



# 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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## Diesel Fuel on the Rise

NHTSA reports, at the Annual TMC Meeting (2/10/2011), a **1.4%** increase in fuel economy in controlled testing with ATIS and TPMS

This month diesel prices are reaching above \$3.50; and with the current unrest in the Middle East, the forecasts are for prices to continue to escalate. This is not a good scenario for keeping the #1 fleet maintenance cost, fuel, in check. The #2 maintenance cost next to fuel is tires so it is a good time to review your tire program to insure that you are doing all the right things to maximize fuel economy.

Maintaining proper tire pressure will have the most impact on maximizing fuel economy. Numerous industry studies all show the same result: If you run 10% underinflated it will cost you about 1% in fuel economy; 20% below the proper pressure equates to about 2.5% drop in fuel and if you were 30% underinflated you are looking at over 4% loss in vehicle fuel economy. A common scenario, especially on trailers, is to have the outside dual tire at 100 psi while the inside dual is 70 psi. This unequal air pressure on the same axle will magnify the drop in fuel economy because the tire with 70 psi has a different RPM versus the 100 psi tire, resulting in irregular wear developing very quickly. When you have a tire with shoulder cupping instead of smooth even wear, the fuel economy gets worse.

A typical radial 295/75R22.5 tire with 100 psi has a tire footprint (contact patch) about 7" long. When that same tire is running at 70 psi (30 percent underinflated) the footprint length increases to

8.25". That is 18% more rubber on the road. More rubber on the road will increase the tire rolling resistance leading to the drop in fuel economy. For every increase in the footprint length, there is a corresponding drop in fuel economy.

Filling the tires initially with the proper air pressure isn't enough because tires lose air regularly because of these three primary reasons:

- Osmosis through the tire casing ( 1 – 4 psi per month depending on specific make/model)
- Tread area punctures ( 2 -3 psi or more per day)
- Valve core/stem

The question is how often should I be checking my tire pressures: every day, every week, every month or only during the PM? It depends. You can take the time to check every tire before leaving in the morning, but one can run over a nail at any time... even just leaving the yard after spending 15 minutes checking air pressure in 18 tires. And, when you check a tire, you need to be using a calibrated tire pressure gauge.

You should work with your tire professional to insure that you have a serious tire inflation program. TPMS (Tire Pressure Monitoring Systems) and ATIS (Automatic Tire Inflation Systems) are all options to keep those tires running at the recommended tire air pressures.

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## Q&A PSI ANSWERS YOUR QUESTIONS

**Q:** What air pressure do you recommend I run for my widebase trailer tires?

**A:** It all depends on what is your worst case load scenario. Check the load inflation tables provided on the web sites of any of the tire company websites.