NOVA BUS

SERVICE BULLETIN BS3871E

REFERENCE:	Nova Bus Manuals
SECTION:	16 : Electrical System
RS Nº:	MQR 7621-1254
EFFECTIVE IN PROD.:	L955-01 (2016JL)

APPLICATION DEADLINE: 2018JA31
CLAIM REFERENCE NUMBER: WB-3871

SUBJECT:	Battery ground cable re-routing
JUSTIFICATION:	There is a possibility of battery cable (+ve) chaffing against sharp bracket supporting the ground cable.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Re-routing of battery ground cable.	Nova Bus	Nova Bus	60 min
2	–	–	–	–

MATERIAL

QTY	PART Nº	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
2	N31320-02	–	CLAMP LOOP TYPE	–
1	N75134	–	BRACKET ASSY BAT CABLE SUPPORT	–
1	N85560-01	–	CABLE ASSY C917 4/0 AWG GY-BK	–
1	N37749	–	DUAL CLAMP TIE	–
1	N44890	–	NUT LOCKNYL M6 FL SSA2 C70	–
1	N33522	–	NUT FLANGE 3/8"-16	–
3	N43233	–	NUT HEX M8 FLANGED WITH INSERT	–
LEVEL 2				
–	–	–	–	–

Materials will be available within 45 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	2016NO29	Initial release	Kumaraswamy K S

APPROVED BY: Daniel Theriault

Digitally signed by Daniel Theriault
DN: cn=Daniel Theriault, o=Nova Bus, ou, email=daniel.theriault@volvo.com, c=CA
Date: 2016.11.29 14:31:10 -05'00'

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Ames Transportation Agency - Iowa	L904	6101	6104	S92J1G9775221	S92J7G9775224	4
Barrie - Ontario	L878	1501	1504	L82JXF3001691	L82J6F3001719	4
Brampton - Ontario	L789	—	—	L82J4E3001216	L82J1E3001223	8
Brampton - Ontario	L816	—	—	L82J3E3001224	L82J9E3001230	7
Brampton - Ontario	L864	1501	1510	L82JXF3001500	L82J6F3001509	10
Brampton - Ontario	L865	1511	1519	L82JXF3001514	L82J9F3001522	9
Brampton - Ontario	L941	1614	1623	L82J1G3750123	L82J2G3750132	10
Brampton - Ontario	L942	1601	1613	L82J6G3750070	L82J4G3750083	13
Brantford - Ontario	L775	10131	10132	L82U1D3000999	L82U2D3001000	2
Brantford - Ontario	L928	10151	10153	L82J7F3001793	L82J0F3001795	3
Burlington - Ontario	L887	7017-15	7025-15	L82J7F3001681	L82J8F3001723	9
Cornwall Ontario	L935	—	—	L82J3F3001838	L82J5F3001839	2
Durham Region Transit - Ontario	L872	8551	8553	L82J0F3001523	L82J4F3001525	3
Durham Region Transit - Ontario	L888	8554	8559	L82J2F3001703	L82J1F3001708	6
Grande Prairie Alberta	L834	—	—	L82J7E3001386	L82J2E3001389	4
Kingston Ontario	L880	1502	1502	L82JXF3001786	L82JXF3001786	1
Kingston Ontario	L925	1504	1510	L82J5F3001808	L82J5F3001811	4
NFTA - Buffalo, New York	L877	1501	1501	L82K0F4500984	L82K0F4500984	1
NFTA - Buffalo, New York	L897	1502	1520	L82K1F4501223	L82K1G9775008	19
NFTA - Buffalo, New York	L947	1601	1624	L82KXG9775248	L82K3G9775320	24
North Bay - Ontario	L895	784	785	L82J7F3001678	L82J9F3001679	2
Sault Ste. Marie Ontario	L934	—	—	L82JXG3750038	L82JXG3750038	1
St. John - New Brunswick	L871	40585	40586	L82J8F3001592	L82JXF3001593	2
St. John - New Brunswick	L939	40687	40687	L82J0G3750078	L82J0G3750078	1
Windsor - Ontario	L886	570	577	L82J8F3001818	L82J5F3001825	8

WARNING

Follow your internal safety procedures.

NOTE

This document has been created to demonstrate the proper routing of battery ground cable as well as the procedure associated for a correction on vehicles in service.

