



INSTRUCTION TO SERVICE

ITS: 61518		DATE 2025-12-15
SECTION:	260U – Battery System	
SUBJECT:	Rework - OVHD charge cable rework to prevent water intrusion	
ISSUE:	Low isolation faults present due to water entering the cable	
SUMMARY:	Rework OVHD - Apply Scotchkote OVHD charge box HV cables	

ITS61518

Ref. NHTSA Recall No.	Ref. Transport Canada Recall No.
Not Applicable	Not Applicable

THIS ITS DOCUMENT SHOULD BE RETAINED AND REFERRED TO FOR FUTURE MAINTENANCE UNTIL THE NEW FLYER PARTS AND/OR SERVICE MANUAL IS UPDATED TO REFLECT WORK DONE AS A RESULT OF THIS DOCUMENT. ENSURE THAT THIS DOCUMENT IS AVAILABLE FOR PARTS AND MAINTENANCE STAFF GOING FORWARD.

The intent of ITS-61518 is to inspect each cable and quick disconnect receptacle validating they are good for use based on NO corrosion being present and or water intrusion and apply Scotchkote to good cables and re-install.

Inspection log is to log the condition of the cables and provide documentation back to the RPSM for cables and receptacles that need replacement.

Note: All cables replaced with new cables will still require the Scotchkote application applied in Part 2 of this ITS before installing on the bus.

ITS-61518 contains:

- Part 1 Instruction for cable inspection, documentation and temporary resealing of cables that will require replacement.
- Part 2 Scotchkote application, receptacle replacement and cable re-installation.
- Cable inspection log.

Part 1 PROCEDURE: POS and NEG HV Cable Inspection

⚠ WARNING: Only trained personnel shall supervise and perform High Voltage system testing, checkout and troubleshooting. Two personnel (one called the Checker & the other called Monitor/Recorder) shall perform Checkout Procedures, together, to ensure safety of themselves, others nearby & for the protection of vehicle & property. Refresher training shall be provided to these personnel on a regular basis and when new systems are to be checked by them.

1. Turn the master run switch to the off position and wait 5 minutes before proceeding.
2. Turn the 12/24V battery disconnect and HV Interlock switch to the "OFF" position.
3. Lock and tag the electrical system of the bus out and retain the key. See Figure 1.
4. Use commercially available lockout equipment and tags being sure to follow local regulations.
5. Install a Lockout/Tagout Steering wheel cover as require.
6. Ensure to use proper PPE and fall protection.

🔑 NOTE: Refer to the Lockout/Tagout Procedure in section 1 of your Preventive Maintenance Manual or section 9 of your Service manual for additional information.

🔑 NOTE: Use commercially available lock out equipment and tags being sure to follow any local laws or workplace procedures.

🔑 NOTE: Refer to New Flyer High Voltage Safety Guidelines and Procedures Document 532295 (Appendix A) when completing installation or service work on high voltage power cables.

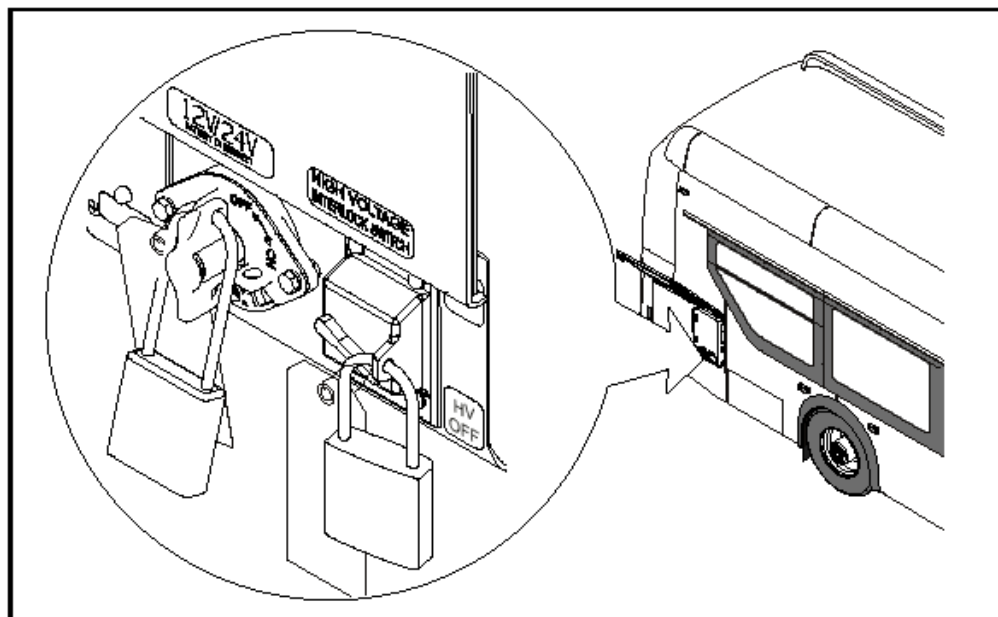
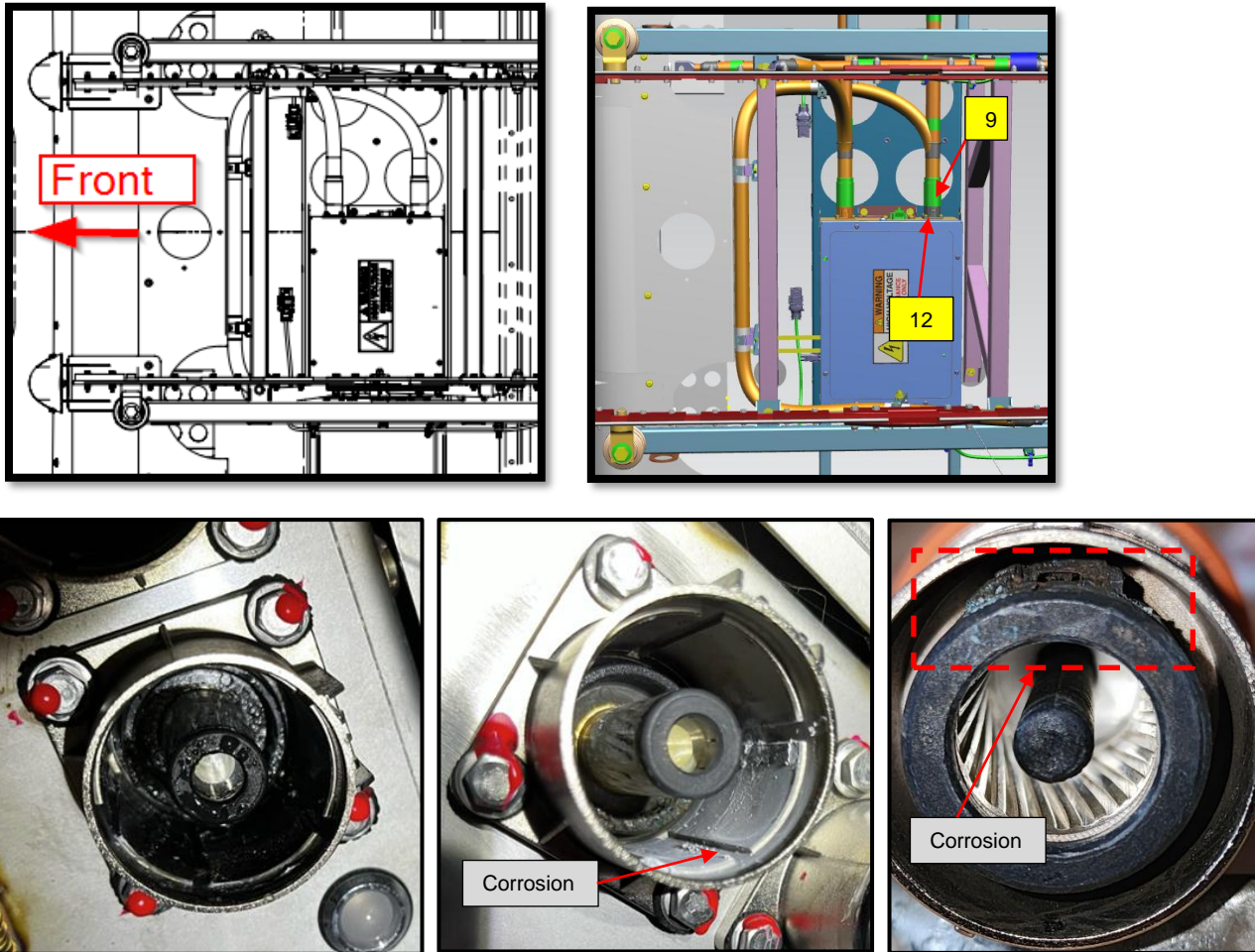


