

Tire News

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Drexan: The Results Are In

Nitrogen: Saving Money, Fuel and Tire Wear



With the price of fuel these days, companies are doing all they can to conserve resources. But even the best maintenance programs can go further on Nitrogen, says Drexan vice president Konrad Mech.

Along with his brother André, Konrad Mech researched and authored a study, which he presented at the 23rd annual Clemson University Tire Industry Conference in South Carolina in March 2007. The study shows that, on average, truck tires filled with Nitrogen improve fuel efficiency and increase tread life when compared head-to-head with air.

Benefits even with a maintenance program

"Nitrogen provides significant benefits even where people spend considerable time and effort maintaining tire pressure," Mech says. "The consensus is that this is the first and only real-world data that exists on the actual benefits; all the rest has been lab data."

The study comprises over 177 million tread km for 1,988 tire positions, using tires with steel belt radial construction.



"The findings are dramatic," Mech says. "With both gases running in a fleet with an aggressive maintenance program, the tires inflated with Nitrogen produced an improvement of approximately 2/10ths of mpg in fuel efficiency. We proved this finding using two separate methods."

In the tires inflated with air, a control group of 452 tire positions showed an average of 5.38 mpg, and with 26,623 km per 32nd of tread wear.

A group of 836 Nitrogen-filled tires, however, produced 5.56 mpg, with 49,748 km per 32nd of tread wear.

Impressive results

"These results show a 3.3 percent increase in mean fuel efficiency for Nitrogen-inflated tires over compressed air, and an 86 percent increase in mean tread life for Nitrogen-inflated tires over compressed air," Mech says. "However, both these metrics are obtained in a fleet that already has a tire pressure maintenance program in place."

Compared to historical data, the figures are even more impressive, Mech says: in a fleet without a tire pressure maintenance program, fuel efficiency increased to 6.1 percent with Nitrogen.

Dollars and sense

Mech also investigated if the extra cost of Nitrogen could be justified by the performance. The test fleet in the study,

Harris Transport of Winnipeg, Manitoba, paid \$8,500 to convert 65 percent of its fleet to Nitrogen. During the trial, the additional fuel efficiency translated to a savings of over 500,000 litres of diesel fuel, or roughly \$425,000 in fuel cost savings alone. The extended tread life also decreases the cost per km dramatically, allowing the company to defer actual cash flow for its fleet. "In a tight margin business, a dollar saved is better than ten dollars earned in the top line, because there are no cost-of-sales associated with the savings," Mech says.

"Assuming that at some stage the owners would like to sell their company, the true value of Nitrogen tire inflation is not just the cost savings. The true value is the savings that drop to the bottom line of the business as earnings, multiplied by the appropriate business multiplier. For this particular business, the enterprise value of converting to Nitrogen tire inflation is worth over \$1,060,000 for the period of the trial, excluding tire savings. Annualized savings would be greater, since Nitrogen inflation maintenance is less expensive than fleet conversion.

"The fact that the long-haul results are dramatic indicates that all fleets will experience benefits," Mech concludes. "We're talking to people who think they're doing all they can to save money with tire maintenance, but even so, Nitrogen can save them even more." TM