REFERENCE:	Nova Bus Manuals
SECTION:	09: Engine Cooling Package
RS Nº:	MQR 7621-2467
EFFECTIVE IN PROD.:	LE97 (2022DE)
TC RECALL Nº:	2023-348
NHTSA RECALL Nº:	23V607

APPLICATION DEADLINES: N/A
CLAIM REFERENCE NUMBER: SR5445

SUBJECT:	Close proximity of the Flag Lug with the Mounting Bolt of the Fuse Holder & Salt Bridge Causing Thermal Event
JUSTIFICATION:	Certain affected vehicles may have road debris that could build up on the fuse holder for the electric cooling fans. If this happens, then a short circuit between the Flag Lug Terminal and the mounting bolt of the Fuse Holder could occur leading to the risk of a fire hazard.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Disconnect the cables connected to the fuse holder. Remove, clean and inspect the fuse holder, N84769 and the fuse, N47759-250. Clean and inspect the metal surface of the cable lug which was connected to the lower terminal of the fuse holder. Replace the cable which was connected to the upper terminal of the fuse holder with the new cable N107762-05. Apply the anticorrosive product on the cables' lug and the metal surface of the fuse holder. Install new cover N109992 on the fuse holder.	Nova Bus	Nova Bus	1h
2	If required, replace the N84769 fuse holder and/or the N47759-250 fuse and/or the cable connected to the lower terminal of the fuse holder.	Nova Bus	Nova Bus	0.75h

DISPOSAL OF PARTS

REMOVED PARTS ARE:	DISCARDED *	RETAINED	* Dispose of the unused parts and the defective parts in accordance with local environmental standards in effect.
	Yes	–	

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2023NO22	Initial release	Luc Carignan

MATERIAL REQUIRED PER VEHICLE

QTY	PART Nº	REV.	DESCRIPTION
LEVEL 1			
1	N109992		FUSE HOLDER ELECTRICAL COVER
1	N109993		BRACKET COVER ASSY
2	N107639	A	FUSE HOLDER SPACER
1	N93463-15		CLAMP 18 MM
1	N107762-05		CABLE C1556 4/0 AWG BK-RD
1	N109997		GASKET SHIM
2	N0249000		NYLON SLEEVE 1/4
2	N68458	A	Nylon Spacer 6 mm X 13 mm X 6 mm
2	N20783	X	Bolt M6 X 40
4	N44890	B	NUT LOCKNYL M6
2	23203878		CAP PLUG,BLACK CAP M5
LEVEL 1 SHOP SUPPLIES* **			
5 oz	N8951729	–	Brake and Part Cleaner (20 oz can)
3.2 oz	N8910848	–	CRC Contact Cleaner (16 oz can)
2 oz	N86800	–	Anticorrosive Compound (Dolph's ER-41 liquid red) (128 oz can)
***WHEN YOU ORDER, SPECIFY THE NUMBER OF VEHICLES TO REPAIR.			
LEVEL 2 (only if required)**			
1	N47759-250	–	250A fuse
1	N84769	A	Fuse Holder
1	N90320-04	–	Cable C981 4/0 AWG GY-RD
4	N37749	B	Dual clamp tie

Materials will be available within 65 days once your order has been placed.

To order, please contact novabus.parts@volvo.com

Or by phone for CANADA 1-800-771-6682, for USA 1-877-999-8808

Specify document number, quantity of parts required and shipping address.

** The material identified in Level 2 is to be ordered only for vehicles that meet the criteria defined in Level 1.

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
New York City Transit - NYCT	L959	5443	5443	S92J0H97[redacted]	S92J0H97[redacted]	1
New York City Transit - NYCT	LB59	5444	5484	S92J7H97[redacted]	S92J6H97[redacted]	41
New York City Transit - NYCT	LA23	5485	5530	S92J5J97[redacted]	S92J6J97[redacted]	46
New York City Transit - NYCT	LA73	8504	8507	L82J8J97[redacted]	L82J8J97[redacted]	4
New York City Transit - NYCT	LB29	5531	5566	S92J9J97[redacted]	S92J6J97[redacted]	36
New York City Transit - NYCT	LA76	8508	8633	L82J9J97[redacted]	L82J8K97[redacted]	125
New York City Transit - NYCT	LB99	5567	5602	S92J2J97[redacted]	S92J5K97[redacted]	36

WARNING

FOLLOW YOUR INTERNAL SAFETY PROCEDURES.

PROCEDURE

NOTE

For your safety it is suggested to wear the following protective equipment when working in the battery and engine compartments; safety helmet, protective glove, safety glasses, and safety shoes.

1.1. Park the vehicle on an even surface with the transmission on neutral.

1.2. Apply the parking brake and set the master control switch to the ***stop*** position.

1.3. Open the battery compartment door and set the battery disconnect switch to the ***off*** position.

1.4. Disconnect all the cables from the batteries' positive terminals. Install a protective sleeve on the tip of the cables lug to avoid any contact with the positive terminal of the batteries.

1.5. Disconnect all the cables from the batteries' negative terminals. Install a protective sleeve on the tip of the cables lug to avoid any contact with the negative terminal of the batteries.

1.6. Open the rear access door of the engine compartment.

1.7. Locate the 250A fuse holder N84769 for the radiator fan power supply. See Figure 1.

1.8. Remove the cover from the fuse holder. Retain the cover. See Figure 1.

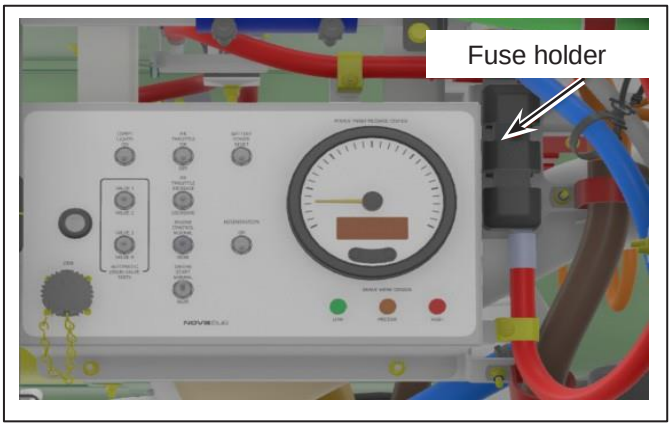

Figure 1 - Typical Location of the Fuse Holder N84769

WARNING

For the next steps, follow your safety procedures.

