

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

APPLICATION DEADLINE: 2017FE14
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	–	–	–	–

MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
4	N66349		Hydraulic Tank Bushing	–
4	N44888		M8 Nylon Lock Nut	–
1	N8885936		Viton O'ring -20	–
1	19506895		Viton O'ring -29	–
*Note 1	N41367		Bolt M10X40 YP GR8.8	–
*Note 1	N81927		Reamer radius tool	–
*Note 2	N8903265		Tube Brush	–
*Note 2	N81772		Manual radius tool	–
LEVEL 2				
–	–	–	–	–

*Note 1: Quantity of 20 each will be provide to accomplish this service bulletin.

*Note 2: Quantity of 10 each will be provide to accomplish this service bulletin.

Materials will be available within 63 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. 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	2015NO03	Initial release	André Pelletier
R1	2015DE11	Material added: O'rings and bolts. Step 1.14 and 1.19 modified. Figures 15,17 and 20 modified.	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: 2015.12.11 16:55:49 -05'00'

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
New York City Transit - New York	L608	8000	8014	L82U6B4 [REDACTED]	L82U0B4 [REDACTED]	15
New York City Transit - New York	L620	8015	8074	L82U2B4 [REDACTED]	L82U7B4 [REDACTED]	60
New York City Transit - New York	L621	8075	8089	L82U9B4 [REDACTED]	L82U9B4 [REDACTED]	15
New York City Transit - New York	L643	5895	5895	S92U1B4 [REDACTED]	S92U1E [REDACTED]	1
New York City Transit - New York	L670	5770	5894	S92U9B4 [REDACTED]	S92UXC4 [REDACTED]	125
New York City Transit - New York	L681	5896	5283	S92U2C4 [REDACTED]	S92U9C4 [REDACTED]	122
New York City Transit - New York	L692	5284	5363	S92U3C4 [REDACTED]	S92U3D4 [REDACTED]	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.

