

Nitrogen is nifty for holding tire pressure

By Suzie Romig Clean Energy Economy News

The next time you buy new tires, the shop owner may inform you that they use nitrogen for inflation. That's a good thing.

Nitrogen, which makes up 78 percent of our atmosphere, is a larger molecule than oxygen, so it cannot escape as easily as oxygen through porous tire walls. So nitrogen helps keep tire pressure steady at the correct level for a longer time.

That's an advantage for average folks who don't check their tire pressure on a regular basis. (Some new cars have sensors that automatically alert drivers when a tire is low, but not all cars have that technological prompt.)

Consistent tire pressure yields fuel savings

Mechanics know that properly inflated tires yield better mileage and fuel savings. Bill Mitchell, the general manager of Big O Tires in Glenwood Springs, said he advises drivers to check their vehicle's tire pressure every two weeks. Mitchell said tires can lose as much as 50 percent of their inflation pressure and still not appear visibly flat.

National Highway Traffic Safety Administration studies show that 27 percent of passenger cars and 32 percent of pickup trucks, vans and sport utility vehicles are driven on U.S. roadways with one or more substantially under-inflated tires.

The Department of Energy noted that of the estimated 130 billion gallons of fuel used in passenger cars and light trucks in 2005, about 1.2 billion gallons were wasted as a result of motorists driving on under-inflated tires.

The best time to check tire pressure is when the tires are cool, before lots of driving.

Nitrogen maintains tire pressure without regular top-offs

Using pure nitrogen to inflate tires is nothing new. Airplane tires, which get deeply chilled while the planes are flying at high altitude, and race car tires, which get extremely hot on the race track, have been inflated with pure nitrogen for years.

Now, ordinary car and truck drivers have the option of nitrogen-inflated tires.

Several tire sellers in the region, including Big O Tires and Costco, offer their customers nitrogen inflation with new tires or for service on tires purchased there. Big

Nitrogen facts

Nitrogen in Earth's atmosphere: 78%

Pure nitrogen used to inflate tires: 95 to 99%

Tire inflation changes due to temperature: 1 to 2 lbs up for every 10 degrees in warm weather; 1 to 2 lbs down for every 10 degrees in cold weather

O Tires has been offering nitrogen for about two years, said Earl Nickerson, a company trainer.

“The advantages are it keeps tires cooler in summer, with less fluctuation from summer to winter in pressure, and gives better rolling resistance and possibly better gas mileage,” Nickerson said.

Jared Engles, front end manager at Costco in Gypsum, said the store has offered nitrogen since it opened in 2006.

“We’ve had really good luck with it,” Engles said. “It has definitely helped us as far as installation goes, because we have a drier product.”

The nonprofit [Get Nitrogen Institute](http://www.getnitrogen.org) in Denver lists other advantages on its comprehensive web site: www.getnitrogen.org.

Some tire store managers are not sold on the idea, however. They say regular air in tires is largely nitrogen anyway. The high-tech nitrogen generators used to create 95 to 99.9 percent pure nitrogen from air are costly, so some mechanics say the return is not worth the cost.

Steve Day, manager at Discount Tires in Grand Junction, said nitrogen is not a bad thing for people with busy lives, but “it’s not that big of an advantage.”

“You still need to maintain your tire pressure,” Day said.

Costco manager Engles said he found that his personal car tires filled with nitrogen lost only 1 pound of pressure in four of five months. Air-filled tires can be expected to lose from 5 to 10 pounds of pressure over the same period, as air permeates through the tires.

Nitrogen inflated tires get colorful green valve stem caps, but can still be topped off if necessary via a standard air compressor.

Big O Tires manager Mitchell said his shop will refill tires not purchased at the shop with nitrogen for \$5 per tire. That’s a charge that may not be necessary for drivers who check their tire pressure regularly.

In short, if you can get nitrogen inflation at no added cost, go for it. If you rarely check your car’s tire pressure, consider investing in a refill and then track your gas mileage to measure the results.