



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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Adding Stuff Inside Tires

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to setup your
Tires 101
Class for
Drivers/
Mechanics

We get many questions from fleets on a regular basis about enhancing tire performance through a plethora of after-market products available in the market.

These products are typically balance materials, puncture sealants, and coolants.

There are many excellent products that can be put inside a tire-wheel assembly but you really need to do your homework before taking the plunge to add any "stuff" to your tires.

Tires properly balanced will lead to a smoother ride and more even treadwear. Today's hi-tech radial tires are made with state-of-the-art production equipment which makes for a very consistent tire. If you checked either the static or dynamic balance of a new tire you would be very impressed as to how good these tires really are built. The issue is that balance will change over time as the tire wears. Uneven wear conditions, vibration, and early tire removals are a possible result of tires out of balance. So, there are "balancing" materials on the market that are added inside tires and are designed to flow into the low spot of the tire and improve ride. Some balancing materials even include golf balls but trust me on this one, golf balls will flatten out over time and its sharp edges will damage the sidewall.

Tire puncture sealants are very popular with those fleets that do a significant amount of off-road driving or even with those fleets whose vehicles hit the back roads only occasionally. One tire company offers a sealant built into the tire during manufacture. Aftermarket tire sealants are added typically through the tire valve. These aftermarket sealants have a high viscosity so if a nail punctures and stays in the tire, the goal is for the sealant to surround the hole and stop the leak. If the nail comes out, the sealant material should flow inside the hole and prevent

the tire from further air loss. If you retread your tires and use these compounds, you need to realize that you will have to clean up the sealant material prior to the retread process. If you do choose to add sealants to your tires, it's always good practice to verify that the tire valve stem assembly is not contaminated with sealant material, which could lead to loss of air pressure.

The last type of material that can be added to tires are coolants to keep the tire running cool to maximize treadwear and increased retreadability. Adding coolants should not be necessary if tires are running at the proper inflation all the time because the tire will run at the design operating temperature. However, if the tires run underinflated, tires will heat up causing early tire removals. Many fleets now use automatic tire inflation systems which add air automatically while driving down the highway to keep the tires running cool and preventing tire related roadside service calls. If you do add some sort of coolant material, make sure it has been tested and does not damage the tire innerliner.

It is very important to determine if you add ANY material inside the tire that it does NOT ADVERSELY affect the tire innerliner. The innerliner is typically a butyl rubber compound that protects the casing from air migration. There are many chemical compounds that can attack the butyl rubber and cause damage which could lead to premature tire removals. So if you are adding material into your tires, you need to check the specification sheets provided by the supplier to be sure the material will not interfere with the innerliner. You should also check with your tire provider to get their approval that the material being added inside the tire is OK. However, because there are so many products available today (and more being added all the time) your tire manufacturer may not have evaluated the specific material for your tires. Do your homework and check with other fleets for their experience. Be sure to gather as much information as possible before making a final decision.

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