UNDERGROUND CABLE TERMINATION 42

INSTRUCTIONS

1. Train the cable into position and cut to required length. For all installations allow sufficient neutral wire length beyond the finished cable end for proper grounding connection.

2. Prepare the cable using the dimensions shown in Figure 1. Be sure to check the lug or pin terminal connector being used to determine the insert depth "X". Provide an additional 1/4" of exposed conductor to allow for growth of the aluminum lug or connector during crimping.

   All measurements should be made from the jacket cutback.

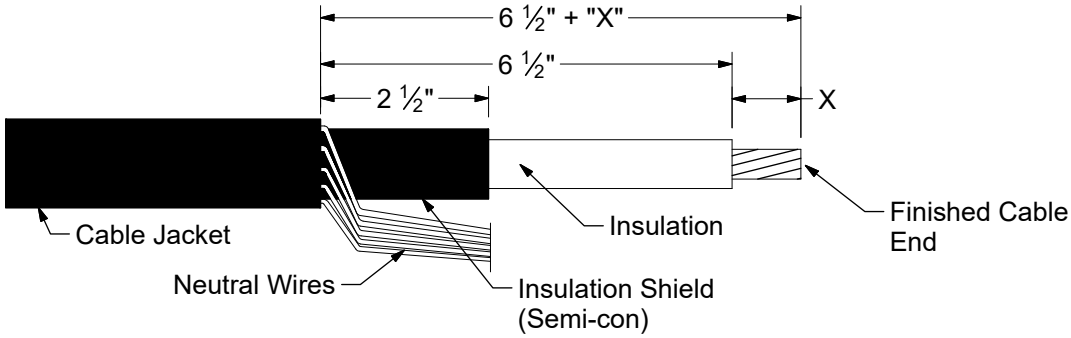

Figure 1

3. Select one of the mastic strips from the kit and remove the white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4" from the edge. Cut off excess mastic. See Figure 2.

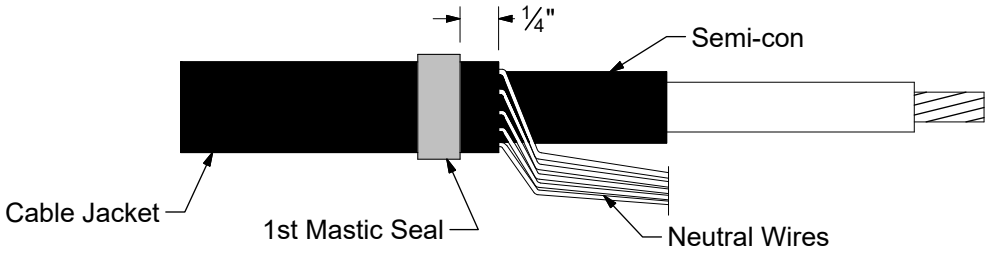

Figure 2

4. Bend neutral wires back over applied mastic, secure the wires to the cable jacket with vinyl tape. The tape should be placed a distance of 4-1/2" from the edge of the semi-con. See Figure 3. NOTE: The vinyl tape serves as a marker tape, so position carefully.

5. Select a second mastic strip from the kit and remove the white release liners. Apply a second single wrap of mastic over the neutral wires and the previously applied mastic. Cut off excess. See Figure 3.

6. Compress the neutral wires into the mastic. Over-wrap the mastic strips with two highly stretched layers of vinyl tape. Be sure that all exposed mastic is covered. See Figure 3.

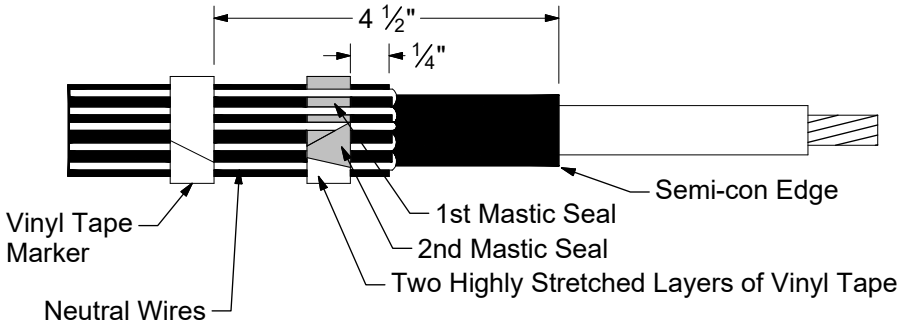

Figure 3

7. Clean the cable insulation.

8. Remove the red support core from the terminator and slide the terminator onto the cable. The terminator must be positioned beyond the exposed conductor to allow installation of the lug or pin connector. See Figure 4.

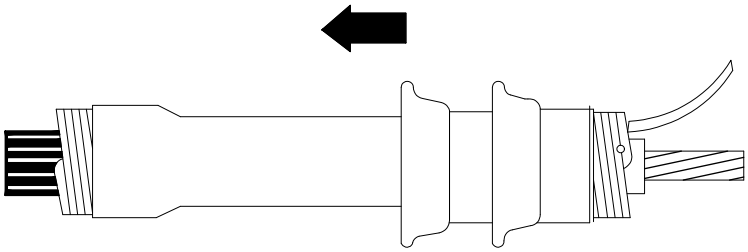

Figure 4

9. Install either the lug or pin terminal connector using the Y-35 tool with a U25ART die for #2 or 1/0 and a U249 or U28ART die for 4/0. Crimp as many times as possible without overlap. Remove excess oxide inhibitor and sharp crimp flashing. See Figure 5.

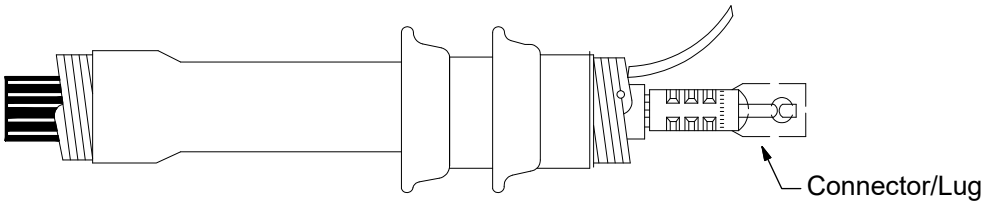

Figure 5

10. Re-position the terminator body on the cable and remove the core. Make sure the terminator body (not the core) is butted up to the edge of the vinyl marker tape. While removing the core, unwind it in a counter-clockwise direction. See Figure 6.

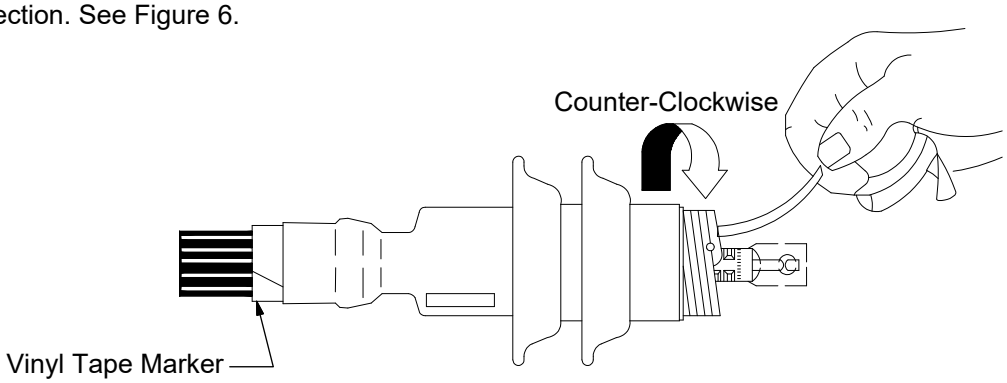

Figure 6

Once the terminator has made contact over the mastic seal area, there is no need to continue supporting the assembly. Do not push or pull on the terminator while unwinding the core.

11. When using a short barrel lug/connector on small cable, it may be necessary to trim excess terminator insulation from the lug or connector.

12. Collect all neutral wires together and connect to system ground. See Figure 7.

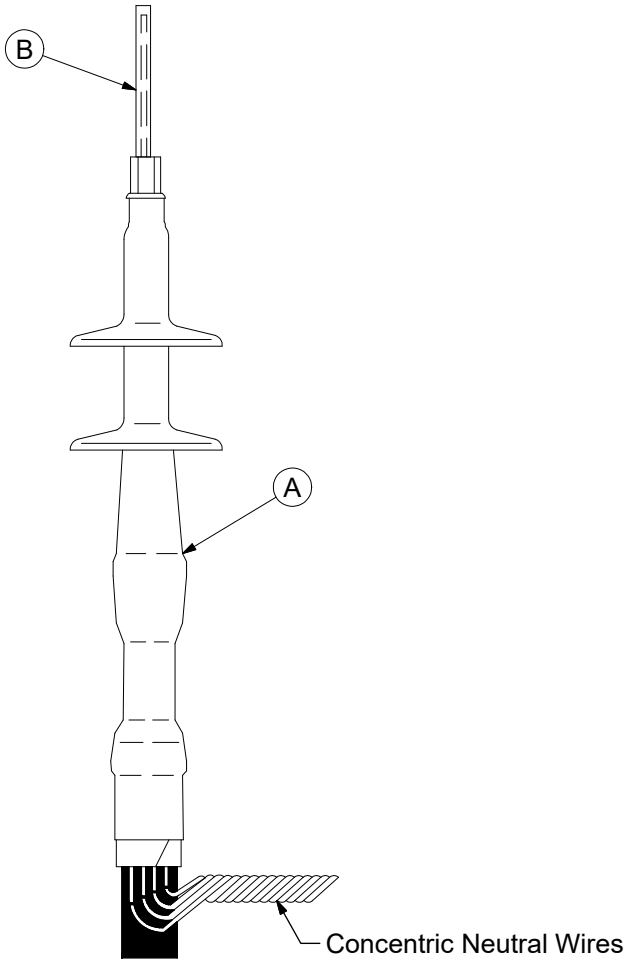

Figure 7

DCS #	CABLE SIZE	CONNECTION
42 34 59 01	#2 AWG	Pin Terminal
42 34 59 02	#2 AWG	2 Hole Lug
42 34 59 05	1/0 AWG	Pin Terminal
42 34 59 06	1/0 AWG	2 Hole Lug
42 34 59 03	4/0 AWG	Pin Terminal
42 34 59 04	4/0 AWG	2 Hole Lug

ITEM	STK / DCS #	DESCRIPTION 42 34 59 **	01	02	03	04	05	06
A	17 07 145	Termination, Cable, 15kV, Indoor or Outdoor, #2 − 4/0	1	1	1	1	1	1
B	17 54 232	Connector, Cable Pin Terminal #2	1	-	-	-	-	-
	17 55 257	Lug, Compression, #2	-	1	-	-	-	-
	17 54 357	Connector, Cable Pin Terminal 1/0	-	-	-	-	1	-
	17 55 456	Lug, Compression 1/0	-	-	-	-	-	1
	17 54 233	Connector, Cable Pin Terminal 4/0	-	-	1	-	-	-
	17 55 256	Lug, Compression, 4/0	-	-	-	1	-	-

INSTRUCTIONS - Cable With Concentric Neutral Wires or Flat Strap Neutral

1. Train cable into position and cut to required length. Strip the cable to the dimensions shown in Figure 1. Check the lug being used to determine insert depth ”X”. Provide an additional 1/2” of exposed conductor on 500 kcmil and smaller cables and 3/4” of exposed conductor on 750 kcmil cables. This will accommodate growth during crimping of aluminum lugs. If a shearhead bolt lug is used, additional exposed conductor is not required.

2. Allow sufficient neutral wire length to make ground connections.

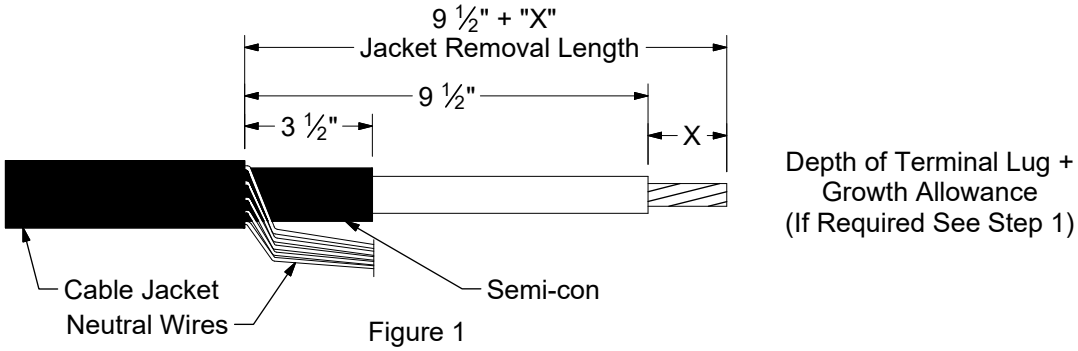

Figure 1

3. Select one of the two mastic strips from the kit and remove white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4” from the cut edge. Cut off excess mastic. See Figure 2.

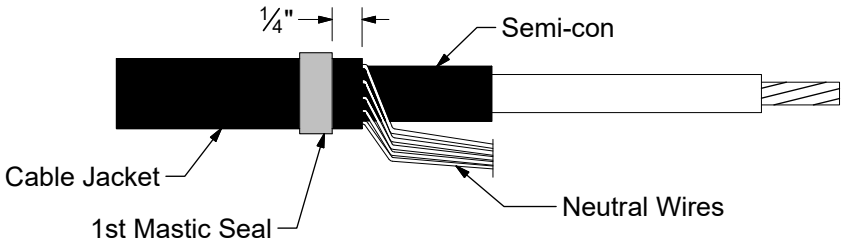

Figure 2

4. Bend neutral wires back over applied mastic and secure to cable jacket 4-1/2” from the edge of the semi-con. Use vinyl tape to secure the wires. This tape will also be used to position the terminator, so the location is critical. See Figure 3.

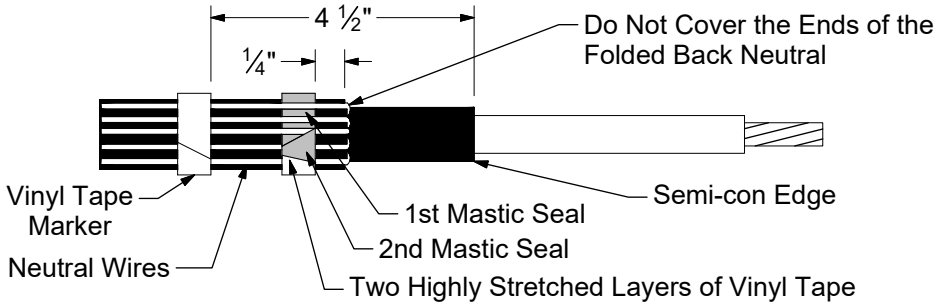

Figure 3

5. Select the second mastic strip from the kit and remove the white release liners. Apply a second mastic band over the neutral wires and the previously applied mastic strip. Cut off excess. See Figure 3. Compress the neutral wires into the mastic by over-wrapping the strips with two highly stretched layers of vinyl tape. Be sure to cover all exposed mastic. See Figure 3.

6. Remove the red support core from the terminator. Verify that the terminator body will fit over the lug being used. If the lug will not fit through the core, clean the insulation and slide the terminator onto the cable before installing the lug. Do not remove the core at this time.

7. Use a stainless steel wire brush to clean the exposed aluminum conductor. Position and install 750 kcmil copper lugs, using a L39RT die. For 750 kcmil aluminum lugs, use a U608 die. For 500 kcmil aluminum lugs, use a U34ART die. For 350 kcmil copper lugs, use a U31RT die. For1000 kcmil copper lugs, use a P44RT die. After the lug is installed remove excess oxide inhibitor and all sharp crimp flashing. The shearhead bolt lug (Stock #17 55 804) may be used instead of the 350 kcmil through 750 kcmil copper and aluminum compression lugs.

   Shearhead Bolt Lug Installation Instructions.

   A. Battery powered impact wrench with a 7/8" hexagonal socket should be used to install shearhead bolt lugs.

   B. Remove the insert from the lug body if the conductor to be installed is greater than 600 kcmil compact stranded.

   C. Back out all bolts to give clearance for the conductor - DO NOT completely remove the bolts from the connector body.

   D. Insert the cleaned conductor into the lug. There should be no gap between the insulation and lug body.

   E. Hand tighten the bolts to firmly grip the conductor. Use the tightening sequence shown in Figure 4 to tighten the bolts one-and-a-half turns. Bolts should remain un-sheared.

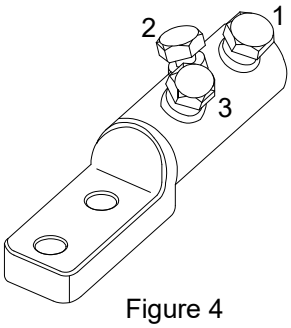

Figure 4

   F. Repeat the sequence in step “E” tightening each bolt until the head shears off. DO NOT bend the conductor while shearing the bolts.

   G. Smooth any sharp edges of protruding bolts with the abrasive provided. Clean the connector to remove particles and excess inhibitor.

8. Position the terminator body on the cable. The base of the terminator body (not the core), must be butted up to the edge of the vinyl marker tape. Remove the core while unwinding in a counterclockwise direction. Once the terminator body has made contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT push or pull the terminator while unwinding the core. See Figure 5.

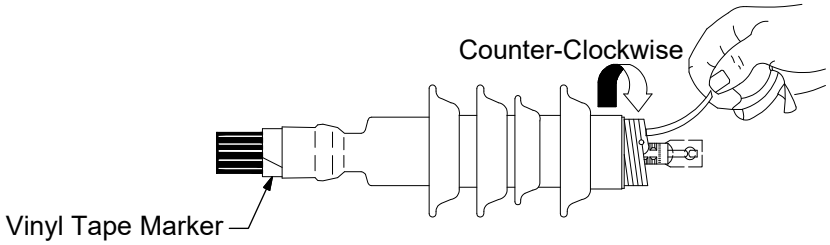

Figure 5

9. For outdoor installations, attach a bronze four bolt lug to the compression lug or shearhead bolt lug using a ground stud in the upper hole and a 1/2” x 2” bolt in the lower hole. See Figure 6.

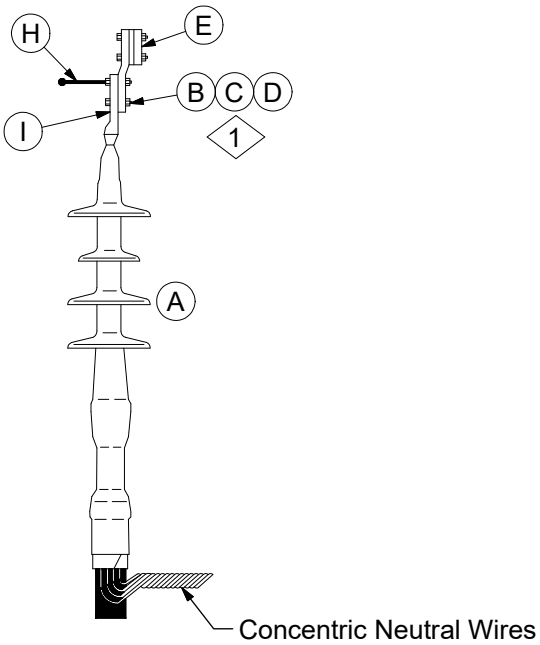

Figure 6

10. Collect all concentric neutral wires (straps) together and connect to system ground.

11. If a shearhead bolt lug is used, verify that the terminator body covers all bolt positions to prevent moisture ingress. If a bolt position is not covered with the termination body, cover the bolt position with mastic and silicone tape.

INSTRUCTIONS - Cables With Metallic Shields (LC (shown) or Tape)

1. Train cable into position and cut to required length. Strip the cable to the dimensions shown in Figure 1A. Check the lug being used to determine insert depth "X".

   A. Special shears (Stock #85 32 240) should be used to cut the LC shield.

   B. To prevent a taped shield from unrolling, hold down the edge with a single wrap of semi-conducting tape (Stock #25 53 076).

   C. Provide an additional 1/2" of exposed conductor on 500 kcmil aluminum cables and provide an additional 3/4" of exposed conductor on 750 kcmil aluminum cables to accommodate growth during crimping of aluminum lugs. If a shearhead bolt lug is used, additional exposed conductor is not required.

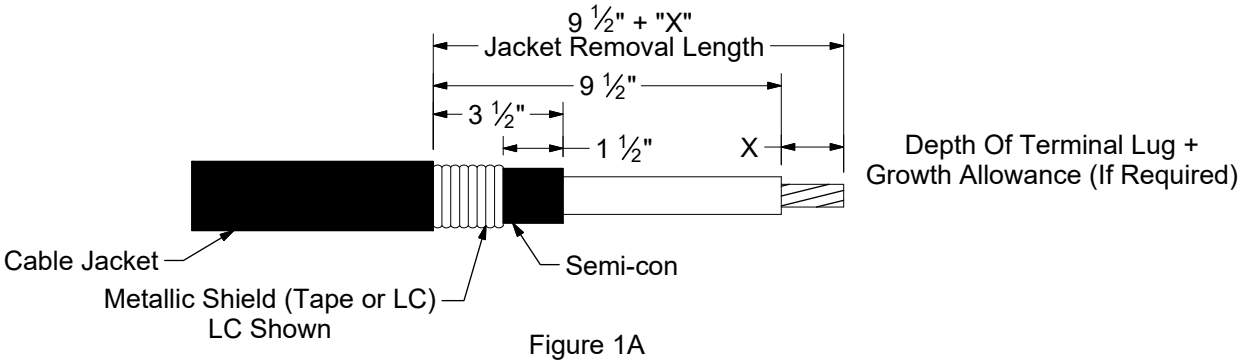

Figure 1A

2. Select one of the two mastic strips from the kit and remove white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4" from the cut edge. Cut off excess mastic. See Figure 2A.

