THE INFLATION SYSTEM

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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Commercial Tires and the Summer Season

Enjoy a Safe and Happy Summer

July and August are the two warmest months of the year. As temperatures rise, more and more of the rubber from tires that have failed can be found on the nation's interstate highways. This can become a safety nightmare for both truckers and the traveling public. These "road alligators" are clearly an issue when it comes to potential accidents. Both cars and trucks may swerve violently to avoid running over them. If the driver is not paying attention and it is too late for an evasive lane maneuver the result is potential damage to their own vehicle or another caused from flying debris. So why do tires fail more frequently in the summer versus the winter season? It's because of the heat which is a tire's worst enemy. The rubber compounds begin breaking down when the internal rubber temperature reaches approximately 200F. One of the best things you can do to insure that tires do not heat up too much internally is to keep them properly inflated. When tires run underinflated the result is a longer footprint (more rubber on the road) and more flexing of the tire sidewall during each tire revolution. When high speed and heavy loads are added to that, the result may be catastrophic.

The public generally believes that these road alligators are retreads. This is actually a myth as industry studies of rubber on the road clearly show that it could be new tires or it could be retreads. When a tire is run with low air for an extended period of time the result is another road alligator whether it's a retread or a new tire.

My favorite story on this subject occurred a few years ago on the Florida turnpike when a wife of a state representative ran over a road alligator and damaged her Lexus. The next week there was new proposed legislation in Florida to ban retreads without even determining if it was a retreaded tire that failed. This is exactly how trucking gets a bad reputation.

There is another reason why it is so important for fleets to properly maintain their tires. When tires run underinflated they may not only fail but fuel economy drops significantly along with irregular tire wear leading to early tire removals. When a tire is not running smoothly and evenly, fuel economy will be adversely affected.

So what are the options for keeping a close eye on maintaining the proper tire pressure?

- TPMS (Tire Pressure Monitoring System)
- ATIS (Automatic Tire Inflation System)
- CTIS (Central Tire Inflation System)
- Manual

TPMS systems identify which tire or tires have low tire pressure. A signal is sent from pressure sensor chip mounted either on the wheel or on the tire valve directly to the driver in the cab. Depending on the system, the actual tire pressure may be displayed or it may be either a red light/green light option. Bottom line is that even though the driver has been notified of a low tire event, he still must physically go find air and get the tire repaired. Currently TPMS is a good option for tractor tires.

ATIS systems simply add air to the tire as the vehicle is moving down the highway. The air is "borrowed" from the air tank that is used for the braking system. When the tire is below the specified tire pressure, air is added and a tire warning light lets the driver know that the system is working as designed and air is being added.

CTIS systems are the ultimate tire pressure solution because they can adjust the tire pressure depending on the speed and load. It is not a practical solution for the trucking industry because these systems are very expensive. CTIS is used primarily by the military.

Manual systems rely on the use of a tire pressure gauge to measure the tire pressure. The problem with a manual system is that events can occur after a tire is checked in the morning which adversely affects inflation thus compromising tires during their daily operation.

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