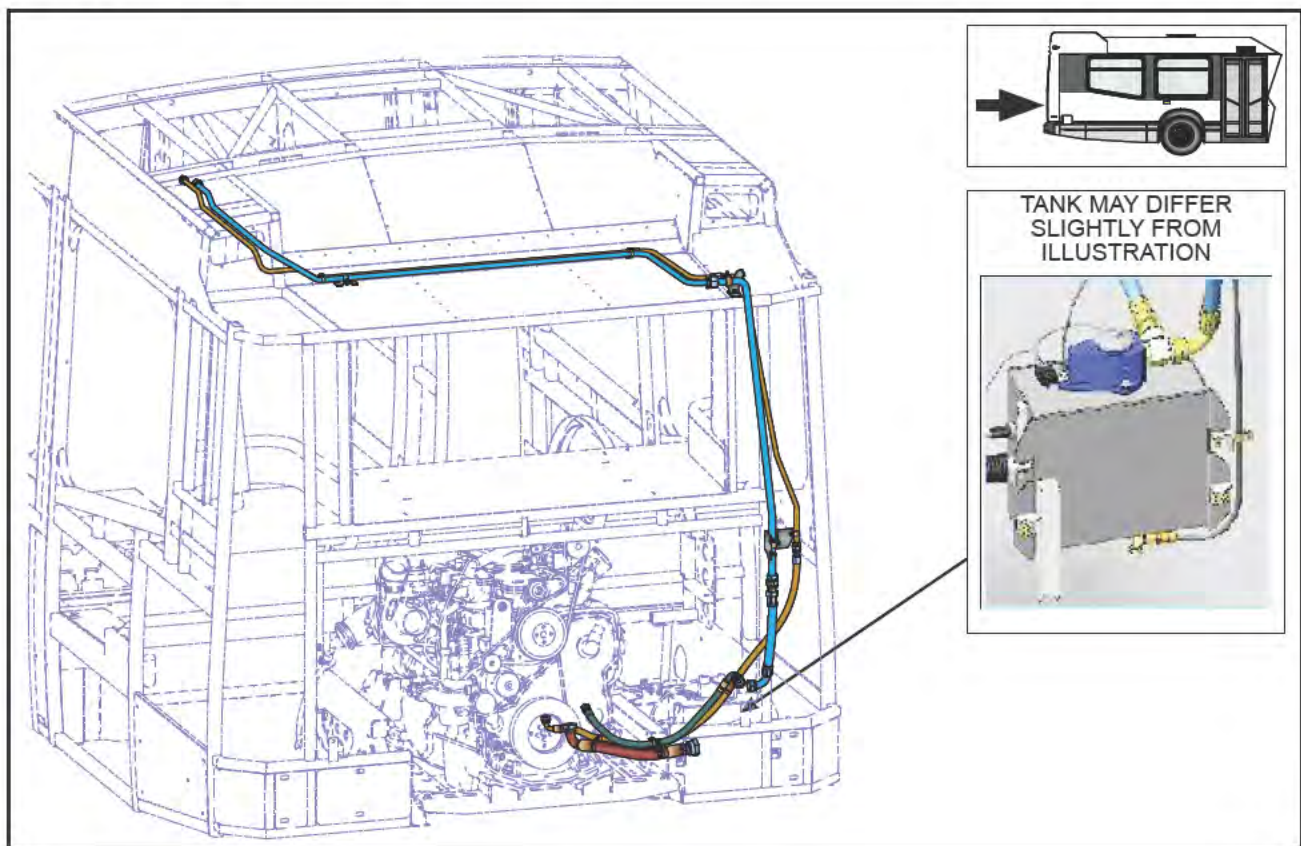


Figure 1 - Hydraulic Tank Location

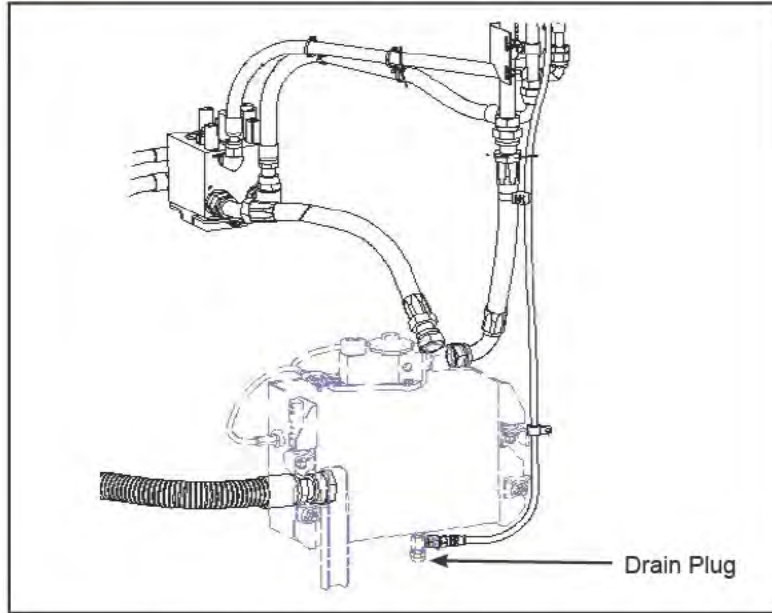


Figure 2 - Drain Plug Location, Underside of Hydraulic Tank



CAUTION

Properly support the rear bumper for removal and installation.

