

Variable Tire Pressure Technology

Brian Spreen



VARIABLE TIRE PRESSURE

The "*Road Friendly Solution*" to truck transportation

- ***Variable Tire Pressure (VTP)*** is the term used for the technology associated with varying a vehicle's tire pressure for changing road conditions. The technology is also referred to as Central Tire Inflation (CTI).
- ***Tire Pressure Control Systems*** electronically control tire pressures from the cab of the truck while the vehicle is moving.



High tire pressure concentrates vehicle weight to a small contact surface area.

Reducing tire pressure creates a longer footprint and distributes the weight over a larger area.

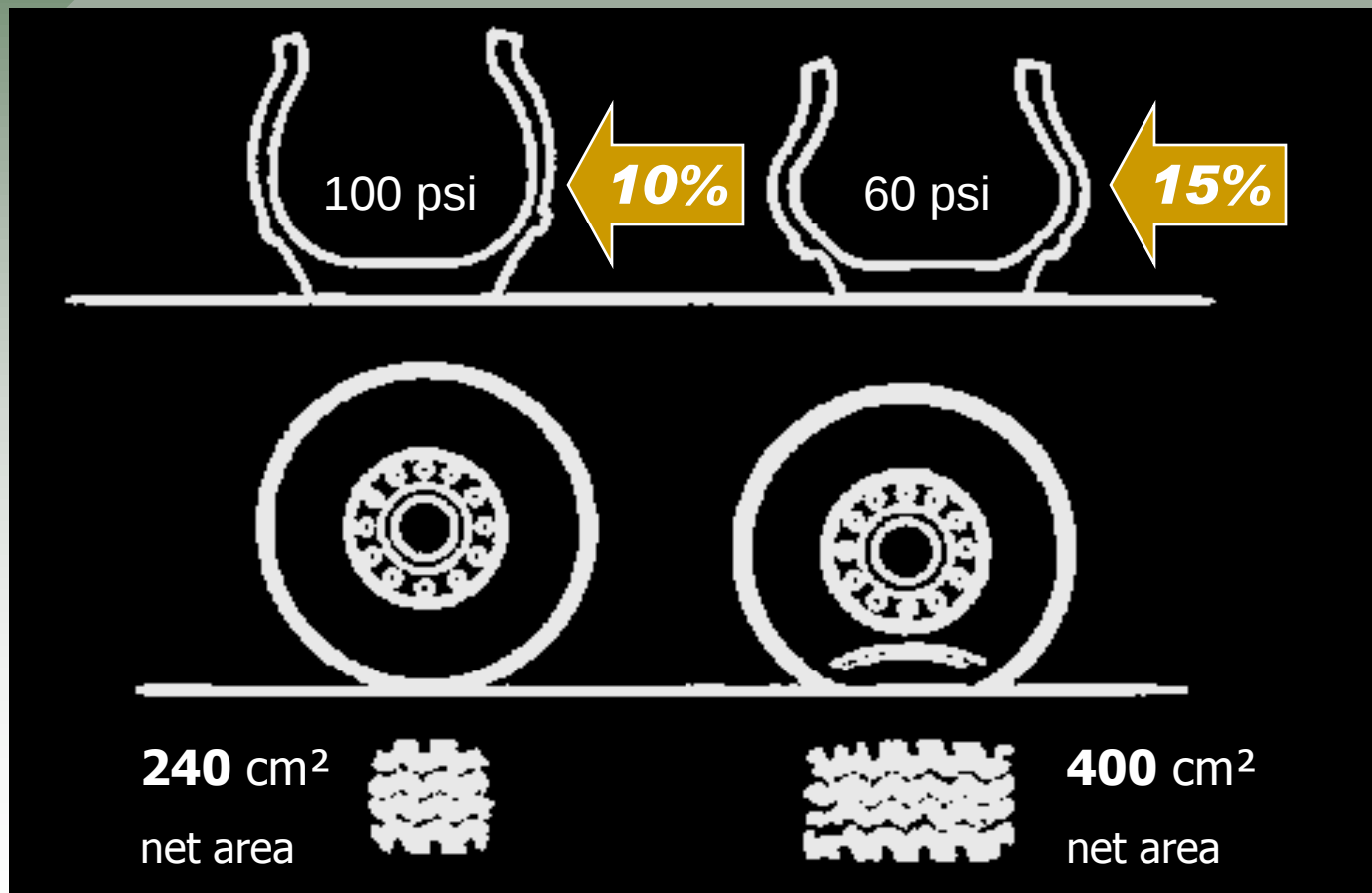


***Tires operated at High Pressure
when empty, or fully loaded at
slower speeds, are
over-inflated.***

***This over-inflation is a major
cause of road, tire, and vehicle
damage.***

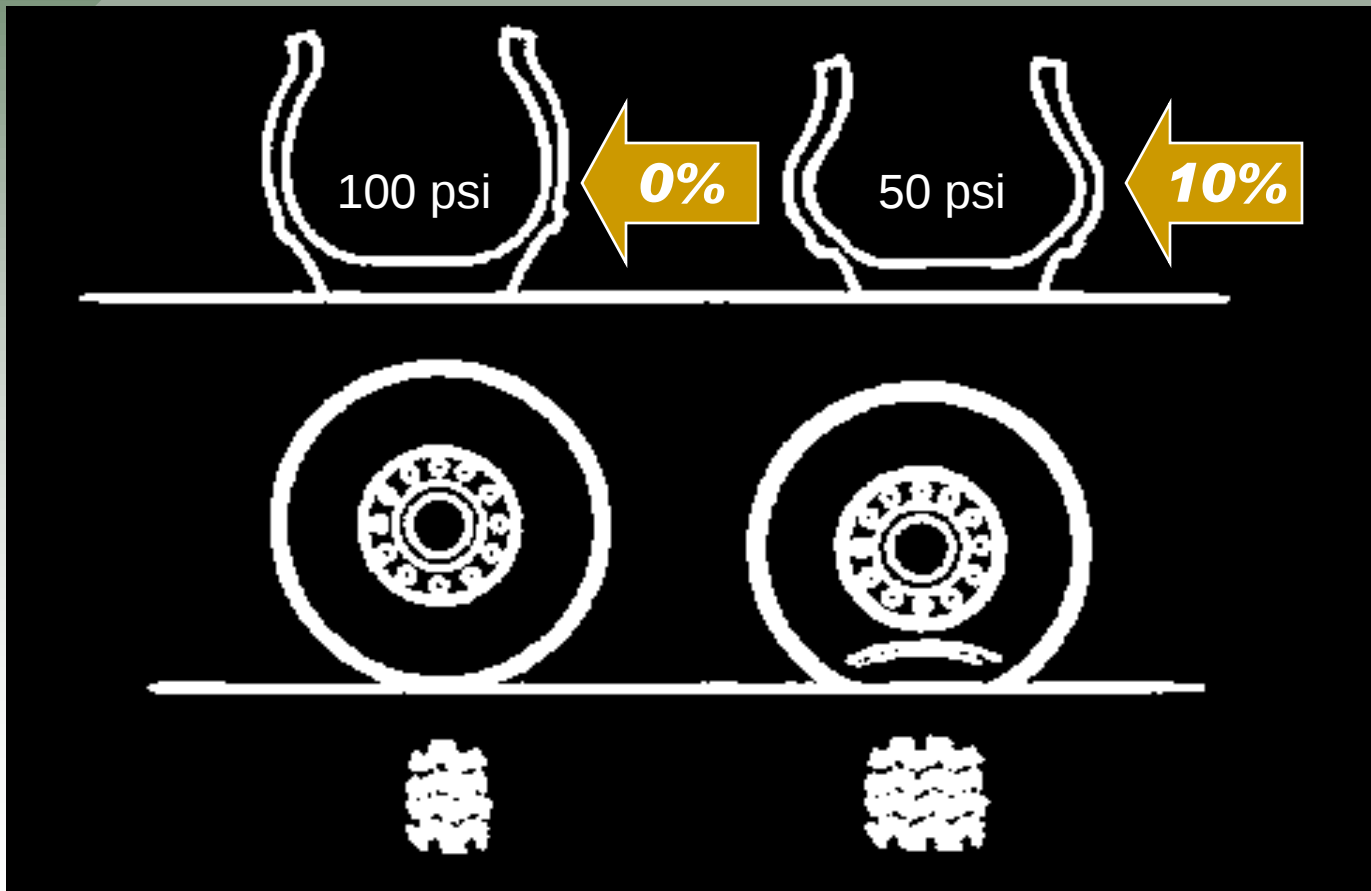
Basis of Technology

- *Loaded* Tire Deflection

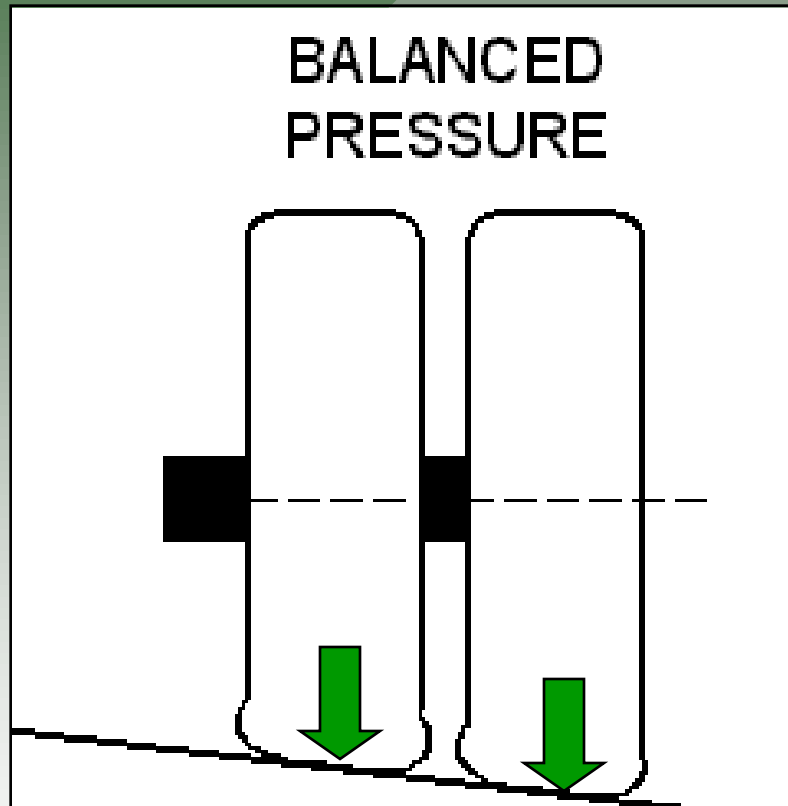


Basis of Technology

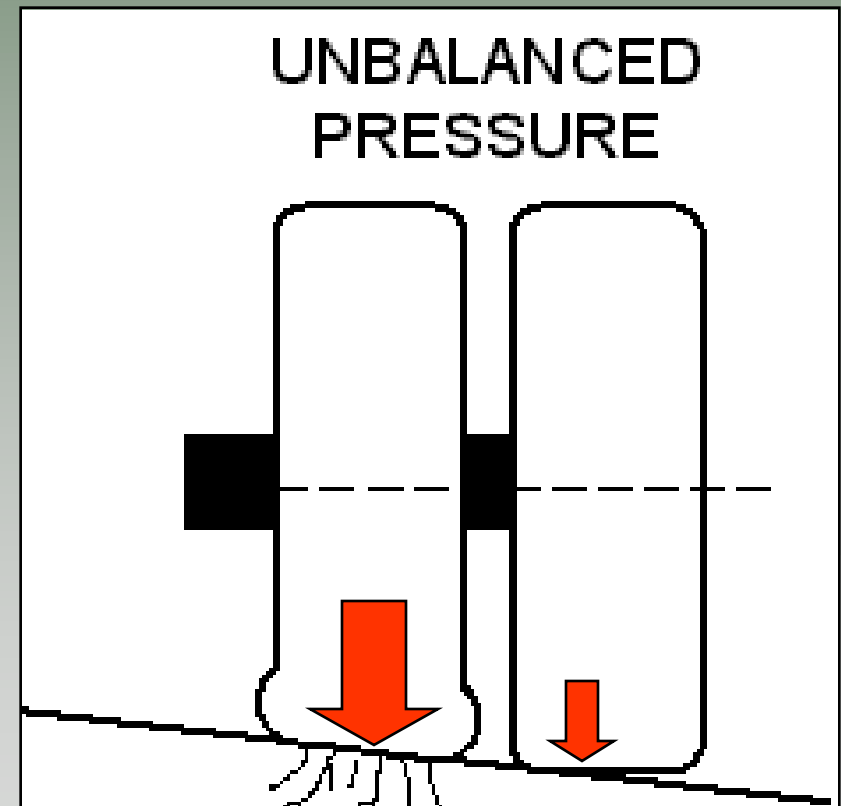
- *Unloaded* Tire Deflection



Balanced Tire Pressure



- Equal loading



- Unequal loading

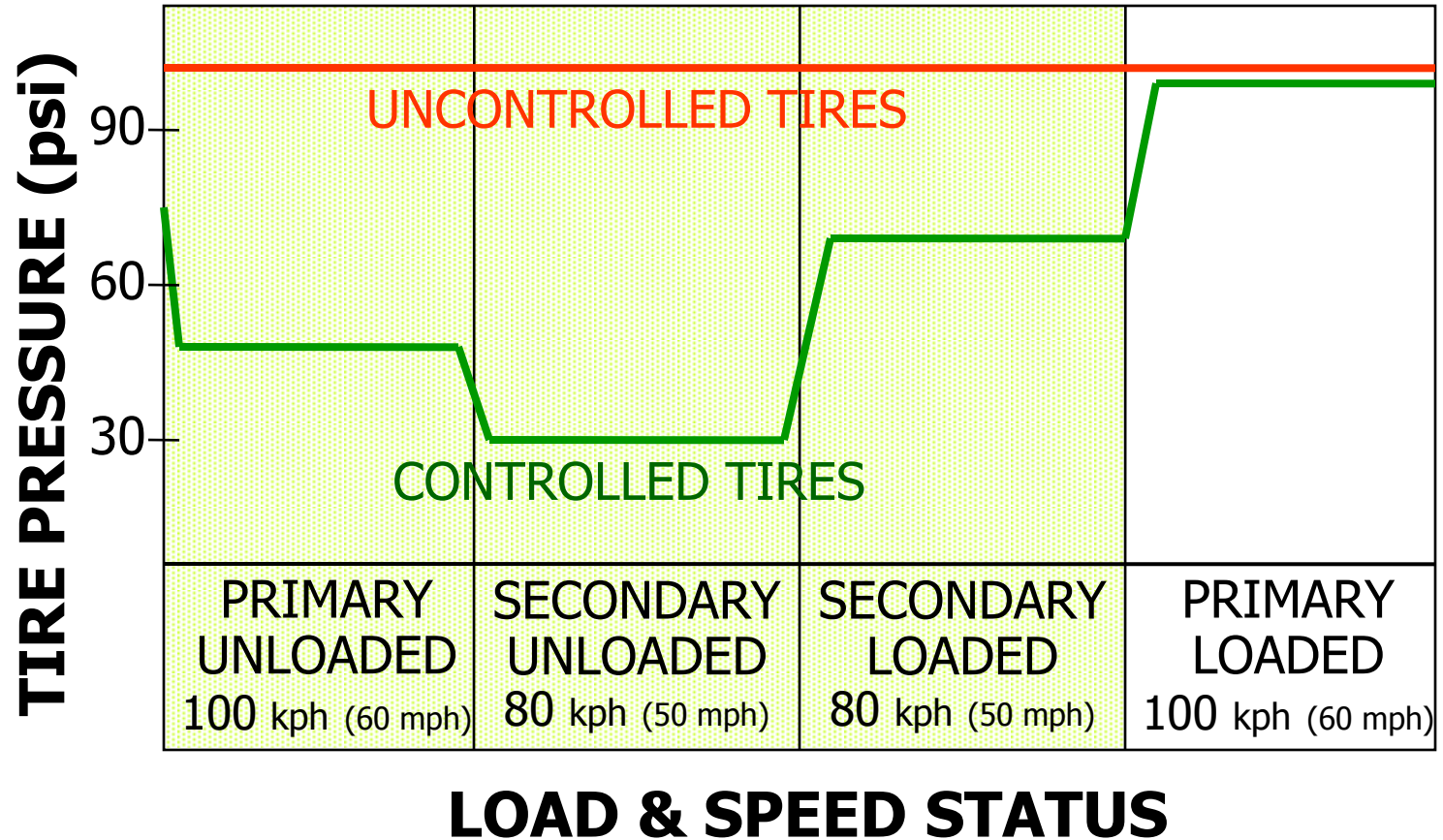
Pressure/Speed Example

Operating Procedure Example

