

REFERENCE:	Nova Bus Manuals
SECTION:	16: 24-Volt Electrical System
RS N°:	MQR 7621-2467
EFFECTIVE IN PROD.:	LE73 (2022MA)
TC RECALL N°:	2022-310
NHTSA RECALL N°:	22V416

APPLICATION DEADLINE: NA

CLAIM REFERENCE NUMBER: [REDACTED]

SUBJECT:	Corrosion on the radiator fans electrical fuse holder in the engine compartment.
JUSTIFICATION:	Under certain conditions, a certain configuration of radiator fans electrical fuse holder may experience excessive corrosion that may lead to an electrical resistive short.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Clean and inspect the N84769 fuse holder and the N47759-250 fuse. Apply the anticorrosive product on the cables' lug and the metal surface of the fuse holder.	Nova Bus	Nova Bus	45 min
2	Replace the N84769 fuse holder and/or the N47759-250 fuse	–	Nova Bus	See Note*

* The time is included in level 1 for the installation of the fuse holder and the fuse

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	2022JN27	Initial release	Luc Carignan

APPROVED BY:

Jean-Nicolas Fournier

Digitally signed by Jean-Nicolas Fournier
 DN: cn=Jean-Nicolas Fournier, o=Nova Bus,
 email=jean-nicolas.fournier@volvo.com, c=CA
 Date: 2022.06.27 13:58:31 -04'00'

MATERIAL REQUIRED PER VEHICLE

QTY	PART N°	REV.	DESCRIPTION
LEVEL 1			
-	-	-	-
LEVEL 1 SHOP SUPPLIES***			
40 oz	N8910847	-	CRC Citrus Degreaser (200 oz can)
3.2 oz	N8910848	-	CRC Contact Cleaner (16 oz can)
2 oz	N67314	-	Anticorrosive compound (NCP-2) (4 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	N84769	-	Fuse holder
1	N47759-250	-	250A fuse

Materials will be available within 85 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	
Academy Busline - New Jersey	█	-	-	L82JXM3█	L82JXM3█	15
Ames Transportation Agency - Iowa	█	6149	6149	S92J2M9█	S92J2M9█	1
Ann Arbor Area Transportation Authority Michigan - AAATA	█	2000	2000	L82J9L9█	L82J9L9█	1
Ann Arbor Area Transportation Authority Michigan - AAATA	█	2001	2007	L82J1M9█	L82J2M9█	7
Barrie Ontario - metrolinx	█	2001	2002	L82J3L9█	L82J5L9█	2
Barrie Ontario - Metrolinx	█	2101	2103	L82J2L9█	L82J6L9█	3
Barrie Ontario - metrolinx	█	2201	2203	L82J1M3█	L82J5M3█	3
Barrie Ontario - metrolinx	█	2204	2206	L82J7M3█	L82J5M3█	3
Belleville Transit - Ontario - Metrolinx	█	-	-	L82J1M3█	L82J1M3█	1
Brampton Ontario	█	2007	2024	L82J5L3█	L82J5L3█	18
Brampton Ontario	█	2101	2108	L82J3M3█	L82J0M3█	8
Brantford Ontario	█	102105	102109	L82J8M3█	L82JXM3█	5
Burlington Ontario - Metrolinx	█	2101	2108	L82J2M3█	L82J8M3█	8