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

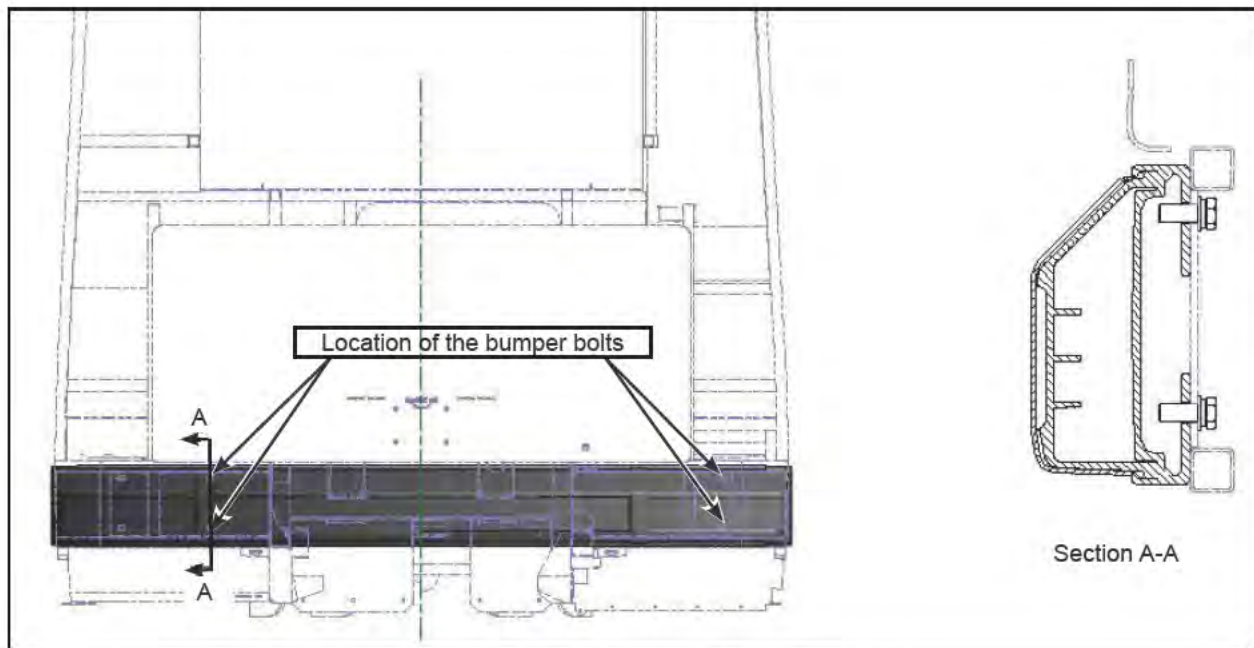


Figure 3 - Rear Bumper Bolt Locations

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

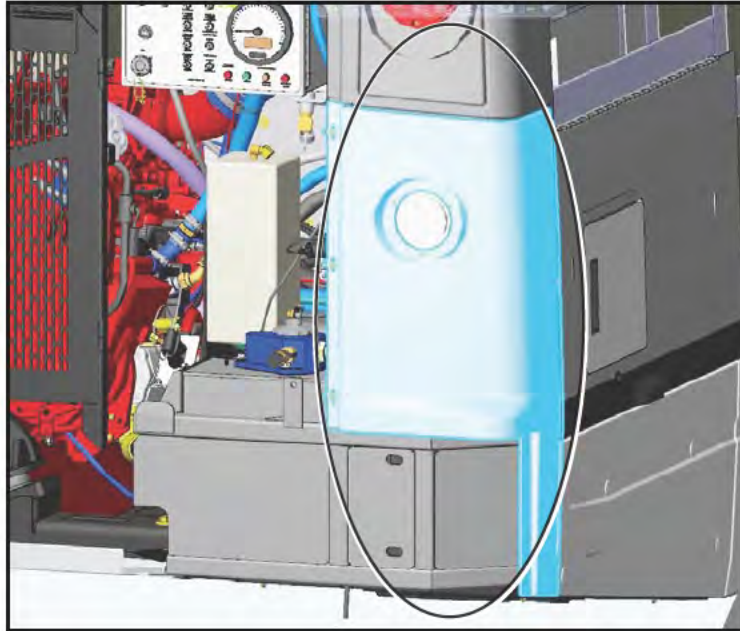


Figure 4 - Remove Rear Right Corner

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.

