

Installation Instructions: K655RLR

CONTENTS: Elbow, Cable Adapter, Compression Connector, Insulating Plug, Receptacle, Test Point Cap, "I" Adapter, Bolt & Washer Prepack, Retaining Ring, Lubricant, Crimp Chart, Installation Instructions.

The K655RLR connector is designed to provide a fully shielded connection to high voltage apparatus where cable length is not long enough to use conventional elbow kits. The connector is rated for use up thru 28kV class systems.

DANGER

All apparatus must be de-energized during installation or removal of part(s).

Do not touch or move energized products in the work area.

These instructions do not attempt to provide for every possible contingency.

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

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.

All apparatus must be installed and operated in accordance with individual user, local and national work rules and electrical standards.

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.

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.

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

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

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

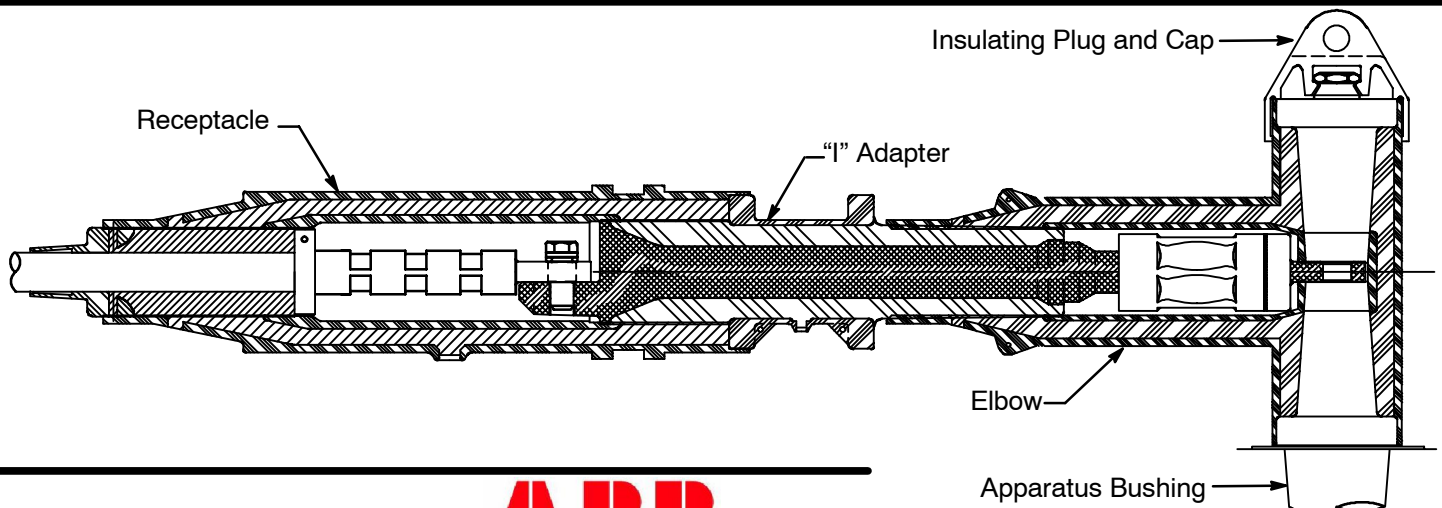
Limited Warranty:

1. ABB Installation Products Inc. warrants that its products will be free from defects in materials or workmanship for a period of two (2) years, except for tools which are warranted separately (see warranty accompanying those products). Fisher Pierce® products and Elastimold® Reclosers 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, ABB Installation Products Inc. will, at its option, repair or replace the defective product.
2. In no event shall ABB Installation Products Inc. be liable for any consequential, indirect or special damages, nor will ABB Installation Products Inc. 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 ABB Installation Products Inc. 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 ANY 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.



