

## TIREMAAX® PRO — ROI Calculator

The screenshot shows a software interface for calculating ROI. It includes sections for 'FLEET DETAILS' (Tractor, Trailer), 'FUEL' (Cost/Gallon, Fuel Efficiency), 'MAINTENANCE' (Number of Miles Between Oil Changes, Number of Miles Between Tire Rotations), 'ROAD CALLS' (Number of Road Calls, Miles Between Road Calls), and 'TRAILER TIRE TREAD LIFE' (Miles Between Tire Rotations, Miles Between Tire Replacements). A red button at the bottom is labeled 'SHOW MY RESULTS DATA'.

Try Hendrickson's ROI Calculator to see how specifying TIREMAAX® PRO can impact your fleet's bottom line.

*For more information, visit:*

[www.hendrickson-intl.com/tiremaaxroi](http://www.hendrickson-intl.com/tiremaaxroi)

[www.hendrickson-intl.com/TIREMAAX](http://www.hendrickson-intl.com/TIREMAAX)

# HENDRICKSON

### Trailer Commercial Vehicle Systems

2070 Industrial Place SE, Canton, OH 44707-2641 USA  
866.RIDEAIR (743.3247) 330.489.0045 Fax 800.696.4416

[www.hendrickson-intl.com](http://www.hendrickson-intl.com)

### Hendrickson Canada

250 Chrysler Drive, Unit #3, Brampton, ON Canada L6S 6B6  
905.789.1030 Fax: 905.789.1033

### Hendrickson Mexicana

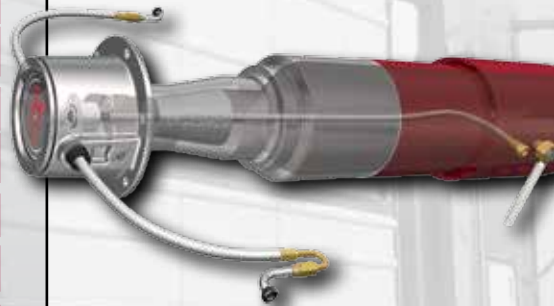
Circuito el Marqués Sur #29, Parque Industrial El Marqués  
Pob. El Colorado, Municipio El Marqués,  
Querétaro, México C.P. 76246  
+52 (442) 296.3600 Fax: +52 (442) 296.3601

Certain data and information in this publication are based upon internal testing, calculations, and/or other published materials. Actual product specifications and performance may vary depending upon equipment and vehicle configuration, operation, service and other factors.

# HENDRICKSON® TIREMAAX® PRO

## INFLATION ALONE IS NOT ENOUGH

*Control your tires with TIREMAAX® PRO — advanced tire pressure control system*



 HENDRICKSON  
*The World Rides On Us®*

# INTRODUCTION

# INTRODUCTION

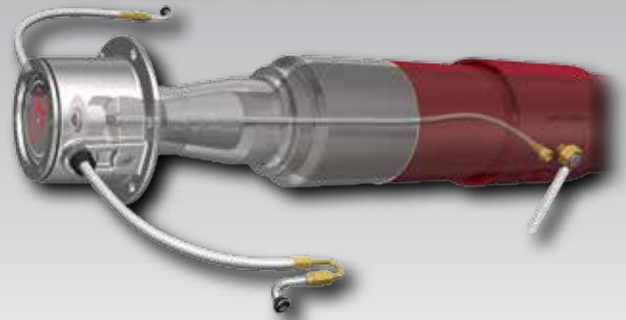
**H-TIREMAX<sup>®</sup> PRO**

## The Problem...

- The increased popularity of automatic tire inflation systems (ATIS) has alerted fleets that trailers equipped with ATIS do not always maintain the desired target pressure.
- Today's tire inflation systems are incapable of controlling desired pressure levels leading to overinflated conditions, or in the case of dual tires, mismatched pressures.
- Several factors contribute to this:
  - Today's systems are only capable of indicating when a tire pressure is low. Tire pressures that extend beyond the target pressure often go undetected.
  - Automatic tire inflation systems constantly fill tires with air at ambient temperature. Over time, these systems fill tires with cold dense air, which can alter a tire's pressure, especially when the trailer returns to warmer temperatures which causes this air to expand.
- Persistently overinflated or mismatched tires can drastically decrease tire life resulting in less than desirable tread wear and leaving tires more susceptible to road hazards.