It is recommended to read this document thoroughly before starting the work.

PROCEDURE

1.1. Turn the ignition switch to OFF position, place the transmission in NEUTRAL and engage the parking brake.

1.2. Locate and open the battery compartment door (see Figure 1).

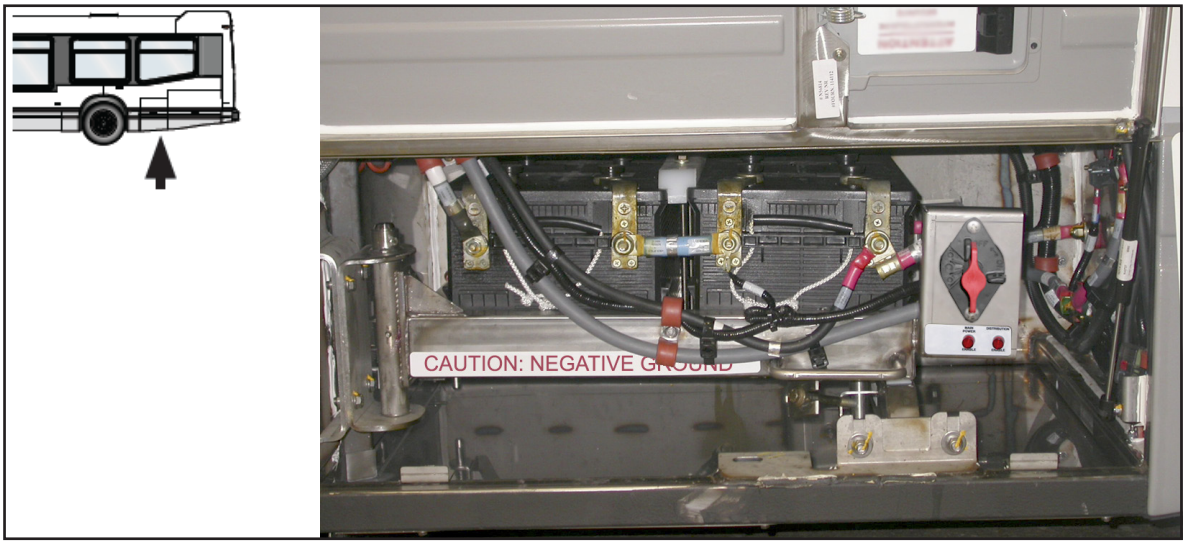

Figure 1 - Location of Battery Compartment

1.3. Set the battery disconnect switch in the battery compartment to the OFF position (see Figure 2). The ENABLE lights will extinguish.