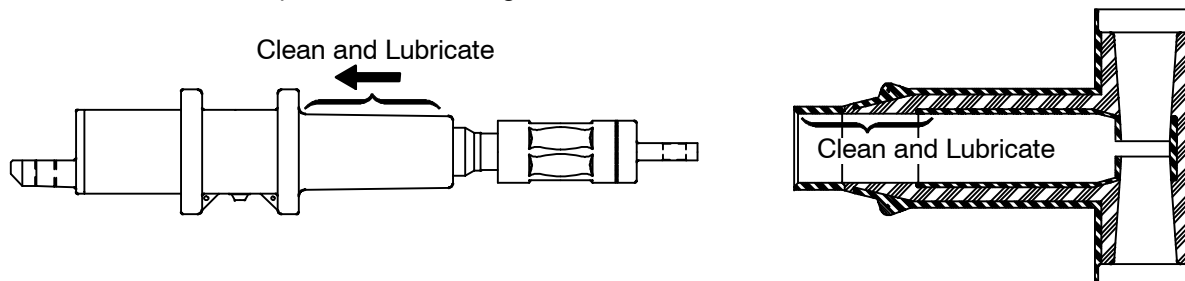
NEW INSTALLATION OF REPLACEMENT ELBOW HOUSING AND COMPRESSION LUG

DANGER: ALL APPARATUS MUST BE DE-ENERGIZED DURING INSTALLATION OR REMOVAL OF PART(S).

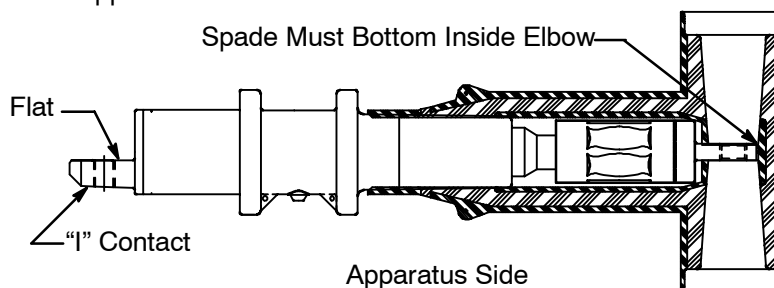
STEP 1

1. Remove the protective caps from the elbow.
2. Clean and lubricate "I" adapter and inside of elbow as shown with the lubricant supplied or Elastimold approved lubricant. DO NOT SUBSTITUTE. Other lubricants may be harmful to this product or its mating product.

IMPORTANT: Clean "I" adapter surface starting at contact and end at conductive surface as shown.



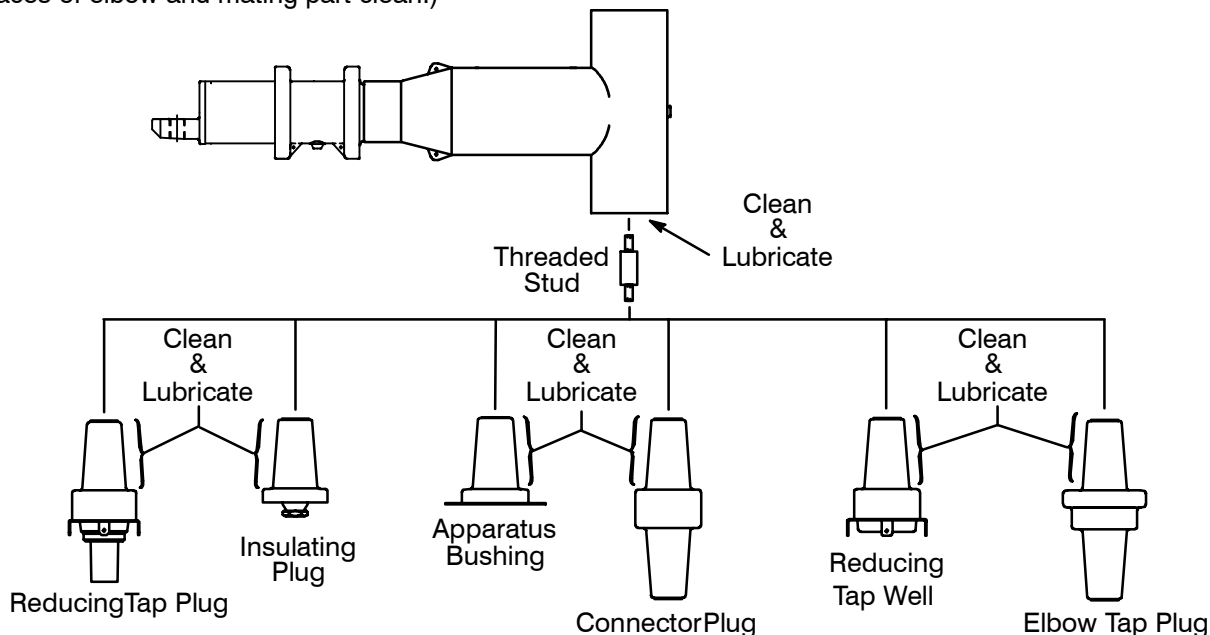
Assemble the "I" adapter into the elbow until the spade contact bottoms inside the elbow. Make sure the flat side of the "I" contact is facing away from the apparatus.



