

Troubleshooting Irregular Tire Wear

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One of the most common issues facing trucking fleets is how to reduce and eliminate irregular tire wear. Tires with shoulder cupping, depressed ribs, heel-toe wear, fast shoulder wear, and just ugly-looking erratic wear will lead to premature early tire removals and will also kill your fuel economy. When tires are not running smoothly and evenly, fuel economy dramatically suffers.

So how do you determine the cause of irregular wear and whether it is tire or vehicle related? The following 10-question game will help you answer that.

1. **Q.** Is the irregular tire wear found on vehicles running in specific service vocations? **A.** Many times it is possible to isolate the irregular wear depending on specific service vocation. Maybe the tires with the shoulder cupping wear are running only on those linehaul trucks going from California to New York. Tires running in regional linehaul or pickup and delivery tend to scrub the rubber off faster and the result is that those tires have even wear.
2. **Q.** How many total vehicles are involved? **A.** If it's just a handful, then it is usually related more to a specific vehicle issue such as misalignment of the tractor and or trailer.
3. **Q.** Are all vehicles with the irregular wear the same make/model? **A.** There is often a direct correlation to unusual tire wear with a specific tractor or trailer make/model. This is very easy to determine.
4. **Q.** What is the specific irregular wear? **A.** If the trailer tires have developed overall erratic wear this is typically due to tires running underinflated. This condition disappears when spec'ing trailers with automatic tire inflation systems.
5. **Q.** What mileage did the irregular wear condition first appear? **A.** Try to determine if there is a correlation between mileage and when the irregular wear first became noticeable.

6. **Q.** Did the irregular wear occur on a specific tire model and size? What tire size and load range? **A.** One of the most important checks is to determine if the specific tire make/model is more sensitive and prone to irregular wear versus a different tire. Tires may appear to be black and round, but tire design and compound has an impact on resistance to irregular wear.

7. **Q.** Does the irregular wear occur on all wheel positions? **A.** If the irregular wear is found on the steer tires where both outside shoulders are wearing very fast, then that points to a front axle alignment issue. If the inside dual trailer tires have cupping and depressed wear, it is probably related to running those inside duals underinflated versus the outside duals.

8. **Q.** Is the irregular wear found on both new tires and retreads? **A.** Retreads will not have the same exact tread compound as the original tire. It is possible the retread design and compound selected is just more prone to uneven wear. If the irregular wear is exactly the same on both the new and retreaded tires, this points to a possible vehicle issue.

9. **Q.** What is the average load in pounds and at what tire pressure do they run? **A.** Air is what carries the load, so if the air pressure specification is too low for the load carried, irregular wear may develop.

10. **Q.** Does the fleet run fully loaded or do they run loaded and come back empty? **A.** The toughest scenario for tires is running fully loaded and returning empty. Since the tire pressure is always based on the worst case load scenario, coming back empty will lead to a small tire footprint especially on those trailer tires with the tire hopping as it goes down the highway. This leads to severe uneven wear.

These are the type of questions which need to be answered to get an initial handle on troubleshooting irregular wear. An excellent source of specific tire irregular wear troubleshooting is recently released Recommended Practice RP252 supplied by TMC of the American Trucking Association.

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