Before starting the application of the products recommended in the next steps, make sure that ventilation is adequate, to wear personal protective equipment (PPE), such as chemical splash goggles and neoprene gloves, as specified on the Material Safety Data Sheet (SDS) of the cleaning product and anticorrosive compounds.

1.9. Clean thoroughly the lug of the cables, the fuse holder terminals and the fuse holder anchor bolts preferably with brake and part cleaner (P/N N8951729) or any equivalent product. See Figure 2.

1.10. Remove the M8 anchor nuts which affix the cables connected to the fuse holder. Secure the cable to avoid contact with structure. Retain the M8 nuts. See Figure 2.

1.11. Remove the M8 anchor nuts which affix the N47759-250 to the fuse holder N84769. Retain the nuts. See Figure 2.

1.12. Remove the M6 anchor bolts and nuts which affix the fuse holder to the structure. Retain only the fuse and the fuse holder. See Figure 2.

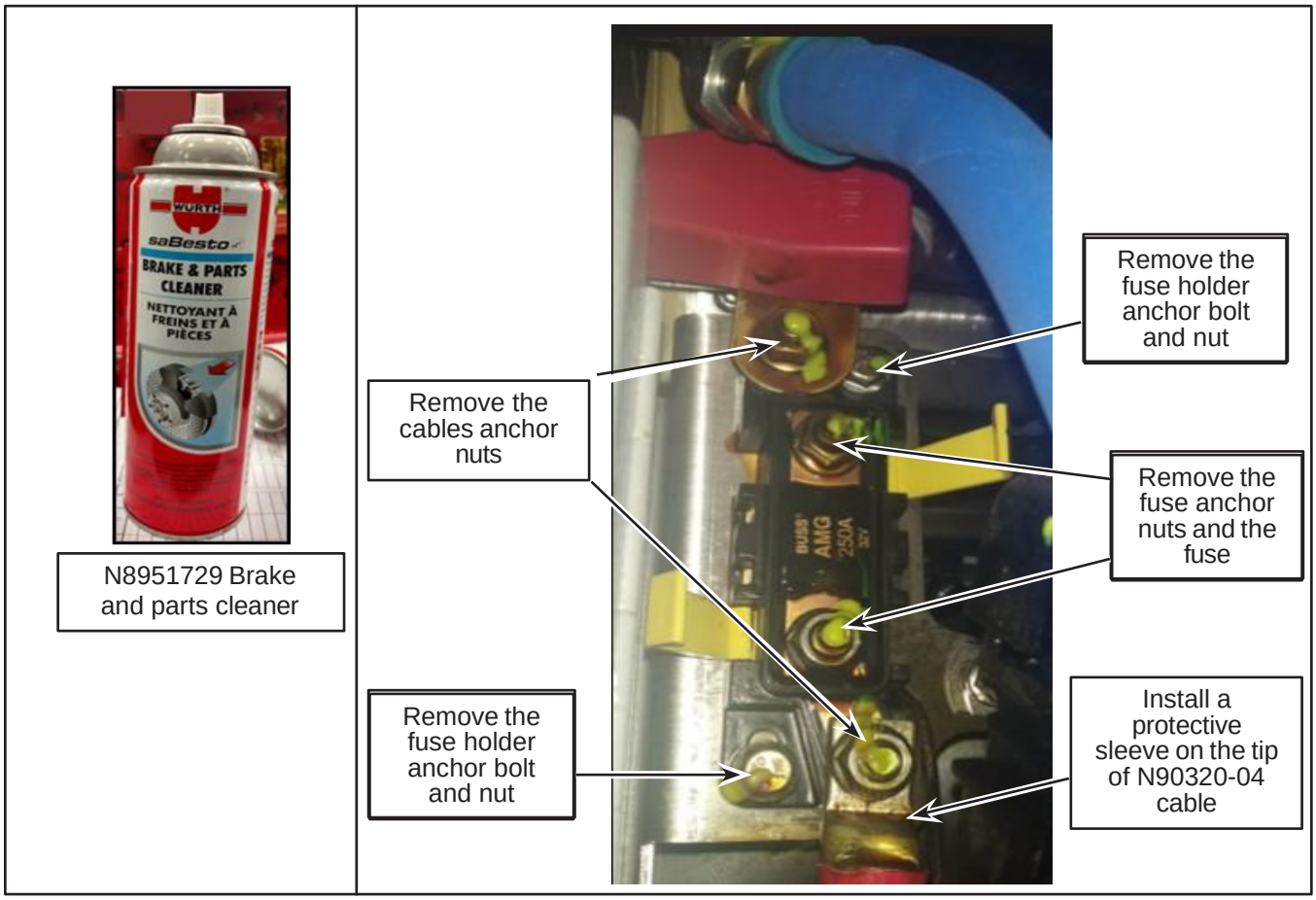

Figure 2 - N8951729 Brake and Parts Cleaner and Typical N84769 Fuse Holder Installation

1.13. Remove the split-blocks fixing the cable above the rear engine control box. Retain one split block and its hardware. See Figure 3.

1.14. Remove the cover from the top of the electrical junction block located above the rear engine control box. Retain cover and hardware. See Figure 3.

1.15. Disconnect the cable from the junction block terminal and clean thoroughly the junction block terminal with the brake and part cleaner (P/N N8951729) or any equivalent product. Retain the hardware and discard the cable. See Figure 3.