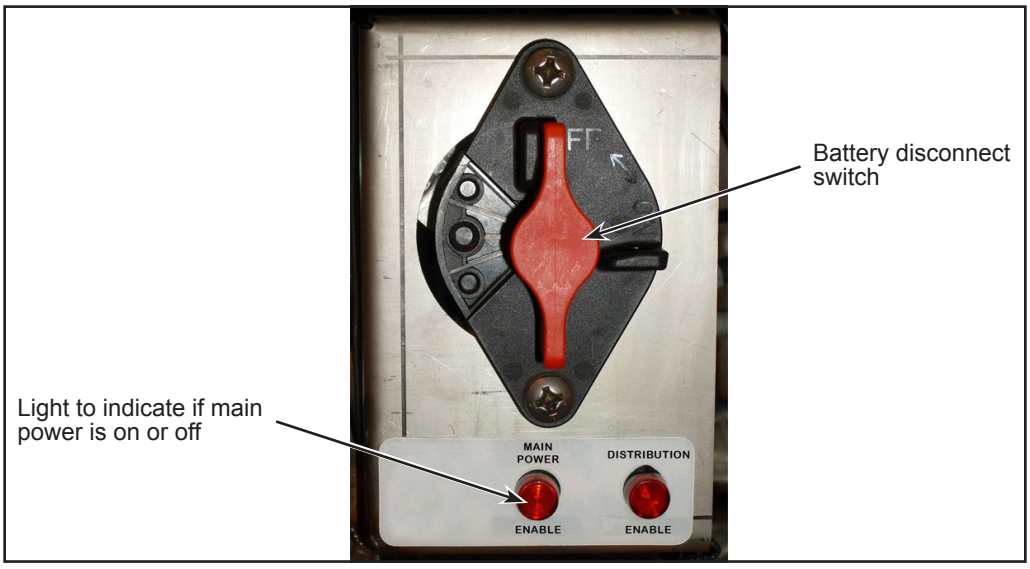

Figure 2 - Location of Battery Compartment

1.4. Close all windows and doors on the vehicle.

1.5. Make sure that the bus is level and on a solid surface.

1.6. Block the wheels.

1.7. Disconnect the battery ground cable and retain the hardware (see Figure 3). Insulate the terminals to avoid accidental grounding. Refer section 16: ELECTRICAL SYSTEM of the Nova Bus maintenance manual for precautionary measures.

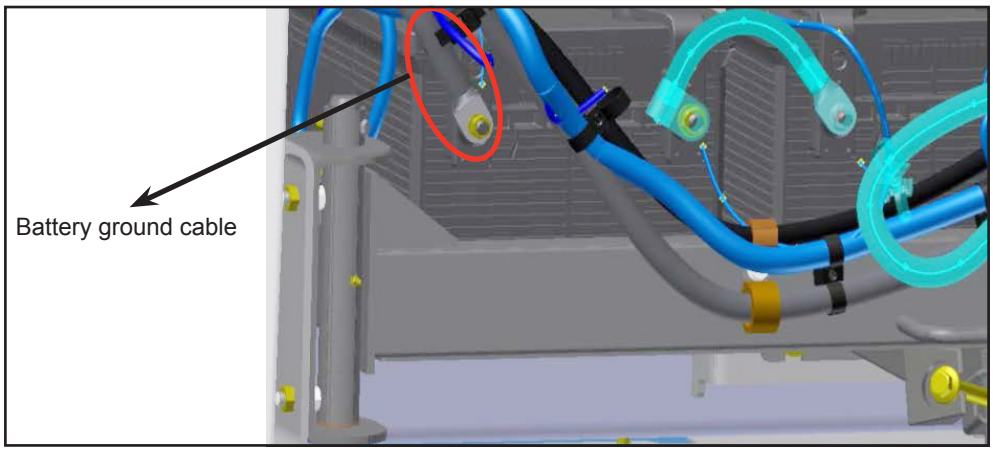

Figure 3 - Location of Battery Ground Cable

1.8. Raise the vehicle.

CAUTION

For more information on hoisting the vehicle, see section 18: HOISTING AND TOWING in the Nova Bus maintenance manual. Respect your internal safety procedures. Use appropriate hoisting equipment for your protection.

1.9. Disconnect all cables on the battery's negative terminal and retain the hardware.

1.10. Disconnect all the positive cables from the positive terminal and retain the hardware.

CAUTION

If battery cables are disconnected, insulate the terminals to avoid accidental grounding. Bad connections will cause electric arcs that can lead to explosions.

CAUTION

The electric circuit on these vehicles is connected to a NEGATIVE ground. Installing the battery with the positive terminal to the ground or incorrectly using a backup battery will cause serious damage to the alternator, the battery and battery cables.

WARNING

Do not disconnect the battery terminals if the battery is under load, because sparks are often produced when such live circuits are broken.

