

REFERENCE:	Nova Bus Manuals	APPLICATION DEADLINE: 2018MA31 CLAIM REFERENCE NUMBER: WB-3973
SECTION:	08: Pneumatic System	
RS N°:	Change Request 1030	
EFFECTIVE IN PROD.:	LA34 (2017MR)	

SUBJECT:	Brake valves balancing system
JUSTIFICATION:	Valves balancing braking power needs to be updated to meet customer specifications.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Replace brake valve and quick release valve	Nova Bus	Nova Bus	4h
2	–	–	–	–

MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
2	N8894916	–	VALVE BRAKE BENDIX (RAM)	–
1	N8894917	–	RELAY VALVE R15	–
4	N65362	–	SCREW M8X80 HEX SSA2 C70 D931	–
4	N29011	–	PLAIN WASHER M8	–
4	N43233	–	NUT HEX M8 FLANGED WITH INSERT	–
2	0444626	–	PLUG M-NPT- 3/8	–
2	0444034	–	BUSHING F-NPT-3/8,M-NPT-1/2	–
2	2271619	–	ELBOW 90 M-FL45-8, M-NPT-6	–
1	N90138	–	VALVE QUICK RELEASE	–
1	0696467	–	ELBOW 90, NTA-8, M-NPT-6	–
2	N38593	–	NUT FLANGED WITH INSERT	–
2	N44884-01	–	SCREW HEX M6X20 FL SS A2	–
1	N21529	–	ELBOW 45° NTA-8, M-NPT-6	–
1	0696456	–	CONNECT. NTA-8, M-NPT-4	–
1	0792086	–	CONNECT. NTA-10, M-NPT-8	–
1	N90258	–	ADAPTER CONNECTOR ATC-R15	–
1	0657943	–	CONNECT. NTA-6, M-NPT-6	–
1	0444056	–	ELBOW 45° M-NPT-3/8,F-NPT-3/8	–
1	8861149	–	NYLON TUBING 1/2 in. GREEN	–
1	8861140	–	NYLON TUBING 3/8 in. GREEN	–

Materials will be available within 35 days once your order has been placed. 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	2017MA10	Initial release	André Pelletier

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: 2017.05.10 15:18:46 -0400

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CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
San Antonio Texas	LA10	422	446	L82K9G9775628	L82K8G9775653	25
San Antonio Texas	LA22	447	555	L82K8H9775654	L82K0H9775762	109

**WARNING**

Follow your internal safety procedures.

PROCEDURE**PREPARE THE NEW VALVE ASSEMBLIES****NOTE**

There must be no liquid sealant inside the coupling. See the annex at the end of this document for the brass fittings assembly procedure.

- 1.1. Install the different parts for the brake valve assembly as per Figure 1. All fittings are in the horizontal (0 degrees) position. Apply an even coat of liquid sealant, such as Loctite 565, over the entire circumference of the first four threads of the male coupling.