1.16. Disconnect and remove the engine control box. Retain the engine control box and hardware. See Figure 3

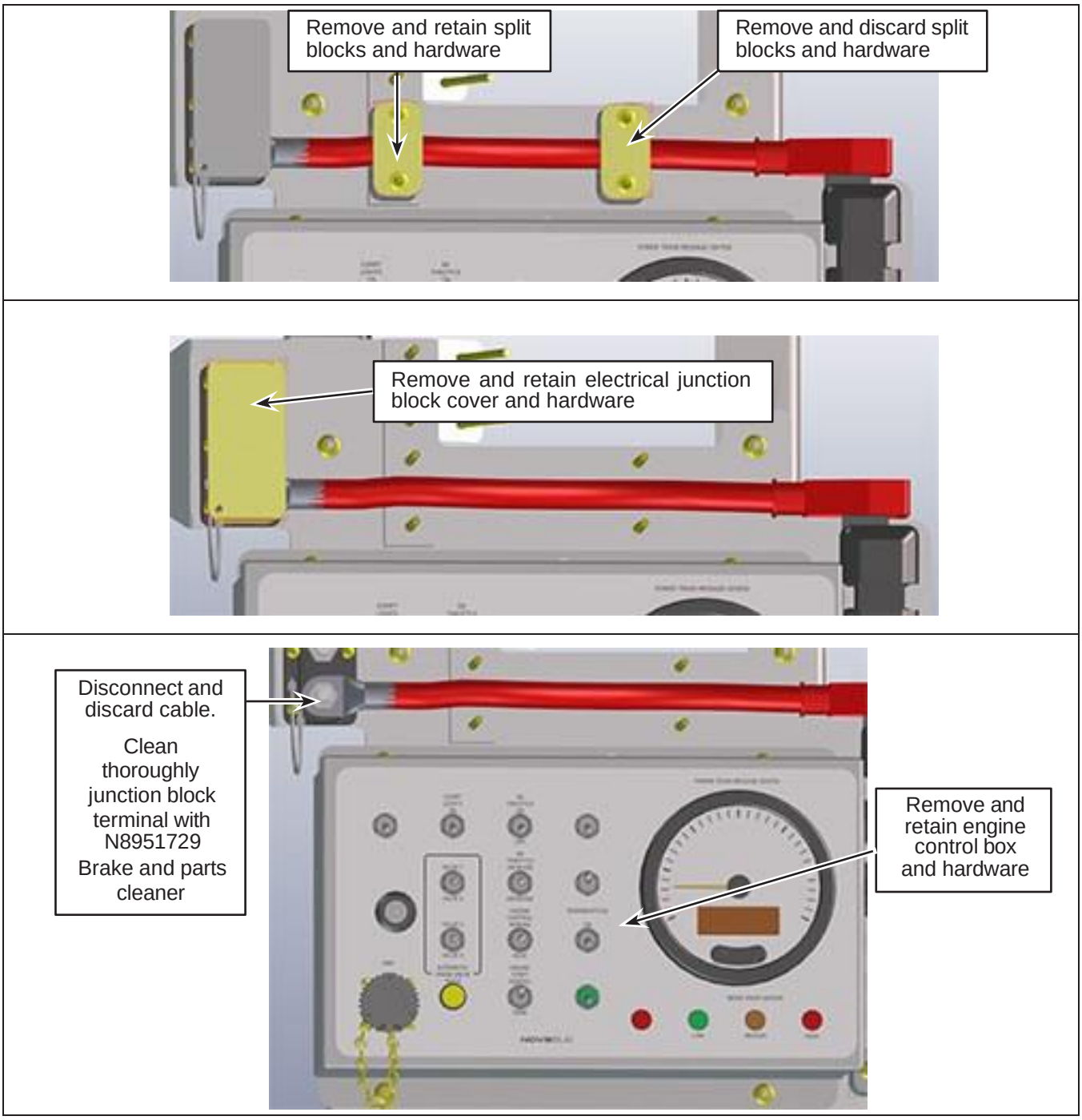

Figure 3 - Cable and Engine Control Box Removal Step by Step

1.17. Use a bolt cutter to cut the two threaded rods of the split block on the right. See Figure 4.

1.18. Install cap plug 23203878 on the remains of the threaded rods

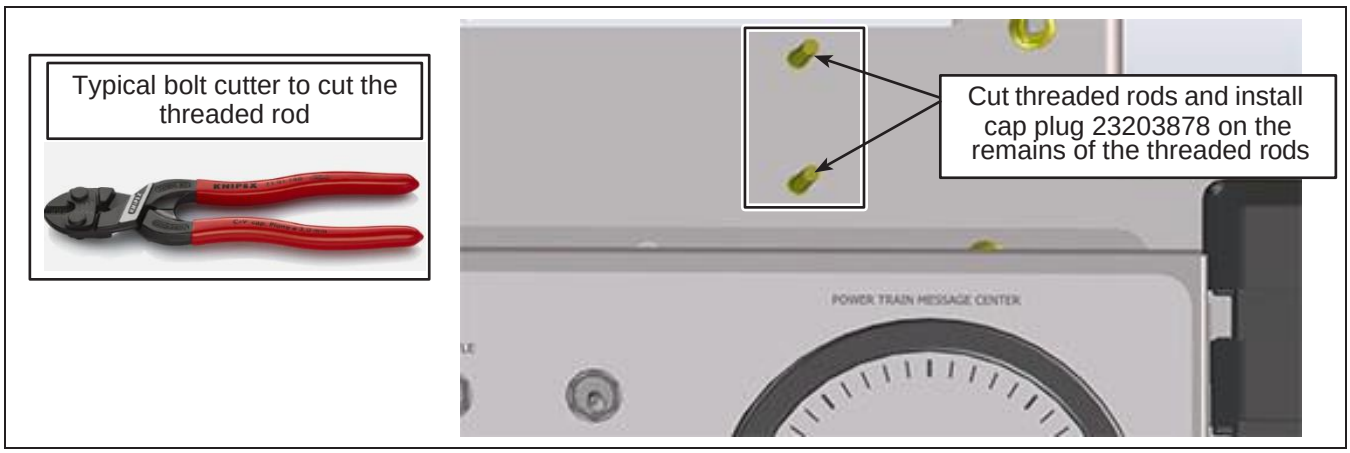

Figure 4 - Threaded Rods to cut

1.19. Clean thoroughly the lug of the cable for the lower terminal of the fuse holder, fuse holder and their anchor nuts with a nylon brush and CRC Contact Cleaner (P/N N8910848) or any equivalent product. Make sure that there are no traces of corrosion or dirt on both sides of the fuse, the lug of the cables and on the retain nuts. See Figure 5.

