

REFERENCE:	Nova Bus Manuals
SECTION:	09: Hydraulic System
RS N°:	MQR 7621-884
EFFECTIVE IN PROD.:	L840 (2014SE)

APPLICATION DEADLINE: 2017JA06
CLAIM REFERENCE NUMBER: WB-3447

SUBJECT:	Hydraulic tank bushing
JUSTIFICATION:	Hydraulic tank bushing failure after campaign

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Rework brackets holding the hydraulic tank bushings and install new bushings.	Nova Bus	Nova Bus	2.5 h
2	–	–	–	–

MATÉRIEL

QTÉ	N° DE PIÈCE	RÉV.	DESCRIPTION	REPLACE PIÈCE N°
NIVEAU 1				
4	N66349	–	Hydraulic Tank Bushing	–
4	N44888	–	M8 Nylon Lock Nut	–
	N81927	–	Reamer radius tool	–
	N81772	–	Manual radius tool	–
	N8903265	–	Tube Brush	–
NIVEAU 2				
–	–	–		–

Le matériel sera disponible dans un délai de 63 jours. Pour commander, veuillez communiquer avec Prevost Parts par téléphone au 1-800-771-6682, par fax au 1-888-668-2555 ou par courriel à prevostparts.commandes@volvo.com. Spécifiez le numéro du document, la quantité de pièces requises, le nom du client et l'adresse de réception.

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	2015NO03	Initial release	André Pelletier

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
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	L621	8075	8089	L82U9B4000124	L82U9B4000138	15
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. Use appropriate equipment for your protection

**WARNING**

Before starting any work on the vehicle, make sure the vehicle is completely and securely stationary. Disconnect the starting circuit on the control box at the rear of the vehicle and place the battery disconnect switches in the off position.

PROCEDURE

- 1.1. Drain hydraulic fluid using drain plug located under the hydraulic tank. See Figures 1 and 2. Allow the hydraulic oil to drain into an appropriate container and keep for refilling. Refer to manual **section 09: Hydraulic System** for drain and fill procedures.

