REFERENCE:	Nova Bus Manuals
SECTION:	09: Engine and Cooling
RS Nº:	MQR 7621-2653
EFFECTIVE IN PROD.:	NA

APPLICATION DEADLINES: 2024DE13
CLAIM REFERENCE NUMBER:WB-5448

SUBJECT:	Rework allied motion e-Steering motor.
JUSTIFICATION:	24V e-steering power supply threads length tolerances might not be respecting to the drawing specifications.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Installation of steel ball on the terminals.	Nova Bus	Nova Bus	0.33 h
2	–	–	–	–

MATERIAL REQUIRED PER VEHICLE

QTY	PART Nº	REV.	DESCRIPTION
LEVEL 1			
–	–	–	–
LEVEL 2			
2	N620000252	–	3/16 Steel Ball
SHOP SUPPLIES			
4ml	N67314	–	NCP2 Anticorossive (32 oz of one can)

Materials will be available within 32 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.

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.
	–	—	

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2023OC31	Initial release	Nandan B S

APPROVED BY:

Eric Charest Signature numérique de Eric Charest Date : 2023.10.31 15:23:55 -04'00'

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
New York City Transit New York - NYCT	LC78	9620	—	L82L4L97775	L82L6L97775	2
New York City Transit New York - NYCT Demo	LD23	—	9621	L82LXL97776	L82L5L97776	3
New York City Transit New York - NYCT	LC79	9623	9703	L82L1M97777	L82LXM97778	81
New York City Transit New York - NYCT	LC79	9704	9784	L82L1M97778	L82L4M97779	81
New York City Transit New York - NYCT	LD64	9785	9805	L82L0M97778	L82L5M97779	21
New York City Transit New York - NYCT	LD64	9806	9806	L82L7M97779	L82L7M97779	1
New York City Transit New York - NYCT	LD64	9807	9811	L82LXM97779	L82L1M97779	5
New York City Transit New York - NYCT	LD64	9812	9812	L82L3M97779	L82L3M97779	1
New York City Transit New York - NYCT	LD64	9813	9828	L82L5M97779	L82L7M97780	16
New York City Transit New York - NYCT	LD64	9829	9832	L82L4M97780	L82LXM97780	4
New York City Transit New York - NYCT	LD64	9833	9843	L82L1M97780	L82LXM97780	11
New York City Transit New York - NYCT	LD64	9844	9844	L82L1M97780	L82L1M97780	1
New York City Transit New York - NYCT	LD64	9845	9910	L82L3M97780	L82L1M97781	66

Tools Required

- 1/4 Inch lb. Torque wrench
- 3/8 Drive torque wrench
- 10 mm box and open wrench
- 1/4 drive 10 mm socket and rachet

CAUTION

You must shut down, lock out, and tag out the 12/24-Volt system before starting work on the 24-Volt electric steering mechanism.

NOTE

Mechanical/manual steering will remain functional, if the power steering system becomes disabled.

WARNING

FOLLOW YOUR INTERNAL SAFETY PROCEDURES.

PROCEDURE

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. Locate the 24V power source within the battery box and disconnect it from the bus and securely place a lockout/tagout device on the switch to ensure safety. Allow a 10 minutes after the battery disconnect switch has been placed in the off position(see figure 1).

