



## Ram 4500/5500 OE Brake Line Replacement

### Description of issue:

Ram 2019-2020 4500/5500 vehicles identified as having wear on the brake hose(s) from contacting LiquidSpring components require replacement of OE brake hoses.

### Parts List:

Below is a list of components required for the procedure.

Parts included in kit p/n: 11871							
ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	10003-004	HB 1.00-8x6.50, Gr 8	8	2	10804-002	Spiral Cable Wrap
2	2	10006-004	HFW 1.00	9	2	10874-350	HFB 5/8-11x3.50, Gr. 8
3	2	10012-003	LFN 1-8, Gr. G	10	2	11102-350	HFB 3/4-10 x 3.50, Gr. 8
4	2	10012-008	LFN 5/8-11 Gr. G	11	4	11392-001	Crush Washer, Copper
5	8	10012-012	LFN 3/4-16, Gr. G	12	1	11875	Hyd. Brake Hose, Dr Side
6	2	10012-014	LFN 3/4-10, Gr. G	13	1	11876	Hyd. Brake Hose, Pass Side
7	4	10064-006	U-Bolt, 3/4-16 x 5.19 x 8.03	14	1	D11870	Instructions

Parts included in kit p/n: 11849							
ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	11829-001	Banjo Block	3	2	11391-002	Banjo Bolt
2	8	11392-001	Crush Washer, Copper	4	1	D11848	Instructions

### Modification Instructions:

**NOTE:** The following procedures should be used in conjunction with OEM Hydraulic Brake service instructions and procedures.

**NOTE:** Instructions outlined in this document supersede instructions included in kit 11849.

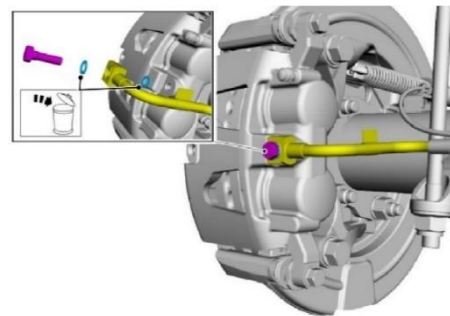
**IMPORTANT: Ensure LiquidSpring suspension is off and fully depressurized when servicing suspension components, with frame and axle supported on jack stands.**

**NOTE:** Contact LiquidSpring Customer Service for additional information depressurizing the system if needed.

1. Disconnect power to the LiquidSpring system by pulling the 80A fuse located at the battery.
2. On the rear axle, Remove the lower axle clamp and associated hardware, discarding hardware. Do

for both driver and passenger side. (Remove U-bolts, lower strut bolts, 5/8 tie bolt, and 1" lower control arm bolt.)

3. Locate and remove the OE brake hose identified as being worn. Discard brake hose and crush washers. Retain banjo bolt.



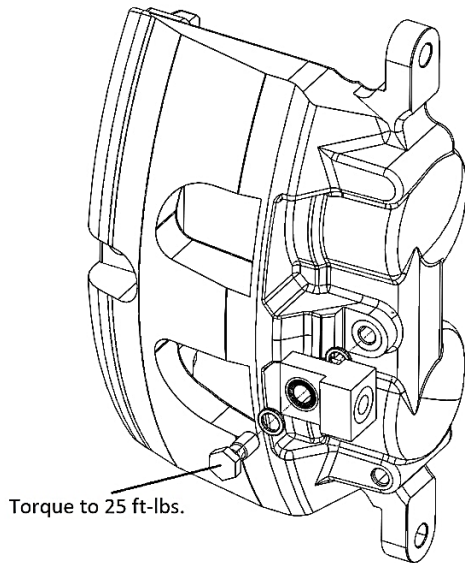
**Figure 1: Banjo Bolt & Washers to Remove**

