From: gmclist-bounces@temp.gmcnet.org on behalf of Charles Aulgur
To: GMCnet
Subject: [GMCnet] GMC REAR BRAKE TORQUE REACTION MODIFICATION
Date: Thursday, May 27, 2010 11:22:33 AM

To: Steve and all the other folks that made all those nice comments about my GMC rear brake improvement modification.

I am glad to see that we may be making a little progress in helping people understand how my rear brake modification improves the braking capability of the GMC. This concept that four of us are now driving is not something that fell out of the sky one day. I spent many hours and $ over about three years before I developed the current configuration. I lost count along the way but the current design that is being manufactured by Kim K. is around # 33. I started with the drum brake system using a wooden mockup of the suspension system to determine how much rotation was required for full travel of the suspension. I talked to numerous people at GMC rallies about my concept but the only people that showed any interest was Jim K. and Manny. They loaned me an actual rear bogie with one suspension arm and wheel hub which made it much easier then using my GMC. I developed several methods of attaching to the backing plate but none to my satisfaction, so I decided to try using disc brakes and ordered a set from TSM. That is when I started making some progress. Jim got a little upset because I didn't buy the disc brakes from him but thing started to show some success and I put the first set of TSM disc brakes with my original torque reaction system on my mid axle. I cut a hole in my right side rear fender well and installed my video camera looking down at the front shock which lines marked so I could see the suspension motion. My first braking test showed that the mid axle no longer lifted the rear of the coach. However. I was surprised that my rear tires still slide and was also surprised that my video camera also recored sound which was the best indicator of when the rear tire starts sliding. Running the video frame by frame showed the rear tire started sliding within a fraction of a second of applying the brakes, even though it was not being lifted off the ground. After some thought I realized that rear is pushing down on the suspension rotation pin which results in it taking weight off itself as the braking torque increased. That is when I realized the rear wheel brakes are almost worthless during hard braking as they take weight of of the tire until the tire locks up and that is when you get the flat spots on your rear tires as most people have experienced. The only solution for this condition is to put my reaction arm on the rear wheels. When it is on both rear wheels you gain 1/2 of the braking forces that was being wasted in lifting the coach and you gain the full braking forces on the rear wheels so you double the amount of braking capability on the rear and you will end up with full six wheel braking.

Chuck Aulgur

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