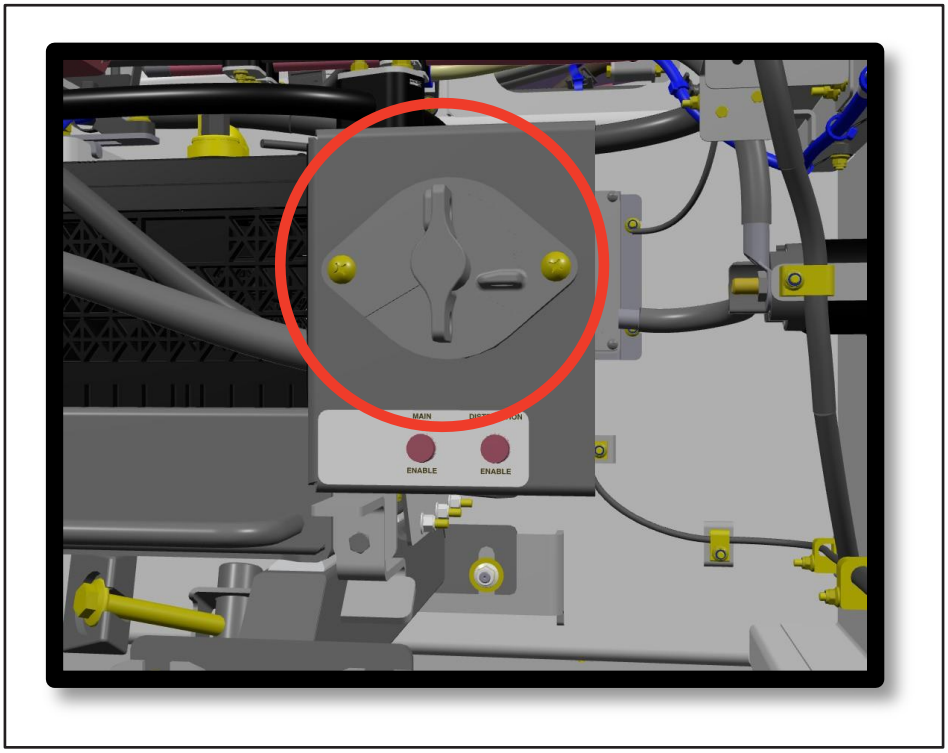

Figure 1 - Location of the 24V power source

1.4. To access the e-steering system lift the bus to chest height and then open bus front street side compartment (see figure 2).

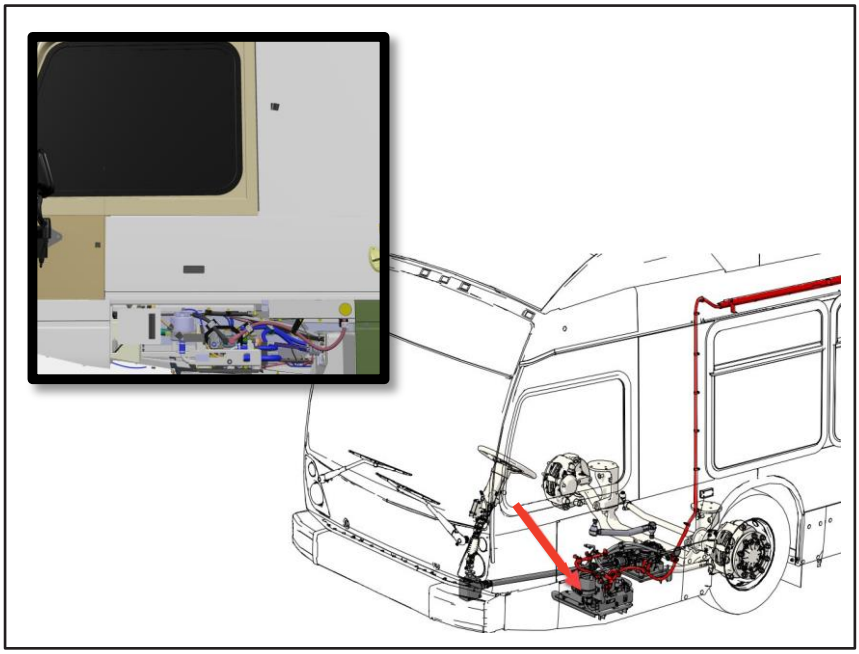

Figure 2 - Location of the E-steering motor to access

1.5. To access the e-steering motor with a square key and a 13mm wrench Loosen the 13mm bolt swing the bolt downwards and utilize the square key to turn the lock and swing out the power steering reservoir (see figure 3).

