool, engage the hex broach in the contact assembly. Insert the contact assembly into the elbow interface to engage the stud. Using the 600AT, torque contact assembly until the torque limiter on the 600AT ratchets (19 to 25 foot/pounds torque).

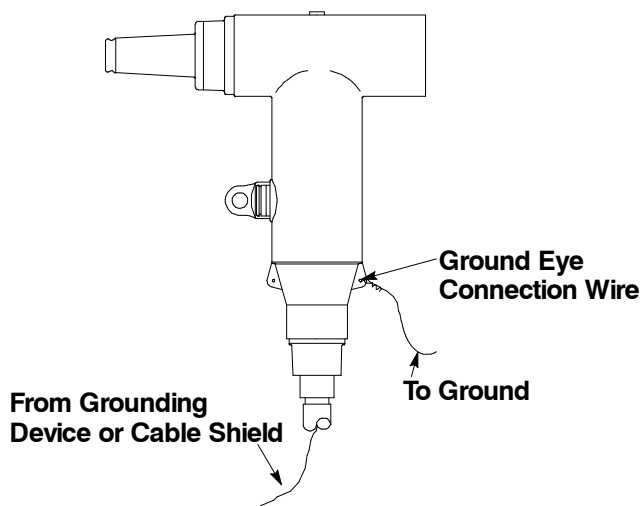


STEP 11

Insert one end of a piece of wire with ampacity at least equivalent to No. 14 AWG Copper through the grounding eye and twist to make a small loop. Do not damage the eye. Connect wire to ground using a suitable connector.

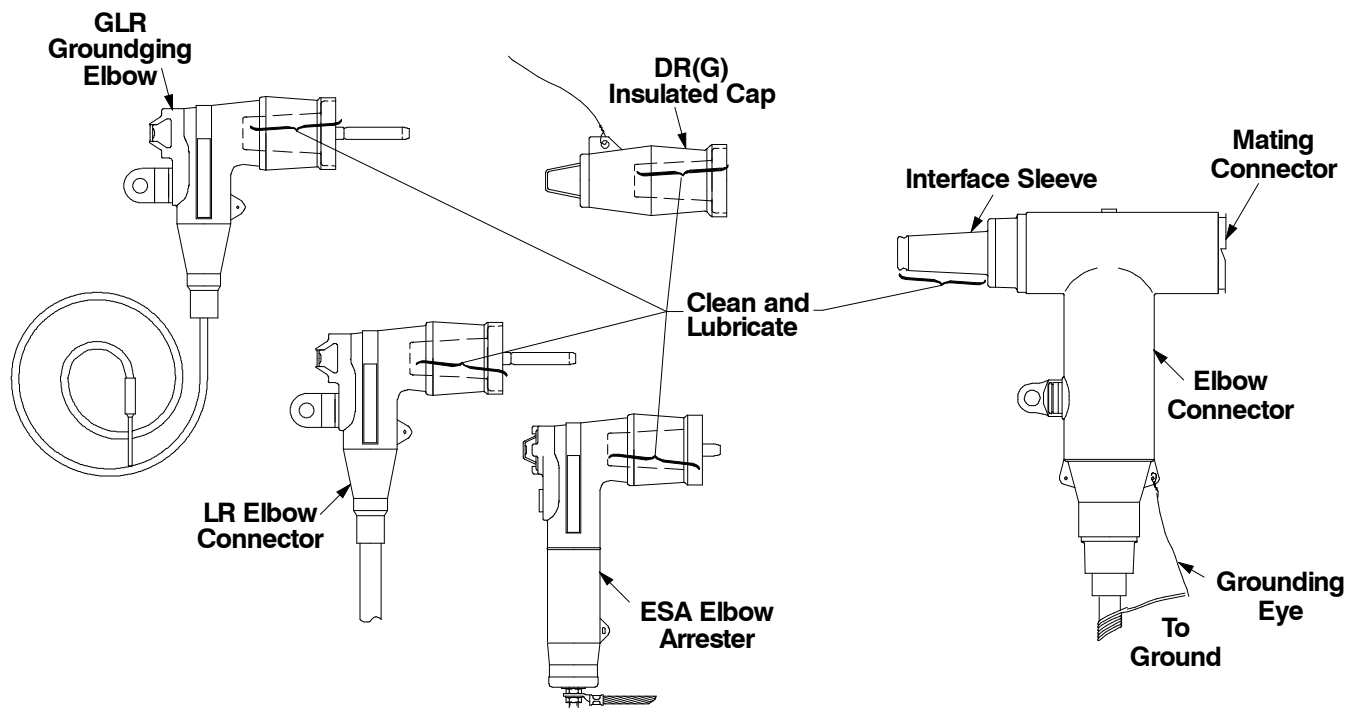
The shield of the cable must be grounded. Ground according to the instructions supplied with the grounding device. If no grounding device is used, the shield must be grounded through an alternate method.

It is also recommended that the jacket of the cable be waterproofed at this point to prevent moisture from entering the cable.



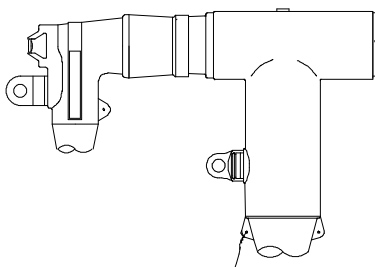
STEP 12

Clean and lubricate the entire loadbreak interface and either a DR(G), ESA, GLR or LR of the appropriate voltage class with the lubricant supplied or ELASTIMOLD® approved lubricant. Install the DR(G), ESA, GLR or the LR to the tap plug interface following the instructions supplied with each of these products.



STEP 13 SEATING INDICATION

Complete assembly of an insulated cap or elbow is indicated by no portion of the colored interface sleeve being visible when viewed from the side.



VOLTAGE TEST ON 656CETP

The ELASTIMOLD® deadbreak elbow connector is equipped with an integral capacitance test point that can be used to establish whether or not the circuit is energized. When using the test point, complete the following steps:

1. Remove test point cap with a hotstick. When removing cap, PEEL OFF AT AN ANGLE rather than pulling directly in line with the test point assembly.
2. **WARNING: THE VOLTAGE TEST POINT IS A CAPACITANCE DEVICE, IT IS NOT DIRECTLY CONNECTED TO THE CONDUCTOR.** Do not use conventional voltage measuring equipment. Follow the manufacturer's directions for the meter that is used. Test with a suitable sensing device, made for use with separable connectors manufactured with capacitive test points, to determine if cable is energized. Contamination, moisture, dirt, etc. around the test point or use of the wrong measuring equipment can provide a false "no voltage" indication on an energized elbow. To prevent serious or fatal injury treat the elbow as energized until the "no voltage" test point indication is confirmed by other means.
3. After voltage detection has been made, clean and lubricate the inside surface of the cap with silicone grease and replace it on the test point.