



COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from
Pressure Systems International,
the manufacturer of the Meritor Tire Inflation System by PSI™*

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Rubber on the Road - Causes

A spiral bound copy of Volume II of the **Commercial Fleet Tire Digest** is now available.

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In December 2008, The National Highway & Traffic Safety Administration (NHTSA) published a 214-page report entitled "Commercial Medium Tire Debris Study". NHTSA outsourced Virginia Tech Transportation Institute (VTTI) who then subcontracted the University of Michigan Transportation Research Institute (UMTRI) to study tire debris collected from the side of the road at five sites in the US.

The team collected 1,496 "alligators" and their report was summarized in their 214-page publication. There is a lot of excellent general information in the report about new tires and retreads including how tires are built, their individual components; fleets and their tire programs are also discussed. You can download the entire report on the NHTSA website at (www.nhtsa.gov) by searching for report number "DOT HS 811 060". The following are conclusions and recommendations from the study:

The authors examined 300 discarded tire casings from truck stops and 1,196 tire fragments collected from the highway system.

The top three 3 reasons why the 300 tire casings were removed from service were:

1. Road Hazards (32%)
2. Maintenance/Operational Factors (30%)
3. Overdeflected Operation (underinflation) (14%)

Less than 10% of these casings showed any manufacturing or process related conditions. The vast majority of this 10% were retread

process issues.

Of the 1,196 tire fragments analyzed, 18% were from new tires, 68% from retreads, & 14% were undetermined. The top four reasons why these tires failed were:

1. Road Hazards (39%)
2. Excessive Heat (30%)
3. Maintenance/Operation (14%)
4. Manufacturing/Process (14%)

The excessive heat category is due to the tire being run underinflated. There are three reasons why a tire is run underinflated:

- Osmosis through the tire casing
- Punctures in the tread area (very common)
- Valve core leaking

The report's overall study conclusions found that the proportion of tire debris from retreads and new tires is similar to the estimated proportion of retread and new tires in service. While the motoring public believes that the rubber found on the highway (alligators) are always due to unsafe retreads, the study results clearly demonstrate that retreads are just as reliable as new tires. However, if a tire is run underinflated, whether it's a new tire or a retread, it will eventually fail and lead to rubber on the road.

Bottom line: Keeping your tires running at the specified air pressure will significantly reduce the amount of rubber on the road and save you money.

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Q&A PSI ANSWERS YOUR QUESTIONS

Q. I see more and more widebase tires being run on the drive position. Is there really an advantage?

A. Widebase tires like the 445/50R22.5 size continue to grow each year on both drive and trailer position. When used with aluminum wheels, there is a significant weight savings of up to 1200 lbs when these tires are used on the drive/trailer position. Fuel economy is improved (less rolling resistance with one tire vs. two) and traction is same as with duals. Since the drive position is a high torque application, fleets do report less miles to removal but it does vary based on the specific application.