STEP 2 MATING PRODUCTS

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

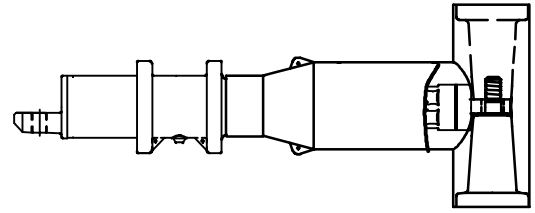
Remove protective caps from the elbow and the mating part. Hand tighten the threaded stud supplied with the elbow into mating part, if the mating part is not equipped with a stud. Clean and lubricate both the elbow and the mating part with lubricant supplied. (Keep surfaces of elbow and mating part clean.)



STEP 3

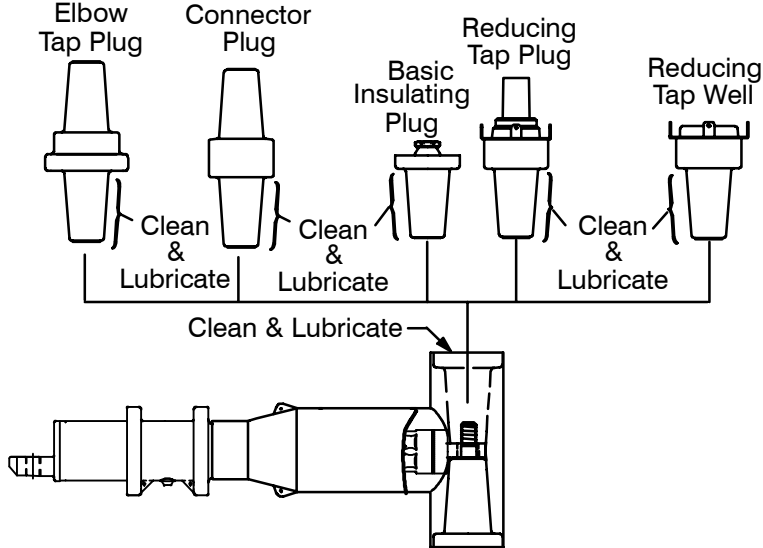
IMPORTANT: Position elbow so that the flat side on the “I” contact is facing away from the apparatus.

Push elbow onto mating part, lining up the hole in the “I” adapter lug with the stud on the mating part.



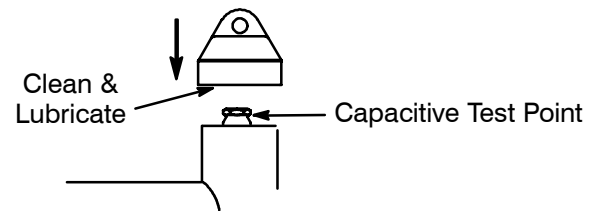
STEP 4

Clean and lubricate the mating part for the opposite end of the elbow. Insert the mating part into the elbow. Engage the threads and hand tighten. Torque mating part according to the instructions supplied with the mating part.



