



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 4 ISSUE 10

OCTOBER 2010

What Pressure Should I Be Running?

PSI reports record sales for MTIS™ though September with ThermALERT™ option now 41% of production

The most common question being asked by fleets today is: "What pressure should I be running my tires?" It sounds pretty simple but the choice for tire pressure can have significant impact on a fleet's tire budget. Commercial truck tires are designed so that the optimum tire footprint is the key to long tread life and good fuel economy. However, the tire footprint changes once the tire is put into operation depending on the actual tire load. Air is what carries the load and as a result the recommended tire pressure must be based on the worst case load that the tire will actually carry. The important piece of the puzzle is that a fleet must determine the actual worst case load per tire, not vehicle, for steer, drive, and trailer positions.

As an example, let's say you are running a typical 18 wheeler with a maximum load of 80,000 pounds GVW. You will need to run over a scale to determine how the 80,000 pounds is distributed across each axle. Then you'll need to divide by the number of tires on each axle to determine the actual tire load. A typical distribution for an 80,000 pound GVW load is:

- Steer 12,000 lbs or 12,000/2 tires = 6,000 lbs/tire
- Drive 34,000 lbs or 34,000/8 tires = 4,250 lbs/tire
- Trailer 34,000 lbs or 34,000/8 tires = 4,250 lbs/tire

In this scenario, assuming all tires are the same size (295/75R22.5), the steer tires will have a different pressure specification than the drives and the trailer tires. There still are many fleets that want to spec a single pressure for all their tires because it is easy.

However, this is not the recommended solution since it won't give you the best value for your tire dollars.

Once you have the lbs/tire calculation, the next step is to look up the recommended pressure in the load-inflation tables that are published on the websites of all the tire manufacturers. To use these tables, you must know the worst case load and the tire size. There are also different pressures depending on whether the tire is being run as a single (usually steer) or a dual (usually drive and trailer). You just need to be careful in reading the chart. Example chart below:

In our example, the steer tire maximum load is 6,000 lbs. When you look at the "single tire line" on the chart you would see that 105 psi would be too low for these tires since the max load is only 5980 pounds. The correct pressure is 110 psi because that pressure will carry up to 6175 pounds. For the drive and trailer tires, the worst case tire load is the same for all tires on those axles - 4250 pounds each. You need to look at the dual tire line to determine the correct pressure. Surprisingly, all you would need is 75 psi in each tire to carry the load. Many fleets run as high as 105 psi in drive and trailer tires. But you can see from the load/inflation table below that 105 psi is not required to carry the load, and would not give you the best results. The tire footprint becomes shorter at the higher pressures so the tire shoulders will not be in full contact with the ground leading to fast shoulder wear and early tire removals. Understanding load/inflation tables will help you make the correct decision in choosing the optimum tire pressure for your fleet.

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**

EXAMPLE LOAD INFLATION TABLE

PSI	70	75	80	90	100	105	110	120
DUAL (lbs)	4095	4300	4540	4885	5260	5440	5675	6005
295/75R22.5---								
SINGLE (lbs)	4500	4725	4940	5370	5780	5980	6175	6610