

REFERENCE:	Nova Bus Manuals
SECTION:	14 Heating and ventilation
RS N°:	MQR 7621-331
EFFECTIVE IN PROD.:	L489-01 (2009AU19)

APPLICATION DEADLINE: 2014AL14
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SUBJECT:	Defrost unit 4-way valve
JUSTIFICATION:	The defrost unit 4-way valve needs to be replaced with a more robust 2-way valve

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Replace the 4-way valve by a new 2-way valve	Nova Bus	Nova Bus	30 min
2	–	–	–	–

**MATERIAL**

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
<b>LEVEL 1</b>				
2	0446161	–	Washer	–
2	G5007156	–	Well nut	–
2	N33449	–	Screw 10 X 32	–
1	N8900144	–	2-way valve assembly	N8889841
1	N95060-44	–	Silicone hose	–
<b>LEVEL 2</b>				
–	–	–	–	–

Materials will be available within 33 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](mailto: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	2012OC31	Initial release	Luc Carignan

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Academy Bus - New Jersey	L333	—	—	L82U273000207	L82U473000211	5
Academy Bus - New Jersey	L339	—	—	L82U483000047	L82U883000049	3
Academy Bus - New Jersey	L339	—	—	L82U683000051	L82U883000052	2
Academy Bus - New Jersey	L340	—	—	L82U493000003	L82U193000007	5
Arrow Coach Line - Arkansas	L494	—	—	L82U793000397	L82U793000397	1
Banff - Alberta	L347	1	4	L82W083000175	L82W683000178	4
BC Transit - BCT - British Columbia	L342	9232	9251	L82U173000294	L82U173000313	20
BC Transit - BCT - British Columbia	L343	9252	9267	L82U973000463	L82U073000478	16
BC Transit - BCT - British Columbia	L414	9268	9289	L82U983000299	L82U783000320	22
BC Transit - BCT - British Columbia	L417	9290	9297	L82U983000321	L82U183000328	8
BC Transit - BCT - British Columbia	L430	9301	9318	L82U483000503	L82U483000520	18
BC Transit - BCT - British Columbia	L458	9298	9300	L82U683000521	L82UX83000523	3
BC Transit - BCT - British Columbia	L463	9319	9333	L82U093000273	L82U093000287	15
BC Transit - BCT - British Columbia	L481	9334	9353	L82U794000004	L82U094000023	20
BC Transit - BCT - British Columbia	L486	9354	9369	L82U294000024	L82U494000039	16
Belleville Transit - Ontario	L354	354-1	354-1	L82U983000089	L82U983000089	1
Belleville Transit - Ontario	L357	357-1	357-1	L82U783000091	L82U783000091	1
Brampton - Ontario	L348	0701	0706	L82U273000479	L82U673000484	6
Brampton - Ontario	L348	0707	0715	L82U873000485	L82U773000493	9
Brampton - Ontario	L349	0801	0810	L82U283000094	L82UX83000103	10
Brampton - Ontario	L424	0811	0827	L82U783000463	L82U083000479	17
Brampton - Ontario	L425	0901	0916	L82U993000045	L82U593000060	16
Brantford - Ontario	L351	9071	9075	L82U883000018	L82UX83000022	5
Brantford - Ontario	L422	9081	9084	L82U183000524	L82U783000527	4
CMBC (TransLink) - British Columbia	L317	9601	9601	L82U973000155	L82U973000155	1
CMBC (TransLink) - British Columbia	L301	9602	9649	L82U373000216	L82U173000263	48
CMBC (TransLink) - British Columbia	L302	9650	9665	L82U273000336	L82U973000351	16
CMBC (TransLink) - British Columbia	L302	9666	9699	L82U073000352	L82U473000385	34
CMBC (TransLink) - British Columbia	L302	9701	9706	L82U673000386	L82UX73000391	6
CMBC (TransLink) - British Columbia	L341	V9707	V9725	L82U373000412	L82U573000430	19
CMBC (TransLink) - British Columbia	L380	9726	9747	L82U483000209	L82U683000230	22
CMBC (TransLink) - British Columbia	L381	9748	9772	L82U383000329	L82U083000353	25
CMBC (TransLink) - British Columbia	L381	9773	9781	L82UX83000361	L82U483000369	9
CMBC (TransLink) - British Columbia	L382	9782	9791	L82U083000370	L82U783000379	10
CMBC (TransLink) - British Columbia	L412	9401	9401	L82X993000136	L82X993000136	1
CMBC (TransLink) - British Columbia	L454	9402	9406	L82X793000359	L82X993000363	5
CMBC (TransLink) - British Columbia	L454	9407	9416	L82X893000368	L82X993000377	10
CMBC (TransLink) - British Columbia	L454	9417	9431	L82X293000382	L82X293000396	15
CMBC (TransLink) - British Columbia	L454	9432	9446	L82X893000404	L82X893000418	15
CMBC (TransLink) - British Columbia	L454	9447	9461	L82X393000424	L82X393000438	15
CMBC (TransLink) - British Columbia	L482	9492	9499	L82X894000040	L82X094000047	8
CMBC (TransLink) - British Columbia	L482	9501	9517	L82X294000048	L82X094000064	17
CMBC (TransLink) - British Columbia	L454	9462	9470	L82X093000445	L82XX93000453	9