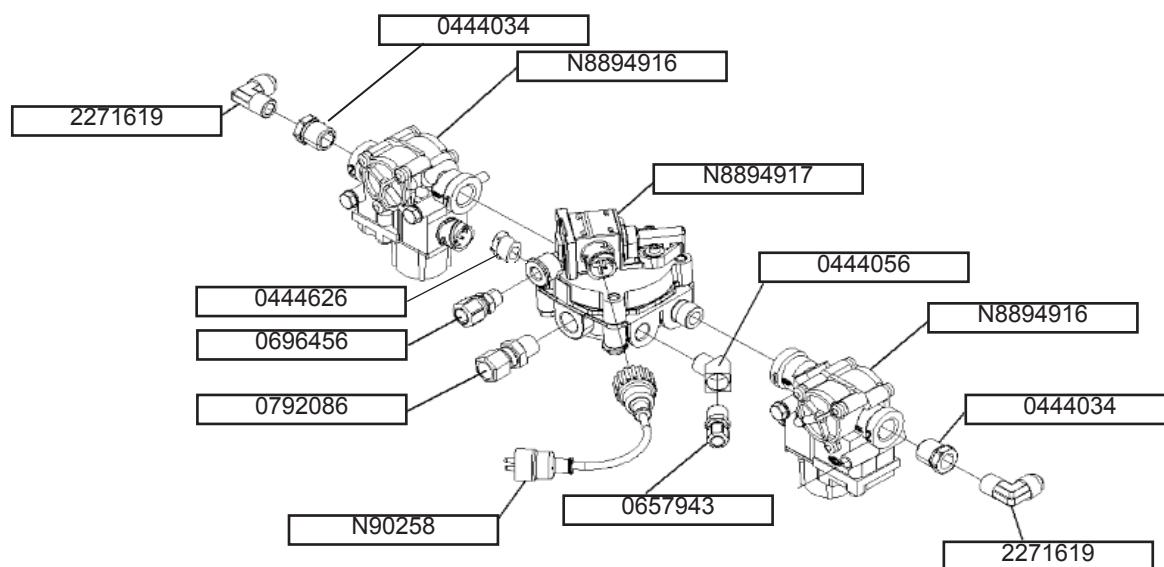


Figure 1 - Brake Valve Assembly

- 1.2. Install the fittings on quick-release valve N90138. See Figures 2, 3 and 4 for their positions. Apply an even coat of liquid sealant, such as Loctite 565, over the entire circumference of the first four threads of the male coupling.

