

Installation Instructions: M656/M676 CY, CH, I-RR

CONTENTS: *Receptacle housings; Cable adapters; I, Wye or H Center sections; Retaining ring; Hex-head bolts; Crimp connectors; Belleville washers; Flat washers; Hex wrench; Nylon venting rod; Lubricant; Hose clamps; Installation instructions.*

The M656CY and M676CY three way splices, the M656CH and M676CH four way splices and the M656I and K676I two way splices are designed to splice and tap solid dielectric type cables rated for 600 ampere at 35kV.

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.

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

These instructions illustrate the installation of one leg of the "I", "Y" or "H" connector. A complete installation requires repeating the instructions for the total number of cables required (two for the "I", three for the "Y" and four for the "H").

These instructions are applicable to concentric neutral cables and flat metallic shielded cable with semi-con shield. For installation on other cable constructions call the nearest Elastimold office.

Limited Warranty:

1. T&B 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, T&B will, at its option, repair or replace the defective product.
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 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.
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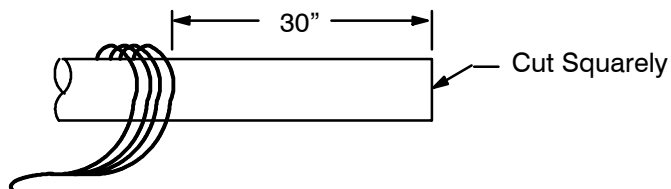
Thomas & Betts
A Member of the ABB Group

GENERAL INSTRUCTIONS

STEP 1

Train the cable ends and straighten them into their final position with respect to the interface. Unwrap the outer wires a distance of 30". **DO NOT CUT OFF OUTER WIRES.** Bend and fold back out of the way.

IMPORTANT: To ensure maximum available length for crimp growth, cut cable end squarely.

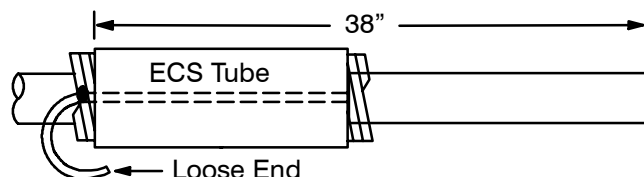


STEP 2

Wipe the outer jacket clean a distance of 38" (30" for concentric neutral cable).

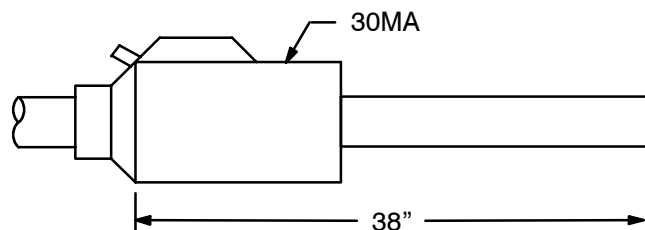
STEP 3

If an ECS grounding device is being used. Slide the tube on to the cable a distance of 38".



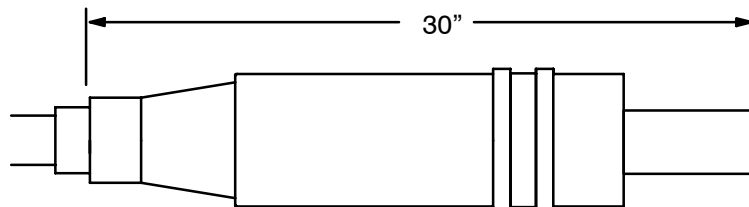
STEP 4

If a 30MA grounding device is being used, apply supplied lubricant or ELASTIMOLD approved lubricant to the inside of the device. **DO NOT SUBSTITUTE.** Other lubricants may be harmful to this product or its mating product. Slide the grounding device on to the cable a distance of 38".



STEP 5

Slide receptacle housing onto the cable a distance of 30".



