From: gmclist-bounces@temp.gmcnet.org on behalf of Gary Casey
To: gmclist@temp.gmcnet.org
Subject: Re: [GMCnet] The Proof is in the Pudding!
Date: Saturday, October 17, 2009 6:12:05 AM

Rob's comments started me to thinking, not a good thing, as it usually ends up costing money :-). First, the objective of any braking systems is to have all wheels arrive at a locked-wheel condition simultaneously. The fact that Rob slid into the car isn't the whole story - which wheels were locked? The rears and fronts, or only the rears? I assume the middles didn't lock. If they were all locked, even though the rears locked early, the brakes had done all they could do. Granted the leading-trailing arm rear suspension is not a good thing and the parallel-arm conversion is certainly in the right direction - but expensive. The real problem is not that the rears are contributing less than their share of braking (stay with me for a minute on this), it's that the center wheels don't contribute their share. To look at it the other way, the rears don't contribute their share of traction, but they have more than enough braking. In other words, let's
take it as a given that the middles carry much more of the weight (during braking) than the rears. This is a predictable and reproducible effect.

What is the normal way to compensate for this in a braking system? Change the proportioning of the brakes to match the weight carried. Bottom line - change the wheel cylinder diameters. Put larger cylinders in the middle brake and smaller ones in the rear. Result is that the rears would be less prone to lock up and the middles would absorb more of the braking effort. Certainly not as good of a solution as the parallel arms, but a lot cheaper. As the rear drums use standard parts different wheel cylinder diameters might be readily available - and cheap. Has anyone done this?

There would be (at least) two disadvantages with this approach. First is that with the middles doing more of the braking they would get hotter than before and might fade when being used aggressively. The second is that with unequal torque between middle and rear, the rear of the coach would rise on braking. I don't know whether or not this effect would be noticeable or detrimental. It might be that a modest change would make the problem manageable - not fix it, but make it just okay.

Gary

From: Rob Mueller <robmueller@iinet.net.au>
To: gmclist@temp.gmcnet.org
Sent: Sat, October 17, 2009 12:58:19 AM
Subject: Re: [GMCnet] The Proof is in the Pudding!

Ken,

Hypothetical situations:

I am approaching an intersection and the light is green, out of the corner of my eye I see a driver approaching from the left who is on his cell phone and not paying attention. Two seconds later he runs the red light and enters the intersection. I hit the brakes in my standard drum braked GMC. The nose dives, the middle rear brakes raise the rear end causing the rear wheels to skid and I plow into the car!

During the rebuild of my GMC I decide to install all wheel disk brakes and the reaction arm system which will improve my braking. Damned if a month after I get the GMC back on the road another idiot does the same bloody thing. This time when I hit the brakes the front dives but the rear end stays put and the rear most wheels contribute to the braking and I stop before the intersection and not run into the second idiot.