

Name of Work Instruction: DART QR1 Valve
Relocation



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Property name and Top bus number: DART 304500 - 306500

Issue: Possibility of the valve freezing.

Reason/ cause: QR1 valve is in the splash zone of the wheels

Solution: Relocate the QR1.



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Number of buses affected: All of 304500 and 306500

Estimate repair hours/bus: 2 hours

Engineering Documentation: N14-35000

Necessary parts:

Item	Description	PN	Qty
01	Adaptor,6MP-10T	500-3838-013	2 Per Bus
02	Elbow,90-8MP-10T	5014174	2 Per Bus
03	Tubing,Air brake, 5/8 red	416.00.3804.918	25 Feet
04	Loom,split,3/4 OD	416.00.3804.971	25 Feet
05	Tubing,Air Brake 1/2 red	416.00.3804.922	4 Feet
06	Loom,split,5/8 OD	416.00.3804.929	4 Feet
07	1" P-Clamp	5002524	4 Per Bus
08	3/4 P-Clamp	5001795	1 Per Bus
09	7/8 P-Clamp	5002523	1 Per Bus
10	10x5/8 Self tap – Hex head	1131811	3 Per Bus

Necessary tools:

Basic hand tools.
Drill with 9/32 drill bit.

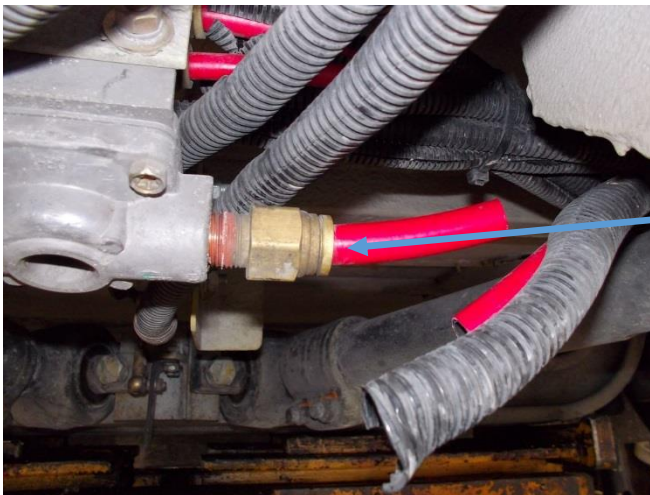
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1. Park the bus and apply the parking brake.
2. Turn off main battery disconnect switch(es)
3. Lift the bus and put on jack stands.
4. Located under the front of the bus forward of the axle you will see the QR1 valve in the center of the bus.



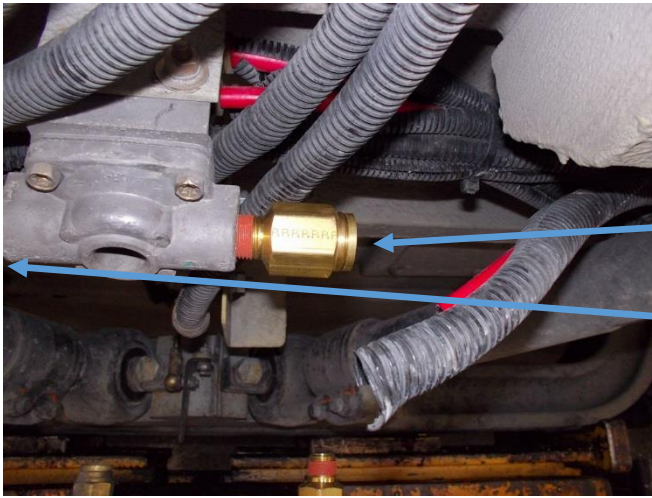
The location of the QR1 valve prior to relocation



Remove the 1/2" line and fitting from the QR1 valve.

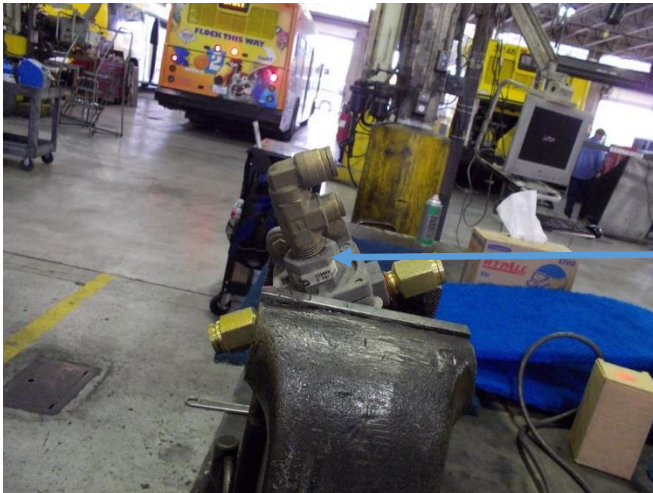
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New fitting to be installed. Repeat above steps on the other side of the valve.

5. Remove the two remaining lines on the top of the valve. Remove the two bolts that hold the valve in place.
6. Put the valve in a vice and rotate the two line connector 180 degrees. Turn clockwise, do not loosen the fitting.



QR1 Valve in a vice and fitting turned 180 degrees.

7. Remove the air fitting and 1/2" air lines.

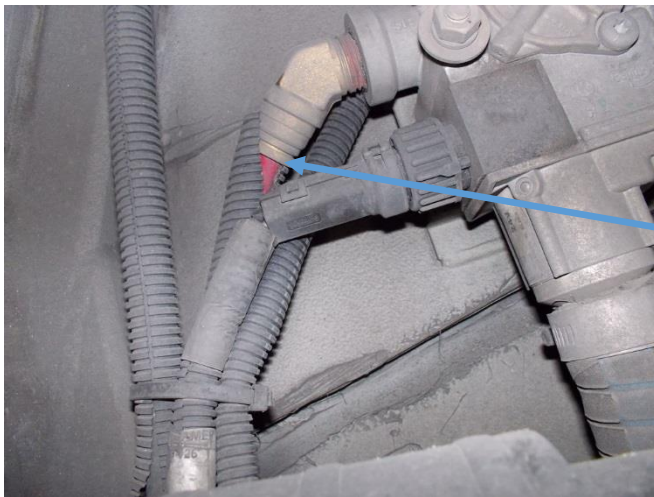
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Remove air fittings and air lines. Repeat this on the opposite side of the bus.

8. At the modulator valve remove the 1/2" airline and fitting. Install the new 5/8" fitting.



Airline and fitting to be removed. Repeat this process on the opposite side of the bus.

9. Install the QR1 valve in the new location located behind the axle above the mud flap using the same hardware you removed.

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New valve location, aft of front axle.

10. Find the two airlines that you removed from the top of the QR1 valve at the C/S front wheel and pull them out to the point shown below.



Pull the airlines out to this point.

11. Replace the fittings at the modulator valve with the larger fitting on the C/S and run new line from the QR1 valve and the modulator valve. Secure the line as shown in the picture below.

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New fitting,
airline and loom
installed and
secured.



The other half
of the C/S
airline installed.

12. On the S/S install the airline as shown below.



New fitting and
airline installed on
the S/S. Secure as
shown

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The other half of the S/S
airline installed. Make
sure to run the new
airline behind the
existing lines. Secure as
shown

13. Connect shop air to the bus have someone depress the brake pedal check for leaks
14. Turn the wheel all the way, in both directions making sure there is clearance between the wheel and the new lines that were installed. If there is no clearance adjust the line until at least 1" of clearance is achieved.
15. Check for completeness of work.
16. Remove all tools from working area.
17. Turn the main battery disconnect switch(es) on.