Figure 5 - Nylon Brush and Contact Cleaner N8910848

1.20. Inspect the fuse for any visible sign of overheating on the fuse housing or any other significant damage. See Figure 6.

1.21. If any sign of overheating or any significant damage is detected on the fuse, proceed with the Level 2 procedure.

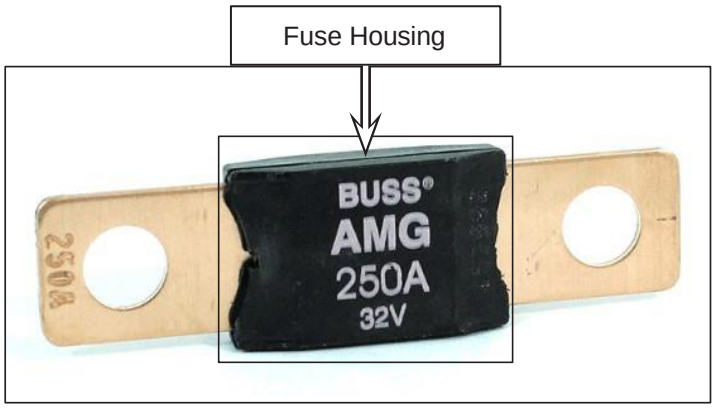

Figure 6 - Fuse N47759-250

1.22. Inspect the fuse holder and the cover for any visible sign of overheating or any other significant damage.

1.23. If any sign of overheating or any significant damage is detected on the fuse holder or the cover, proceed with the Level 2 procedure.

1.24. Inspect the lug of the cable for the lower terminal of the fuse holder. If there is damage or loss of the surface area of the lug, and the thickness of the lug is less than 0.075 in. (1.9 mm), proceed with level 2 procedure. See Figure 7.

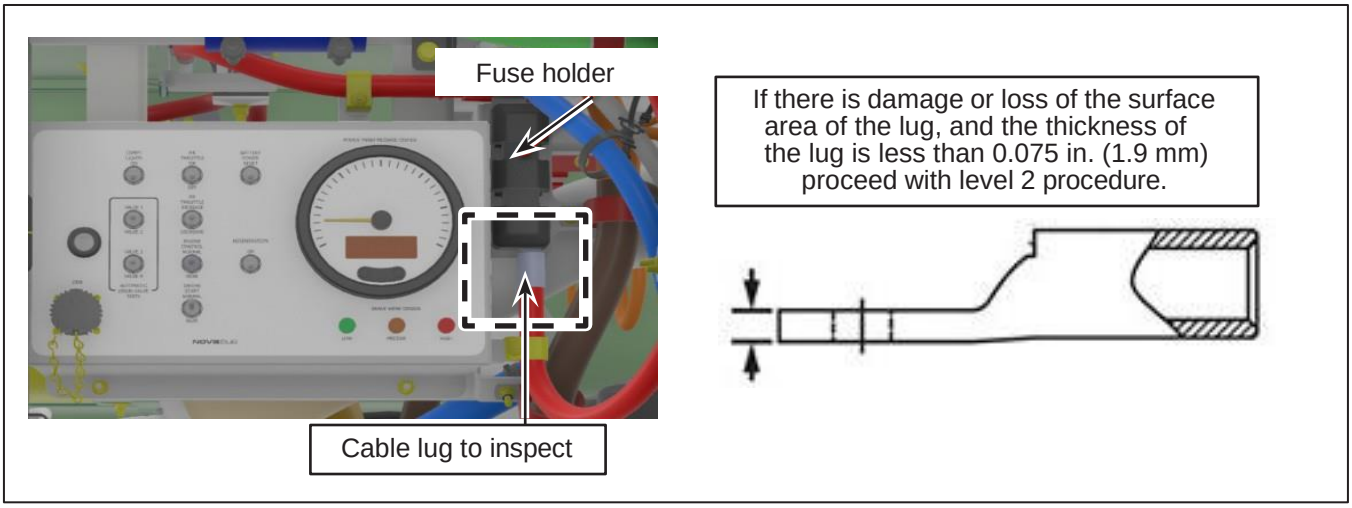

Figure 7 - Cable Lug to Inspect

1.25. Install the fuse holder N84769 on the structure using the new material listed in Figure 8. See Figure 8 for torque value. Fuse holder must be installed with the cord of the cover down.