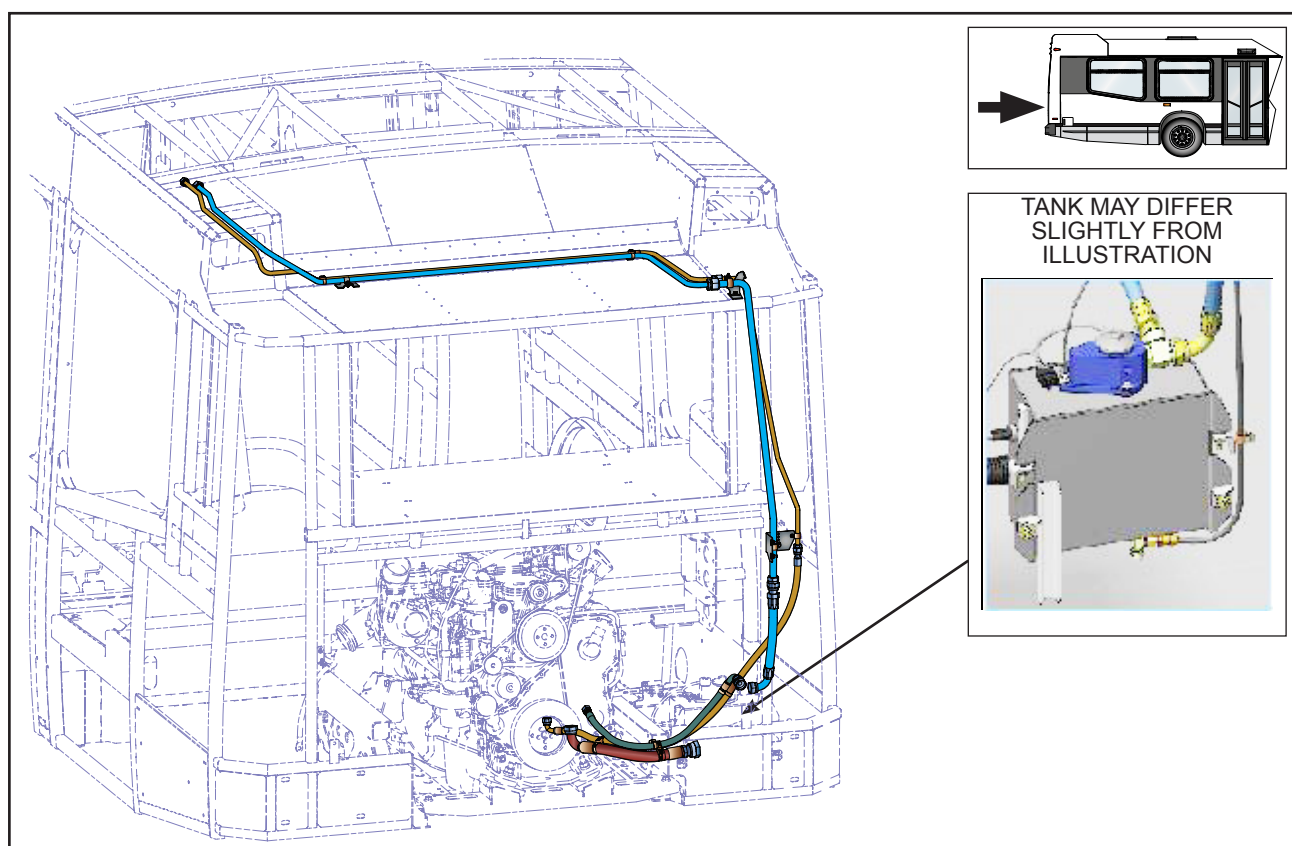


Figure 1 - Hydraulic Tank Location

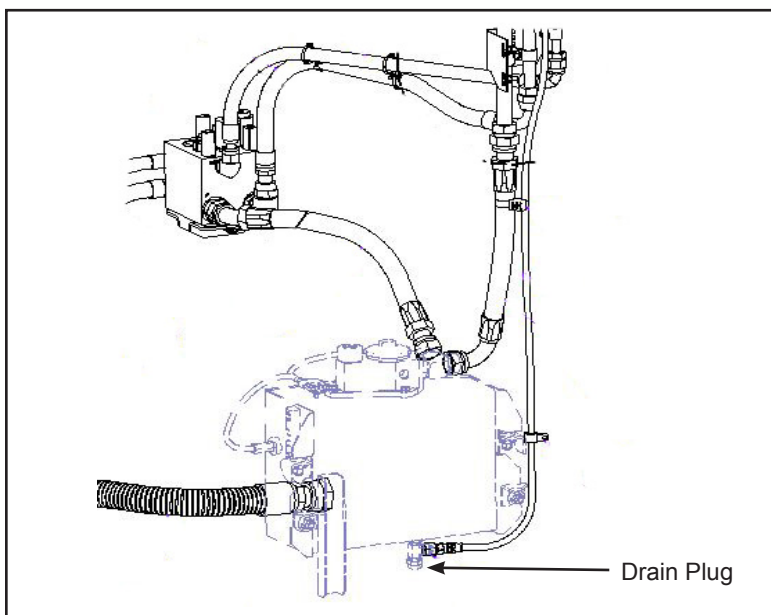


Figure 2 - Drain Plug Location, Underside of Hydraulic Tank



CAUTION

Properly support the rear bumper for removal and installation.

- 1.2. Remove the 4 bolts holding the rear bumper. See Figure 3.