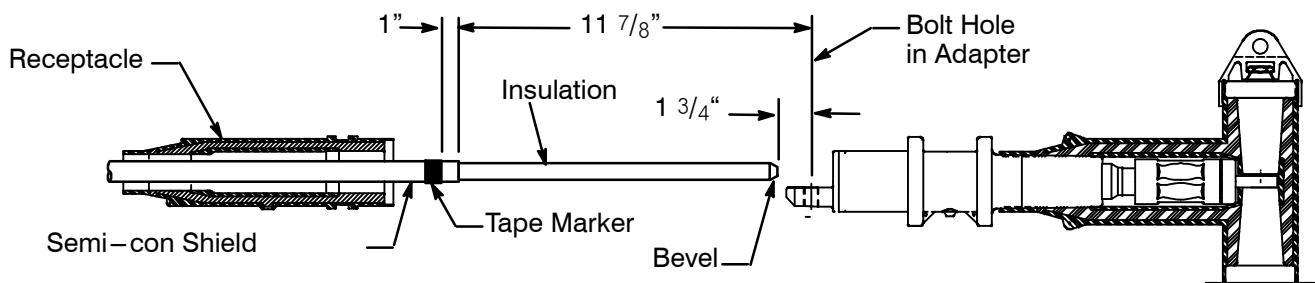
STEP 5

If an insulating plug is used as a mating part, clean and lubricate inner surface of the voltage detection cap and place on elbow. Push down hard until cap snaps into place. Follow voltage test directions below. When using the capacitive test point for voltage detection, follow the voltage test directions at the end of these instructions.



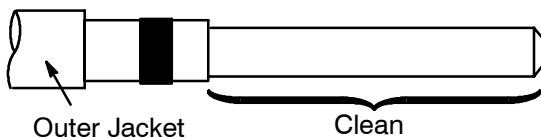
STEP 6

1. Slide receptacle housing onto the cable.
2. Holding cable in place, cut the cable $1 \frac{3}{4}$ " from the center of the bolt hole in the “I” adapter.
3. Remove the Semi-con Shield $11 \frac{7}{8}$ " from the center of the bolt hole in the adapter.
4. If shield dimension exceeds $11 \frac{7}{8}$ " restore semi-con shield using a semi-con sleeve. Sleeve not supplied.
5. At a point 1" from the end of the semi-con shield wrap two turns of tape to serve as a marker.
6. Bevel the end of the insulation at a 45° angle approximately $\frac{1}{4}$ " back.



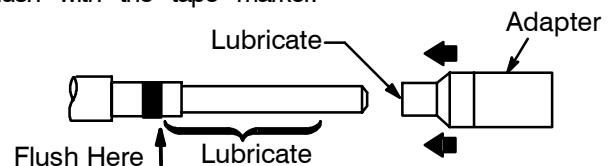
STEP 7

Thoroughly clean the insulation to remove all traces of semi-conducting residue. This may be done by wiping with a rag soaked with an approved safety solvent. Always wipe from the end of the cable toward the outer jacket.



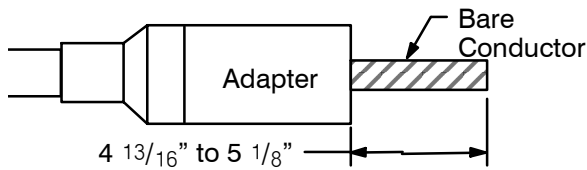
STEP 8

Apply supplied lubricant or ELASTIMOLD approved lubricant sparingly along cable as shown. Lubricate the inside of the cable adapter. Slide the adapter, small end first, over the cable with a twisting motion until the end of the adapter is flush with the tape marker.



STEP 9

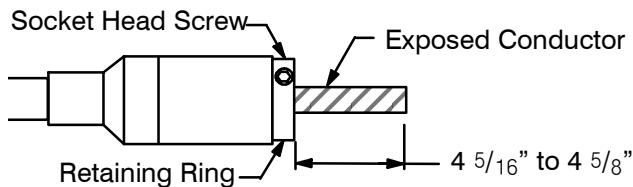
Remove the protruding cable insulation by cutting it even with the end of the cable adapter. Do not cut or nick the cable adapter or the conductor. The length of exposed conductor should be between $4 \frac{13}{16}$ " to $5 \frac{1}{8}$ ". Otherwise redo assembly.



STEP 10

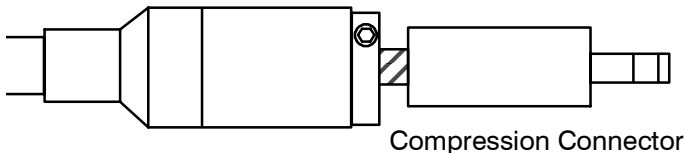
Assemble aluminum retaining ring over conductor and snug firmly against cable adapter. Using the hex wrench provided tighten the socket head screw until the wrench twists. Wrench will twist before rings are damaged.

As a check, measure the exposed conductor. It should be in the range of $4 \frac{5}{16}$ " to $4 \frac{5}{8}$ ".