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
CMBC (West Vancouver) - British Columbia	L345	701	702	L82U373000264	L82U573000265	2
CMBC (West Vancouver) - British Columbia	L401	801	803	L82U983000206	L82U283000208	3
Demo - Articulated Bus	L433	—	—	S92UX93000029	S92UX93000029	1
Demo - Articulated Bus APTA US	L359	—	—	S92U583000289	S92U583000289	1
Demo - Engineering Platform 2010 (Altoona)	L373	373-1	373-1	L82UX83000151	L82UX83000151	1
Demo - Nova PF2010 (TARC)	L356	356-2	356-2	L82U883000231	L82U883000231	1
Demo - Plateforme 2010 (ATQ)	L456	—	—	L82U893000019	L82U893000019	1
Demo - Proto Platform 2010	L271	—	—	L82U283000001	L82U283000002	2
Fredericton - New Brunswick	L289	—	—	L82U573000072	L82U573000072	1
Fredericton - New Brunswick	L282	8071	8072	L82UX73000097	L82U173000098	2
Fredericton - New Brunswick	L375	8081	8081	L82U983000142	L82U983000142	1
Fredericton - New Brunswick	L369	1	1	L82U693000018	L82U693000018	1
Gaylord Opryland - Nashville, Tennessee	L353	—	—	L82U583000008	L82U383000010	3
Grand River Transit - GRT - Ontario	L337	2701	2712	L82U373000281	L82UX73000293	12
Grand River Transit - GRT - Ontario	L338	2713	2724	L82U773000431	L82U173000442	12
Grand River Transit - GRT - Ontario	L404	8007	8021	L82U683000244	L82U683000258	15
Grand River Transit - GRT - Ontario	L405	8022	8027	L82W683000259	L82WX83000264	6
Grand River Transit - GRT - Ontario	L464	20901	20913	L82U193000296	L82U493000308	13
Greater Toronto Airports Authority - GTAA - Ontario	L432	432-1	432-1	L82U793000061	L82U793000061	1
Greater Toronto Airports Authority - GTAA - Ontario	L477	L477-1	L477-1	L82U194000001	L82U194000001	1
Guelph - Ontario	L397	195	198	L82U183000152	L82U783000155	4
Guelph - Ontario	L418	199	205	L82U883000410	L82U983000416	7
Guelph - Ontario	L431	206	220	L82U793000030	L82U793000044	15
Leduc Bus Line - Ontario	L346	—	—	L82UX83000053	L82UX83000053	1
Moncton (Codiac) - New Brunswick	L334	600	603	L82U673000212	L82U173000215	4
Moncton (Codiac) - New Brunswick	L358	358-1	358-1	L82U093000001	L82U093000001	1
Moncton (Codiac) - New Brunswick	L361	361-1	361-1	L82U293000002	L82U293000002	1
Moose Jaw - Saskatchewan	L344	17	18	L82U083000143	L82U283000144	2
Moose Jaw - Saskatchewan	L344	20	20	L82U483000145	L82U483000145	1
Moose Jaw - Saskatchewan	L344	24	25	L82U683000146	L82U883000147	2
Peterborough - Ontario	L411	36	40	L82U283000354	L82UX83000358	5
Peterborough - Ontario	L411	41	45	L82U683000423	L82U383000427	5
Peterborough - Ontario	L411	46	50	L82U983000528	L82U083000532	5
Peterborough - Ontario	L490	—	—	L82UX93000345	L82U593000348	4
Regina - Saskatchewan	L304	611	616	L82U373000457	L82U773000462	6
Regina - Saskatchewan	L356	356-1	356-1	L82U883000150	L82U883000150	1
Regina - Saskatchewan	L360	—	—	L82U283000290	L82U283000290	1
Regina - Saskatchewan	L459	617	624	L82UX83000537	L82U783000544	8
Regina - Saskatchewan	L476	625	628	L82U893000313	L82U393000316	4
St. John - New Brunswick	L272	—	—	S92U483000011	S92U483000011	1
St. John - New Brunswick	L273	—	—	S92U383000050	S92U383000050	1
St. John's - Newfoundland	L352	0857	0861	L82U683000003	L82U383000007	5
St. John's - Newfoundland	L403	0962	0965	L82U299300014	L82U493000017	4