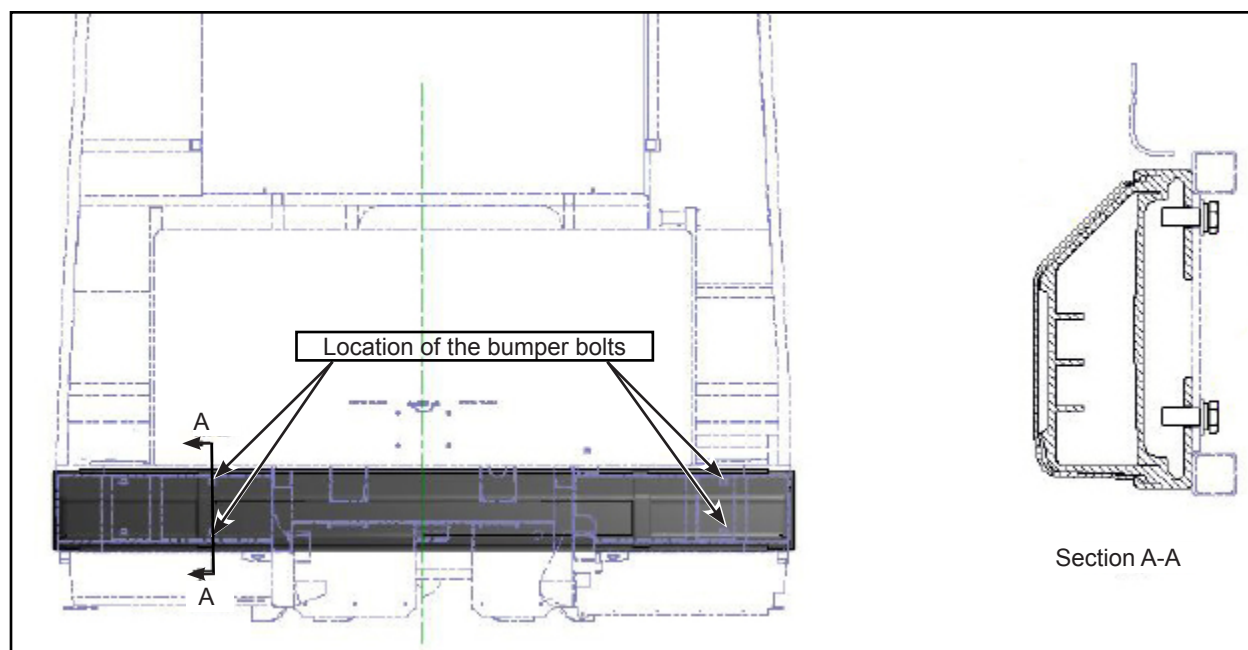


Figure 3 - Rear Bumper Bolt Locations

- 1.3. Remove the rear right corner. See Figure 4.

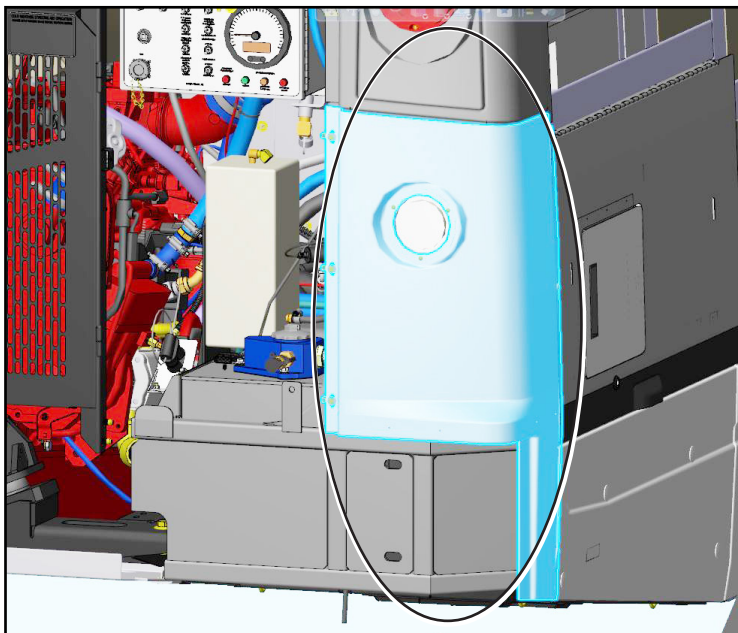


Figure 4 - Remove Rear Right Corner

- 1.4. If applicable, remove the 2 bolts that hold the vertical surge tank and move forward to create more room. Retain hardware. See Figures 4 and 5.