STEP 6

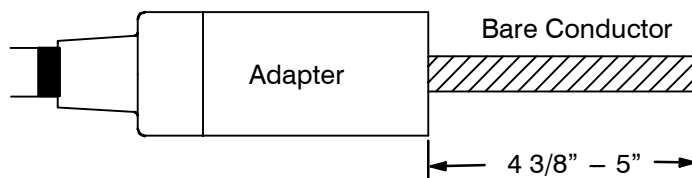
REFER TO THE SPECIAL CABLE PREPARATION SUPPLEMENT INCLUDED WITH THESE INSTRUCTIONS AND FOLLOW THE PROCEDURE FOR THE TYPE OF CABLE BEING USED.

PART A - Concentric Neutral Cable (page 6)

PART B - Flat Metallic Tape Shielded Cable with Semi-con Shield (page 7)

STEP 7

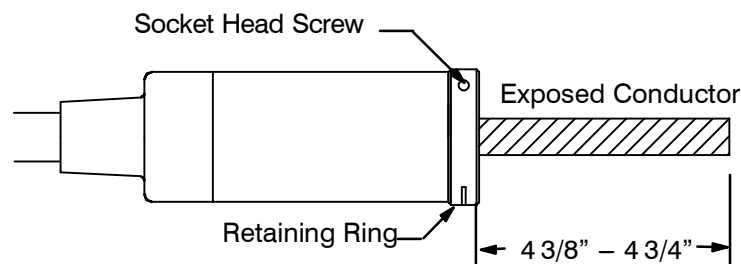
Remove protruding cable insulation by cutting it even with the end of the cable adapter. Do not cut or nick the cable adapter or the conductor. The length of exposed conductor should be $4 \frac{3}{8}$ - 5". Otherwise redo assembly.



STEP 8

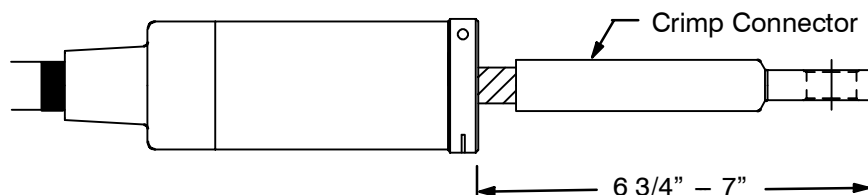
Assemble aluminum retaining ring over conductor and snug firmly against cable adapter. Using the hex wrench provided, tighten the socket head screw hand tight.

Confirm the exposed conductor measures $4\frac{3}{8}"$ to $4\frac{3}{4}"$. Otherwise redo assembly.



STEP 9

Remove the protective cap from the crimp connector. If using aluminum cable, wire brush the conductor and immediately fully insert into the crimp connector which contains inhibitor. Measure the distance from the end of the connector to the holding collar. If the distance is over 7" (17.8cm), do not proceed. Redo all previous work.

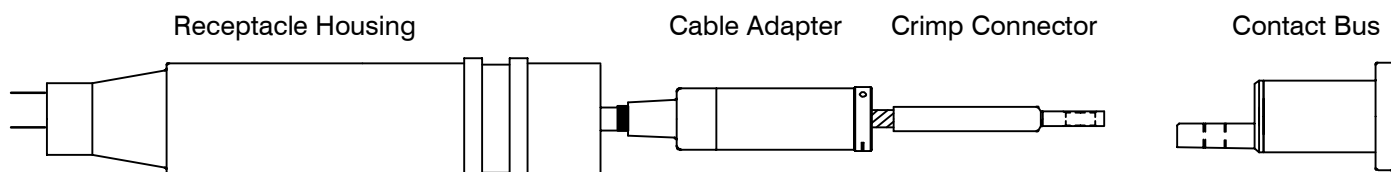


STEP 10

Repeat Steps 6 (page 2) through 9 for the remaining cables to be joined.

