

REFERENCE:	Nova Bus Manuals
SECTION:	02: Engine and Cooling
RS N°:	MQR 7621-1834
EFFECTIVE IN PROD.:	N/A

APPLICATION DEADLINE: 2022JL29  
CLAIM REFERENCE NUMBER: WB-4848

SUBJECT:	Electric Cooling Package (ECP) power cable lugs and junction bus bar corrosion.
JUSTIFICATION:	Corrosion problems at the junction bus bar used for the 24 volts power distribution between the alternator, the super capacitor and the electric fans of the ECP.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Inspecting and cleaning of the power cable lugs and junction bus bar.	Nova Bus	Nova Bus	1.75h
2	Replacing the damaged or corroded cables and junction bus bar.	Nova Bus	Nova Bus	0.25h

#### MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
<b>LEVEL 1</b>				
1	N57807	–	Mount w/ Cable Tie	–
2	N44887	–	Nut Locknyl M6	–
1	N100476	–	Alternator Deflector Bracket	–
<b>LEVEL 2 (5% of 10 vehicles)</b>				
1	N90588	–	Busbar 3-Stud 650A Assembly	–
1	N91748-01	–	Cable Assembly C1042 4/0 AWG BK-RD	–
1	N94656-01	–	Cable Assembly C1133 4/0 AWG BK-RD	–
1	N94647-05	–	Cable Assembly C1134 4/0 AWG BK-RD	–

Materials will be available within 48 days. To order, please contact Prevost Parts by phone at 1-800-771-6682, by fax at 1-888-668-2555 or by email at prevostparts.commandes@volvo.com. Specify document number, quantity of parts required and shipping address.

#### 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	2020DE15	Initial release	Yuvaraj J
R1	2021MA28	Level 2 BOM items modified: - Cable assembly C1133 was N94656-05 - Cable assembly C1134 used for both LB76 & LB77 - Cable assembly C1077 removed for LB77	Devanand

APPROVED BY: **Jean-Nicolas Fournier**

Digitally signed by Jean-Nicolas Fournier  
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Date: 2021.05.28 10:39:21 -04'00'

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<b>SHOP SUPPLY</b>				
4.0 Oz	N8910847	–	Citrus Degreaser (20 Oz Spray Can, 15 Oz / 425 g Net Wt.)	–
3.2 Oz	N8910848	–	QD Contact Cleaner (16 Oz Spray Can, 11 Oz / 311 g Net Wt.)	–
4.0 Oz	N8910809	–	Dolph-Spray ER-44 Aerosol Red Air-Drying Varnish (20 Oz Spray Can)	–

**Note:**

N8910847 (Citrus Degreaser) 1 ea = 20 Oz 4.0 Oz / Bus (0.2 * 20 Oz can) 40 Oz for 10 buses (4.0 * 10 buses) 2 cans for entire campaign	N8910848 (QD Contact Cleaner) 1 ea = 16 Oz 3.2 Oz / Bus (0.2 * 16 Oz can) 32 Oz for 10 buses (3.2 * 10 buses) 2 cans for entire campaign	N8910809 (Dolph-Spray ER-44) 1 ea = 20 Oz 4.0 Oz / Bus (0.2 * 20 Oz can) 40 Oz for 10 buses (4.0 * 10 buses) 2 cans for entire campaign
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CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Rochester New York - RTS	LB76	1901	1901	L82J3K9777052	L82J3K9777052	1
Rochester New York - RTS	LB77	1902	1910	L82J4K9777352	L82J3K9777360	9

**WARNING**

FOLLOW YOUR INTERNAL SAFETY PROCEDURES.

**PROCEDURE**

- 1.1. Park the vehicle on an even surface with transmission on neutral (N).
- 1.2. Turn the master control switch to the OFF position and engage the parking brake.
- 1.3. Set the master control switch to the STOP position (see figure 1).

