

REFERENCE:	Nova Bus Manuals
SECTION:	09: Engine and Cooling
RS N°:	MQR 7621-805
EFFECTIVE IN PROD.:	N/A

APPLICATION DEADLINE:N/A

SUBJECT:	Hydraulic cooling package (Hyd pack)
JUSTIFICATION:	In case of replacing the existing radiator, there is an option to either refit the radiator to the existing frame or replace the complete radiator assembly with frame.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Installation of improved radiator (or) radiator assembly with frame.	Client	Client	–
2	–	–	–	–

MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
1	N86732*	–	RADIATOR HYD & FITTING ASS	–
1	N90614*	A	RADIATOR ASSY HYDRAULIC	–

Note: *Customer has choice to order either only radiator (N86732) or complete radiator assembly with frame (N90614) depending on need of enhancement.

LEVEL 2				
–	–	–	–	–

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	2017JL19	Initial release	Kumaraswamy K S

APPROVED BY:

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CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Central Oklahoma Transportation Authority	L619	—	—	L82X7C3000367	L82X7C3000367	1
CT Transit - Connecticut	L554	1041	1065	S92U1A4000139	S92U0A4000164	25
CT Transit - Connecticut	L571	1101	1110	S92YXB4000144	S92Y4B4000169	10
Demo - New York City Transit - New York	L595	—	—	L82U7A4000153	L82U7A4000153	1
Duke University - North Carolina	L651	—	—	S92Y1B4000145	S92Y3B4000146	2
New York City Transit - New York	L608	8000	8014	L82U6B4000047	L82U0B4000061	15
New York City Transit - New York	L620	8015	8074	L82U2B4000062	L82U7B4000123	60
New York City Transit - New York	L643	5895	5895	S92U1B4000143	S92U1B4000143	1
New York City Transit - New York	L670	5770	5894	S92U9B4000147	S92UXC4500061	125
New York City Transit - New York	L681	5896	5283	S92U2C4500023	S92U9C4500195	122
New York City Transit - New York	L692	5284	5363	S92U3C4500158	S92U3D4500274	80

**WARNING**

Follow your internal safety procedures.

PROCEDURE

- 1.1. Park the vehicle on an even surface with transmission in neutral (N).
- 1.2. Turn the ignition switch to OFF position and engage the parking brake.
- 1.3. Block the wheels.
- 1.4. Set the Master control switch in the STOP position (see Figure 1).