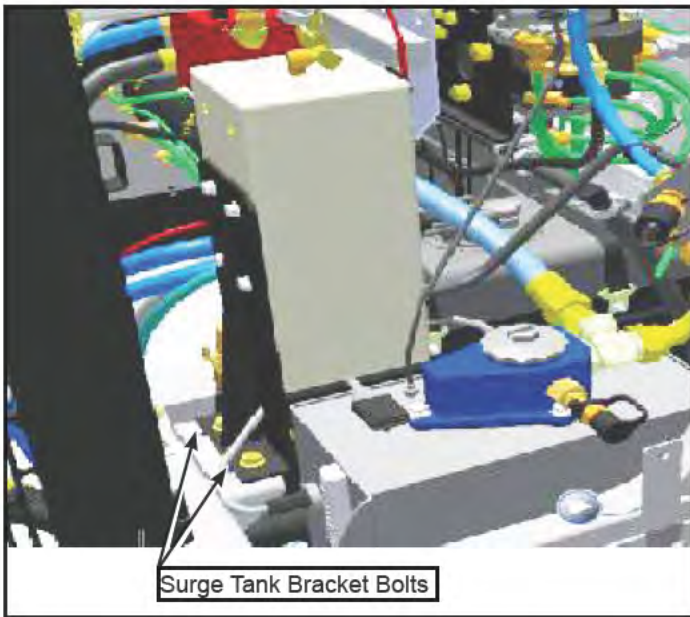


Figure 5 - Remove Bolts and Retain



Figure 6 - Move Surge Tank Forward

**WARNING**

Follow your internal safety procedures. Use appropriate equipment for your protection

- 1.5. Raise the bus to make it easier to perform the next steps.
- 1.6. Disconnect hose and remove the 90° fitting from the bottom of the hydraulic tank. See Figures 7 and 8.

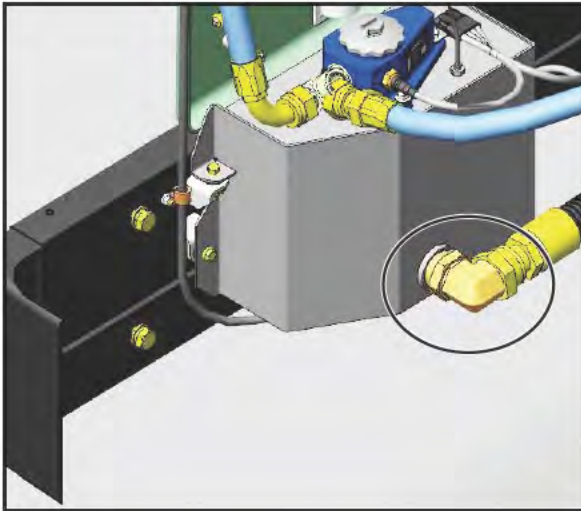


Figure 7 - Fitting Location



Figure 8 - Disconnect Hose and Remove Fitting

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



Figure 9 - Remove Electrical Harness from Structure

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

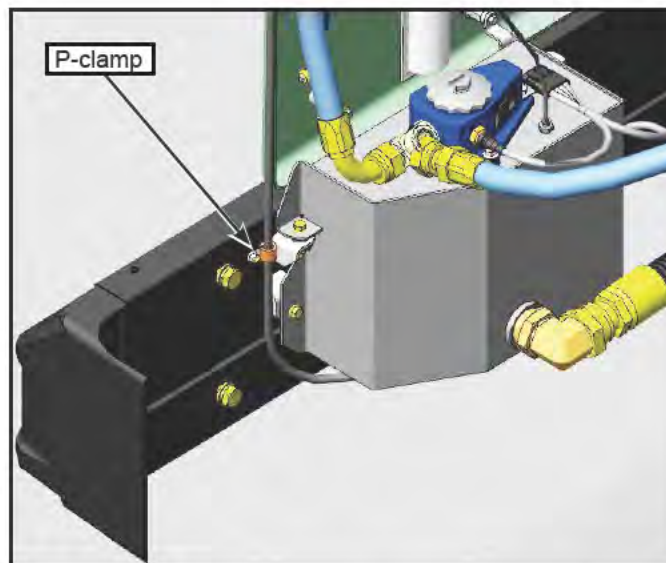


Figure 10 - Detach Braided Hose from Structure

- 1.9. Disconnect harness from hydraulic tank.