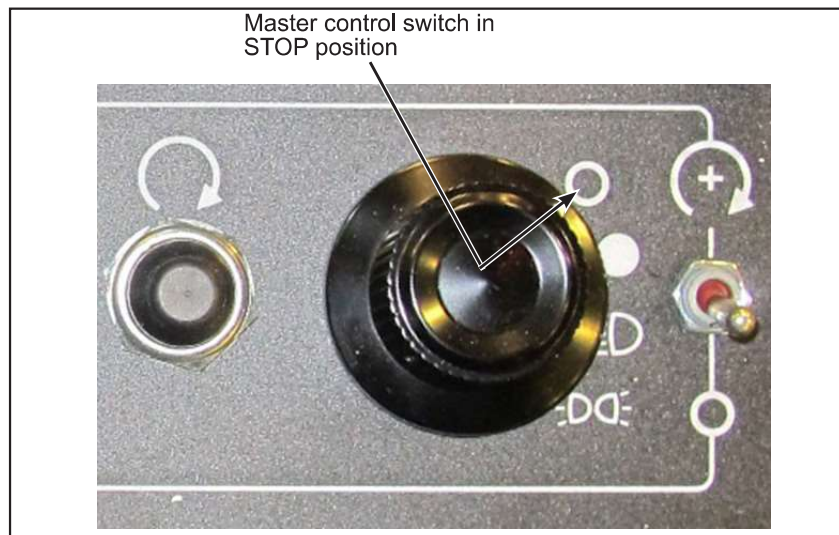


Figure 1 - Master Control Switch in STOP Position

- 1.4. Set the battery disconnect switch in the