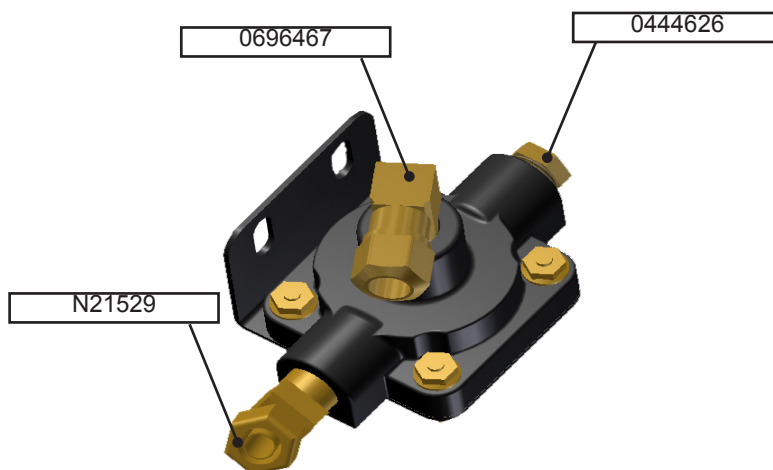


Figure 2 - Quick-Release Valve Assembly N90138

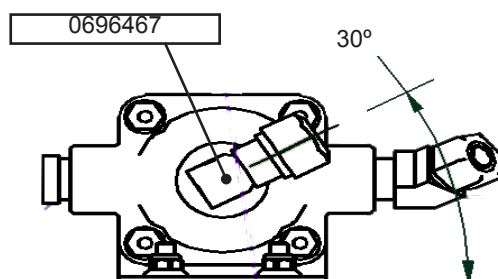


Figure 3 - Fitting 0696467 Position

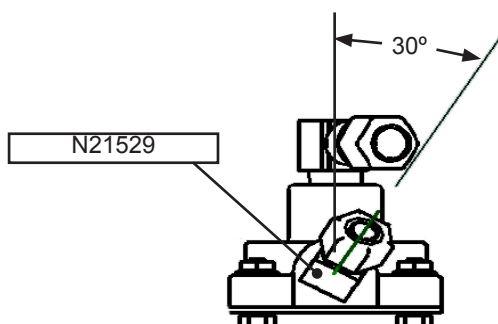


Figure 4 - Fitting N21529 Position

ORIGINAL VALVES REMOVAL

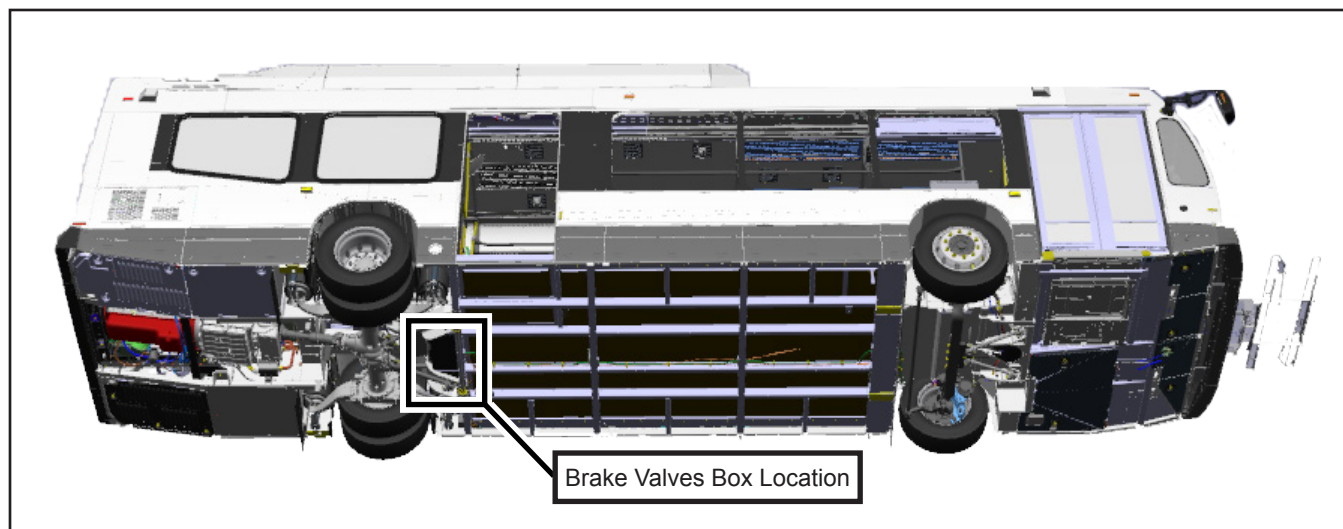


Figure 5 - Brake Valves Box Location

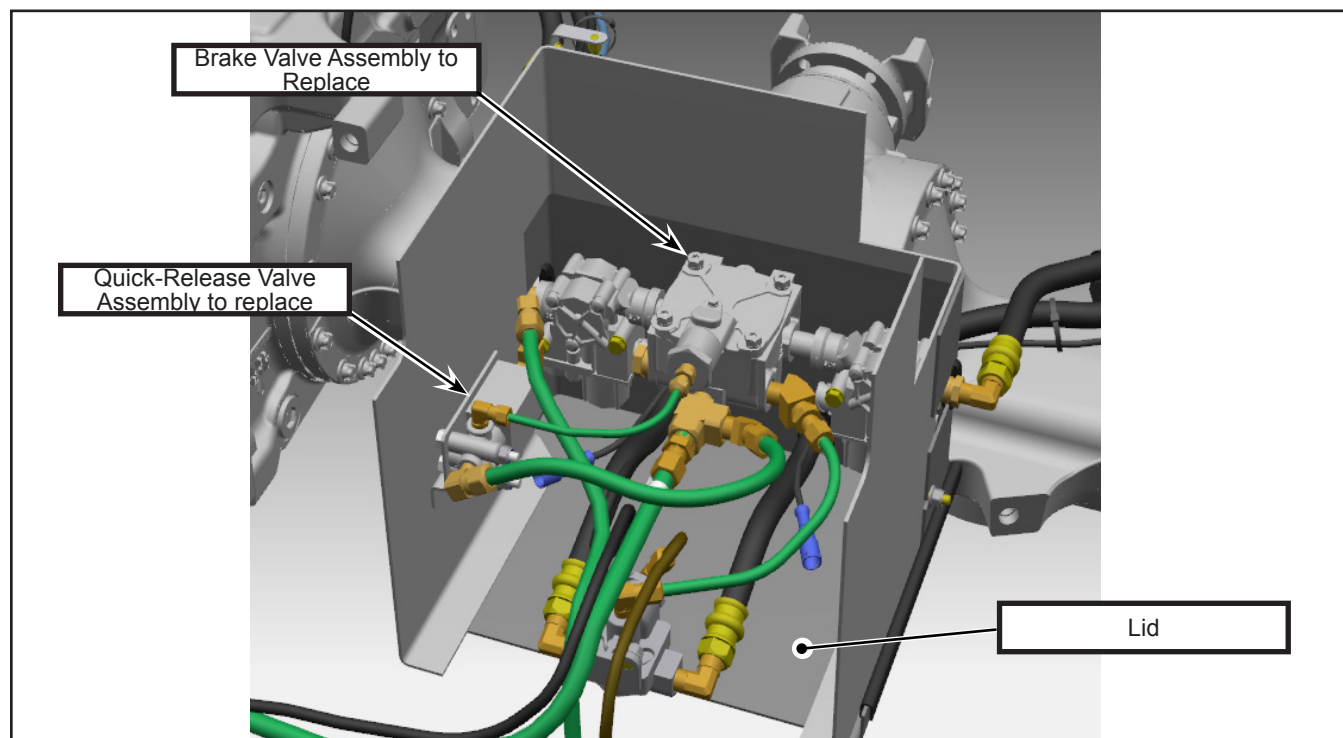


Figure 6 - Original Valves Configuration (Top View, Floor and Other Parts Removed for Clarity)

**WARNING**

Remove air pressure from the system completely before disconnecting any component. Air under pressure can cause serious bodily injuries. For more information about the air supply system, see your maintenance manual section 08: Air Supply System.

**WARNING**

For information on hoisting and towing of the vehicle, see section 18: Hoisting and Towing in the Nova Bus maintenance manual. Use appropriate hoisting equipment for your protection and to prevent damage to the vehicle.

- 1.3. Raise the vehicle.
- 1.4. Remove the lid from the brake valves assembly box. See Figure 6.
- 1.5. Disconnect the hoses. See Figure 7.