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Burlington Ontario - metrolinx		72201	72207	L82J8N3	L82J9N3	7
Cape Breton Nova Scotia		—	—	L82J9M3	L82J9M3	1
Cape Breton Nova Scotia		—	—	L82J9M3	L82J9M3	1
CHARM city Baltimore - Maryland		1910218	1910223	L82J4K9	L82J8K9	6
CHARM city Baltimore - Maryland		1910234	1910239	L82JXL9	L82J3L9	6
Chicago Transit Authority - CTA - Illinois		—	—	L82J0M9	L82J0M9	1
Cold Lake Alberta		5017	5017	L82J9M3	L82J9M3	1
Demo - Altoona electric Bus - LFS-e+ (P9750)		—	—	L82J4M3	L82J4M3	1
Durham Region Transit Ontario - Metrolinx		7104	7117	L82J0M3	L82J5M3	14
Durham Region Transit Ontario - Metrolinx		9106	9107	S92J6M3	S92J8M3	2
Durham Region Transit Ontario - metrolinx		7118	7122	L82J2M3	L82JXM3	5
Grand River Transit Ontario - GRT		21901	21912	L82J1K9	L82J3K9	12
Grand River Transit Ontario - GRT		22001	22031	L82J9L3	L82JXL3	31
Guelph Ontario		281	284	L82J8L3	L82J8L3	4
Halifax Nova Scotia		1370	1406	L82J3M3	L82J7M3	37
Houston Texas - Metro		2500	2501	L82J4L9	L82J0L9	2
Houston Texas - Metro		2502	2534	L82J8L9	L82J3L9	33
Lethbridge - Alberta		199	T203	L82J1L3	L82J3L3	5
Maryland Transit Authority - MTA		20001	20001	L82J8K9	L82J8K9	1
Maryland Transit Authority - MTA		20031	20031	S92J9K9	S92J9K9	1
Maryland Transit Authority - MTA		20002	20030	L82JXL9	L82J4L9	29
Maryland Transit Authority - MTA		20032	20070	S92J5L9	S92J3L9	39
Maryland Transit Authority - MTA		21001	21070	L82J2M9	L82J9M9	70
Moncton (Codiac) - New Brunswick		—	—	L82J1M3	L82J1M3	4
Oakville Ontario - Metrolinx		—	—	L82J6K3	L82J5K3	6
Oakville Ontario - Metrolinx		—	—	L82J7M3	L82J2M3	7
Ottawa - OC transpo - metrolinx		4683	4736	L82J7K3	L82J4K3	54
Ottawa - OC transpo - metrolinx		4737	4775	L82J0K9	L82J3K9	39
Ottawa - OC transpo - metrolinx		4776	4830	L82J5L3	L82J3L3	55
Ottawa - OC transpo - metrolinx		4831	4849	L82J4L9	L82J1L9	19
Capital Area Transportation Authority Michigan - CATA		—	—	S92J4K9	S92J4K9	1
Regina - Saskatchewan		—	—	S92J8M3	S92JXM3	2
Regina Saskatchewan		2201	2202	L82J3N3	L82J5N3	2
RMA World wide chauffeured Transportation		N/A	N/A	L82J6L9	L82J7L9	12
Rochester New York - RTS		1901	1901	L82J3K9	L82J3K9	1
Rochester New York - RTS		1902	1910	L82J4K9	L82J3K9	9
San Juan Puerto Rico		2021-11	2021-17	L82JXM9	L82J5M9	7
Samia Ontario - metrolinx		211	212	L82JXN3	L82J1N3	2
St. Catharines Ontario - metrolinx		2201	2209	L82J9N3	L82J8N3	9
Stratford Ontario - metrolinx		—	—	L82J1N3	L82J3N3	2
Strathcona County Transit - Alberta		2034	2037	L82J2M3	L82J9M3	4
Strathcona County Transit - Alberta		2031	2035	L82J3L3	L82J0L3	5
Sudbury Ontario - Metrolinx		910	919	L82J8M3	L82J9M3	10
Sudbury Ontario - Metrolinx		921	927	L82J1M3	L82J7M3	7

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Thunder Bay Ontario - metrolinx		239	240	L82J5N3	L82J7N3	2
Trimet Portland Oregon		4501	4501	S92J3M9	S92J3M9	1
Trimet Portland Oregon		4502	4531	S92J6M9	S92J7N9	30
Welland Ontario - metrolinx		—	—	L82J7M3	L82J9M3	2
Welland Ontario - metrolinx		—	—	L82J0M3	L82J0M3	1
Whitehorse - Yukon		—	—	L82J5M3	L82J6M3	2
Whitehorse Yukon		N/A	N/A	L82J2L3	L82J4L3	2
York Regional Transit Ontario		1971	1980	S92J0K3	S92J3K3	10

**WARNING**

FOLLOW YOUR INTERNAL SAFETY PROCEDURES.

PROCEDURE

- 1.1. Park the vehicle on an even surface with the transmission on neutral (N).
- 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.

