



## 2010 43QGP Allegro Bus

11/7/2011

**THIRTY-EIGHTH** - coach modification - **CONVERSION TO MANUAL PROPORTIONING VALVES**. After several attempts at having our coach properly weighed (all six positions) we finally achieved that goal. However we quickly found the driver side of the front axle was too heavy for the tire and wheel it was mounted on. The weighed weight was **8,239 pounds 409 pounds over the tire's capacity and 239 pounds over the rim's capacity**.

**MOTOR HOME VEHICLE WEIGHING PROGRAM**

**WEIGHT RATINGS FOR COACH, TOAD, HITCH & TOWBAR**

Right Front		Fill in gray areas with your coach's specs				TOW HITCH CAPACITY	
7,800		5,500	6,650			10,000	
15,600	<<<< AXLE RATING >>>>	22,000	13,300				
7,800		5,500	6,650			VERTICAL	
		5,500	6,650			1,000	
Left Front		COACH G.V.W.R:		G.C.W.R:		TOWBAR: TOAD G.V.W.R:	
		50,900		60,900		6,000 5,420	

**ACTUAL COACH & TOAD WEIGHTS - Tire PSFs are calculated**

Right Front		Fill in gray areas with wheel position weights				TOWED VEHICLE WEIGHT	
7,179	#N/A	TIRE PRESSURE	#N/A	8,436	#N/A	4,450	
15,418	<<<< AXLE RATING >>>>			14,352	9,060		
8,239	#N/A	TIRE PRESSURE	#N/A	5,916	4,260	VERTICAL	
						50	
Left Front		COACH WEIGHT:		TOAD WEIGHT:		COMBINED WEIGHT:	
#N/A		38,830		4,520		43,350	

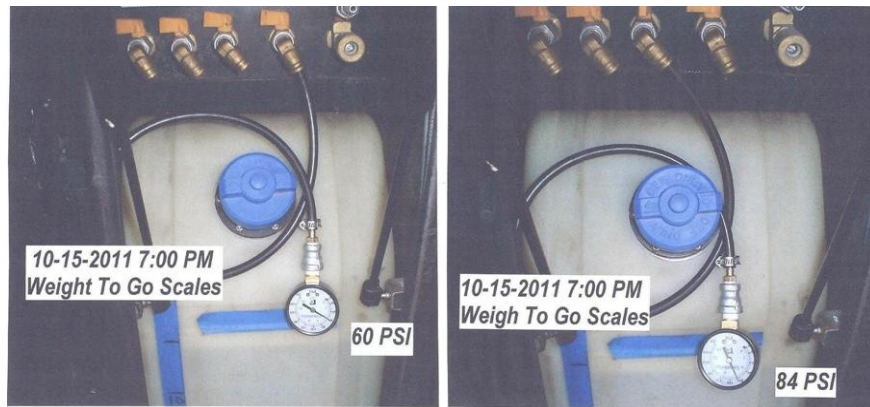
**COMPUTED COACH, TOAD, HITCH & TOWBAR LOAD LIMITS**

Right Front		GREEN NUMBERS = UNDER LOAD LIMIT				TOW HITCH RESERVE	
621		1,282	1,850			5,550	
182	<<<< LOAD LIMIT >>>>	7,648	4,240			VERTICAL	
439	99%	AXLE RATING	65%	2,542	68%	950	
				2,542	2,390		
Left Front		COACH G.V.W.R:		G.C.W.R:		TOWBAR: TOAD G.V.W.R:	
		12,070		17,550		1,480 900	

DATE: 11/17/2011      COACH: 2010 43QGP Allegro Bus      TOAD: 2009 Lincoln MKX

The weights quickly got my attention. Fortunately we were scheduled for an appointment the following week in Red Bay. In an attempt to find out what was happening I assembled various fittings, 3/8" OD air brake tubing and a gauge which was connected to the ping tanks drain valves. Those drain valves are attached to the tag axle air bags the pressure in the ping tanks is also the pressure in the air bags. The air pressure in both tanks **SHOULD** be equal when the coach is on level ground. The pressure was tested several times and the readings were never consistent. At one point the PS air tank

held 84 PSI while the DS tank held 60 PSI. We attempted to weigh the coach a second time, but were unable to drive up onto/mount the scales due to high air pressure in the tag axle's air bags. The drive axle did not have enough weight to drive onto the scales as most of the rear weight of the coach was being carried on the tag axle. The below photos were taken during the attempt to weigh, as previously stated the air pressure was excessive in both air bags. The coach was level during the attempt to weigh.