*From maintenance to downtime to overall operating costs, tires significantly impact a fleet's bottom line.*

## The Solution...



Hendrickson's revolutionary TIREMAX<sup>®</sup> PRO is unique to the trailer industry.

TIREMAX PRO controls tire pressure by inflating low tires, equalizing pressure across all wheel positions and relieving pressure from overinflated tires.

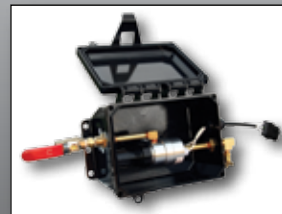
## Evolution of tire solutions



1 Checking



2 Monitoring



3 Inflating



4 Controlling

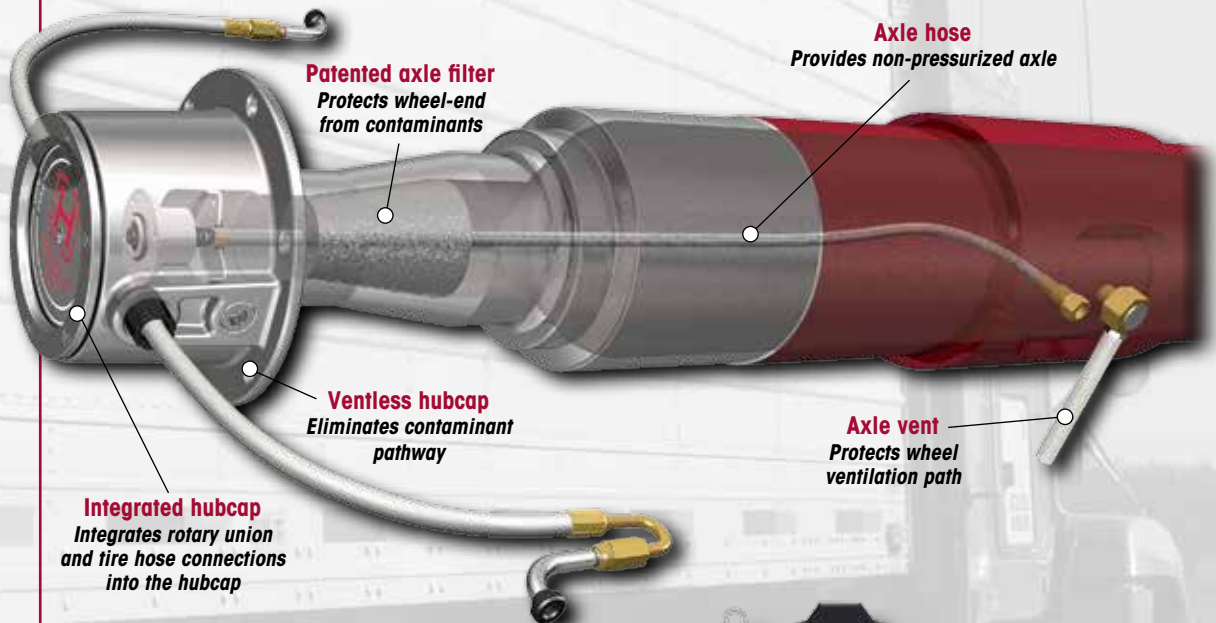
Evolution of tire solutions

# SYSTEM OVERVIEW

# SYSTEM OVERVIEW

The advanced tire pressure control system, TIREMAAX<sup>®</sup> PRO was specifically designed to allow air to flow in both directions — to and from tires.

The system features a unique integrated hubcap and sophisticated controller to address the problems of overinflation and mismatched tire pressures.