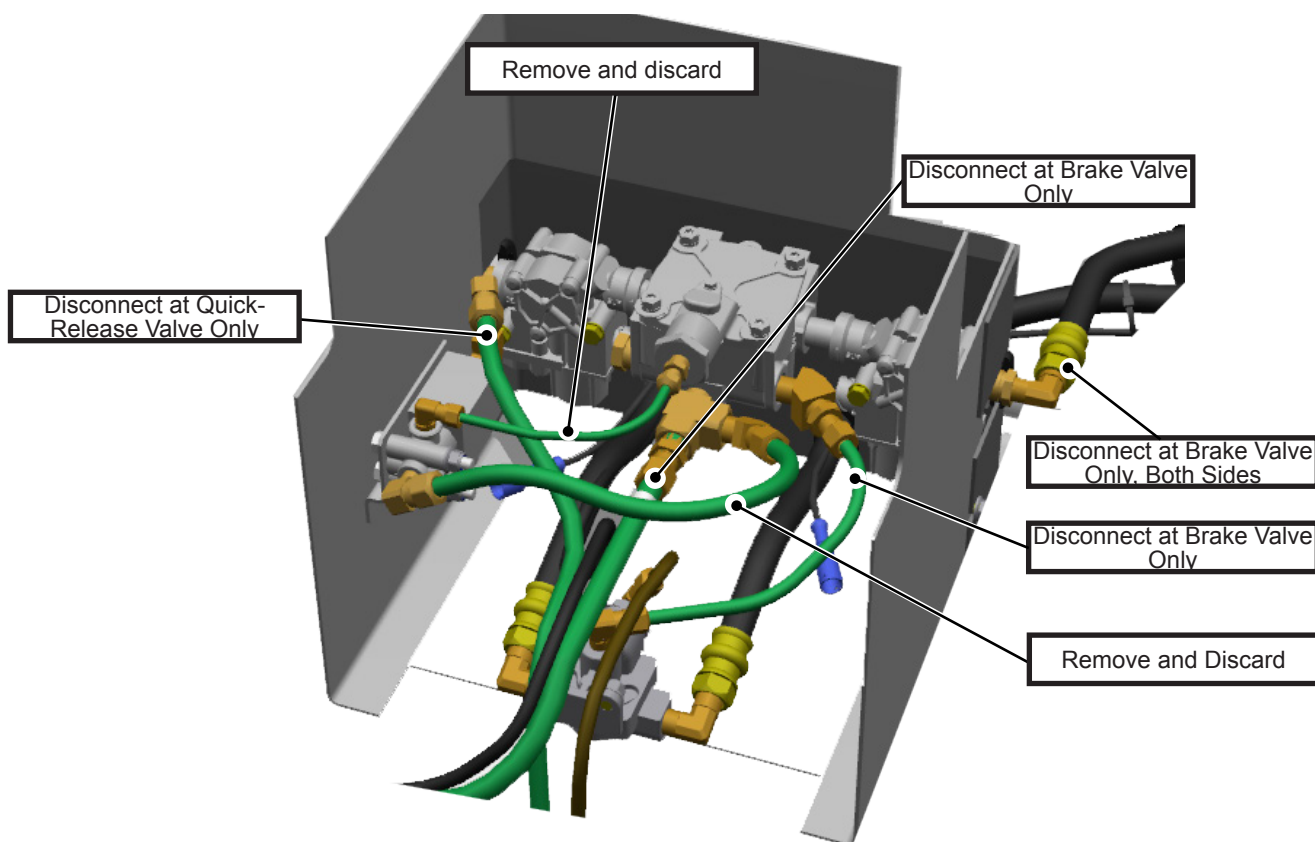


Figure 7 - Disconnect the Hoses

- 1.6. Unbolt and remove the two valves assemblies.

- 1.7. The new quick-release valve cannot use the original studs. Cut the studs and drill two holes as per Figure 8.
- 1.8. Apply corrosion protector such as Tectyl 3344 or equivalent (Gravel Guard type product), on the structure bare metal.
- 1.9. Install the quick release valve with bolts N44884-01 and nuts N38593.