battery compartment to the OFF position (see figure 2).

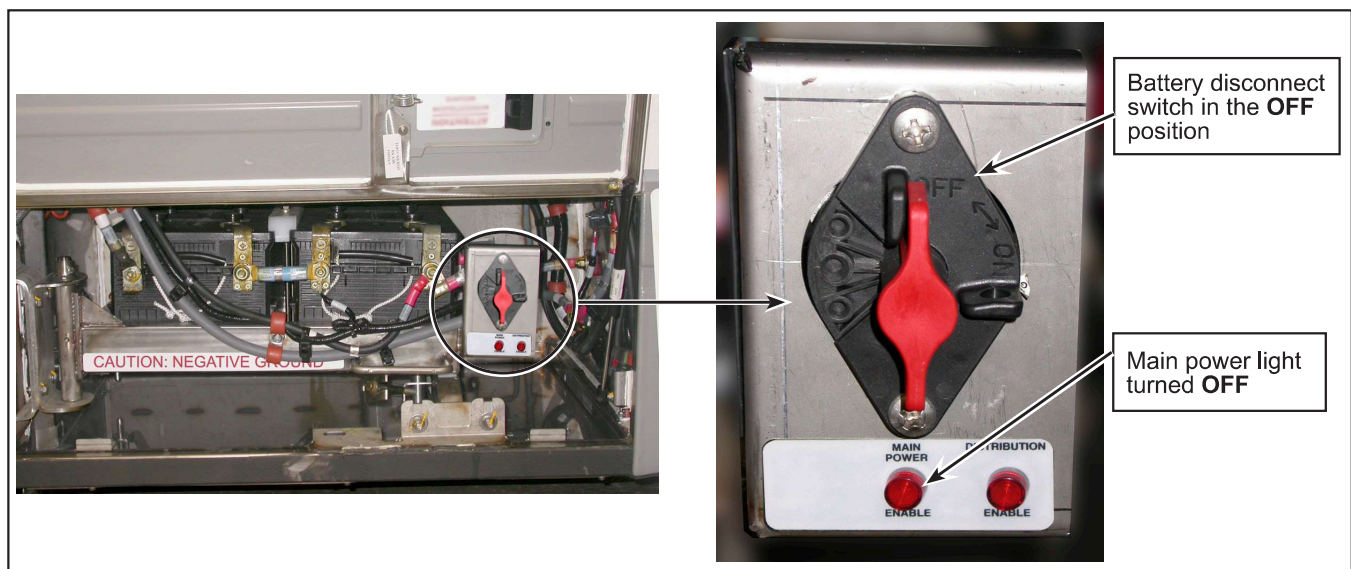
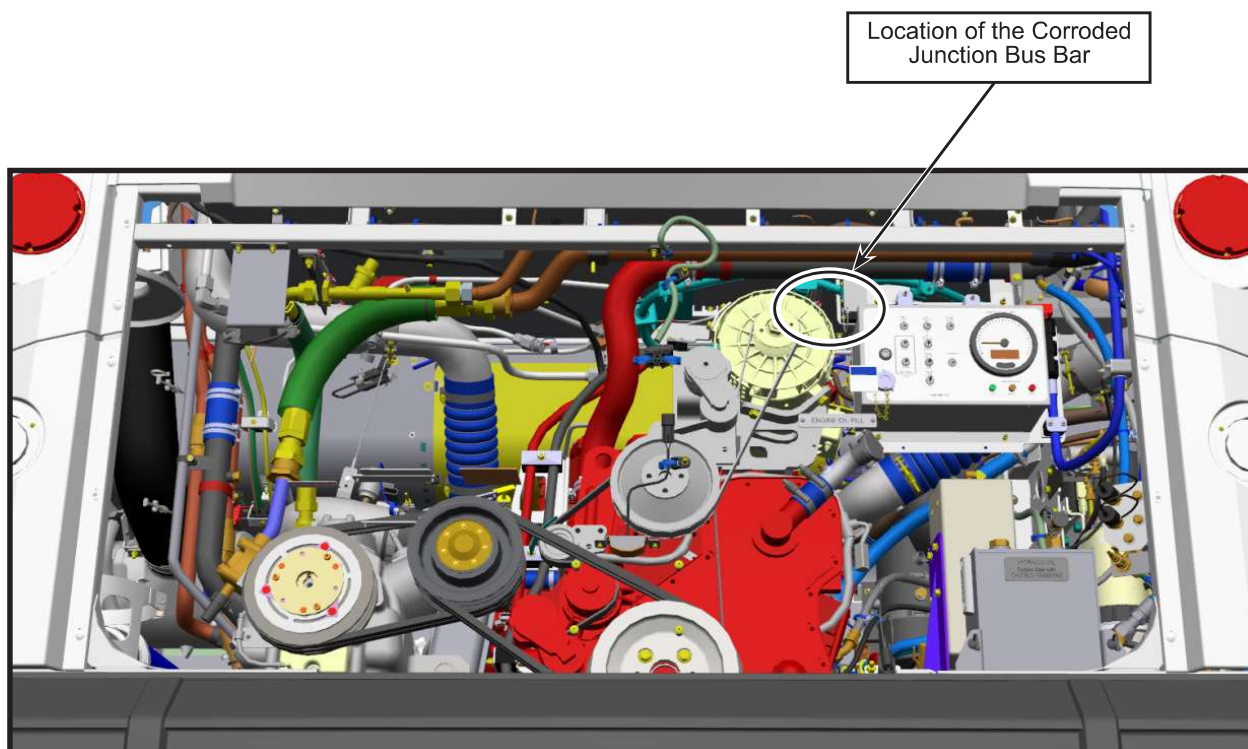