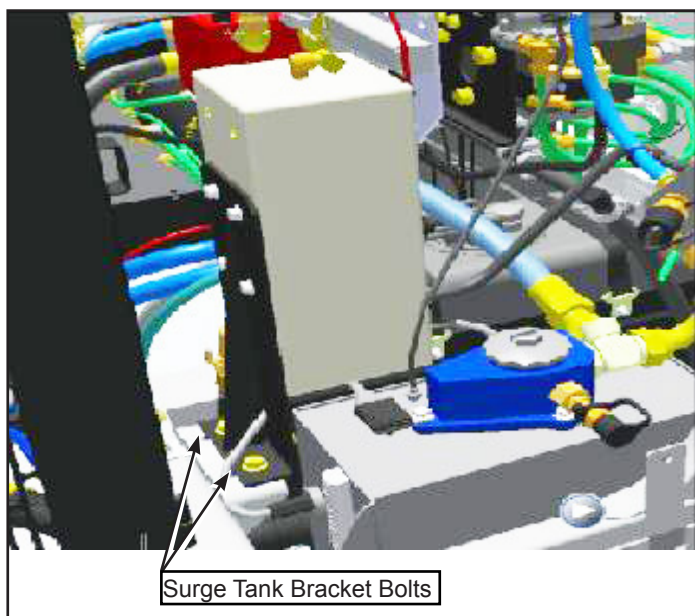


Figure 5 - Remove Bolts and Retain



Figure 6 - Move Surge Tank Forward

- 1.5. Disconnect hose and remove the 90° fitting from the bottom of the hydraulic tank. See Figures 7 and 8.

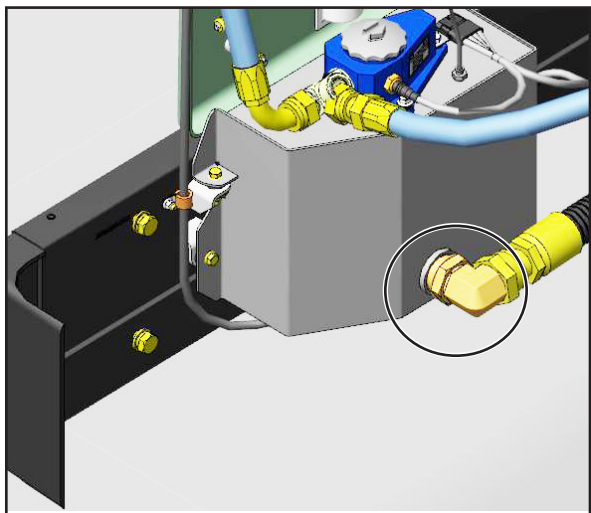


Figure 7 - Fitting Location



Figure 8 - Disconnect Hose and Remove Fitting

- 1.6. Remove the 2 nuts holding the electrical harness hardware. See Figure 9.



Figure 9 - Remove Electrical Harness from Structure

- 1.7. Remove P-clamp holding the braided hose to the structure. See Figure 10.

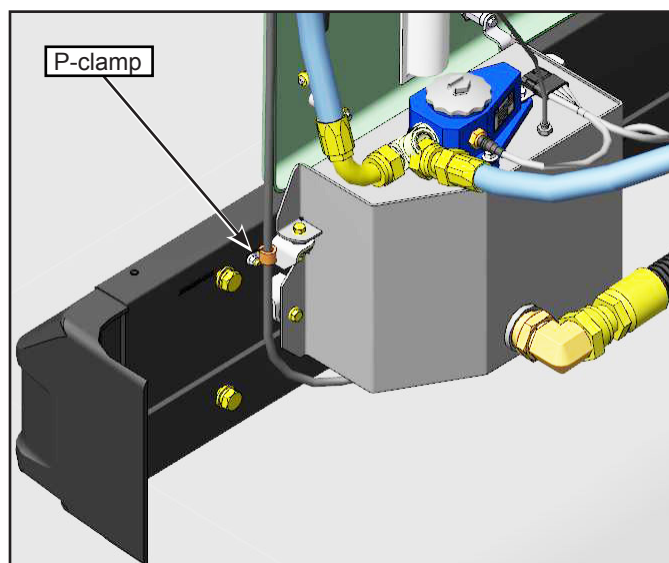


Figure 10 - Detach Braided Hose from Structure

- 1.8. Disconnect harness from hydraulic tank.