TIREBOSS™ Tire Pressure Control

SETTING #	SETTING DESCRIPTION	PRESSURE PSI	MAX SPEED	MAX TIME
1	Highway Unloaded	50	Normal Highway Speeds	NO LIMIT
2	Off Highway Unloaded	30	50 mph	NO LIMIT
3	Loaded Slow Speed	40	20 mph	NO LIMIT
4	Loaded Medium Speed	45	30 mph	NO LIMIT
5	Haul Road Loaded	65	50 mph	NO LIMIT
6	Highway Loaded	100	Normal Highway Speeds	NO LIMIT
7	Emergency Traction	27	5 mph	5 min

Log Haul Cycle



Uncontrolled tires are over-inflated for 75% of the cycle

***Tire Pressure Control* provides significant benefits to:**

- **Government and industry roading authorities**
- **Fleet owners**
- **Owner/operators**
- **Public road users**

Benefits of Using Variable Tire Pressure

- Increased traction
- Increased tire life
- Improved vehicle ride
- Improved floatation
- Reduced road damage
- Reduced environmental impact
- Lower operating costs

Benefits to the Roads and Road Users

- Reduced road construction costs
- Reduced road maintenance costs
- Sediment reduction and dust control
- Extended haul seasons
- Improved productivity

Benefits in Vehicle Safety and Performance

- Constant monitoring and control of tire pressures
- Improved driver comfort, reducing fatigue
- Improved driver control
- Reduced stopping distance in emergency
- Fewer tire blowouts
- Improved fuel economy