Fuse Holder N84769 New Installation Part List			
QTY	**PART Nº**	**REV.**	**DESCRIPTION**
2	N0249000	–	Nylon Sleeve 1/4
2	N68458	A	Nylon Spacer 6 mm X 13 mm X6 mm
2	N20783	X	Bolt M6X40
2	N44890	B	Nut Locknyl M6
1	N109997	–	Gasket Shim
1	N109993	–	Bracket Cover Assy
2	N107639	A	Fuse Holder Spacer

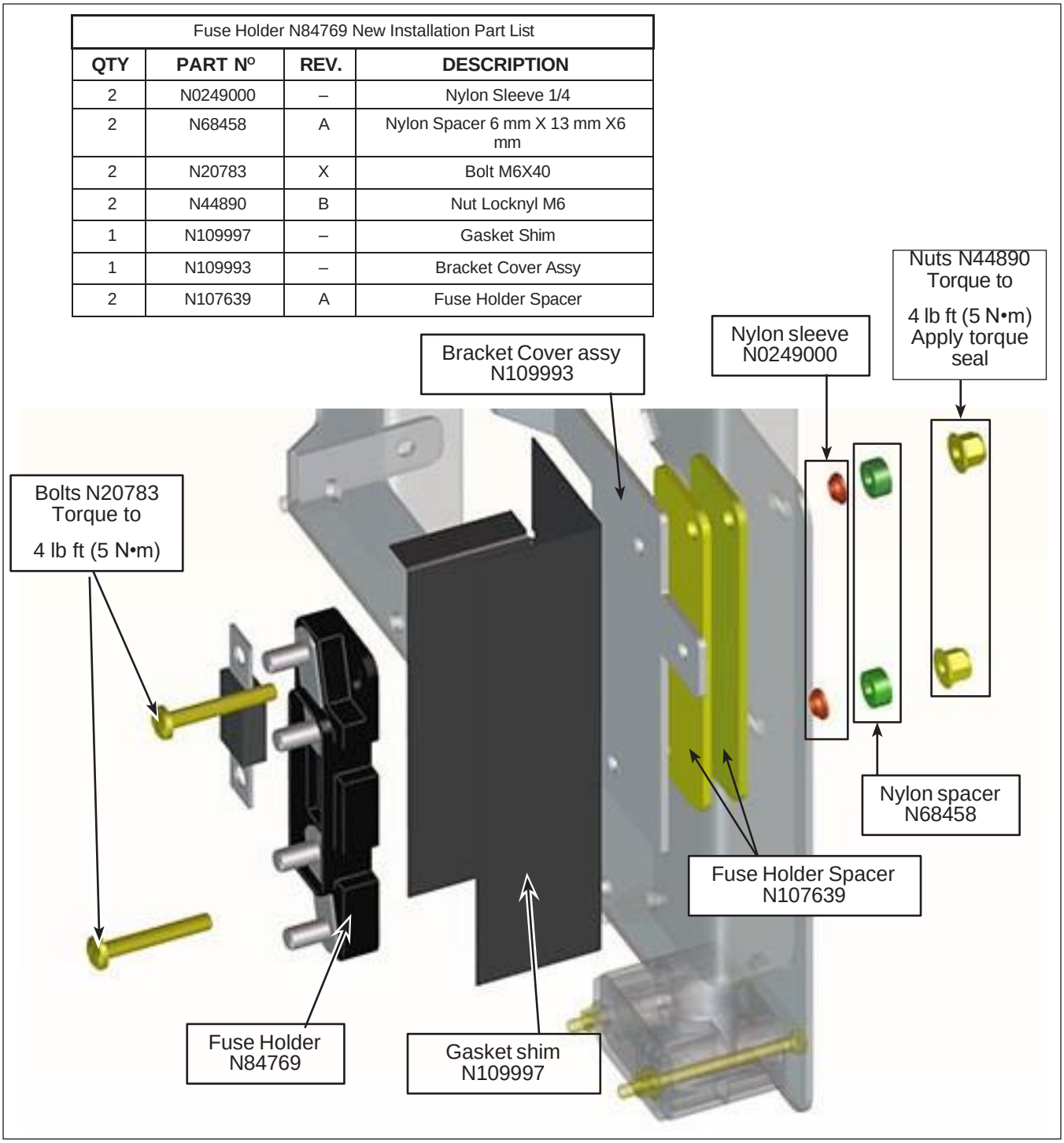

Figure 8 - Fuse Holder N84769 New Installation

1.26. Install the fuse N47759-250 in the fuse holder using the retained M8 nuts. See Figure 9 for torque value. Do not apply torque seal at this step.

1.27. Install the bottom portion of the retained split block on the stud. See Figure 9

1.28. Install clamp N93463-15 on the new cable N107762-05 and connect the cable to the junction block and the fuse holder N84769. See Figure 9 for required parts and torque value. Do not apply torque seal at this step.

