



# 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™*

VOLUME 9 ISSUE 8

AUGUST 2015

## Greenhouse Gas (GHG) Emissions Phase 2 – Tires & Automatic Tire Inflation Systems

P.S.I. has  
recognized  
Wabash  
National and  
Utility Trailers  
with Annual  
Excellence  
Awards



.....  
**Visit us On-line**

For current and back  
issues of  
**Commercial Fleet  
Tire Digest**

And to subscribe or  
submit your  
inquiries to be  
answered here, go to

**www.  
psitiredigest  
.com**

Last month the Tire Digest discussed the June 2015 GHG Phase 2 Proposed Rule-making along with the associated updated Greenhouse Gas Emissions Model (GEM). The 1,329-page proposal is so detailed because it covers both tractors and trailers. It reviews different objectives/goals for various tractor and trailer configurations including linehaul and vocational service vehicles. The proposed rulemaking also includes different objectives depending on the tractor or trailer model year production.

The Greenhouse Gas Emission Model (GEM) allows vehicle producers to insert numbers for the assorted variables that will affect fuel economy and greenhouse gas emissions. Factors such as engine, vehicle configuration (6X4 versus 6X2), vehicle drag coefficient, vehicle weight reduction, low rolling resistance tires, and the use of automatic tire inflation all play a role in increasing fuel economy. As an example, the GEM model assigns a 1% increase in vehicle fuel economy if automatic tire inflation is spec'd on the tractor and 1.5% increase in fuel economy if tire inflation is used on the trailer.

Low rolling resistance tires are recognized as having an impact on vehicle fuel economy. The rulemaking notes on page 182 that differences in rolling resistance of up to 50% have been identified between tires of one make/model versus a different tire make/model. However, just because a tire is marketed as "low rolling resistance" does not guarantee the actual best fuel economy in the real world because not all tires are the same based on

the tread compound material, design and construction. It is important for fleets to do their own fuel economy testing to confirm results of specific tire models for their operation.

Low rolling resistance tires typically have a price premium attached because of the higher priced raw materials required to maximize fuel efficiency. Keeping tires properly inflated all the time is the only way to assure that these fuel efficient tires perform as expected. **Running a low rolling resistance tire underinflated eliminates any fuel economy benefit.**

Page 187 of the proposed rulemaking details information about automatic tire inflation systems. Proper tire inflation is CRITICAL to maintaining proper stress distribution in the tires, which reduces heat loss and rolling resistance. Tires with reduced inflation pressure exhibit a larger footprint on the road, more sidewall flexing and tread shearing, and therefore, have greater rolling resistance than a tire operating at its optimal inflation pressure. A ten psi reduction in overall tire inflation results in about a 1% reduction in fuel economy. To achieve the intended fuel efficiency benefits of low rolling resistance tires, it is critical that tires are maintained at the proper inflation pressure.

Tire pressure monitoring systems are also addressed in the rulemaking. TPMS notify the operator of tire pressure but require the operator to manually inflate the tires to optimum pressure. Because of the dependence on the operator's action, the agencies are not proposing to provide a reduction value for tire pressure monitoring systems.

### Q&A PSI ANSWERS YOUR QUESTIONS

**Q.** I am spec'ing low rolling resistance drive tires on my tractor. Fuel economy is up almost 2% but my drive tire removal miles is down over 40K. Is this typical?

**A.** Many low rolling resistance drive tires have an initial tread depth several 32nds lower compared to the standard version (26/32 vs 30/32). In linehaul service each 32nd represents approximately 10 to 15,000 miles. This will account for your lower miles to removal.