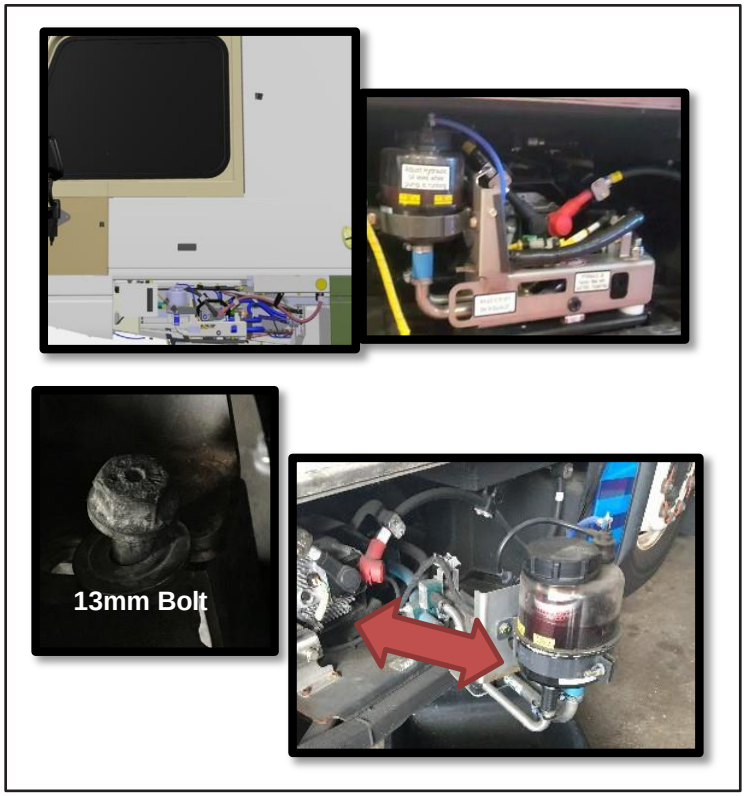

Figure 3 - Access to the E-steering motor

1.6. Remove the two blocks nearest to the terminals using a 10mm socket for the bolts and retain for reuse (see figure 4).

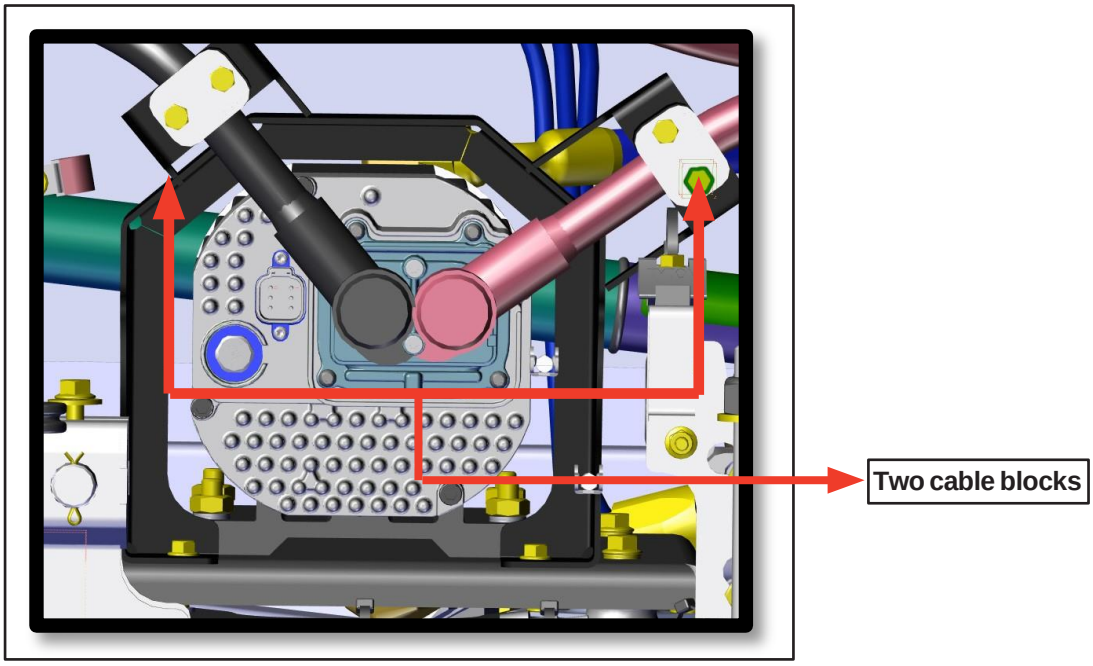

Figure 4 - Removal of two cable blocks

1.7. Disconnect the positive (+) and negative (-) cables nut connected to the stud using a 17mm socket retain nuts (see figure 5).