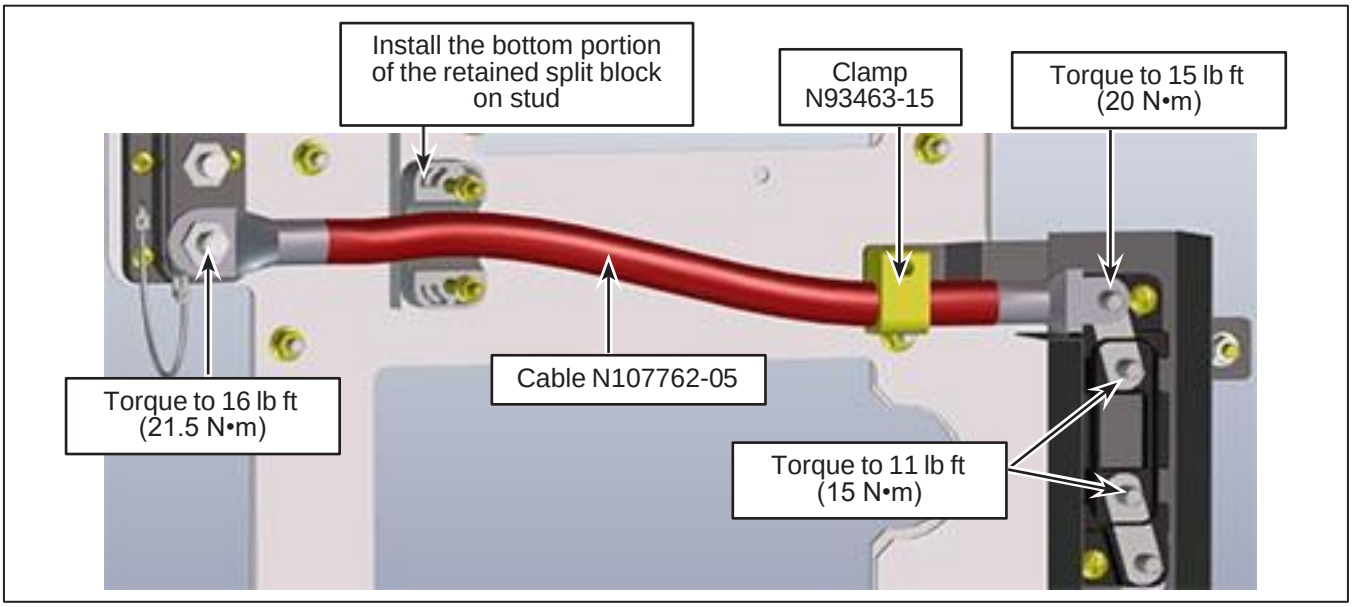

Figure 9 - New Cable N107762-05 Installation

1.29. Connect the lower cable to the fuse holder N84769. See Figure 10 for torque value.

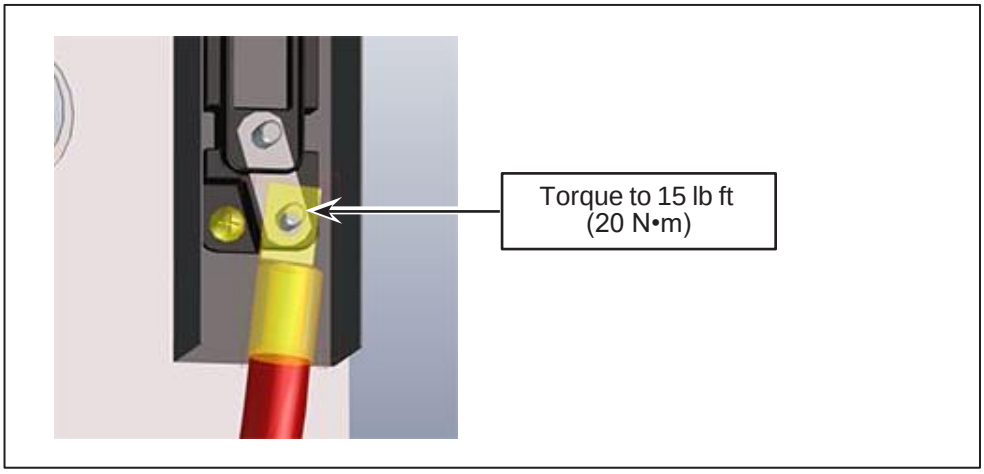

Figure 10 - Torque Value on the Lower Connection of the Fuse Holder

1.30. Using a brush, apply a liberal amount of N86800 Dolph's anticorrosive compound on the exposed metallic surface of the connections on the junction block terminal and the terminal of the fuse holder to protect them from corrosion. The product must cover completely the metallic surface of the connections, the electrical connection points of the fuse, the exposed metallic parts of the cable lugs connected to the fuse holder,and the fuse holder anchor bolts. Avoid covering the cables shrink tubing. See Figure 11.

1.31. Allow 15 minutes for drying time. Then repeat the previous step to apply a second layer of the anticorrosive compound. See Figure 11.

1.32. Allow 15 minutes for drying time and apply the torque seal on the bolts and nuts torqued on the junction block terminal and the fuse holder.

1.33. Install the rest of the split block and affix the split block to the structure using the retained hardware. See Figure 11 for torque value.