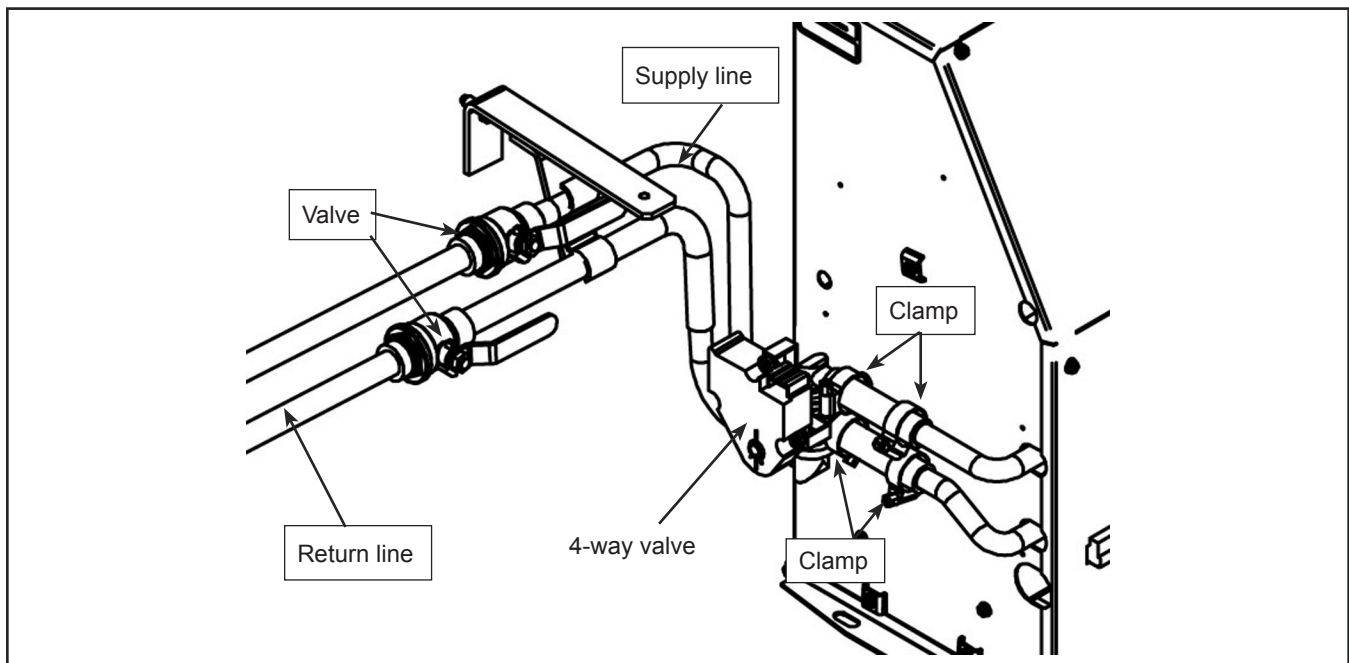
CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Stratford - Ontario	L371	—	—	L82U183000104	L82U183000104	1
Strathcona County Transit - Alberta	L303	930	936	L82U073000156	L82U673000162	7
Strathcona County Transit - Alberta	L383	—	—	L82U083000269	L82U083000269	1
Strathcona County Transit - Alberta	L406	937	939	L82U783000270	L82U083000272	3
Strathcona County Transit - Alberta	L407	940	943	L82W083000273	L82W683000276	4
Strathcona County Transit - Alberta	L457	944	949	L82U683000597	L82U683000602	6
Sudbury - Ontario	L293	—	—	L82U673000128	L82U673000131	4
Sudbury - Ontario	L294	—	—	L82U873000132	L82UX73000133	2
Sudbury - Ontario	L385	781	782	L82U583000137	L82U783000138	2
Sudbury - Ontario	L399	783	784	L82U983000139	L82U583000140	2
Sudbury - Ontario	L386	785	785	L82U783000141	L82U783000141	1
Sudbury - Ontario	L465	791	795	L82U593000317	L82U793000321	5
Thunder Bay - Ontario	L408	—	—	L82U283000239	L82U483000243	5
Thunder Bay - Ontario	L453	—	—	L82U283000533	L82U683000535	3
Thunder Bay - Ontario	L488	—	—	L82U193000332	L82U593000334	3
Timmins - Ontario	L426	—	—	L82U783000480	L82U783000480	1
Timmins - Ontario	L426	—	—	L82U883000536	L82U883000536	1
Timmins - Ontario	L475	—	—	L82U493000311	L82U693000312	2
University of Alabama - Alabama	L295	7001	7001	L82U173000134	L82U173000134	1
University of Alabama - Alabama	L296	7002	7003	L82U373000135	L82U573000136	2
University of Alabama - Alabama	L310	7004	7013	L82U973000267	L82UX73000276	10
University of Alabama - Alabama	L311	7014	7017	L82U173000277	L82U173000280	4
University of Alabama - Alabama	L479	479-1	479-1	L82U394000002	L82U394000002	1
University of Alabama - Alabama	L480	480-1	480-1	L82U594000003	L82U594000003	1
University of Colorado - Colorado	L336	—	—	L82U773000266	L82U773000266	1
University of Colorado - Colorado	L427	—	—	S92U693000027	S92U693000027	1
University of Colorado - Colorado	L428	—	—	S92U893000028	S92U893000028	1
Whitehorse - Yukon	L423	—	—	L82U983000481	L82U083000482	2
Woodstock - Ontario	L335	—	—	L82U083000093	L82U083000093	1
Woodstock - Ontario	L419	—	—	L82U183000409	L82U183000409	1
Woodstock - Ontario	L460	—	—	L82U693000309	L82U693000309	1