After explaining the problem at the service center to Kyle and Ricky the automatic proportioning valves were replaced with manual proportioning valves. After replacing the valve's we drove over to the Sunshine Dog Food Plant to weigh the coach. Below is a table of that weighing.

MOTOR HOME VEHICLE WEIGHING PROGRAM											
WEIGHT RATINGS FOR COACH, TOAD, HITCH & TOWBAR											
Right Front		Fill in gray areas with your coach's specs				TOW/HITCH CAPACITY					
7,800		5,500	6,650	5,500	6,650	10,000					
15,000	<<<<< AXLE RATING >>>>>	22,000	13,300	5,500	6,650	VERTICAL					
7,800		5,500	6,650	5,500	6,650	1,000					
Left Front		COACH G.V.W.R:				G.C.W.R:		TOWBAR:		TOAD G.V.W.R:	
		50,900		60,900		6,000		5,420			
ACTUAL COACH & TOAD WEIGHTS - Tire PSIs are calculated											
Right Front		Fill in gray areas with wheel position weights				TOWED VEHICLE WEIGHT					
7,280	115	TIRE PRESSURE	#N/A	9,400	#N/A	4,450					
15,000	<<<<< AXLE RATING >>>>>	18,320	5,740	8,920	2,520	VERTICAL					
7,720	115	TIRE PRESSURE	#N/A	#N/A	#N/A	50					
Left Front		COACH WEIGHT:				TOAD WEIGHT:		COMBINED WEIGHT:			
		39,060		4,520		43,580					
COMPUTED COACH, TOAD, HITCH & TOWBAR LOAD LIMITS											
Right Front		GREEN NUMBERS = UNDER LOAD LIMIT				TOW HITCH RESERVE					
520		800	3,430	800	3,430	5,550					
600	<<<<< LOAD LIMIT >>>>>	3,680	7,560	1,040	4,130	VERTICAL					
90	96%	AXLE RATING	83%	1,040	4,130	950					
Left Front		COACH G.V.W.R:				G.C.W.R:		TOWBAR:		TOAD G.V.W.R:	
		11,840		17,320		1,480		900			
DATE:		COACH:				TOAD:					
10/20/2011		2010 430 GP Allegro Bus				2009 Lincoln MKX					

The automatic valves **SHOULD** distribute the rear suspension air pressure 60% to the drive axle and 40% to the tag axle. The automatic proportioning valves were failing in their job. The manual proportioning valve air pressure was set at 36 PSI by Kyle and Ricky.

Looking at the above weight table it is easy to see a major difference in the front axle weight, especially on the driver's side of the coach.

After we returned home from Red Bay the tag axle air pressure was again tested, the valves were found to be set at 38 PSI on the Passenger side and 30 PSI on the driver's side. The manual valves were again adjusted in hopes they **WILL CONSISTANTLY** maintain 36 PSI in both sides of the tag axle's suspension when the coach is level. The bad part of all of this, we are not anywhere near a set of scales to weigh the six individual positions at this time.