Figure 2 - View of Battery Disconnect Switch

**CAUTION**

Before removing, dismantling or maintaining any electrical component, the electrician should take the necessary precautions to avoid any risk of personal injury or damage to the equipment.

- 1.5. Open the rear engine door.
- 1.6. Open the belt guard.
- 1.7. Locate the power cables and the junction bus bar (see figure 3).



*Figure 3 - Rear View of Engine Compartment*

## REMOVAL OF THE ENGINE BOX



### NOTE

Make sure to disconnect the ground cable from the structure or batteries and ensure that the ground cable lug is isolated (see figure 4).

Disconnect the super capacitor control connector and ensure 0V voltage at the bus bar near the engine box (see figure 5).



Figure 4 - Ground Cable Disconnected and Isolated



Figure 5 - View of the Super Capacitor Control Connector to Disconnect



- 1.8. Remove the 2 upper M6 nuts that hold the engine box to the mounting bracket (see figure 6).
- 1.9. Remove the 2 lower M6 nuts that hold the engine box to the mounting bracket (see figure 6).

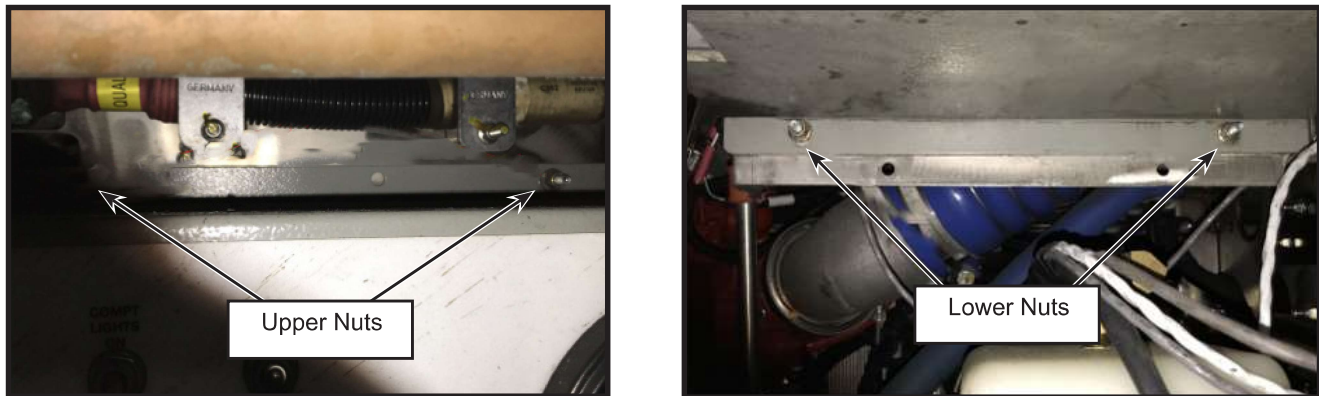


Figure 6 - View of Upper and Lower M6 Nuts



**NOTE**

The Metri-Pack connector is retained and secured with a bolt.

- 1.10. Carefully remove the engine box from the mounting studs and then disconnect the two connectors at the back (see figure 7).

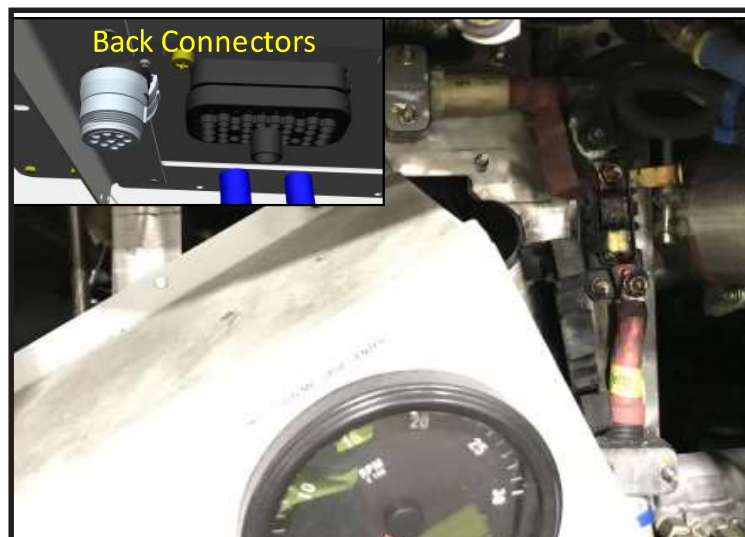


Figure 7 - Engine Box Removal

## REMOVAL OF THE POWER CABLE LUGS

- 1.11. Remove and retain the junction bus bar plastic cap.
- 1.12. Remove and retain the nuts that hold the 3 power cable lugs on the junction bus bar (see figure 8).
- 1.13. Remove the lowest cable to have a better access to the other 2 upper power cables.
- 1.14. Once the lowest cable is removed, pull as far as you can the lugs of the 2 upper power cables that are still on the junction bus bar.