**WARNING**

Follow your internal safety procedures.

## PROCEDURE

- 1.1. Remove the dash access panel.
- 1.2. Cut all the tie wraps maintaining the electric harness under the dash to gain access to the supply and return coolant piping valves. See Figure 1.
- 1.3. Disconnect the electric harness' connector from the 4-way valve. See Figure 1.
- 1.4. Close the return and supply line valves. See Figure 1.
- 1.5. Place a receptacle under the 4-way valve piping connection to recover the draining fluid.
- 1.6. Loosen the clamp installed on the silicone hose of the 4-way valve. See Figure 1.



*Figure 1 - Typical Installation of the Coolant Piping Before the Modification*

- 1.7. Remove the silicone tube from the 4-way valve. Retain the tube and the clamp.
- 1.8. Remove the screw retaining the 4-way valve to the defroster unit. Retain the hardware, but not the valve.

1.9. Reposition the IN and OUT labels on the defrost unit. See Figure 2.

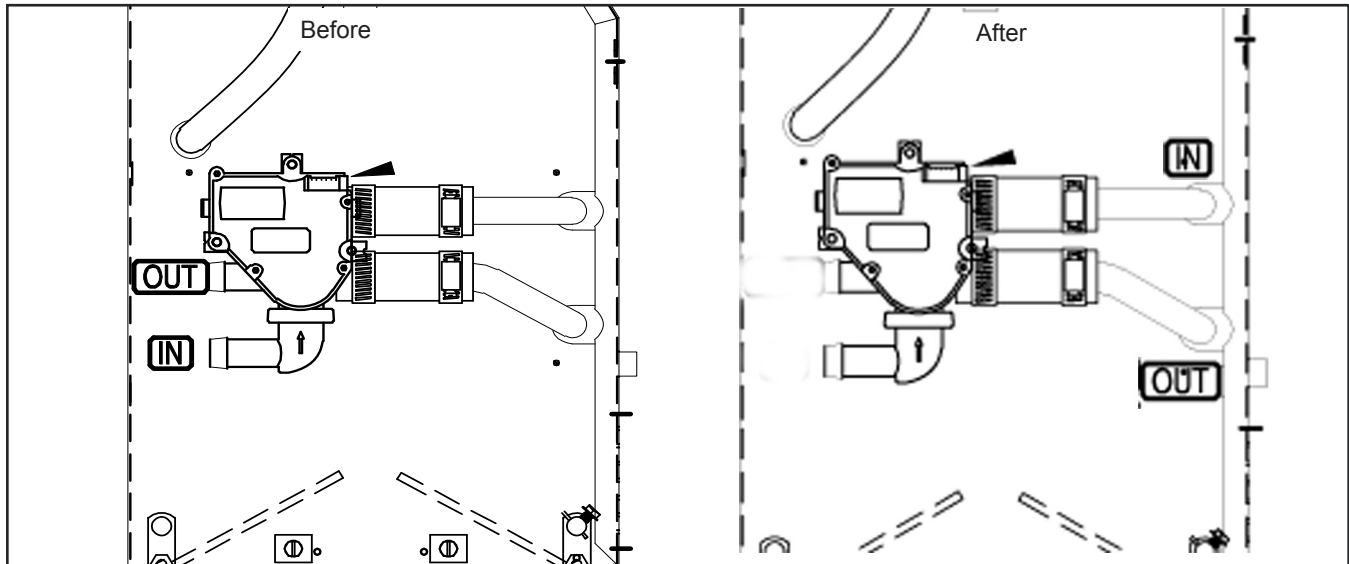


Figure 2 - Position of the Labels Before and After Modification

1.10 Install the silicone hose N95060-44 on the return pipes using the two retained clamps. See Figure 3.

1.11 Trace a line using a T-square at 3/4 in. (19 mm) from the defrost unit inlet pipe. See Figure 3.

1.12 Temporarily install the new 2-way valve N8900144 and the retained silicone tube.

1.13 Position the angle of the 2-way valve support angle above the trace line and mark the anchor holes on the defrost unit. See Figure 3.