Figure 1: Lockout tagout location reference.

7. Ensure no voltage is present before work begins.
8. Gain access to the DC rail switch box and disconnect the quick disconnect connectors from the overhead charge rail box for the NEG cables item #9. See Figure 2.
9. Inspect the negative cable (items #9) for water and corrosion and note your findings on the attached inspection document. See Figure 2.
10. Inspect the cable receptacle item #12 for the NEG cables items #8 and #9 for water and corrosion and note your findings on the attached inspection document. See Figure 2.

NOTE: Cables with corrosion and or water intrusion will require replacement and new cables will require part 2 of this ITS scotchkote application before installing. Provide inspection documentation to RPSM for parts ordering.

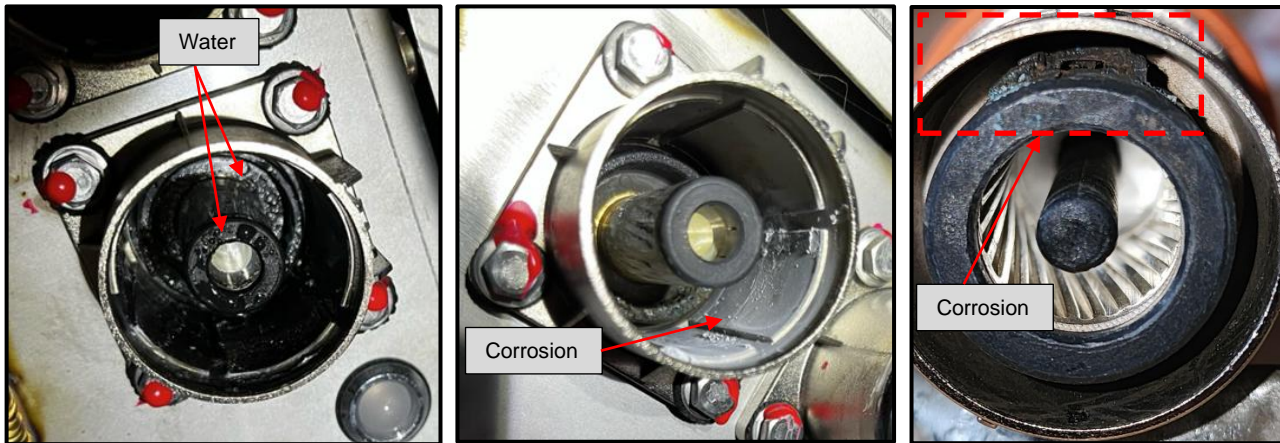
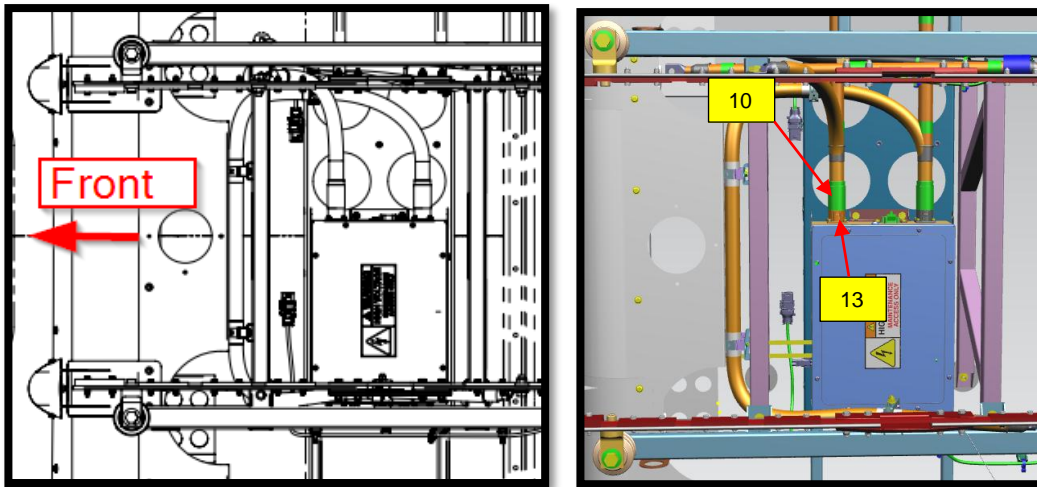


Item	Part Number	Description
9	903121	EP90HV10-RAIL NEG TO DC RLSW NEG
12	748646	ASSY-HV NEG RECEPTACLE

Figure 2 - OVHD HV HV NEG cable quick disconnect location reference.