CAUTION

Use a proper jack stand or a support device to hold the tank while removing it.

- 1.9. Remove hardware and bushings holding the tank to the structure. Discard bushings and nuts only. See Figure 11.

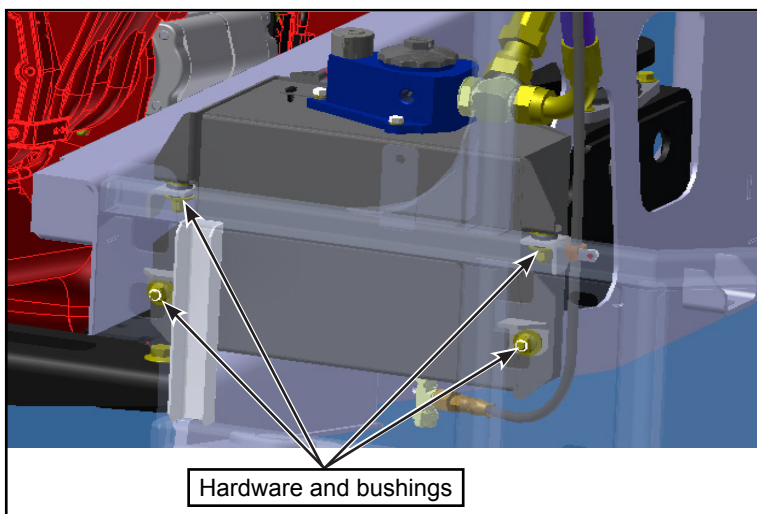


Figure 11 - Remove Parts

- 1.10. Remove hydraulic tank and move it to clear the 4 mounting brackets. Use a wood block as a spacer to create enough room for the next steps. See Figures 12 and 13.



Figure 12 - Move the Tank Away from Brackets

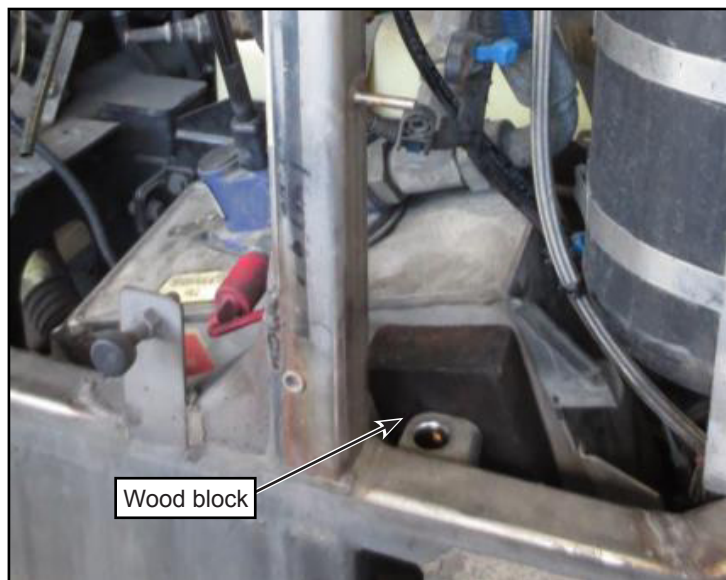


Figure 13 - Insert a Wood Block Spacer

**CAUTION**

Make sure to protect or move away components that could interfere with the tooling.

- 1.11. Using a cordless power drill at low RPM, with the N81927 reamer radius tool, enlarge the 4 mounting bracket holes to 20.5 mm. Use cutting oil. See Figures 14 and 15.

**NOTE**

Important: At the stroke end of the reamer, decrease revolution speed and push firmly in order to produce the desired radius. Use cutting oil.



