

MD Alignment

Are Alignments on Trucks and Buses a GREEN procedure or a Money Drain (Part 14)

New subject: Mis-mount

This refers to the placement of the tire on the rim, the rim on the hub and the brake drum on the hub. Improper installation of any of these will cause irregular tire wear and vibrations.

The procedure for the proper mounting of the tire is very well covered in any tire manual. The main point I wish to make in this post is that if the tire is not properly mounted it will cup. Having said that, I seldom find tire mis-mount as a major tire wear issue. Less than 1 in a thousand tires that have irregular wear is a result of this problem. It should also be pointed out that once a tire that is mis-mounted and has been driven 4 or 5,000 miles it has been heated and pressured into a new form on the bead and usually will not properly mount even if you break it down and try again.

Proper installation of the rim and drum on a Uni-mount style hub is another matter. At the time we converted from wheels that were stud piloted with ball seat nuts to uni-mount rims and nuts with washers the industry was forced to depend on one centering point instead of multiple points. When you have 8 or 10 centering points with ball seat nuts you have a much more precisely mounted component than when you have only one. The uni-mount hub is manufactured with a maximum diameter that the hub mating surface can be and a tolerance less than that for quality purposes. At the same time when the rim or drum is manufactured there is a minimum size the centering hole can be plus a tolerance larger than that for quality purposes. Only when you have a hub at the maximum and a rim or drum at the minimum tolerances do you get a perfect fitment. Through time, usage and temperature changes the size of those dimensions change for the worse.

When the rim is not centered on the hub you have an off center rotation of the wheel and tire creating an imbalance and a slightly eccentric wear to the tire. The drum off center also produces an imbalance issue plus an irregular drag on the brake shoe which causes an out of round wear of the tire. These



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issues are present in a significant percentage of vehicles with irregular wear patterns.

There are processes and products to help alleviate this problem by manually centering the rim or drum, or converting them back to a stud centered assembly.