11. Disconnect the quick disconnect connectors from the overhead charge rail box for the POS cables item #10. See Figure 3.
12. Inspect each cable items #10 for water and corrosion and note your findings on the attached inspection document. See Figure 3.
13. Inspect the cable receptacle item #13 for the POS cables for water and corrosion and note your findings on the attached inspection document. See Figure 3.

NOTE: Cables with corrosion and or water intrusion will require replacement and new cables will require part 2 of this ITS scotchkote application before installing. Provide inspection documentation to RPSM for parts ordering.



Item	Part Number	Description
10	904896	EP90HV8-RAIL POS TO DC RL SW POS
13	748644	ASSY-HV POS RECEPTACLE

Figure 3 - OVHD HV POS cable quick disconnect location reference.

14. Gain access to the DC charge rail and remove the cable rail mounting hardware from both the NEG and POS cables items #10 and #11 and set aside for re-installation. See Figure 4.
15. Remove each cable dust boot and set aside for re-installation. See Figure 4.
16. Carefully remove the adhesive heat shrink from each cable and discard. See Figure 4.
17. Inspect each cable items #10 and #11 for signs of water or corrosion on the cable lugs and conductors and note your findings on the attached inspection document. See Figure 4.

NOTE: Cables with corrosion and or water intrusion will require replacement and new cables will require part 2 of this ITS scotchkote application before installing. Provide inspection documentation to RPSM for parts ordering.

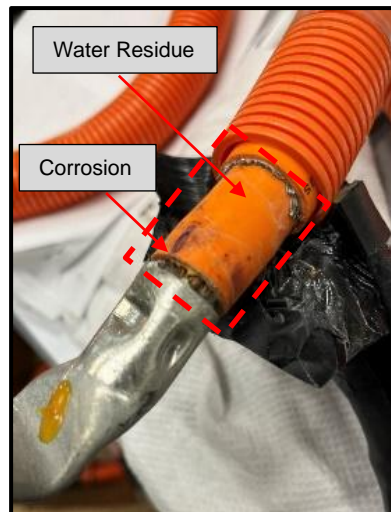
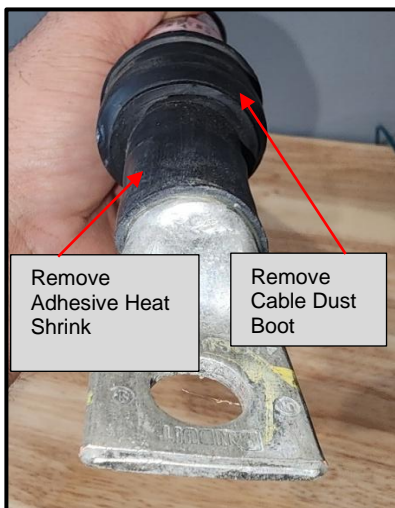
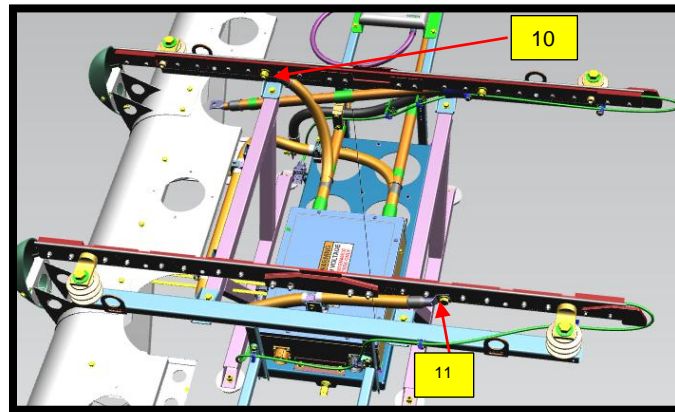
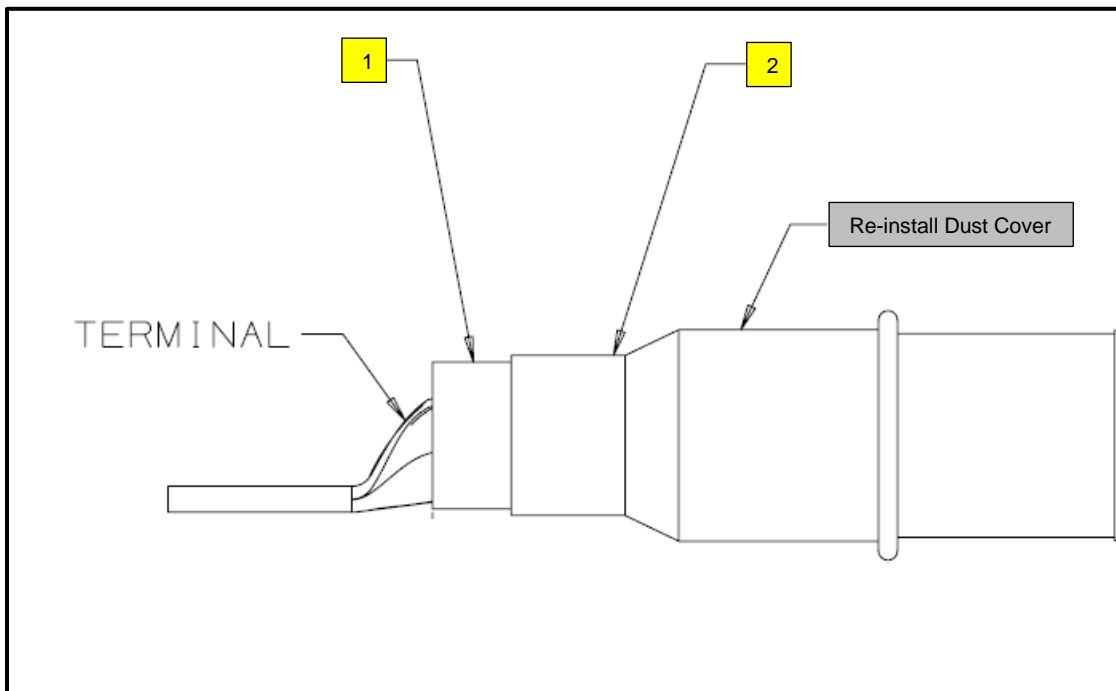


Figure 4 - OVHD HV POS and NEG cable lug location reference.