Figure 14 - Reamer Radius Tool N81927

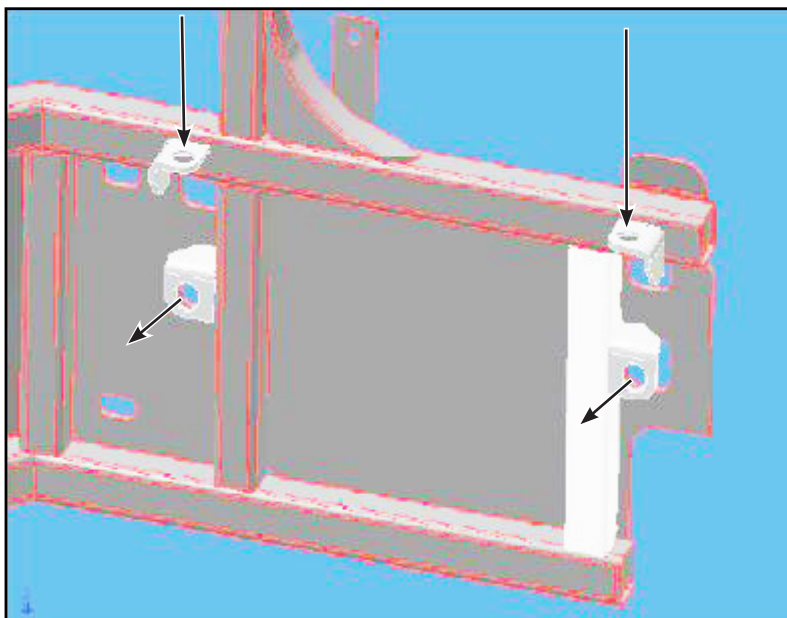


Figure 15 - Recommended Directions to Enlarge Holes

- 1.12. Use the N81772 manual radius tool with a right angle power drill. Machine both sides of the upper holes to get the proper radius. The tool will only fit on one side for the lower holes. See Figures 16 and 17.

**NOTE**

Important: Push firmly and use cutting oil at low RPM.



Figure 16 - Manual Radius Tool N81772

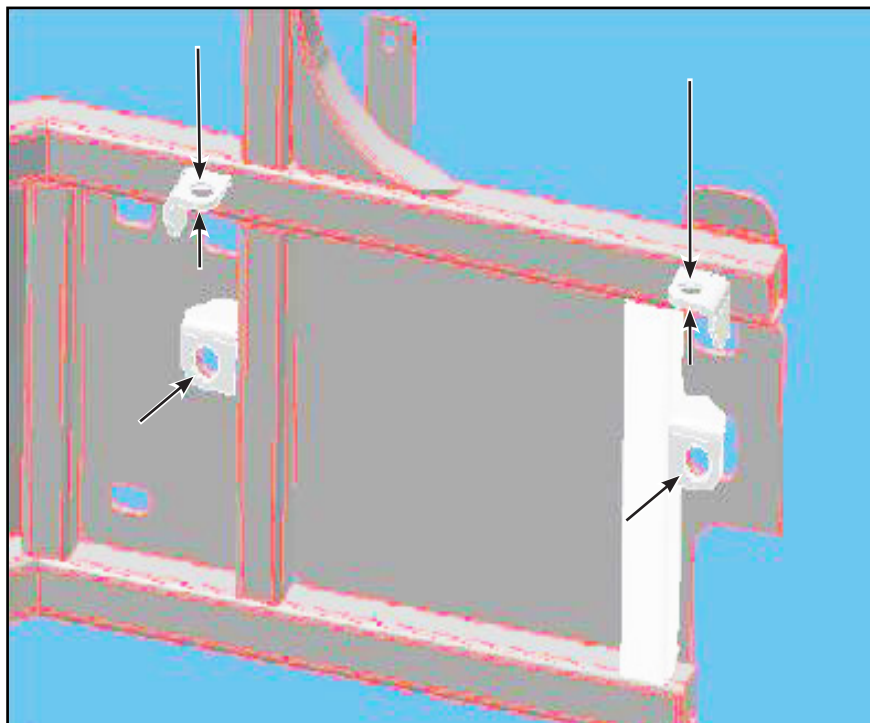


Figure 17 - Make a Radius

- 1.13. With a power drill and using a tube brush (see Figure 18) clean and polish the interior surfaces of each hole in the directions shown in Figure 15.