1.11. Remove and retain the nuts of cables mounted on battery (see Figure 4).

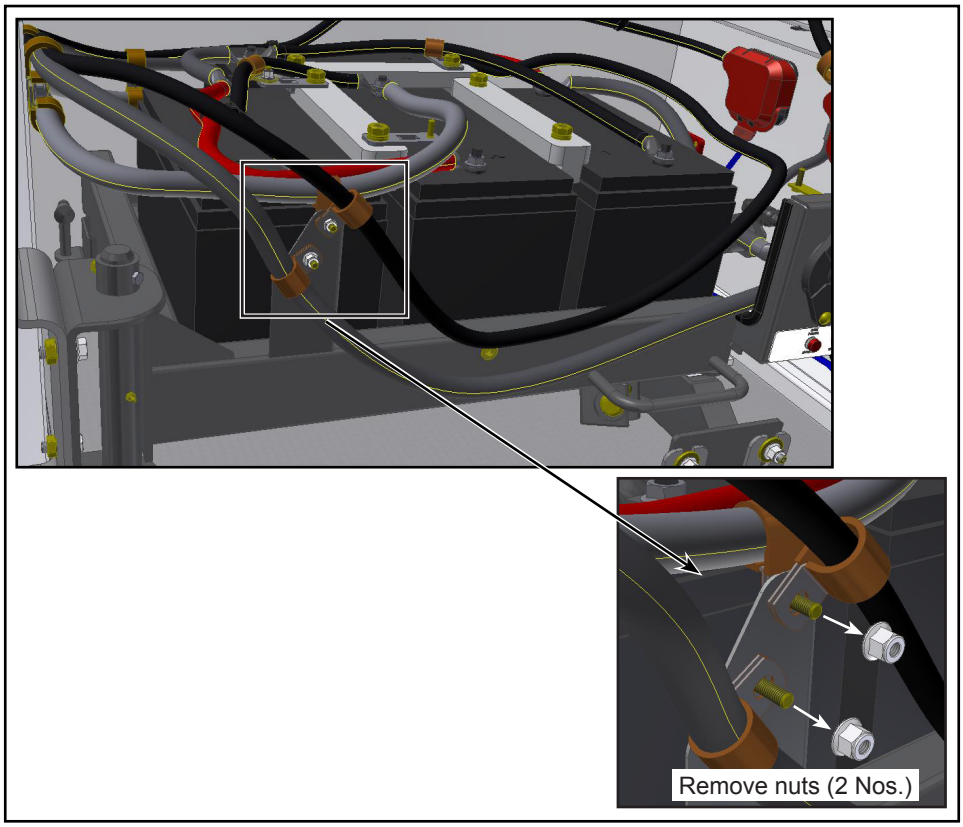

Figure 4 - Removal of Flange Nuts (2 Nos.)

1.12. Remove the hex flange nuts M8 (3x N43233) and discard. Remove the clamps (K, L, M) and retain the same (see Figure 5).

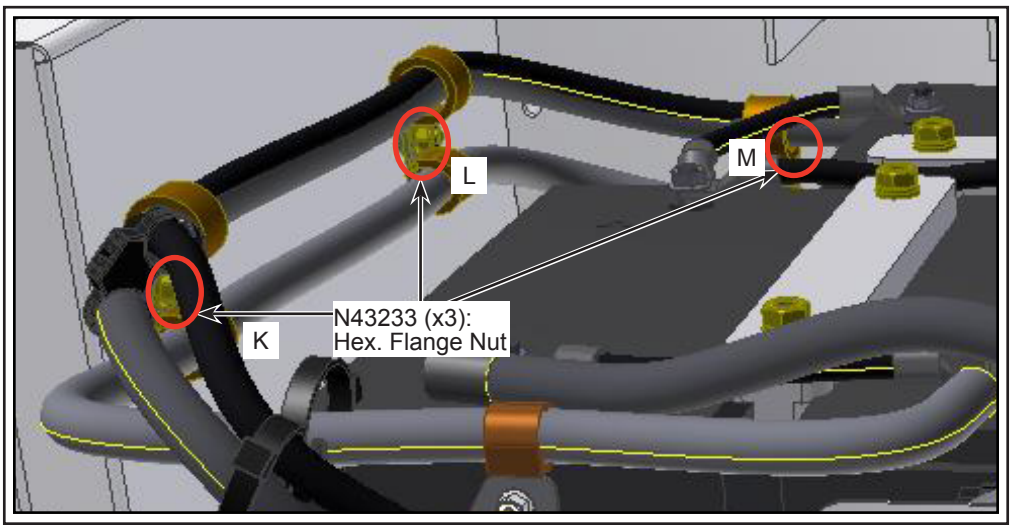

Figure 5 - Removal of Hex. Flange Nuts (3x N43233)

1.13. Remove and discard the locknyl nut M6 (N44890: Y) on cable assy. Also, remove and retain the nut M6 (Z) (see Figure 6).

1.14. Remove and discard the clamp loop type (N31320-02: A, B). Unscrew and remove bolt (N35308-03) with washers (N17906 and N11174). Retain the same (see Figure 6).

1.15. Remove the flange nut (N33522) with bracket assembly (N75134) of ground cable (see Figure 6). Discard the flange nut and bracket assembly.

1.16. Remove the dual clamp tie (N37749) and the ground cable assembly (see Figure 6). Discard the cable assembly with dual clamp tie.