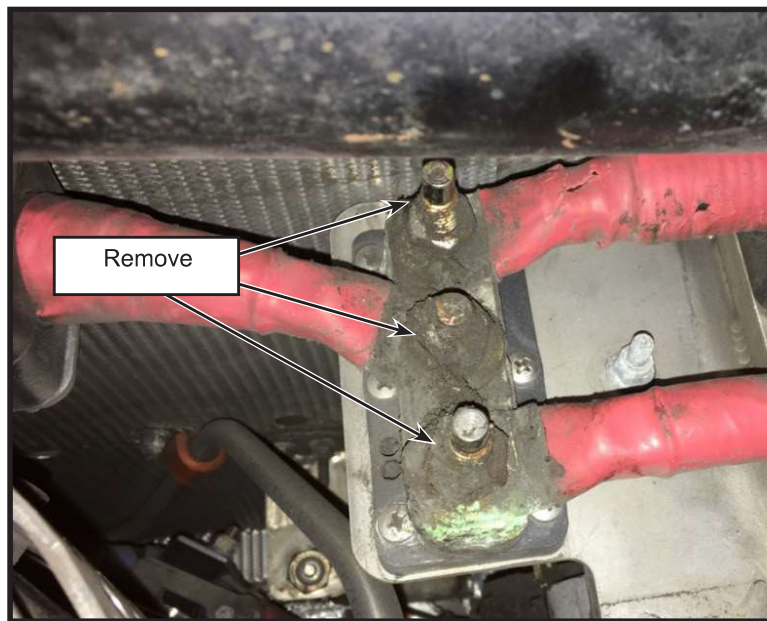
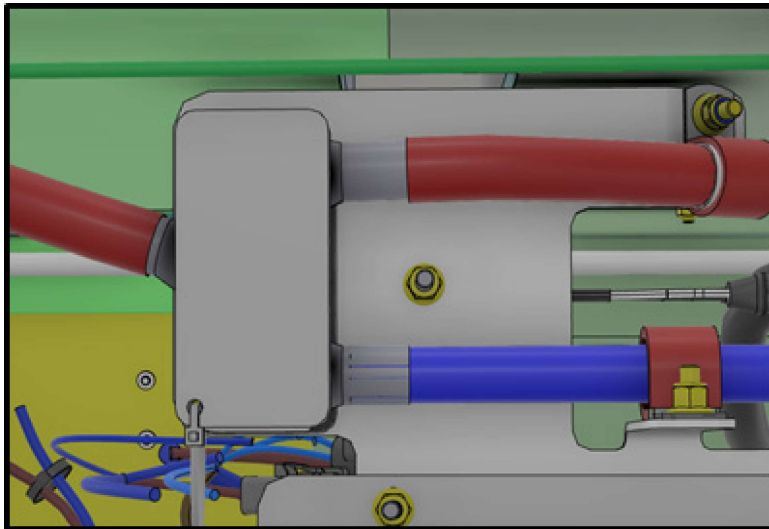


Figure 8 - Junction Bus Bar and Power Cables



### NOTE

**If one of the power cables and/or the junction bus bar has been damaged or is severely corroded (beyond any possible cleaning or repair), then replace it by using the corresponding Level 2 BOM replacement parts. Otherwise, continue with the following steps of the procedure.**

## CLEANING OF THE CABLES AND JUNCTION BUS BAR



### CAUTION

Apply the recommended personal precautions (e.g. adequate ventilation) and wear Personal Protective Equipment (PPE) such as chemical splash goggles and neoprene gloves, as specified in each product Safety Data Sheet (SDS).

- 1.15. Using the CRC Citrus Degreaser remove the dirt (see figure 9) and the grease from both sides of each power cable lug, from the junction bus bar and from the hardware nuts.
- 1.16. Using a nylon bristle brush and the CRC QD Contact Cleaner product, remove the corrosion (see figures 9 & 10) from both sides of each power cable lug, from the junction bus bar and from the hardware nuts.



Figure 9 - Junction Bus Bar and Power Cable Lug



Figure 10 - Corrosion Cleaning Brush and Contact Cleaner Product

- 1.17. Once all the parts are cleaned, reinstall the 3 power cables on the junction bus bar with the nuts and torque to 21.5Nm (do not apply yellow torque seal at this point).
- 1.18. Remove the black plastic cap from the fuse holder located to the right of the engine box removed earlier (see figure 11).
- 1.19. Remove and retain the nuts of the power cable lugs and of the 250A fuse.
- 1.20. Remove the 250A fuse to clean it.



- 1.21. Using the same degreaser and corrosion cleaning products specified earlier, repeat steps 1.15 and 1.16 to clean fuse holder power cables lugs and fuse holder metal contact parts.
- 1.22. Once all parts are clean and dry reinstall the 250A fuse and the power cables with the nuts and apply a torque of 20Nm.