**NOTE**

Important: The edges and inner surfaces of each hole must be clean, smooth and free of sharp edges. If these conditions are not met, repeat steps 1.11, 1.12 and 1.13.



Figure 18 - Tube Brush

- 1.14. Clean or vacuum dust and metal particles.
- 1.15. With all 4 mounting brackets modified, proceed to re-assemble the hydraulic tank using new N66349 bushings and new n44888 M8 nuts. Torque to 16 lb-ft (22 N•m) and apply anti-tamper seal. See Figure 19.

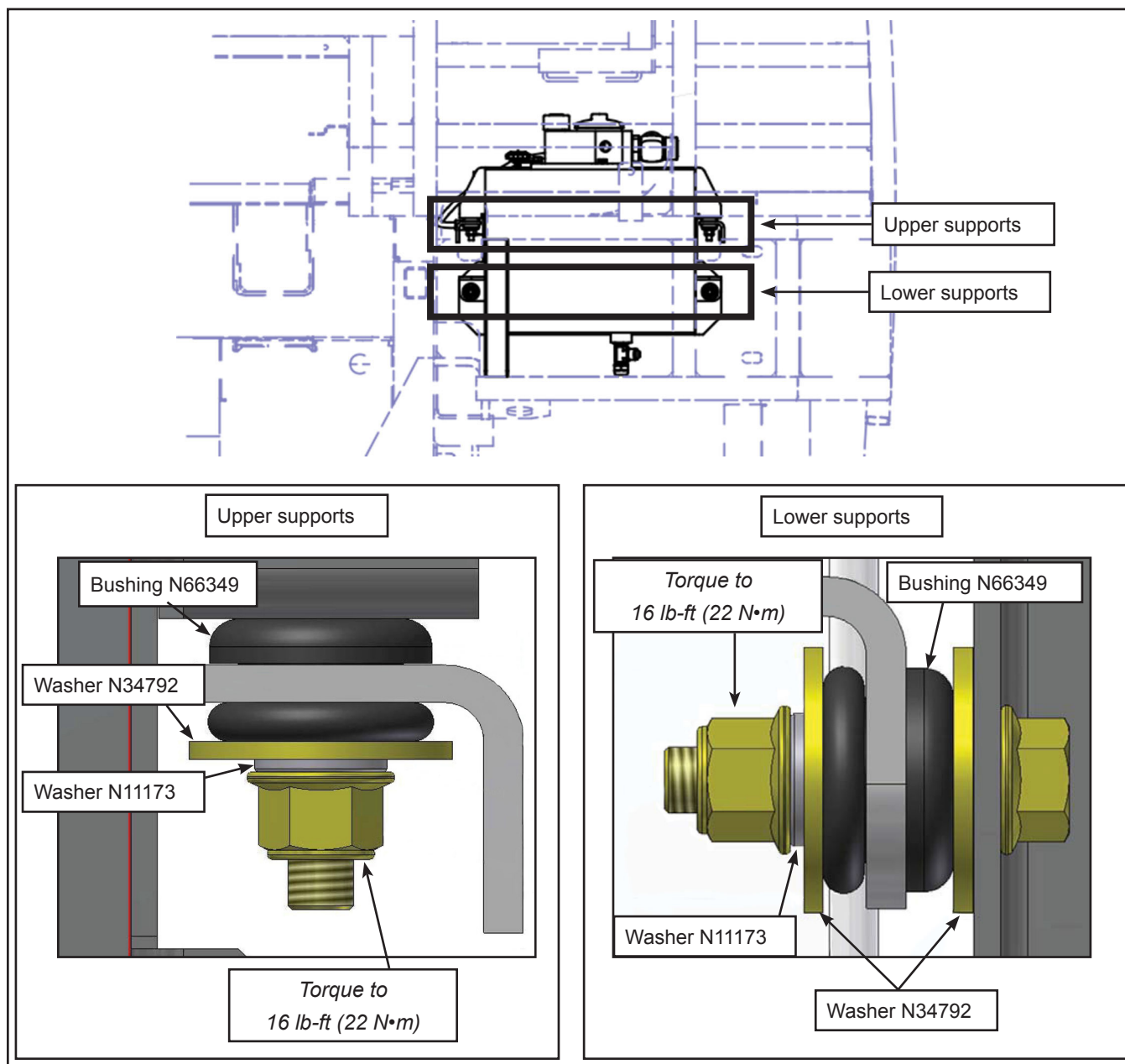


Figure 19 - Hydraulic Tank Anchor Hardware

- 1.16. Reconnect harness to hydraulic system.
- 1.17. Secure harness with hardware and braided hose with P-clamp.
- 1.18. Install 90° fitting with a 3° angle towards ground. Torque to 158 ft-lb (214 N·m) and apply anti-tamper seal.

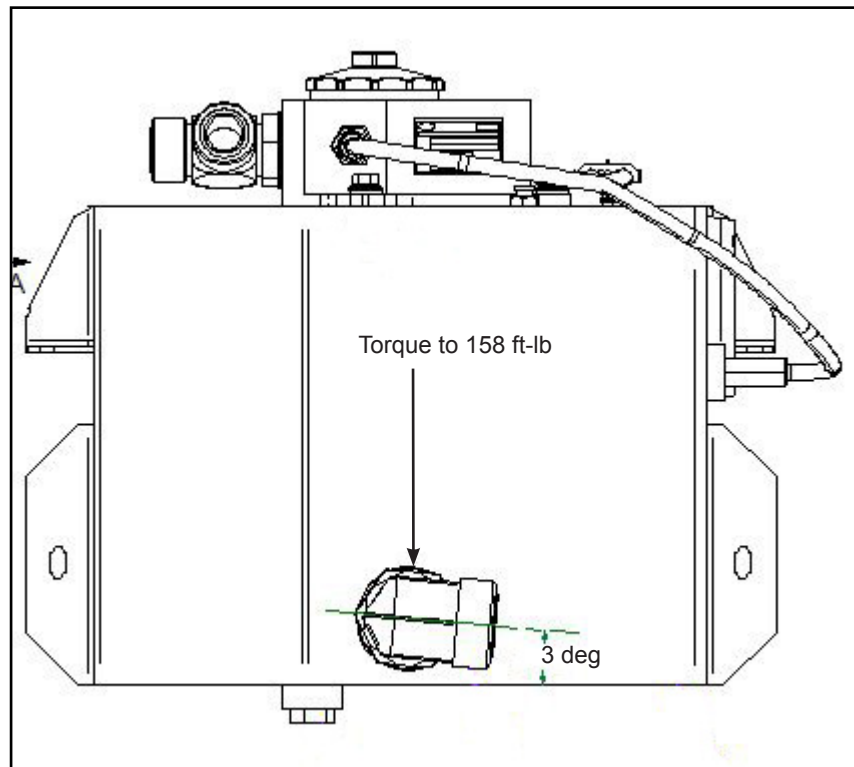


Figure 20 - Install and Torque Fitting

- 1.19. Install hose to the fitting and torque to 158 ft-lb (214 N·m). Apply anti-tamper seal. Refer to Figure 7.
- 1.20. If applicable, install surge tank. Refer to Figure 5.
- 1.21. Install rear right corner panel. Refer to Figure 4. If needed, white nylon rivet is part N45830, replacement black cable ties are G5007996 and blue ones are N56339.
- 1.22. Re-install bumper on structure. Apply anti-seize compound on bolt threads. Torque to 99 ft-lb (135 N·m) and apply anti-tamper seal.
- 1.23. Using recuperated oil, refill hydraulic system. Refer to manual **section 09: Hydraulic System** for drain and fill procedures.
- 1.24. Clean up components.
- 1.25. Run bus to confirm functionality. Turn steering wheel all the way from left to right 5 times to bleed the system.
- 1.26. Check for leaks.
- 1.27. Re-check hydraulic oil tank level and add oil if necessary.❖