



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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Why Tires Lose Air

**PSI can
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At many trucking operations, this is a big mystery - why do my tires lose so much air?

Our Tire Digest column this month may answer that question for you, and once you fully understand the "why", then you can begin to concentrate on how to maintain the proper tire inflation at all times.

There are four(4) primary reasons why tires lose air:

1. Tire punctures in the tread area are the #1 cause of air loss in commercial truck tires. And it is not catastrophic type failures....it is predominately slow leakers caused by nails and other sharp objects. Tread punctures typically can cause a tire to lose a few pounds of pressure every day. This may not sound like very much but in just a week, a 100 PSI truck tire can be down to 80 PSI. Punctures can occur anywhere but city driving leads to a higher incidence of punctures.

2. Osmosis of air through the tire casing is another reason why tires lose air. Today's truck tires are designed with steel belts and excellent innerliner compounds that are meant to keep air from escaping. However, air will still slowly escape over time, maybe 1 to 2 PSI per month. So in a year, that 100 PSI truck tire will be down 10 to 20% (to 80 - 90 PSI). 20% underinflation can cost you almost 2% in vehicle fuel economy.

3. Leaking valve cores will also lead to a

loss in tire inflation pressure. In addition, these valve cores, in the cold weather, can stick and freeze up - which just makes the problem worse. Many fleets will not even go to the trouble of checking their tires in the winter because of sticking valve cores.

4. The most obvious reason why tires lose air is tire damage primarily due to hitting curbs. Sidewall cuts and snags can lead to loss of air. This condition can be significantly reduced through driver education.

Experts have been preaching for years the importance of inspecting your tires on a regular basis for damage, irregular wear, and inflation pressure. In reality it just does not happen frequently enough....because it takes time, effort, and money to do it properly. Using automatic tire inflation systems which adds air to the tire whenever it is below the fleet's recommended specification, is the only way to insure that your tires are running at the proper pressure at all times. For instance, even with multiple nail punctures (those slow leakers), air is added to the tire as required.

There are serious financial benefits for a fleet to keep their tires properly inflated. Maximizing fuel economy, improving tire removal mileage, improving retreadability, and reducing tire related road side service calls are the critical reasons to keep those tires inflated. Reduce tire expenses and add to the bottom line by keeping tires always at the recommended air pressure is the tip of the month.

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Q & A PSI ANSWERS YOUR QUESTIONS

Q. How do I determine the best air pressure for my tires?

A. Air is what carries the load. To calculate the recommended air pressure for your tires, you must determine the worst case load that the tire will see. For example, if your first trailer axle (4 tires) weighs 18,760 pounds fully loaded, take 18,760 lbs and divide by 4 tires (4,690 lb per tire). Now use the Load/Inflation tables found at the websites of any of the tire companies. A 295/75R22.5 tire would require **90 PSI** to carry the load. Different sizes require different pressures based on the worst case load scenario.