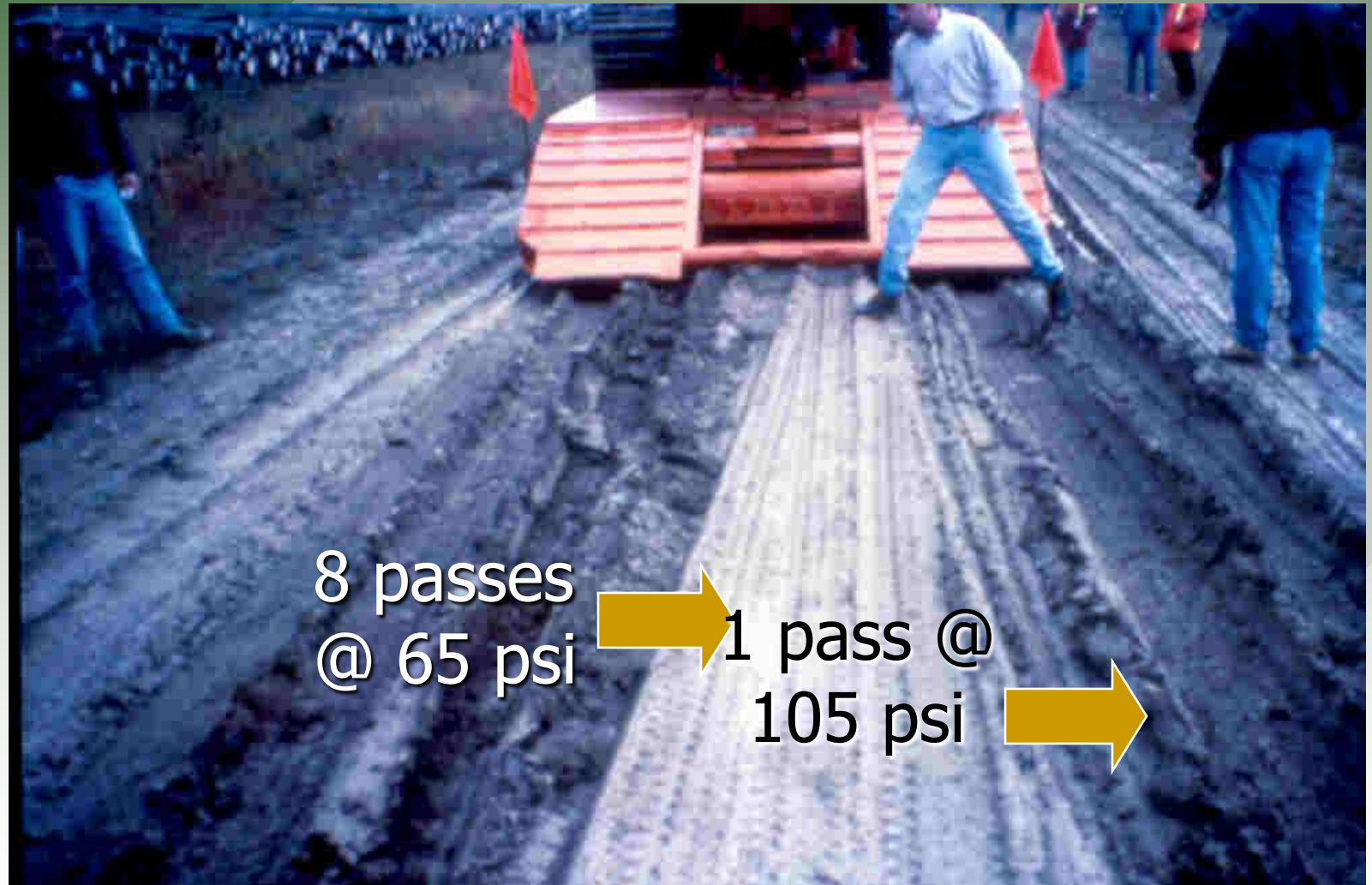
Demonstrated Results



Demonstrated Results



Demonstrated Results



New ***TIREBOSS™*** System



- Small Components
- Light Weight
- Easy Installation
- Simple Operation

New *TIREBOSS*™ System



- Reliable Components
- Self Diagnostic
- Fully Expandable
- Easily Serviced

Severe Conditions



Trailer Hardware



TIREBOSS Features

- Constant monitoring and control of tire pressures - up to 110 psi
- Continuous inflation - fast build up times
- Retrofit system - adaptable to all vehicles
- Interface capability with vehicle data loggers
- Wheel hardware designed for severe use
- Easily transferred when vehicle replaced
- Multi language display

***TIREBOSS* Safety Features**

- Vehicle air brake system always has priority
- Speed monitoring is standard - auto inflate if speed exceeded for selected tire pressure
- Loss of tire pressure alerts driver immediately
- Allows normal heat build up in tires
- Tire overheat condition alerts driver

Approvals

- By tire manufacturers
- By government agencies



2540, BOUL. DANIEL-JOHNSON, LAVAL, QUÉ. H7T 2T9
TEL.: (514) 978-4700 FAX: (514) 978-7600

February 23, 2000



Mr. Norm Burns, Trucking Specialist
Operation Support Branch
Saskatchewan Highways & Transportation
1855 Victoria Ave. 9th Floor
Regina, Saskatchewan