**Patented axle filter**  
Protects wheel-end  
from contaminants

**Axle hose**  
Provides non-pressurized axle

**Ventless hubcap**  
Eliminates contaminant  
pathway

**Axle vent**  
Protects wheel  
ventilation path

**Integrated hubcap**  
Integrates rotary union  
and tire hose connections  
into the hubcap

## Patented controller

- Controls tire pressures to maintain desired pressure level
- Relieves air from tires when target pressure is exceeded by venting excess air at the controller
- Inflates low tires to desired pressure level
- Equalizes tire pressure across all wheel positions to help reduce friction and maximize life on dual tires
- Isolates tires when trailer is parked



H TIREMAAX<sup>®</sup> PRO

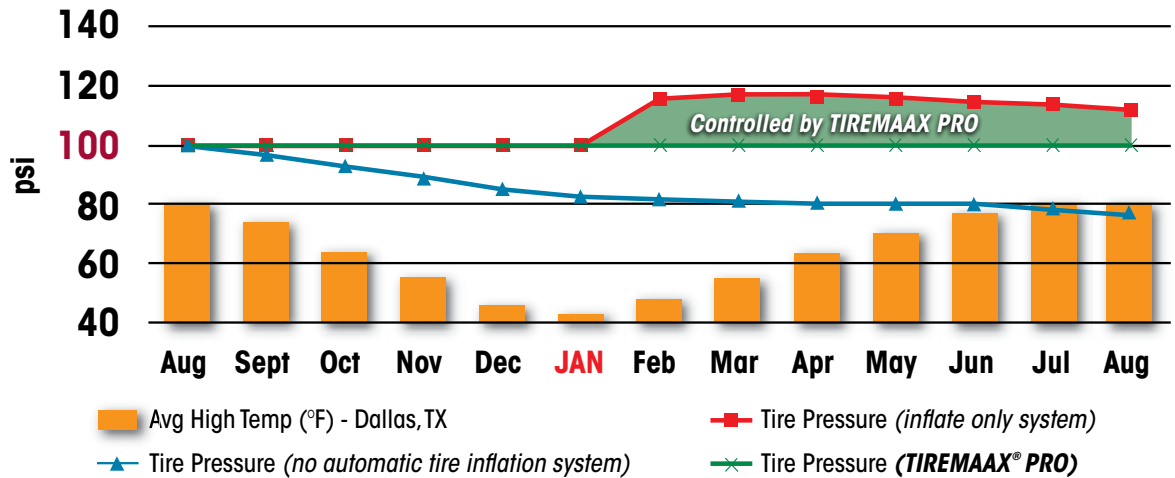
# ENVIRONMENTAL IMPACT

# ENVIRONMENTAL IMPACT

The graph below is an example showing the impact of one trip to Northern US / Canada in January when equipped with a typical industry standard automatic tire inflation system.

Typical inflate-only systems have no way to control pressures above the target pressure which can result in overinflated tire conditions that will persist for many months without manual intervention.

## Tire Pressure Over Time



*This January exposure to an ambient temperature of -30 degrees Fahrenheit causes an immediate overinflated condition of more than 15 psi upon returning to Dallas, TX.*

**TIREMAAX PRO is capable of controlling overinflated tire conditions that result from exposure to extreme ambient temperature changes.**



TIREMAAX PRO

# OVERINFLATION

## DID YOU KNOW...

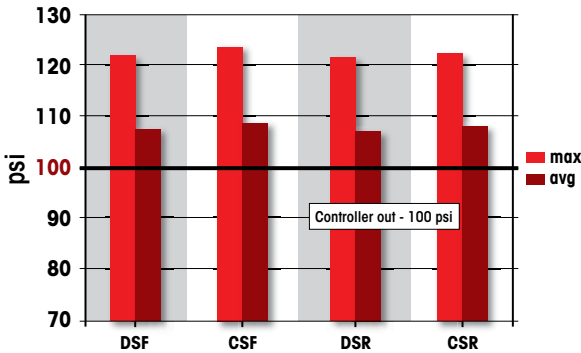
**1** Overinflated tires are harder than properly inflated tires making them more susceptible to tread surface cutting, impact breaks, punctures and shock damage.