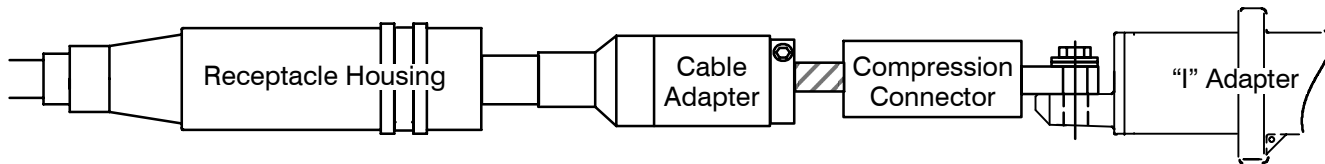
STEP 11

Remove the protective cap from the compression connector. If using aluminum cable, wire brush the conductor and immediately insert into the crimp connector which contains inhibitor. Make sure conductor is full inserted into the crimp barrel.



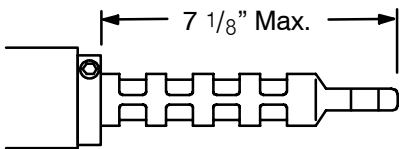
STEP 12

As a final check prior to crimping the crimp connector, bolt the crimp connector onto the "I" Adapter and tighten to 25 ft/lbs., All components on all cables should be positioned as shown. Properly train the cable into final position and mark the alignment points on the retaining ring and the outside surface of the crimp connector.



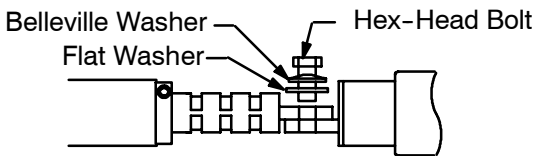
STEP 13

Remove the bolted contact from the "I" Adapter and align the marks on the retaining ring and the crimp connector to confirm proper orientation of the crimp connector to the conductor. Crimp the connectors following the instructions packaged with the connectors. Rotate each crimp 90° or 180° . After crimping, measure the distance from the end of the connector to the holding collar. If the distance is over $7 \frac{1}{8}$ ", do not proceed. Recheck all previous work.



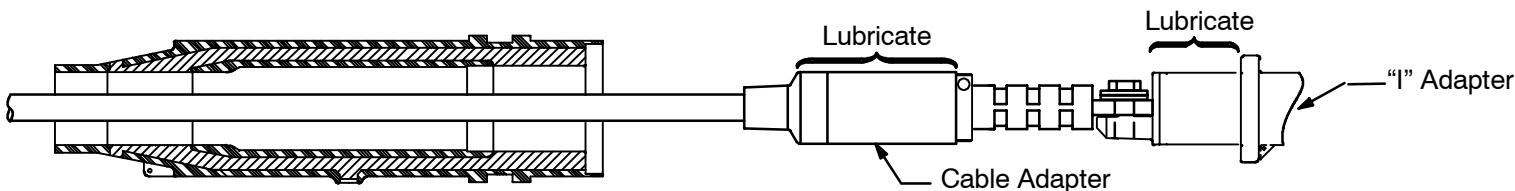
STEP 14

The flat surface of the "I" Adapter must align with the flat surface on the crimp connector with no gaps. Assemble the washers and bolt as indicated. The flat washer should be against the spade contact, then the Belleville washer (concave side down), then the hex-head bolt. Hand tighten the bolt. The splice and cables are now in their final positions. Do not attempt to move or reposition any part of the assembly after the bolt is tightened. Using a Torque wrench with a $\frac{15}{16}$ " socket, tighten the bolt to 50 to 60 ft.-lbs.



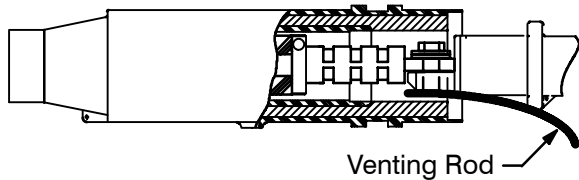
STEP 15

Clean and lubricate the outside of the cable adapter and the "I" adapter with the lubricant supplied or ELASTIMOLD approved lubricant.