☞ **NOTE:** Cables found to have NO corrosion and or replacement cable are present at time of inspection move to Part 2 PROCEDURE: POS and NEG Scotchkote Application and Cable Replacement.

☞ **NOTE:** Cables found to have corrosion move to the following steps to apply temporary sealing and re-install until replacement cables can be sourced. Provide inspection document to RPSM for parts ordering.

18. Cables found to have water intrusion or corrosion present will require replacement. If replacement cables are not present at the time of inspection without removing the compromised cables from the bus place a shop rag or plastic underneath the cable. See Figure 5.
19. Apply heat shrink item #1 to the cable lug ends and over the cable sheathing. See Figure 5.
20. Install a final piece of heat shrink item #2 over the heat shrink applied in step 19 and over the loom and install dust cap removed in previous steps. See Figure 5.



Item	Part Number	Description
1	251215	TUBE-HEAT SHRINK 1.0" BK
2	028247	TUBE-HEAT SHRINK 1.7" BK

Figure 5 - OVHD HV cable lug temporary lug repair location reference.

21. Re-connect the cable quick disconnect connectors to their respective connection points.
22. Re-connect the cable ring terminals to their respective connection points on the charge rail using the existing hardware and torque cable lug hardware to torque to 22 FT-LBS. See Figure 6.

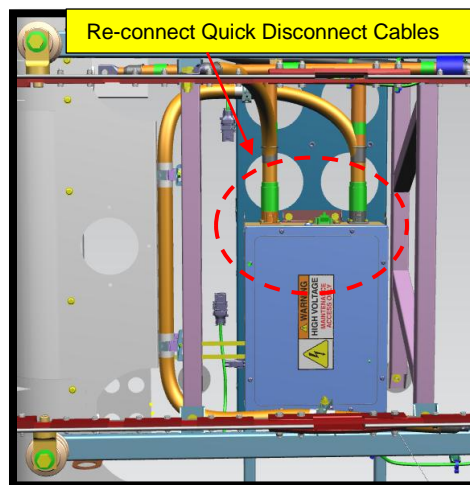
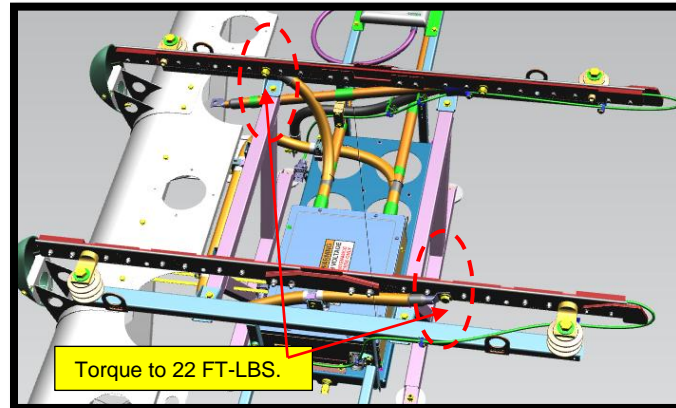


Figure 6 – Cable connections and torque value location references.

Part 2 PROCEDURE: POS and NEG HV Cable Scotchkote Application and Cable Replacement.

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1. Turn the master run switch to the off position and wait 5 minutes before proceeding.
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3. Lock and tag the electrical system of the bus out and retain the key. See Figure 1.
4. Use commercially available lockout equipment and tags being sure to follow local regulations.
5. Install a Lockout/Tagout Steering wheel cover as require.
6. Ensure to use proper PPE and fall protection.

🔑 NOTE: Refer to the Lockout/Tagout Procedure in section 1 of your Preventive Maintenance Manual or section 9 of your Service manual for additional information.

🔑 NOTE: Use commercially available lock out equipment and tags being sure to follow any local laws or workplace procedures.

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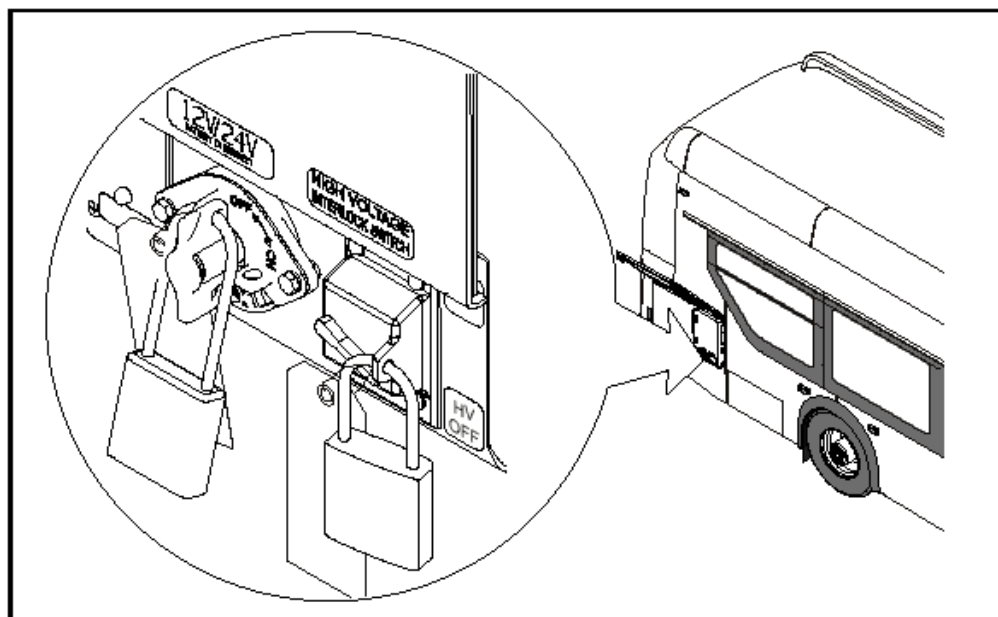


Figure 1: Lockout tagout location reference.