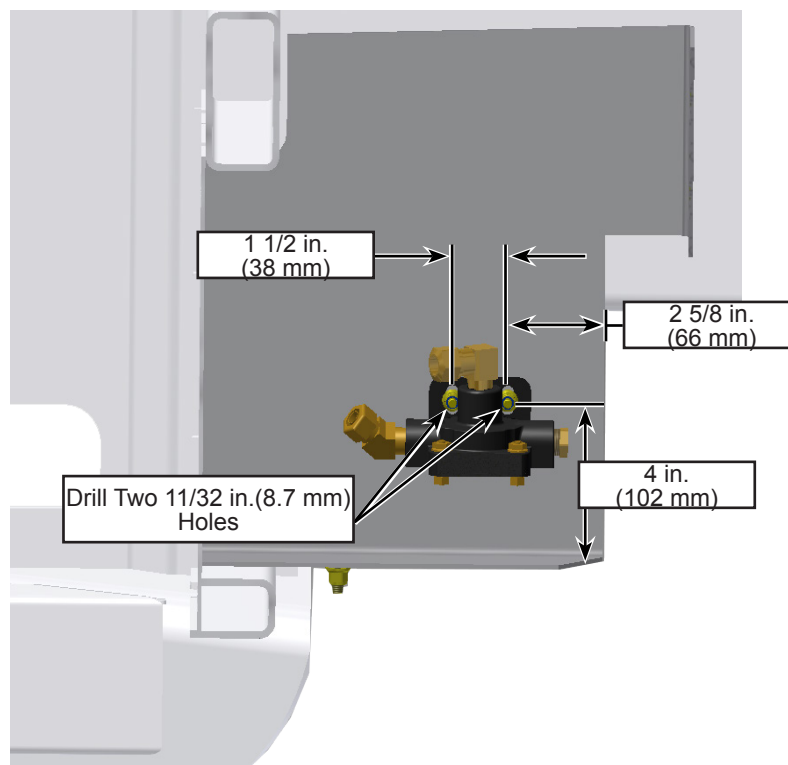


Figure 8 - Drill the Two Holes for the New Quick-Release Valve N90138

- 1.10. Install the new brake valve on the original bracket N45050. Use 4x N65362 screws, 4x N29011 washers and 4x N43233 nuts. See Figure 9.
- 1.11. Install adapter N90258 if not already done. See Figure 9.

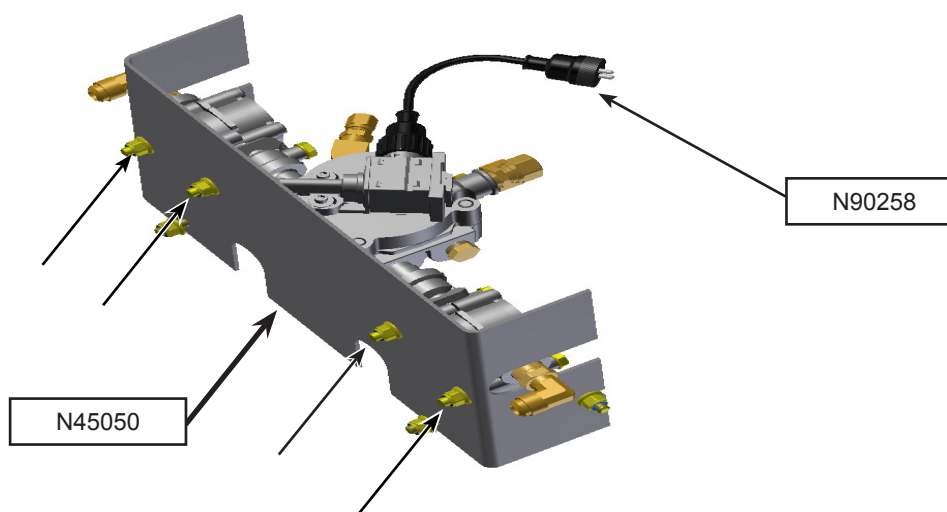


Figure 9 - Install the Brake Valve on the Bracket

- 1.12. Install the brake valve assembly on the vehicle.

**NOTE**

See the annex at the end of this document for the procedure to connect Nylon air hoses using a brass compression fitting.

- 1.13. Connect all the hoses as shown in Figure 10. Install and cut the 1/2 in. hose 8861149 to the right length. If the original 3/8 in. hose 8861140 is too short or damaged, replace it with the one supplied.
- 1.14. Connect adapter N90258.