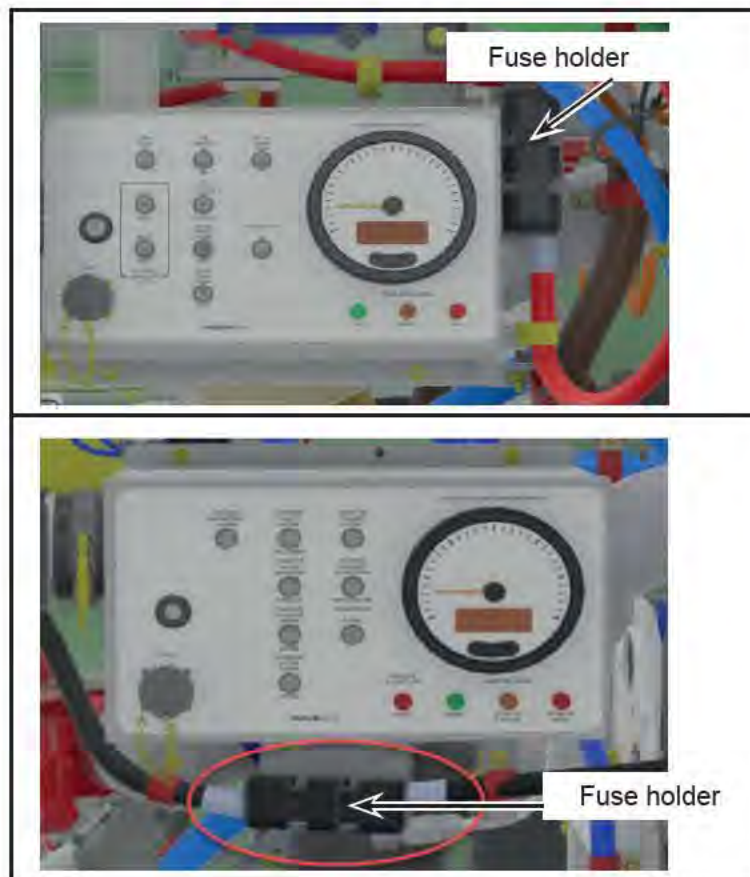


Figure 1 - Possible location of the fuse holder N84769

**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, the fuse holder terminals and the fuse holder anchor bolts preferably with CRC Citrus degreaser (P/N N8910847) or any equivalent product. See Figure 2.
- 1.10. Remove the M8 anchor nuts which affix the cables to the fuse holder. Install a protective sleeve on the tip of the cables to avoid any contact with the 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 the bolts, nuts and the fuse holder. See Figure 2.