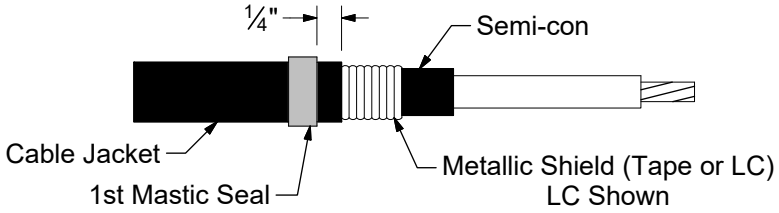

Figure 2A

3. Position a pre-formed ground braid (Stock #17 54 306) with the "U" section over the metallic shield directly adjacent to the cable jacket cut edge. Position one tail of the ground braid over the cable jacket with the heat-shrinkable covering in contact with the mastic strip. Secure the tail to the cable jacket 4-1/2" from the edge of the semi-con using vinyl tape. NOTE: Position the vinyl tape with care since it also serves as a marker for positioning the terminator. See Figure 3A.

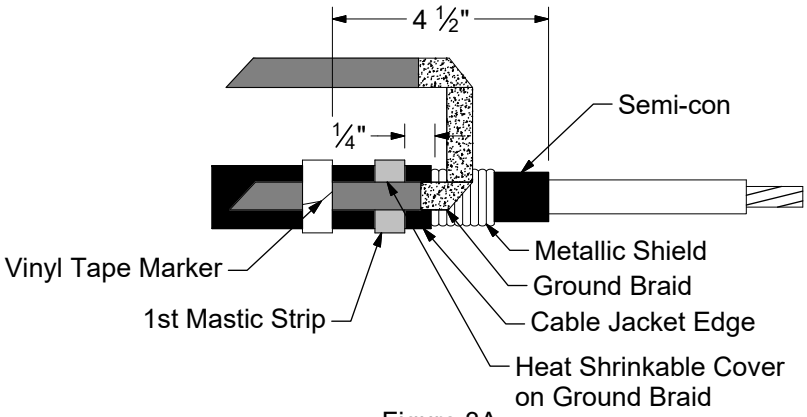

Figure 3A

REV	DATE	ENG	DESCRIPTION
10	01/01/22	EJB	Converted to new format
9	09/08/15	EJB	

4. Wrap the ground braid around the metallic shield and secure in place with the constant force spring. Tighten the spring after wrapping the final turn. Position the finish ground braid tail over the cable jacket. The finish tail of the ground braid does not have to be on top of the first tail. See Figure 4A.

5. Select the second mastic strip from the kit and remove the white release liners. Apply the second mastic strip over the previously applied mastic. If ground braids overlap on cable jacket be sure to apply mastic between the braids. Secure ground braids to cable jacket 4-1/2" from cable semi-con edge using vinyl tape. Apply tape directly over previously applied marker tape. See Figure 4A.

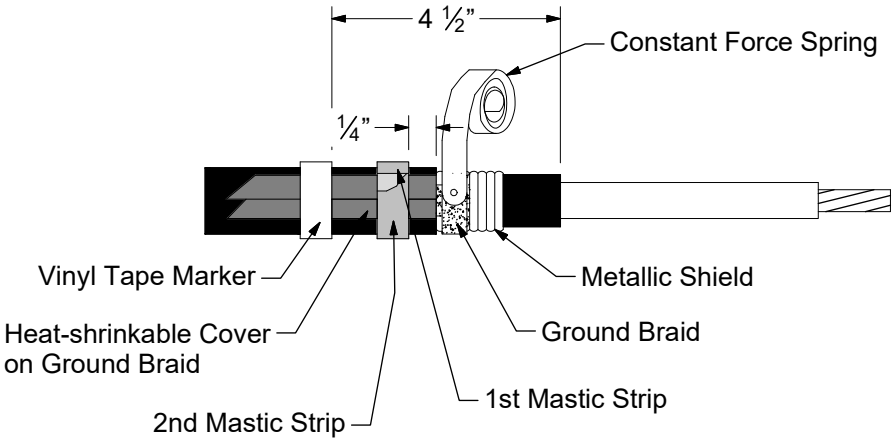

Figure 4A

6. Wrap two half-lapped layers of vinyl tape around the mastic seal. Apply two half-lapped layers of semi-conducting tape over the constant force spring, and exposed metallic shield. Do not cover the exposed semi-con insulation shield. See Figure 5A.

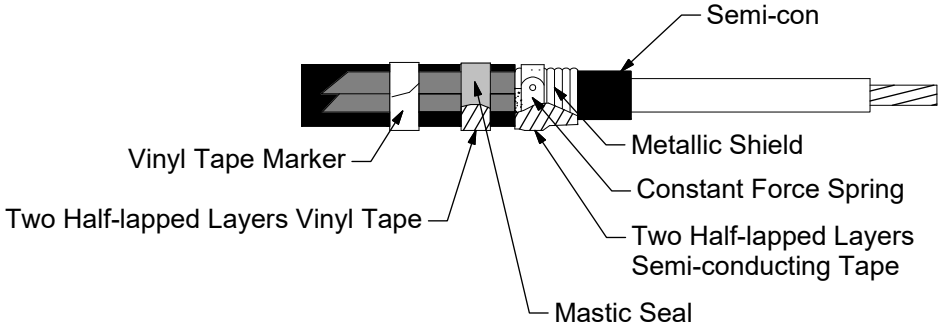

Figure 5A

7. Remove the red support core from the terminator. Verify that the terminator body will fit over the lug being used. If the lug will not fit through the core, clean the insulation and slide the terminator onto the cable before installing the lug.

8. Use a stainless steel wire brush to clean the exposed aluminum conductor. Position and install 750 kcmil copper lugs, using a L39RT die. For 750 kcmil aluminum lugs, use a U608 die. For 500 kcmil aluminum lugs, use a U34ART die. For 350 kcmil copper lugs, use a U31RT die. For 1000 kcmil copper lugs, use a P44RT die. After the lug is installed remove excess oxide inhibitor and all sharp crimp flashing. The shearhead bolt lug (Stock #17 55 804) may be used instead of the 350 kcmil through 750 kcmil copper and aluminum compression lugs. See shearhead bolt lug installation instructions on Sheet 2.

9. Position the terminator body on the cable. The base of the terminator body (not the core), must be butted up to the edge of the vinyl marker tape. Remove the core while unwinding in a counterclockwise direction. Once the terminator body has made contact over the mastic seal area, there is no need to continue supporting the assembly DO NOT push or pull the terminator while unwinding the core. See Figure 6A.

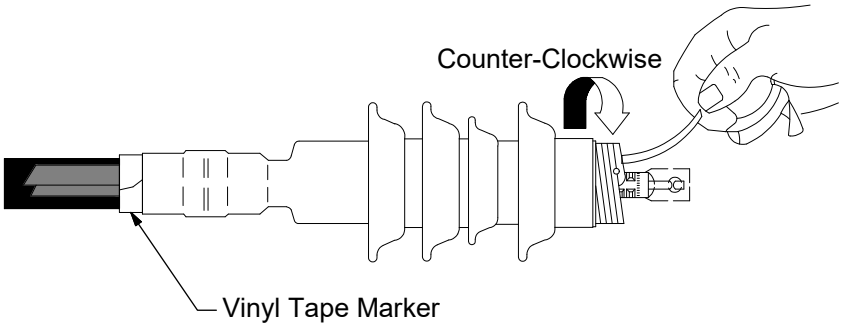

Figure 6A

10. For outdoor installations, attach a bronze four bolt lug to the compression lug or shearhead bolt lug using a ground stud in the upper hole and a 1/2” x 2” bolt in the lower hole. See Figure 7A.

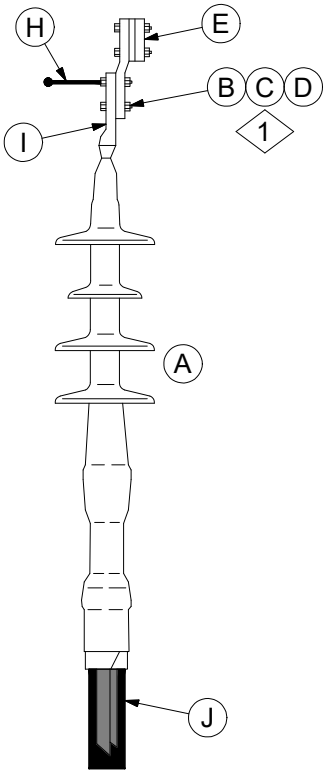

Figure 7A

REV	DATE	ENG	DESCRIPTION
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9	09/08/15	EJB	

11. Connect ground braids to system ground using a two-bolt connector (Stock #17 54 140).

12. If a shearhead bolt lug is used, verify that the terminator body covers all bolt positions to prevent moisture ingress. If a bolt position is not covered with the terminator body, cover the bolt position with mastic and silicone tape.

DCS #	CABLE SIZE	CONDUCTION MATERIAL / SHIELD TYPE
42 34 61 01	750 kcmil	Copper LC/CN Shield (Indoor)
42 34 61 02	750 kcmil	Copper LC/CN Shield (Outdoor)
42 34 61 03	750 kcmil	Aluminum CN (Indoor)
42 34 61 04	750 kcmil	Aluminum CN (Outdoor)
42 34 61 05	350 kcmil	Copper CN (Indoor)
42 34 61 06	350 kcmil	Copper CN (Outdoor)
42 34 61 07	1000 kcmil	Copper Tape Shield (Indoor)
42 34 61 08	1000 kcmil	Copper Tape Shield (Outdoor)
42 34 61 09	500 kcmil	Aluminum CN (Indoor)
42 34 61 10	500 kcmil	Aluminum CN (Outdoor)

CONSTRUCTION NOTE(s):

1. For washer stacking order see DCS **59 52 00 43**.

	ITEM	STK / DCS #	DESCRIPTION 42 34 61 **	01	02	03	04	05	06	07	08	09	10
	A	17 07 142	Terminator – Cable, 15 kV, 350-1000 kcmil	1	1	1	1	1	1	1	1	1	1
	B	21 56 078	Bolt – Machine 1/2" x 2" SS	2	1	2	1	2	1	2	1	2	1
	C	12 56 052	Washer–Belleville–Spring, 1/2"x 2" SS	2	2	2	2	2	2	2	2	2	2
	D	12 56 053	Washer-Flat, 1/2", SS	4	4	4	4	4	4	4	4	4	4
	E	17 54 177	Connector – Cable to Flat Bronze	-	1	-	1	-	1	-	1	-	1
	F	25 53 055	Tape – Vinyl Plastic, 3/4" x 66'	1	1	1	1	1	1	1	1	1	1
	G	17 54 140	Connector – Wire, #8-4/0, 2-Bolt	1	1	-	-	-	-	1	1	-	1
	H	23 64 051	Stud – Grounding, 7" Long, Ball End	-	1	-	1	-	1	-	1	-	1
@	I	17 55 260	Lug – Compression, 750 AL, 2 Hole	-	-	1	1	-	-	-	-	-	-
		17 05 214	Lug – Compression, 750 Cu, 2 Hole	1	1	-	-	-	-	-	-	-	-
		17 55 296	Lug – Compression, 350 Cu, 2 Hole	-	-	-	-	1	1	-	-	-	-
		17 55 324	Lug – Compression, 500 Al, 2 Hole	-	-	-	-	-	-	-	-	1	1
		17 05 236	Lug – Compression, 1000 Cu, 2 Hole	-	-	-	-	-	-	1	1	-	-
		17 55 804	Lug – Shearhead Bolt, 350-750 Cu/Al, 2 Hole	1	1	1	1	1	1	-	-	1	1
@	J	17 54 306	Connector – Cable Ground Braid	1	1	-	-	-	-	1	1	-	-

REV	DATE	ENG	DESCRIPTION
10	01/01/22	EJB	Converted to new format
9	09/08/15	EJB	

DCS #	CABLE SIZE	CONDUCTION MATERIAL / SHIELD TYPE
42 34 61 11	750 kcmil	Reduced Wall Copper FS Shield (Indoor)
42 34 61 12	750 kcmil	Reduced Wall Copper FS Shield (Outdoor)
42 34 61 13	350 kcmil	Reduced Wall Copper FS Shield (Indoor)
42 34 61 14	350 kcmil	Reduced Wall Copper FS Shield (Outdoor)
42 34 61 15	500 kcmil	Reduced Wall Copper FS Shield (Indoor)
42 34 61 16	500 kcmil	Reduced Wall Copper FS Shield (Outdoor)
42 34 61 17	750 kcmil	Copper LC/CN Shield (Substation Cubicle)

	ITEM	STK / DCS #	DESCRIPTION 42 34 61 **	11	12	13	14	15	16	17
	A	17 07 142	Terminator – Cable, 15 kV, 350-1000 kcmil	1	1	1	1	1	1	1
	B	21 56 078	Bolt – Machine 1/2" x 2" SS	2	1	2	1	2	1	2
	C	12 56 052	Washer–Belleville–Spring, 1/2"x 2" SS	2	2	2	2	2	2	2
	D	12 56 053	Washer-Flat, 1/2", SS	4	4	4	4	4	4	4
	E	17 54 177	Connector – Cable to Flat Bronze	-	1	-	1	-	1	-
	F	25 53 055	Tape – Vinyl Plastic, 3/4" x 66'	1	1	1	1	1	1	1
	G	17 54 140	Connector – Wire, #8-4/0, 2-Bolt	1	1	1	1	1	1	1
	H	23 64 051	Stud – Grounding, 7" Long, Ball End	-	1	-	1	-	1	1
	I	17 05 214	Lug – Compression, 750 Cu, 2 Hole	1	1	-	-	-	-	-
		17 55 296	Lug – Compression, 350 Cu, 2 Hole	-	-	1	1	-	-	-
@		17 55 792	Lug – Compression, 500 Cu, 2 Hole	-	-	-	-	1	1	-
		17 55 804	Lug – Shearhead Bolt, 350-750 Cu/Al, 2 Hole	1	1	1	1	1	1	-
		17 05 569	Lug – Compression, 750 Cu, 3 Hole	-	-	-	-	-	-	1
@	J	17 54 306	Connector – Cable Ground Braid	#	#	#	#	#	#	#

REV	DATE	ENG	DESCRIPTION
10	01/01/22	EJB	Converted to new format
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INSTRUCTIONS - Standard Elbow

1. Train the cable into position (at the center line of the bushing) and cut excess cable off squarely.

2. Remove 4 feet of cable jacket and bend back 4 feet of concentric neutral wires. Twist the strands together.

3. Unwrap and bind the concentric wires 9 inches from the end of the cable. The cable jacket may be removed to 1 inch above the transformer pad, but the concentrics must be in place 9” from the end of the cable.

4. Check the insert depth ”X” of the contact being used. Remove the semi-con and insulation from the cable end.

5. Wire brush the exposed aluminum conductor and install the contact. Position the contact so that the threaded hole aligns with the bushing bore. Crimp the #2 and 1/0 contacts with the Nicropress ”Peach” tool. Crimp the 4/0 contact with a U27ART die in a Y35 press. Start crimping at the crimp mark on the contact and rotate each successive crimp 180°. Make as many crimps as possible without overlap. Wipe off excess inhibitor.

6. Remove the semi-con to a point 6-7/8" from the end of the contact. The edge of the semi-con should be straight, smooth, and squared. Do not cut the insulation while removing the semicon.

7. Clean the cable insulation.

8. Lubricate the cable insulation and inside of the elbow housing with the silicone grease provided or Stock #31 51 050.

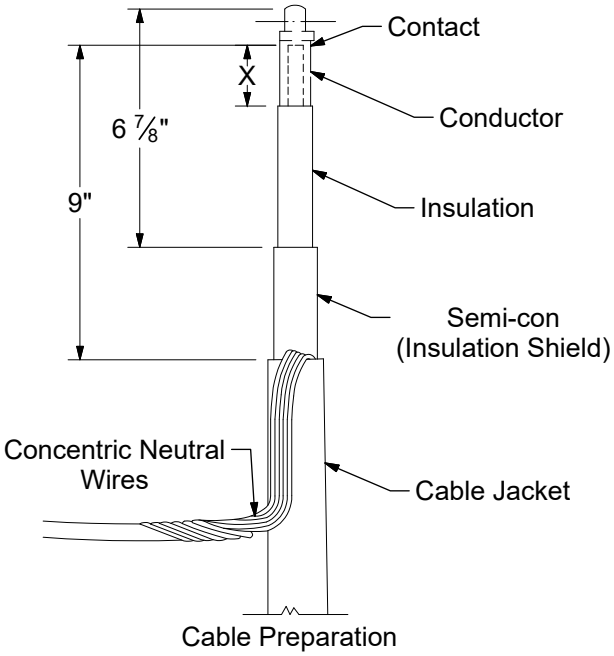
9. Slide the elbow onto the cable. Use a back and forth twisting motion. After the elbow is seated, align the elbow with the contact’s threaded hole. Wipe off all excess silicone grease.

10. Thread the probe into the contact by hand, taking care not to cross-thread. Finish tightening the probe, with the wrench, until the wrench bends 90°.

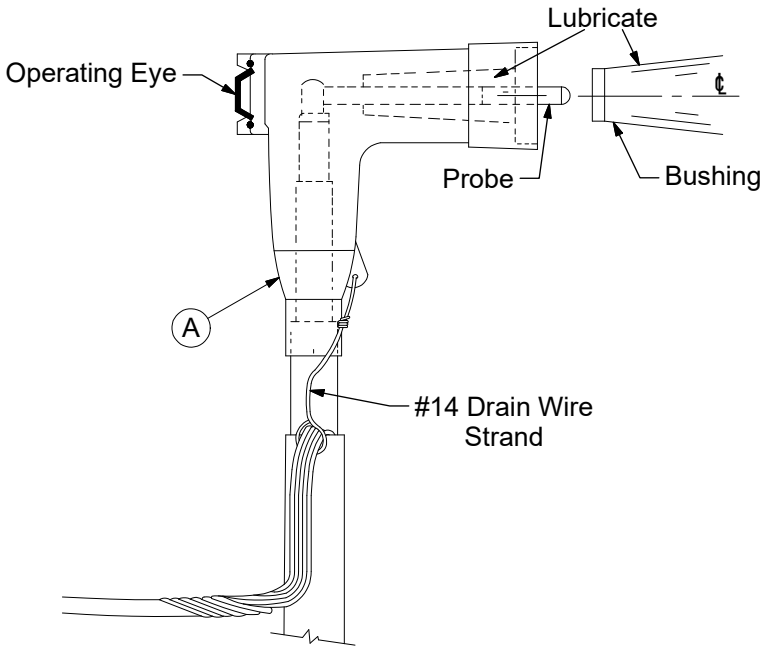
11. Retain a scrap piece of concentric neutral wire or use #14 copper wire (Stock #18 52 018). Insert one end of the wire through the grounding eye on the elbow and carefully twist it so as to not damage the eye. Wrap the other end of the wire around the neutral wire bundle and twist it. Connect the neutral wire bundle to ground.

12. Lubricate the interface of the elbow with silicone grease. Lubricate the mating bushing only if the bushing is known to be de-energized. Use Stock #31 51 050.

13. The elbow is now ready to install



Cable Preparation



Assembled View

REV	DATE	ENG	DESCRIPTION
7	01/01/22	EJB	Converted to new format
6	07/04/15	EJB	

INSTRUCTIONS - Repair Elbow

1. Remove the old elbow, damaged contact, and damaged cable section - **REMOVED CABLE SECTION AND CONTACT LENGTH SHALL NOT EXCEED 3-1/2"**. If more than 3-1/2" has to be removed, do not use the repair elbow. Use a hacksaw to obtain a clean square cut when removing the damaged cable. Retain all neutral wires.

2. Unwrap and bind the concentric wires 9-1/2" from the end of the cable. If jacketed cable is used, the jacket may be removed to 1" above the transformer pad. Twist the wires together.

3. Remove 2" of insulation shield (semi-con) and insulation from the cable end.

4. Wire brush the exposed aluminum conductor and install the contact. Position the contact so that the threaded hole aligns with the bushing bore. Crimp the #2 and 1/0 contacts with the Nicropress "Peach" tool. Crimp the 4/0 contact with a U27ART Die in a Y35 press. Start crimping at the crimp mark on the contact and rotate each successive crimp 180°. Make as many crimps as possible without overlap. Wipe off excess inhibitor.

5. Remove the semi-con to a point 10" from the end of the contact. The edge of the semi-con should be straight, smooth, and squared. Do not cut the insulation while removing the semi-con.

6. Clean the cable insulation.

7. Lubricate the cable insulation and inside of the elbow housing with silicone grease.

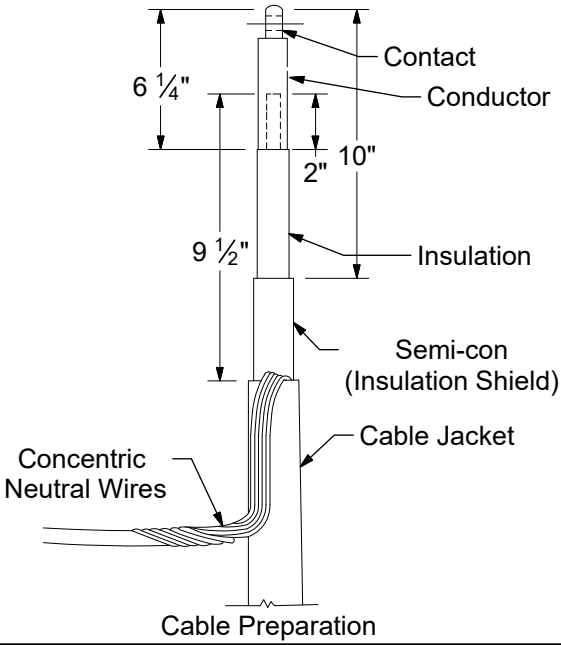
8. Slide the elbow onto the cable. Use a back and forth twisting motion. After the elbow is seated properly, align the elbow with the contact's threaded hole. Wipe off all excess silicone grease.

