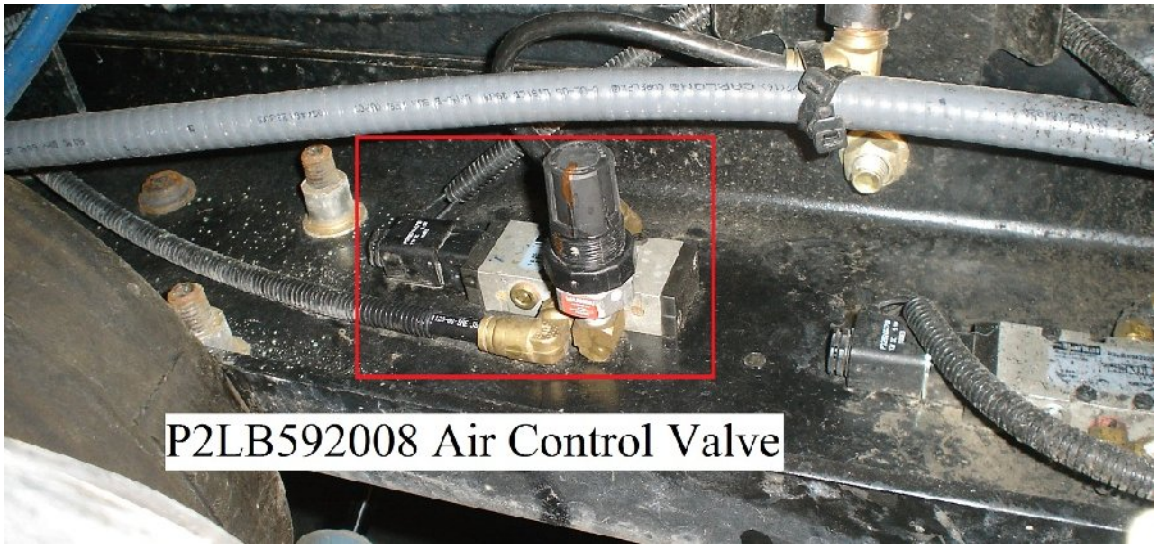
2010 43QGP Allegro Bus

6/16/2012

FIFTY-NINETH - coach modification – **LOW OPERATING PRESSURE CONTROL VALVES.** Since purchasing our coach in January 2011, we have been trying to resolve the front axle over-weight issue which seems to be occurring with our Powerglide 43QGP floor plan. As of this date the front axle has almost completely been rebuilt to increase the axle's weight rating from 14,600# to 15,600#. Both automatic tag axle proportioning valves have been replaced with manual proportioning valves. The Tiffin installed tag axle suspension control valves (P2LB592008) Parker Viking Xtreme Air Control Valves are designed to operate down to 51 PSI, any operating pressure lower than 51 PSI WILL NOT consistently allow the control valve to be energized (dump the suspension air pressure) or when de-energized will not consistently turn OFF the valves air flow as it was designed to turn OFF using a simple return spring for the closing operation.



Our coach operating with the minimum rated operating pressure for those valves (51 PSI) forces TOO much weight to be carried on the coach's front axle. Multiple trips have been made to Red Bay with the normal Band-Aid approach to correcting the problem until our last trip after two weeks we were finally able to gather enough engineers and technicians together in a physical group to get an answer to the problem. The Powerglide chassis engineers (Gary Harris and Brad Warner) called Parker the company which

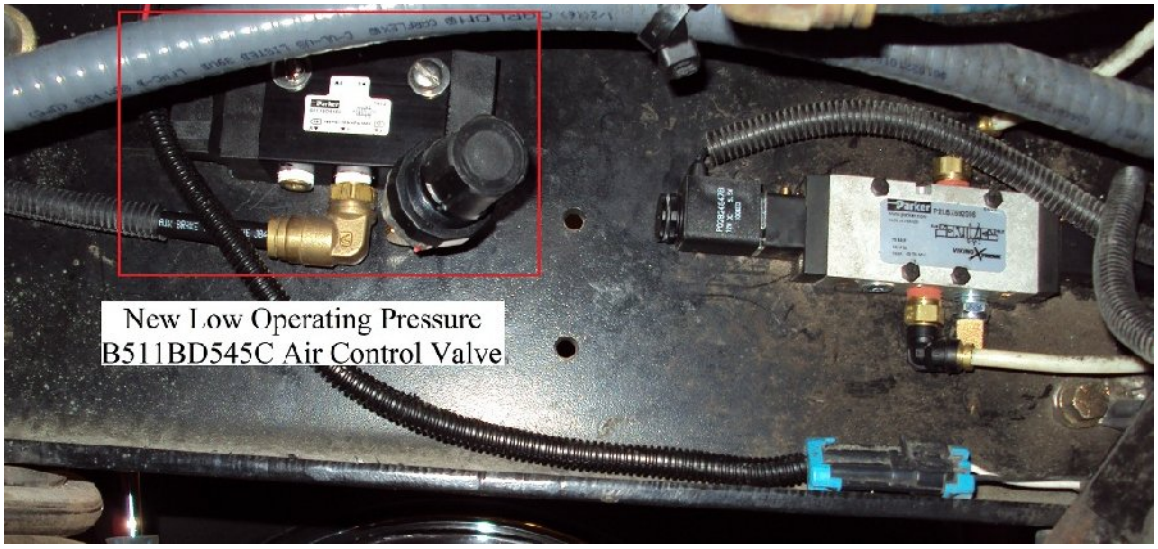
manufacturer's and supplies the air control valves used by Tiffin Motorhomes, Parker makes air control valves of the necessary type which are designed with an operating pressure down to 20 PSI.