CAUTION

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

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

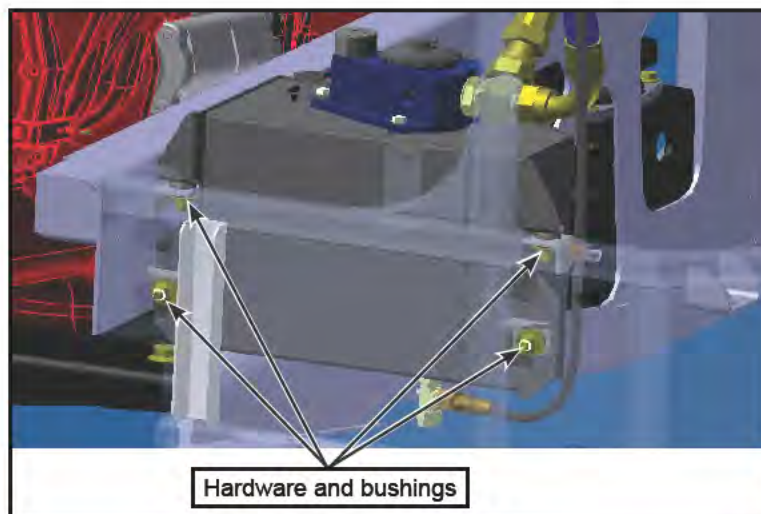


Figure 11 - Remove Parts

- 1.11. 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

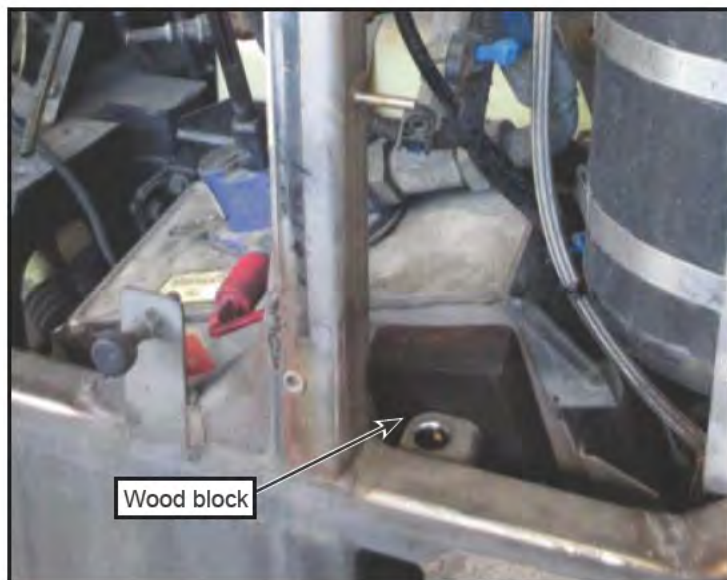


Figure 13 - Insert a Wood Block Spacer

**CAUTION**

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

- 1.12. 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 like CRC True Tap HD Cutting Fluid (part # 03400).