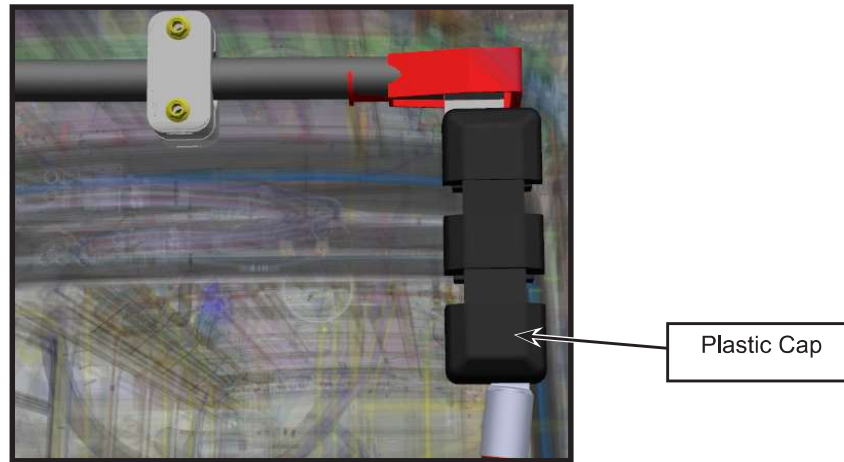


Figure 11 - Fuse Holder Black Plastic Cap

## APPLICATION OF THE DOLPH ER-44 PRODUCT



### NOTE

Ensure that you allow 10 minutes for each coat to dry before applying the next coat.

- 1.23. Apply 3 thin coats of the Dolph ER-44 product over the exposed metal surfaces of the junction bus bar, power cable lugs, fuse terminals, fuse holder terminals and nuts (see figure 12).
- 1.24. After the last Dolph ER-44 coat has dried, apply the yellow torque seal on each nut. Then, reinstall the protective plastic caps over the junction bus bar and the fuse holder.



Figure 12 - Dolph ER-44 and Yellow Torque Seal Applied

## REINSTALLATION OF THE ENGINE BOX



### NOTE

Ensure that the Metri-Pack connector is retained and secured with the bolt.

- 1.25. Screw the Metri-Pack connector middle bolt until the plastic clips on both sides of the connector are correctly positioned. Torque to 7Nm and apply yellow torque seal.
- 1.26. Reinstall the engine box after reconnecting the two connectors at the back.
- 1.27. Tighten three of the four M6 nuts while retaining the fourth M6 nut holding the upper left corner for later assembly, to complete the deflector bracket installation.



### NOTE

Ensure that the first three M6 nuts are properly secured (no torque specified).

## INSTALLATION OF THE DEFLECTOR BRACKET

- 1.28. Remove and discard the p-clamp lock nut holding the lower power cable (see figure 13).

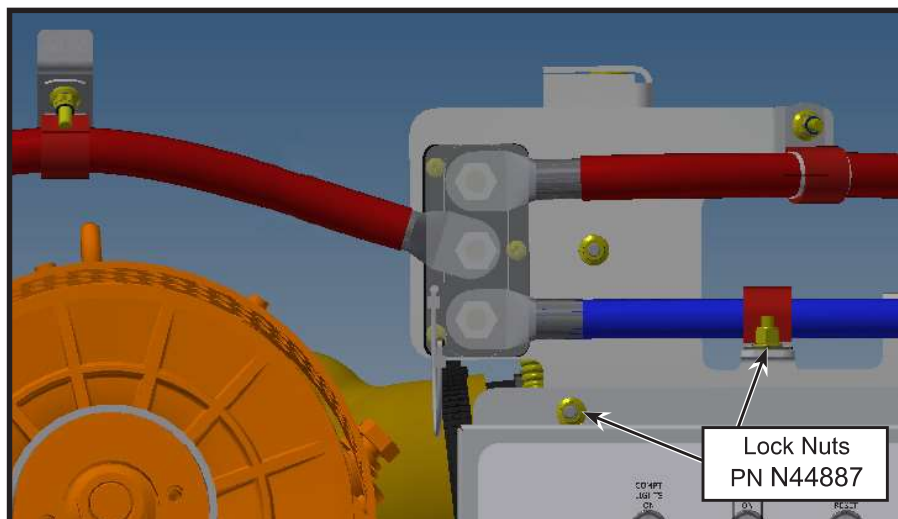


Figure 13 - View of Power Cables and Junction Bus Bar

- 1.29. Install the new deflector bracket PN N100476 on existing studs (see figure 14).