S4P 3V5

Dear Mr. Burns,

Further to our conversation of the 25th of January on the Saskatchewan Wheat Pool pilot project for grain transportation, we are pleased to confirm the inflation pressure requested in the new chart supplied to us by you in your note dated December 22nd 1999.

You will find below the table representing different PSI recommendation for the different settings in your application.

SELECTED SETTING	STEER AXLE	DRIVE AXLE	TRAILER AXLE	MAXIMUM SPEED	MAXIMUM TIME
Highway Loaded	100 psi	90 psi	85 psi	Normal Highway Speed	No Limit
Highway Unloaded	100 psi	45 psi	40 psi	Normal Highway Speed	No Limit
Off-Highway Loaded	100 psi	60 psi	50 psi	80 Kph.	No Limit
Off-Highway Unloaded	100 psi	30 psi	30 psi	80 Kph.	No Limit
2 nd Function Local Access Road	100 psi	50 psi	40 psi	65 Kph.	No Limit
2 nd Function Emergency Traction	100 psi	30 psi	40 psi	10 Kph.	5 Minutes

Industry Applications

- Systems evolved from military applications
- Majority of systems used in on/off road applications
- Used in Forestry, Concrete, Quarry/Mining, Oil/Gas, Highway and Agriculture

Forestry



Forestry



Forestry



**For Further Information on VTP
or TPC Systems please contact:**



Ph: 888-338-3587

Fax: 780-452-6786

e-mail: info@tirepressurecontrol.com

website: www.tirepressurecontrol.com