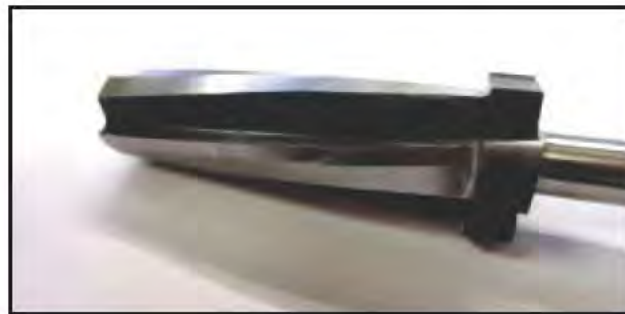


Figure 14 - Reamer Radius Tool N81927

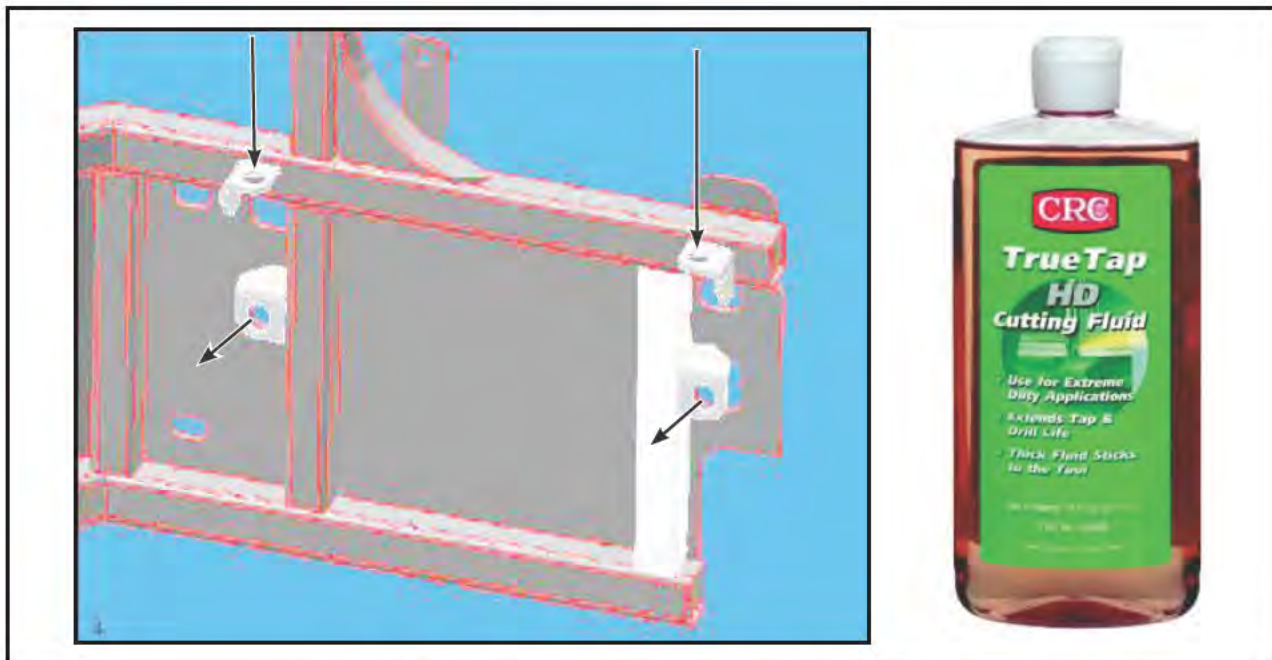


Figure 15 - Recommended Directions to Enlarge Holes

- 1.13. 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.



Important: Push firmly and use cutting oil like CRC True Tap HD Cutting Fluid (part # 03400) at low RPM.