7. Ensure no voltage is present before work begins.
8. Gain access to the DC rail switch box and disconnect the quick disconnect connectors from the overhead charge rail box for the NEG and POS cables item #9 and #10. See Figure 2.
9. Gain access to the DC charge rail and remove the cable mounting hardware to the rail for the NEG and POS cables and set aside for re-installation. See Figure 2.

NOTE: Cables with corrosion and or water intrusion will require replacement and new cables will require scotchkote application before installing.

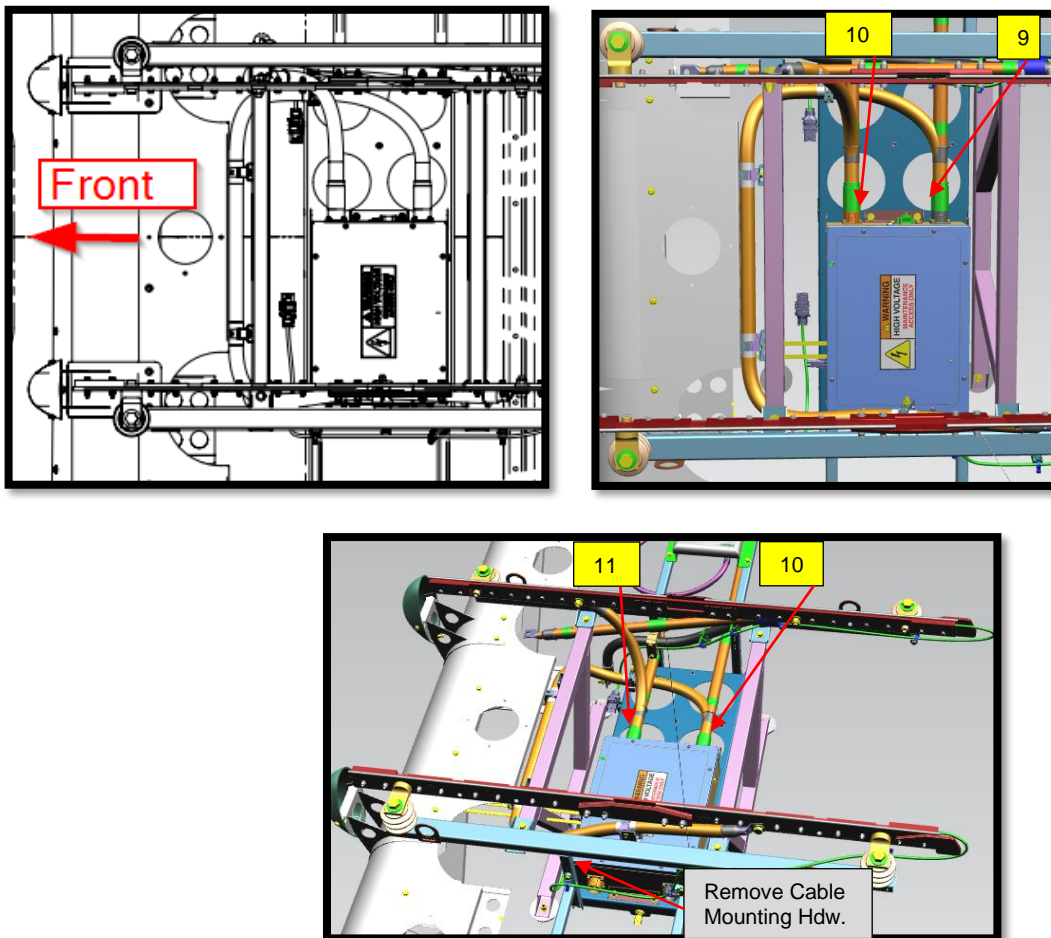


Figure 2 - OVHD HV HV NEG cable quick disconnect location reference.

10. Remove any clamps and hardware securing the cables in place and set aside for re-installation. See Figure 3.
11. Remove the NEG and POS cables, place them on a work bench or suitable work surface. Remove the dust boot and heat shrink from lug end of cable if not already removed and discard.
12. Confirm no signs of water or corrosion is present on the cable lugs or quick disconnect. See Figure 3.

NOTE: Cables with corrosion and or water intrusion will require replacement and new cables will require scotchkote application before installing.