After making multiple trips to weigh the coach on both calibrated and non-calibrated scales having the coach's six wheel positions weighed we have been able to establish the ideal tag axle to drive axle weight distribution for our 43QGP coach. To achieve that distribution the tag suspension system needs to carry 30 PSI in the tag axle suspension except while backing or when turning, during these two operations the tag axles air suspension is dumped (no air pressure) to make turning easier and less likely to damage the tag axle tires by scuffing or dragging the tag axle tire's sideways.

The two OEM air control valves could not consistently operate (dump the tag axle suspension) when the tag suspension air pressure had been set at 30 PSI using the manual proportioning valves. To maintain consistency in controlling the air valves the manual proportioning valves air pressure would require setting over 50 PSI which over-loads the coach's 15,600# front axle.

After a phone conversation with Parker, Mr. Harris told me the good news was Parker manufactured the needed valves, the bad news the valves had to be ordered which would take a couple of weeks. Mr. Harris told me they would order the valves and install them during our next Red Bay trip. My response was when you get the valves send them to me I will install them. I was told the valves, mounting brackets and necessary paperwork would be shipped to me. I did receive the valves in a timely manner, without the promised paperwork or brackets to install them as they have a different mounting configuration. A few days ago I decided to quit waiting for the promised parts and began the valve replacement installation. During installation another problem appeared, the new valves were either ordered or just received with a different electrical connection between the chassis and the solenoid so some electrical jury-rigging on my part became necessary to connect the valves to the chassis wiring.

The new air control valves are designed to be operated with a control air pressure down to 20 PSI the valves (B511BD545C) use some of the 30 PSI supply air pressure to return the valve to its NORMAL (no air flow) de-energized state after solenoid control power has been removed. After installation the new control valves were tested multiple times using the cockpit manual dump valve switch and by placing the transmission in reverse to simulate backing the coach. The air control valves were found to consistently operate down to the desired 30 PSI in the tag axle suspension system.



We have not had the opportunity to be on the road with this modification however it is my belief the major issues involving too much weight on the front axle and the intermittent or non-responsive tag axle dump valves have finally been put to rest.

This project has consumed many hours of my time both in actual manual labor and research. Within one week of ownership we had the coach weighed finding it was over-weight on the front axle even if the front axle had been rated for 15,600#. All of the data supplied with the coach stated it had a 15,600# front axle, which after checking the necessary front axle part numbers showed that was not true. The front axle was rated at 14,600#. These are my findings the Powerglide 43' chassis specifically has front axle weight issues when the coach's floor plan is the 43QBP. That front kitchen floor plan IMO cannot help being over-loaded on the front axle even with a 15,600# axle and most have the 14,600# axle under it. The 43QGP rear tile bath floor plan suspension system CAN BE MODIFIED to carry the weight as proven by modifications to our coach. The various modifications necessary to enable unloading weight off the front axle have been one of my projects for over 16 months. It appears based on conversation with 43QRP owners the front axle over-weight issue may be a non –issue as the heavier tile bath floor is carried mainly by the drive axle and not the tag axle.

The bottom line, had I **ASSUMMED** Tiffin's engineering and design department had properly tested the designs I would never have installed (air pressure gauges) on the tag axle air suspension, the same air gauges which constantly demonstrated the problems associated with the Powerglide tag axle floor plan on our coach.

Reference material may be found by clicking on these two locations:

http://www.tiffinrvnetwork.com/crusingator/ABmod/MOD-38-0.pdf

http://www.tiffinrvnetwork.com/crusingator/ABmod/MOD-38-1.pdf