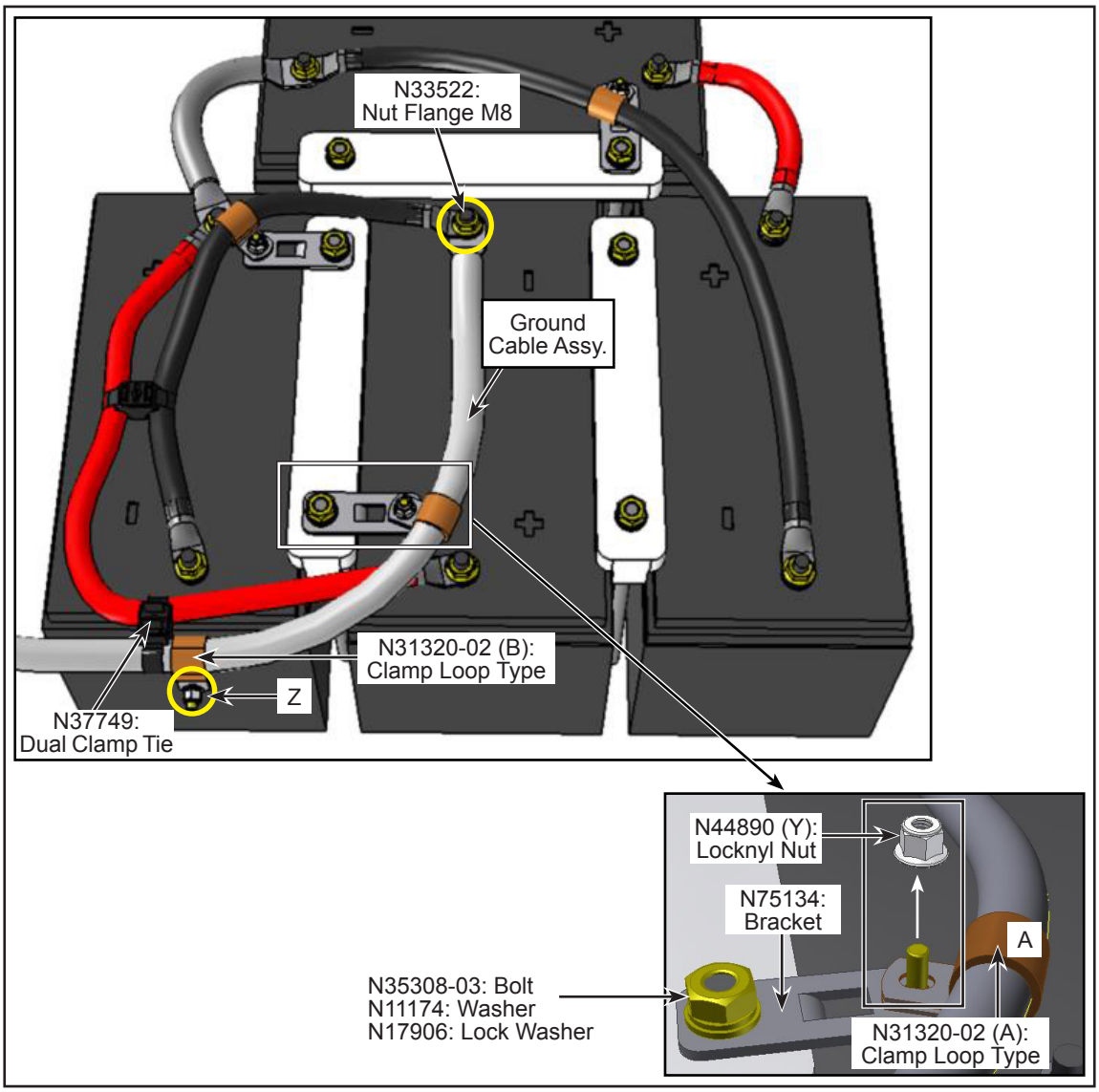

Figure 6 - Removal of Ground Cable Assembly and its Accessories

1.17. Clean the battery. Refer MAINTENANCE heading in section 16-102: BATTERIES of the Nova Bus maintenance manual.

1.18. Install the retained hold-down bar bolt (N35308-03) with washers (N17906 and N11174) (see Figure 7). Tighten and torque as per recommendation.