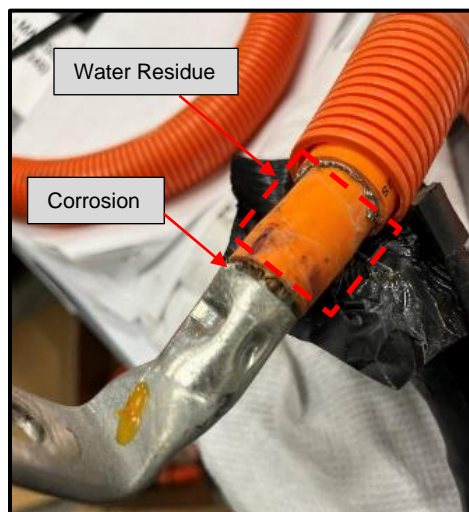
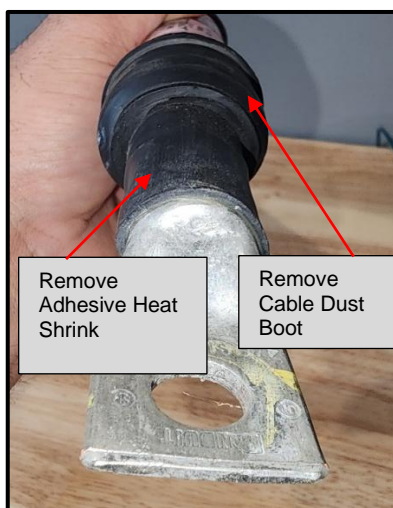
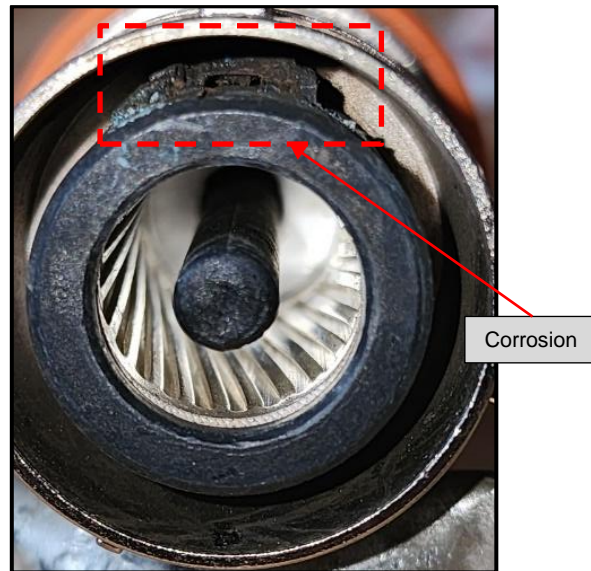
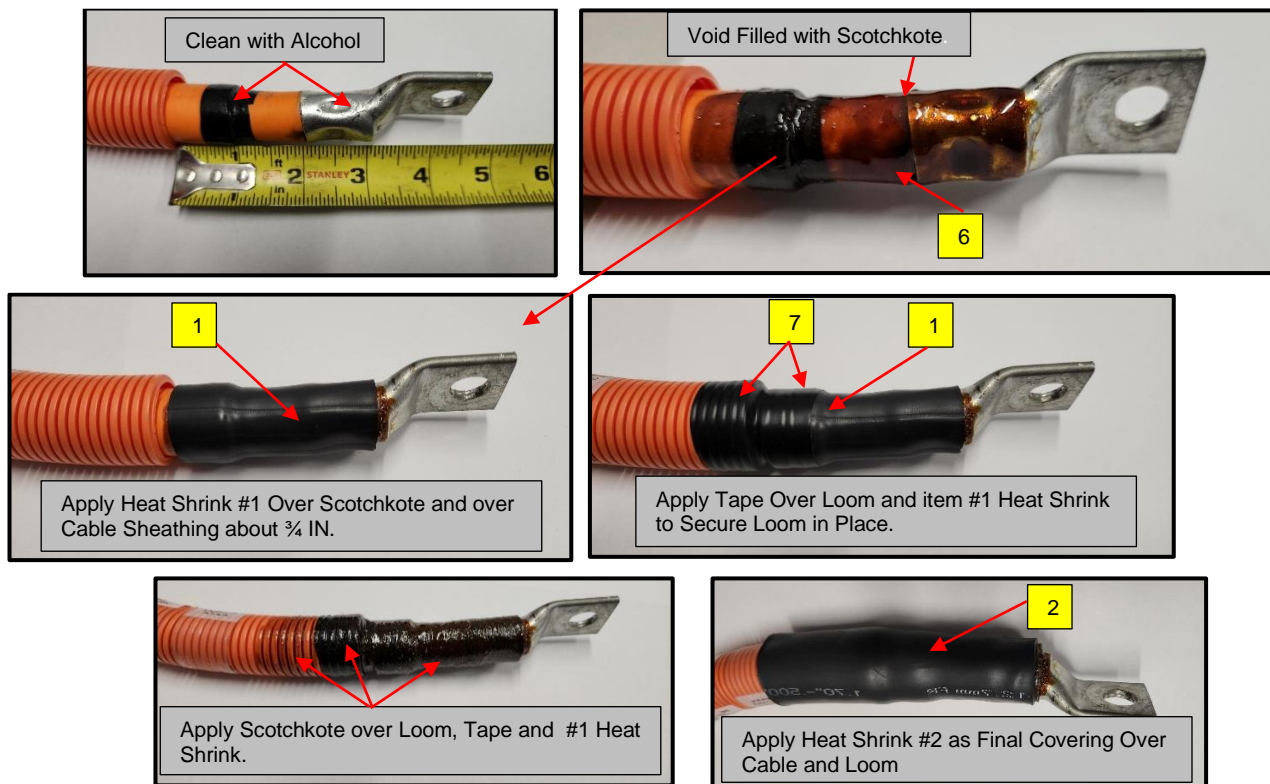


Figure 3 - OVHD HV POS and NEG cable removal and lug inspection location reference.

13. Ensure loom is at least 3 IN back from Lug and clean the ring terminal and cable sheathing with item #5 alcohol and a dry lint free cloth. See Figure 4.
14. Apply 3 to 4 coats of Scotchkote item #6 on the lug and cable sheathing until void at lug is full. Allow applied Scotchkote to dry (wait for 12 to 15 minutes between each applied coat). See Figure 4.
15. Install item #1 heat shrink over the barrel on the lug and up on the cable sheathing about ¾ IN. See Figure 4.
16. Apply item #7 elec. tape to loom and over item #1 heat shrink installed in previous step. See Figure 4.
17. Brush a coat of Scotchkote item #6 over the heat shrink item #1, loom end and elec tape #7 previously installed and wait 12 to 15 minutes to tack up. See Figure 4.
18. Apply heat shrink item #2 as a final covering over cable and loom. See Figure 4.

NOTE: Understood there are a lot of specific steps to follow related to Scotchkote installation. At any point techs has questions please contact Daniel Tice or Ilan in TSS for further support.



Item	Part Number	Description
1	251215	TUBE-HEAT SHRINK 1.0" BK
2	028247	TUBE-HEAT SHRINK 1.7" BK
5	134336	ISOPROPYO ALCOHOL
6	1035894	3M SCOTCHKOTE ELECTRICAL COATING FD
7	5962277	TAPE ELEC ½"

Figure 4 - OVHD HV cable lug Scotchkote repair location reference.

19. Re-connect the cable ring terminals to their respective connection points on the charge rail using the existing hardware and torque cable lug hardware to torque to 22 FT-LBS. See Figure 5.
20. Install item #3 O-ring to cable connectors and re-connect them to their respective connection points.

NOTE: Before re-connecting the cable quick disconnect connectors to their respective connection points ensure the box receptacles do not have corrosion or signs of water intrusion. If corrosion or water intrusion is present, see the following page for receptacle replacement before making cable connection.

