2010 43QGP Allegro Bus

6/23/2012

SIXTY-FIRST - coach modification – **IN PRUSUIT OF RELIABLE TAG AXLE AIR DUMPING.** What can be added to this message? After sixteen months I am still pursuing a reliable tag axle air dump routine. I believe this latest modification will provide me with the correct combination of equipment to achieve reliable automatic operation of the tag axle dump system when reverse is selected and also manual operation of the tag axle dump system when the cockpit switch is depressed, that is what I desired of this coach.

After months of testing we found the Powerglide air dump system could not be trusted to operate correctly, we installed a pair of air pressure gauges they display the actual pressure in each tag axle's air bag at any time. We have finally reached the point of knowing on our coach loaded ready to travel the ideal tag axle air bag pressure is 30 PSI in both air bags, during the tag axle dump routine the air pressure in both bags would drop to 0 PSI.

After proving to Tiffin our coach had a tag axle air dump problem, the first modification replaced the two IS-R119 automatic proportioning valves with two R119 manual proportioning valves. This modification allowed the air pressure in the tag axle air bags to be manually adjusted and set to a specific PSI pressure. Multiple trips over the scales found the optimum operating tag axle air pressure to be between 30 and 35 PSI. I decided to use the 30 PSI pressure setting to reduce the front axle loaded weight by an additional 400 pounds.

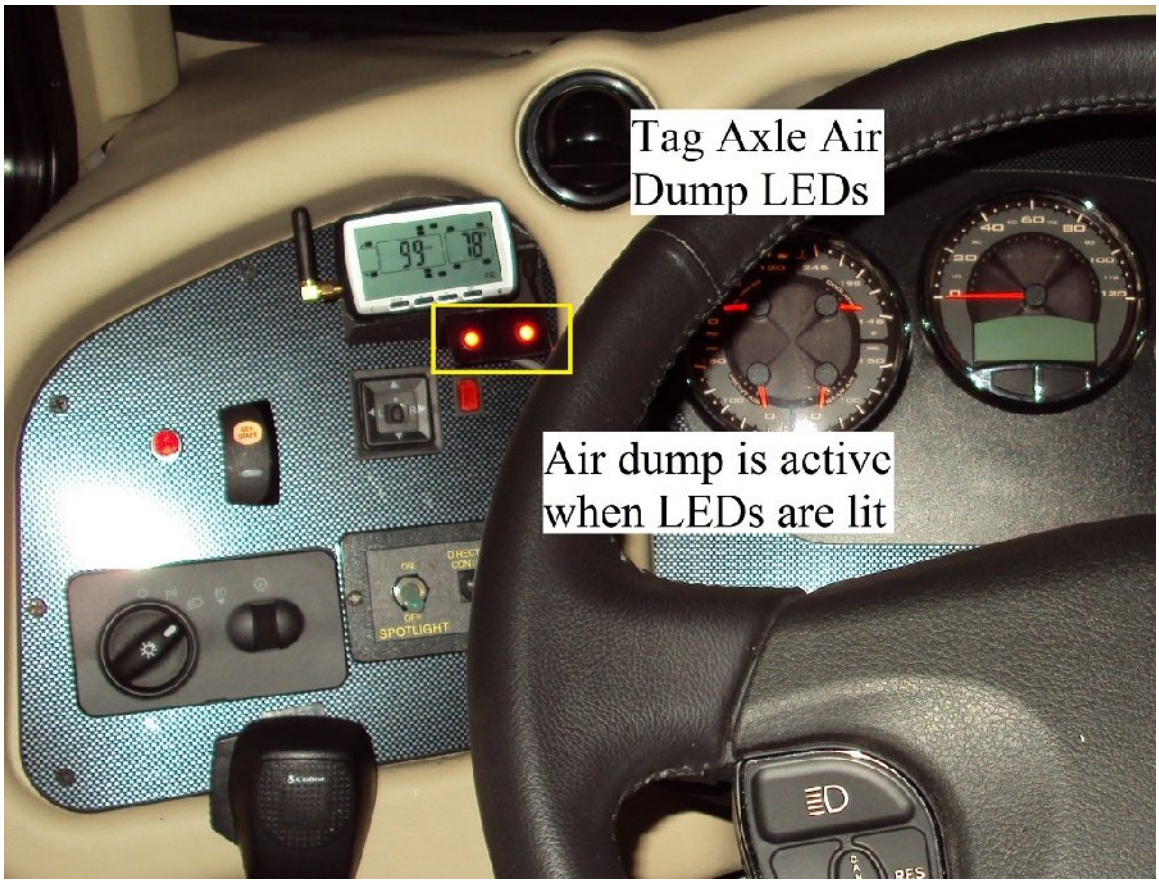
After the manual proportioning valves were installed we left Red Bay to later find the two tag axle dump valves would not consistently dump the tag axle air bags. I was able to obtain a copy of the OEM tag axle dump valve literature (P2LB592008), after reading the valve specifications I found the OEM dump valve was not designed to be used in the lower air pressure settings demanded for the tag axle coach's. After again proving to Tiffin the coach continued to have the same problems and demonstrating to Gary Harris and Brad Warner why the tag dump system could not operate as they had designed it, they contacted their air valve supplier, Parker Pneumatics. The engineers at Parker verified the problem their valve the one used by Tiffin was not designed to operate below 51 PSI. The higher air pressure (51 PSI) was needed for two functions first the higher air pressure was used to assist in moving the valve's spool to dump the air pressure and second the