9. Thread the probe into the contact by hand, taking care not to cross-thread. Finish tightening the probe, with the wrench, until the wrench bends 90°.

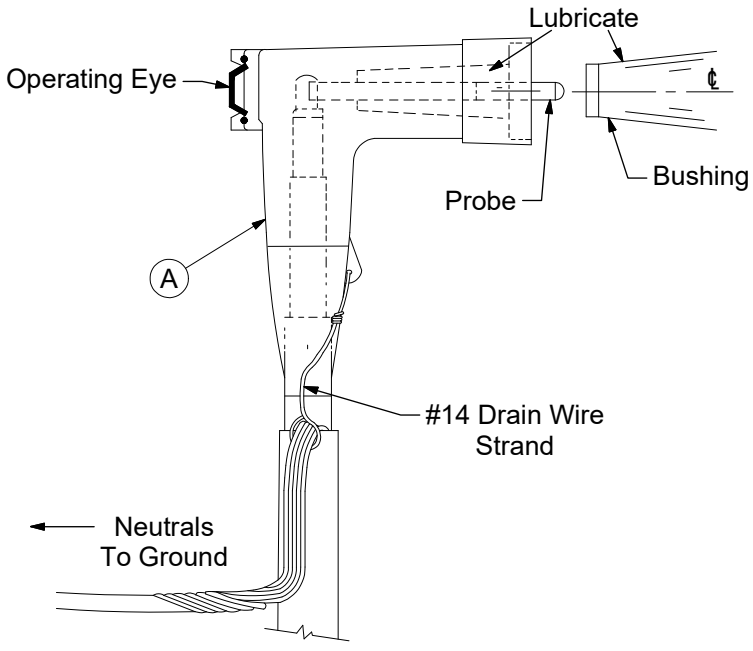
10. Retain a scrap piece of concentric neutral wire or use #14 copper wire (Stock #18 52 018). Insert one end of the wire through the grounding eye on the elbow and carefully twist it so as to not damage the eye. Wrap the other end of the wire around the neutral wire bundle and twist it. Connect the neutral wire bundle to ground.

11. Lubricate the interface of the elbow with silicone grease. Lubricate the mating bushing only if the bushing is known to be de-energized.

12. The elbow is now ready to install.



Cable Preparation



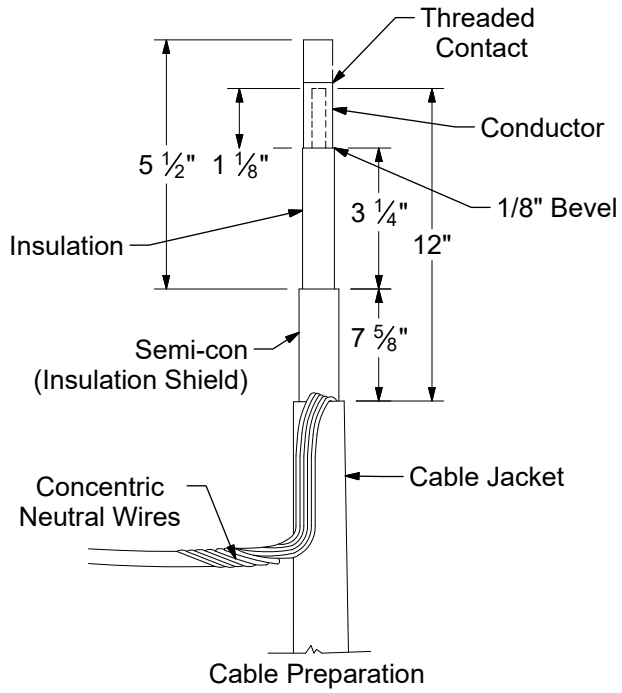
Assembled View

REV	DATE	ENG	DESCRIPTION
7	01/01/22	EJB	Converted to new format
6	07/04/15	EJB	

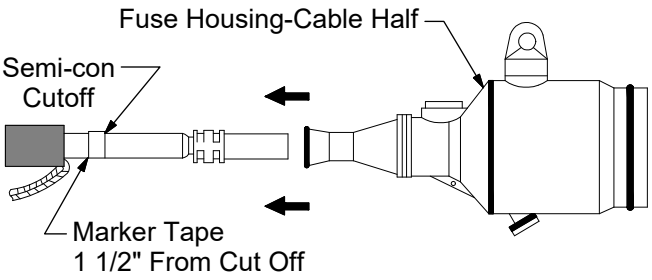
DCS #	15 kV Elbow Type
42 34 62 01	#2 Al, Stranded 175 or 220 Mil
42 34 62 04	#2 Al, Solid 175 Mil
42 34 62 05	1/0 Al, Stranded 175 Mil
42 34 62 02	4/0 Al, Stranded 175 Mil
42 34 62 03	#2 Al, Stranded 175 or 220 Mil (Long Repair)
42 34 62 06	#2 Al, Solid 175 Mil (Long Repair)
42 34 62 07	1/0 Al, Stranded 175 Mil (Long Repair)
42 34 62 08	4/0 Al, Stranded 175 Mil (Long Repair)

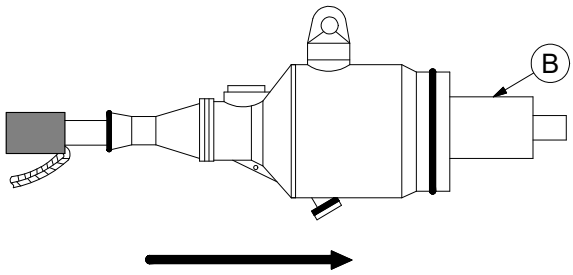
ITEM	STK / DCS #	DESCRIPTION 42 34 62 **	01	02	03	04	05	06	07	08
A	17 05 183	Elbow − Loadbreak, #2 Al, Stranded	1	-	-	-	-	-	-	-
	17 05 203	Elbow − Loadbreak, 4/0 Al, Stranded	-	1	-	-	-	-	-	-
	17 05 253	Elbow − Loadbreak, #2 Al, Solid	-	-	-	1	-	-	-	-
	17 05 254	Elbow − Loadbreak, 1/0 Al, Stranded	-	-	-	-	1	-	-	-
	17 05 250	Elbow − Loadbreak, #2 Al, Stranded, Long Repair	-	-	1	-	-	-	-	-
	17 05 303	Elbow − Loadbreak, #2 Al, Solid, Long Repair	-	-	-	-	-	1	-	-
	17 05 304	Elbow − Loadbreak, 1/0 Al, Stranded, Long Repair	-	-	-	-	-	-	1	-
	17 05 305	Elbow − Loadbreak, 4/0 Al, Stranded, Long Repair	-	-	-	-	-	-	-	1

REV	DATE	ENG	DESCRIPTION
7	01/01/22	EJB	Converted to new format
6	07/04/15	EJB	



Cable Preparation





Pull Up Against Tightened Fuse

INSTRUCTIONS - Fused Elbow

1. Remove 4 feet of the cable jacket and bend back 4 feet of concentric neutral wires. Keep 2 strands of concentric neutral wires separated from the others. Cut off 3 feet of excess cable squarely. Cut off remaining neutral wires at the cable jacket cut back.

2. Slide a heat shrink sleeve down the cable.

3. Remove 4-3/8 inches of semi-con and 1-1/8 inches of insulation from the end of the cable. Wire brush the exposed aluminum conductor and install the threaded contact. Crimp the #2 contact with the Nicopress “Peach” tool. Start crimping at the crimp mark and rotate each successive crimp 180 degrees. Make as many crimps as possible and wipe off excess inhibitor.

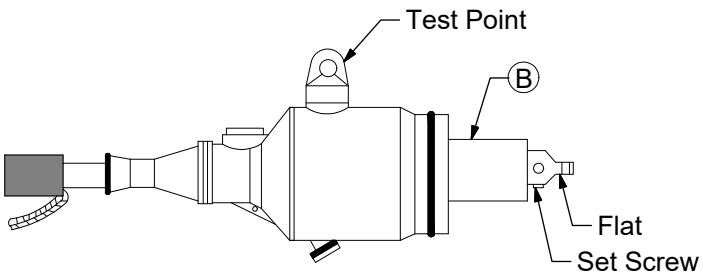
4. Clean the cable insulation and apply a tape marker on the semi-con 1-1/2 inches from the cut off.

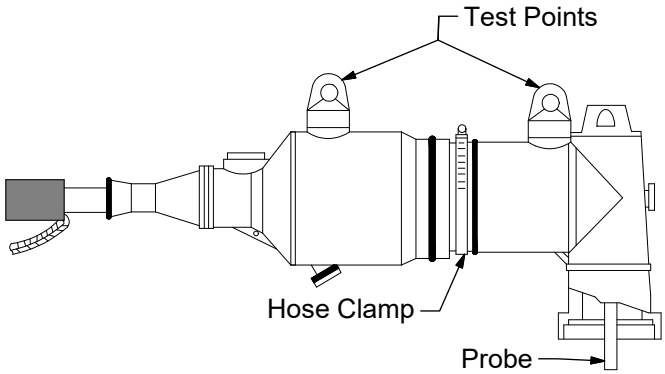
5. Apply silicone grease to the outside of the threaded contact, cable insulation and semi-con and the cable half of the fuse housing. Slide the housing onto the cable up to the marker tape on the semi-con. Remove the marker tape.

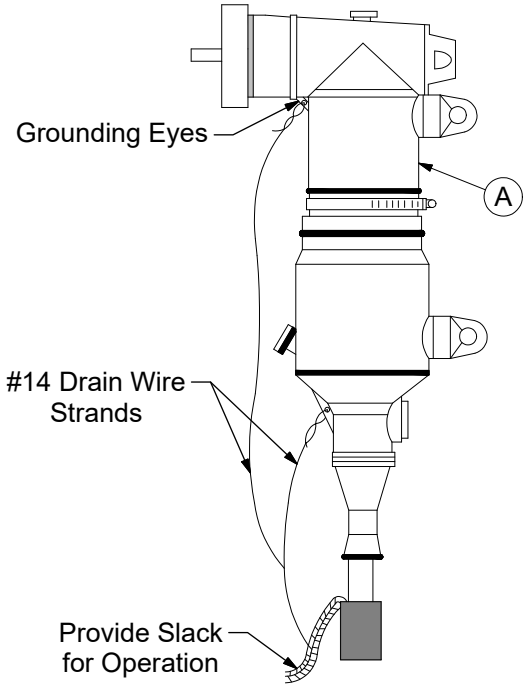
6. Insert the threaded end of the fuse into cable half of the fuse housing and thread into the contact. HAND TIGHTEN ONLY! Pull the fuse housing up against the bottom of the tightened fuse.

7. Assemble the probe connector to the fuse terminal. Rotate the probe connector so that the flats are perpendicular to the mating bushing. Lock the probe connector in position by tightening the set screws with the allen wrench supplied.

8. Apply silicone grease to the elbow half of the fuse housing and push it onto the cable half of the fuse housing. The rubber surfaces should butt and the probe connector should face the opening of the elbow half of the fuse housing. The two test points should be in line with each other.







9. Insert the probe into the probe connector and start the threads by hand. Tighten using the torque limiting wrench supplied. Tighten the probe with the wrench until the wrench bends 90 degrees.

10. Position the hose clamp as shown and tighten snug. DO NOT OVERTIGHTEN THE HOSE CLAMP.

11. Retain two scrap pieces of concentric neutral wire or use #14 copper wire (Stock #18 52 018). Insert one end of each wire through a grounding eye on the fused elbow and carefully twist them so as to not damage the eyes. Wrap the other end of each wire around the neutral wire bundle and twist it. Connect the neutral wire bundle to ground. Provide slack in the drain wires for elbow operation.

12. Lubricate the interface of the elbow with silicone grease. If de-energized, the mating bushing should also be lubricated. Use Stock #31 51 050.

13. The fused elbow is complete.

INSTRUCTIONS - #2 Fusible Elbow Jumper (DCS 42 34 62 09)

1. Obtain a 12 ft. length of #2 AWG, 15kV cable (Stock #18 07 238)

2. Assemble end "A":

   A. Remove 4 ft. of cable jacket and bend back the concentric neutral wires. Cut off the stripped back conductor.

   B. Slide a heat shrink sleeve down the cable.

   C. Separate one neutral wire from the others. Twist the other neutral wires together.

   D. Continue the elbow assembly from step #4 of DCS # 42 34 62 01.

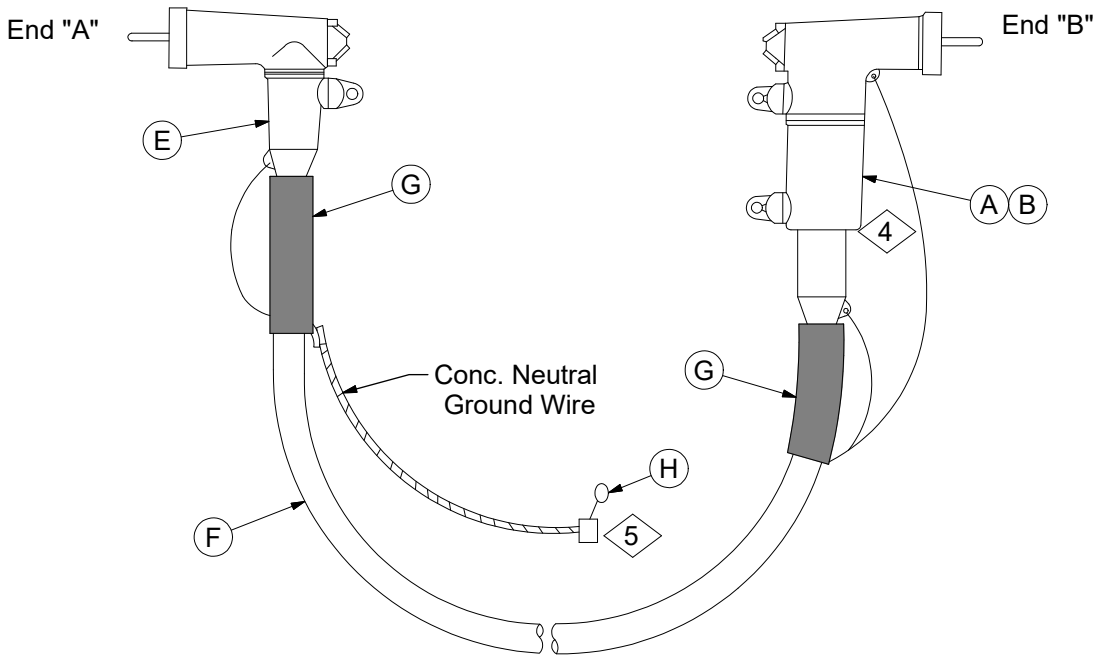
   E. When the elbow assembly is complete, place the heat shrink sleeve over the elbow neck approx. 1-1/2 inches and shrink the sleeve completely down over the elbow and cable jacket.

3. Assemble end “B”:

   A. Assemble the fused elbow per the instructions on sheet 4.

   B. When the fused elbow assembly is complete, place the heat shrink sleeve over the fused elbow neck approx. 1-1/2 inches and shrink the sleeve completely down over the fused elbow and the cable jacket.

4. Add a hot line clamp to the end of the twisted concentric neutral wires.



REV	DATE	ENG	DESCRIPTION
7	01/01/22	EJB	Converted to new format
6	07/04/15	EJB	

CONSTRUCTION NOTE(s):

1. Fused elbow jumpers are to be installed only in the single phase junction box.
2. Install a fault indicator on the heat shrink sleeve below the fused elbow. The fault indicator will aide in determining the condition of the fuse.
3. Order 1 spare fuse (Stock #20 04 859) for each junction cabinet.
4. For the Fused Elbow, 8.3kV, Maximum WT.= 5.25 Lbs.
5. Connect ground wire to junction cabinet ground bus.

	ITEM	STK / DCS #	DESCRIPTION 42 34 62 **	09
	A	17 05 476	Elbow − Loadbreak, Fused, #2Al. Strand	1
3	B	20 04 859	Fuse − 8.3 kV, 30A, Current Limiting	2
2	D	60 55 034	Indicator − Fault, Fast Response	1
	E	17 05 183	Elbow − Loadbreak, #2 Al. Stranded	1
	F	18 07 238	Cable − #2 Al., 15kV, Stranded (ft.)	12
	G	12 53 078	Tube - Heat Shrink, 1.5” ID x 9” Long	2
	H	23 78 394	Clamp − Hotline, #6−2/0, CU	1

UNDERGROUND CABLE TERMINATION

#2 - 4/0 AWG Cable Termination
Indoor Use Only

42 34 63 **
15kV
1 of 2

INSTRUCTIONS

1. Train the cable into position and cut to required length. For all installations allow sufficient neutral wire length beyond the finished cable end for proper grounding connection.

2. Prepare the cable using the dimensions shown in Figure 1. Be sure to check the lug or pin terminal connector being used to determine the insert depth "X". Provide an additional 1/4" of exposed conductor to allow for growth of the aluminum lug or connector during crimping.

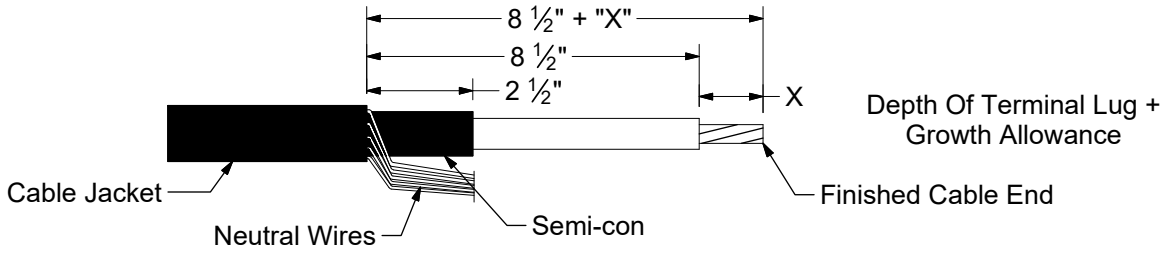


Figure 1

3. Select one of the mastic strips from the kit and remove the white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4" from the edge. Cut off excess mastic. See Figure 2

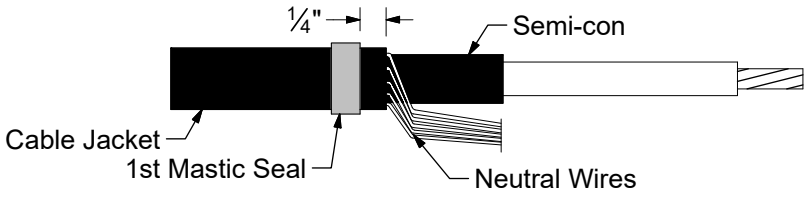


Figure 2

4. Bend neutral wires back over applied mastic. Secure the wires to the cable jacket with vinyl tape. The tape should be placed a distance of 4-1/2" from the edge of the semi-con. See Figure 3.

   The vinyl tape serves as a marker tape, so position carefully.

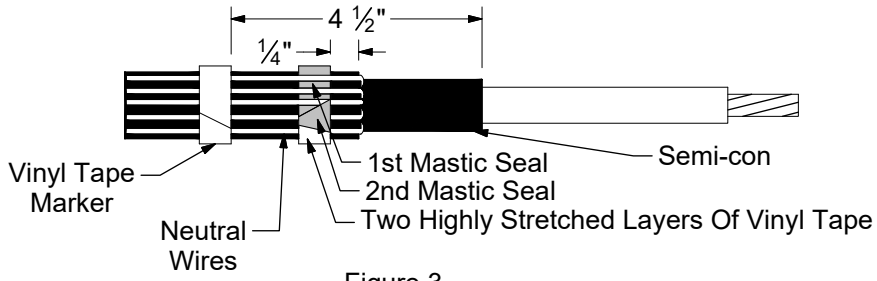


Figure 3

5. Select a second mastic strip from the kit and remove the white release liners. Apply a second mastic band over the neutral wires and the previously applied mastic. Cut off excess. See Figure 3.

6. Compress the neutral wires into the mastic. Over-wrap the mastic strips with two highly stretched layers of vinyl tape. Be sure that all exposed mastic is covered. See Figure 3.

7. Remove the red support core from the terminator and check to insure the terminator will fit over the lug or pin terminal connector being used. If the lug or pin terminal connector will not fit through the termination core, clean the insulation and slide the terminator on the cable before installing the lug/connector. Do Not remove the core at this time. Position terminator beyond the exposed conductor to allow installation of the lug/connector.

8. Install either the lug or pin terminal connector using the Y-35 tool with a U25ART die for #2 or 1/0 and a U249 or U28ART die for 4/0. Crimp as many times as possible without overlap. Remove excess oxide inhibitor and sharp crimp flashing. If the insulation has not been cleaned, clean at this time.

REV	DATE	ENG	DESCRIPTION
4	01/01/22	EJB	Converted to new format
3	03/22/11	EJB	

9. Re-position the terminator body on the cable and remove the core. Make sure the terminator body (not the core) is butted up to the edge of the vinyl marker tape. While removing the core, unwind it in a counter-clockwise direction. See Figure 4.

   Once the terminator has made contact over the mastic seal area, there is no need to continue supporting the assembly. Do not push or pull on the terminator while unwinding the core.

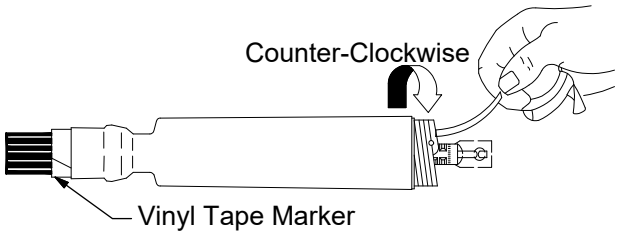


Figure 4

10. When using a short barrel lug/connector on small cable, it may be necessary to trim excess terminator insulation from the lug or connector.