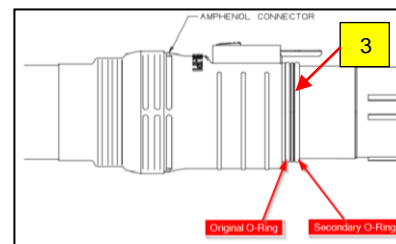
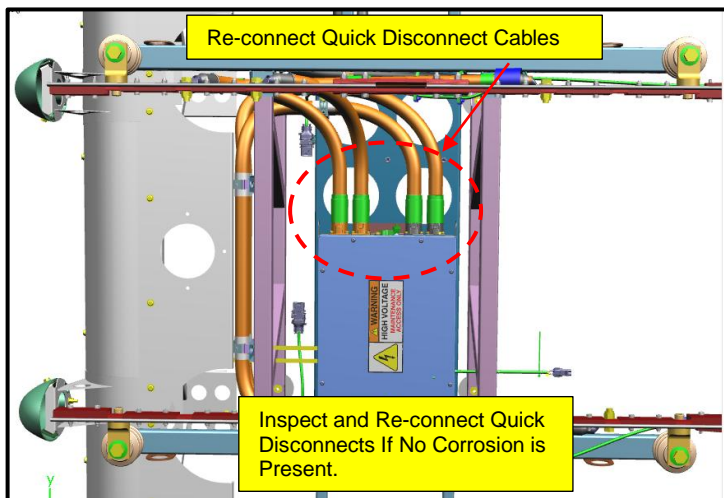
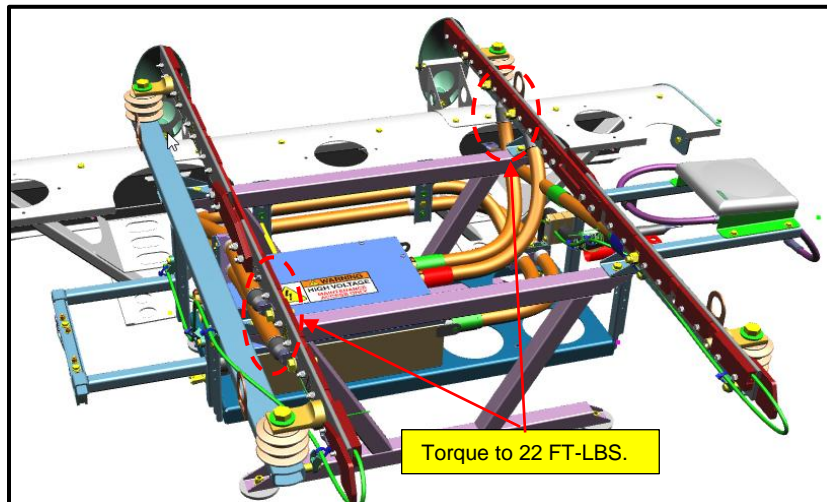
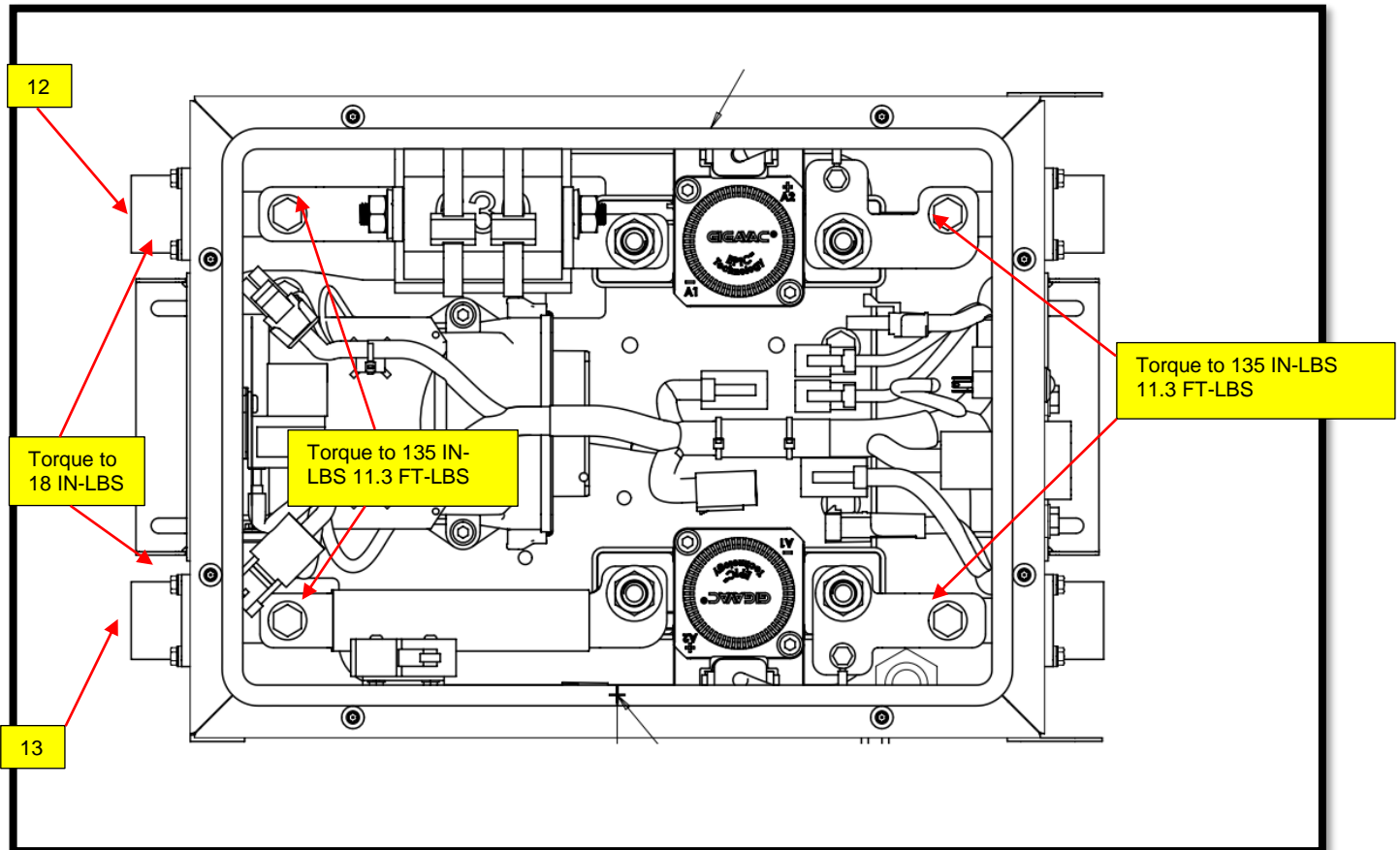


Figure 5 – Cable connections and torque value location references.