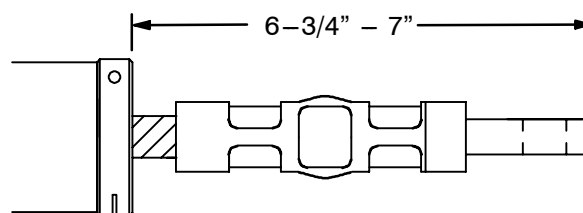
STEP 11

Prior to crimping connector, confirm components are positioned as shown below. CONFIRM BOLT HOLES IN THE CRIMP CONNECTORS ARE POSITIONED PROPERLY TO ALIGN WITH THE BOLT HOLES of the mating part.



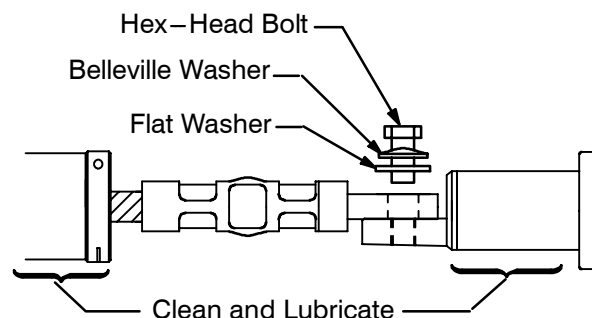
STEP 12

Crimp the connectors following the instructions packaged with the connectors. *Rotate each crimp 90 degree. After crimping, measure the distance from the end of the connector to the holding collar. If the distance is over 7" (17.8cm) do not proceed. Redo all previous work.*



STEP 13

Assemble the washers and bolt in the following order: flat washer against spade contact, Belleville washer (concave side down), hex-head bolt. Hand tighten. The splice and cables are now in their final positions. *Do not attempt to move or reposition any part of the assembly after the bolts are tightened.*



STEP 14

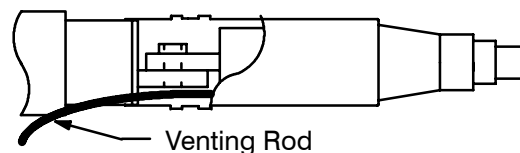
Using a torque wrench with a 15/16" socket, tighten all bolts to 50 to 60 ft. lbs.

STEP 15

Apply supplied lubricant or ELASTIMOLD approved lubricant generously to the outside of the cable adapter, the area of the splice section as shown in step 13 and the inside mating surface of the receptacle housing. **DO NOT SUBSTITUTE.** Other lubricants may be harmful to this product or its mating product.