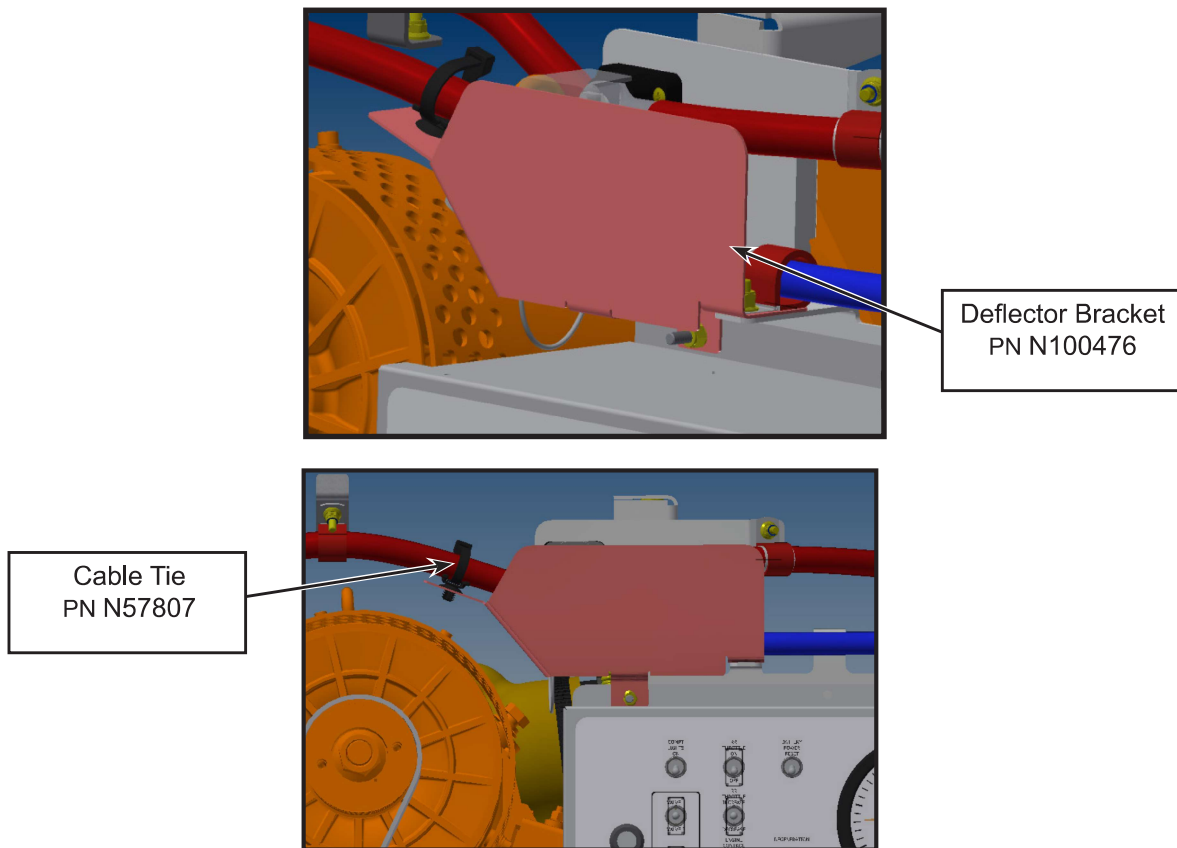


Figure 14 - Installation of the Deflector Bracket

- 1.30. Adjust the deflector bracket to avoid any electrical contact with the junction bus bar and power cable lugs exposed metal surfaces connected to the 24V alternator power distribution.
- 1.31. Install lock nuts PN N44887 on the engine box and p-clamp studs and torque to  $14.5 \pm 1$  Nm (see figure 13).
- 1.32. Install the cable tie mount PN N57807 on the deflector bracket hole in order to secure the alternator cable (see figure 14).
- 1.33. Reconnect the batteries ground cable and the super capacitor control connector.
- 1.34. Set the battery disconnect switch in the battery compartment to the ON position.
- 1.35. The vehicle may be returned to service. ❖