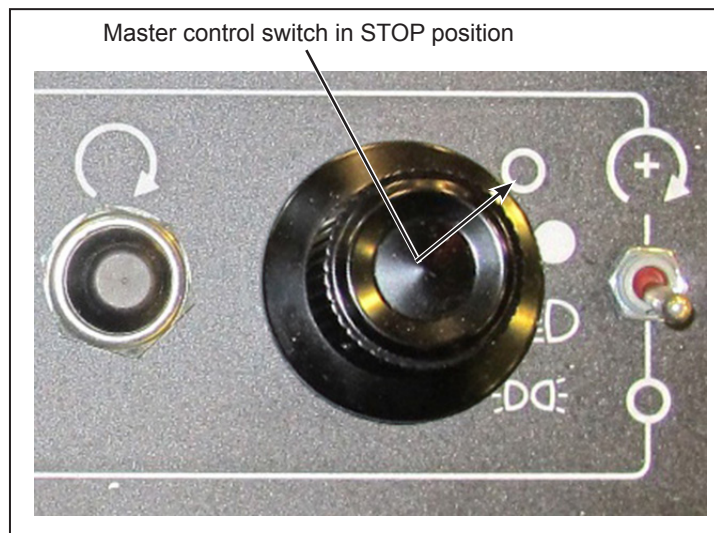


Figure 1 - Master Control Switch in STOP Position

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

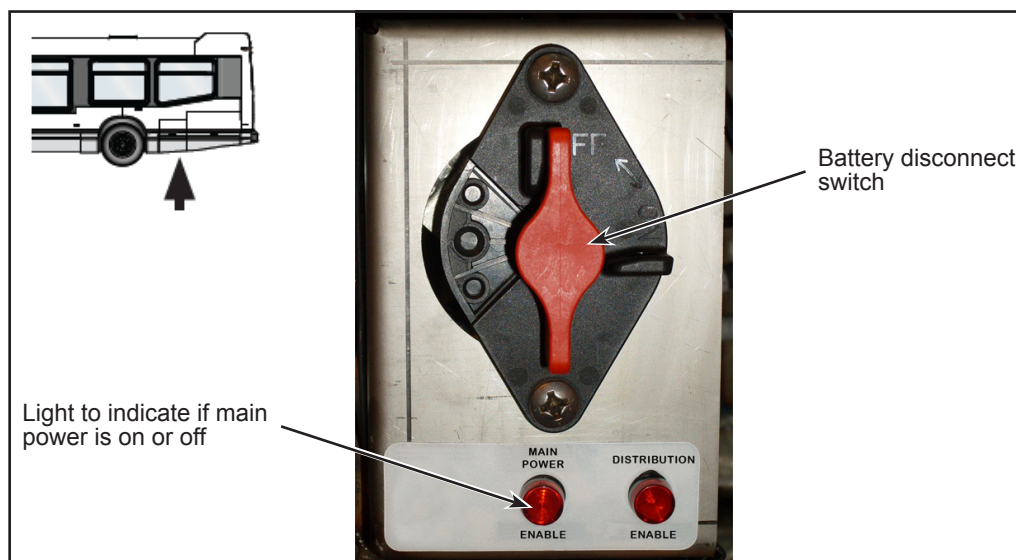


Figure 2 - Typical Battery Disconnect Switch

**WARNING**

Before starting any work on the radiator, make sure the vehicle is completely stationary. Isolate the engine starting circuit from the control box located at the rear of the vehicle.

**CAUTION**

Wait until the temperature is below 120° F (50° C) before removing the coolant system pressure cap. Failure to do so can cause personal injury from heated coolant spray.

Some coolants are toxic. Use with caution.

Avoid prolonged and repeated skin contact with used antifreeze which may result in skin disorders or other injury.

- 1.6. Drain the coolant. Refer to **section 09: ENGINE AND COOLING of Nova Bus Maintenance Manual for DRAINING OF COOLING SYSTEM.**

**WARNING**

Handling and disposal of used coolant can be subject to federal and local regulations. Use authorized waste disposal facilities. Contact local authorities for proper guidance on best handling practices.

- 1.7. Disconnect all the engine's air hoses and coolant hoses connected to the radiator.
- 1.8. Remove and replace the radiator (or) complete radiator assembly pack with new assembly. Figure 3 represents the individual drawing of Radiator (N86732) and Complete Radiator assembly (N90614).