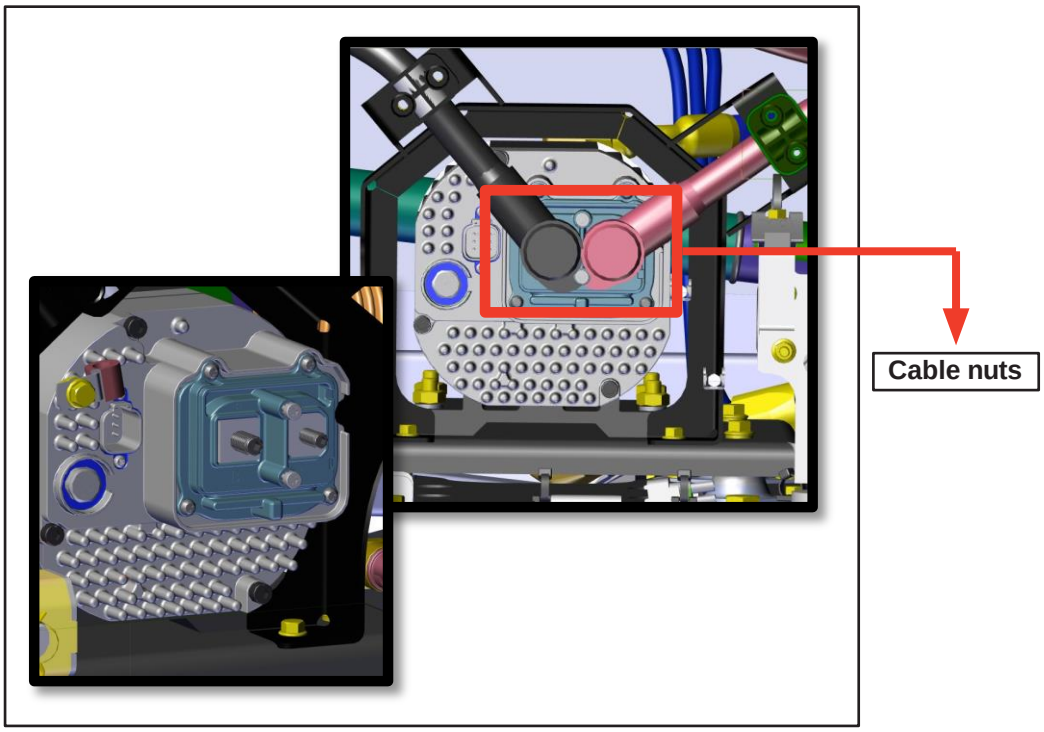

Figure 5 - Disconnecting the positive and negative cable nuts

1.8. Utilizing a measuring device. Measure the length of both the positive (+) and negative (-) studs length, the stud length should be between 15mm and 19mm (see figure 6).

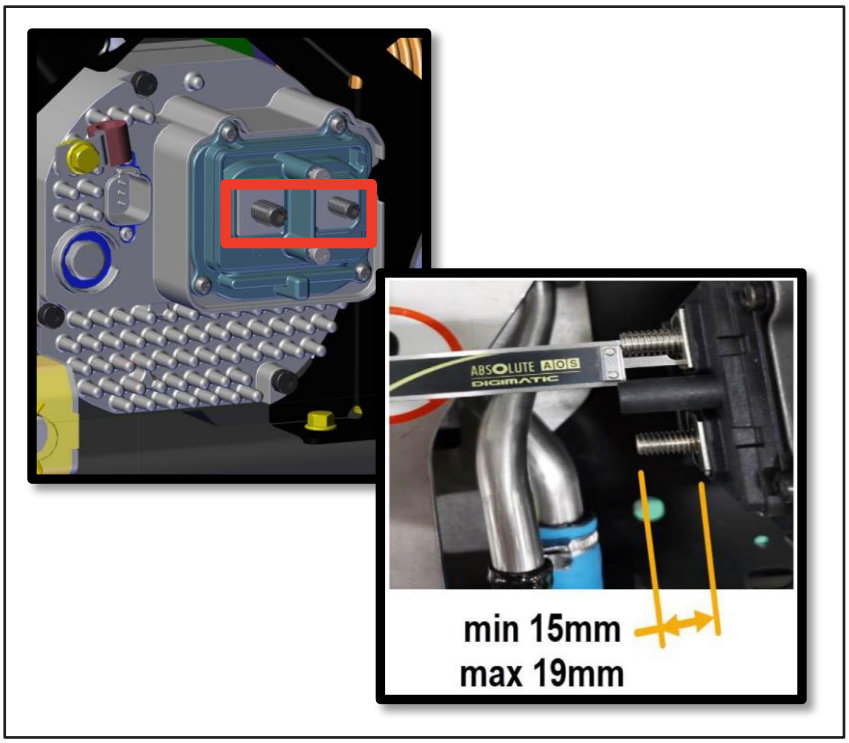

Figure 6 - Measuring the length of positive and negative studs

NOTE

If the studs are not within the tolerance of 15mm min and 19mm max. proceed to step (1.10).