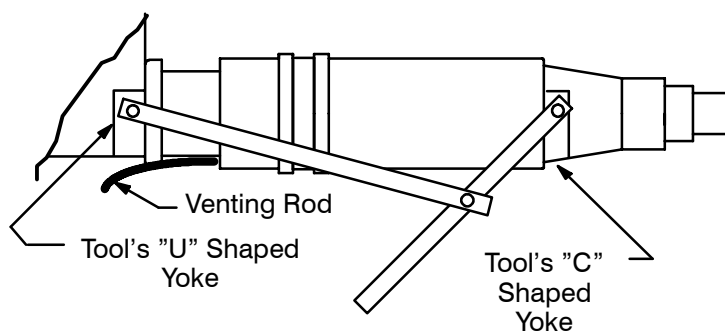
STEP 16

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



STEP 17A - USING THE 650ATY ASSEMBLY TOOL

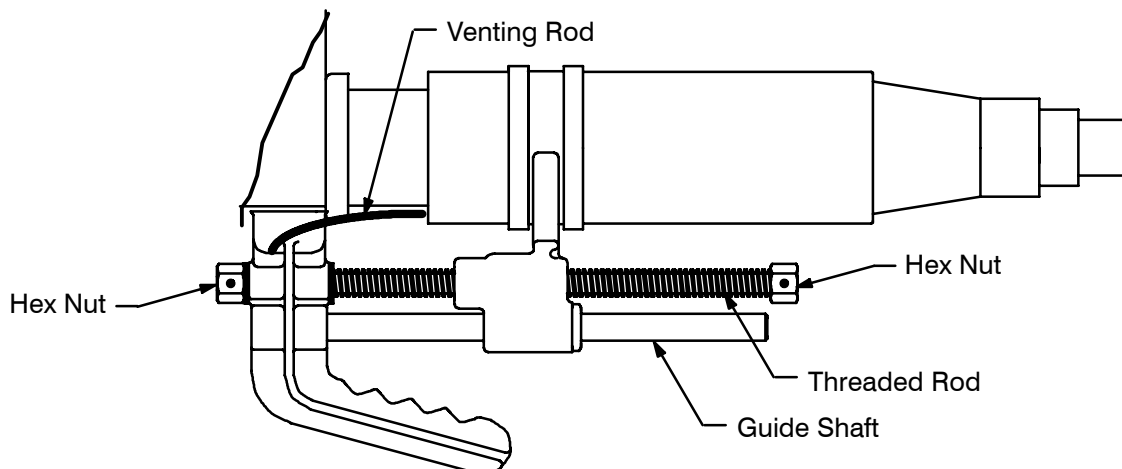
Attach the 650ATY assembly tool as shown. Make sure "U" shaped yoke is over the splice section and the "C" shaped yoke is over the receptacle housing. With the assembly tool in place, slowly raise the handle to slide the receptacle housing over the splice section. Remove the venting rod.



STEP 17B - USING THE 600RRT ASSEMBLY TOOL

Attach the 600RRT assembly tool as shown. Slide the receptacle housing over the interface by turning the hex nut on either nut of the tool. Remove the venting rod.

WARNING: DO NOT place hand on threaded rod or guide shaft with the assembly tool in place.



STEP 18

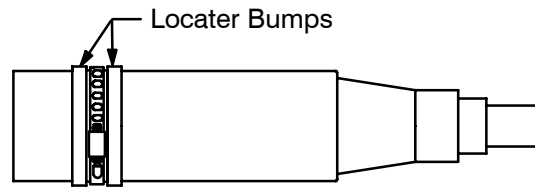
Repeat Steps 15 through 17 for the remaining cables.

STEP 19

Check all cable adapters to make sure they are located properly and remove all vinyl tape markers.

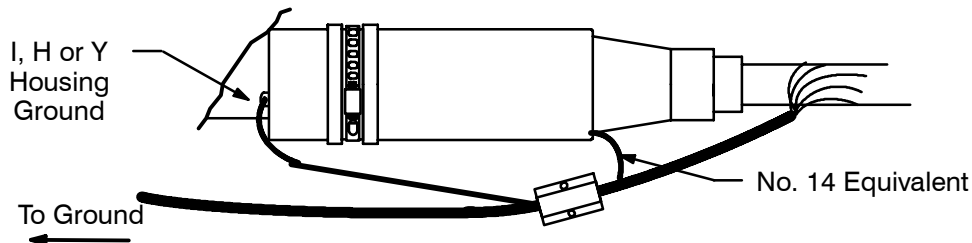
STEP 20

Position hose clamp between locator bumps on receptacle housing. Tighten clamp until an audible click.



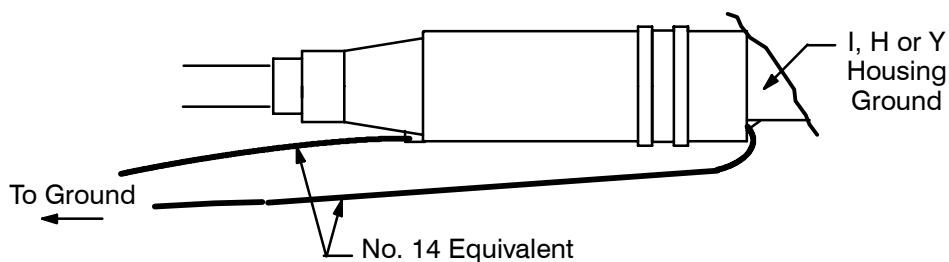
STEP 21 - Grounding for Concentric Neutral Cable

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 utility practice. For jacketed cable, waterproof jacket to prevent moisture from entering under the cable jacket.