higher air pressure was also used in assisting moving the spool back to its normal off position. Gary Harris communicated to me the above valve problem, which I already knew about, I had told him about it. During his telephone conversation with Parker they were able to locate a valve manufactured by Parker which could be used at the desired lower air pressure. Tiffin (Gary Harris) ordered a pair of valves for me also telling me it would take about two weeks to receive them. When Tiffin received the valves I asked they be shipped to me for installation. The two new tag dump valves (B511BD545C) were designed to operate down to 20 PSI. Several problems had to be overcome as the promised mounting brackets, two new valve wiring harnesses and literature did not accompany the valves when they were shipped by Tiffin to me.

After waiting a few weeks for the promised items to appear, it was decided to jury-rig what-ever was necessary to install these valves and make this modification work. I was able to make chassis changes to mount the valves along with making electrical modifications to the OEM wiring harness to connect the two new valves.

Finally got everything installed and shop tested. The next testing is on the road. We took the coach to a local shopping center parking lot to perform the various test such as automatic reverse operation, reset the tag air bags air pressure with forward speed and also manually dumping the tag axle air pressure. All tests were performed without any errors, every operation was perfect.

After documenting the modification procedures I decided to add a LED display in the cockpit to display the operation of the two air dump valves and to make sure they were receiving the electrical signal to dump the air pressure in the tag axle air bags. With the jury-rigged electrical connector prior to installing the cockpit visual display I was not worried about the polarity of the two jury-rigged wires on the solenoid. The solenoid would operate with either polarity, however my added cockpit LEDs are polarity sensitive requiring positive 12 VDC so I had to determine polarity in order to wire the LEDs. When the LEDs are illuminated as shown in the photo below the air pressure in the tag axle air bags has been vented down to 0 PSI. When the LEDs are not illuminated the tag axle air bags are filled or have refilled to the desired and manually adjusted 30 PSI.



I am not sure what can be added to this document that was not already covered in previous documents on this issue, is this just a Tiffin Powerglide issue or does Spartan and Freightliner tag axle chassis' have similar issues?

There is little doubt in my mind, Tiffin has a weight issue on most of its coaches especially on the coaches with a tag axle air dump/suspension system Tiffin in my opinion needs to devote more (much more) time to field testing their designs and components before they build a coach to sale to their customers. I am beginning to feel like I volunteered to BETA test our coach for Tiffin. I hope this specific Tiffin problem can be put to sleep and no longer suffer at the hands of Tiffin. I will make sure Tiffin receives my feedback on this issue.

Other Tag Axle Coach Owners need to take note, how can you know for sure your coach's Tag Axle Dump System is operating correctly? The fastest way to know is to install a pair of air gauges on the tag axle air bags. Look at the air gauges after ANY tag axle air dump operation, the gauges should read 0 PSI during the dump cycle and should read around 30 to 35 PSI the rest of the time. To see the air pressure gauges I am talking go to this link, http://www.tiffinrvnetwork.com/crusingator/ABmod/MOD-38-0.pdf the air gauges I installed can be seen on page three.

Other than waiting for Tiffin to ship me a couple of air valve harnesses this project can be put to rest. However I may grow old waiting for those harnesses.