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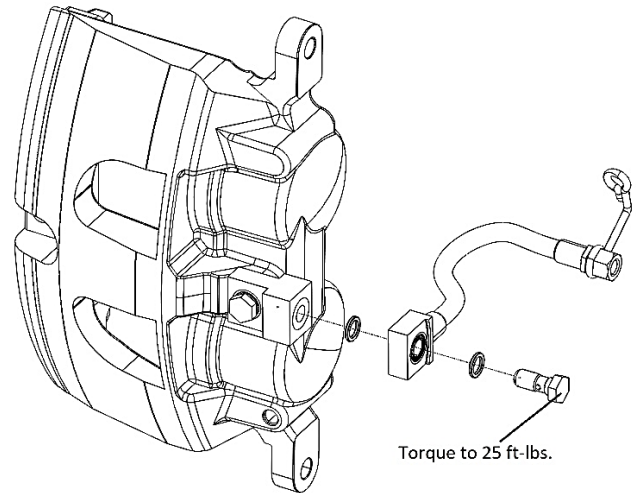
**IMPORTANT: Verify that the brake hose is not twisted or kinked before tightening the fitting bolt.**

4. Position the new replacement brake hose to the axle brake line junction block.
5. **Torque brake line junction block flare nut to 15 ft-lbs.**
6. Install the provided banjo block and crush washers to the caliper using retained banjo bolt from Step 3, See Figure 2.
7. **Torque banjo bolt to 25 ft-lbs.**



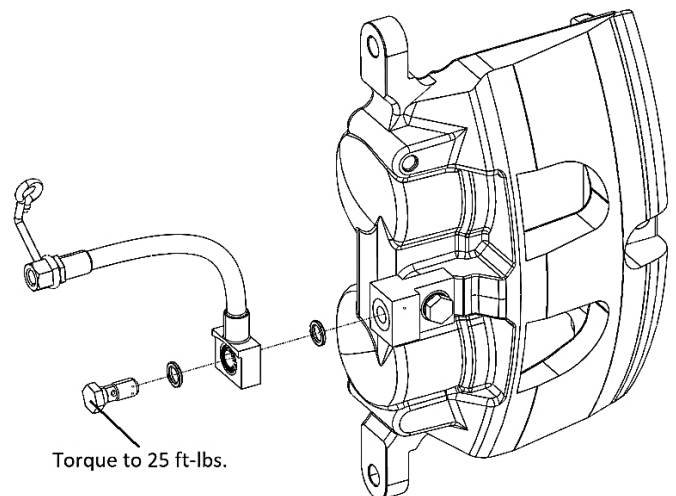
**Figure 2: Installation of Relocation Block**

8. Install the replacement Driver side OEM brake banjo mounting with the supplied crush washer and banjo bolt to the banjo block. Orient as shown in Figure 3. Note: Banjo fitting may be rotated to provide optimal clearance between flexible hose and surrounding parts
9. **Torque banjo bolt to 25 ft-lbs.**



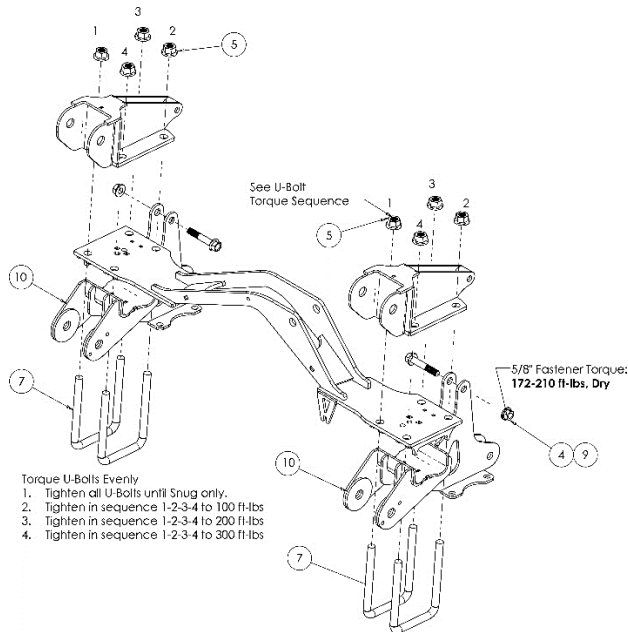
**Figure 3: Installation of Driver Side OEM Brake Line to Relocation Block**

10. Follow steps 3-6 for the RH side.
11. Install the Passenger side OEM brake banjo mounting with the supplied crush washers and banjo bolt to the banjo block. Orient as shown in Figure 4. Note: Banjo fitting must be oriented to provide optimal clearance between flexible hose and surrounding parts
12. **Torque banjo bolt to 25 ft-lbs.**