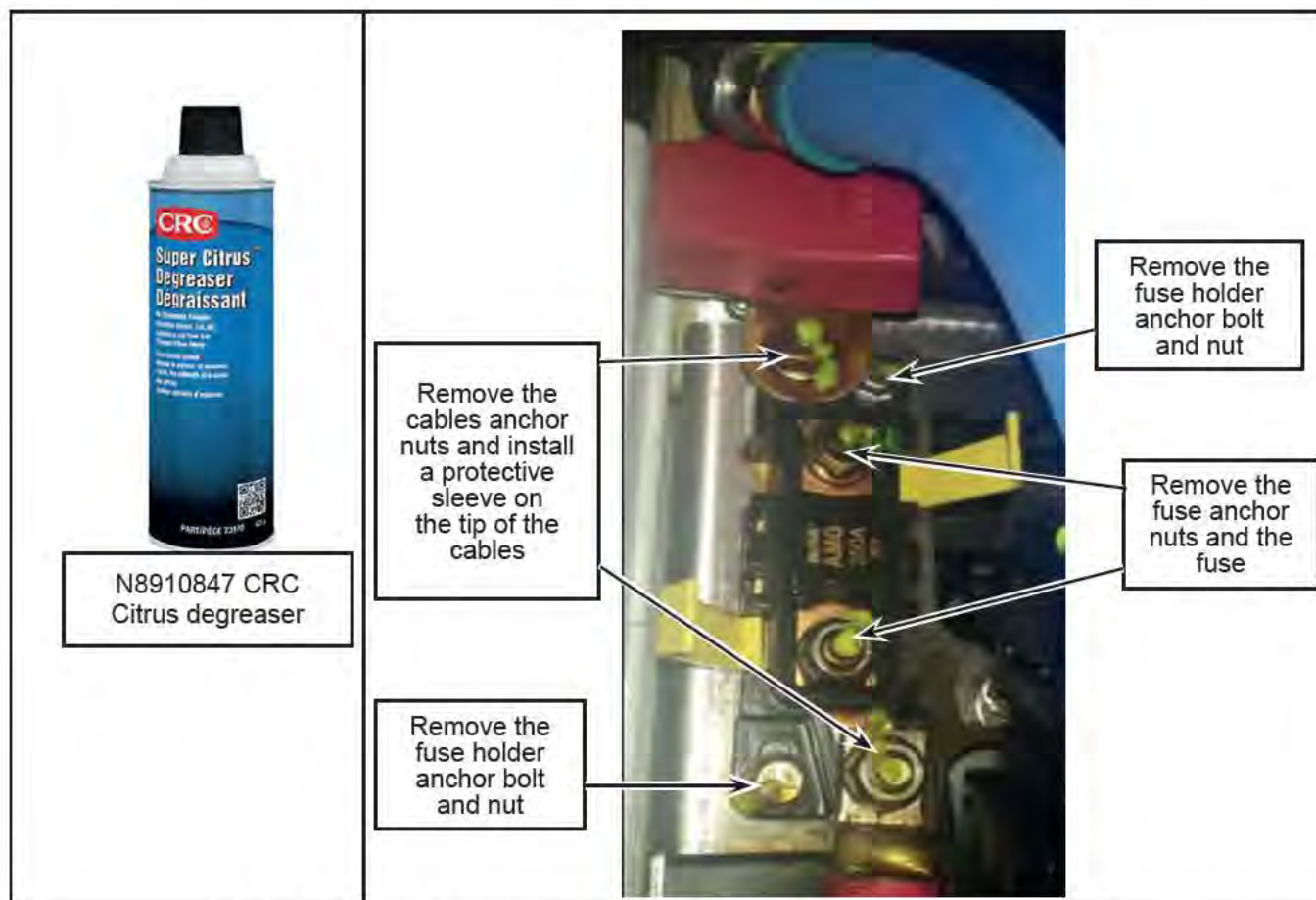


Figure 2 - N8910847 Degreaser and Detailed View of the Fuse Holder Installation

- 1.13. Clean thoroughly the cables lug, the fuse and their anchor nuts with a nylon brush and CRC Contact Cleaner (P/N N8910848) or any equivalent product. Make sure that there is no traces of corrosion or dirt on both sides of the fuse, the lugs of the cables and on the retain nuts. See Figure 3.



Figure 3 - Nylon Brush and Contact Cleaner N8910848

- 1.14. Inspect the fuse for any visible sign of overheating on the fuse housing or any other significant damage. See Figure 4.
- 1.15. If any sign of overheating or any significant damage is detected on the fuse, proceed with the Level 2 procedure.

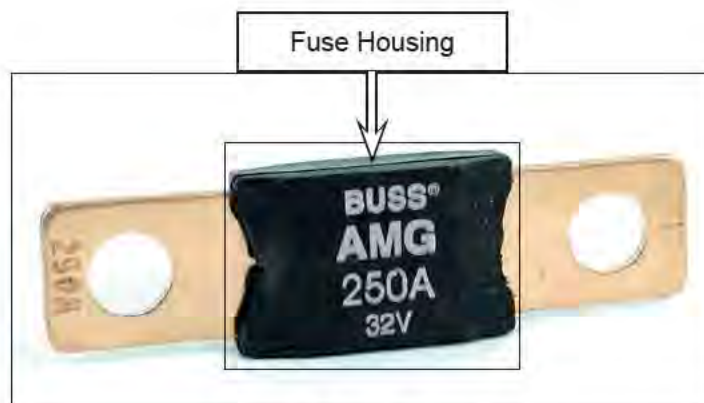


Figure 4 - Fuse N47759-250

- 1.16. Clean thoroughly the fuse holder and its anchor bolts and nuts with a nylon brush and CRC Contact Cleaner (P/N N8910848) or any equivalent product. Make sure that there is no traces of corrosion or dirt on both sides of the fuse holder. Clean the back of the fuse holder and remove any dirt or corrosion in the four holes shown in Figure 5.