1.14 Remove the 2-way valve and drill the two marks on the defrost unit with a 3/8 in. (9.5mm) drill bit. See Figure 3.

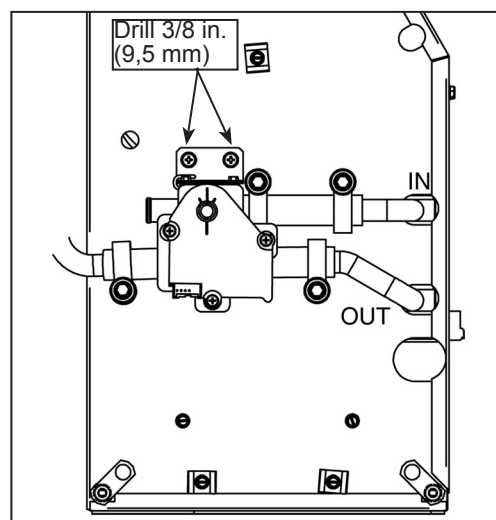


Figure 3 - Position of the anchor hole

- 1.15. Insert the well nuts G5007156 in the holes.
- 1.16. Install the 2-way valve N8900144 on the defroster unit using 2 screws N33449, 2 washers 0446161. See Figure 4.
- 1.17. Install the silicone tube and the clamp on the 2-way valve and the pipes. See Figure 4.