11. Collect all neutral wires together and connect to system ground. See Figure 5.

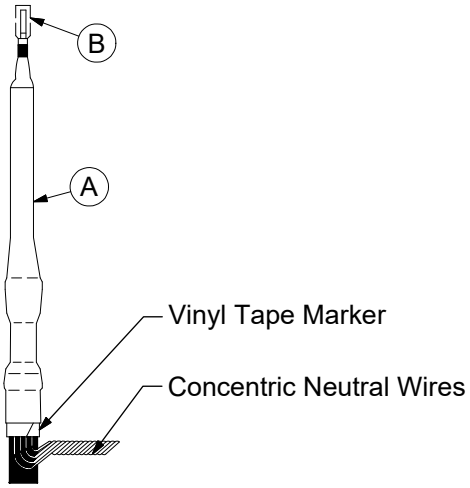


Figure 5

DCS #	Cable Size	Connection
42 34 63 01	#2 AWG	Pin Terminal
42 34 63 02	#2 AWG	2 Hole Lug
42 34 63 05	1/0 AWG	Pin Terminal
42 34 63 06	1/0 AWG	2 Hole Lug
42 34 63 03	4/0 AWG	Pin Terminal
42 34 63 04	4/0 AWG	2 Hole Lug

ITEM	STK / DCS #	DESCRIPTION 42 34 63 **	01	02	03	04	05	06
A	17 07 150	Termination, Cable, 15 kV Indoor #2−4/0	1	1	1	1	1	1
B	17 54 232	Connector, Cable Pin Terminal #2	1	-	-	-	-	-
	17 55 257	Lug, Compression, #2	-	1	-	-	-	-
	17 54 357	Connector, Cable Pin Terminal 1/0	-	-	-	-	1	-
	17 54 233	Connector, Cable Pin Terminal 4/0	-	-	1	-	-	-
	17 55 256	Lug, Compression, 4/0	-	-	-	1	-	-
	17 55 456	Lug, Compression, 1/0	-	-	-	-	-	1

REV	DATE	ENG	DESCRIPTION
4	01/01/22	EJB	Converted to new format
3	03/22/11	EJB	

INSTRUCTIONS - Cooper T-OP II

1. Train The Cable

   A. Center the cable between the apparatus bushing and the parking stand pocket. The cable should be located 7 inches from the apparatus front plate.

   B. Provide adequate slack for cable movement between the apparatus bushing and the standoff bushing.

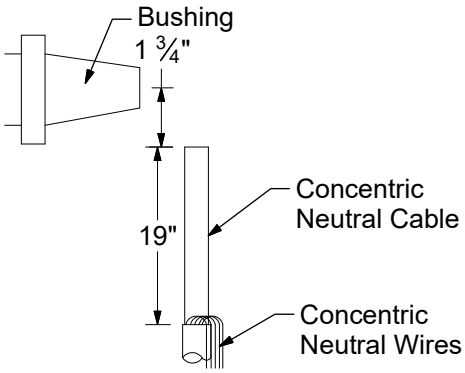
   C. Cut the cable 1 3/4 inches from the centerline of the bushing. Clean 24 inches of the outer cable jacket.

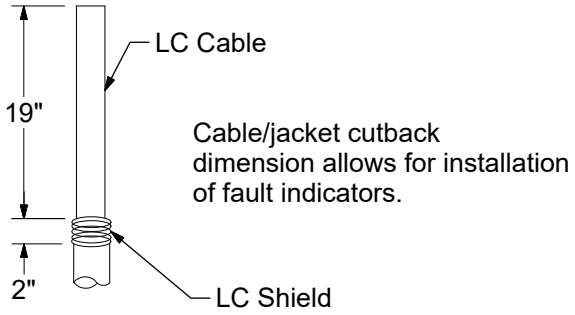
2. Cut Back The Cable

   Cable with LC Shield

   A. Remove 21 inches of cable jacket

   B. Remove 19 inches of LC shield. Cover the sharp end of the LC shield with a wrap of plastic tape. Go to part C.





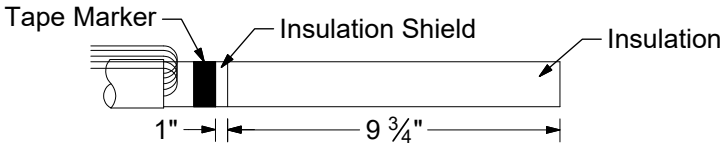
   Cable with Concentric Neutral Wires

   A. Remove 19 inches of cable jacket

   B. Allow enough extra concentric neutral wires to connect to ground and allow movement to the standoff bushing.

   C. Remove 9-3/4 inches of insulation shield.

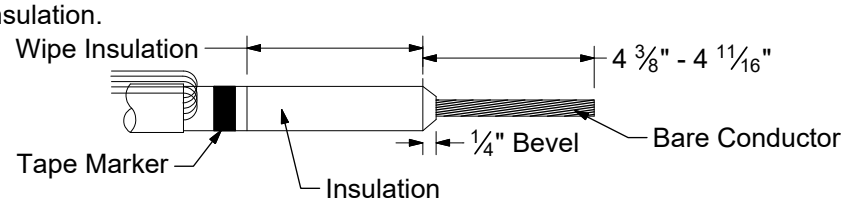
   D. Place a tape marker 1 inch from the end of the insulation shield.



   E. Remove 4-$\frac{3}{8}$ - 4-$\frac{11}{16}$ inches of insulation.

   F. Bevel the insulation edge 1/4 inch at a 45 degree angle.

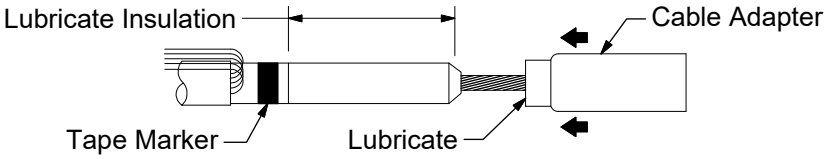
   G. Thoroughly clean the insulation.



3. Install The Cable Adapter

   A. Lubricate the exposed insulation and the inside of the cable adapter.

   B. Slide the small end of the cable adapter over the cable using a twisting motion until the small end is flush with the tape marker.



4. Install The Compression Connector

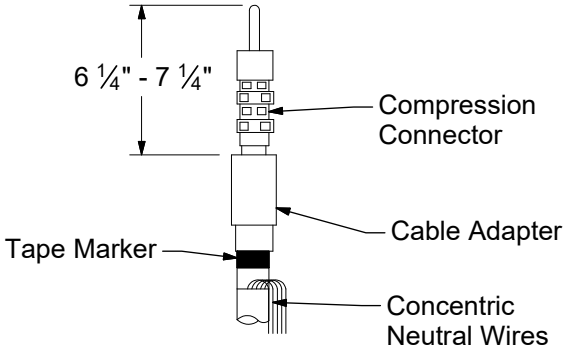
   A. Wire brush the aluminum conductor.

   B. Insert the conductor into the compression connector and rotate until the flats of the compression connector and the apparatus bushing are aligned.

   C. Make 5 crimps using the U34ART die (for 500 kcmil cable) or L39ART die (for 750 kcmil cable) or U31ART die (for 350 AWG cable and for 4/0 AWG cable). Make the first crimp at the first line below the shoulder of the connector. Rotate each crimp 90 degrees and allow 1/8 inch between crimps.

   D. Wipe off excess inhibitor.

   E. Check connector length as shown.



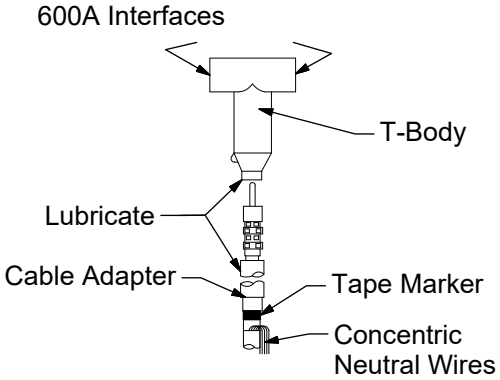
5. Install T-Body

   A. Clean and lubricate the outside of the cable adapter.

   B. Clean and lubricate the inside of the T-body.

   C. Slide the T-body onto the cable until the compression connector eye is centered in the 600 Amp interfaces.

   D. Remove the tape marker



6. Install The LRTP Into The T-Body

A. Clean and lubricate the mating 600 Amp interface of the LRTP (Load Reducing Tap Plug) and the T-body.

B. Remove the shipping cap from the 200 Amp interface of the LRTP and the thread protector on the threaded end.

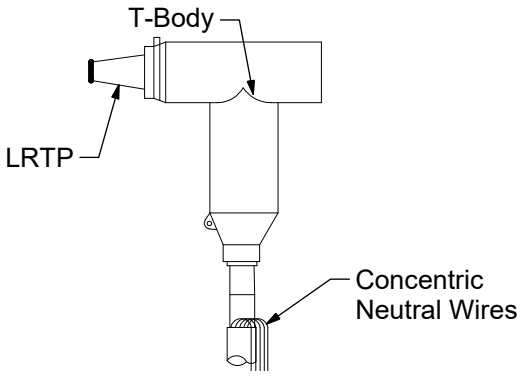
C. Insert the T-wrench (Stock #85 41 370) into the throat of the LRTP and thru the rotating nut and engage the alignment segment.

D. Insert the threaded ferrule end of the LRTP into the side of the T-body opposite the apparatus bushing.

E. Thread the alignment segment into the threads of the compression connector by turning the T-wrench until a positive stop is felt.

F. Continue applying clockwise force to the T-wrench until the pin shears and the alignment segment rotates freely.

G. Remove the alignment segment by applying pressure to the T-wrench until the segment separates. Discard the segment.



7. Install The 600 AMP Elbow Onto The Apparatus Bushing

A. In padmounted switchgears, remove the factory installed studs from the apparatus bushings. Use the copper studs included in the 600 Amp elbow kit.

B. Screw the short end of the stud into the threaded hole in the apparatus bushing. The long end of the stud faces out.

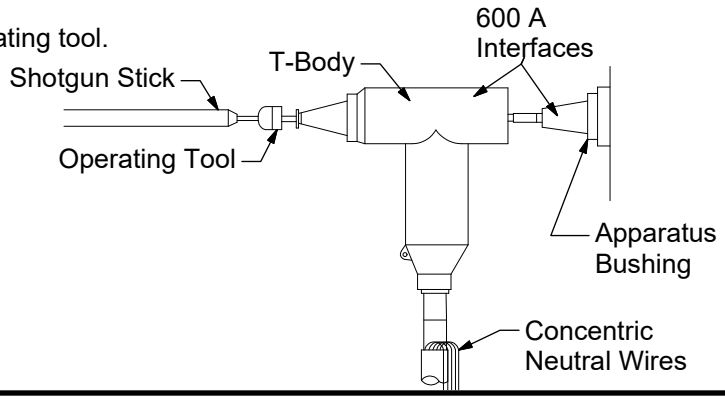
C. Clean and lubricate the mating interfaces of the apparatus bushing and the T-body.

D. Grasp the eye of the operating tool (Stock #83 28 045) with a shotgun stick and pull the eye fully into it.

E. Using the shotgun stick, insert the operating tool into the LRTP throat and engage the rotating nut.

F. While pushing the T-body onto the apparatus bushing, turn the operating tool clockwise to make a threaded connection. Turn until the torque head rachets. An audible click will be heard.

G. Remove the operating tool.

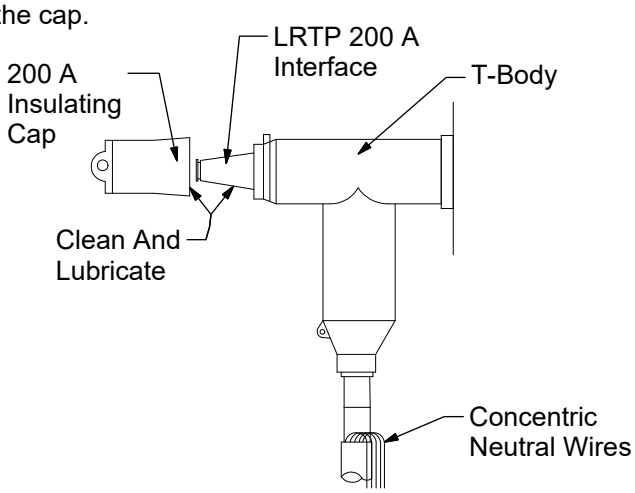


REV	DATE	ENG	DESCRIPTION
13	01/01/22	EJB	Converted to new format
12	10/14/16	EJB	

8. Cap The 200 AMP Interface

A. Clean and lubricate the 200 Amp interface on the LRTP and the inside of an insulating cap (Stock #17 55 227).

B. Cover the interface with the cap.



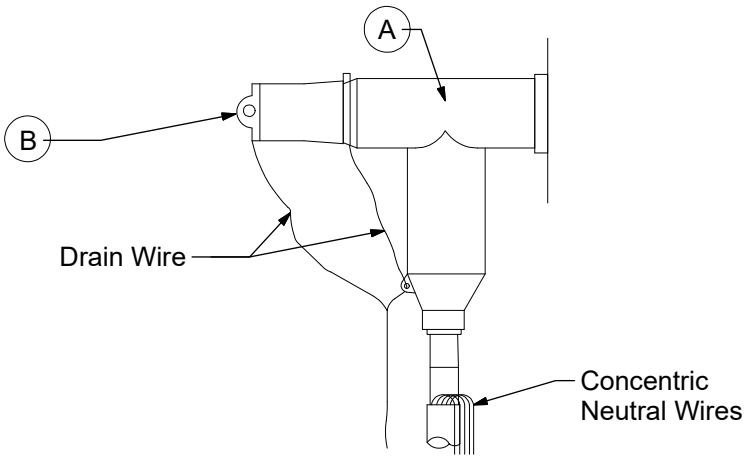
9. Ground The Elbow

A. Connect the tie off tabs of the LRTP and the T-body with a strand of drain wire (concentric neutral wire) and connect the drain wire to ground.

B. Connect the insulating cap drain wire to ground with appropriate connector.

C. Connect the cable concentric neutral wires or flatstraps to ground. For LC Shield Cables use DCS **59 40 93 44**.

D. See DCS **59 40 60 01** for additional 600 Amp accessories.



INSTRUCTIONS - Richards R800

1. Train The Cable

   A. Center the cable between the apparatus bushing and the parking stand pocket. The cable should be located 7 inches from the apparatus front plate.

   B. Provide adequate slack for cable movement between the apparatus bushing and the standoff bushing.

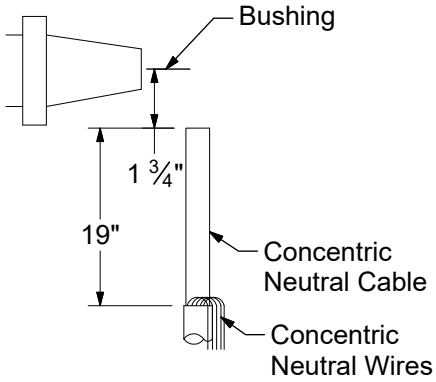
   C. Cut the cable 1-3/4 inches from the centerline of the bushing. Clean 24 inches of the outer cable jacket.

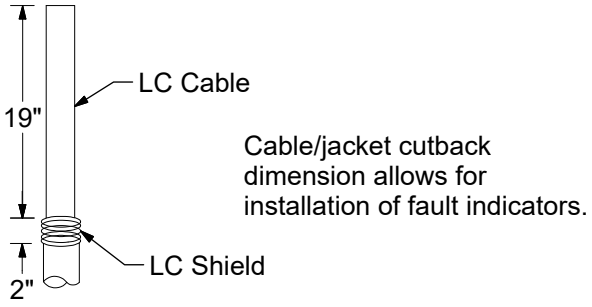
2. Cut Back The Cable

Cable with LC Shield

A. Remove 21 inches of cable jacket.

B. Remove 19 inches of LC shield. Cover the sharp end of the LC shield with a wrap of plastic tape. Go to part C.





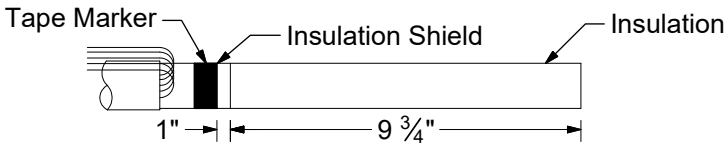
Cable with Concentric Neutral Wires

A. Remove 19 inches of cable jacket.

B. Allow enough extra concentric neutral wires to connect to ground and allow movement to the standoff bushing.

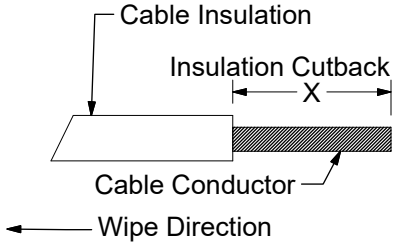
C. Remove 9-3/4 inches of insulation shield.

D. Place a tape marker 1 inch from the end of the insulation shield.



E. Remove cable insulation. Refer to chart for insulation cutback dimension "X".

F. Thoroughly clean the insulation.



Cable Size	Insulation Cutback (X)
4/0 AWG	2"
350 kcmil cmpt - 500 kcmil	2-3/4"
750 kcmil	3-3/8"
1000 kcmil	4"

If insulation cutback in table differs from cutback on lug package use lug package description

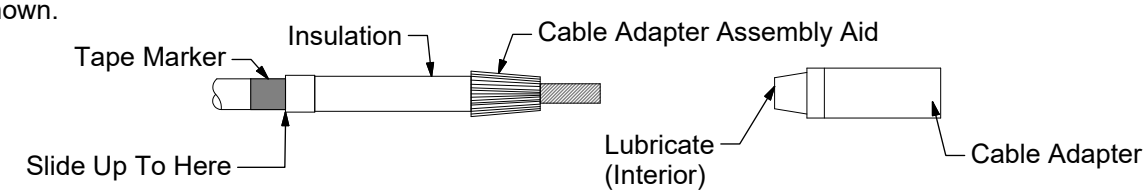
REV	DATE	ENG	DESCRIPTION
13	01/01/22	EJB	Converted to new format
12	10/14/16	EJB	

3. Install The Cable Adapter

A. Slide cable adapter aid up to insulation.

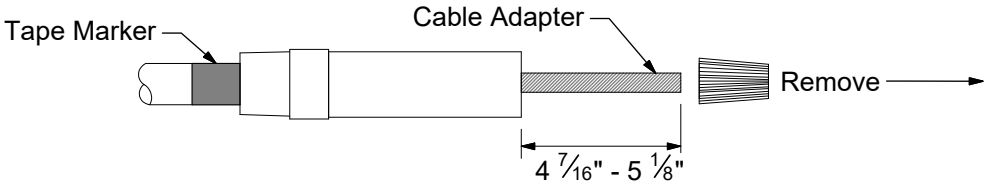
B. Apply silicone lubricant to cable insulation, cable adapter assembly aid, and inside of cable adapter as shown.

C. Slide cable adapter onto cable until the cable adapter sits flush with the leading edge of the tape marker as shown.



D. Remove cable adapter assembly aid.

E. Confirm cable adapter is positioned as shown below.



Check: Confirm that edge of tape marker is flush with end of cable adapter as shown.

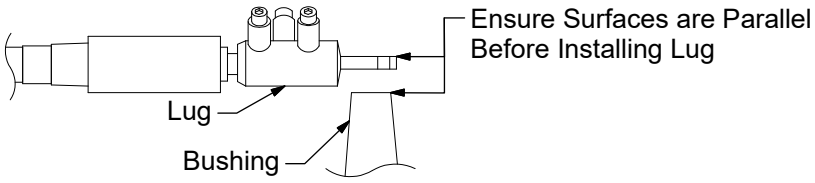
Check: Confirm that the dimension from the end of the conductor to the cable adapter edge satisfies criteria shown above.

4. Install The Shear Bolt Connector

A. If the cable conductor can accept a centering ring (provided with the connector), insert it into the barrel of the lug.

B. Wire brush the aluminum conductor and immediately insert the lug onto the conductor.

C. Rotate the connector until the flats of the paddle and the apparatus bushing are aligned.



D. Snug all of the shear bolts starting with the bolt closest to the cable insulation and moving towards the lug pad.

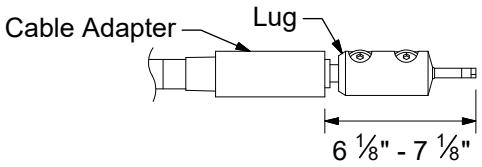
E. Shear off all of the bolts in the same order as Step D.

F. The shear bolt lug included in this kit requires an Allen hex head socket based on the cable size:

Cable Size	Hex Size	Ameren Stock #
4/0 AWG	5mm	86 44 454
350-1000 kcmil	8mm	85 32 776

G. Snap the black cover caps into the shear bolt holes on the lug connector.

H. After installing the lug, confirm that the distance from the end of the lug to the closest end of the cable adapter is within the range of 6-1/8" to 7-1/8". This range must be met or the assembly must be redone.

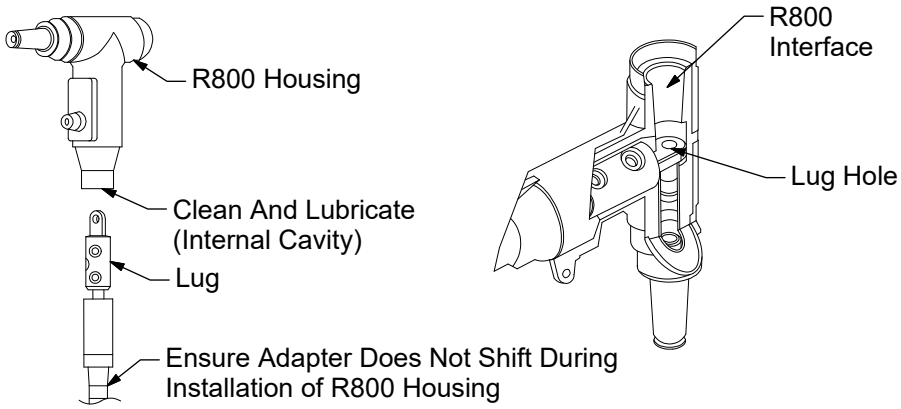


5. Install R800 Housing

A. Clean the outside of the cable adapter.

B. Lubricate the entire surface of the cable adapter and the cable entrance of the R800.

C. Without moving the cable adapter, install the R800 on the cable adapter and push until the lug is firmly seated inside of the R800. Remove the tape marker.