**Figure 4: Installation of Passenger Side OEM Brake Line to Relocation Block**

13. Install lower axle clamp with hardware as shown in Figure 5.



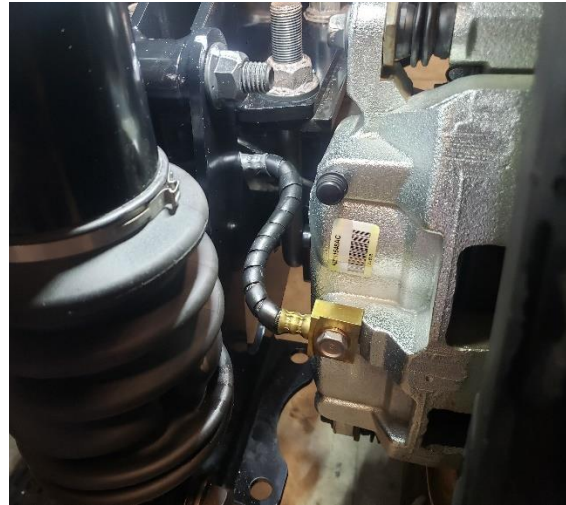
**Figure 5: Lower Axle Clamp Installation**

14. Place the LH Axle Cradle under the axle and loosely attach to the Axle Seat using the 5/8" hardware.
15. Slip the 3/4" U-bolts into position. Lightly tighten u-bolts. Repeat installation for RH side.
16. **Torque, the U-bolt nuts evenly in an X-type pattern in 4 stages:**
  - a. **Stage 1: Tighten snug only.**
  - b. **Stage 2: Torque to 100 ft-lbs.**
  - c. **Stage 3: Torque to 200 ft-lbs.**
  - d. **Stage 4: Torque to 300 ft-lbs].**

**Note: U-Bolt Torques for Dry Fasteners. Reduce torques 20% for use with Anti-Seize.**

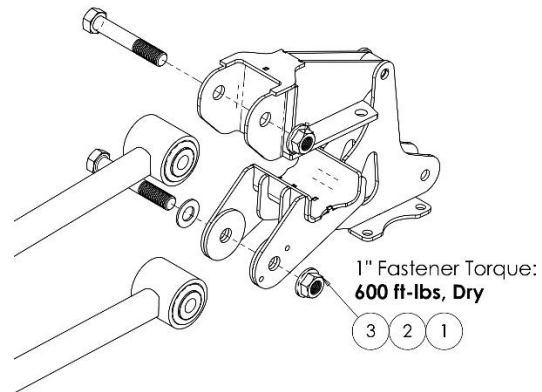
17. **Torque 5/8" fastener to 172-210 ft-lbs.**
18. Install 3/8" spiral wrap around flexible brake lines where they attach to the brake calipers, both Driver and Passenger side. Make

sure the brake lines are routed so they don't chafe any surrounding components.



**Figure 6: Installed Spiral wrap**

19. Re-attach both driver and passenger struts to Lower Axle Seats using bearing spacers and NEW 3/4-10 hardware.
20. **Torque 3/4" strut fasteners to 275-320 ft-lbs, Dry.**
21. Re-attach lower control arms to Lower Axle Seats.

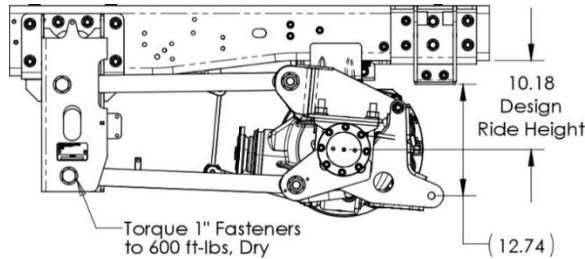


**Figure 7: Re-attach lower control arm**

22. Raise or Lower Axle until Design Ride height is achieved. Ride



Height is approximately when the CL of axle to bottom of frame is 10-1/8", See Figure 8.



**Figure 8: Adjust frame or axle to ride height when tightening control arm fasteners**

23. **Torque 1" Fasteners to 600 ft-lbs, Dry.**
24. Reinstall 80A fuse and reconnect power to the LiquidSpring system.
25. Bleed the brake system. Follow OEM specified brake bleeding procedure. Use Manufacturer specified brake fluid as marked on the vehicle reservoir cap.

NOTE: A pressure bleed system may be used to simplify one-man operation. See Figure 9.



**Figure 9: An example of pressure bleed system: Mityvac MV6840**

## Contact Information

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D11870  
Rev A