STEP 16

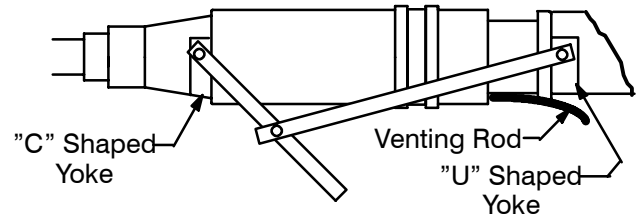
Slide the receptacle housing over the cable adapter and up to the position shown. Insert the nylon venting rod (supplied).



STEP 16A

USING THE 650ATY ASSEMBLY TOOL

Attach the 650ATY assembly tool as shown. Make sure "U" shaped yoke is over the "I" Adapter section and the "C" shaped yoke is over the receptacle housing. With the assembly tool in place, slowly raise the handle to slide the receptacle housing over the splice section. Remove the vent rod.

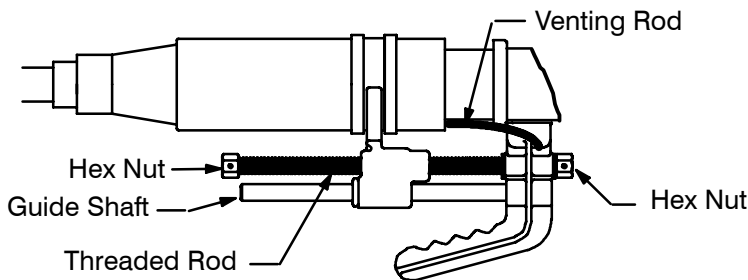


STEP 16B

USING THE 600RRT ASSEMBLY TOOL

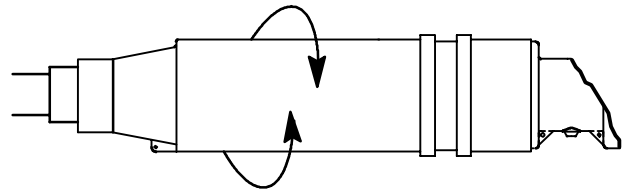
Place the 600RRT assembly tool as shown.

WARNING: TO PREVENT INJURY DO NOT PLACE HAND ON THREADED ROD OR GUIDE SHAFT WHEN OPERATING THE TOOL. Slide the receptacle housing over the splice section by turning the hex nut on either end of the tool. Remove the vent rod.



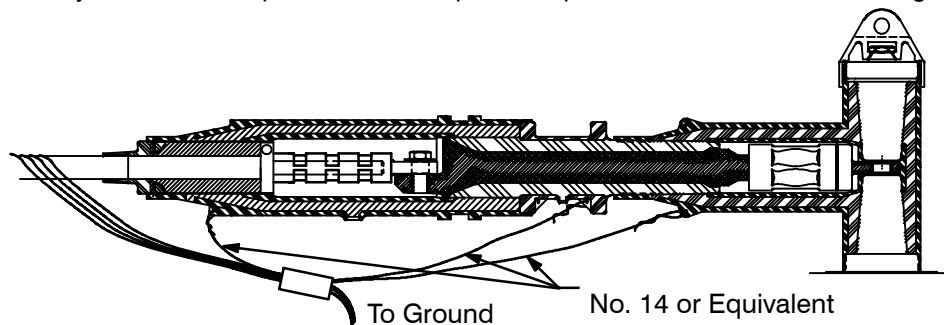
STEP 17

Remove assembly tool and with your hands, rotate the receptacle approximately 1/8" revolution clockwise then back 1/8" revolution counterclockwise to ensure the receptacle is seated.



STEP 18 - GROUNDING FOR CONCENTRIC NEUTRAL CABLE

1. Connect a short length of wire (No 14 AWG, copper or equivalent) to the grounding eyes of the housings. Make a small loop and twist tightly, taking care not to damage the eye. Gather together concentric neutral wires. Using suitable connectors, connect the neutral wires and grounding wires together.
2. The metallic shield of the cable must be grounded using standard utilities' practices. If the cable is jacketed it is recommended that the jacket be waterproofed at this point to prevent moisture from entering under the cable jacket.



VOLTAGE TEST

The ELASTIMOLD product is available 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. Using a suitable sensing device, proceed to determine if cable is energized. **DO NOT USE CONVENTIONAL VOLTAGE MEASURING EQUIPMENT.**
WARNING: THE VOLTAGE TEST POINT IS A CAPACITANCE DEVICE, IT IS NOT DIRECTLY CONNECTED TO THE CONDUCTOR. 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.