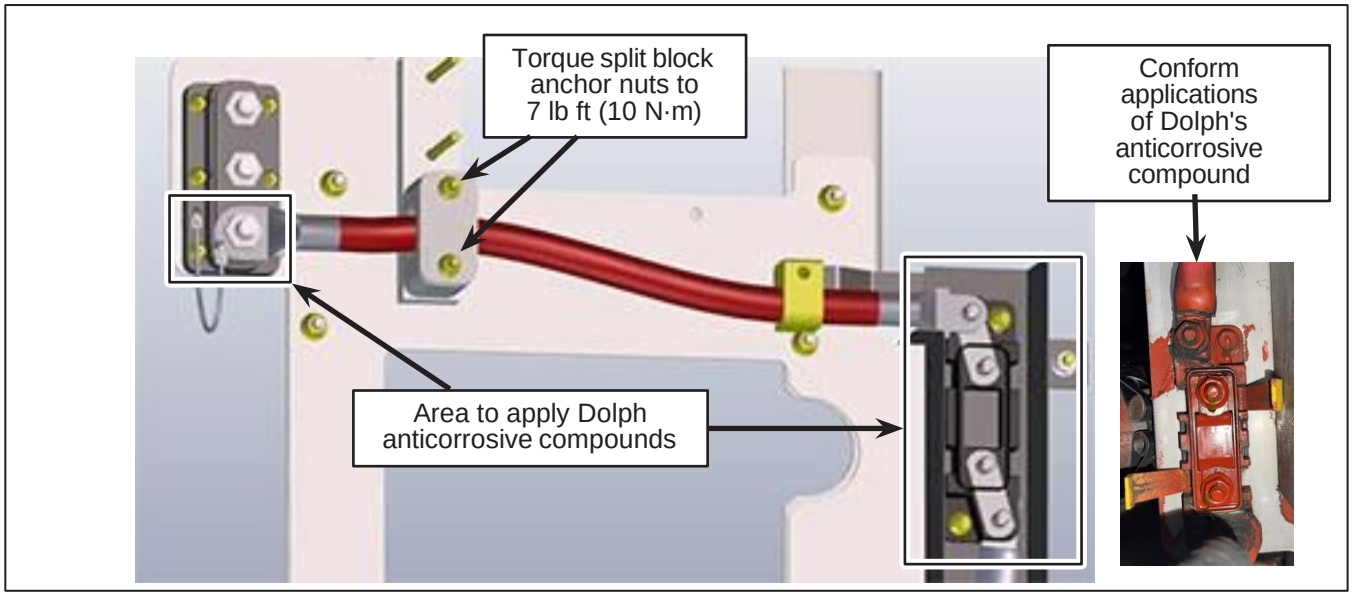

Figure 11 - Area to Apply Dolph's Anticorrosive Compound N86800

1.34. Install the retained cover on the terminal junction block.

1.35. Break the top street side portion of the fuse holder cover. See Figure 12.

1.36. Install the cover on the fuse holder. See Figure 12.

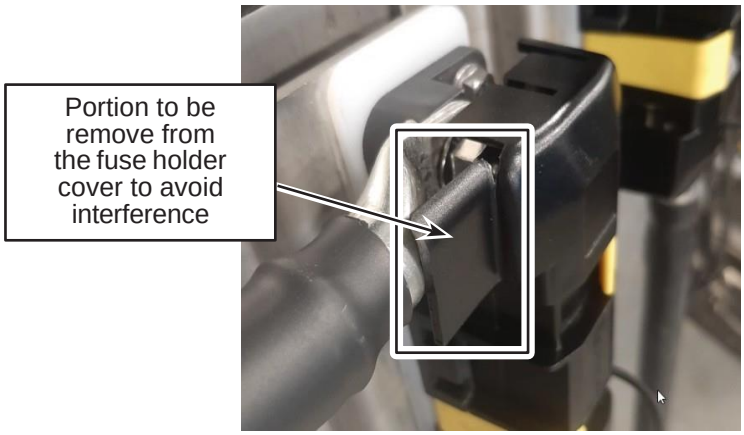

Figure 12 - Modification of the Fuse Holder Cover

1.37. Install the new fuse holder cover N109992 using N44890 M6 nuts. See Figure 13.

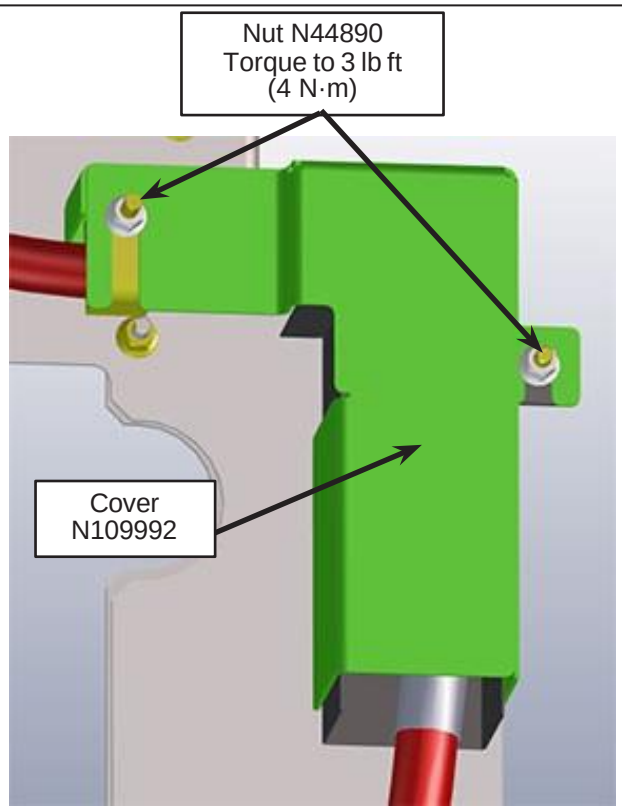

Figure 13 - Cover N109992 Installation

1.38. Install and connect the engine control box using the retained hardware.

1.39. Connect the cables to the batteries' positive terminals. Refer to your maintenance manual for the tightening torque applicable to the positive terminal of the batteries.

1.40. Connect the cables to the batteries' negative terminals. Refer to your maintenance manual for the tightening torque applicable to the negative terminal of the batteries.

