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Should You Stop Putting Air in Your Tires?

Regular readers of *Tire News* know that we often talk about the importance of proper tire inflation in this column. In fact, it is the single most important thing you can do to help your customers maintain their tires. But should you stop putting air in tires and convert to Nitrogen? Are the benefits there to support the investment for both the tire retailer and the consumer?

Inflating tires with Nitrogen is not a new idea. Nitrogen has been used to inflate airplane tires and racing tires for a number of years, but it's only recently that Nitrogen gas has become more readily available and cost-effective for a local tire retailer to even consider incorporating it as a value-added component of his business.

Here are a couple important consumer benefits to using Nitrogen which may make it a viable alternative to air:

1. More consistent tire pressure

Many people understand that tires can and do lose air through a faulty or dirty tire valve, or through a bent rim. What is not as well understood is that air can also naturally permeate through the inner liner, fabric and tread rubber, because the air molecule is simply so small. Nitrogen, on the other hand, is a relatively larger molecule and does not seep through the inner liner as readily. It may take six months to lose 2 PSI using Nitrogen, but only about a month to lose a comparable amount of air.

2. Less moisture

In addition, it is well understood that tires filled with air can fluctuate as much as 2 PSI for every 5°C change in ambient temperature. Why? Air often contains moisture, which naturally absorbs heat. This explains why tires with a lot of moisture tend to run hotter and have higher pressure readings, though when the tires are cold, the moisture turns to water vapor, which reduces the pressure. Nitrogen will have less moisture and hence less contraction and expansion in extreme temperatures. The real-life scenario we hear about all the time is of a vehicle with new tires installed that goes outside in the dead of winter. The next morning, the tires are riding on the rims because the air pressure is so low. This is much less a concern with Nitrogen and a real benefit to motorists.

Moisture has another insidious effect on tires and wheels because it leads to oxidation and promotes aging from within, which suggests reduced tire life and performance.

The *Tire Retread Information Bureau* issued a news release on August 13th, 2005 titled "Why Inflating Tires With Nitrogen Makes Sense". They stated: "Among the benefits of Nitrogen inflation: less inflation pressure loss for a more stable, consistent tire pressure; cooler running tires; longer tread life; less oxidation of tire components, and reduced rim and wheel corrosion. The result is increased tire life, improved fuel economy, reduced tire aging..."

The big question

Why hasn't Nitrogen made it to the mainstream consumer until recently? The ability to store pure Nitrogen in a compressed form was an expensive proposition. With the equipment becoming more affordable, many tire dealers are investing in Nitrogen tanks to provide their customers with a choice. The general motoring public is starting to ask questions about the use of Nitrogen and it is important to provide consumers with the proper safety message. Although Nitrogen allows for a more consistent tire pressure for a longer period of time, it remains imperative that consumers measure the pressure in their tires on a monthly basis and adjust as necessary by following the recommended tire pressure on their vehicle's tire information label.

Although you can add air to a Nitrogen-filled tire, if you wish to regain all the advantages of pure Nitrogen, you will need to visit your tire dealer to have the tire emptied and refilled. Under-inflation is the leading cause of tire failure and is responsible for over 1 million tons of unnecessary greenhouse gas emissions entering our atmosphere. Over-inflation is also on the rise because people look too often to the tire sidewall for their correct tire pressure. In some cases, this misconception is never corrected. Be sure to ask your customers if they have checked their tire pressure this month, and refer them to the tire information label on their vehicle. TN

For more information on this and many other tire tips, visit www.betiresmart.ca.