6. Install The 600 AMP Elbow Onto The Apparatus Bushing

A. In padmounted switchgears, remove the factory installed studs from the apparatus bushings. Use the copper studs included in the 600 Amp elbow kit.

B. Screw the short end of the stud into the threaded hole in the apparatus bushing. The long end of the stud faces out.

C. Clean and lubricate the mating interfaces of the apparatus bushing and the T-body.

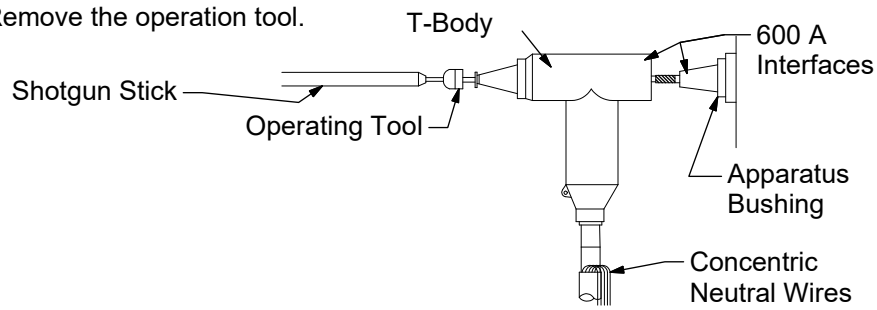
D. Grasp the eye of the operating tool (Stock #83 28 045) with a shotgun stick and pull the eye fully into it.

E. Using the shotgun stick, insert the operating tool into the LRTP throat and engage the fastener.

F. Slide the fastener into forward position through the lug hole.

G. While pushing the T-body onto the apparatus bushing, turn the operating tool clockwise to make a threaded connection. Turn until the torque head rachets. An audible click will be heard.

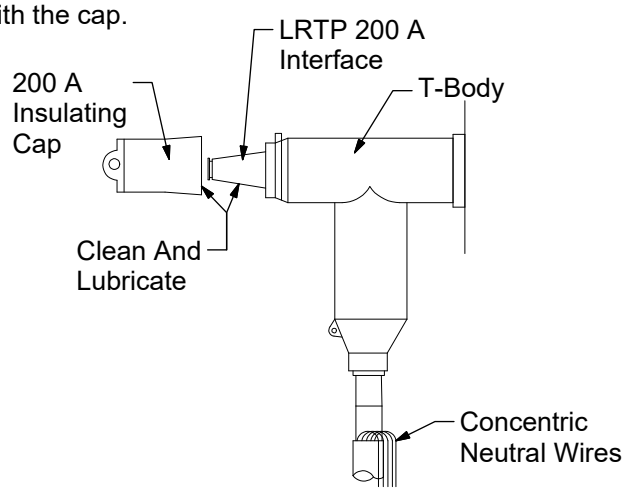
H. Remove the operation tool.



7. Cap The 200 AMP Interface

   A. Clean and lubricate the 200 Amp interface on the LRTP and the inside of an insulating cap (Stock #17 55 227).

   B. Cover the interface with the cap.



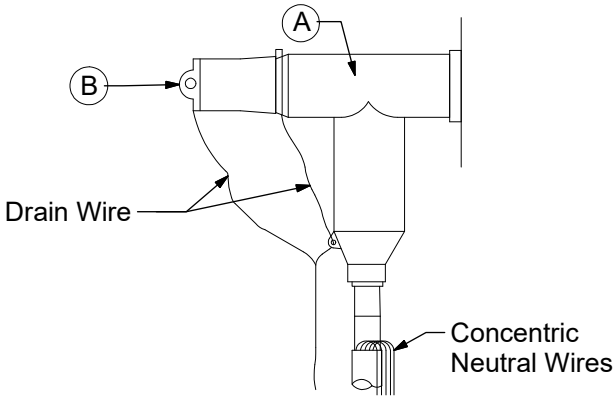
8. Ground The Elbow

   A. Connect the tie off tabs of the LRTP and the T-body with a strand of drain wire (concentric neutral wire) and connect the drain wire to ground.

   B. Connect the insulating cap drain wire to ground with appropriate connector.

   C. Connect the cable concentric neutral wires or flatstraps to ground. For LC Shield Cables use DCS **59 40 93 44**.

   D. See DCS **59 40 60 01** for additional 600 Amp accessories.



DCS #	DESCRIPTION	DCS #	DESCRIPTION
42 34 64 01	500 kcmil AL CN Cable	42 34 64 02	750 kcmil AL/CU CN Cable
42 34 64 03	750 kcmil LC Cable	42 34 64 04	4/0 AWG AL CN Cable
42 34 64 05	350 kcmil FS, Reduced Wall Cable	42 34 64 06	350 kcmil CN Cable

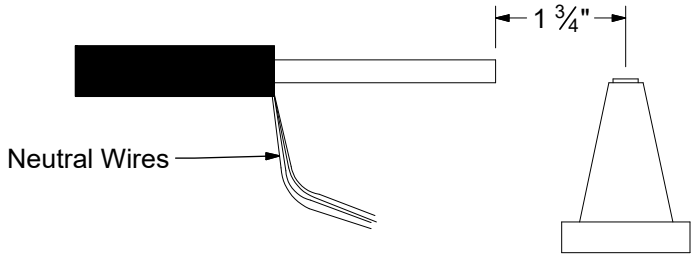
	ITEM	STK / DCS #	DESCRIPTION 42 34 64 **	01	02	03	04	05	06
	A	17 05 255	Elbow − Deadbreak, 500 kcmil Al, Stranded	1	-	-	-	-	-
		17 05 224	Elbow − Deadbreak, 750 kcmil Al or Cu, Stranded	-	1	1	-	-	-
		17 05 374	Elbow − Deadbreak, 4/0 AWG Al, Stranded	-	-	-	1	-	-
		17 05 326	Elbow − Deadbreak, 350 kcmil Cu, RW, Compact Str.	-	-	-	-	1	-
		17 05 492	Elbow − Deadbreak, 350 kcmil Cu, Stranded	-	-	-	-	-	1
	B	17 55 227	Cap − Insulating, 15kV, with Drain Wire	1	1	1	1	1	1
@	C	17 54 306	Connector − Cable Ground Braid	-	-	1	-	-	-

REV	DATE	ENG	DESCRIPTION
13	01/01/22	EJB	Converted to new format
12	10/14/16	EJB	

INSTRUCTIONS - Concentric Neutral Wires or Flat Strap Shielded Cables

1. Train the Cable

   A. Position the cable between the apparatus bushing and the parking stand pocket. It should be located in the final assembled position with enough slack to provide adequate clearance for removing the elbows. Cut back the jacket and unwind the concentric neutral wires to allow enough length to make a connection to ground. Cut the cable 1- ¾“ from the center line of the mating bushing.

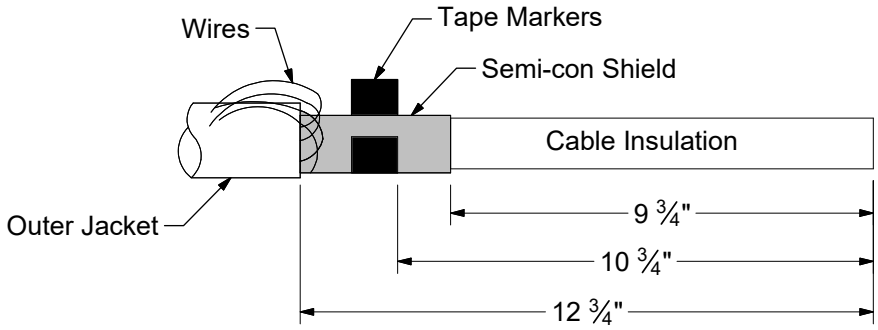


2. Clean the Cable

   A. Clean the outer jacket of the cable for 24 inches.

3. Cable Preparation

   A. Follow the cable cut backs for jacketed concentric neutral wires shown below:



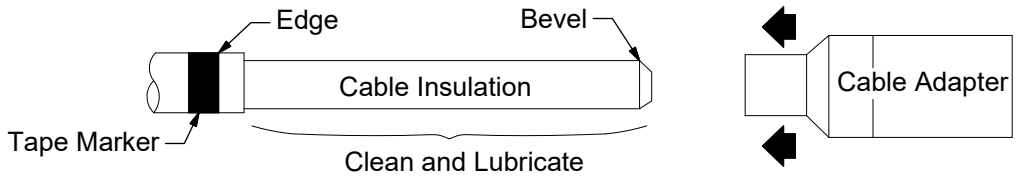
REV	DATE	ENG	DESCRIPTION
1	01/01/22	EJB	Converted to new format
0	10/01/19	EJB	

4. Install the Cable Adapter:

   A. Bevel the end of the cable insulation at 45 degree angle, approximately ¼" back.

   B. Thoroughly clean, then lubricate the cable insulation always working toward the semi-con shield.

   C. Install the cable adapter, small end first, until it is flush with the edge of the tape marker.



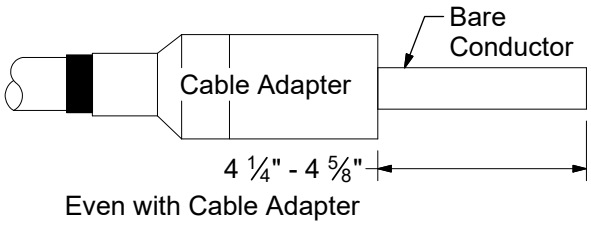
5. Expose the Conductor:

   A. Remove the cable insulation and expose the conductor by cutting it even with the cable adapter.

   B. Do not cut or nick the cable adapter or the conductor.

   C. The length of exposed conductor should be length 4-¼" to 4-⅝".

   D. Otherwise, redo the assembly.



6. Install the Shear Bolt Lug

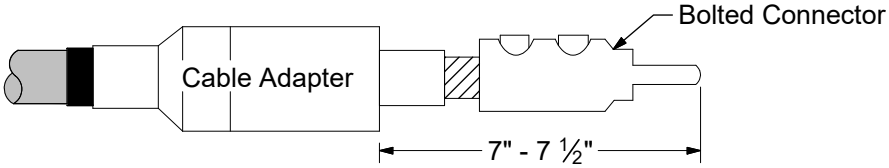
   A. For copper conductor insert the shear bolt lug onto the bare conductor. For aluminum conductor wire brush it and immediately insert the shear bolt lug onto the bare conductor.

   B. The 4/0 AWG lug will require a ⅜" hex socket, the 350 kcmil lug will require a ½" hex socket, and the 750 kcmil lug will require a ¾" hex socket.

   C. Start with the shear bolt at the open end of the connector and move towards the eye of the lug.

   D. Wipe off all excess inhibitor after installation.

   E. The distance from the end of the bolted connector to the cable adapter after installation should be in the range of 7" to 7-½". If not, redo the assembly.



   F. Remove any sharp edges from the bolted connector to avoid damage to the elbow.

7. Install the T-Elbow Body to the Cable

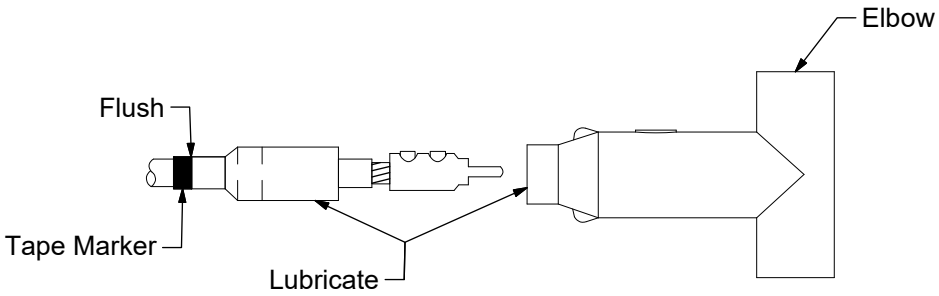
   A. Lubricate the cable adapter and the inside of the elbow cable entrance.

   B. Install the elbow onto the cable adapter until the elbow cannot advance further.

   C. Make sure that the cable adapter is still flush with the tape marker.

   D. If not, reposition the cable adapter.

   E. Remove the tape marker.



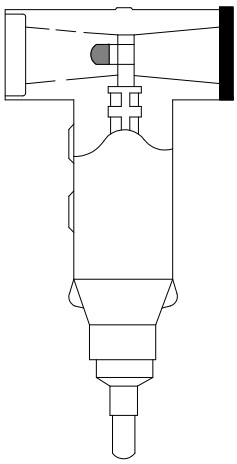
8. Install the T-Elbow to the 600 Amp Bushing.

   A. Remove the protective caps from both ends of the T-elbow and from the 600 amp bushing.

   B. Hand tighten the threaded stud supplied with the T-elbow into the 600 amp bushing.

   C. Clean and lubricate both the T-elbow and the 600 amp bushing with the lubricant supplied.

   D. Push the T-elbow onto the 600 amp bushing, lining up the hole in the compression lug with the stud on the mating part.

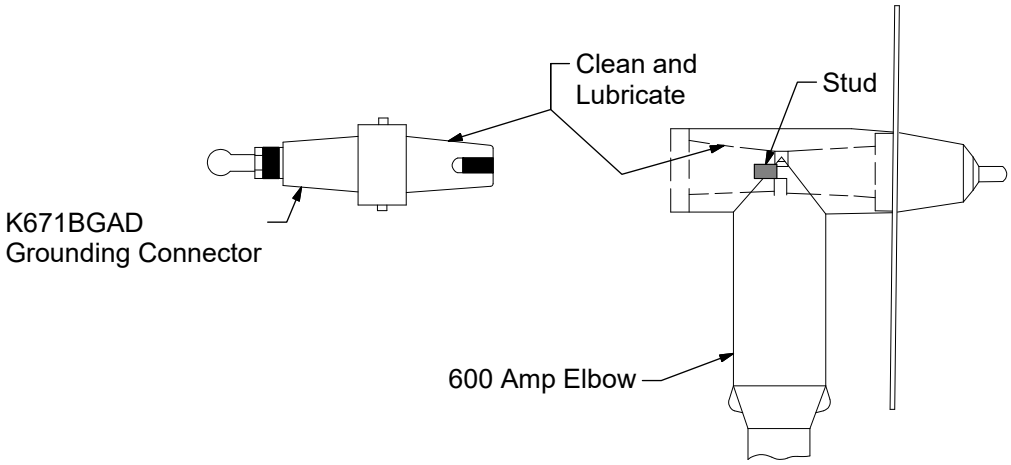


9. Install the Ball Ground Connector to the T-Elbow

A. The Ball Ground Connector (K671BGAD) is installed on the rear position of the T-elbow.

B. Clean and lubricate the Ball Ground Connector interface and the 600 amp T-elbow interface with the lubricant supplied.

C. Insert the Ball Ground Connector into the T-elbow and rotate clockwise to engage the stud.

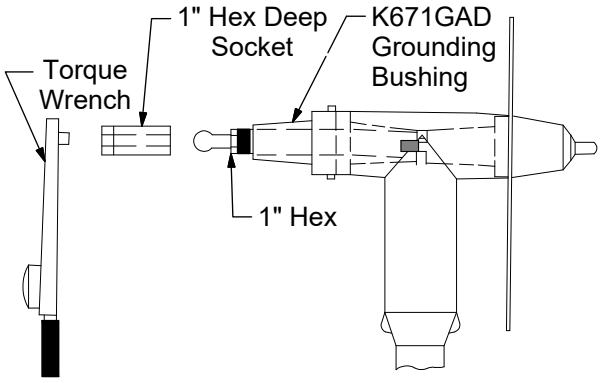


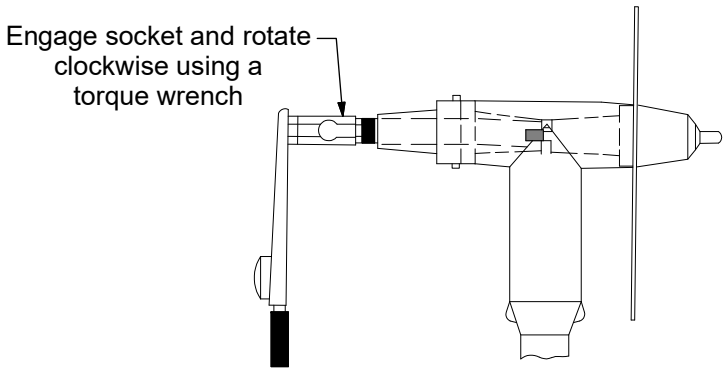
10. Tighten the Ball Ground Connector to the T-Elbow

A. Engage a 1” deep socket (Stock #86 14 400) onto the ball ground connector by placing it over the ball ground. Attach a torque wrench (Stock #85 40 005) to the socket and continue rotating.

B. When the Ball Ground Connector stops rotating, tighten it to 55/60 foot-pounds torque.

C. Remove the wrench and socket from the Ball Ground Connector.





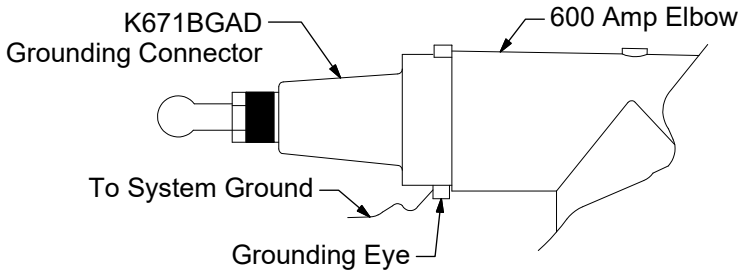
REV	DATE	ENG	DESCRIPTION
1	01/01/22	EJB	Converted to new format
0	10/01/19	EJB	

11. Install the Drain Wires and Ground Drain wires and Neutral Wires

A. Using a separate #14 copper wire, insert one end through the grounding eye on the Ball Ground Connector. twist lightly taking care nor to damage the eye. The other end of the wire must be connected to system ground.

B. Repeat step “A” to connect a drain wire from a tab on the T-elbow to system ground.

C. Twist the neutral wires of the cable together and connect them to system ground.

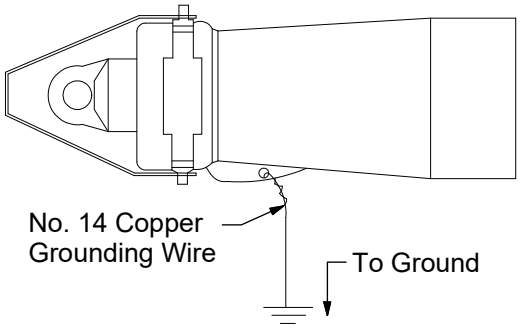


12. Installing the Insulating Cap

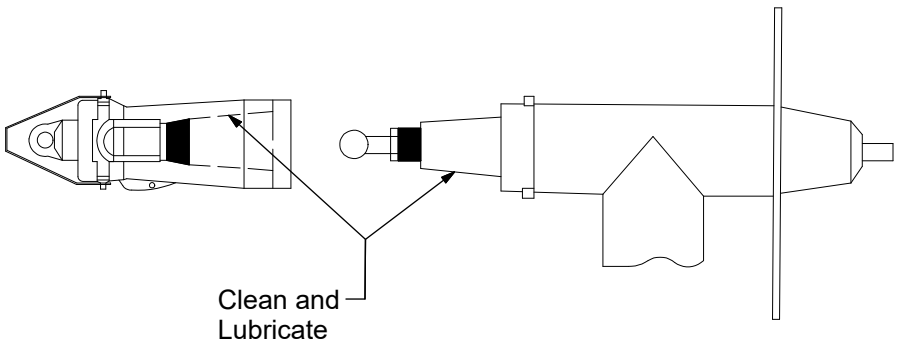
A. Insert a length of #14 copper wire through the grounding eye of the Insulating Cap (K676BGADDR).

B. Make a small loop and twist lightly, taking care not to damage the grounding eye.

C. Connect the free end of the grounding wire to the system ground. The length of the grounding wire should be sufficient for the distance from the grounding point to the grounding eye of the Insulated Cap plus enough wire to wrap round the Insulated Cap 10 times (90”) during assembly.

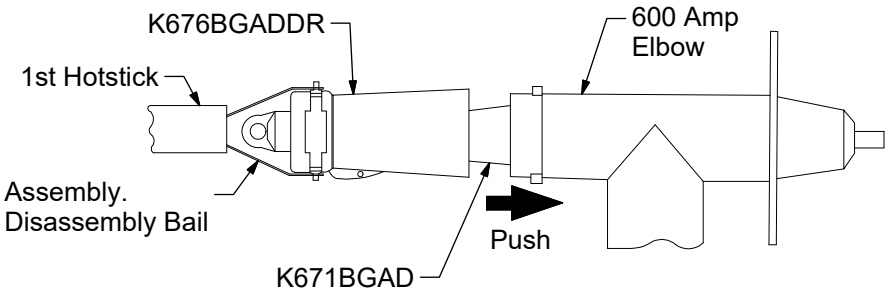


D. Clean and lubricate the Insulated Cap and the Ball Ground Connector with lubricant supplied.

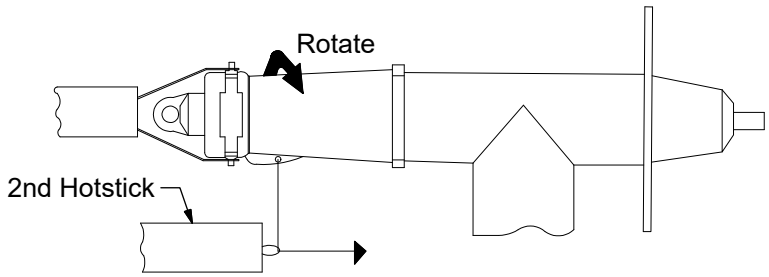


E. Two hot sticks are required for installation of the Insulating Cap. During installation of the Insulating Cap, the grounding wire will be wrapped around the body of the Insulating Cap.