1.41. Close all the open doors and return the vehicle in service

LEVEL 2: INSPECTED PARTS REPLACEMENT

2.1. Replace the fuse N47759-250 by a new N47759-250 fuse.

2.2. Replace the fuse holder N84769 by a new N84769 fuse holder.

PROCEDURE TO REPLACE CABLE N90320-04 CONNECTS TO THE LOWER TERMINAL OF THE FUSE HOLDER

2.3. Remove the rear curbside flasher and stop lamp panels. See Figure 14.

2.4. Open radiator compartment door grid. See Figure 14.

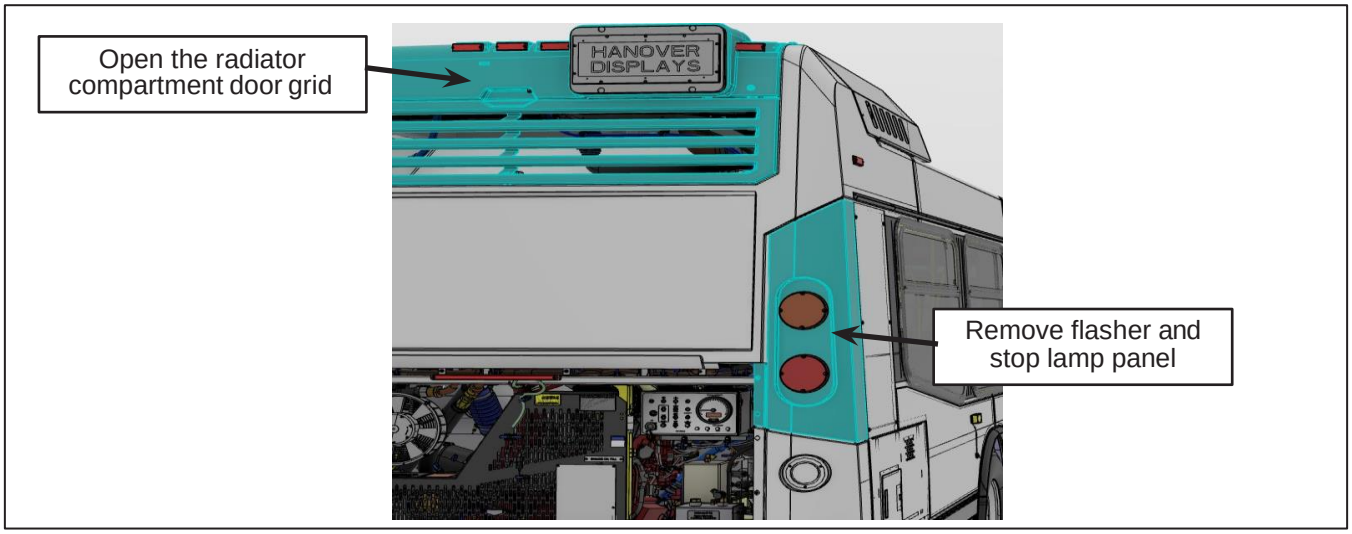

Figure 14 - Panel and Door to Open

2.5. In the radiator compartment, clean thoroughly with brake and part cleaner (P/N N8951729) or any equivalent product, the lug of the cable and the terminal locate behind the plate.

2.6. In the radiator compartment disconnect the cable located behind the junction block. See Figure 15.

2.7. Take note where the dual clamp ties are installed and remove the cable from the vehicle. Retain the hardware.

2.8. Install a new cable N90320-04 in the same position as the one removed using the dual clamp tie N37749 and the retained hardware.

2.9. Connect the new cable N90320-04 to the junction block in the radiator compartment. See Figure 15 for torque value.

2.10. Apply N86800 Dolph's anticorrosive compound on the terminal and the cable lug. Refer to step 1.30 to 1.32 for the required application procedure.

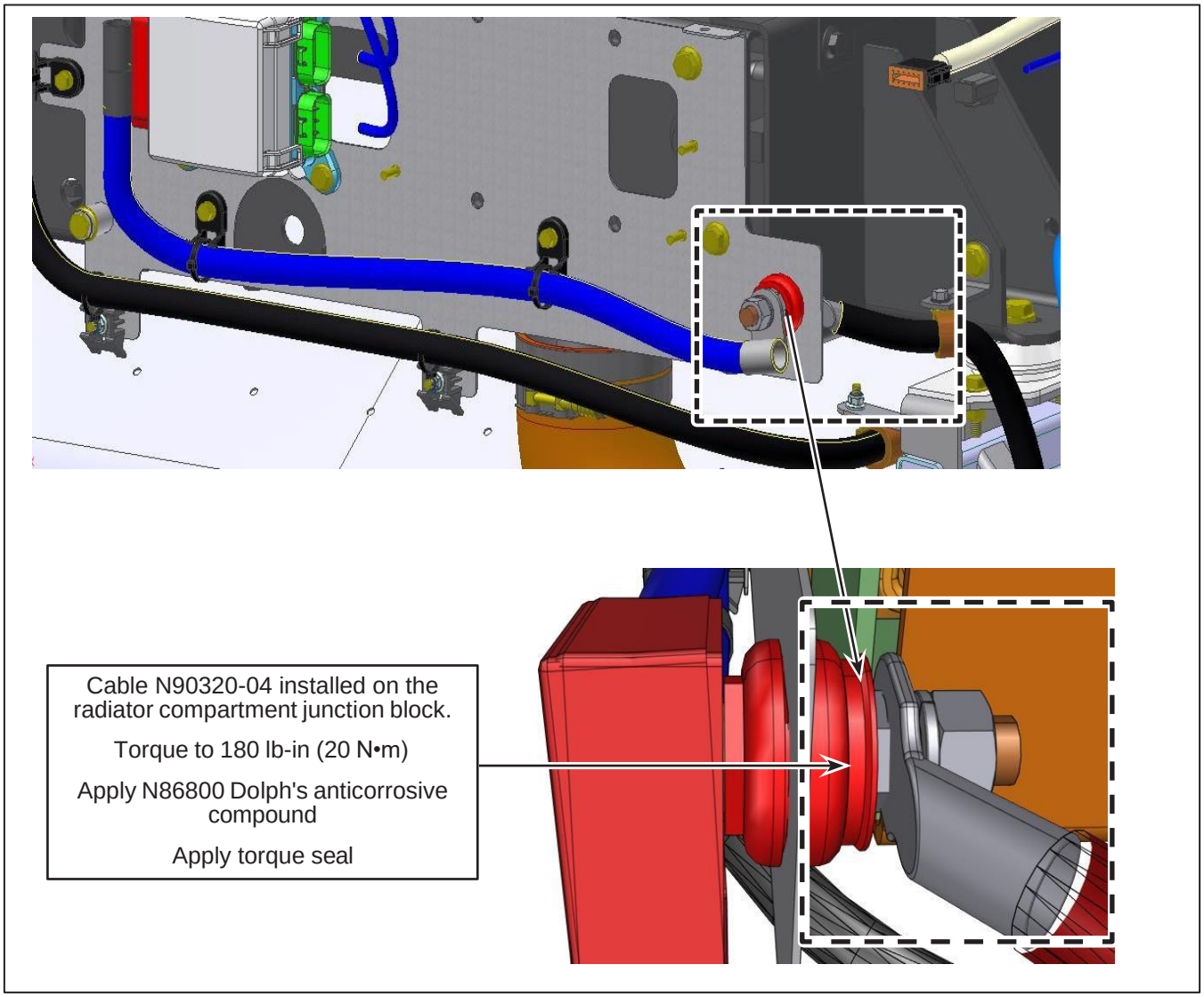

Figure 15 - Cable N90320-04 Connection to the Radiator Compartment Junction Block

2.11. Complete Level 1 procedure.

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