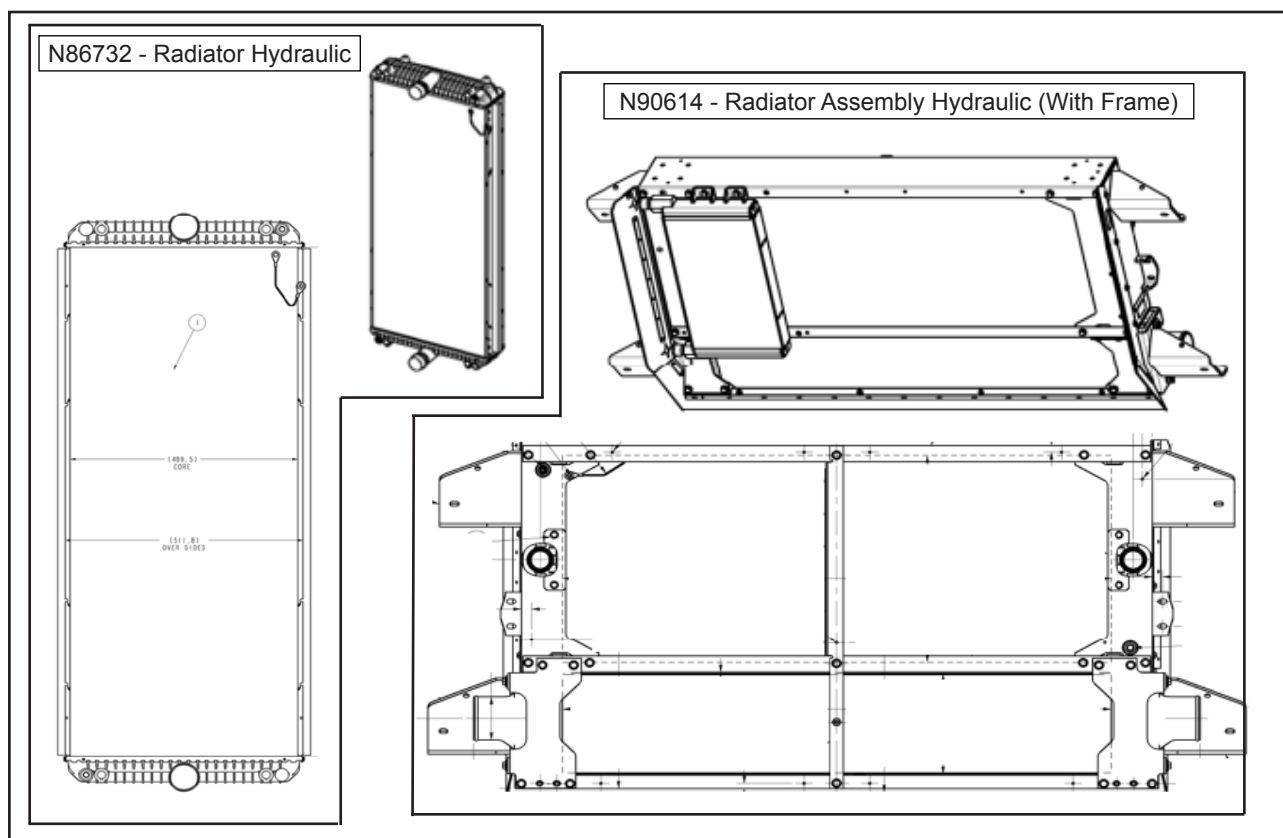


Figure 3 - Typical View of New Radiator and Complete Radiator assembly with Frame

**NOTE**

Refer to section 09: ENGINE AND COOLING of Nova Bus Maintenance Manual for REMOVAL and INSTALLATION procedure.

- 1.9. Apply recommended torque to the radiator frame assembly fittings (see Table 1).

TABLE 1		
FRAME ASSEMBLY TIGHTENING TORQUES - SAE J429 GRADE 5		
Nominal Diameter (in)	Tightening Torque (Nm)	
	K = 0.17	K = 0.2
5/16	20	24
3/8	35	42

- 1.10. Install the vent fitting and torque it to 15 - 18 Nm (see Figure).