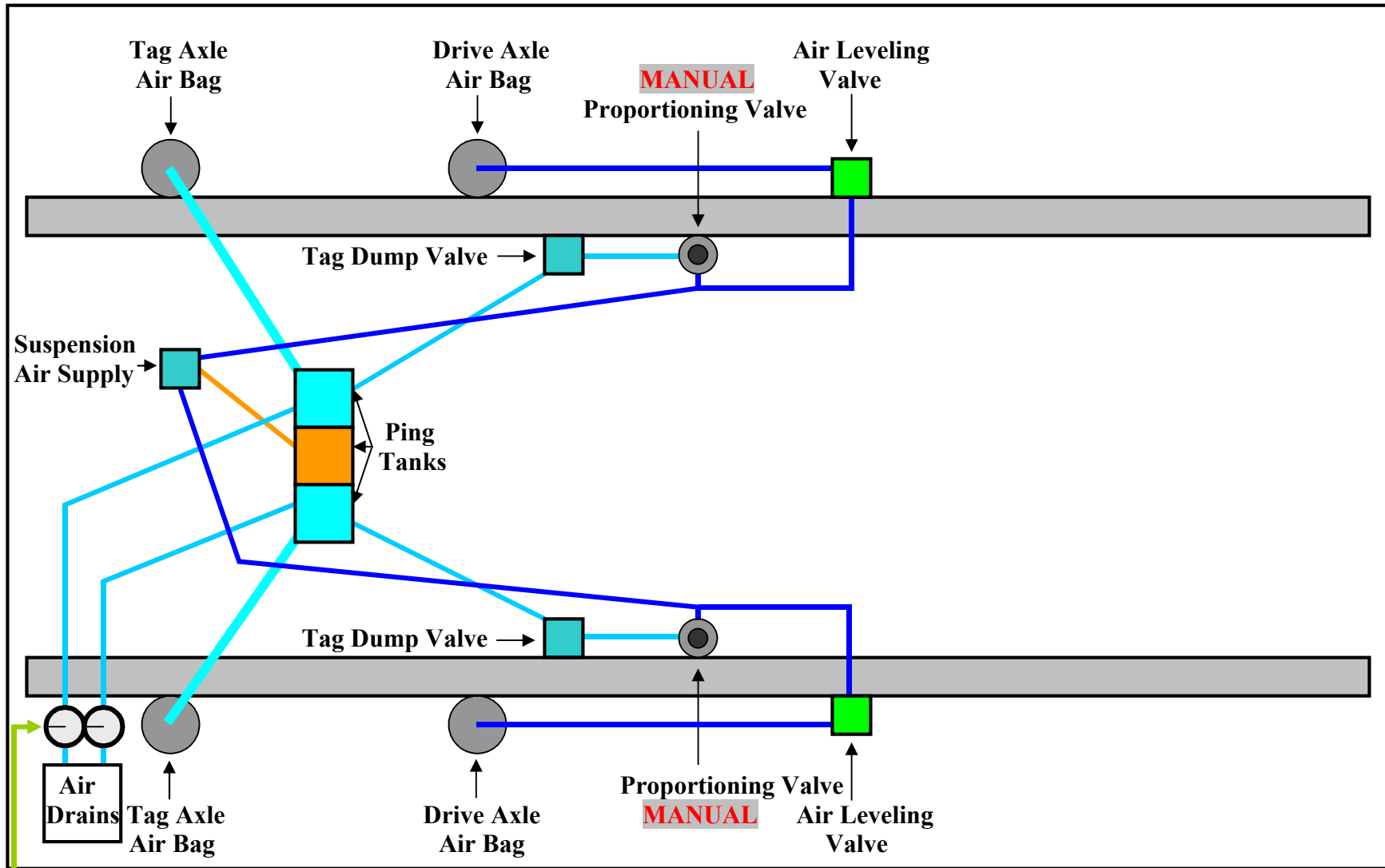


The driving test begins tomorrow we will be on the road for a few days. This permanent gauge setup should allow us to observe what the actual air pressure is in each side of the tag axle suspension. The gauges were installed into the PS and DS ping tank plumbing before the manual drain valves located in the DEF tank compartment.



# MANUAL PROPORTIONING VALVES

## 2010 43QGP Allegro Bus REAR Air Suspension and TAG Dump System



Air Pressure Gauges installed to display PS & DS Tag Axle Air Bag Pressure, PSI set to 32 #.

# AUTOMATIC PROPORTIONING VALVES

## 2010 43QGP Allegro Bus REAR Air Suspension and TAG Dump System