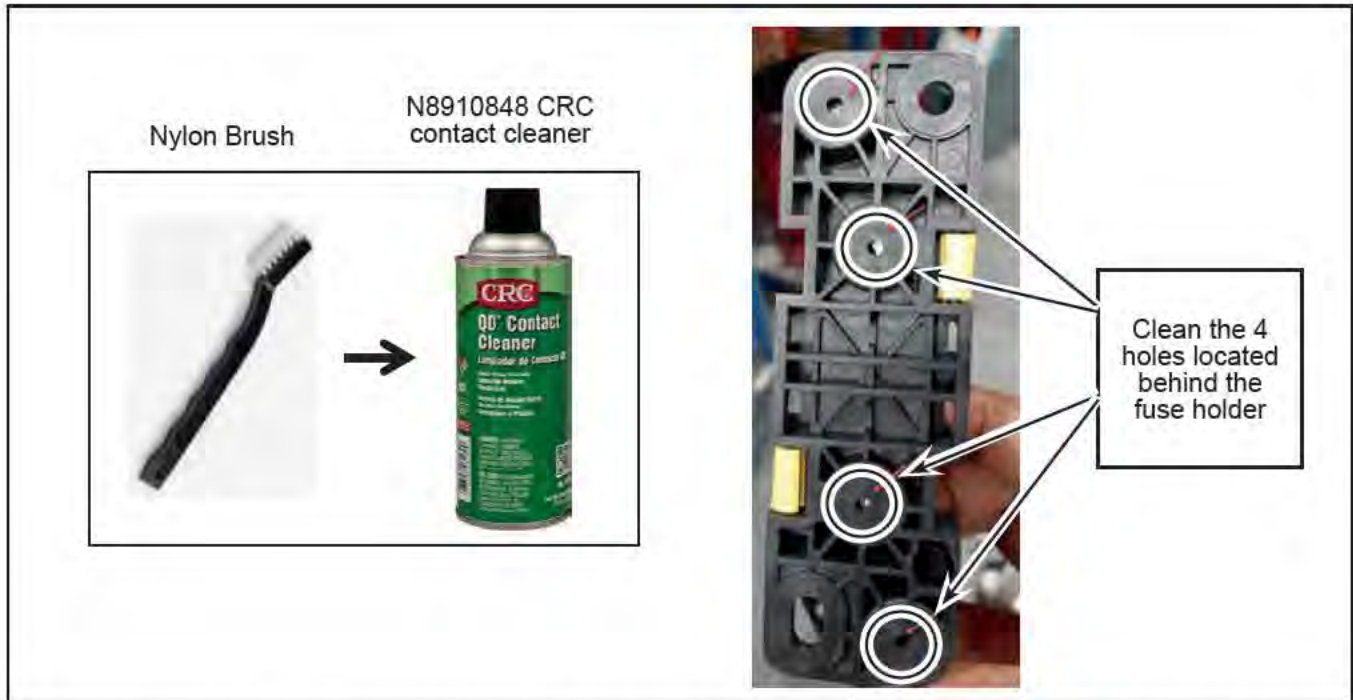


Figure 5 - Nylon Brush, N8910848 Contact Cleaner and View of the 4 Holes Located Behind the Fuse Holder

- 1.17. Inspect the fuse holder for any visible sign of overheating or any other significant damage.
- 1.18. If any sign of overheating or any significant damage is detected on the fuse holder, proceed with the Level 2 procedure.
- 1.19. Fill the 4 holes located behind the fuse holder with NCP-2 N67314 or Dolph's N86800 anticorrosive compound. It is important the anticorrosive product applied under the fuse holder must be the same as the one applied on the top portion of the fuse holder once the fuse holder is installed. See Figure 6.

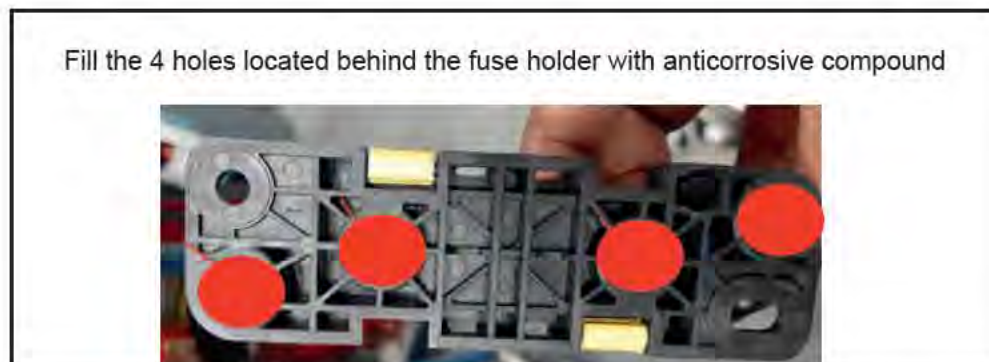


Figure 6 - Anticorrosive Compound Application area Behind the Fuse Holder

- 1.20. Install the fuse holder N84769 on the structure using the retained M6 bolts and nuts. See Figure 7 for torque value. Do not apply torque seal at this step.