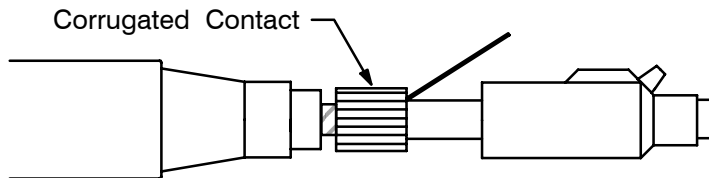
STEP 22 - Grounding with ECS

1. Complete installation of ECS grounding device according to the instructions included with the grounding device.
2. 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.

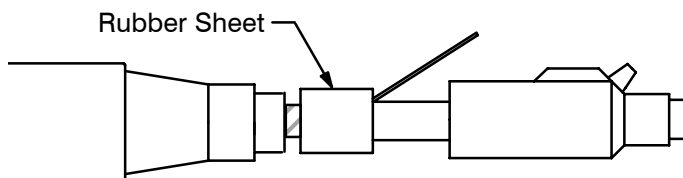


STEP 23 - Grounding Flat metallic Tape Shield Cable with a 30MA

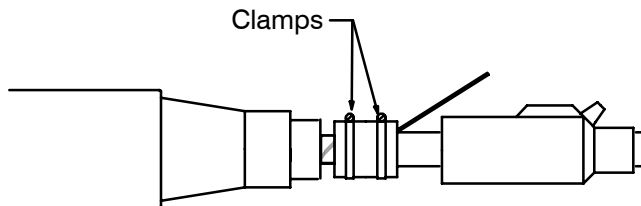
- A. Remove wooden plug from 30MA corrugated contact. Wrap it over the exposed metallic tape making sure the contact butts up against the cut end of the outer jacket. The ground lead must face away from the 600 amp product.



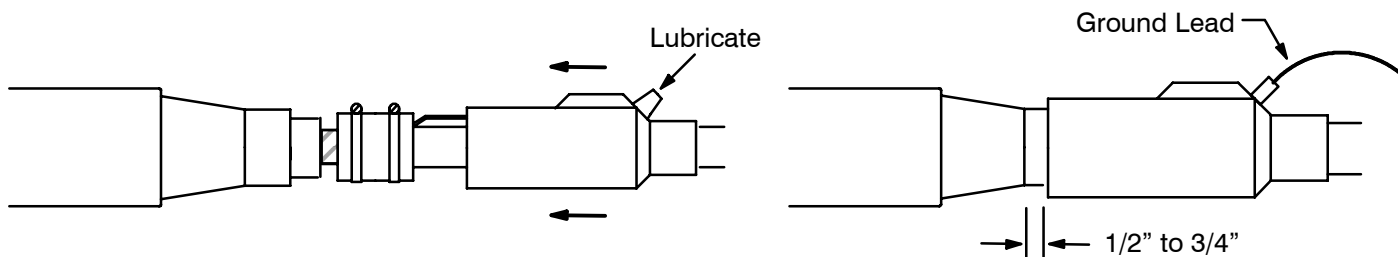
- B. Cut the rubber sheet (supplied with 30MA kit) to the length of the insulation diameter, and wrap it over the corrugated contact.



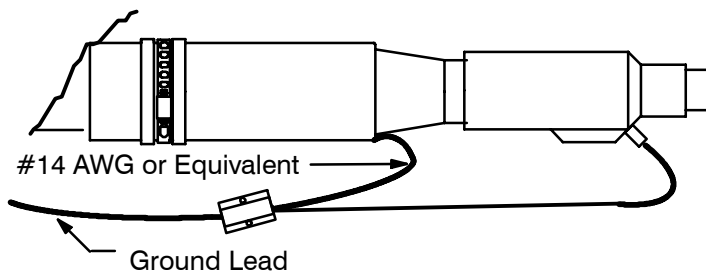
- C. Place the clamps (one for sizes GB to HA; two for sizes HAB to PA), over the rubber sheet and tighten to ensure they will stay in place. Continue to tighten the clamps in stages so that the corrugated contact is tight against the metallic tape but not under excessive pressure. Between stages, test the tightness by rotating the assembly back and forth approximately 1/8" turn. Tighten until a drag is felt. **Do not overtighten.**



- D. Lubricate the small hole in the 30MA housing and slide the housing over the corrugated contact making sure the ground lead goes through the small hole. The 30MA housing should be within 1/2" to 3/4" of the taper on the 600amp product.



