

MD Alignment

Are Alignments on Trucks and Buses a GREEN procedure or a Money Drain (Part 15)

New subject: Bent or Distorted Wheels and Spoke Rims

According to the Technology and Maintenance Council of the American Trucking association, Lateral and Radial runout on steer tires should be less than 3/32 of an inch and on drive or trailer tires less than 1/8 of an inch. Since steel wheels are allowed 1/16 inch runout in their manufacture tolerances and aluminum wheels are allowed 1/32 inch, if we combine these amounts with 1/32 inch tolerance in the uni-mount hub system and any variation in the tire mount, there is no room for bent or mis-mounted spoke rims.

Dish wheels and spoke rims can be damaged from impacts, improper tightening of the lug nuts or clips and from heat. Once bent, they cannot be straightened. You cannot bend metal and then straighten it and have it as strong as it was in the first place.

I am sure we have all seen wheels and rims damaged by impact and warped by improper wheel nut and clip torque. Heat damage may not be as common but is a factor non the less. Heat first expands the size of the wheel on the unsupported flange and then collapses at the point of catastrophic failure. When the rim is in the intermediate stage of the heat process, the larger diameter of the rim causes one shoulder wear on the tire and it is usually on the undamaged side of the wheel or rim. This is because the damaged edge of the wheel or rim is a larger circumference creating a drag on the small side of the tire.

One test of this is to stand the tire vertically on the floor as though it had a tire on it and then place a 4 foot straight edge on the rim across both the inner and outer flange of the wheel or rim. Then measure from the straight edge to the ground. If the dimensions are different the rim is swollen and must be discarded. Another test I have seen is to roll the wheel and see if it travels in a straight line. If not it could be swollen.



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Remember, the tire depends on a proper mounting to produce the best results.