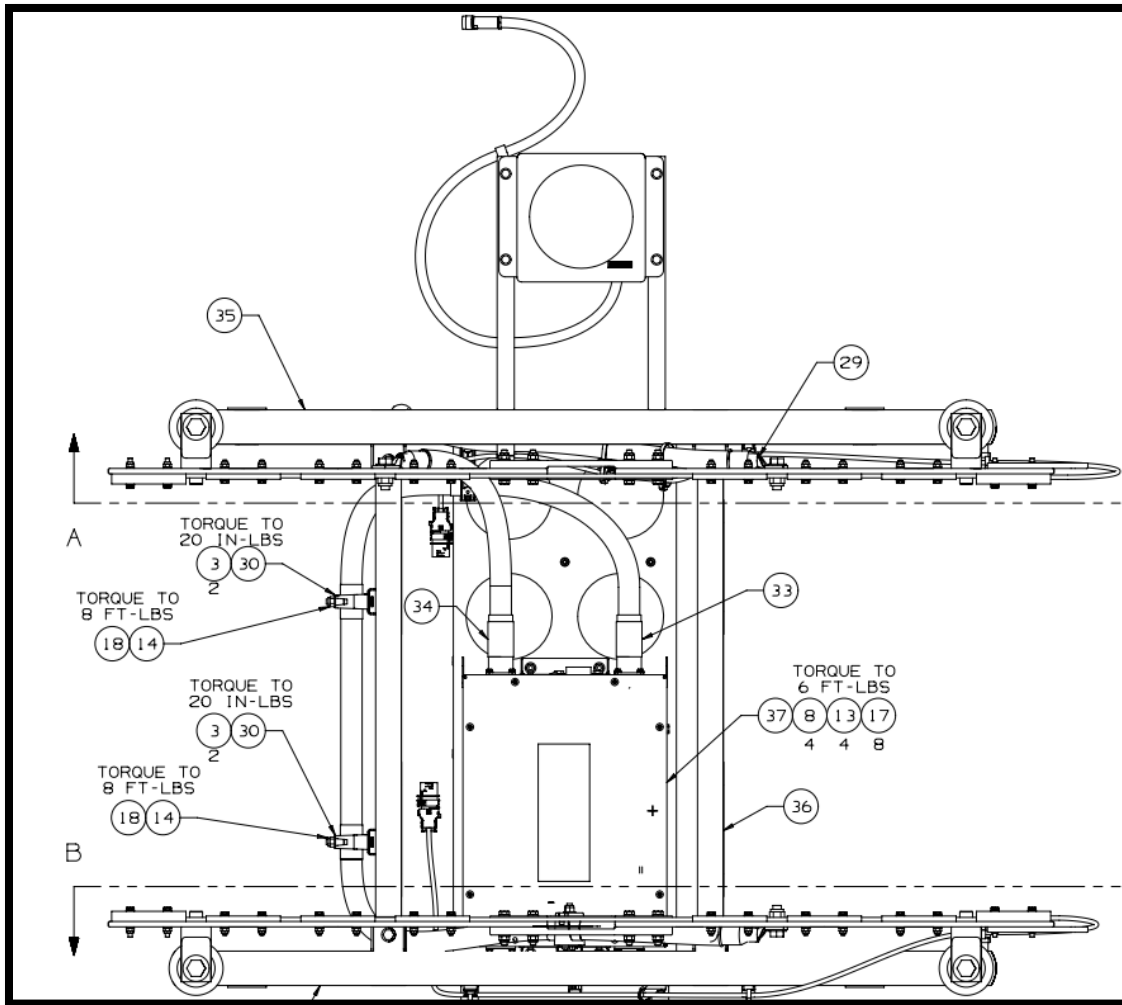
21. If the receptacles have corrosion remove the lid mounting hardware from the DC rail switch box and set aside for re-installation.
22. Remove the respective quick disconnect receptacle connection points and mounting hardware. Set receptacle hardware aside for re-installation.
23. Under normal warranty process replace items #12 and #13 receptacles as required. Secure to the box using the existing mounting hardware applying one or two drops of item #14 Loctite to their threads and torque to Install and torque 18 IN-LBS. See Figure 6.
24. Re-secure receptacle lugs to box bus bars and torque to 6 FT LBS. See Figure .
25. If bus bars were removed from the contactor's re-torque to 135 IN-LBS 11.3 FT-LBS. See Figure 6.



Item	Part Number	Description
12	748644	ASSY-HV POS RECEPTACLE
13	748646	ASSY-HV NEG RECEPTACLE
14	081034	LOCTITE 243 MEDIUM

Figure 6 – Cable receptacle corrosion replacement location references.

26. Re-install the DC rail switch box lid mounting hardware and torque hardware to 5 FT-LBS. See Figure 7.
27. Re-install any clamps and hardware removed in previous steps applying one or two drops of item #14 Loctite to their threads and torque all cable clamp hardware to 8 FT-LBS or 20 IN-LBS based on location. See Figure 7.
28. Re-connect the cable quick disconnect connectors to their respective connection points.



Item	Part Number	Description
14	081034	LOCTITE 243 MEDIUM

Figure 7 – Cable clamp securement location references.



LABOUR ESTIMATE				
	Operation	Number of Technician(s)	Hours	Labor Time T X HR
1	Inspection OVHD HV Positive and Negative Cables	2	.5	1
2	Rework OVHD HV Positive and Negative Cables Applying Scotchkote to Cable Lug	2	2	4

PARTS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	251215	TUBE-HEAT SHRINK 1.0" BK	6	IN	
2	028247	TUBE-HEAT SHRINK 1.7" BK	6	IN	
3	1036285	O-Ring P/N	2	EA	
5	134336	ISOPROPYLO ALCOHOL	0.010	EA	Source locally
6	1035894	3M SCOTCHKOTE ELECTRICAL COATING FD	0.010	EA	
7	5962277	TAPE ELEC 1/2"	0.010	EA	
9	903121	EP90HV10-RAIL NEG TO DC RLSW NEG	1	EA	Order As Required
10	904896	EP90HV8-RAIL POS TO DC RL SW POS	1	EA	Order As Required
12	748644	ASSY-HV POS RECEPTACLE	2	EA	Order As Required
13	748646	ASSY-HV NEG RECEPTACLE	2	EA	Order As Required
14	081034	LOCTITE 243 MEDIUM	0.010	EA	Order As Required

SPECIAL TOOLS REQUIRED					
Item	Part Number	Description	Qty.	Units	Notes