- E. Connect a short length of wire (No. 14 AWG, copper or equivalent) to the grounding eyes of housings and the eye of the splice section. 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 and grounding wires together.



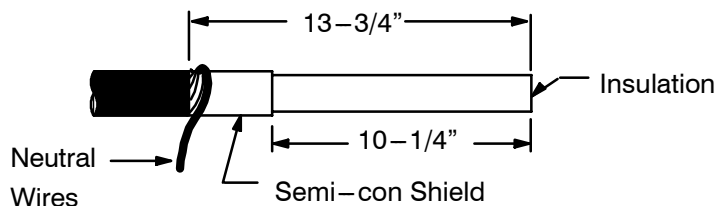
PART A

The jacket removed and neutral wire bending distances are required if a 200 or 600 ECS kit is being installed. If a different grounding device is to be used, jacket removal and neutral wire training may be different. Refer to instructions packaged with that grounding kit.

Jacketed Concentric Neutral Cable

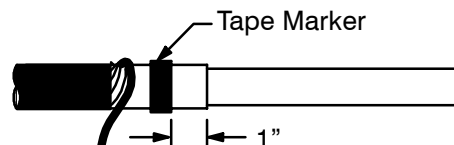
STEP 1

From the end of the cable, measure 13-3/4" and remove the cable jacket to that point with a straight smooth cut. Take care not to damage the neutral wires. Bend the neutral wires back and out of the way. From the end of the cable, measure 10-1/4" and remove the semi-con from the insulation with a straight, smooth, "squared" cut. *Take care not to cut or nick the insulation.*



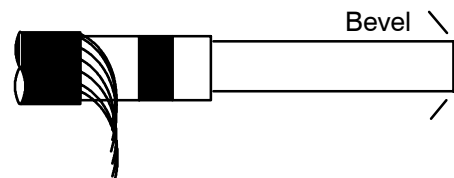
STEP 2

At a point 1" from the end of the semi-con shield wrap two turns of tape to serve as a marker.



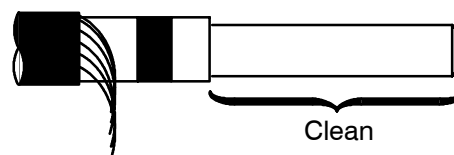
STEP 3

Bevel the end of the insulation at a 45 degree angle, approximately 1/4" back.



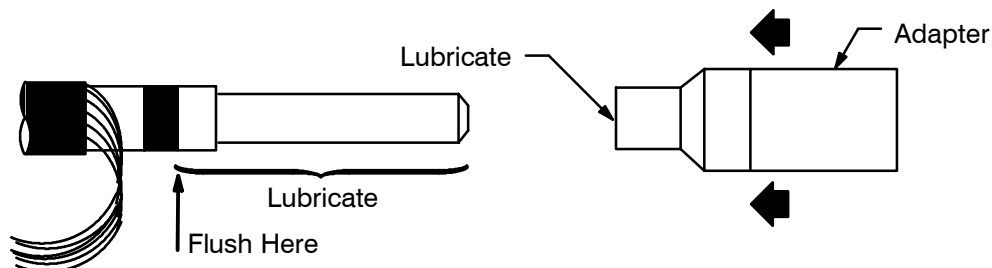
STEP 4

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 5

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 6

- A. Remove tape marker.
- B. Return to Steps 7 (page 2) through 23 of the General Instructions.