F. Attach the first hot stick tool to the Insulating Cap assembly / disassembly bail and push the cap onto the bushing interface as far as it will go.



G. With the second hot stick, engage the grounding wire and establish slight tension (see the figure below).



H. With the first hot stick, while pushing against the bushing surface, rotate the cap clockwise until the threads between the stud mounted on the bushing and the Insulating Cap engage; continue turning without pushing until resistance is felt. DO NOT OVERTIGHTEN.

I. Remove the second hot stick.

13. Removing the Insulating Cap

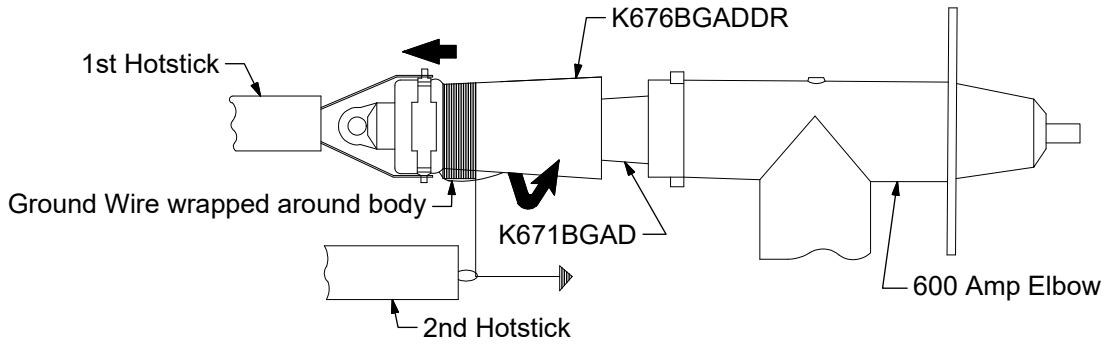
WARNING: DO NOT DISCONNECT THE INSULATING CAP WHILE THE ELBOW IS ENERGIZED!

A. After the circuit is known to be de-energized, securely fasten a hot stick to the assembly / disassembly bail.

B. Without exerting any pulling force, rotate the Insulating Cap counter-clockwise eight or nine turns.

C. With a second hot stick tool, control the unwound ground wire so that the wire will not interfere with adjacent devices or entangle itself with the first hot stick tool.

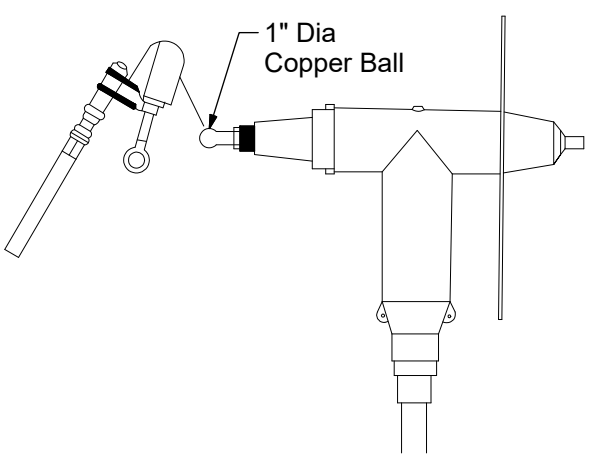
D. Exert a pulling force to remove the Insulating Cap from the Ball Ground Connector interface.

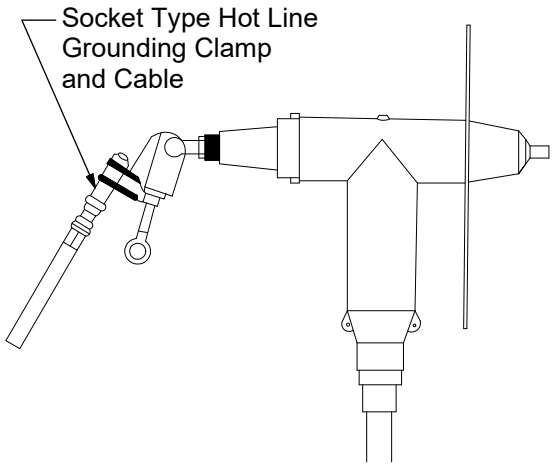


14. Installing the Ball Ground Clamp

A. The Ball Ground Connector (K671BGAD) has a 1” copper ball extending out from the interface end so that a socket type hot line grounding clamp can be attached.

B. FOLLOW AMEREN OPERATING PROCEDURES FOR GROUNDING THIS CONNECTION.





15. Removing the Ball Ground Clamp and Installing the Insulating Cap.

A. When repairs have been completed, remove the hot line ball ground clamp.

B. Install the Insulating Cap (K676BGADDR) as shown in Step 12.

DCS #	DESCRIPTION
42 34 65 01	350 CNRP
42 34 65 02	4/0 ALCNRP
42 34 65 03	750 ALCNRP or CNRP

CONSTRUCTION NOTE(s):

1. Use the Grounding Connector (Item C) and the Hex Nut (Item D) to connect the drain wires of the dead break Elbow and the 600 amp Insulating cap to the ground bus bar of the vault mounted switchgear.

	ITEM	STK / DCS #	DESCRIPTION 42 34 65 **	01	02	03
	A	17 05 556	Elbow − Dead break, 15kV, 600 A, 350 kcmil, with Ball Ground & Cap	1	-	-
		17 05 554	Elbow − Dead break, 15kV, 600 A, 4/0 AWGI, with Ball Ground & Cap	-	1	-
		17 05 555	Elbow − Dead break, 15kV, 600 A, 750 kcmil, with Ball Ground & Cap	-	-	1
	B	18 52 018	Wire − #4 Copper, Binder, Bare	15	15	15
1 @	C	17 54 435	Connector − Grounding, #8 to 2/0	1	1	1
1 @	D	21 61 007	Nut − Hex, ½”, 13 TPI, Everdur	1	1	1

DESIGN NOTE(s):

2. Each 15kV padmounted switchgear will require 3-12 15kV 600 amp dead break elbow terminations.

3. Each 15kV vault mounted switchgear will require 6-12 15kV 600 amp dead break elbow terminations.

4. The Ball Ground Connector has a 25 kA fault current rating vs. the 200 amp load break tap on the standard 600 amp T-body connection which has a 10 kA fault rating.

INSTRUCTIONS - Cable With Concentric Neutral Wires or Flat Strap Neutrals

1. Train cable into position and cut to required length. Strip the cable to the dimensions shown in Figure 1. Check the lug being used to determine insert depth "X". Provide an additional 1/4" of exposed conductor on 1/0 - 350 kcmil aluminum cables and an additional 3/4" of exposed conductor on 750 kcmil cables. This will accommodate growth during crimping of aluminum lugs. If a shearhead bolt lug is used, additional exposed conductor is not required.

2. Allow a sufficient length of concentric wires or flat straps to make the ground connections.

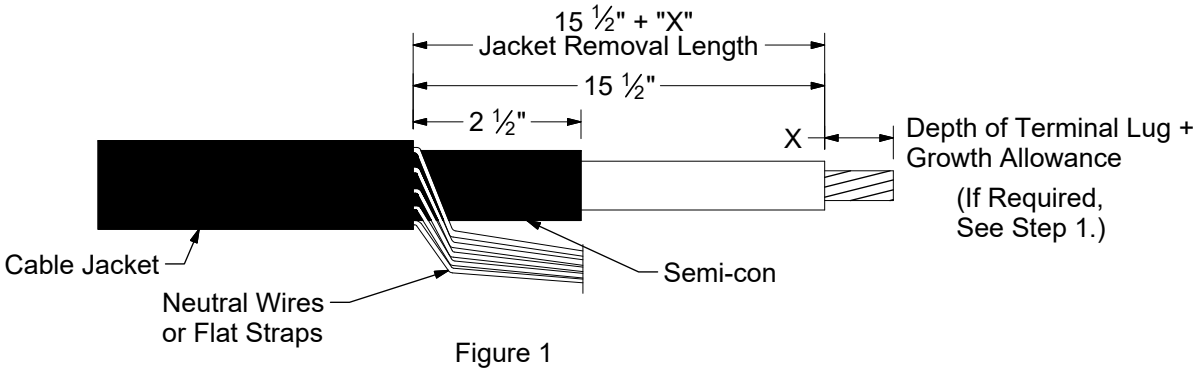


Figure 1

3. Select one of the two mastic strips from the kit and remove white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4" from the cut edge. Cut off excess mastic. See Figure 2.

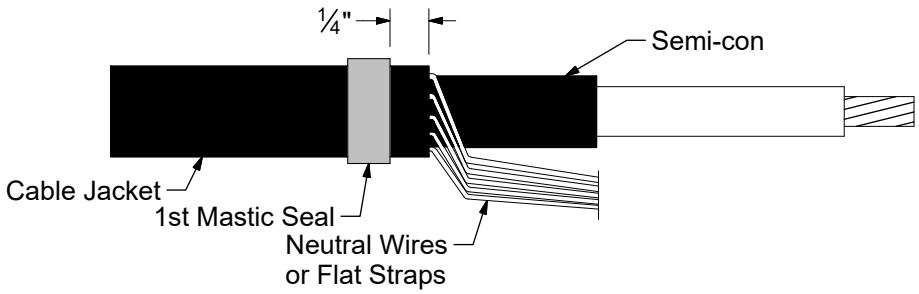


Figure 2

4. Bend the neutral wires (flat straps) back over applied mastic and secure to cable jacket 4-½" from the edge of the semi-con. Use vinyl tape to secure the wires (straps). This tape will be used to position the terminator, so the location is critical. See Figure 3.

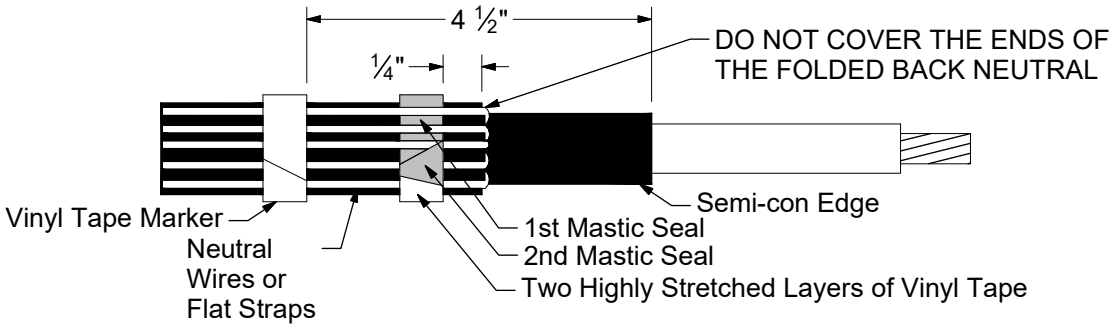


Figure 3

5. Select the second mastic strip from the kit and remove the white release liners. Apply a second single wrap of mastic over the neutral wires (straps) and the previously applied mastic strip. Cut off excess. See Figure 3.

Compress the neutral wires (straps) into the mastic by overwrapping the strips with two highly stretched layers of vinyl tape. Be sure to cover all exposed mastic. See Figure 3.

6. Remove the red support core from the terminator. Verify that the terminator body will fit over the lug being used. If the lug will not fit through the core, clean the insulation and slide the terminator onto the cable before installing the lug. DO NOT remove the core at this time.

7. Use a stainless steel wire brush to clean the exposed aluminum conductor. Position and install the 4/0 aluminum lug using a U249 die. For the 350 kcmil copper lug, use a U31RT die. For the 750 kcmil aluminum lug, use a U608 die. For the 750 kcmil copper lug, use a L39RT die. For the 1/0 aluminum lug, use a U25ART die. Make as many crimps as possible without overlap. After the lug is installed remove excess oxide inhibitor and all sharp crimp flashing.

   The shearhead bolt lug (Stock #17 55 804) may be used instead of the 350 kcmil through 750 kcmil copper and aluminum compression lugs.

   Shearhead Bolt Lug Installation Instructions.

   A. Battery powered impact wrench with a ⅞" hexagonal socket should be used to install shearhead bolt lugs.

   B. Remove the insert from the lug body if the conductor to be installed is greater than 600 kcmil compact stranded.

   C. Back out all bolts to give clearance for the conductor - DO NOT completely remove the bolts from the connector body.

   D. Insert the cleaned conductor into the lug. There should be no gap between the insulation and lug body.

   E. Hand tighten the bolts to firmly grip the conductor. Use the tightening sequence shown in Figure 4 to tighten the bolts one-and-a-half turns. Bolts should remain un-sheared.

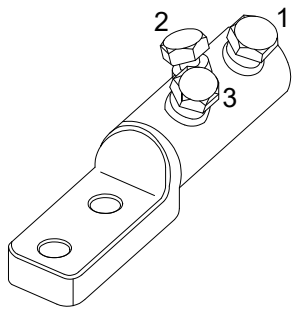


Figure 4

   F. Repeat the sequence in step "E" tightening each bolt until the head shears off. DO NOT bend the conductor while shearing the bolts.

   G. Smooth any sharp edges of protruding bolts with the abrasive provided. Clean the connector to remove particles and excess inhibitor.

8. Position the terminator body on the cable. The base of the terminator body (not the core) must be butted up to the edge of the vinyl marker tape. Remove the core while unwinding in a counter-clockwise direction. Once the terminator body has made contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT push or pull the terminator while unwinding the core. See Figure 5.

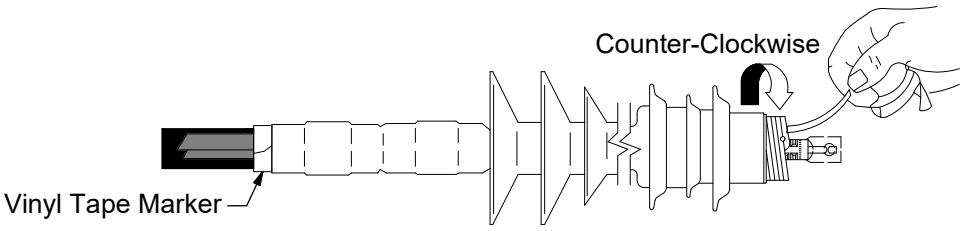


Figure 5

9. For 1/0 - 750 kcmil outdoor installations, attach a bronze four bolt lug to the compression lug or shearhead bolt lug using a ground stud in the upper hole and a 1/2” x 2” bolt in the lower hole. See Figure 6.

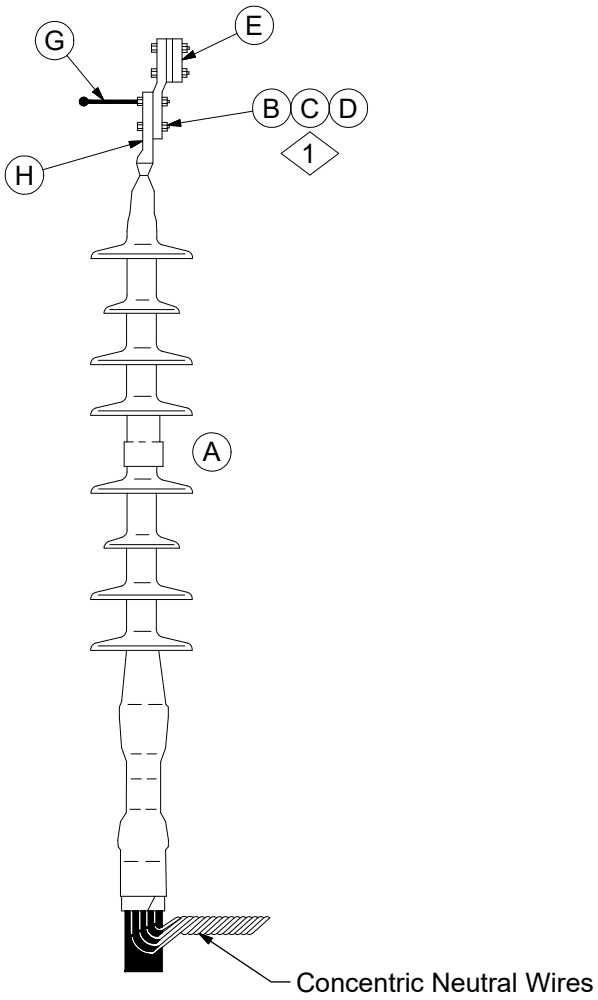


Figure 6

10. Collect all concentric neutral wires (straps) together and connect to system ground.

11. If a shearhead bolt lug is used, verify that the terminator body covers all bolt positions to prevent moisture ingress. If a bolt position is not covered with the terminator body, cover the bolt position with mastic and silicone tape.

INSTRUCTIONS - Cables With Metallic Shields (LC or Tape (shown))

1. Train cable into position and cut to required length. Strip the cable to the dimensions shown in Figure 1A. Check the lug being used to determine insert depth "X".

   A. Special shears (Stock #85 32 240) should be used to cut the LC shield.

   B. To prevent a taped shield from unrolling, hold down the edges with a single wrap of semi-conducting tape (Stock #25 53 076).

   C. Provide an additional 1/4" of exposed conductor on 1/0-350 kcmil cables and an additional 3/4" of exposed conductor on 750 kcmil cables. This will accommodate growth during crimping of aluminum lugs. If a shearhead bolt lug is used, additional exposed conductor is not required.

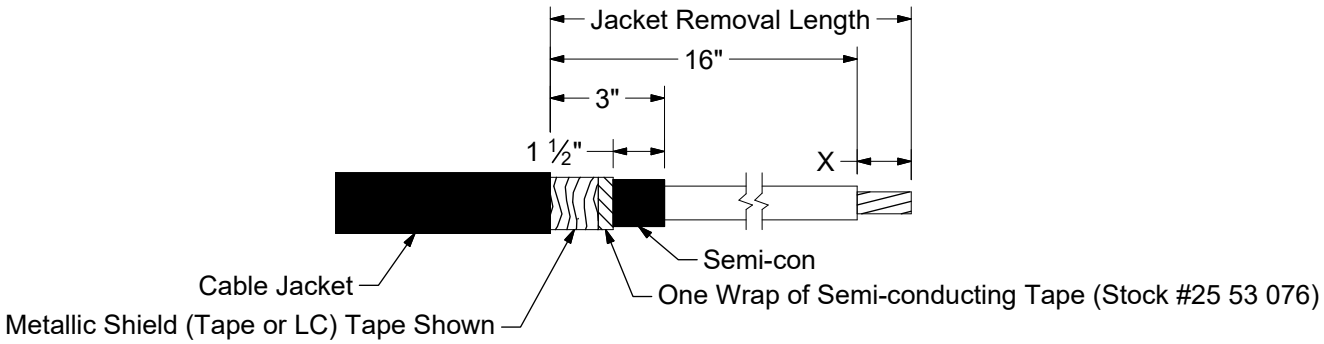


Figure 1A

2. Select one of the two mastic strips from the kit and remove white release liners. Using light tension apply a single wrap of mastic around the cable jacket 1/4" from the cut edge. Cut off excess mastic. See Figure 2A.

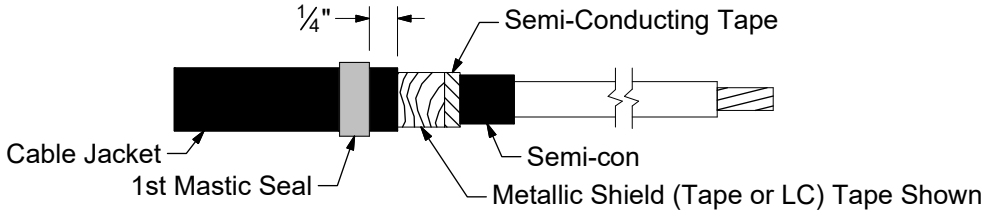


Figure 2A

3. Position a preformed ground braid (Stock #17 54 306) with the ”U” section over the metallic shield directly adjacent to the cable jacket cut edge. Position one tail of the ground braid over the cable jacket with the heat-shrinkable covering in contact with the mastic strip. Secure the tail to the cable jacket 4-1/2” from the edge of the semi-con using vinyl tape. Note: Position the vinyl tape with care since it also serves as a marker for positioning the terminator. See Figure 3A.

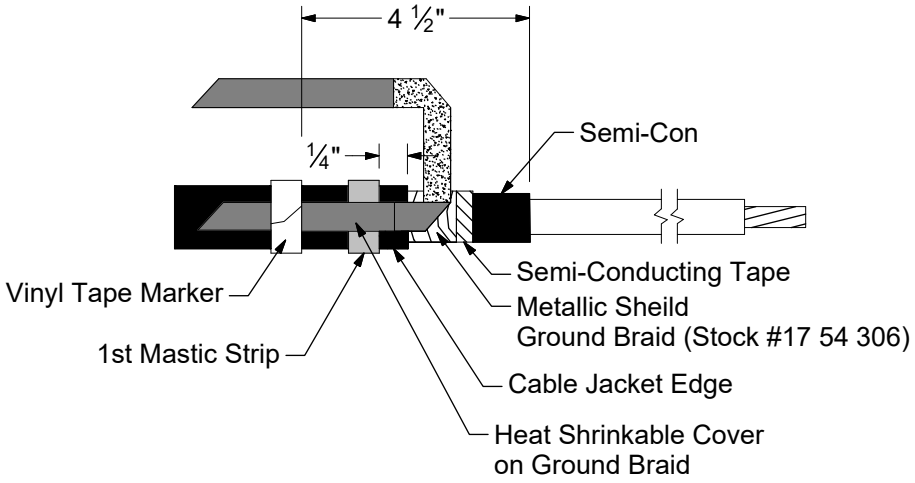


Figure 3A

REV	DATE	ENG	DESCRIPTION
11	04/01/25	EJB	Add 3 hole lug option
10	01/01/22	EJB	Converted to new format

4. Wrap the ground braid around the metallic shield and secure in place with the constant force spring. Tighten the spring after wrapping the final turn. Position the ground braid tails over the cable jacket. The tails of the ground braid do not have to be on top of each other. See Figure 4A.