**NOTE**

The M6 anchor bolts and nuts of the fuse holder shall be installed as indicated in Figure 7.

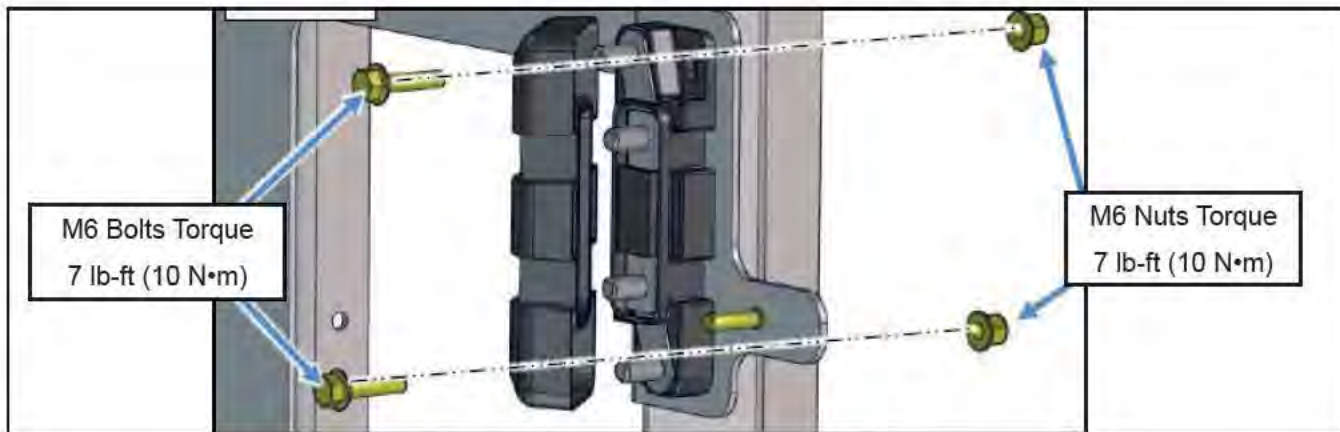


Figure 7 - Fuse Holder Installation and Torque

- 1.21. Install the fuse N47759-250 in the fuse holder using the retained M8 nuts. See Figure 8 for torque value
- 1.22. Affix the cables to the fuse holder using the retained M8 nuts. See Figure 8 for torque value. Do not apply torque seal at this step.