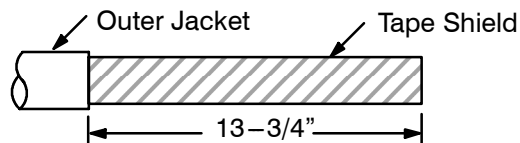
PART B

The jacket and tape shield removal distances are required if a 200 or 600 ECS-G3 kit is being installed. If a different grounding kit is being used, jacket and tape shield removal may be different. Refer to instructions packaged with that grounding kit.

Flat Metallic Tape Shielded Cable with Semi-con Shield

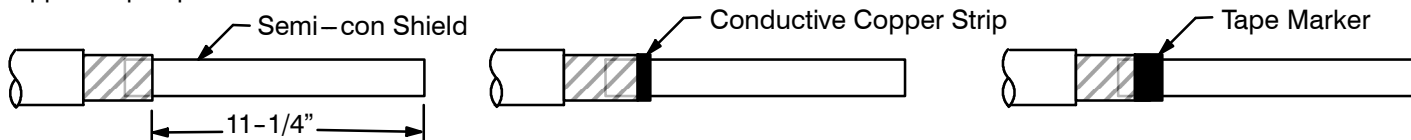
STEP 1

From the end of the cable measure 13-3/4" and remove the outer jacket to that point with a straight, smooth "squared" cut. *Take care not to cut or damage the tape shield.*



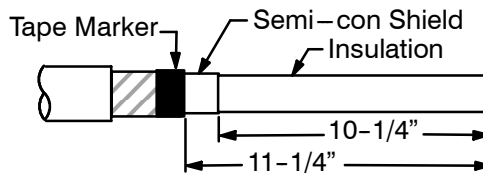
STEP 2

Measure 11-1/4" and remove the tape shield to that point. Wrap conductive copper strip around the edge to keep the copper tape shield in place. Wrap two turns of tape over the end of the tape shield and conductive copper strip, with the edge of the tape 11-1/4" from the end of the outer jacket. The tape serves as an extra support to keep the tape shield and conductive copper strip in place and also serves as a marker.



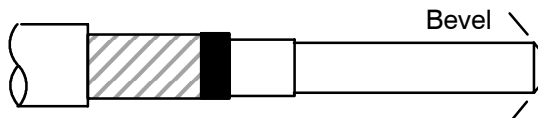
STEP 3

Measure 10-1/4" and remove the semi-con shield to that point with a straight, smooth, "squared" cut. *Take care not to cut or nick the insulation.*



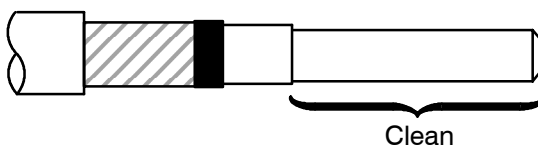
STEP 4

Bevel the end of the insulation at a 45 degree angle, approximately 1/4" back.



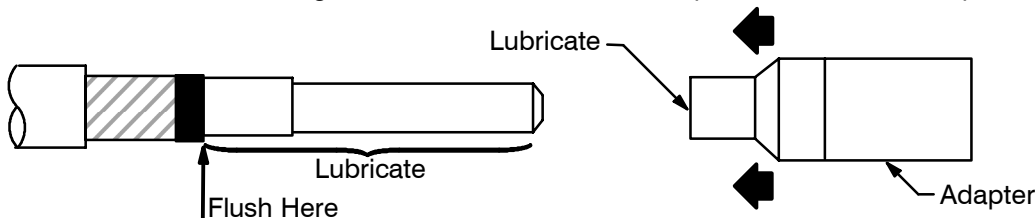
STEP 5

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 6

Apply supplied lubricant or ELASTIMOLD approved lubricant sparingly along cable as shown. Lubricate the inside of the cable adapter. DO NOT SUBSTITUTE. Other lubricants may be harmful to this product or its mating product. 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 7

Return to Steps 7 (page 2) through 23 of the General Instructions.

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