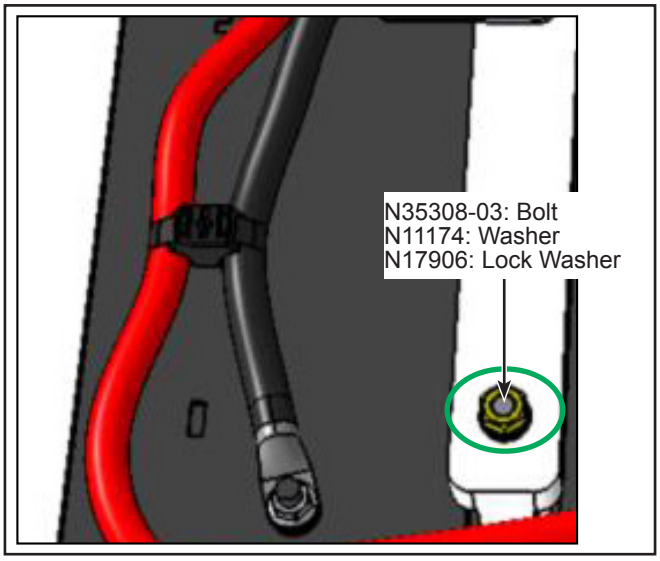

Figure 7 - Typical Installation of Hold-down Bar Bolt and its Washers

1.19. Remove and retain the bolt of hold-down bar with washers for placement of bracket (N75134) (see Figure 8).

1.20. Insulate the new cable assy. (N85560-01) and re-route the same (see Figure 8).

1.21. Install the bracket (N75134) and new clamp loop type (2x N31320-02: A, B) with hardware. Tighten the locknyl nut (N44890) as per recommended torque (see Figure 8).

1.22. Install the retained hold-down bar bolt (N35308-03) with washers (N17906 and N11174) (see Figure 8). Tighten as per recommended torque.

1.23. Apply loctite (N35450) to new flange nut (N33522) to be installed.

1.24. Install and tighten the new flange nut (N33522) to the cable assy. (see Figure 8) as per recommended torque.

1.25. Install the new dual clamp tie (N37749) (see Figure 8).

1.26. Install the retained clamps (x3 : K, L, M) with new M8 flange nuts (3x N43233) and tighten as per recommended torque (see Figure 8).

NOTE

For more information on batteries, see section 16-102: BATTERIES - ODYSSEY in the Nova Bus maintenance manual. Respect your internal safety procedures.

