

## Air Pressure Control System Boosts Off-Road Traction

"The mobility and flotation we gain with this system is just amazing. It allows our tandem axle semi to outperform straight trucks during sugar beet harvest," says Jason Nelson, a North Dakota farmer describing his experience with the TIREBOSS™ Tire Pressure Control System. Nelson says the TIREBOSS improves his harvest productivity, reducing mud buildup between dual tires and allowing him to complete harvest sooner, even in tough harvesting conditions.

Sugar beet farmers Tom and Mark Kennelly say their semi tractor equipped with TIREBOSS can haul almost 50 percent more beets per load than their tri-axle truck. Over the course of a 12-hr. day, that's almost 90 tons more, saving fuel, reducing harvest time, and basically eliminating the need for a pull tractor in the field.

The TIREBOSS is a computerized system that allows the driver to inflate and deflate tires while the vehicle is in motion. Air control valves and wheel-end hardware allow for air to be transferred in or out of the tires as needed, matching tire pressures to vehicle loads, speeds and driving conditions. They are used extensively on both semi and straight truck configurations.

When a truck is driving on soft fields

loading sugar beets, sweet corn, silage, potatoes or hauling manure, the drive tires on the semi-tractor are deflated to provide added traction. Deflating the tires dramatically elongates the tire footprint, reducing ground pressure, reducing rutting and gaining traction and flotation. When the truck is back on a hard surface road, tires are inflated to the appropriate pressure providing a smoother ride, extended tire life and better mileage.

Les Hinz, co-owner of TPC International, the manufacturer of TIREBOSS, says the reliability and durability of the system has been proven in a wide range of industries, including agriculture, forestry, oilfields, power utilities and construction markets around the world. "What it has done for productivity gains and cost savings for thousands of customers has been really incredible. It's one of those products that once it's put into operation the customers ask themselves how they operated so many years without it," Hinz says. "It has had a profound impact on the bottom line for farms, providing huge efficiencies because they can more easily use semi tractors and trailers in the field."

The TIREBOSS can be used on any type of semi or large straight truck and is easily transferred from one vehicle to another if



Air hoses attach to each drive wheel. Computerized system allows driver to inflate and deflate tires while the vehicle is in motion.

a truck is sold. The system runs on either 12 or 24 volts and interfaces with remote data loggers. The cab monitor/control box is operator friendly and the display can be programmed in different languages. Optional equipment includes heaters for cold weather operation, a load sensing kit for air suspension trucks, an external alarm for picker or crane truck operation and hub

protective discs used with rough service applications.

A typical system costs \$7,000 to \$8,000 and is available throughout the U.S. and Canada by contacting TPC.

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## Under-Rim Tire Monitors

Comatra's Tire Pressure Monitoring System (TPMS) extends tire life, reduces compaction and saves fuel. Unlike other systems on the market that plug into the tire stem cap, Comatra's sensor mounts behind the rim. That keeps it from being knocked off, and protects it from manure and other corrosive materials.

"Valve cap-end sensors often have to be moving a certain speed to activate the system," says Luc Pirard, Comatra. "With our system, you turn on the vehicle and in less than a minute, you have a pressure reading on all tires."

Checking pressure and temperature is easy. The wireless system uses a small in-cab monitor that can be programmed for desired pressure. The 12-volt monitor is about 3 by 2 by 1-in.

If pressure changes more than 10 percent or temperature exceeds 176° F, an audiovisual alarm alerts the driver. Pirard notes that tire pressure should be checked daily as each day tires lose a little air. Checking pressure with a standard gauge is seen as a hassle and often overlooked.

Another feature that sets the Comatra TPMS apart from other monitoring systems is its ability to monitor even low-pressure tires. "Stem-mounted sensors can't measure ultra low pressures," says Pirard. "Ours measures from 6 to 101 psi."

Comatra introduced the TPMS earlier this summer. While evaluating possible distributors, the company is selling the system direct. A set of 4 valve sensors and the monitor sell for \$489. A TPMS with 6 sensors is priced at \$606. The systems are



Tire monitor uses a sensor that mounts behind wheel rim, where it can't get knocked off.

designed specifically for agricultural wheels. They fit the universal TR618A rim hole, or its European counterpart, found on agricultural equipment worldwide.

"The cost is well worth it if you can extend the life of large tractor tires that cost thousands of dollars each," says Pirard.

"That's without considering savings in fuel, compaction and down time."

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## Farmer Comes Up With Easy Way To Balance Tire Pressure

Steven Liss knows that balancing tire pressure between rear wheels is vital for tractor pulling. It's also a good idea for extending tire life and reducing slippage in the field.

"Having balanced tire pressure in both rear wheels is critical when pulling," says Liss. "You want the wheels to break loose together.

If one has higher pressure, it will break loose first. If they're exactly the same, they tend to spin at the same time. The same will be true when doing heavy field work."

Liss notes that it's hard to get two tires exactly the same using a gauge. This is especially true with low pressures. He competes in the antique tractor class with

a 1936 Deere A with only 6 lbs. pressure in each tire. He has a simple technique to balance pressure.

"I have a tire hose with air chucks designed to clip onto tire valve stems," explains Liss. "When I run a hose between both rear tires, they balance themselves. I keep several sets of short hoses around the shop with quick

connect chucks on them. I can hook to rears or fronts and balance them out fast."

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## Little Tractor Pumps Lots Of Air

Wilmer Hanson turned his SC Case into a self-propelled air compressor with a big storage tank. The tractor didn't have what it takes for fieldwork anymore but its 31 hp belt drive was just right to power an industrial air compressor. Combined with a converted 200-gal. LP tank mounted to the other side, the SC is as useful as ever.

"It's great to be able to drive it to wherever we need air," says Hanson. "My sons use it to paint, sandblast and for anything else that needs air pressure. If the tank is full, you can paint an entire tractor before you need to start the compressor."

Hanson took advantage of cultivator mounting brackets built into the SC front end to mount the compressor and tank. Wood planks bolted to the lower lip of a piece of

channel iron extend back to brackets welded to the rear axle.

The compressor mounts on a plank just ahead of the tractor's belt drive. Originally, it ran off a double belt drive, but Hanson operates it off a single on the tractor.

The LP tank mounts on planks on the other side of the tractor with a 1-in. line feeding it with air from the compressor. The air enters through a check valve. A stainless steel check valve also mounts on the outlet side to the standard air hose.

"We have a gauge mounted to the top of the tank and shut it off when the pressure reaches 160 psi," says Hanson. "It only takes about 10 min. to fill the tank when it's empty."

While the tractor with its mounted compressor and tank are pretty basic, Hanson



SC Case tractor belt-drives an air compressor on one side of tractor, which feeds air into a big 200-gal. tank on other side.

has dressed it up with a set of old steam whistles.

"The whistles are for when someone falls asleep on the job," jokes Hanson. "They make

a sound you can hear a long way."

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