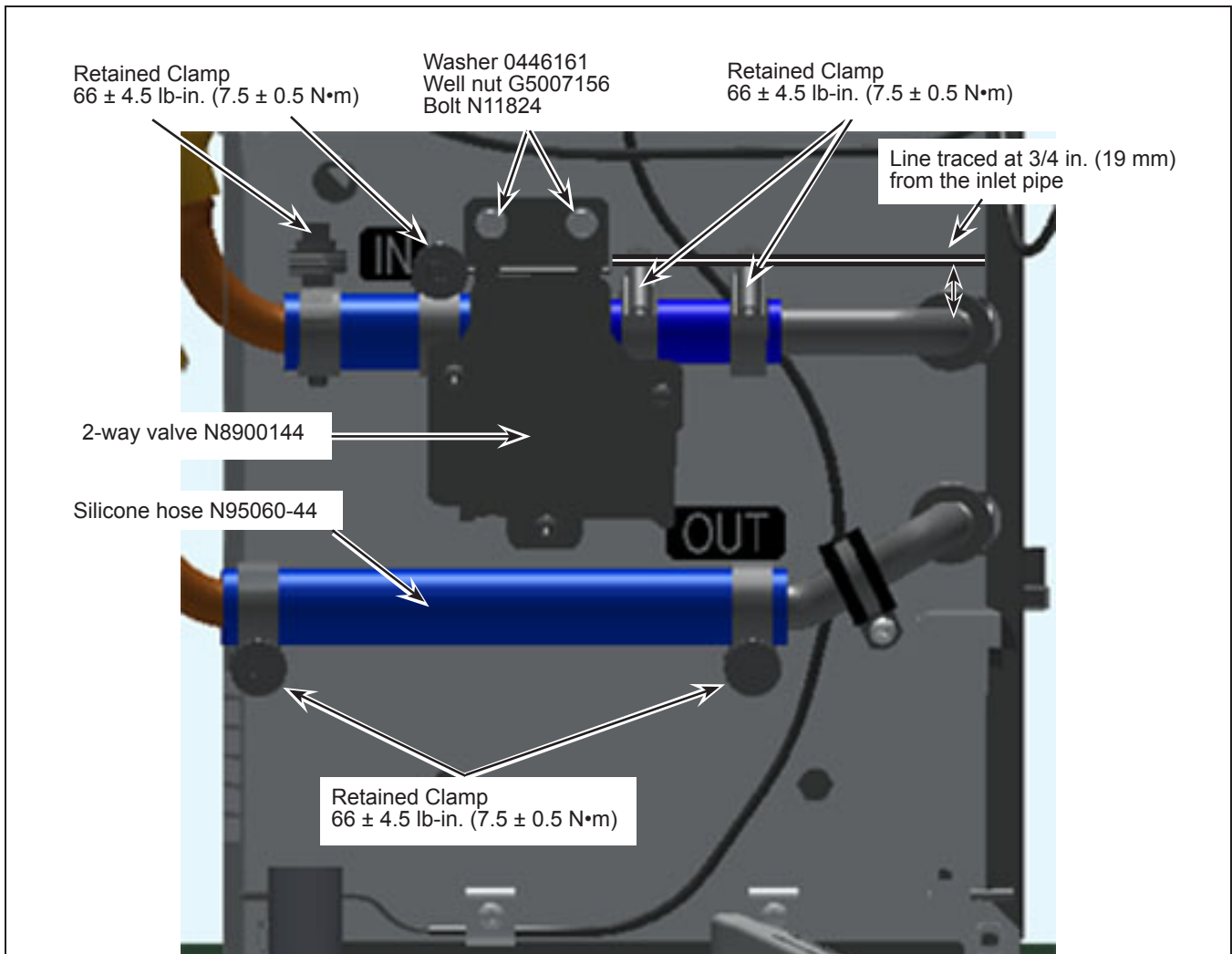
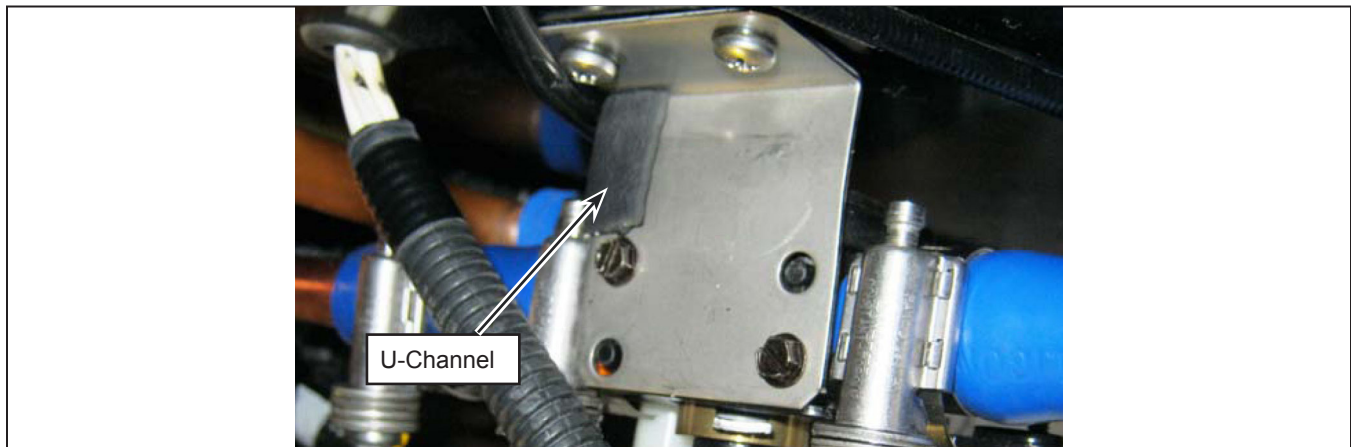


Figure 4 - 2-Way Valve N8900144 and Silicone Hose N95060-44 Installed

1.18. Install a U-channel on the support of the 2-way valve. See Figure 5.



*Figure 5 - U-Channel Position on Support*

- 1.19. Connect the electrical harness to the 2-way valve and securely attach the harness with tie wraps.
- 1.20. Open the supply and return line valves.
- 1.21. Start the vehicle and activate the defrost control.
- 1.22. Inspect the new 2-way valve installation for any coolant leaks. Repair if necessary.
- 1.23. Verify if the coolant level is sufficient as described in the procedure in the Nova LFS maintenance manual. If necessary add the required quantity of coolant.
- 1.24. Remove the receptacle from under the 2-way valve and recover the coolant as defined in your internal safety procedures.
- 1.25. Stop the vehicle engine.
- 1.26. Install the dash access panel. ❖