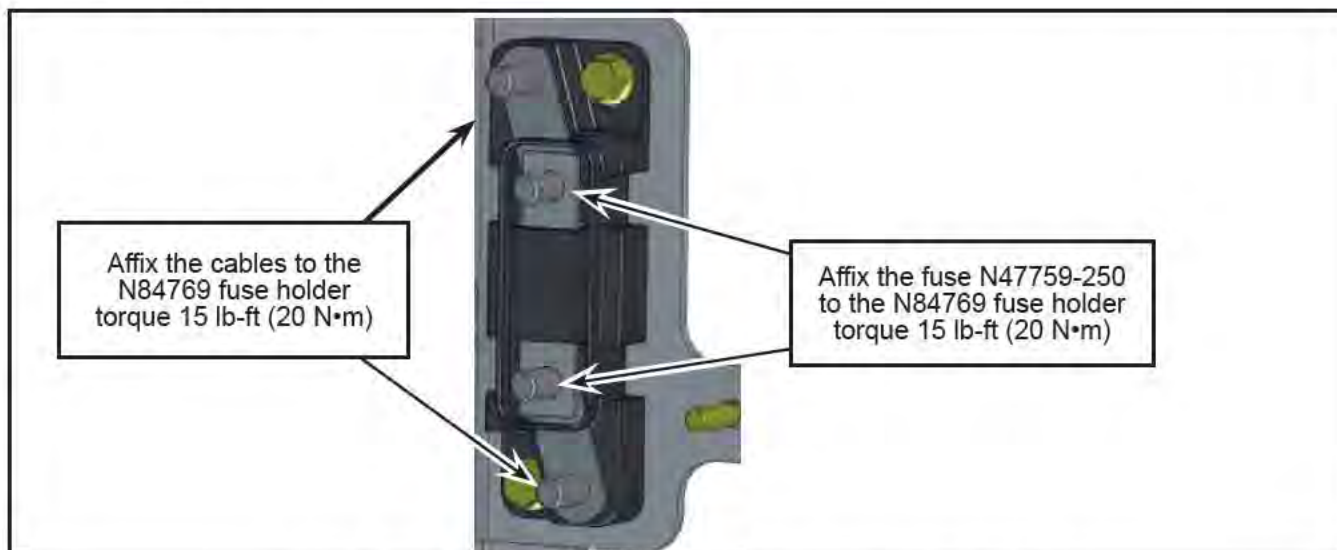


Figure 8 - Torque for the Instalation of the Cables and N47759-250 Fuse

THE NEXT STEPS INDICATE THE APPLICATION METHODS FOR THE ANTICORROSIVE COMPOUNDS NCP-2 N67314 AND DOLPH'S N86800.

**WARNING**

Only one of the two products should be applied on the exposed metallic portion of the electric connections of the fuse holder, fuse and cables.

- 1.23. Follow these steps for the application of N67314 NCP-2 anticorrosive compound.
- Apply torque seal on the bolts and nuts torqued in steps 1.20, 1.21 and 1.22.
 - Using a brush, apply a liberal amount of N67314 NCP-2 anticorrosive compound on the exposed metallic surface of the connections to protect them from corrosion. The product must cover completely the metallic surface of the electrical connection, the electrical connection points of the fuse, the exposed metallic parts of cable lugs connect to the fuse holder and the fuse holder anchor bolts. See Figure 9.

Cover completely the metallic surface of the electrical connection points, the electrical connection points of the fuse, the exposed metallic parts of cable lugs connect to the fuse holder and the fuse holder's anchor bolts with N67314 NCP-2 anticorrosive compound.



Conform application of N67314 NCP-2 anticorrosive compound



Figure 9 - Conform Application of N67314 NCP-2 Anticorrosive Compound

- 1.24. Follow these steps for the application of N86800 Dolph's anticorrosive compound.
- Do not apply torque seal** on the bolts and nuts torqued in steps 1.20, 1.21 and 1.22.
 - Using a brush, apply a liberal amount of N86800 Dolph's anticorrosive compound on the exposed metallic surface of the connections 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 10.
 - Allow 15 minutes for drying time. Then repeat the previous step to apply a second layer of the anticorrosive compound.
 - Allow 15 minutes for drying time and apply the torque seal on the bolts and nuts torqued in steps 1.20, 1.21 and 1.22.

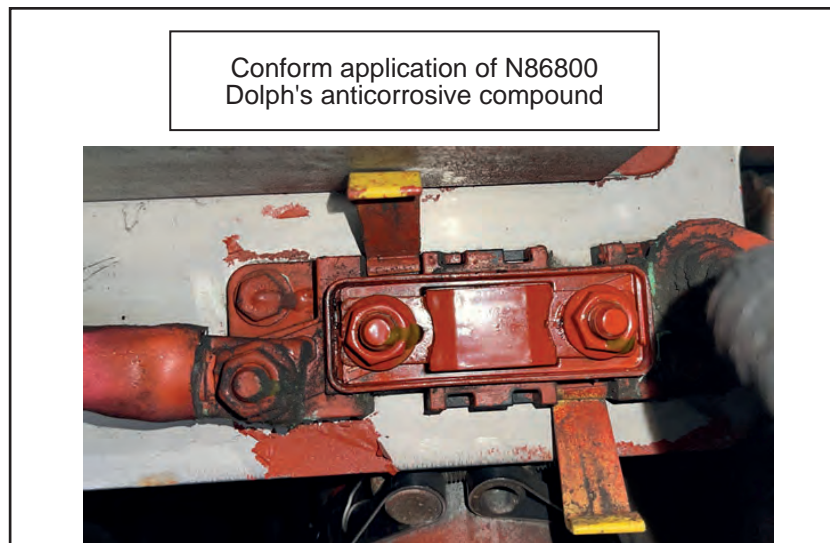


Figure 10 - Conform Application of N86800 Dolph's Anticorrosive Compound

- 1.25. Install the retained cover on the fuse holder.
- 1.26. Close the rear access door of the engine compartment.
- 1.27. 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.
- 1.28. 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.

LEVEL 2 : REPLACE THE N47759-250 FUSE AND/OR THE N84769 FUSE HOLDER

- Replace the fuse N47759-250 by a new N47759-250 fuse.
- Replace the fuse holder N84769 by a new N84769 fuse holder.
- Complete the procedure of level 1 from step 1.19.