If the studs are within the tolerance 15mm min and 19mm max. proceed to step (1.11).

1.9. Unscrew the stud using a 5mm Allen key and Insert just one steel ball N620000252 and reinstall the studs. Measure the length of the studs and make sure that they are within specifications (see figure 7).

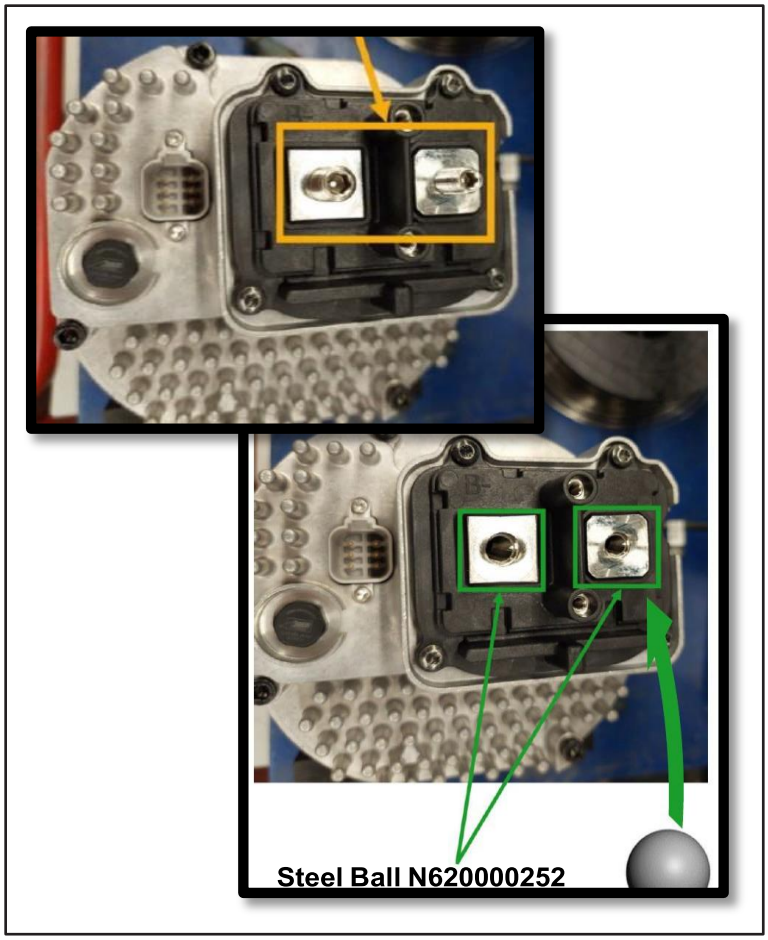

Figure 7 - Installation of Steel Ball

1.10. Re-install the motor positive (+) and negative (-) cables with torque values and apply anticorrosive NCP2 on re-connected cables (see figure 8).

NOTE

Positive Torque 10+1Nm or 88 to 97 lbf-in.

Negative Torque 20+3Nm or 177 to 203 lbf-in.