Figure 16 - Manual Radius Tool N81772

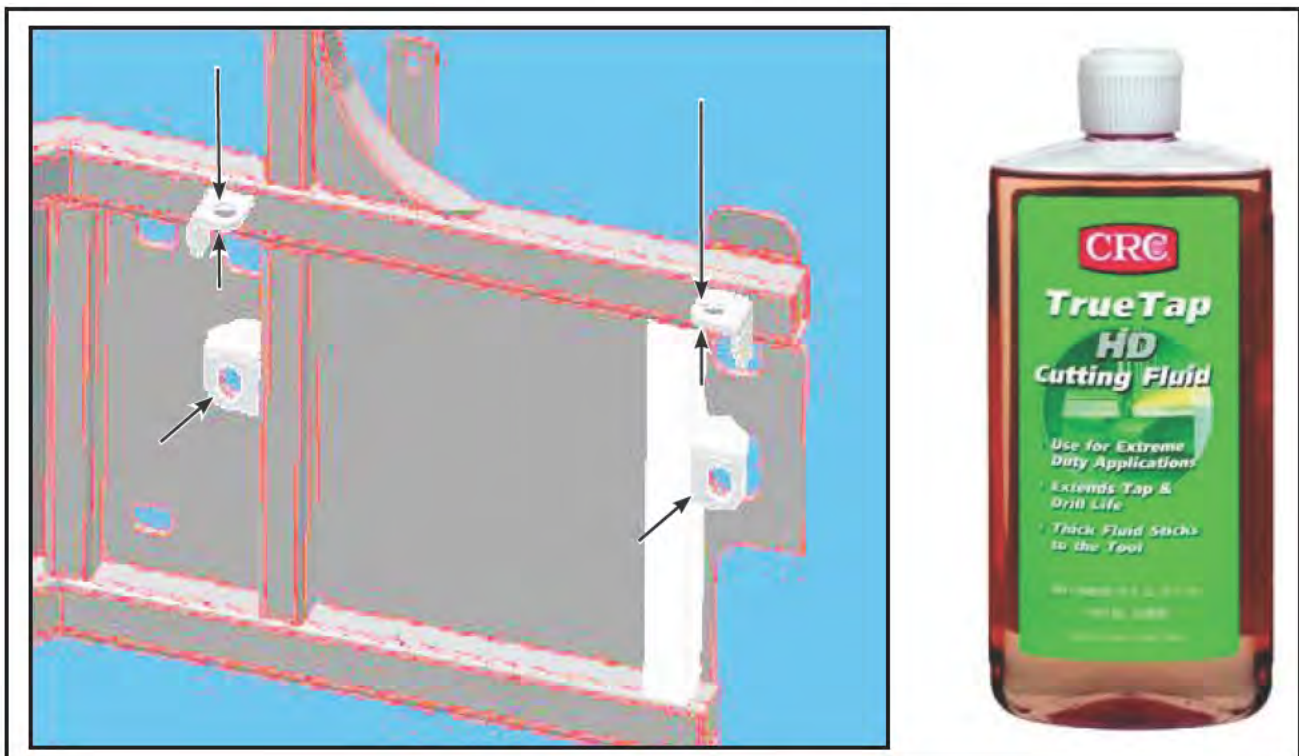


Figure 17 - Make a Radius

- 1.14. With a power drill and using a tube brush (see Figure 18) or a polishing disc, 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 N8903265

- 1.15. Clean or vacuum dust and metal particles.
- 1.16. 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.

