THE INFLATION SYSTEM

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 5 MAY 2010

Tire Pressure Gauges - Accuracy of Dial versus Stick

In the April 2010 edition of PSI Tire Digest we took apart a stick pressure gauge to analyze why there is variation from gauge to gauge. You may be able to get more accuracy if you purchase and use a pressure gauge that has a dial indicator. However, even though these gauges are almost always more expensive their accuracy is not always guaranteed either.

Next time you go to purchase a tire pressure gauge with a dial indicator, take a close look at the packaging for information regarding gauge accuracy. A common gauge accuracy is ANSI B40.1 Grade B. What does that mean? ANSI is the acronym for the American National Standards Institute. It is a private non-profit organization that oversees the development of voluntary consensus standards for products in the United States. B40.1 is the specific standard that has been issued for pressure gauges. Dial pressure gauges have four grades of accuracy: A, B, C, and D (A is the highest).

Dial gauges have two different accuracy ratings based on taking a reading in the middle half of the scale versus the upper/lower one quarter of the scale. If a dial gauge has a range of 0 to 160 (common for truck tire gauges), the middle half of the scale would be readings from 40 to 120 PSI. In the middle of the gauge, Grade A has the best accuracy of +/- 1%. Grade B is +/- 2%, Grade C +/- 3%, and Grade D +/- 4%. Measuring tires outside the middle range decreases the accuracy to +/- 2% for Grade A. Grade D gauges would only have an accuracy of +/- 5% in the upper/lower one quarter of the gauge. +/- 5% accuracy does not sound so bad until you realize that a truck tire with 100 PSI could read anywhere between 95 – 105 PSI using a Grade D accuracy gauge.

The ANSI standard also talks about the incremental units on a dial gauge. If the gauge is graduated in single PSI increments, you might think that the gauge is accurate to +/- 1%, but that would be incorrect as the PSI increments on a gauge are not necessarily reflective of the accuracy grade as described above. For a gauge that has a range of 0 to 160 PSI, the ANSI standard says that a Grade B gauge should be in PSI increments of five. Industry standards aren't always followed by gauge manufacturers –as my recent experience bears out – I purchased several dial type pressure gauges and each had different PSI increments. If you are shopping for a dial pressure gauge and there is **no information** regarding the accuracy on ones you are looking at, you need to reconsider your purchase and find a gauge that clearly mentions the grade of the gauge or actually lists the accuracy as a percentage.

Q&A PSI ANSWERS YOUR QUESTIONS

Q. I see more and more fleets using widebase tires (445/50R22.5) on trailers. What is the big advantage?

A. Weight savings and fuel economy are the two(2) biggest advantages of widebase tires versus duals. One tire is replacing 2 duals so you have a significant weight savings, especially if you use aluminum wheels. Most fleets also see a nice advantage in fuel economy when using these tires, especially when diesel is around $3.00 per gallon.

Wabash National Trailer Wins PSI's 2009 *Athena* Award

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