



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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Minimizing Irregular Tire Wear

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*Radial Tire Wear
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Analysis Guide*
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The goal of every fleet is to maximize tire removal mileage. When irregular wear develops on your tires, the result is premature tire removal which directly hits the tire budget. Tires that are run in city type pickup and delivery service tend to scrub the tread rubber off quite rapidly and do not see the frequency of irregular wear compared to tires that are run in slow wearing line haul service. Treadwear measured in miles/32" may be in the 5,000 miles/32" range for a tire that sees city service turning conditions. The same tire design which is running in a straight line from coast to coast with very little turning may see 15,000 or even 20,000 miles/32".

Today's radial truck tires generate many, many miles prior to removal, especially in line haul service. Steer tires commonly see over 150,000 miles, drive tires 300,000 – 350,000 and trailer tires over 200,000 miles to removal. The caveat is that the vehicles must be well maintained, are in proper alignment, and the tires must be running at the specified air pressure all the time.

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So what causes irregular wear? Irregular wear patterns are caused by abrasion in one specific area of the tire footprint instead of a nice distribution across the entire tread surface. Examples of how this happens would include side forces created by too much toe (alignment), tires out of balance, brake skids, and slipping the tire across the pavement during a turn. Some tire designs may be more susceptible to vehicle misalignment and reduced tire pressures. Every time a tire lands in a specific spot on the footprint, the tire will wear faster there.

Even a fleet with a great tire program cannot always control irregular wear because of the many sources of the problem. It has been well documented as to what are the main culprits of irregular wear:

- Alignment
- Equipment maintenance
- Service vocation
- Improper tire maintenance
- Road hazards
- Tire manufacturing

Vehicle alignment is likely the number one and most common cause of early tire removals. Full & fast shoulder wear, one sided wear, and feather wear are all related to vehicle misalignment. It is rare that trailers are regularly checked for alignment and as a result, trailer tires generate a very high amount of early tire removals due to irregular wear.

Equipment which is poorly maintained and may have worn shocks, worn & bent suspension components, and misadjusted air bags all contribute to irregular tire wear. Depressed ribs and lugs, alternate lug wear and rapid shoulder wear can be attributed to poorly maintained equipment.

Failure to have a serious tire program of course will lead to irregular wear. Low tire pressures, unbalanced tire & wheel assemblies, failure to match dual tires will all lead to early tire removals. Cupping and heel/toe wear are signs of tire maintenance issues.

The TMC of the American Trucking Association publishes the premier guide to tire irregular wear and how you can identify the specific cause. The Radial Tire Wear Conditions & Analysis Guide is a must for every fleet.