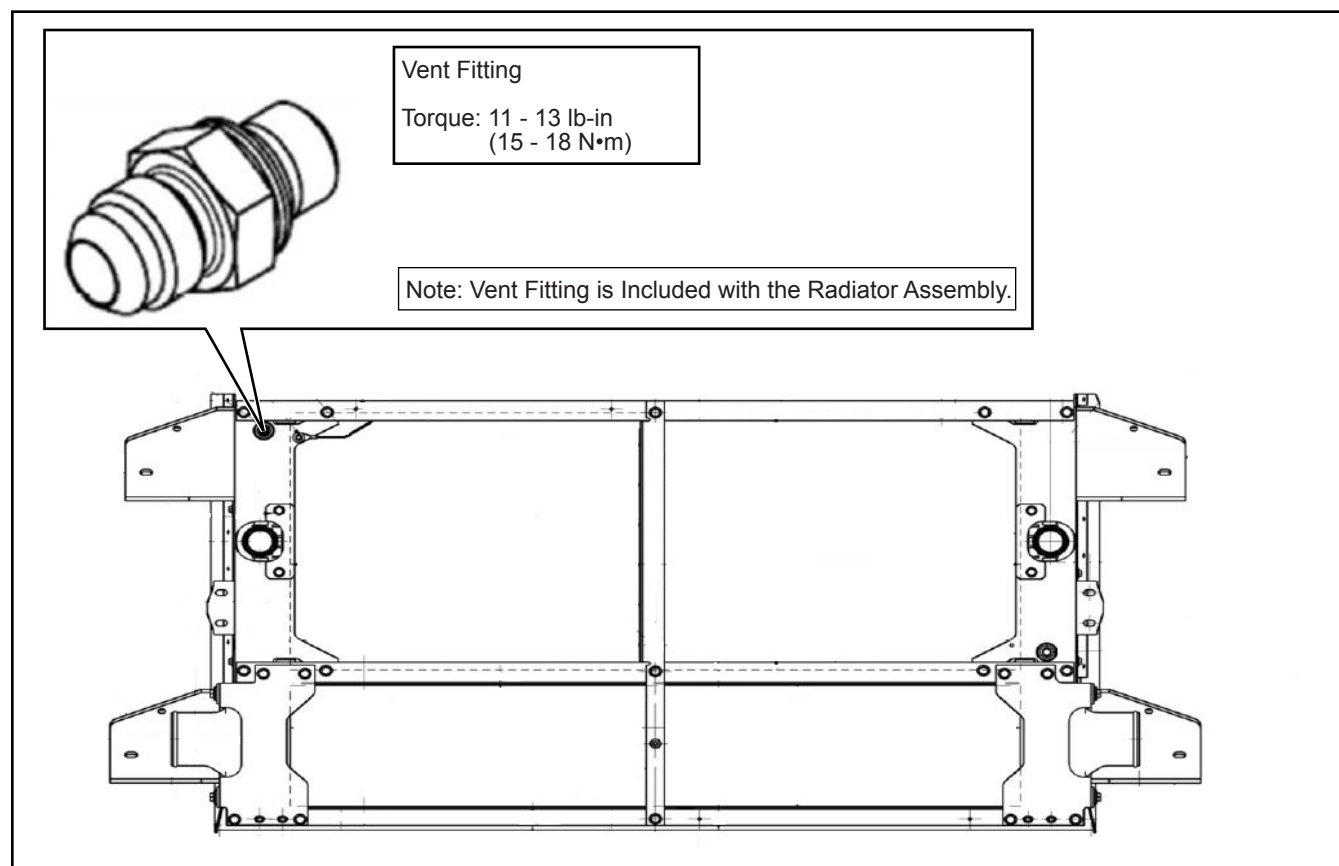


Figure 4 - Typical View of Vent Fitting

- 1.11. Connect all the hoses to the radiator that have been disconnected previously.
- 1.12. Fill the cooling system. Refer to **section 09: ENGINE AND COOLING of Nova Bus Maintenance Manual for FILLING OF COOLING SYSTEM..**

**CAUTION**

Before filling ensure that:

The heating system drain valves (floor radiator valves and main drain valve, located at the front of the bus), are CLOSED.

The valves of the defroster return/supply lines (optional) must be OPEN.

The valves located under the heat exchanger of the transmission retarder are CLOSED.

**NOTE**

See Cummins OWNER'S MANUAL for additional coolant information, approved products and recommendations.

- 1.13. Set the battery disconnect switch in the battery compartment to ON position.
- 1.14. Set the master control switch in the ON position.
- 1.15. The vehicle may be returned to service. ❖