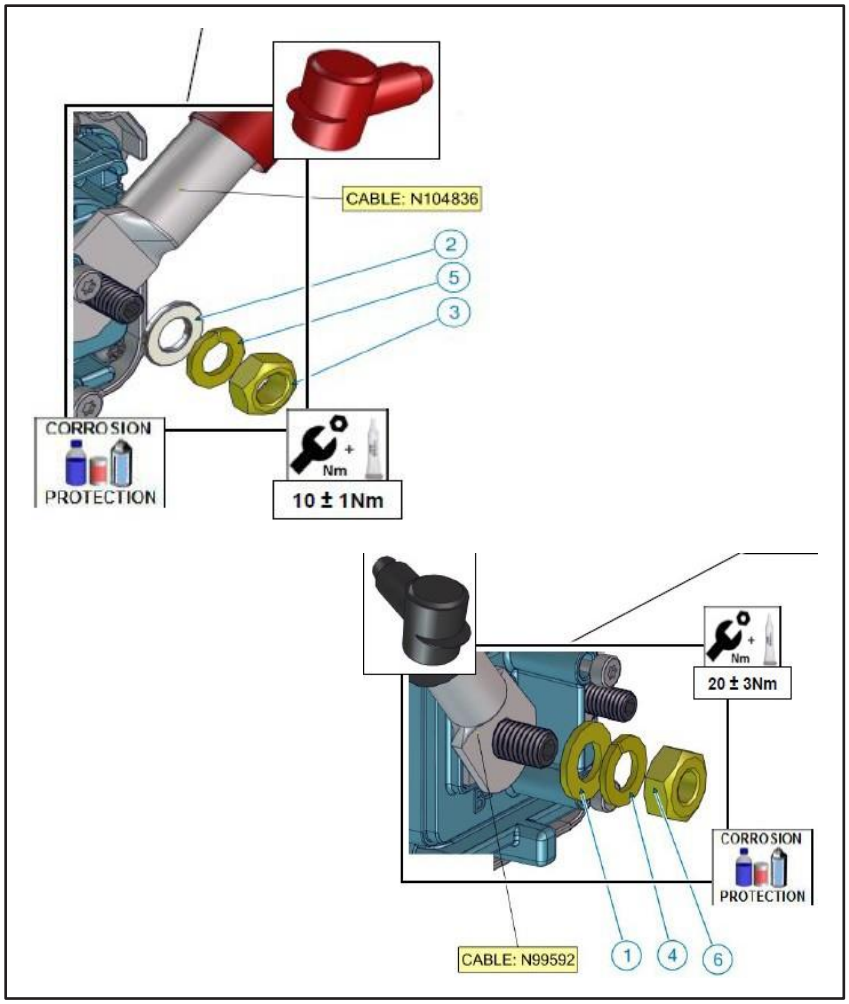

Figure 8 - Re-installation of motor (+) and (-) cables and apply anticorrosive NCP2 on cables

1.11. Re-install the retained hose blocks using a 10mm socket and apply torque on the bolts to 10 N-m/88 lbs-in (see figure 9).

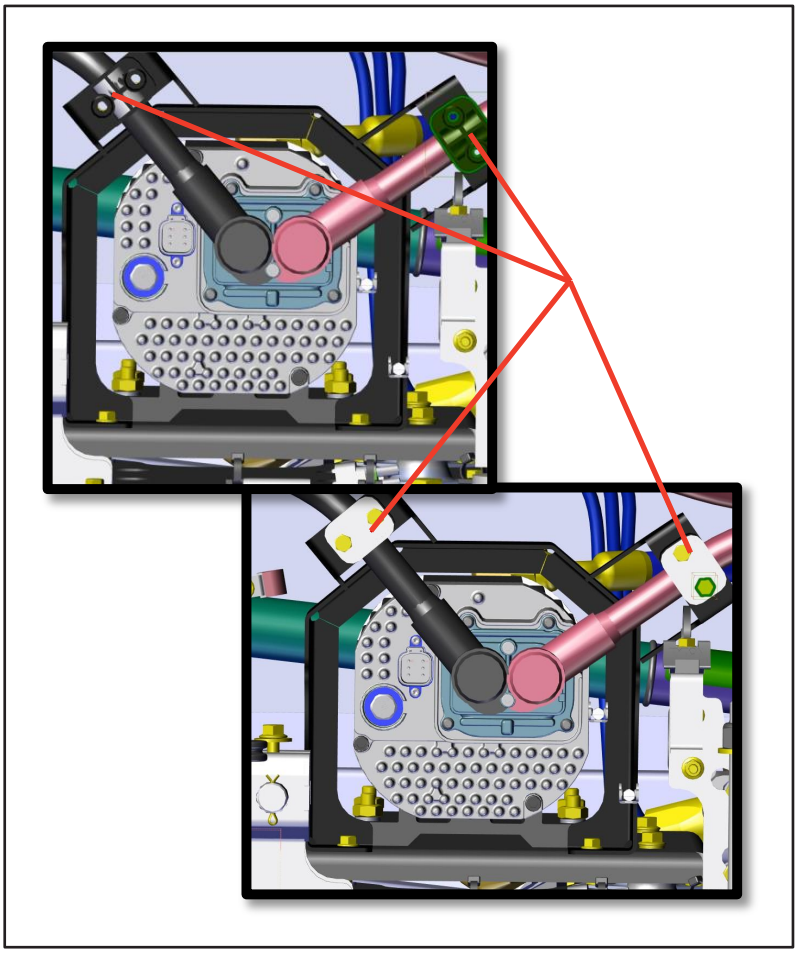

Figure 9 - Re-installation of retained Cable Blocks

1.12. Vehicle ready for service.❖