**2** Overinflated tires change a tire's footprint which can affect tire traction and lead to irregular wear patterns.

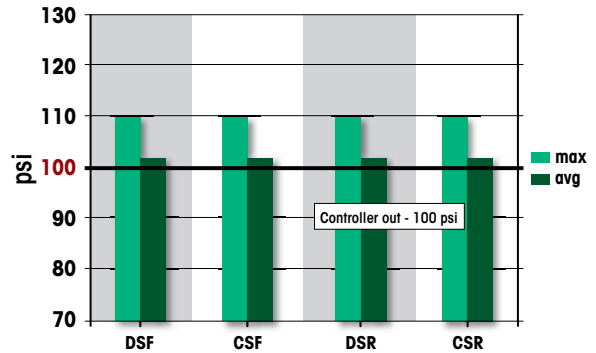
**3** A 2003 FMCSA study found that 16 percent of all trailer tires are overinflated by more than 5 psi and 5 percent of tires by more than 10 psi.

**4** Overinflated tires can experience accelerated tread wear costing from 7 to 15 percent of life.

### Inflate-only System\*



### TIREMAAX® PRO\*



#### TIRE POSITION KEY

**DSF** - DRIVER SIDE FRONT    **CSF** - CURB SIDE FRONT

**DSR** - DRIVER SIDE REAR    **CSR** - CURB SIDE REAR

\*Actual field data collected over a 3-month period

**TIREMAAX® PRO is the proven solution to address overinflated tires, maximizing tread wear, reducing instances of damage and achieving maximum tire life.**

**Hendrickson's field data proves that inflation-only systems cannot address overinflated tire conditions.**

HENDRICKSON  
TIREMAAX PRO



# EQUALIZATION

## DID YOU KNOW...

1 Mismatched tire pressures on dual tires and its relationship to tread wear, tire life and fuel economy can be problematic.

2 Within a matter of weeks, mismatched pressures can cause permanent irregular wear patterns, which can lead to early tire removal.

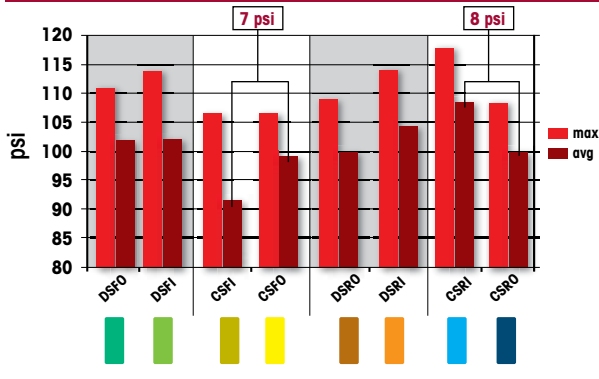
3 Almost 25 percent of trailer dual assemblies have mismatched air pressures greater than 5 psi, and testing has shown that a 5 psi difference between duals can create a 5/16-inch difference in tire circumference.

4 Since dual tires are bolted together and must rotate at the same speed, any differences in tire diameter can cause the smaller tire to be scuffed and dragged against the road.

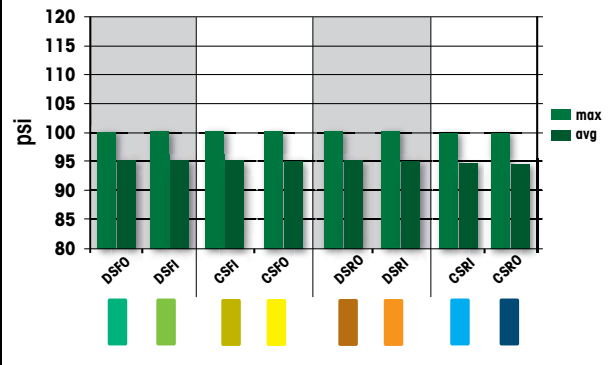
5 The tire with the larger diameter carries a disproportionate amount of the trailer's load which can result in abnormal tread wear.

6 Ultimately, failure to properly equalize dual tire pressures can lead to unequal tread wear for both tires.

### Inflate-only System



### TIREMAAX® PRO



\*Actual field data collected over a 3-month period

### WHEEL POSITION GUIDE



In general, a tire makes about 500 revolutions per mile. In 100,000 miles, that's 50 million of those 5/16-inch drags and that works out to 246 miles. So it's as though you spun the smaller tire against the pavement at highway speed for 246 miles!

- Source: ©2006, Bridgestone/Firestone North America, LLC  
Real Answers, Volume 10, Issue 2