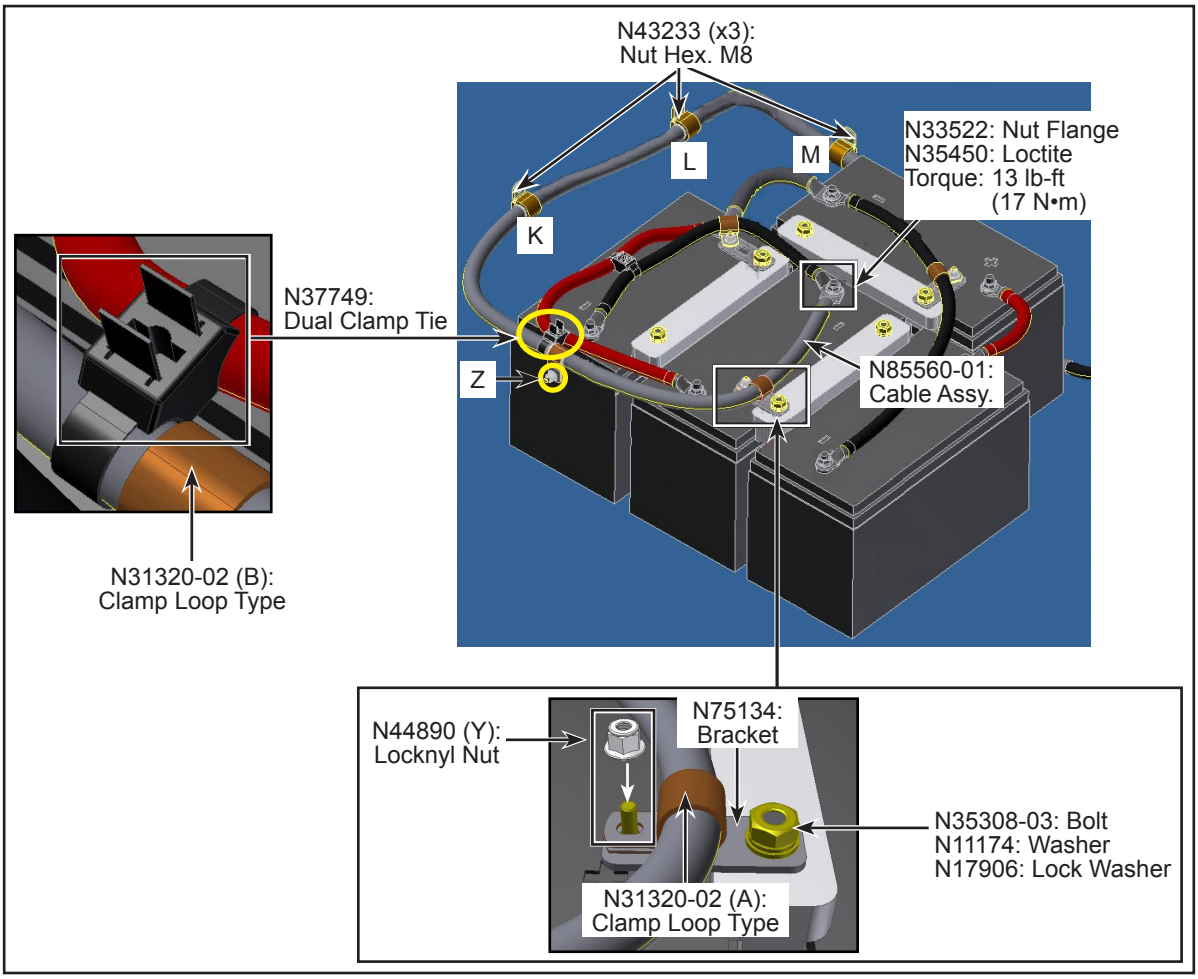

Figure 8 - Typical Installation of Ground Cable Assembly with Accessories

1.27. Install the retained flange nuts (2 Nos.) mounted on battery (see Figure 9).

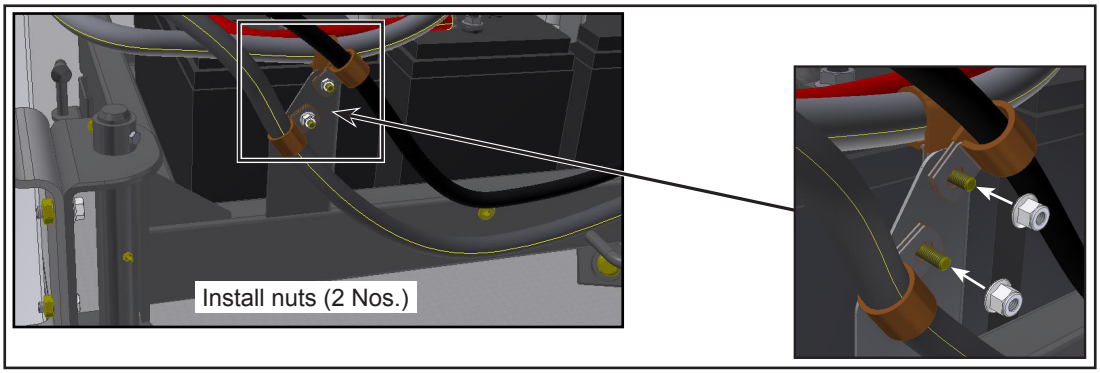

Figure 9 - Typical Installation of Flange Nuts (2 Nos.)

1.28. Connect the battery ground cable.

1.29. Use a multimeter (in manual mode, in Ω) to ensure there is no continuity (O.L.) between the positive cable and the chassis.

1.30. Perform a visual check of vehicle to ensure that all power cables have been connected correctly.

1.31. Connect all positive cables to the batteries with retained hardware and apply the recommended torque.

1.32. Connect all negative cables to the batteries with retained hardware and apply the recommended torque.

1.33. Lower the vehicle.

1.34. Set the battery disconnect switch in the battery compartment to ON position.

1.35. The vehicle may be returned to service. ❖