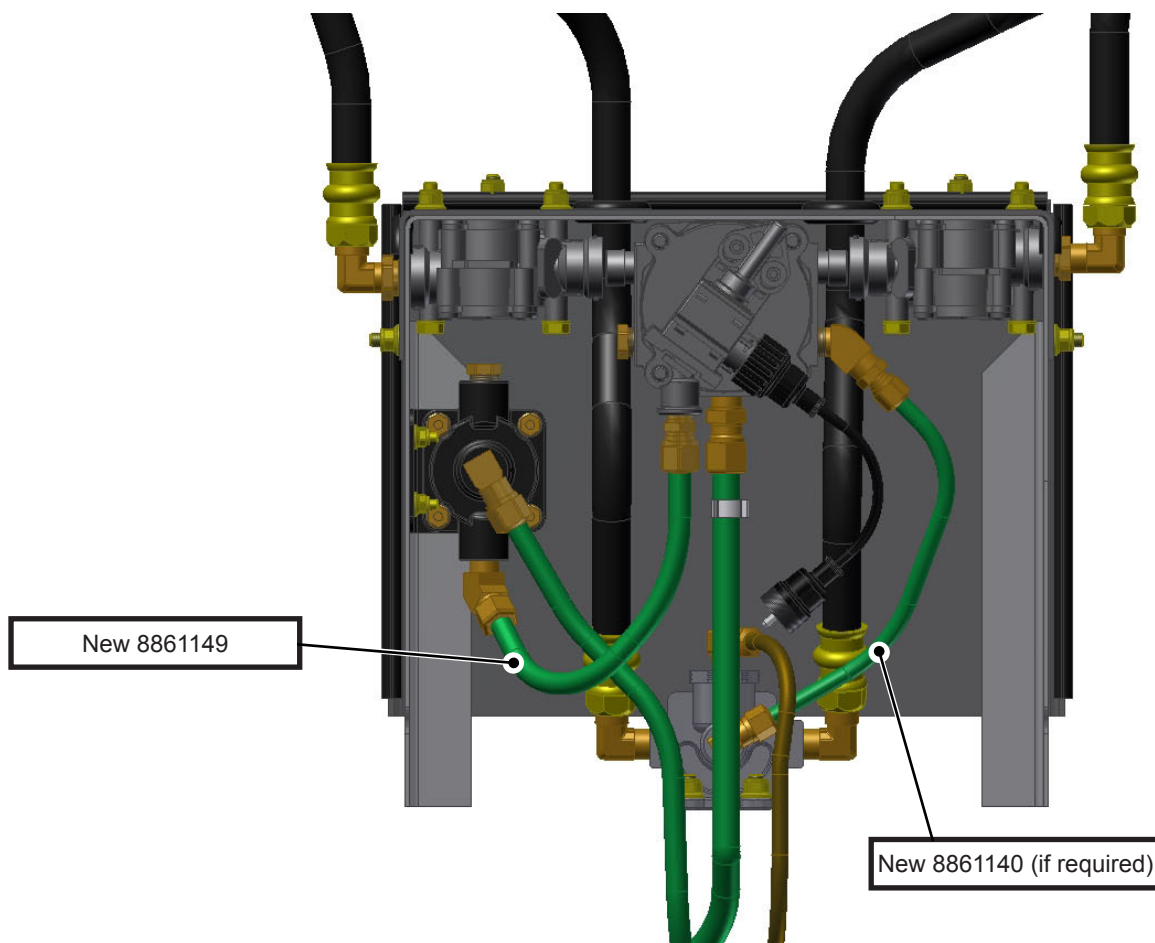


Figure 10 - Connect Hoses on the New Valves

- 1.15. Install the lid.
- 1.16. Prior to return the vehicle in service, perform the tests and verifications on the brake system as required by your regulations, federal or state laws. ❖

ANNEX

2.0 ASSEMBLY OF BRASS FITTINGS - NTP OR NPTF

- 2.1. Degrease threads (as needed).
- 2.2. Inspect the threads for any damage or material flaw.
- 2.3. Apply an even coat of liquid sealant over the entire circumference of the first four threads of the male coupling .
- 2.4. First, screw in the adaptor or fitting by hand to ensure threads are correctly engaged and tighten as much as possible by hand.
- 2.5. Using a wrench, tighten an additional 1-1/2 to 2-1/2 turns depending of the angle required.

3.0 "NTA-TYPE" BRASS COMPRESSION FITTINGS FOR NYLON AIR HOSE

- 3.1. Cut the hose as square as possible (90° from the hose's axis).



- 3.2. Insert the tube into the connector until it is fully seated on the insertion stem.
- 3.3. Tighten the nut with a wrench until one thread remains visible or tighten the nut by hand, then complete the tightening as per the following table 1:

	Tube size	Number of additional turns with a wrench
	1/4	3
	3/8 & 1/2	4
	5/8 & 3/4	3-1/2

- 3.4. Note that no sealant (or oil) should be applied to the tube or internal ring during installation. ALWAYS perform dry connections, in accordance with this type of connector's intended use.