5. Select the second mastic strip from the kit and remove the white release liners. Apply a single wrap of the second mastic strip over the previously applied mastic. If ground braids overlap on cable jacket be sure to apply mastic between the braids. Secure ground braids to cable jacket 4-1/2" from cable semi-con edge using vinyl tape. Apply tape directly over previously applied marker tape. See Figure 4A.

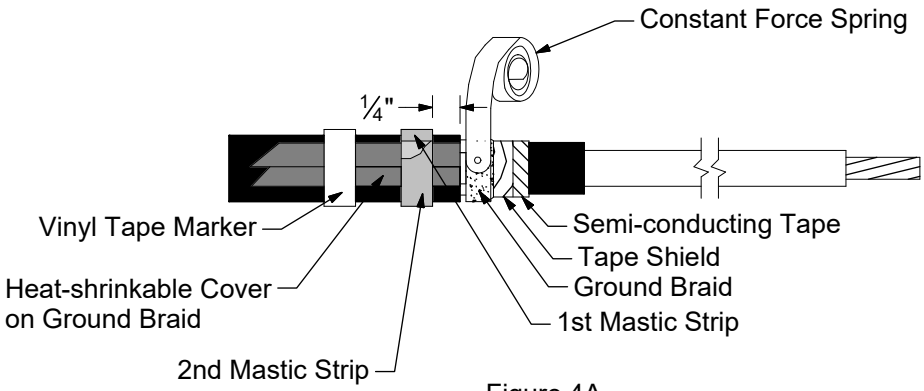


Figure 4A

6. Wrap two half-lapped layers of vinyl tape around the mastic seal. Apply two half-lapped layers of semi-conducting tape over the constant force spring and exposed metallic shield. Do not cover the exposed semi-con insulation shield. See Figure 5A.

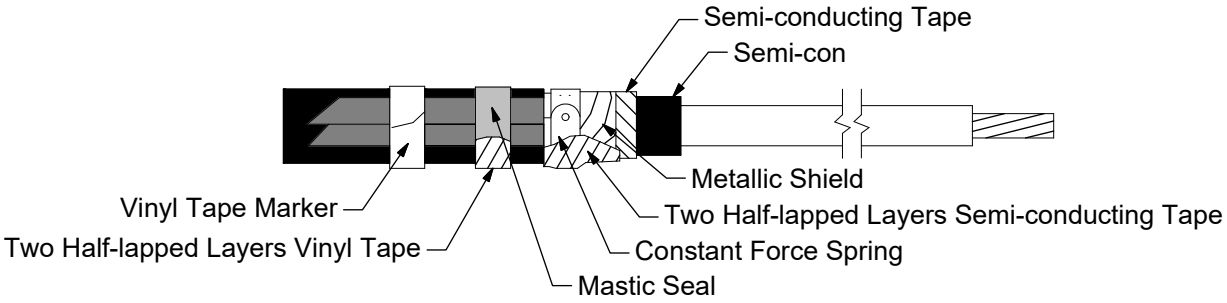


Figure 5A

7. Remove the red support core from the terminator. Verify that the terminator body will fit over the lug being used. If the lug will not fit through the core, clean the insulation and slide the terminator onto the cable before installing the lug. Do not remove the core at this time.

8. Use a stainless steel wire brush to clean the exposed aluminum conductor. Position and install the 4/0 aluminum lug using a U249 die. For the 350 kcmil copper lug, use a U31RT die. For the 750 kcmil aluminum lug, use a U608 die. For the 750 kcmil copper lug, use a L39RT die. Make as many crimps as possible without overlap. After the lug is installed remove excess oxide inhibitor and all sharp crimp flashing. The shearhead bolt lug (Stock #17 55 804) may be used instead of the 350 kcmil through 750 kcmil copper and aluminum compression lugs. See shearhead bolt lug installation on Sheet 2.

9. Position the terminator body on the cable. The base of the terminator body (not the core) must be butted up to the edge of the vinyl marker tape. Remove the core while unwinding in a counter-clockwise direction. Once the terminator body has made contact over the mastic seal area, there is no need to continue supporting the assembly. DO NOT push or pull the terminator while unwinding the core. See Figure 6A.

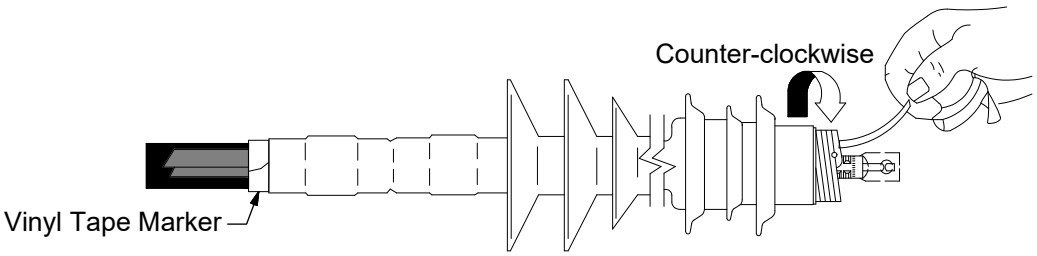


Figure 6A

10. For outdoor installations, attach a bronze four bolt lug to the compression lug or shearhead bolt lug using a ground stud in the upper hole and a 1/2” x 2” bolt in the lower hole. See Figure 7A.

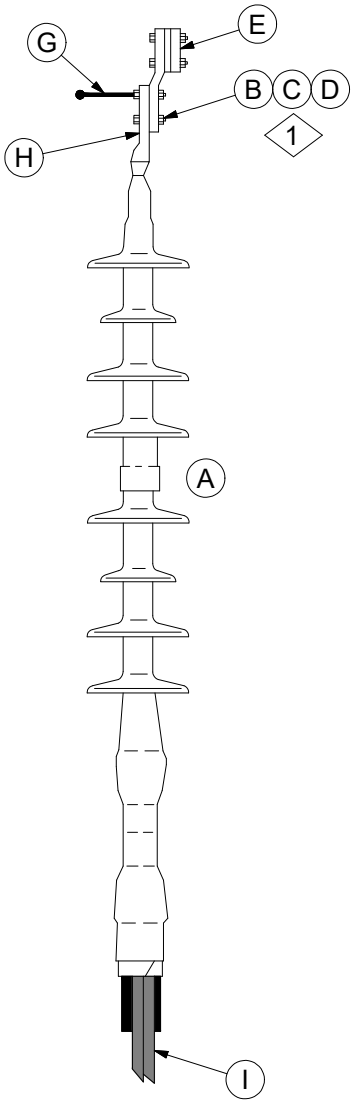


Figure 7A

11. Connect ground braids to system ground using a two-bolt connector (Stock #17 54 140).

REV	DATE	ENG	DESCRIPTION
11	04/01/25	EJB	Add 3 hole lug option
10	01/01/22	EJB	Converted to new format

12. If a shear head bolt lug is used, verify that the terminator body covers all bolt positions to prevent moisture ingress. If a bolt position is not covered with the terminator body, cover the bolt position with mastic and silicone tape.

DCS #	DESCRIPTION
42 44 12 01	4/0 Al Compression Lug
42 44 12 02	350 CU Compression Lug/Shearhead Bolt Lug
42 44 12 03	750 CU Compression Lug/Shearhead Bolt Lug
42 44 12 04	750 AL Compression Lug/Shearhead Bolt Lug
42 44 12 05	1/0 AL Lug
42 44 12 06	750 CU Compression Lug 3-Hole

CONSTRUCTION NOTE(s):

◇1.◇ For washer stacking order see DCS **59 52 00 43**.

	ITEM	STK / DCS #	DESCRIPTION 42 44 12 **	01	02	03	04	05	06
	A	17 07 151	Terminator - Cable, 35 kV, 1/0-750 kcmil	1	1	1	1	1	1
2	B	21 56 078	Bolt - Machine ½" x 2" SS	1	1	1	1	1	1
	C	12 56 052	Washer-Belleville-Spring, 1/2"x 2" SS	2	2	2	2	2	2
	D	12 56 053	Washer-Flat, ½", SS	4	4	4	4	4	4
2	E	17 54 177	Connector - Cable to Flat Bronze	1	1	1	1	1	1
	F	17 54 140	Connector - Wire, #8-4/0, 2-Bolt	1	1	1	1	1	1
2	G	23 64 051	Stud - Grounding, 7" Long, Ball End	1	1	1	1	1	1
		17 55 456	Lug - Compression, 1/0, 2 Hole Al	-	-	-	-	1	-
		17 05 256	Lug - Compression, 4/0, 2 Hole Al	1	-	-	-	-	-
		17 55 296	Lug - Compression, 350, 2 Hole Cu	-	1	-	-	-	-
@	H	17 55 214	Lug - Compression, 750, 2 Hole Cu	-	-	1	-	-	-
		17 05 260	Lug - Compression, 750, 2 Hole Al	-	-	-	1	-	-
		17 55 804	Lug - Shearhead Bolt, 350-750 Cu/Al, 2 Hole	-	1	1	1	-	-
		17 05 569	Lug - Compression, 750 CU, 3 Hole	-	-	-	-	-	1
@	I	17 54 306	Connector - Cable Ground Braid	-	1	1	1	-	-
			Operation Code 720	1	1	1	1	1	1

DESIGN NOTE(s):

2. For indoor installations omit items "E" and "G" and increase the quantity of item "B" by one.

REV	DATE	ENG	DESCRIPTION
11	04/01/25	EJB	Add 3 hole lug option
10	01/01/22	EJB	Converted to new format

INSTRUCTIONS

1. Train The Cable

   A. Center the cable between the apparatus bushing and the parking stand pocket. The cable should be located 7 inches from the apparatus front plate.

   B. Provide adequate slack for cable movement between the apparatus bushing and the standoff bushing.

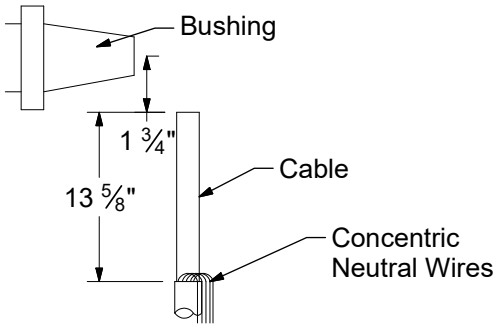
   C. Cut the cable 1-3/4 inches from the centerline of the bushing.

   D. Clean 24 inches of the outer cable jacket.

2. Cut Back The Cable

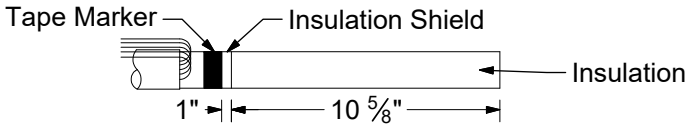
   A. Remove 13-5/8 inches of cable jacket.

   B. Allow enough extra concentric neutral wires to connect to ground and allow movement to the standoff bushing.



   C. Remove 10-5/8 inches of insulation shield.

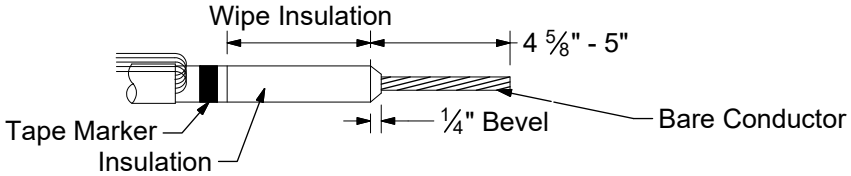
   D. Place a tape marker 1 inch from the end of the insulation shield.



   E. Remove 4-5/8 - 5 inches of insulation.

   F. Bevel the insulation edge 1/4 inch at a 45 degree angle.

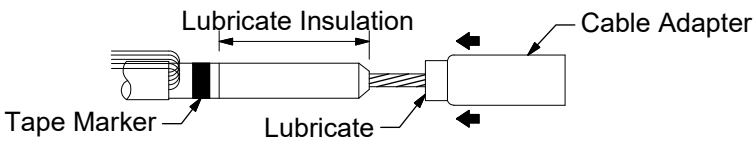
   G. Thoroughly clean the insulation.



3. Install The Cable Adapter

   A. Lubricate the exposed insulation and the inside of the cable adapter.

   B. Slide the small end of the cable adapter over the cable using a twisting motion until the small end is flush with the tape marker.



4. Install The Compression Connector

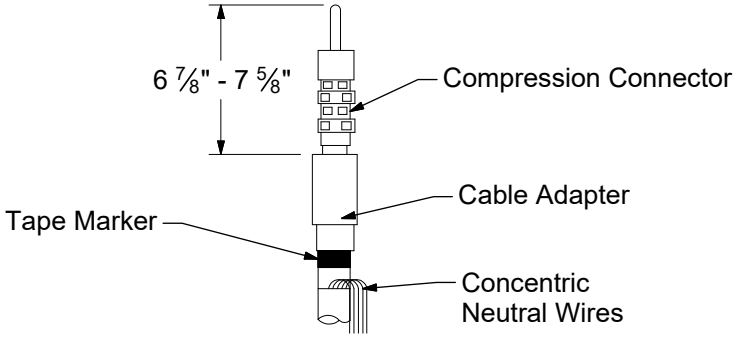
   A. Wire brush the aluminum conductor.

   B. Insert the conductor into the compression connector and rotate until the flats of the compression connector and the apparatus bushing are aligned.

   C. Make 3 crimps using the U28ART die for 1/0 AWG AL cable, or U31 ART die for 350 kcmil cable, or L39ART die for 750 kcmil cable. Make the first crimp at the first line below the shoulder of the connector. Rotate each crimp 90 degrees and allow 1/8 inch between crimps.

   D. Wipe off excess inhibitor.

   E. Check connector length as shown.



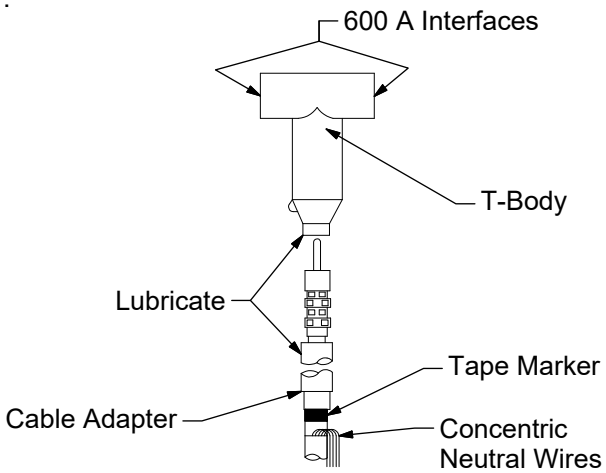
5. Install T-Body

   A. Clean and lubricate the outside of the cable adapter. Remove the protective caps from the T-body.

   B. Clean and lubricate the inside of the T-body.

   C. Slide the T-body onto the cable until the compression connector eye is centered in the 600 Amp interfaces.

   D. Remove the tape marker.



6. Install The 600 AMP Elbow Onto The Apparatus Bushing

   A. Screw the threaded stud into the threaded hole in the LRTP if a stud is not already installed on the apparatus bushing.

   B. Clean and lubricate the mating interfaces of the apparatus bushing, the LRTP, and the T-body.

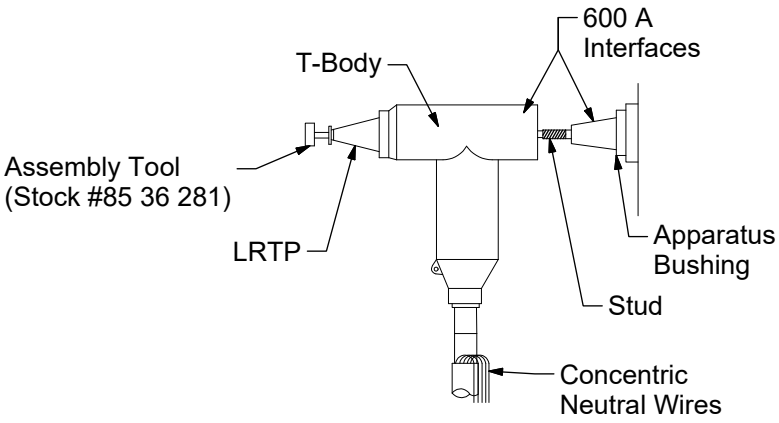
   C. Push the T-body onto the apparatus bushing.

D. Insert the LRTP into the back of the T-body and engage the stud by turning the LRTP by hand.

E. Insert the assembly tool into the LRTP throat and engage the internal nut.

F. Turn and tighten the LRTP using the assembly tool to a torque of 50-60 ft-lbs.

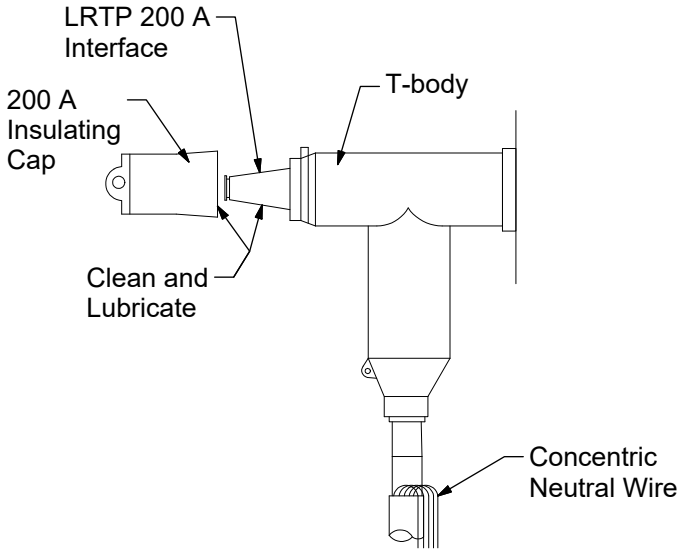
G. Remove the assembly tool.



7. Cap The 200 AMP Interface

A. Clean and lubricate the 200 Amp interface on the LRTP and the inside of an insulating cap.

B. Cover the interface with the cap.



REV	DATE	ENG	DESCRIPTION
7	01/01/22	EJB	Converted to new format
6	10/01/19	EJB	

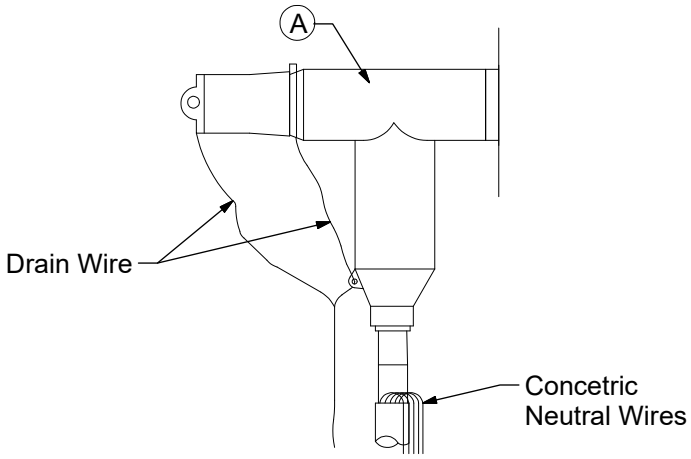
8. Ground The Elbow

   A. Connect the tie off tabs of the LRTP and the T-body with a strand of drain wire (concentric neutral wire) and connect the drain wire to ground.

   B. Connect the insulating cap drain wire to ground.

   C. Connect the cable concentric neutral wires to ground.

   D. For LC shield cables use DCS **59 40 93 44**.



DCS #	DESCRIPTION
42 44 13 01	1/0 ALCNRP
42 44 13 02	350 CNRP
42 44 13 03	750 FSRP

CONSTRUCTION NOTE(s):

1. A 35kV elbow arrester may be inserted onto the LRTP in lieu of the 200 A insulating cap.

	ITEM	STK / DCS #	DESCRIPTION 42 44 13 **	01	02	03
	A	17 05 321	Elbow − Deadbreak, 35kV, 1/0 AWG, Stranded	1	-	-
		17 05 472	Elbow − Deadbreak, 35kV, 350 kcmil, Stranded	-	1	-
		17 05 542	Elbow − Deadbreak, 35kV, 750 kcmil, Stranded	-	-	1
1 @	B	10 01 163	Arrester − Elbow, 35kV	1	1	1
@	C	17 54 306	Connector − Cable Ground Braid	-	1	-

NOTE: These Instructions Require Sign Off Lines

Sixty-nine kV terminators have numerous installation steps and it is critical that each step be completed in the correct order and as detailed in the following instructions. To help ensure that the installation instructions are followed and completed in order, a sign-off/check-off line has been added at the end of each step. After the work outlined in a specific step has been completed, the sign-off/check-off line is to be initialed by the individual completing the step.

By using the sign-off/check-off lines there will be no errors associated with skipped or overlooked instructions. Additionally, there will never be a question about where one is in the installation process.

INSTRUCTIONS

1. Prepare cable using dimensions shown in Figure 1. Be sure to allow for depth of terminal lug plus 1/2” plus crimp growth allowance. If a shear head bolt lug is used, additional exposed conductor is not required.