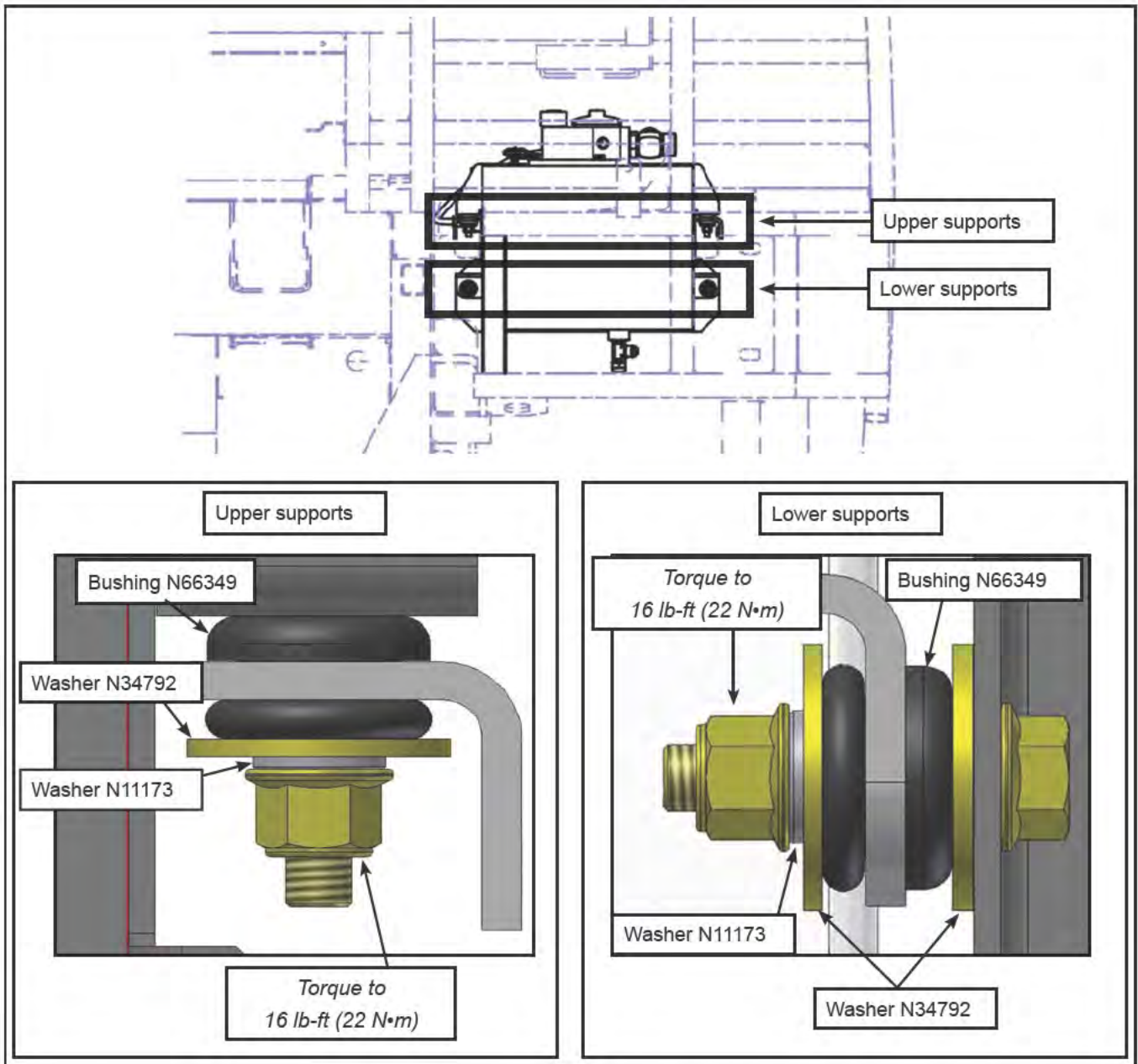


Figure 19 - Hydraulic Tank Anchor Hardware

- 1.17. Reconnect harness to hydraulic system.
- 1.18. Secure harness with hardware and braided hose with P-clamp.
- 1.19. Discard o-rings from the 90° fitting removed at step 1.6 and replace with new ones. Install fitting with a 3° angle. Torque to 158 ft-lb (214 N·m) and apply anti-tamper seal. See Figure 20.

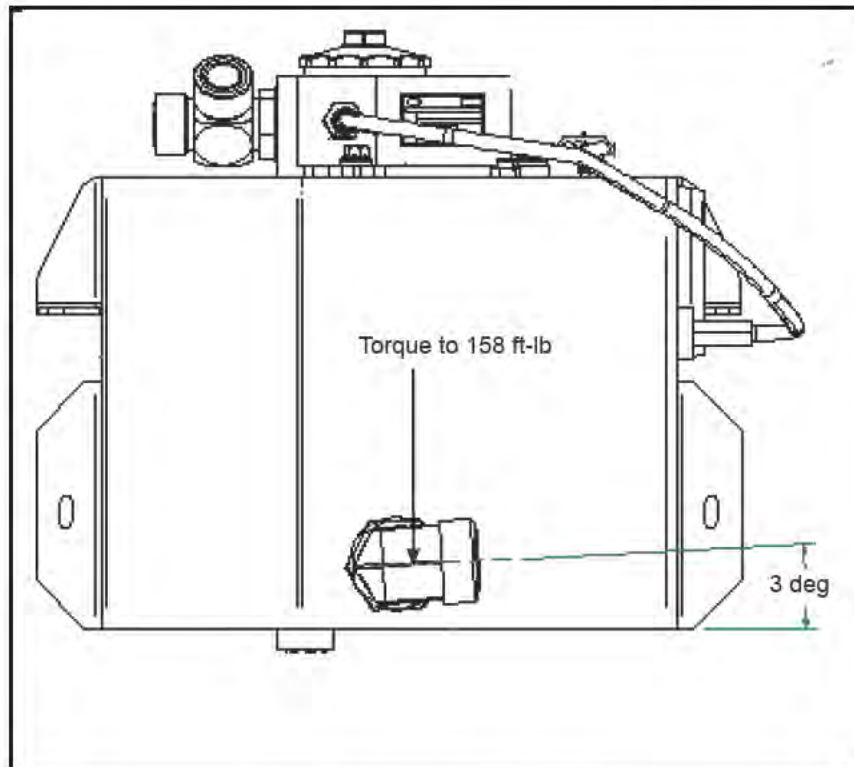


Figure 20 - Install and Torque Fitting

- 1.20. Install hose to the fitting and torque to 158 ft-lb (214 N·m). Apply anti-tamper seal. Refer to Figure 7.
- 1.21. If applicable, install surge tank. Refer to Figure 5.
- 1.22. 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.
- 1.23. 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.
- 1.24. Using recuperated oil, refill hydraulic system. Refer to manual **section 09: Hydraulic System** for drain and fill procedures.
- 1.25. Clean up components.
- 1.26. Run bus to confirm functionality. Turn steering wheel all the way from left to right 5 times to bleed the system.
- 1.27. Check for leaks.
- 1.28. Re-check hydraulic oil tank level and add oil if necessary.❖