Conductor Size	350	400 - 650	750 - 1000
Crimp Growth Allowance	1/4"	1/2"	3/4"

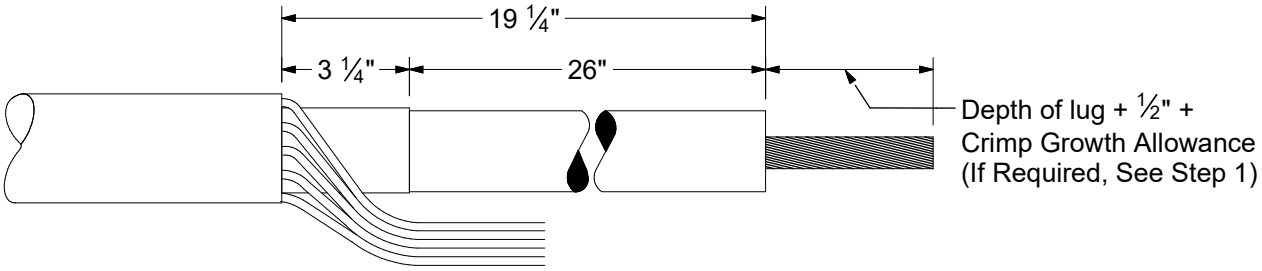


Figure 1

Initial when Step 1 is complete._____

2. Select the roll of 1” wide Scotch Sealing Mastic 2229 from the kit. Cut a length of the mastic long enough to wrap around the cable jacket. Remove the release liner from the mastic and, using a light tension, apply a single wrap of mastic around the cable jacket 1” from the edge. (Figure 2)

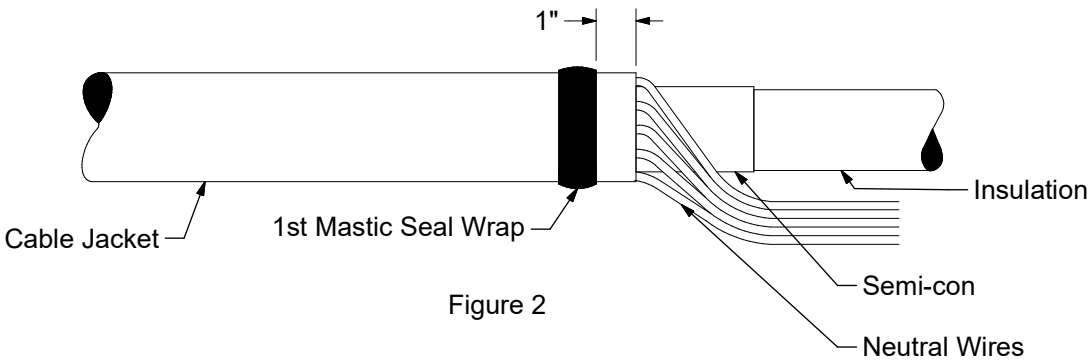


Figure 2

Initial when Step 2 is complete._____

3. Bend neutral wires back over applied sealing mastic and secure to cable jacket with vinyl tape 6” below jacket cutback. (Figure 3)

Initial when Step 3 is complete._____

4. Select the roll of 1” wide Scotch Sealing Mastic 2229 from the kit and cut a length of the mastic long enough to wrap around the cable jacket and neutral wires. Remove the release liner and, using a light tension, apply a single wrap of mastic around the cable jacket over the neutral wires and previously applied mastic. (Figure 3)

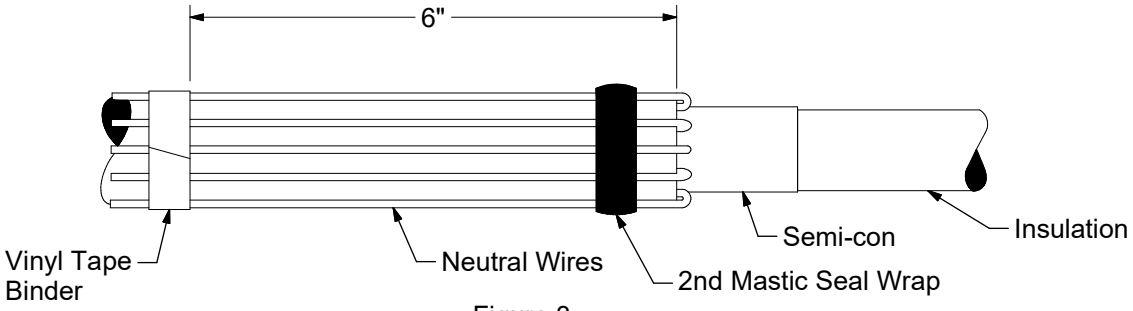


Figure 3

Initial when Step 4 is complete._____

5. Compress neutral wires into mastic by over-wrapping seal strips with two half-lapped layers of highly-tensioned Scotch Vinyl Electrical Tape Super 88. Cover all exposed mastic and neutral wires, overlapping 1/4” onto the exposed cable semi-con. (Figure 4) Take care to leave 3” of exposed semi-con.

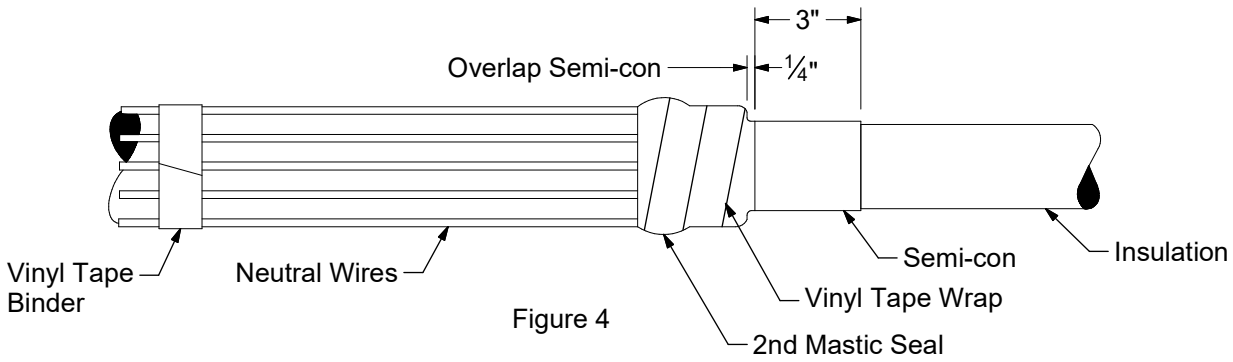


Figure 4

Initial when Step 5 is complete._____

6. Wipe the cable insulation clean with an approved solvent. Do not allow the solvent to touch the semi-con insulation shield.

   If an abrasive is required.

   Use only aluminum oxide abrasive to finish and polish insulation surface.

   Use abrasive only on cable insulation. Do not use on semi-con.

   When using abrasive, do not reduce the cable insulation diameter below that allowed by kit.

Initial when Step 6 is complete._____

7. Slide the ground seal assembly onto the cable jacket, loose core end first. (Figure 5)

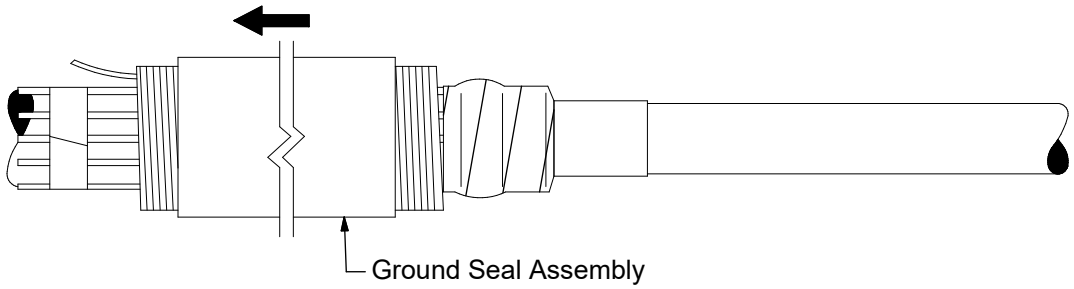


Figure 5

Initial when Step 7 is complete._____

8. Place a marker tape on the cable semi-con located 1-3/4” from the end of the semi-con. (Figure 6)

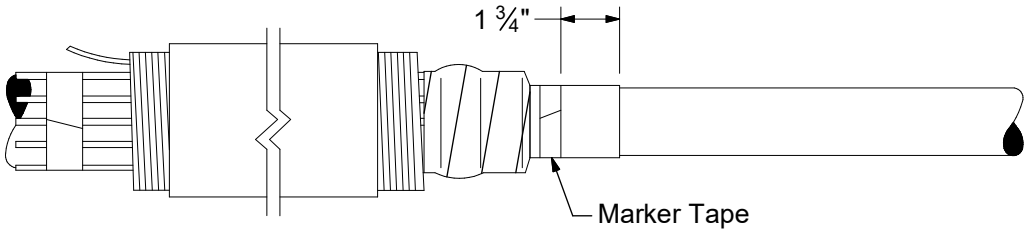


Figure 6

Initial when Step 8 is complete._____

9. Apply 1 tube 3M Red Dielectric Compound P55/R starting at marker tape and continuing onto the cable insulation for approximately 8” (Figure 7)

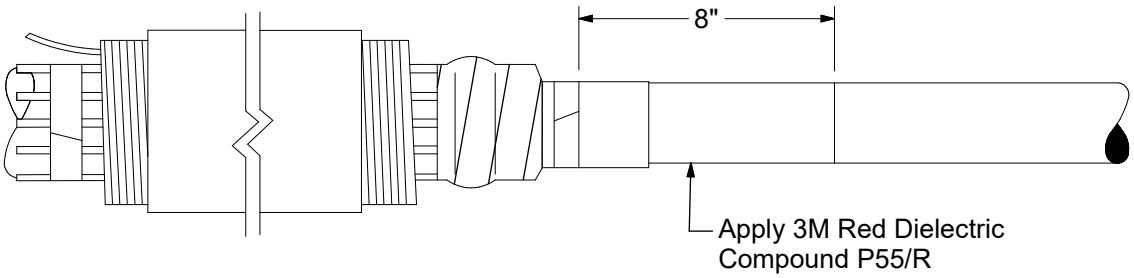


Figure 7

Initial when Step 9 is complete._____

10. Select the Stress Control Assembly (medium length tubular assembly on white core) from the kit. Slide the Stress Control Assembly over the cable with the loose core end toward the cable end. Align the Stress Control Assembly Tube (not the core) with the marker tape, and remove the core by pulling the loose end while unwinding counter-clockwise. (Figure 8)

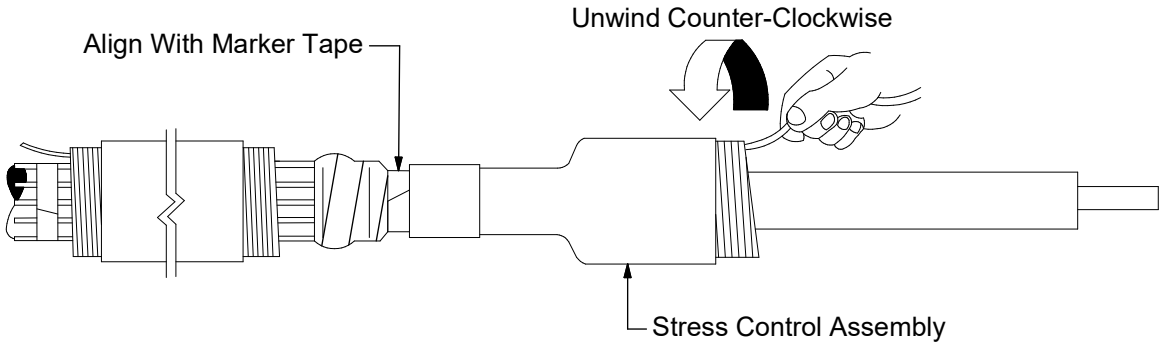


Figure 8

Initial when Step 10 is complete._____

11. Apply 2 tubes 3M Red Dielectric Compound P55/R to the exposed insulation and stress control adapter. Fill the top edge of the stress control tube and the semicon step with the 3M Red Dielectric Compound P55/R. (Figure 9)

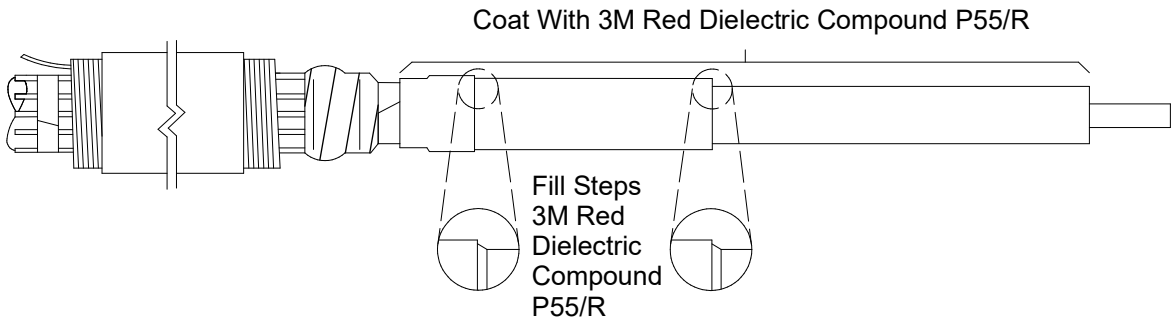


Figure 9

Initial when Step 11 is complete._____

12. Slide the Silicone Rubber Skirted Insulator Assembly onto the cable. Align the assembly tube (not the core) with the sealing mastic/wire cover tape located 3.0” from the end of the cable semi-con, and remove the core by pulling the loose end while unwinding counter-clockwise. (Figure 10)

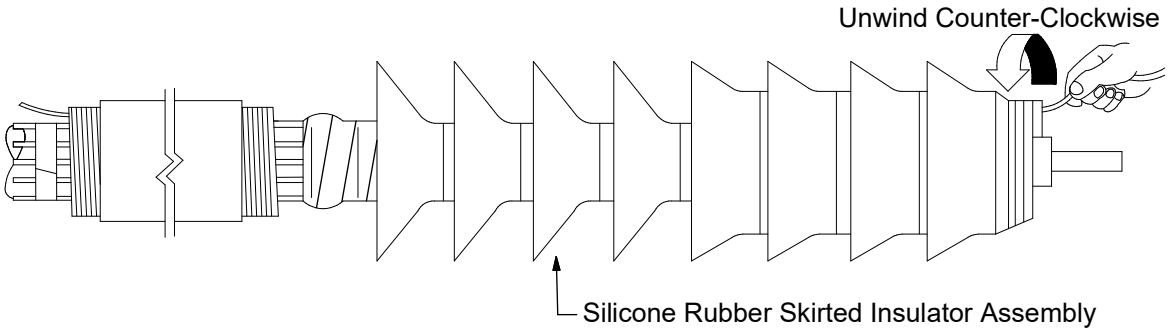


Figure 10

Initial when Step 12 is complete._____

13. Use a stainless steel wire brush to clean the aluminum conductor. Position and install the 500 kcmil lug using a U34ART die. For the 750 kcmil lug use a U608 die. For the 1000 kcmil copper lug use a P44RT die. Make as many crimps as possible without overlap. Remove excess oxide inhibitor and sharp crimp flashing.

    A shear head bolt lug (Stock #17 55 804) may be used instead of the aluminum compression lugs.

Shearhead Bolt Lug Installation Instructions.

A. Battery powered impact wrench with a 7/8” hexagonal socket should be used to install shearhead bolt lugs.

B. Remove the insert from the lug body if the conductor to be installed is greater than 600 kcmil compact stranded.

C. Back out all bolts to give clearance for the conductor - DO NOT completely remove the bolts from the connector body.

D. Insert the cleaned conductor into the lug. There should be no gap between the insulation and lug body.

E. Hand tighten the bolts to firmly grip the conductor. Use the tightening sequence shown in Figure 11 to tighten the bolts one-and-a-half turns. Bolts should remain un-sheared.

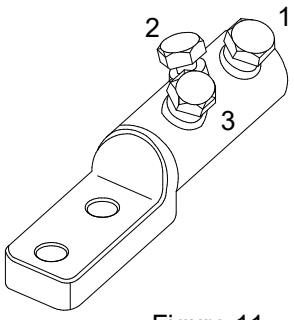


Figure 11

F. Repeat the sequence in step “E” tightening each bolt until the head shears off. DO NOT bend the conductor while shearing the bolts.

G. Smooth any sharp edges of protruding bolts with the abrasive provided. Clean the connector to remove particles and excess inhibitor.

Initial when Step 13 is complete._____

14. Wrap Scotch Rubber Mastic Tape 2228 half-lapped around the exposed conductor between the cable insulation and lug. Build the mastic up to the insulation O.D. Cover 2 inches of the lug barrel. (Figure 12)

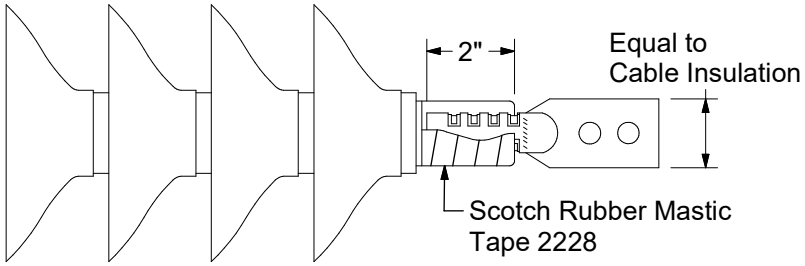


Figure 12

Initial when Step 14 is complete._____

REV	DATE	ENG	DESCRIPTION
3	01/01/22	EJB	Converted to new format
2	03/12/15	EJB	

15. Slide the parked ground seal assembly onto the termination. Start to shrink underneath the first skirt. Remove the core by pulling the loose end while unwinding counter-clockwise. (Figure 13)

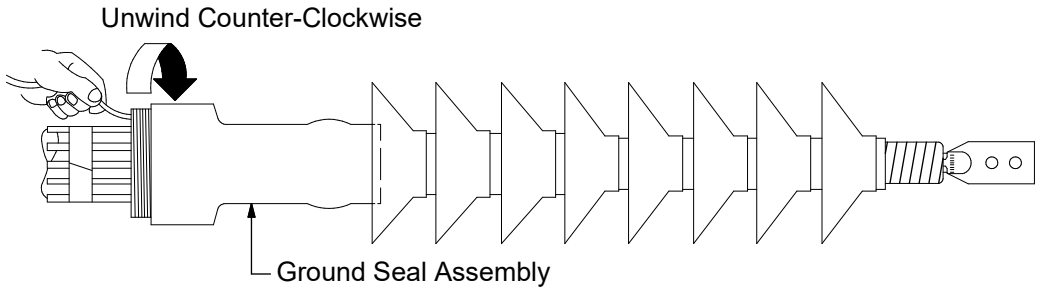


Figure 13

Initial when Step 15 is complete._____

16. Slide the lug sealing tube onto the lug/termination, as shown. Start to shrink the tube near the top of the last skirt and onto the lug barrel. If the tube overlaps the lug pad or is not tight to the lug barrel, carefully trim the tube just past (1/4") the Scotch Rubber Mastic Tape 2228 sealing tape. A roll of Scotch Self-fusing Silicone Rubber Tape 70 is provided to cover the edge of the trimmed tube, apply with moderate tension, stretching only enough to conform to the lug barrel and tube. (Figure 14)

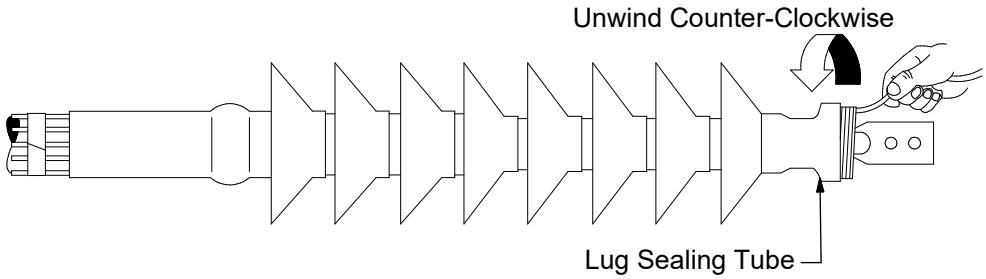


Figure 14

Initial when Step 16 is complete._____

REV	DATE	ENG	DESCRIPTION
3	01/01/22	EJB	Converted to new format
2	03/12/15	EJB	

17. Attach the bronze four bolt lug to the compression or shear head bolt lug. If the terminator lug is being attached directly to a flat surface the bronze connector may be omitted. (Figure 15)

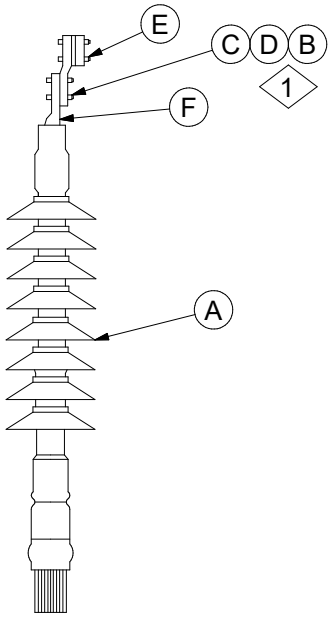


Figure 15

Initial when Step 17 is complete._____

18. Connect the concentric neutral wires to system ground using a two-bolt connector.

Initial when Step 18 is complete._____

DCS #	DESCRIPTION
42 54 11 01	1-500 kcmil ALCNRP
42 54 11 02	1-750 kcmil ALCNRP
42 54 11 03	1-1000 kcmil CNRP

CONSTRUCTION NOTE(s):

1. For washer stacking order see DCS **59 52 00 43**.

	ITEM	STK / DCS #	DESCRIPTION 42 54 11 **	01	02	03
	A	17 07 249	Termination−Cable, 69kV , 350 kcmil−1000 kcmil	1	1	1
	B	21 56 078	Bolt, Machine 1/2” x 2” SS	2	2	2
	C	12 56 052	Washer−Belleville Spring 1/2” SS	2	2	2
	D	12 56 053	Washer−Flat 1/2” SS	4	4	4
	E	14 54 177	Connector−Cable to Flat Bronze	1	1	1
@	F	17 55 324	Lug−Compression, 500Al., 2 Hole	1	-	-
		17 55 260	Lug−Compression, 750Al., 2 Hole	-	1	-
		17 05 236	Lug−Compression, 1000 Cu, 2 Hole	-	-	1
		17 55 804	Lug−Shear Head Bolt, 350−750 CU/AL, 2 Hole	1	1	-